ALLIED MACHINE & ENGINEERING CORP

Allied Drilling Products

Catalog

www.alliedmachine.com

Represented by:

Made in the USA

Allied Machine & Engineering Corp is Registered by U.L. to ISO 9001:2008

ALLIED MACHINE & ENGINEERING CORP

Our focus on product excellence, service to the customer, respect for the individual, and competitive advantage enables us to deliver outstanding results in a diverse range of manufacturing, production, and process engineering industries.

As a result, Allied Machine high performance tooling is helping countless businesses around the world to produce better products with greater accuracy, increased speed, and higher quality.

Precision, performance, and productivity are core features of Allied Machine tooling. Our commitment to innovation in all aspects of holemaking technology means we continually set new industry standards in production efficiency, tool life, and manufacturing cost improvements.

This product catalog provides detailed information on products in a comprehensive, easy to use, and informative single source reference guide. However, we recognize that every company's needs are unique, which is why our customer service and technical support teams are always available to provide help and advice, should you need it.

Whatever your need, Allied Machine & Engineering Corp. delivers high performance tooling on the cutting edge.

⚠ WARNING

Tool failure during use can cause serious injury. Follow safety precautions and instructions that accompany machinery and all tools.

Wear safety glasses and appropriate safety equipment at all times when machinery is operating.

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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

WARNING (shown above) means that failure to follow the precautions in this message could result in tool failure and serious injury

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

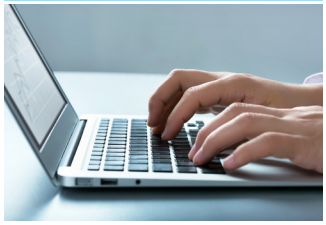
NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

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

Services and Support

Allied Machine's success is not just a result of our quality products and high performance solutions, but also the level of technical support and expertise we provide on a constant basis to all of our customers through a range of dedicated services.

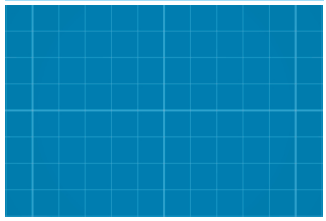
Online Services



Allied Machine's website hosts a number of key features for distributors, one being our online ordering service that simplifies and speeds up the ordering process. Our website can also be used for checking inventory and pricing. Available to distributors and end-users is our fast response **Insta-Quote**™ quoting system that provides quotes and drawings for special purpose tooling online in a matter of minutes.

All of our case studies, product literature, industry sector information and a wealth of other data is available through our website, which includes the latest details to ensure that up-to-date information is available for download. Visit **www.alliedmachine.com**.

Technical Support



Our technical department is staffed by experts who have years of experience in helping customers meet demanding application challenges with high performance Allied Machine tooling. They are also able to provide technical support on a wide range of industry sectors via our technical helpline, which can help customers save time and money when a solution is needed quickly.

We also have an excellent and unique reference library of technical case studies and cutting data which is compiled from information and experience gained from our global applications base. Chances are, if you have an application issue or problem, we've already solved it somewhere in the world.

External Support

Our Field Sales Engineers (FSE) provide a constant "on-the-ground" support network, helping solve manufacturing problems on site and providing the most effective solutions.

Customer Service

The most important aspect of our business is our customers. Our customer care processes and support operations are vital and integral parts of our commitment to customers.

Sometimes, all that's needed is a helpful and friendly voice at the end of a telephone to check an order, answer a question, or just point you in the right direction. Our fully trained team is always available to help. No matter what your requirement, we'll have someone who can handle your question quickly and effectively.

Training

Allied Machine holds regular Technical Education Seminar (TES) training courses in our training facility in Dover, Ohio. These classes allow customers to experience the advanced Allied Machine holemaking solutions and gain deeper knowledge of their applications. The seminars cover technical data, cutting technology, tool application, and benefits of all Allied Machine products as well as extensive and detailed on-machine training while demonstrating the tools in action. Details and listings for TES courses can be found at **www.alliedmachine.com/TES.aspx**.

TES

Technical Education Seminar

Revolution Drill®
and Opening Drill®

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Features & Benefits

- **Designed to produce large diameter holes on low powered machines**
- **Cost savings compared to alternative methods for producing large diameter holes**
- **Removable cartridges for easy replacement**
- **Adjustable diameter reduces tool inventory**
- **Insert design allows for excellent chip control and aggressive penetration rates**

ALLIED MACHINE & ENGINEERING CORP

Revolution Drill® and Opening Drill®

Reference Page

Revolution Drill Body

R	34	X	22	–	150L

Style
R = Standard
SP = Stacked Plate

Series	Drill Ø Range (in)
34	1.875 – 2.00
36	2.00 – 2.20
38	2.20 – 2.40
42	2.40 – 2.60
44	2.60 – 2.80
46	2.80 – 3.00
48	3.00 – 3.20
52	3.20 – 3.40
54	3.40 – 3.60
56	3.60 – 3.80
58	3.80 – 4.00

Length to Diameter Ratio
10 = 1.0
22 = 2.2
25 = 2.5
35 = 3.5
45 = 4.5

Shank Information
150L = 1-1/2ø Lathe Shank
200L = 2.0ø Lathe Shank
40M = 40mm ISO 9766
50M = 50mm ISO 9766
CV40 = CV40
CV50 = CV50

Opening Drill Body

OP1	–	1S	–	SS1.5

Series	Drill Ø Range (in)
OP1	2.00 – 2.50
OP2	2.50 – 3.00
OP3	3.00 – 4.12
OP4	4.12 – 5.62

Length
1S = Short
1L = Long

Shank

SS 1.5	CV 40
SS 2.0	CV 50
40M	ABS 63
50M	BT 40
HSK 63A/C	BT 50
HSK 100 A/C	DV 50

Revolution Drill Insert & Opening Drill Insert

OP	–	05T308	–	1	H	HR

For use with
Revolution Drill
Opening Drill

Insert Specification

Shank
C5 (P35) - Blank
C1 (K35) - 1
C2 (K25) - 2

Coating
P - AM300®
H - AM200®
T - TiN
A - TiAlN*
N - TiCN*
U -Uncoated*

Geometry
HR - High Rake
Blank - General Purpose

*Available only as a non-stocked standard

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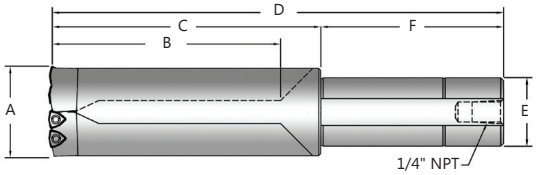
Revolution Drill®

Straight Shank



Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R34X22-150L	1.875"-2.00"	4-17/32"	5-13/32"	9-13/32"	1-1/2"	4"	1/4"	C34-FIX C34-ADJ	2	MS-17M-1	AS-16T9-1	❍
R34X35-150L		7-1/32"	7-29/32"	11-29/32"								❍
R34X45-150L		9-1/32"	9-29/32"	13-29/32"								❍
SP34X22-150L		4-27/64"	5-5/16"	9-5/16"				C34SP-FIX C34SP-ADJ				❍
Metric												
R34X22-40M	47,6mm-50,8mm	114,9mm	137,4mm	207,4mm	40mm	70mm	*1/4"	C34-FIX C34-ADJ	2	MS-17M-1	AS-16T9-1	❍
R34X35-40M		178,4mm	200,9mm	270,9mm								❍
R34X45-40M		229,2mm	251,7mm	321,7mm								❍
SP34X22-40M		112,4mm	134,8mm	204,8mm				C34SP-FIX C34SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R36X22-150L	2.00"-2.20"	4-61/64"	5-57/64"	9-57/64"	1-1/2"	4"	1/4"	C36-FIX C36-ADJ	2	MS-17M-1	AS-18T9-1	❍
R36X35-150L		7-45/64"	8-41/64"	12-41/64"								❍
R36X45-150L		9-61/64"	10-57/64"	14-57/64"								❍
SP36X22-150L		4-7/8"	5-13/16"	9-13/16"				C36SP-FIX C36SP-ADJ				❍
Metric												
R36X22-40M	50,8mm-55,9mm	126,0mm	149,6mm	219,6mm	40mm	70mm	*1/4"	C36-FIX C36-ADJ	2	MS-17M-1	AS-18T9-1	❍
R36X35-40M		195,8mm	219,4mm	289,4mm								❍
R36X45-40M		253,0mm	276,6mm	346,6mm								❍
SP36X22-40M		124,0mm	147,6mm	217,6mm				C36SP-FIX C36SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R38X22-150L	2.20"- 2.40"	5-29/64"	6-25/64"	10-25/64"	1-1/2"	4"	1/4"	C38-FIX C38-ADJ	2	MS-17M-1	AS-18T9-1	❍
R38X35-150L		8-29/64"	9-25/64"	13-25/64"								❍
R38X45-150L		10-61/64"	11-57/64"	15-57/64"								❍
SP38X22-150L		5-3/8"	6-19/64"	10-19/64"				C38SP-FIX C38SP-ADJ				❍
Metric												
R38X22-40M	55,9mm-61,0mm	138,7mm	162,2mm	232,2mm	40mm	70mm	*1/4"	C38-FIX C38-ADJ	2	MS-17M-1	AS-18T9-1	❍
R38X35-40M		214,9mm	238,4mm	308,4mm								❍
R38X45-40M		278,4mm	301,9mm	371,9mm								❍
SP38X22-40M		136,5mm	160,0mm	230,0mm				C38SP-FIX C38SP-ADJ				❍

*Metric Thread to BSP & ISO 7-1

Can be supplied with other coatings as a non-stocked standard.

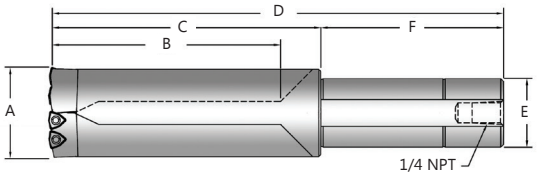
TiAlN	OP-05T308-A
TiCN	OP-05T308-N

Grade	Item Number, Coating and Availability - 10 Piece Packs					
	AM300®	❶	AM200®	❶	TiN	❶
C5 (P35)	OP-05T308-P	❍	OP-05T308-H	❍	OP-05T308-T	❍
C1 (K35)	OP-05T308-1P	❍	OP-05T308-1H	❍	OP-05T308-1T	❍
C5 (P35)	OP-05T308-PHR	❍	OP-05T308-HHR	❍	–	–
C2 (K25)	OP-05T308-2P	❍	OP-05T308-2H	❍	–	–
Insert Screw 10 Pack					IS-10-1	

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

Revolution Drill®

Straight Shank



Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R42X22-150L	2.40"- 2.60"	5-45/64"	6-49/64"	10-49/64"	1-1/2"	4"	1/4"	C42-FIX C42-ADJ	2	MS-19M-1	AS-18T9-1	❍
R42X35-150L		9-13/64"	10-17/64"	14-17/64"								❍
R42X45-150L		11-45/64"	12-49/64"	16-49/64"								❍
SP42X22-150L		5-3/4"	6-13/16"	10-13/16"				C42SP-FIX C42SP-ADJ				❍
Metric												
R42X22-40M	60,1mm-66,0mm	144,9mm	171,7mm	241,7mm	40mm	70mm	*1/4"	C42-FIX C42-ADJ	2	MS-19M-1	AS-18T9-1	❍
R42X35-40M		233,8mm	260,6mm	330,6mm								❍
R42X45-40M		297,3mm	324,1mm	394,1mm								❍
SP42X22-40M		146,1mm	172,9mm	242,9mm				C42SP-FIX C42SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R44X22-150L	2.60"-2.80"	6-13/64"	7-1/2"	11-1/2"	1-1/2"	4"	1/4"	C44-FIX C44-ADJ	3	MS-19M-1	AS-18T9-1	❍
R44X35-150L		9-61/64"	11-1/4"	15-1/4"								❍
SP44X22-150L		6-1/4"	7-35/64"	11-35/64"				C44SP-FIX C44SP-ADJ				❍
Metric												
R44X22-40M	66,0mm-71,1mm	157,6mm	190,7mm	260,7mm	40mm	70mm	*1/4"	C44-FIX C44-ADJ	3	MS-19M-1	AS-18T9-1	❍
R44X35-40M		252,9mm	285,9mm	355,9mm								❍
SP44X22-40M		158,7mm	191,7mm	261,7mm				C44SP-FIX C44SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R46X22-150L	2.80"-3.00"	6-45/64"	8"	12"	1-1/2"	4"	1/4"	C46-FIX C46-ADJ	3	MS-21M-1	AS-18T9-1	❍
R46X35-150L		10-29/64"	11-3/4"	15-3/4"								❍
SP46X22-150L		6-3/4"	8-3/64"	12-3/64"				C46SP-FIX C46SP-ADJ				❍
Metric												
R46X22-40M	71,1mm-76,2mm	170,4mm	203,4mm	273,4mm	40mm	70mm	*1/4"	C46-FIX C46-ADJ	3	MS-21M-1	AS-18T9-1	❍
R46X35-40M		265,6mm	298,6mm	368,6mm								❍
SP46X22-40M		171,4mm	204,4mm	274,4mm				C46SP-FIX C46SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R48X10-200L	3.00"-3.20"	3-5/32"	4-33/64"	9-1/64"	2"	4-1/2"	1/4"	C48-FIX C48-ADJ	3	MS-21M-1	AS-18T9-1	❍
R48X25-200L		7-29/32"	9-17/64"	13-49/64"								❍
SP48X10-200L		3-15/64"	4-19/32"	9-3/32"				C48SP-FIX C48SP-ADJ				❍
SP48X25-200L		7-63/64"	9-11/32"	13-27/32"								❍
Metric												
R48X10-50M	76,2mm-81,3mm	80,2mm	114,5mm	194,5mm	50mm	80mm	*1/4"	C48-FIX C48-ADJ	3	MS-21M-1	AS-18T9-1	❍
R48X25-50M		200,9mm	235,2mm	315,2mm								❍
SP48X10-50M		82,2mm	116,5mm	196,5mm				C48SP-FIX C48SP-ADJ				❍
SP48X25-50M		202,9mm	237,2mm	317,2mm								❍

*Metric Thread to BSP & ISO 7-1

Grade	Item Number, Coating and Availability - 10 Piece Packs					
	AM300®	❶	AM200®	❶	TiN	❶
C5 (P35)	OP-05T308-P	❍	OP-05T308-H	❍	OP-05T308-T	❍
C1 (K35)	OP-05T308-1P	❍	OP-05T308-1H	❍	OP-05T308-1T	❍
C5 (P35)	OP-05T308-PHR	❍	OP-05T308-HHR	❍	–	–
C2 (K25)	OP-05T308-2P	❍	OP-05T308-2H	❍	–	–
Insert Screw 10 Pack					IS-10-1	

Can be supplied with other coatings as a non-stocked standard.

TiAlN	OP-05T308-A
TiCN	OP-05T308-N

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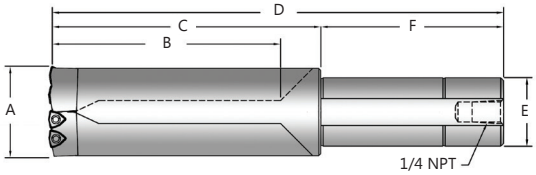
Revolution Drill®

Straight Shank



Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R52X10-200L	3.20"-3.40"	3-27/64"	5-1/64"	9-33/64"	2"	4-1/2"	1/4"	C52-FIX C52-ADJ	3	MS-19M-1	AS-18T9-1	❍
R52X25-200L		8-27/64"	10-1/64"	14-33/64"								❍
SP52X10-200L		3-31/64"	5-5/64"	9-37/64"				C52SP-FIX C52SP-ADJ				❍
SP52X25-200L		8-31/64"	10-5/64"	14-37/64"								❍
Metric												
R52X10-50M	81,3mm-86,4mm	86,7mm	127,2mm	207,2mm	50mm	80mm	*1/4"	C52-FIX C52-ADJ	3	MS-19M-1	AS-18T9-1	❍
R52X25-50M		213,7mm	254,2mm	334,2mm								❍
SP52X10-50M		88,6mm	129,1mm	209,1mm				C52SP-FIX C52SP-ADJ				❍
SP52X25-50M		215,6mm	256,1mm	336,1mm								❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R54X10-200L	3.40"-3.60"	3-21/32"	5-17/64"	9-49/64"	2"	4-1/2"	1/4"	C54-FIX C54-ADJ	3	MS-19M-1	AS-18T9-1	❍
R54X25-200L		8-29/32"	10-33/64"	15-1/64"								❍
SP54X10-200L		3-23/32"	5-21/64"	9-53/64"				C54SP-FIX C54SP-ADJ				❍
SP54X25-200L		8-31/32"	10-37/64"	15-5/64"								❍
Metric												
R54X10-50M	86,4mm - 91,4mm	92,9mm	133,6mm	213,6mm	50mm	80mm	*1/4"	C54-FIX C54-ADJ	3	MS-19M-1	AS-18T9-1	❍
R54X25-50M		226,3mm	266,9mm	346,9mm								❍
SP54X10-50M		94,5mm	135,1mm	215,1mm				C54SP-FIX C54SP-ADJ				❍
SP54X25-50M		227,8mm	268,5mm	348,5mm								❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R56X10-200L	3.60"-3.80"	3-7/8"	5-3/4"	10-1/4"	2"	4-1/2"	1/4"	C56-FIX C56-ADJ	4	MS-21M-1	AS-18T9-1	❍
R56X25-200L		9-3/8"	11-1/4"	15-3/4"								❍
SP56X10-200L		3-15/16"	5-13/16"	10-5/16"				C56SP-FIX C56SP-ADJ				❍
SP56X25-200L		9-7/16"	11-5/16"	15-13/16"								❍
Metric												
R56X10-50M	91,4mm - 96,5mm	98,6mm	146,2mm	226,2mm	50mm	80mm	*1/4"	C56-FIX C56-ADJ	4	MS-21M-1	AS-18T9-1	❍
R56X25-50M		238,3mm	285,9mm	365,9mm								❍
SP56X10-50M		99,9mm	147,6mm	227,6mm				C56SP-FIX C56SP-ADJ				❍
SP56X25-50M		239,6mm	287,3mm	367,3mm								❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	OAL (D)	Shank Dia. (E)	Shank Length (F)	Pipe Tap	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R58X10-200L	3.80"-4.00"	3-7/8"	5-3/4"	10-1/4"	2"	4-1/2"	1/4"	C58-FIX C58-ADJ	4	MS-21M-1	AS-18T9-1	❍
R58X25-200L		9-7/8"	11-3/4"	16-1/4"								❍
SP58X10-200L		3-15/16"	5-13/16"	10-5/16"				C58SP-FIX C58SP-ADJ				❍
SP58X25-200L		9-15/16"	11-13/16"	16-5/16"								❍
Metric												
R58X10-50M	96,5mm - 101,0mm	98,6mm	146,2mm	226,2mm	50mm	80mm	*1/4"	C58-FIX C58-ADJ	4	MS-21M-1	AS-18T9-1	❍
R58X25-50M		251,0mm	298,6mm	378,6mm								❍
SP58X10-50M		99,8mm	147,4mm	227,4mm				C58SP-FIX C58SP-ADJ				❍
SP58X25-50M		252,2mm	299,8mm	379,8mm								❍

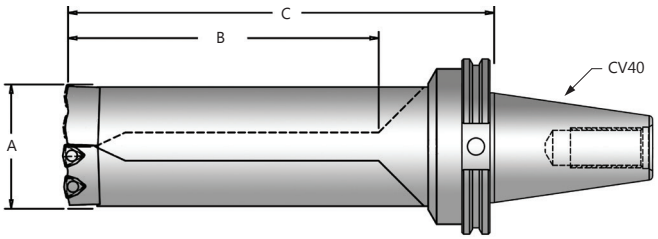
*Metric Thread to BSP & ISO 7-1

❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 20 work day lead time

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

Revolution Drill®

CV40 Shank



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R34X22-CV40	1.875"-2.00"	4-17/32"	6-25/32"	C34-FIX C34-ADJ	2	MS-17M-1	AS-18T9-1	❍
R34X35-CV40		7-1/32"	9-9/32"					❍
R34X45-CV40		9-1/32"	11-9/32"					❍
SP34X22-CV40		4-27/64"	6-11/16"	C34SP-FIX C34SP-ADJ				▲

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R36X22-CV40	2.00"-2.20"	4-61/64"	7-17/64"	C36-FIX C36-ADJ	2	MS-17M-1	AS-18T9-1	❍
R36X35-CV40		7-45/64"	10-1/64"					❍
R36X45-CV40		9-61/64"	12-17/64"					❍
SP36X22-CV40		4-57/64"	7-35/64"	C36SP-FIX C36SP-ADJ				▲

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R38X22-CV40	2.20"-2.40"	5-29/64"	7-49/64"	C38-FIX C38-ADJ	2	MS-17M-1	AS-18T9-1	❍
R38X35-CV40		8-29/64"	10-49/64"					❍
R38X45-CV40		10-61/64"	13-17/64"					❍
SP38X22-CV40		5-3/8"	7-43/64"	C38SP-FIX C38SP-ADJ				▲

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R42X22-CV40	2.40"-2.60"	5-45/64"	8-9/64"	C42-FIX C42-ADJ	2	MS-19M-1	AS-18T9-1	❍
R42X35-CV40		9-13/64"	11-41/64"					❍
R42X45-CV40		11-45/64"	14-9/64"					❍
SP42X22-CV40		5-3/4"	8-3/16"	C42SP-FIX C42SP-ADJ				▲

Can be supplied with other coatings as a non-stocked standard.

TiAlN	OP-05T308-A
TiCN	OP-05T308-N

	Item Number, Coating and Availability - 10 Piece Packs					
Grade	AM300®	❶	AM200®	❶	TiN	❶
C5 (P35)	OP-05T308-P	❍	OP-05T308-H	❍	OP-05T308-T	❍
C1 (K35)	OP-05T308-1P	❍	OP-05T308-1H	❍	OP-05T308-1T	❍
C5 (P35)	OP-05T308-PHR	❍	OP-05T308-HHR	❍	–	–
C2 (K25)	OP-05T308-2P	❍	OP-05T308-2H	❍	–	–
Insert Screw 10 Pack					IS-10-1	

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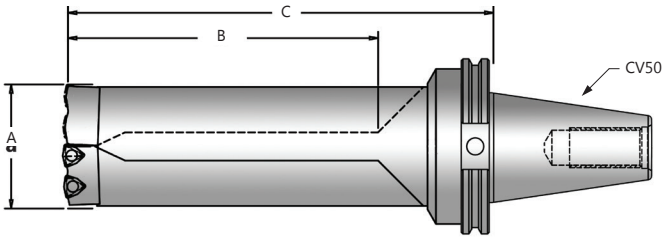
Revolution Drill®

CV50 Shank



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R34X22-CV50	1.875"-2.00"	4-17/32"	6-25/32"	C34-FIX C34-ADJ	2	MS-17M-1	AS-18T9-1	❍
R34X35-CV50		7-1/32"	9-9/32"					❍
R34X45-CV50		9-1/32"	11-9/32"					❍
SP34X22-CV50		4-27/64"	6-11/16"	C34SP-FIX C34SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R36X22-CV50	2.00"-2.20"	4-61/64"	7-17/64"	C36-FIX C36-ADJ	2	MS-17M-1	AS-18T9-1	❍
R36X35-CV50		7-45/64"	10-1/64"					❍
R36X45-CV50		9-61/64"	12-17/64"					❍
SP36X22-CV50		4-57/64"	7-35/64"	C36SP-FIX C36SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R38X22-CV50	2.20"-2.40"	5-29/64"	7-49/64"	C38-FIX C38-ADJ	2	MS-17M-1	AS-18T9-1	❍
R38X35-CV50		8-29/64"	10-49/64"					❍
R38X45-CV50		10-61/64"	13-17/64"					❍
SP38X22-CV50		5-3/8"	7-43/64"	C38SP-FIX C38SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R42X22-CV50	2.40"-2.60"	5-45/64"	8-9/64"	C42-FIX C42-ADJ	2	MS-19M-1	AS-18T9-1	❍
R42X35-CV50		9-13/64"	11-41/64"					❍
R42X45-CV50		11-45/64"	14-9/64"					❍
SP42X22-CV50		5-3/4"	8-3/16"	C42SP-FIX C42SP-ADJ				❍

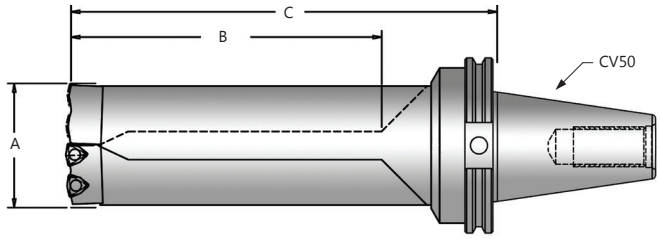
Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R44X22-CV50	2.60"-2.80"	6-13/64"	8-7/8"	C44-FIX C44-ADJ	3	MS-19M-1	AS-18T9-1	❍
R44X35-CV50		9-61/64"	12-5/8"					❍
SP44X22-CV50		6-1/4"	8-59/64"	C44SP-FIX C44SP-ADJ				❍

❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 20 work day lead time

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

Revolution Drill®

CV50 Shank



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R46X22-CV50	2.80"-3.00"	6-45/64"	9-25/64"	C46-FIX C46-ADJ	3	MS-21M-1	AS-18T9-1	❍
R46X35-CV50		10-29/64"	13-1/8"					❍
SP46X22-CV50		6-3/4"	9-27/64"	C46SP-FIX C46SP-ADJ				❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R48X10-CV50	3.00"-3.20"	3-5/32"	5-57/64"	C48-FIX C48-ADJ	3	MS-21M-1	AS-18T9-1	❍
R48X25-CV50		7-29/32"	10-41/64"					❍
SP48X10-CV50		3-15/64"	5-31/32"	C48SP-FIX C48SP-ADJ				❍
SP48X25-CV50		7-63/64"	10-23/32"					❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R52X10-CV50	3.20"-3.40"	3-27/64"	6-25/64"	C52-FIX C52-ADJ	3	MS-19M-1	AS-18T9-1	❍
R52X25-CV50		8-27/64"	11-25/64"					❍
SP52X10-CV50		3-31/64"	6-29/64"	C52SP-FIX C52SP-ADJ				❍
SP52X25-CV50		8-31/64"	11-29/64"					❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R54X10-CV50	3.40"-3.60"	3-21/32"	6-41/64"	C54-FIX C54-ADJ	3	MS-19M-1	AS-18T9-1	❍
R54X25-CV50		8-29/32"	11-57/64"					❍
SP54X10-CV50		3-23/32"	6-11/16"	C54SP-FIX C54SP-ADJ				❍
SP54X25-CV50		8-31/32"	11-15/16"					❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R56X10-CV50	3.60"-3.80"	3-7/8"	7-1/8"	C56-FIX C56-ADJ	4	MS-21M-1	AS-18T9-1	❍
R56X25-CV50		9-3/8"	12-5/8"					❍
SP56X10-CV50		3-15/16"	7-3/16"	C56SP-FIX C56SP-ADJ				❍
SP56X25-CV50		9-7/16"	12-11/16"					❍

Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
R58X10-CV50	3.80"-4.00"	3-7/8"	7-1/8"	C58-FIX C58-ADJ	4	MS-21M-1	AS-18T9-1	❍
R58X25-CV50		9-7/8"	13-1/8"					❍
SP58X10-CV50		3-15/16"	7-3/16"	C58SP-FIX C58SP-ADJ				❍
SP58X25-CV50		9-15/16"	13-3/16"					❍

Can be supplied with other coatings as a non-stocked standard.

TiAlN	OP-05T308-A
TiCN	OP-05T308-N

Grade	Item Number, Coating and Availability - 10 Piece Packs					
	AM300®	❶	AM200®	❶	TiN	❶
C5 (P35)	OP-05T308-P	❍	OP-05T308-H	❍	OP-05T308-T	❍
C1 (K35)	OP-05T308-1P	❍	OP-05T308-1H	❍	OP-05T308-1T	❍
C5 (P35)	OP-05T308-PHR	❍	OP-05T308-HHR	❍	–	–
C2 (K25)	OP-05T308-2P	❍	OP-05T308-2H	❍	–	–
Insert Screw 10 Pack					IS-10-1	

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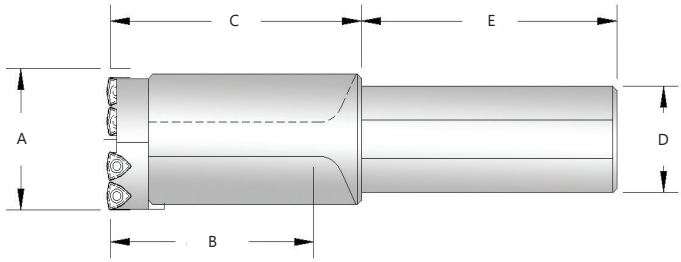
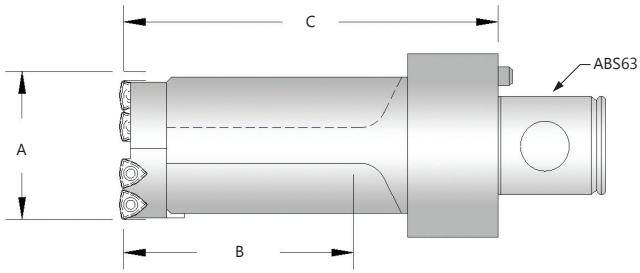
Opening Drill®
Straight Shank/ABS



Item Number	Diameter Range (A)	Max Drill Depth (B)	Body Length (C)	Shank Diameter (D)	Shank Length (E)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-SS1.5	2.00"-2.50"	3-9/32"	4-3/64"	1-1/2"	4"	OP1-WC05	2	MS-13M-1	AS-10T9-1	❍
OP1-1L-SS1.5		5-17/32"	6-19/64"							❍
OP2-1S-SS1.5	2.50"-3.00"	4-43/64"	5-1/2"	1-1/2"	4"	OP2-WC05	2	MS-15M-1	AS-10T9-1	❍
OP2-1L-SS1.5		7-43/64"	8-1/2"							❍
OP3-1S-SS1.5	3.00"-4.12"	5-7/64"	6"	1-1/2"	4"	OP3-WC05	2	MS-15M-1	AS-12T9-1	❍
OP3-1L-SS1.5		9-7/64"	10"							❍
OP4-1S-SS2.0	4.12"-5.62"	5-1/64"	6"	2"	4-1/2"	OP4-WC05	3	MS-15M-1	AS-14T9-1	❍
OP4-1L-SS2.0		10-33/64"	11-1/2"							❍
Metric										
OP1-1S-40M	50,8mm - 63,5mm	83,5mm	102,9mm	40mm	70mm	OP1-WC05	2	MS-13M-1	AS-10T9-1	❍
OP1-1L-40M		140,6mm	160,1mm							❍
OP2-1S-40M	63,5mm - 76,2mm	118,5mm	139,8mm	40mm	70mm	OP2-WC05	2	MS-15M-1	AS-10T9-1	❍
OP2-1L-40M		194,7mm	216,0mm							❍
OP3-1S-40M	76,2mm - 104,7mm	129,9mm	152,5mm	40mm	70mm	OP3-WC05	2	MS-15M-1	AS-12T9-1	❍
OP3-1L-40M		231,5mm	254,1mm							❍
OP4-1S-50M	104,7mm - 142,8mm	127,4mm	152,5mm	50mm	80mm	OP4-WC05	3	MS-15M-1	AS-14T9-1	❍
OP4-1L-50M		254,4mm	292,2mm							❍

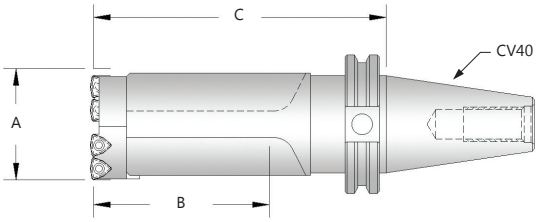


Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-ABS63	2.00"-2.50"	3-9/32"	5-1/2"	OP1-WC05	2	MS-13M-1	AS-10T9-1	❍
OP1-1L-ABS63		5-17/32"	7-3/4"					❍
OP2-1S-ABS63	2.50"-3.00"	4-43/64"	6-1/4"	OP2-WC05	2	MS-15M-1	AS-10T9-1	❍
OP2-1L-ABS63		7-43/64"	9-1/4"					❍
OP3-1S-ABS63	3.00"-4.12"	5-7/64"	6-3/4"	OP3-WC05	2	MS-15M-1	AS-12T9-1	❍
OP3-1L-ABS63		9-7/64"	10-3/4"					❍
OP4-1S-ABS63	4.12"-5.62"	5-1/64"	6-3/4"	OP4-WC05	3	MS-15M-1	AS-14T9-1	❍

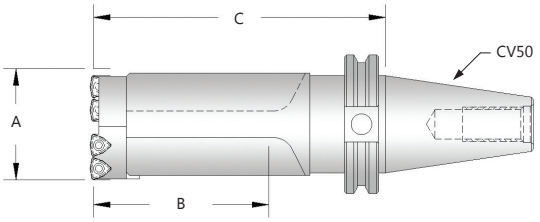
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 20 work day lead time

Opening Drill®

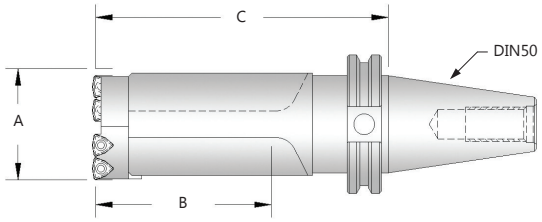
CV/DV Flange



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-CV40	2.00"-2.50"	3-9/32"	5-27/64"	OP1-WC05	2	MS-13M-1	AS-10T9-1	❍
OP1-1L-CV40		5-17/32"	7-43/64"					❍
OP2-1S-CV40	2.50"-3.00"	4-43/64"	6-7/8"	OP2-WC05	2	MS-15M-1	AS-10T9-1	❍
OP2-1L-CV40		7-43/64"	9-7/8"					❍
OP3-1S-CV40	3.00"-4.12"	5-7/64"	7-3/8"	OP3-WC05	2	MS-15M-1	AS-12T9-1	❍
OP3-1L-CV40		9-7/64"	11-3/8"					❍
OP4-1S-CV40	4.12"-5.62"	5-1/64"	7-3/8"	OP4-WC05	3	MS-15M-1	AS-14T9-1	❍



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-CV50	2.00"-2.50"	3-9/32"	5-27/64"	OP1-WC05	2	MS-13M-1	AS-10T9-1	❍
OP1-1L-CV50		5-17/32"	7-43/64"					❍
OP2-1S-CV50	2.50"-3.00"	4-43/64"	6-7/8"	OP2-WC05	2	MS-15M-1	AS-10T9-1	❍
OP2-1L-CV50		7-43/64"	9-7/8"					❍
OP3-1S-CV50	3.00"-4.12"	5-7/64"	7-3/8"	OP3-WC05	2	MS-15M-1	AS-12T9-1	❍
OP3-1L-CV50		9-7/64"	11-3/8"					❍
OP4-1S-CV50	4.12"-5.62"	5-1/64"	7-3/8"	OP4-WC05	3	MS-15M-1	AS-14T9-1	❍
OP4-1L-CV50		10-33/64"	12-7/8"					❍



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-DV50	50,8mm-63,5mm	83,5mm	137,9mm	OP1-WC05	2	MS-13M-1	AS-10T9-1	▲
OP1-1L-DV50		140,6mm	195,1mm					▲
OP2-1S-DV50	63,5mm-76,2mm	118,5mm	174,8mm	OP2-WC05	2	MS-15M-1	AS-10T9-1	▲
OP2-1L-DV50		194,7mm	251,0mm					▲
OP3-1S-DV50	76,2mm-104,7mm	129,9mm	187,5mm	OP3-WC05	2	MS-15M-1	AS-12T9-1	▲
OP3-1L-DV50		231,5mm	289,1mm					▲
OP4-1S-DV50	104,7mm-142,8mm	127,4mm	187,5mm	OP4-WC05	3	MS-15M-1	AS-14T9-1	▲
OP4-1L-DV50		254,4mm	327,2mm					▲

Can be supplied with other coatings as a non-stocked standard.

TiAlN	OP-05T308-A
TiCN	OP-05T308-N

Grade	Item Number, Coating and Availability - 10 Piece Packs					
	AM300®	❶	AM200®	❶	TiN	❶
C5 (P35)	OP-05T308-P	❍	OP-05T308-H	❍	OP-05T308-T	❍
C1 (K35)	OP-05T308-1P	❍	OP-05T308-1H	❍	OP-05T308-1T	❍
C5 (P35)	OP-05T308-PHR	❍	OP-05T308-HHR	❍	–	–
C2 (K25)	OP-05T308-2P	❍	OP-05T308-2H	❍	–	–
Insert Screw 10 Pack					IS-10-1	

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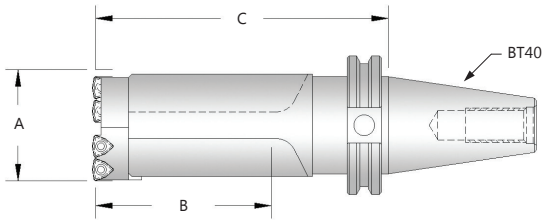
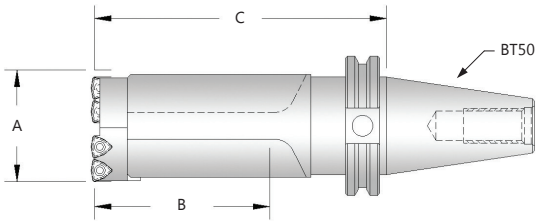


Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-BT40	50,8mm-63,5mm	83,5mm	137,8mm	OP1-WC05	2	MS-13M-1	AS-10T9-1	▲
OP1-1L-BT40		140,6mm	195,0mm					▲
OP2-1S-BT40	63,5mm-76,2mm	118,5mm	174,7mm	OP2-WC05	2	MS-15M-1	AS-10T9-1	▲
OP2-1L-BT40		194,7mm	250,9mm					▲
OP3-1S-BT40	76,2mm-104,7mm	129,9mm	187,4mm	OP3-WC05	2	MS-15M-1	AS-12T9-1	▲
OP3-1L-BT40		231,5mm	289,0mm					▲
OP4-1S-BT40	104,7mm-142,8mm	127,4mm	187,4mm	OP4-WC05	3	MS-15M-1	AS-14T9-1	▲

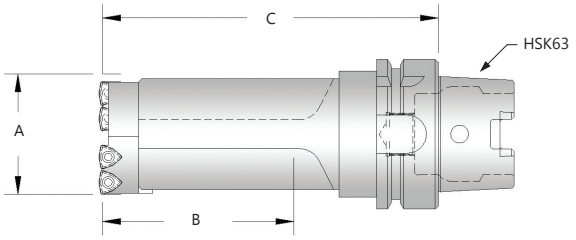


Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-BT50	50,8mm-63,5mm	83,5mm	147,4mm	OP1-WC05	2	MS-13M-1	AS-10T9-1	▲
OP1-1L-BT50		140,6mm	204,5mm					▲
OP2-1S-BT50	63,5mm-76,2mm	118,5mm	174,7mm	OP2-WC05	2	MS-15M-1	AS-10T9-1	▲
OP2-1L-BT50		194,7mm	260,4mm					▲
OP3-1S-BT50	76,2mm-104,7mm	129,9mm	196,9mm	OP3-WC05	2	MS-15M-1	AS-12T9-1	▲
OP3-1L-BT50		231,5mm	298,5mm					▲
OP4-1S-BT50	104,7mm-142,8mm	127,4mm	196,9mm	OP4-WC05	3	MS-15M-1	AS-14T9-1	▲
OP4-1L-BT50		254,4mm	336,5mm					▲

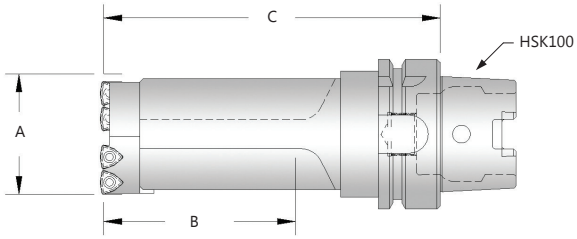
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 20 work day lead time

Opening Drill®

HSK Shank



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-HSK63	2.00"-2.50"	3-9/32"	5-59/64"	OP1-WC05	2	MS-13M-1	AS-10T9-1	▲
OP1-1L-HSK63		5-17/32"	8-11/64"					▲
OP2-1S-HSK63	2.50"-3.00"	4-43/64"	7-3/8"	OP2-WC05	2	MS-15M-1	AS-10T9-1	▲
OP2-1L-HSK63		7-43/64"	10-3/8"					▲
OP3-1S-HSK63	3.00"-4.12"	5-7/64"	7-7/8"	OP3-WC05	2	MS-15M-1	AS-12T9-1	▲
OP3-1L-HSK63		9-7/64"	11-7/8"					▲
OP4-1S-HSK63	4.12"-5.62"	5-1/64"	7-7/8"	OP4-WC05	3	MS-15M-1	AS-14T9-1	▲



Item Number	Diameter Range (A)	Max Drill Depth (B)	Gage Length (C)	Replacement Cartridges	Qty. Inserts Required (per cartridge)	Mounting Screw (4 pack)	Adjustment Screw (4 pack)	❶
OP1-1S-HSK100	2.00"-2.50"	3-9/32"	6-1/64"	OP1-WC05	2	MS-13M-1	AS-10T9-1	▲
OP1-1L-HSK100		5-17/32"	8-17/64"					▲
OP2-1S-HSK100	2.50"-3.00"	4-43/64"	7-15/32"	OP2-WC05	2	MS-15M-1	AS-10T9-1	▲
OP2-1L-HSK100		7-43/64"	10-15/32"					▲
OP3-1S-HSK100	3.00"-4.12"	5-7/64"	7-31/32"	OP3-WC05	2	MS-15M-1	AS-12T9-1	▲
OP3-1L-HSK100		9-7/64"	11-31/32"					▲
OP4-1S-HSK100	4.12"-5.62"	5-1/64"	7-31/32"	OP4-WC05	3	MS-15M-1	AS-14T9-1	▲
OP4-1L-HSK100		10-33/64"	13-15/32"					▲

Can be supplied with other coatings as a non-stocked standard.

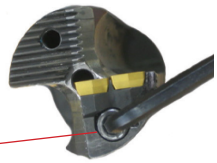
TiAlN	OP-05T308-A
TiCN	OP-05T308-N

Grade	Item Number, Coating and Availability - 10 Piece Packs					
	AM300®	❶	AM200®	❶	TiN	❶
C5 (P35)	OP-05T308-P	❍	OP-05T308-H	❍	OP-05T308-T	❍
C1 (K35)	OP-05T308-1P	❍	OP-05T308-1H	❍	OP-05T308-1T	❍
C5 (P35)	OP-05T308-PHR	❍	OP-05T308-HHR	❍	–	–
C2 (K25)	OP-05T308-2P	❍	OP-05T308-2H	❍	–	–
Insert Screw 10 Pack					IS-10-1	

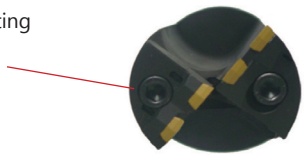
Setup Instructions

Revolution Drill
Setup Instructions

1 Mount fixed cartridge and tighten mounting screw to 11-14 ft-lbf (15-19 N-m)

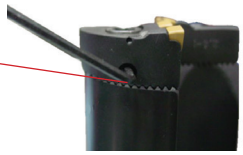


2 Finger tighten mounting screw on adjustable cartridge

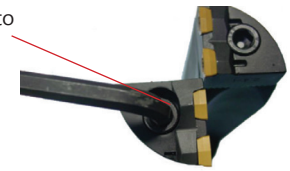


3 Set diameter using the adjustment screw against the mounting screw.

Place tool in a presetter to ensure correct diameter setting

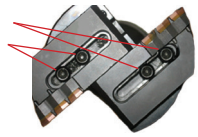


4 Tighten mounting screw to 11-14 ft-lbf (15-19 N-m)



Opening Drill
Setup Instructions

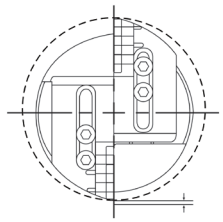
1 Loosen mounting screws on both cartridges



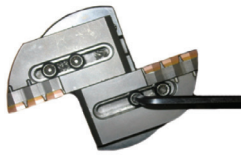
2 Set one cartridge to finish diameter by tightening adjustment screw against adjustment pin

3 Tighten mounting screws on cartridge to 11-14 ft-lbf (15-19 N-m)

4 Set opposing cartridge with 0.160" to 0.200" radial offset inward by tightening adjustment screw against adjustment pin (optimum situation for each insert to remove equal material)



5 Tighten mounting screws on cartridge to 11-14 ft-lbf (15-19 N-m)



Revolution Drill® and Opening Drill®

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team.

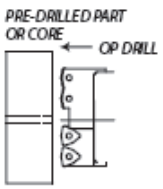
Material	Hardness (BHN)	SPEED			FEED
		AM300® SFM	AM200® SFM	TiN SFM	IPR
Free Machining Steel 1118, 1215, 12L14, etc.	100-250	900-1300	850-1200	700-900	.0035 - .007
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-275	850-1250	800-1150	650-850	.003 - .0065
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-325	800-1050	750-950	600-850	.0035 - .0065
Alloy Steel 4140, 5140, 8640, etc.	125-375	750-1000	700-900	600-850	.0035 - .0065
High Strength Alloy 4340, 4330V, 300M, etc.	225-400	600-850	550-750	400-650	.003 - .005
Structural Steel A36, A285, A516, etc.	100-350	850-1050	800-950	650-850	.003 - .0065
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-250	400-800	350-700	250-650	.0025 - .005
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-310	250-450	250-350	150-300	.0025 - .005
Stainless Steel 400 Series 416, 420, etc.	185-350	600-850	550-750	400-650	.003 - .006
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-275	600-850	550-750	400-650	.003 -.006
Super Duplex Stainless Steel	135-275	500-750	450-650	300-550	.002-.005
Nodular, Grey, Ductile Cast Iron	120-320	700-900	650-800	500-700	.004 - .008
Cast Aluminum	30-180	1250-1650	1200-1550	950-1100	.006 - .012
Wrought Aluminum	30-180	1250-1650	1200-1550	950-1100	.006 - .012
Brass	30-100	950-1350	900-1250	750-1100	.005 - .009

Opening Drill Minimum Pilot Calculation

To determine the minimum diameter of the pilot hole, use the following calculation:

FINISH DIAMETER - OPENING RANGE = MINIMUM PILOT HOLE DIAMETER

For example: To open an existing diameter hole to 2.75" diameter, an OP2 tool would be used and the minimum pilot hole diameter would be 2.750-1.880=.870"



Opening Drill Size	Adjustable O.D. Range	Opening Range Diameter
OP-1	2.00-2.50	1.880
OP-2	2.50-3.00	1.880
OP-3	3.00-4.12	1.880
OP-4	4.12-5.62	2.680

Revolution Drill® and Opening Drill®

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are considered a general starting point for all applications. Factory technical assistance is also available for your specific applications through our Application Engineering Team.

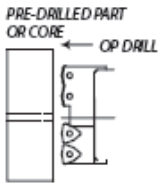
Material	Hardness (BHN)	SPEED			FEED
		AM300® M/min	AM200® M/min	TiN M/min	mm/rev
Free Machining Steel 1118, 1215, 12L14, etc.	110-250	274-396	259-366	213-274	0,09 - 0,18
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-275	259-381	244-351	198-259	0,08 - 0,17
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-325	244-320	229-290	183-259	0,09 - 0,17
Alloy Steel 4140, 5140, 8640, etc.	125-375	229-305	213-274	183-259	0,09 - 0,17
High Strength Alloy 4340, 4330V, 300M, etc.	225-400	183-259	168-229	122-198	0,08 - 0,13
Structural Steel A36, A285, A516, etc.	100-350	259-320	244-290	198-259	0,08 - 0,17
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-250	122-244	107-213	76-198	0,06 - 0,13
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-310	76-137	76-107	46-91	0,06 - 0,11
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
Nodular, Grey, Ductile Cast Iron	120-320	213-274	198-244	152-213	0,10 - 0,20
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

Opening Drill Minimum Pilot Calculation

To determine the minimum diameter of the pilot hole, use the following calculation:

FINISH DIAMETER - OPENING RANGE = MINIMUM PILOT HOLE DIAMETER

For example: To open an existing diameter hole to 69,85mm diameter, an OP2 tool would be used and the minimum pilot hole diameter would be 69,9-47,8=22,1mm



Opening Drill Size	Adjustable O.D. Range	Opening Range Diameter
OP-1	50,8-63,5	47,75
OP-2	63,5-76,2	47,75
OP-3	76,2-104,6	47,75
OP-4	104,6-142,7	68,07

Revolution Drill® and Opening Drill®

Formulas and Constants - Inch

Revolution Drill

1. RPM $= \frac{3.82 \cdot SFM}{DIA}$

where:
RPM = revolutions per minute (rev/min)
SFM = velocity (ft/min)
DIA = diameter of Revolution Drill (in)

2. HP $= \frac{.6676 \cdot DIA^2 \cdot IPR \cdot RPM \cdot K_m}{.80}$

where:
Tool Power = tool power (HP)
DIA = diameter of Revolution Drill (in)
IPR = feed rate (in/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (lbs/in^2)
machine efficiency (using .80 as constant)

3. Thrust $= 148{,}500 \cdot IPR \cdot DIA \cdot K_m$

where:
Thrust = axial thrust (lbs)
DIA = diameter of Revolution Drill (in)
IPR = feed rate (in/rev)
K_m = specific cutting energy (lbs/in^2)

4. Torque $= \frac{HP \cdot 5252}{RPM}$

where:
Torque = torque (ft/lbs)
HP = tool power (HP)
RPM = revolutions per minute (rev/min)

Opening Drill

1. RPM $= \frac{3.82 \cdot SFM}{DIA_F}$

where:
RPM = revolutions per minute (rev/min)
SFM = velocity (ft/min)
DIA_F = finish diameter of Opening Drill (in)

2. HP $= \frac{.5891 \cdot (DIA_F^2 - DIA_P^2) \cdot IPR \cdot RPM \cdot K_m}{.80}$

where:
Tool Power = tool power (HP)
DIA_P = diameter of predrill (in)
DIA_F = finish diameter of Opening Drill (in)
IPR = feed rate (in/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (lbs/in^2)
machine efficiency (using .80 as constant)

3. Thrust $= 148{,}500 \cdot IPR \cdot (DIA_F - DIA_P) \cdot K_m$

where:
Thrust = axial thrust (lbs)
IPR = feed rate (in/rev)
DIA_F = finish diameter of Opening Drill (in)
DIA_P = diameter of predrill (in)
K_m = specific cutting energy (lbs/in^2)

4. Torque $= \frac{HP \cdot 5252}{RPM}$

where:
Torque = torque (ft/lbs)
HP = tool power (HP)
RPM = revolutions per minute (rev/min)

These equations are found in the **Machinery's Handbook**. Permission to simplify and print the equations is granted by the editor of the **Machinery's Handbook.**

Material	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 Alloy	225-400	1.15
Structural Steel	100-350	1.00
Tool Steel	150-250	0.90
High Temp. Alloy	140-310	1.44
Titanium Alloy	140-310	0.72
Aerospace Alloy	185-350	0.70
Stainless Steel 400 Series	185-350	1.08
Stainless Steel 300 Series	135-275	0.94
Super Duplex Stainless Steel	135-275	0.94
Wear Plate	400-600	1.60
Hardened Steel	300-500	1.40
Nodular, Ductile Cast Iron	120-320	0.65
Grey Cast Iron	120-320	0.75
Cast 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

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Revolution Drill® and Opening Drill®

Formulas and Constants - Metric

Revolution Drill

1. $RPM = \frac{318.31 \cdot M/min}{DIA}$

where:
RPM = revolutions per minute (rev/min)
M/min = velocity (M/min)
DIA = diameter of Revolution Drill (mm)

2. $kW = \frac{DIA^2 \cdot mm/rev \cdot RPM \cdot K_m}{181{,}018}$

where:
kW = tool power (kW)
DIA = diameter of Revolution Drill (mm)
mm/rev = feed rate (mm/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (kPa)
machine efficiency (using .80 as constant)

3. $Thrust = 148.78 \cdot mm/rev \cdot DIA \cdot K_m$

where:
Thrust = axial thrust (N)
DIA = diameter of Revolution Drill (mm)
mm/rev = feed rate (mm/rev)
K_m = specific cutting energy (kPa)

4. $Torque = \frac{kW \cdot 9549.3}{RPM}$

where:
Torque = torque (Nm)
kW = tool power (kW)
RPM = revolutions per minute (rev/min)

Opening Drill

1. $RPM = \frac{318.31 \cdot M/min}{DIA_F}$

where:
RPM = revolutions per minute (rev/min)
M/min = velocity (M/min)
DIA_F = finish diameter of Opening Drill (mm)

2. $kW = \frac{(DIA_F^2 - DIA_P^2) \cdot mm/rev \cdot RPM \cdot K_m}{205{,}154}$

where:
kW = tool power (kW)
DIA_P = diameter of predrill (mm)
DIA_F = finish diameter of Opening Drill (mm)
mm/rev = feed rate of Opening Drill (mm/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (kPa)
machine efficiency (using .80 as constant)

3. $Thrust = 148.78 \cdot mm/rev \cdot (DIA_F - DIA_P) \cdot K_m$

where:
Thrust = axial thrust (N)
mm/rev = feed rate (mm/rev)
DIA_F = finish diameter of Opening Drill (mm)
DIA_P = diameter of predrill (mm)
K_m = specific cutting energy (kPa)

4. $Torque = \frac{kW \cdot 9549.3}{RPM}$

where:
Torque = torque (Nm)
kW = tool power (kW)
RPM = revolutions per minute (rev/min)

These equations are found in the **Machinery's Handbook**. Permission to simplify and print the equations is granted by the editor of the **Machinery's Handbook.**

Material	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 Alloy	225-400	7.93
Structural Steel	100-350	6.90
Tool Steel	150-250	6.21
High Temp. Alloy	140-310	9.93
Titanium Alloy	140-310	4.97
Aerospace Alloy	185-350	4.83
Stainless Steel 400 Series	185-350	7.45
Stainless Steel 300 Series	135-275	6.48
Super Duplex Stainless Steel	135-275	6.48
Wear Plate	400-600	11.04
Hardened Steel	300-500	9.66
Nodular, Ductile Cast Iron	120-320	4.48
Grey Cast Iron	120-320	5.17
Cast 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

Insert Application Recommendations

C5 (P35) – General purpose carbide grade suitable for most applications. Common application in steels and stainless steels.

C1 (K35) – Toughest carbide grade recommended for less rigid applications. Provides best combination of edge strength and tool life.

C2 (K25) – Higher wear resistant carbide suitable for abrasive material applications. Recommended for grey, ductile, and nodular irons.

HR (High Rake geometry) – Provides superior chip control and tool life in long chipping, carbon and alloy steels below 200 Bhn.

APX™

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Features & Benefits

- **The APX Drill uses the GEN3SYS® or T-A® pilot insert to stabilize the tool through the cut and outboard carbide inserts to achieve the final cutting diameter**
- **Allows for higher spindle speeds and takes advantage of the power curve on modern CNC machines for maximum penetration rates on deep holes**
- **Diameter Range: 1.500" - 4.000" (38,00 - 101,6mm)**
- **Available in 3xD, 5xD, 8xD & 10xD**

ALLIED MACHINE & ENGINEERING CORP®

APX™

Reference Page

APX Head

V	38	15	D	–	0116
APX Head	Series	Pilot Series	Eff. Cutting		Major Diameter

Series
38
44
51
57
63
70
76
83
89
95

Pilot Series

GEN3SYS®	T-A®
15	00
17	01
18	02
20	
22	
24	
26	
29	

Eff. Cutting
D = Double Effective
S = Single Effective

Major Diameter
Inch = 0116
Decimal = 1.5153
Metric = 68

APX Body

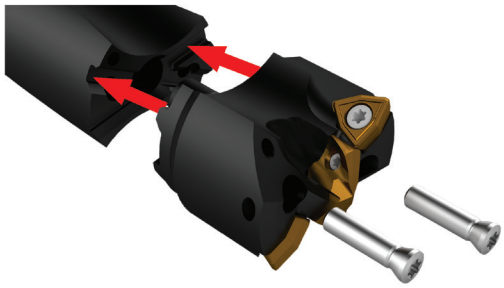
W	38	05	H	–	200F
APX Body	Series	Depth to ø	Flute		Shank

Series
38
44
51
57
63
70
76
83
89
95

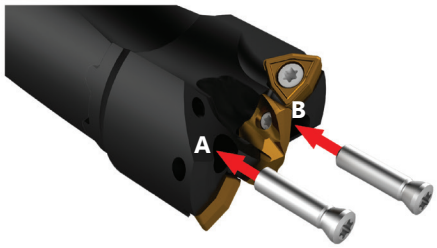
Depth to ø
03
05
08
10

Flute
H = Helical

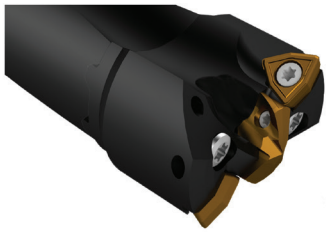
Shank
200F = 2" Flanged Shank
50FM = 50mm Flanged Shank
CV50 = CAT50 Integral



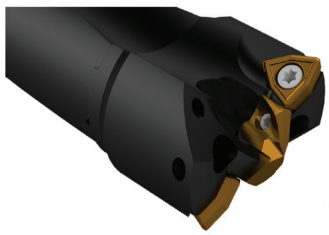
1) Lower the APX head assembly onto the APX Body



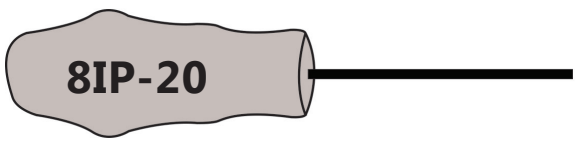
2) Insert Head Mounting Screws into points A and B and hand tighten until APX Head is properly secured to APX Body



3) Tighten with Head Mounting Driver using torque setting chart below



4) Finished Assembly. Follow proper APX Deep Hole Drilling Guidelines on pg 49



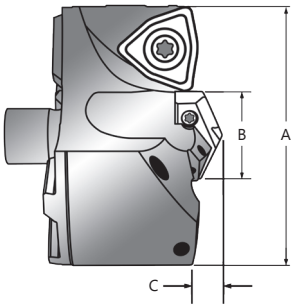
Torque Setting Chart

Series	Screw	Driver	Torque
38 - 63	75020-IP20-1	8IP-20	60 in-lb (678 N-cm)
70 - 95	78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

APX™ Heads

38 Series Range: 1.4961"-1.7322" (38,00mm-43,99mm)

T-A® Pilot Heads

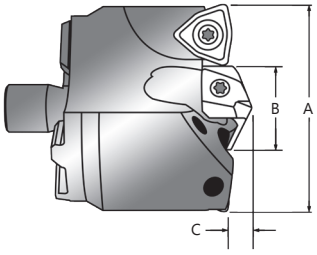


NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V3800D-38	-	1.4961	38,00	5/8"	19/64"	0	4C*0H-0020	72567-IP8-1	8IP-8	3/8"
V3800D-0116	1-1/2"	1.5000	38,10							
V3800D-0117	1-17/32"	1.5313	38,90							
V3800D-39	-	1.5354	39,00							
V3800D-0118	1-9/16"	1.5625	39,69							
V3800D-40	-	1.5748	40,00	11/16"			4C*0H-0022			
V3800D-0119	1-19/32"	1.5938	40,48							
V3800D-41	-	1.6142	41,00							
V3800D-0120	1-5/8"	1.6250	41,28							
V3801D-42	-	1.6535	42,00	3/4"		1	4C*1H-0024	7375-IP9-1	8IP-9	
V3801D-0121	1-21/32"	1.6563	42,07							
V3801D-0122	1-11/16"	1.6875	42,86							
V3801D-43	-	1.6929	43,00	13/16"			4C*1H-0026			
V3801D-0123	1-23/32"	1.7188	43,66							

* denotes carbide grade

GEN3SYS® Pilot Heads



NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V3815D-38	-	1.4961	38,00	5/8"	19/64"	15	7C*15P-0020	7247-IP7-1	8IP-7	3/8"
V3815D-0116	1-1/2"	1.5000	38,10							
V3815D-0117	1-17/32"	1.5313	38,90							
V3815D-39	-	1.5354	39,00							
V3815D-0118	1-9/16"	1.5625	39,69							
V3817D-40	-	1.5748	40,00	11/16"		17	7C*17P-0022	72567-IP8-1	8IP-8	
V3817D-0119	1-19/32"	1.5938	40,48							
V3817D-41	-	1.6142	41,00							
V3817D-0120	1-5/8"	1.6250	41,28							
V3818D-42	-	1.6535	42,00	3/4"		18	7C*18P-0024	7375-IP9-1	8IP-9	
V3818D-0121	1-21/32"	1.6563	42,07							
V3818D-0122	1-11/16"	1.6875	42,86							
V3820D-43	-	1.6929	43,00	13/16"		20	7C*20P-0026			
V3820D-0123	1-23/32"	1.7188	43,66							

* denotes carbide grade

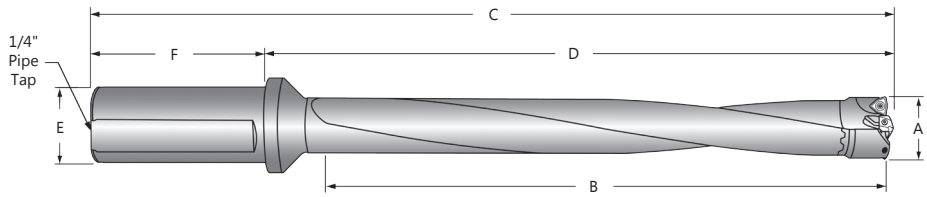
NOTE: Inserts are sold separately

Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver
3/8"	C5	AM300®	OP-060408-PW	73595-IP15-1	8IP-15
	C1		OP-060408-1PW		
	C5		OP-060408-PWHR		

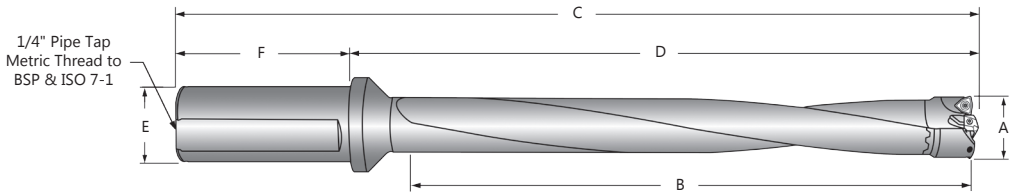
APX™ Holders

38 Series Range: 1.4961"-1.7322" (38,00mm-43,99mm)



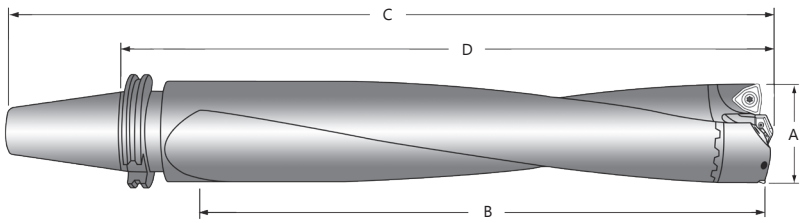
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W3803H-200F	38	1.4961"-1.7322"	38,00-43,99	5-1/8"	12-15/64"	7-47/64"	2"	4-1/2"
W3805H-200F				8-5/8"	15-45/64"	11-13/64"		
⚠ W3808H-200F				13-7/8"	20-57/64"	16-25/64"		
⚠ W3810H-200F				17-1/4"	24-59/64"	19-27/32"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W3803H-50FM	38	1.4961"-1.7322"	38,00-43,99	130,5	276,5	196,5	50,0	80,0
W3805H-50FM				220,0	364,5	284,5		
⚠ W3808H-50FM				352,0	496,3	416,3		
⚠ W3810H-50FM				439,9	583,9	503,9		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W3803H-CV50	38	1.4961"-1.7322"	38,00-43,99	5-1/8"	12-5/16"	8-5/16"	CV50
W3805H-CV50				8-5/8"	15-49/64"	11-49/64"	
⚠ W3808H-CV50				13-7/8"	20-31/32"	16-31/32"	
⚠ W3810H-CV50				17-1/4"	24-7/16"	20-7/16"	

Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
75020-IP20-1	8IP-20	60 in-lb (678 N-cm)

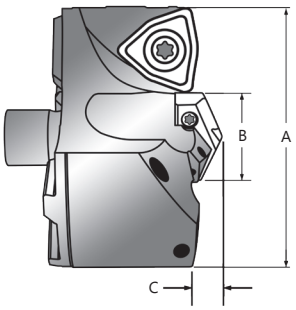
⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

44 Series Range: 1.7323"-2.0075" (44,00mm-50,99mm)

T-A® Pilot Heads

NOTE: Inserts are sold separately

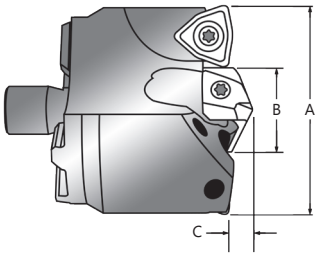


Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V4401D-44	-	1.7323"	44,00	7/8"	21/64"	1	4C*1H-0028	7375-IP9-1	8IP-9	3/8"
V4401D-0124	1-3/4"	1.7500"	44,45							
V4401D-45	-	1.7717"	45,00							
V4401D-0125	1-25/32"	1.7813"	45,25							
V4401D-46	-	1.8110"	46,00	15/16"			4C*1H-0030			
V4401D-0126	1-13/16"	1.8125"	46,04							
V4401D-0127	1-27/32"	1.8438"	46,83							
V4401D-47	-	1.8504"	47,00							
V4401D-0128	1-7/8"	1.8750"	47,63							
V4401D-48	-	1.8898"	48,00	45/64"			4C*1H-.703			1/2"
V4401D-0129	1-29/32"	1.9063"	48,42							
V4401D-49	-	1.9291"	49,00							
V4401D-0130	1-15/16"	1.9375"	49,21							
V4401D-50	-	1.9685"	50,00	47/64"			4C*1H-.734			
V4401D-0131	1-31/32"	1.9688"	50,01							
V4401D-0200	2"	2.000"	50,80							

* denotes carbide grade

GEN3SYS® Pilot Heads

NOTE: Inserts are sold separately



Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V4422D-44	-	1.7323"	44,00	7/8"	21/64"	22	7C*22P-0028	739-IP9-1	8IP-9	3/8"
V4422D-0124	1-3/4"	1.7500"	44,45							
V4422D-45	-	1.7717"	45,00							
V4422D-0125	1-25/32"	1.7813"	45,25							
V4422D-46	-	1.8110"	46,00	15/16"			7C*22P-0030			
V4422D-0126	1-13/16"	1.8125"	46,04							
V4422D-0127	1-27/32"	1.8438"	46,83							
V4422D-47	-	1.8504"	47,00							
V4422D-0128	1-7/8"	1.8750"	47,63							
V4417D-48	-	1.8898"	48,00	45/64"		17	7C*17P-.703	72567-IP8-1	8IP-8	1/2"
V4417D-0129	1-29/32"	1.9063"	48,42							
V4417D-49	-	1.9291"	49,00							
V4417D-0130	1-15/16"	1.9375"	49,21							
V4418D-50	-	1.9685"	50,00	47/64"		18	7C*18P-.734	7375-IP9-1	8IP-9	
V4418D-0131	1-31/32"	1.9688"	50,01							
V4418D-0200	2"	2.000"	50,80							

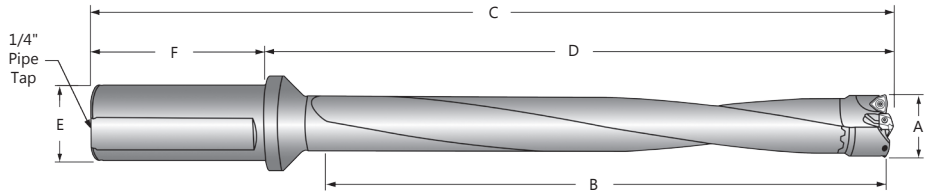
* denotes carbide grade

Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver
3/8"	C5 C1 C5	AM300®	OP-060408-PW OP-060408-1PW OP-060408-PWHR	73595-IP15-1	8IP-15
1/2"	C5 C1 C5		OP-080508-PW OP-080508-1PW OP-080508-PWHR	74012-IP15-1	

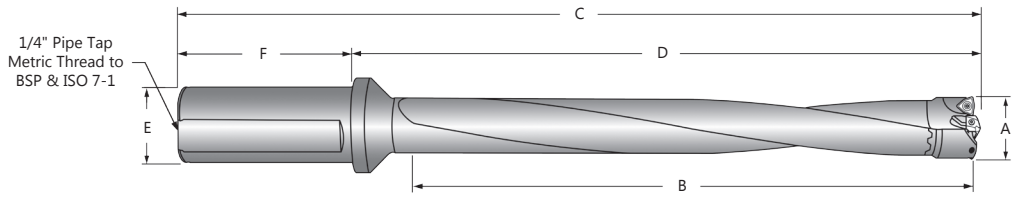
APX™ Holders

44 Series Range: 1.7323"-2.0075" (44,00mm-50,99mm)



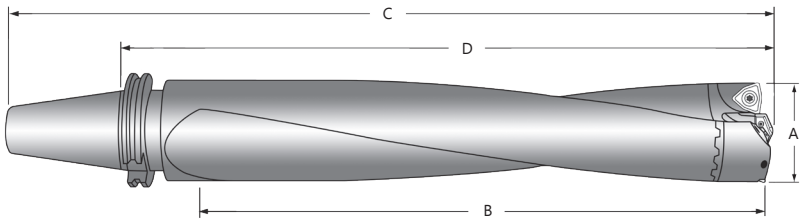
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W4403H-200F	44	1.7323"-2.0075"	44,00-50,99	6"	13-1/32"	8-33/64"	2"	4-1/2"
W4405H-200F				10"	17-3/64"	12-35/64"		
⚠ W4408H-200F				16"	23-5/64"	18-37/64"		
⚠ W4410H-200F				20-1/8"	27-3/32"	22-19/32"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W4403H-50FM	44	1.7323"-2.0075"	44,00-50,99	151,5	296,9	216,8	50,0	80,0
W4405H-50FM				255,0	398,8	318,8		
⚠ W4408H-50FM				407,9	551,7	471,7		
⚠ W4410H-50FM				510,0	653,8	573,8		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W4403H-CV50	44	1.7323"-2.0075"	44,00-50,99	6"	13-1/4"	9-1/4"	CV50
W4405H-CV50				10"	17-17/64"	13-17/64"	
⚠ W4408H-CV50				16"	23-19/64"	19-19/64"	
⚠ W4410H-CV50				20"	27-5/16"	23-5/16"	

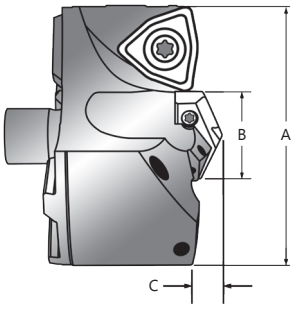
Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
75020-IP20-1	8IP-20	60 in-lb (678 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

51 Series Range: 2.0076"-2.2438" (51,00mm-56,99mm)

T-A® Pilot Heads

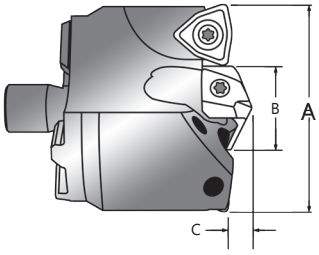


NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V5101D-51	-	2.0079"	51,00	25/32"	11/32"	1	4C*1H-0025	7375-IP9-1	8IP-9	1/2"
V5101D-0201	2-1/32"	2.0313"	51,59							
V5101D-52	-	2.0472"	52,00							
V5101D-0202	2-1/16"	2.0625"	52,39							
V5101D-53	-	2.0866"	53,00	27/32"			4C*1H-0027			
V5101D-0203	2-3/32"	2.0938"	53,18							
V5101D-0204	2-1/8"	2.1250"	53,98							
V5101D-54	-	2.1260"	54,00	15/16"			4C*1H-0030			
V5101D-0205	2-5/32"	2.1563"	54,77							
V5101D-55	-	2.1654"	55,00							
V5101D-0206	2-3/16"	2.1875"	55,56							
V5101D-56	-	2.2047"	56,00							
V5101D-0207	2-7/32"	2.2188"	56,36	13/16"			4C*1H-0026			9/16"

* denotes carbide grade

GEN3SYS® Pilot Heads



NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V5118D-51	-	2.0079"	51,00	25/32"	11/32"	18	7C*18P-0025	7375-IP9-1	8IP-9	1/2"
V5118D-0201	2-1/32"	2.0313"	51,59							
V5118D-52	-	2.0472"	52,00							
V5118D-0202	2-1/16"	2.0625"	52,39							
V5120D-53	-	2.0866"	53,00	27/32"		20	7C*20P-0027			
V5120D-0203	2-3/32"	2.0938"	53,18							
V5120D-0204	2-1/8"	2.1250"	53,98							
V5122D-54	-	2.1260"	54,00	15/16"		22	7C*22P-0030	739-IP9-1		
V5122D-0205	2-5/32"	2.1563"	54,77							
V5122D-55	-	2.1654"	55,00							
V5122D-0206	2-3/16"	2.1875"	55,56							
V5122D-56	-	2.2047"	56,00							
V5120D-0207	2-7/32"	2.2188"	56,36	13/16"		20	7C*20P-0026	7375-IP9-1		9/16"

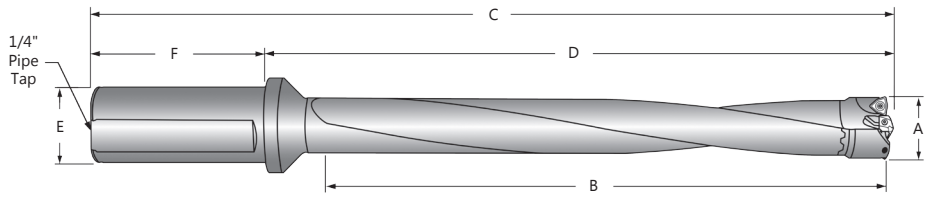
* denotes carbide grade

Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver
1/2"	C5 C1 C5	AM300®	OP-080508-PW OP-080508-1PW OP-080508-PWHR	74012-IP15-1	8IP-15
9/16"	C5 C1 C5		OP-090608-PW OP-090608-1PW OP-090608-PWHR	75014-IP20-1	8IP-20

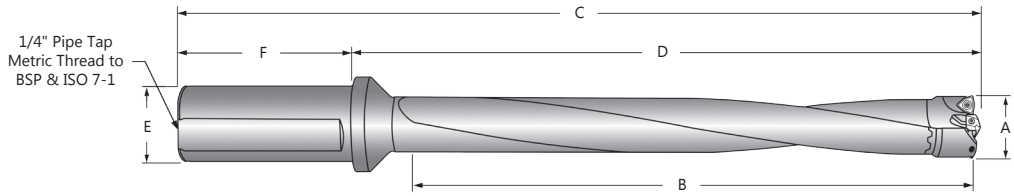
APX™ Holders

51 Series Range: 2.0076"-2.2438" (51,00mm-56,99mm)



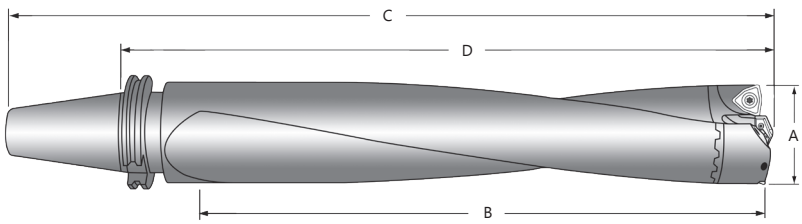
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W5103H-200F	51	2.0076"-2.2438"	51,00-56,99	6-3/8"	13-3/8"	8-7/8"	2"	4-1/2"
W5105H-200F				11-1/8"	17-7/8"	13-3/8"		
⚠ W5108H-200F				17-7/8"	24-19/32"	20-3/32"		
⚠ W5110H-200F				22-3/8"	29-3/32"	24-19/32"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W5103H-50FM	51	2.0076"-2.2438"	51,00-56,99	161,8	305,5	225,5	50,0	80,0
W5105H-50FM				285,0	419,6	339,6		
⚠ W5108H-50FM				455,9	590,5	510,5		
⚠ W5110H-50FM				570,0	704,6	624,6		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W5103H-CV50	51	2.0076"-2.2438"	51,00-56,99	6-3/8"	13-47/64"	9-47/64"	CV50
W5105H-CV50				11-1/4"	18-7/32"	14-7/32"	
⚠ W5108H-CV50				17-7/8"	24-61/64"	20-61/64"	
⚠ W5110H-CV50				22-3/8"	29-7/16"	25-7/16"	

Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
75020-IP20-1	8IP-20	60 in-lb (678 N-cm)

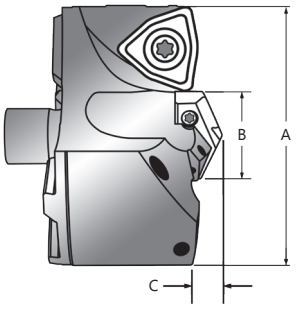
⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

57 Series Range: 2.2439"-2.4799" (57,00mm-62,99mm)

T-A® Pilot Heads

NOTE: Inserts are sold separately

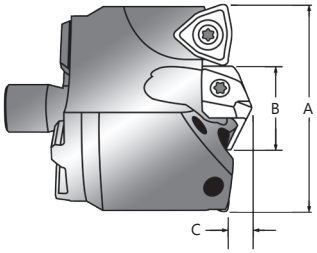


Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V5701D-57	-	2.2441"	57,00	29/32"	25/64"	1	4C*1H-0029	739-IP9-1	8IP-9	9/16"
V5701D-0208	2-1/4"	2.2500"	57,15							
V5701D-0209	2-9/32"	2.2813"	57,94							
V5701D-58	-	2.2835"	58,00							
V5701D-0210	2-5/16"	2.3125"	58,74							
V5701D-59	-	2.3228"	59,00	15/16"			4C*1H-0030			
V5701D-0211	2-11/32"	2.3438"	59,53							
V5701D-60	-	2.3622"	60,00							
V5701D-0212	2-3/8"	2.3750"	60,33							
V5702D-61	-	2.4016"	61,00	1"		2	4C*2H-0100	7495-IP15-1	8IP-15	
V5702D-0213	2-13/32"	2.4063"	61,12							
V5702D-0214	2-7/16"	2.4375"	61,91							
V5702D-62	-	2.4409"	62,00	1-1/16"			4C*2H-0102			
V5702D-0215	2-15/32"	2.4688"	62,71							

* denotes carbide grade

GEN3SYS® Pilot Heads

NOTE: Inserts are sold separately



Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V5722D-57	-	2.2441"	57,00	29/32"	25/64"	22	7C*22P-0029	739-IP9-1	8IP-9	9/16"
V5722D-0208	2-1/4"	2.2500"	57,15							
V5722D-0209	2-9/32"	2.2813"	57,94							
V5722D-58	-	2.2835"	58,00							
V5722D-0210	2-5/16"	2.3125"	58,74							
V5722D-59	-	2.3228"	59,00	15/16"			7C*22P-0030			
V5722D-0211	2-11/32"	2.3438"	59,53							
V5722D-60	-	2.3622"	60,00							
V5722D-0212	2-3/8"	2.3750"	60,33							
V5724D-61	-	2.4016"	61,00	1"		24	7C*24P-0100			
V5724D-0213	2-13/32"	2.4063"	61,12							
V5724D-0214	2-7/16"	2.4375"	61,91							
V5726D-62	-	2.4409"	62,00	1-1/16"		26	7C*26P-0102	7495-IP15-1	8IP-15	
V5726D-0215	2-15/32"	2.4688"	62,71							

* denotes carbide grade

Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver
9/16"	C5	AM300®	OP-090608-PW	75014-IP20-1	8IP-20
	C1		OP-090608-1PW		
	C5		OP-090608-PWHR		

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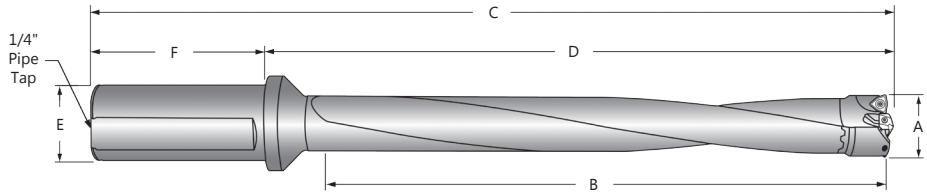
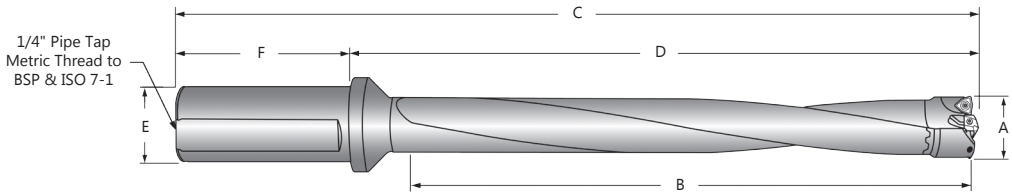
APX™ Holders

57 Series Range: 2.2439"-2.4799" (57,00mm-62,99mm)



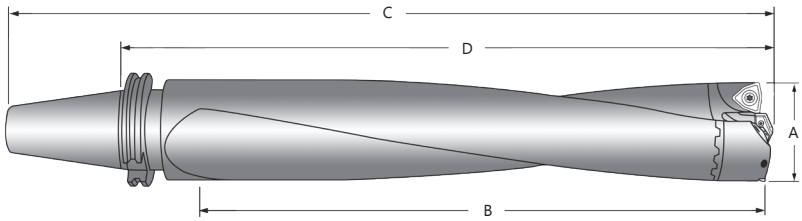
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W5703H-200F	57	2.2439"-2.4799"	57,00-62,99	7-1/8"	14-1/16"	9-35/64"	2"	4-1/2"
W5705H-200F				12-3/8"	19-1/64"	14-33/64"		
⚠ W5708H-200F				19-3/4"	26-15/32"	21-31/32"		
⚠ W5710H-200F				24-3/4"	31-27/64"	26-59/64"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W5703H-50FM	57	2.2439"-2.4799"	57,00-62,99	179,9	322,7	242,7	50,0	80,0
W5705H-50FM				315,0	448,6	368,6		
⚠ W5708H-50FM				503,9	637,8	557,8		
⚠ W5710H-50FM				626,9	763,8	683,8		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W5703H-CV50	57	2.2439"-2.4799"	57,00-62,99	7-1/8"	14-17/32"	10-17/32"	CV50
W5705H-CV50				12-3/8"	19-31/64"	15-31/64"	
⚠ W5708H-CV50				19-7/8"	26-15/16"	22-15/16"	
⚠ W5710H-CV50				24-3/4"	31-57/64"	27-57/64"	

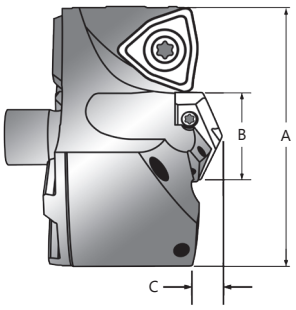
Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
75020-IP20-1	8IP-20	60 in-lb (678 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

63 Series Range: 2.4800"-2.7555" (63,00mm-69,99mm)

T-A® Pilot Heads

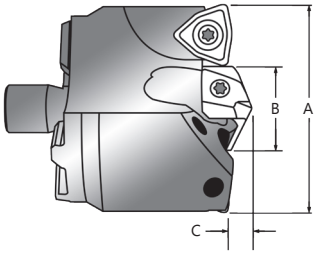


NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V6302D-63	-	2.4803"	63,00	1-1/8"	7/16"	2	4C*2H-0104	7495-IP15-1	8IP-15	9/16"
V6302D-0216	2-1/2"	2.5000"	63,50							
V6302D-64	-	2.5197"	64,00							
V6302D-0217	2-17/32"	2.5313"	64,29							
V6302D-65	-	2.5591"	65,00							
V6302D-0218	2-9/16"	2.5625"	65,09	1-3/16"			4C*2H-0106			
V6302D-0219	2-19/32"	2.5938"	65,88							
V6302D-66	-	2.5984"	66,00							
V6302D-0220	2-5/8"	2.6250"	66,68							
V6302D-67	-	2.6378"	67,00	1-1/4"			4C*2H-0108			
V6302D-0221	2-21/32"	2.6563"	67,47							
V6302D-68	-	2.6772"	68,00							
V6302D-0222	2-11/16"	2.6875"	68,26							
V6302D-69	-	2.7165"	69,00	1-5/16"			4C*2H-0110			
V6302D-0223	2-23/32"	2.7188"	69,06							
V6302D-0224	2-3/4"	2.7500"	69,85							

* denotes carbide grade

GEN3SYS® Pilot Heads



NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V6326D-63	-	2.4803"	63,00	1-1/8"	7/16"	26	7C*26P-0104	7495-IP15-1	8IP-15	9/16"
V6326D-0216	2-1/2"	2.5000"	63,50							
V6326D-64	-	2.5197"	64,00							
V6326D-0217	2-17/32"	2.5313"	64,29							
V6326D-65	-	2.5591"	65,00							
V6329D-0218	2-9/16"	2.5625"	65,09	1-3/16"		29	7C*29P-0106			
V6329D-0219	2-19/32"	2.5938"	65,88							
V6329D-66	-	2.5984"	66,00							
V6329D-0220	2-5/8"	2.6250"	66,68							
V6329D-67	-	2.6378"	67,00	1-1/4"			7C*29P-0108			
V6329D-0221	2-21/32"	2.6563"	67,47							
V6329D-68	-	2.6772"	68,00							
V6329D-0222	2-11/16"	2.6875"	68,26							
V6332D-69	-	2.7165"	69,00	1-5/16"		32	7C*32P-0110			
V6332D-0223	2-23/32"	2.7188"	69,06							
V6332D-0224	2-3/4"	2.7500"	69,85							

* denotes carbide grade

Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver
9/16"	C5	AM300®	OP-090608-PW	75014-IP20-1	8IP-20
	C1		OP-090608-1PW		
	C5		OP-090608-PWHR		

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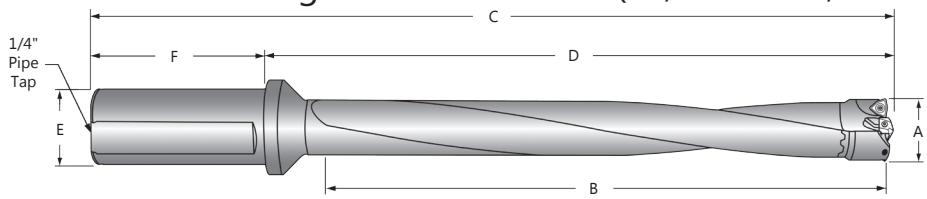
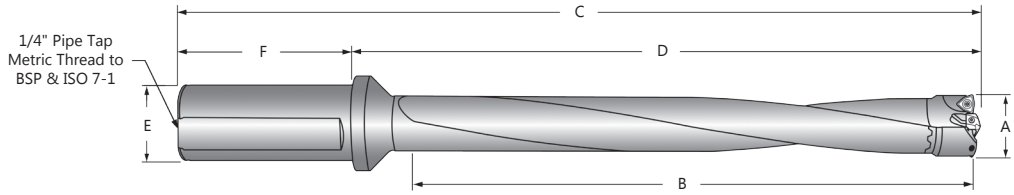
APX™ Holders

63 Series Range: 2.4800"-2.7555" (63,00mm-69,99mm)



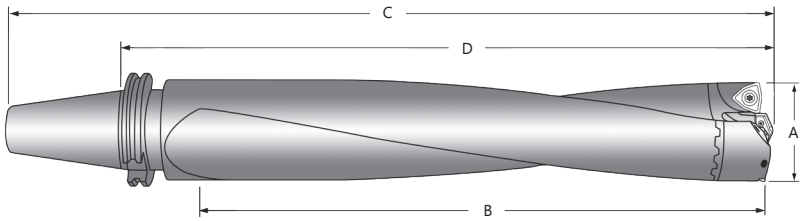
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W6303H-200F	63	2.4800"-2.7555"	63,00-69,99	7-7/8"	14-27/32"	10-11/32"	2"	4-1/2"
W6305H-200F				13-3/4"	20-11/32"	15-27/32"		
⚠ W6308H-200F				22-1/8"	28-5/8"	24-1/8"		
⚠ W6310H-200F				27-1/8"	33-43/64"	29-11/64"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W6303H-50FM	63	2.4800"-2.7555"	63,00-69,99	200,8	342,6	262,6	50,0	80,0
W6305H-50FM				350,0	482,6	402,6		
⚠ W6308H-50FM				560,0	692,6	612,6		
⚠ W6310H-50FM				688,3	820,9	740,9		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W6303H-CV50	63	2.4800"-2.7555"	63,00-69,99	7-7/8"	15-7/16"	11-7/16"	CV50
W6305H-CV50				13-3/4"	20-15/16"	16-15/16"	
⚠ W6308H-CV50				22"	29-13/64"	25-13/64"	
⚠ W6310H-CV50				26-1/2"	33-43/64"	29-43/64"	

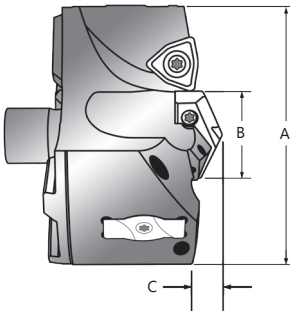
Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
75020-IP20-1	8IP-20	60 in-lb (678 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

70 Series Range: 2.7556"-2.9917" (70,00mm-75,99mm)

T-A® Pilot Heads

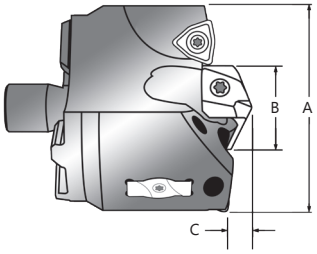


NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V7002S-70	-	2.7559"	70,00	1-7/32"	25/64"	2	4C*2H-0107	7495-IP15-1	8IP-15	3/8"
V7002S-0226	2-13/16"	2.8125"	71,44							
V7002S-72	-	2.8346"	72,00							
V7002S-0228	2-7/8"	2.8750"	73,03							
V7002S-74	-	2.9134"	74,00							
V7002S-0230	2-15/16"	2.9375"	74,61							

* denotes carbide grade

GEN3SYS® Pilot Heads



NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V7029S-70	-	2.7559"	70,00	1-7/32"	25/64"	29	7C*29P-0107	7495-IP15-1	8IP-15	3/8"
V7029S-0226	2-13/16"	2.8125"	71,44							
V7029S-72	-	2.8346"	72,00							
V7029S-0228	2-7/8"	2.8750"	73,03							
V7029S-74	-	2.9134"	74,00							
V7029S-0230	2-15/16"	2.9375"	74,61							

* denotes carbide grade

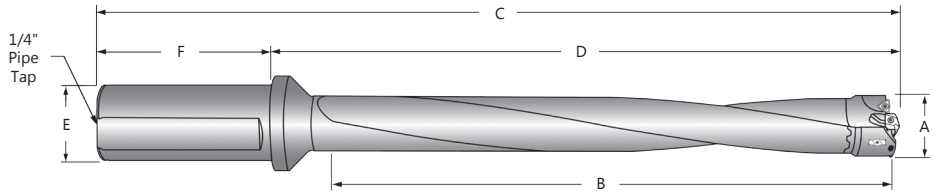
Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver	Wear Pad (2 pack)	Wear Pad Screw (4 pack)	Wear Pad Driver
3/8"	C5	AM300®	OP-060408-PW	73595-IP15-1	8IP-15	WP7095	7358-IP10-1	8IP-10
	C1		OP-060408-1PW					
	C5		OP-060408-PWHR					

70-95 Series APX Heads are supplied with wear pads. Replacement wear pads are available for purchase.

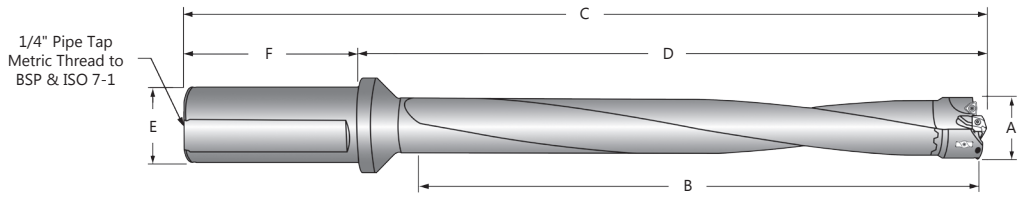
APX™ Holders

70 Series Range: 2.7556"-2.9917" (70,00mm-75,99mm)



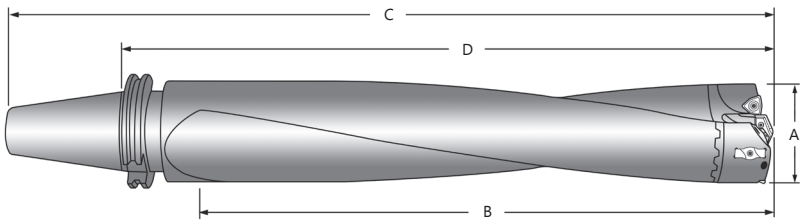
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W7003H-200F	70	2.7556"-2.9917"	70,00-75,99	8-3/4"	15-3/32"	10-19/32"	2"	4-1/2"
W7005H-200F				14-7/8"	21-5/64"	16-37/64"		
⚠ W7008H-200F				23-7/8"	30-3/64"	25-35/64"		
⚠ W7010H-200F				27-7/8"	34-3/64"	29-35/64"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W7003H-50FM	70	2.7556"-2.9917"	70,00-75,99	218,8	349,0	269,0	50,0	80,0
W7005H-50FM				380,0	501,1	421,1		
⚠ W7008H-50FM				608,0	729,0	649,0		
⚠ W7010H-50FM				709,4	830,3	750,3		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W7003H-CV50	70	2.7556"-2.9917"	70,00-75,99	8-3/4"	16-7/32"	12-7/32"	CV50
W7005H-CV50				14-7/8"	22-13/64"	18-13/64"	
⚠ W7008H-CV50				23-7/8"	31-5/32"	27-5/32"	
⚠ W7010H-CV50				26-3/4"	33-61/64"	29-61/64"	

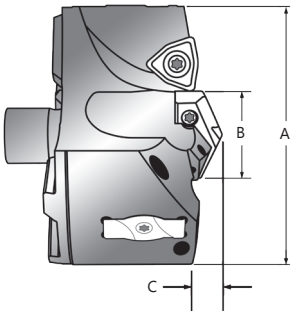
Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

76 Series Range: 2.9918"-3.2673" (76,00mm-82,99mm)

T-A® Pilot Heads

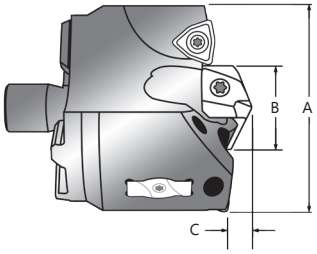


NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V7602S-76	-	2.9921"	76,00							
V7602S-0300	3"	3.0000"	76,20							
V7602S-0302	3-1/16"	3.0625"	77,79							
V7602S-78	-	3.0709"	78,00							
V7602S-0304	3-1/8"	3.1250"	79,38	1-7/32"	13/32"	2	4C*2H-0107	7495-IP15-1	8IP-15	1/2"
V7602S-80	-	3.1496"	80,00							
V7602S-0306	3-3/16"	3.1875"	80,96							
V7602S-82	-	3.2282"	82,00							
V7602S-0308	3-1/4"	3.2500"	82,55							

* denotes carbide grade

GEN3SYS® Pilot Heads



NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V7629S-76	-	2.9921"	76,00							
V7629S-0300	3"	3.0000"	76,20							
V7629S-0302	3-1/16"	3.0625"	77,79							
V7629S-78	-	3.0709"	78,00							
V7629S-0304	3-1/8"	3.1250"	79,38	1-7/32"	13/32"	29	7C*29P-0107	7495-IP15-1	8IP-15	1/2"
V7629S-80	-	3.1496"	80,00							
V7629S-0306	3-3/16"	3.1875"	80,96							
V7629S-82	-	3.2282"	82,00							
V7629S-0308	3-1/4"	3.2500"	82,55							

* denotes carbide grade

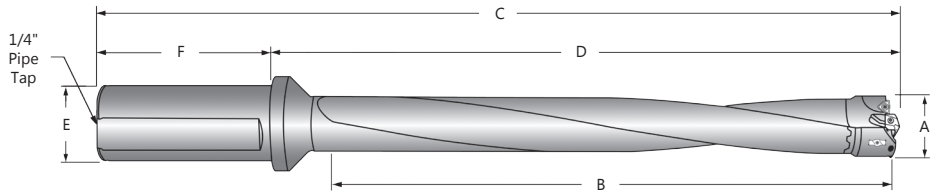
Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver	Wear Pad (2 pack)	Wear Pad Screw (4 pack)	Wear Pad Driver
1/2"	C5	AM300®	OP-080508-PW	74012-IP15-1	8IP-15	WP7095	7358-IP10-1	8IP-10
	C1		OP-080508-1PW					
	C5		OP-080508-PWHR					

70-95 Series APX Heads are supplied with wear pads. Replacement wear pads are available for purchase.

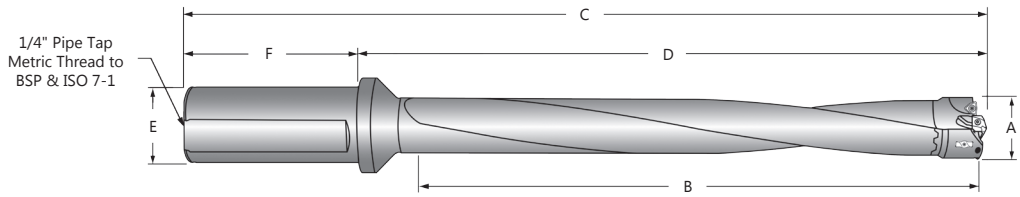
APX™ Holders

76 Series Range: 2.9918"-3.2673" (76,00mm-82,99mm)



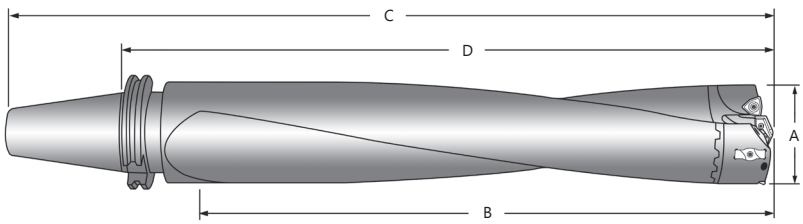
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W7603H-200F	76	2.9918"-3.2673"	76,00-82,99	9-1/2"	16-1/64"	11-33/64"	2"	4-1/2"
W7605H-200F				16-3/8"	22-35/64"	18-3/64"		
⚠ W7608H-200F				26-1/8"	32-11/32"	27-27/32"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W7603H-50FM	76	2.9918"-3.2673"	76,00-82,99	239,9	372,4	292,4	50,0	80,0
W7605H-50FM				415,0	538,2	458,2		
⚠ W7608H-50FM				664,0	787,1	707,1		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W7603H-CV50	76	2.9918"-3.2673"	76,00-82,99	9-1/2"	16-57/64"	12-57/64"	CV50
W7605H-CV50				16-3/8"	23-27/64"	19-27/64"	
⚠ W7608H-CV50				26-1/8"	33-7/32"	29-7/32"	

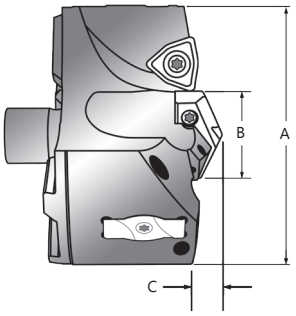
Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

83 Series Range: 3.2674"-3.5035" (83,00mm-88,99mm)

T-A® Pilot Heads

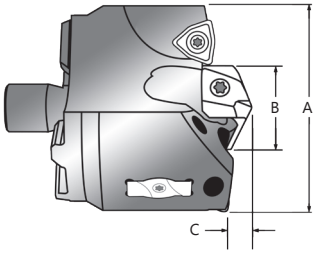


NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V8302S-84	-	3.3071"	84,00	1-3/8"	7/16"	2	4C*2H-0112	7495-IP15-1	8IP-15	1/2"
V8302S-0310	3-5/16"	3.3125"	84,14							
V8302S-0312	3-3/8"	3.3750"	85,73							
V8302S-86	-	3.3859"	86,00							
V8302S-0314	3-7/16"	3.4375"	87,31							
V8302S-88	-	3.4646"	88,00							
V8302S-0316	3-1/2"	3.500"	88,90							

* denotes carbide grade

GEN3SYS® Pilot Heads



NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V8332S-84	-	3.3071"	84,00	1-3/8"	7/16"	32	7C*32P-0112	7495-IP15-1	8IP-15	1/2"
V8332S-0310	3-5/16"	3.3125"	84,14							
V8332S-0312	3-3/8"	3.3750"	85,73							
V8332S-86	-	3.3859"	86,00							
V8332S-0314	3-7/16"	3.4375"	87,31							
V8332S-88	-	3.4646"	88,00							
V8332S-0316	3-1/2"	3.500"	88,90							

* denotes carbide grade

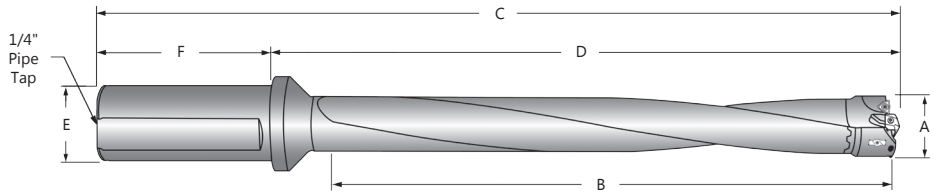
Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver	Wear Pad (2 pack)	Wear Pad Screw (4 pack)	Wear Pad Driver
1/2"	C5	AM300®	OP-080508-PW	74012-IP15-1	8IP-15	WP7095	7358-IP10-1	8IP-10
	C1		OP-080508-1PW					
	C5		OP-080508-PWHR					

70-95 Series APX Heads are supplied with wear pads. Replacement wear pads are available for purchase.

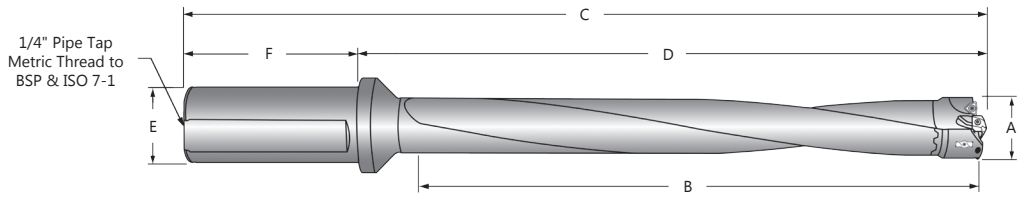
APX™ Holders

83 Series Range: 3.2674"-3.5035" (83,00mm-88,99mm)



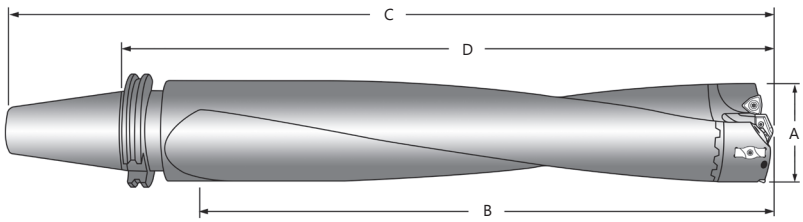
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W8303H-200F	83	3.2674"-3.5035"	83,00-88,99	10-1/8"	16-13/16"	12-5/16"	2"	4-1/2"
W8305H-200F				17-1/2"	23-13/16"	19-5/16"		
⚠ W8308H-200F				27-3/4"	34-3/64"	29-35/64"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W8303H-50FM	83	3.2674"-3.5035"	83,00-88,99	257,8	392,6	312,5	50,0	80,0
W8305H-50FM				445,0	570,5	490,5		
⚠ W8308H-50FM				704,9	830,3	750,3		



Holders with CAT50 Shank

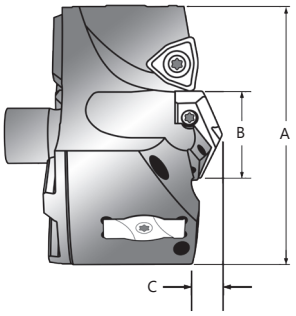
Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W8303H-CV50	83	3.2674"-3.5035"	83,00-88,99	10-1/8"	17-11/16"	13-11/16"	CV50
W8305H-CV50				17-1/2"	24-11/16"	20-11/16"	
⚠ W8308H-CV50				26-7/8"	34-3/64"	30-3/64"	

Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

89 Series Range: 3.5036"-3.7400" (89,00mm-94,99mm)

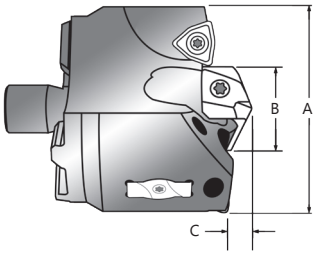


T-A® Pilot Heads

NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V8902S-90	-	3.5433"	90,00	1-1/4"	27/64"	2	4C*2H-0108	7495-IP15-1	8IP-15	9/16"
V8902S-0318	3-9/16"	3.5625"	90,49							
V8902S-92	-	3.6220"	92,00							
V8902S-0320	3-5/8"	3.6250"	92,08							
V8902S-0322	3-11/16"	3.6875"	93,66							
V8902S-94	-	3.7008"	94,00							

* denotes carbide grade



GEN3SYS® Pilot Heads

NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V8929S-90	-	3.5433"	90,00	1-1/4"	27/64"	29	7C*29P-0108	7495-IP15-1	8IP-15	9/16"
V8929S-0318	3-9/16"	3.5625"	90,49							
V8929S-92	-	3.6220"	92,00							
V8929S-0320	3-5/8"	3.6250"	92,08							
V8929S-0322	3-11/16"	3.6875"	93,66							
V8929S-94	-	3.7008"	94,00							

* denotes carbide grade

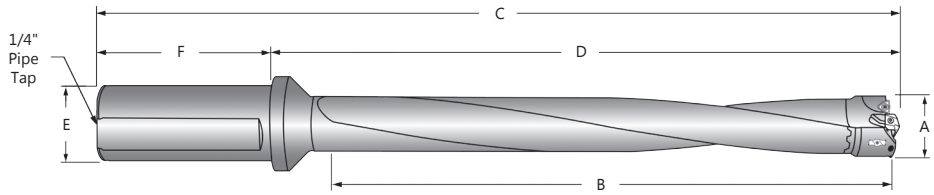
Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver	Wear Pad (2 pack)	Wear Pad Screw (4 pack)	Wear Pad Driver
9/16"	C5	AM300®	OP-090608-PW	75014-IP20-1	8IP-20	WP7095	7358-IP10-1	8IP-10
	C1		OP-090608-1PW					
	C5		OP-090608-PWHR					

70-95 Series APX Heads are supplied with wear pads. Replacement wear pads are available for purchase.

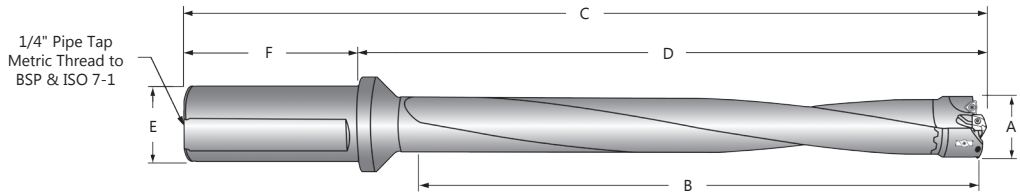
APX™ Holders

89 Series Range: 3.5036"-3.7400" (89,00mm-94,99mm)



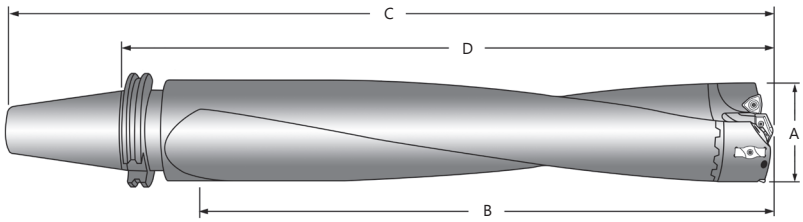
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W8903H-200F	89	3.5036"-3.7400"	89,00-94,99	10-7/8"	17-5/8"	13-1/8"	2"	4-1/2"
W8905H-200F				18-5/8"	25-1/8"	20-5/8"		
⚠ W8908H-200F				27-5/8"	34-3/64"	29-35/64"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W8903H-50FM	89	3.5036"-3.7400"	89,00-94,99	275,8	413,6	333,6	50,0	80,0
W8905H-50FM				475,0	603,7	523,7		
⚠ W8908H-50FM				701,8	830,3	750,3		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W8903H-CV50	89	3.5036"-3.7400"	89,00-94,99	10-7/8"	18-33/64"	14-33/64"	CV50
W8905H-CV50				18-5/8"	26"	22"	
⚠ W8908H-CV50				26-3/4"	34-1/32"	30-1/32"	

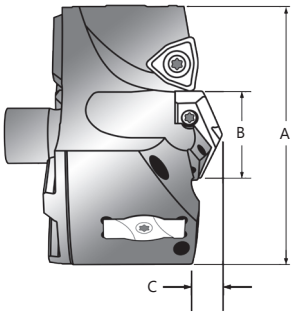
Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™ Heads

95 Series Range: 3.7401"-4.0000" (95,00mm-101,60mm)

T-A® Pilot Heads

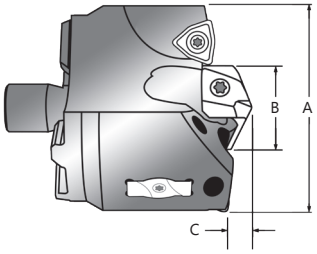


NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V9502S-0324	3-3/4"	3.7500"	95,25	1-3/8"	29/64"	2	4C*2H-0112	7495-IP15-1	8IP-15	9/16"
V9502S-96	-	3.7795"	96,00							
V9502S-0326	3-13/16"	3.8125"	96,84							
V9502S-98	-	3.8583"	98,00							
V9502S-0328	3-7/8"	3.8750"	98,43							
V9502S-100	-	3.9370"	100,00							
V9502S-0330	3-15/16"	3.9375"	100,01							
V9502S-0400	4"	4.000"	101,60							

* denotes carbide grade

GEN3SYS® Pilot Heads



NOTE: Inserts are sold separately

Item Number	A			B	C	Pilot Series	Pilot Insert	Drill Insert Screw (10 pack)	Drill Insert Driver	IC Insert Size
	Major Cutting Dia. (Fractional)	Major Cutting Dia. (inch)	Major Cutting Dia. (mm)	Pilot Dia.	Pilot Length					
V9532S-0324	3-3/4"	3.7500"	95,25	1-3/8"	29/64"	32	7C*32P-0112	7495-IP15-1	8IP-15	9/16"
V9532S-96	-	3.7795"	96,00							
V9532S-0326	3-13/16"	3.8125"	96,84							
V9532S-98	-	3.8583"	98,00							
V9532S-0328	3-7/8"	3.8750"	98,43							
V9532S-100	-	3.9370"	100,00							
V9532S-0330	3-15/16"	3.9375"	100,01							
V9532S-0400	4"	4.000"	101,60							

* denotes carbide grade

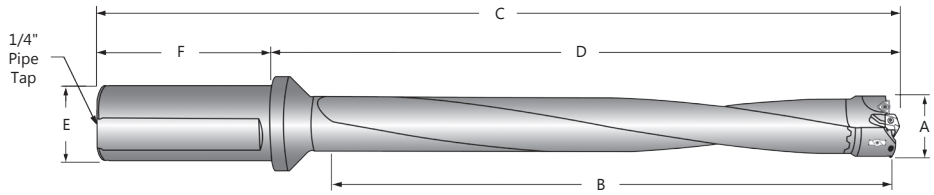
Accessories

IC Size	Grade	Coating	IC Insert (2 pack)	IC Insert Screw (10 pack)	IC Insert Driver	Wear Pad (2 pack)	Wear Pad Screw (4 pack)	Wear Pad Driver
9/16"	C5	AM300®	OP-090608-PW	75014-IP20-1	8IP-20	WP7095	7358-IP10-1	8IP-10
	C1		OP-090608-1PW					
	C5		OP-090608-PWHR					

70-95 Series APX Heads are supplied with wear pads. Replacement wear pads are available for purchase.

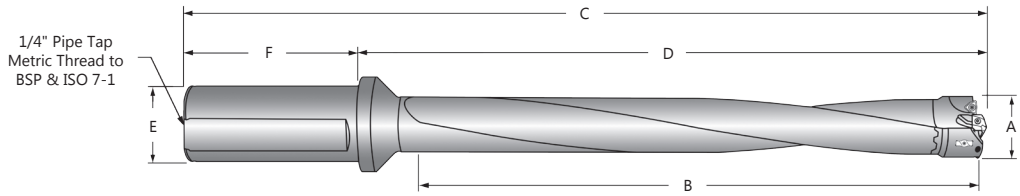
APX™ Holders

95 Series Range: 3.7401"-4.0000" (95,00mm-101,60mm)



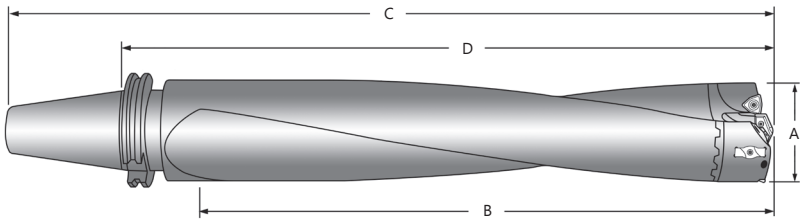
Holders with Inch Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W9503H-200F	95	3.7401"-4.0000"	95,00-101,60	11-7/8"	18-25/32"	14-9/32"	2"	4-1/2"
W9505H-200F				20"	26-51/64"	22-19/64"		
⚠ W9508H-200F				27-1/2"	34-19/64"	29-51/64"		



Holders with Metric Shank

Item Number	Series	A		B	C	D	E	F
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	Shank Dia.	Shank Length
W9503H-50FM	95	3.7401"-4.0000"	95,00-101,60	302,0	442,8	362,8	50,0	80,0
W9505H-50FM				508,0	646,2	566,2		
⚠ W9508H-50FM				698,5	836,7	756,7		



Holders with CAT50 Shank

Item Number	Series	A		B	C	D	Shank
		Dia. Range (inch)	Dia. Range (mm)	Drill Depth	Assembled OAL	Assembled Reference Length	
W9503H-CV50	95	3.7401"-4.0000"	95,00-101,60	11-7/8"	19-43/64"	15-43/64"	CV50
W9505H-CV50				20"	27-43/64"	23-43/64"	
⚠ W9508H-CV50				26-5/8"	34-9/32"	30-9/32"	

Head Mounting Screw (4 pack)	Head Mounting Screw Driver	Admissible Tightening Torque
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

⚠WARNING Refer to page 49 for APX Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

APX™

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team.

Material	Hardness (BHN)	Outboard Insert Series		FEED (IPR) 3-8" IC 38-44	1-2" IC 44-51	9-16" IC 51-57-63	3-8" IC 70	1-2" IC 76-83	9-16" IC 89-95
		Speed (SFM)	Pilot Drill	1.496 - 1.885	1.886 - 2.210	2.211 - 2.775	2.756 - 2.991	2.992 - 3.502	3.503 - 4.000
Free Machining Steel 1118, 1215, 12L14, etc.	100-250	450 - 750	T-A or GEN3SYS	.007 - .012	.009 - .012	.009 - .012	.006 - .010	.007 - .011	.007 - .012
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-275	450 - 750	T-A or GEN3SYS	.007 - .012	.009 - .012	.009 - .012	.006 - .010	.007 - .011	.007 - .012
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-325	450 - 750	T-A or GEN3SYS	.007 - .012	.009 - .012	.009 - .012	.006 - .010	.007 - .011	.007 - .012
Alloy Steel 4140, 5140, 8640, etc.	125-375	400 - 700	T-A or GEN3SYS	.005 - .009	.007 - .010	.007 - .011	.005 - .009	.006 - .010	.006 - .010
High Strength Alloy 4340, 4330V, 300M, etc.	225-400	300 - 500	T-A	.005 - .007	.005 - .008	.006 - .009	.005 - .007	.005 - .008	.006 - .008
Structural Steel A36, A285, A516, etc.	100-350	450 - 750	T-A or GEN3SYS	.007 - .009	.008 - .010	.009 - .011	.005 - .009	.006 - .010	.007 - .010
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-250	300 - 500	T-A or GEN3SYS	.005 - .007	.007 - .009	.008 - .010	.005 - .007	.006 - .009	.007 - .010
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-310	200 - 400	T-A	.004 - .007	.006 - .009	.007 - .009	.004 - .006	.005 - .007	.005 - .007
Titanium Alloy	140-310	300 - 500	T-A	.006 - .008	.007 - .009	.008 - .010	.004 - .006	.005 - .007	.005 - .007
Aerospace Alloy S82	185-350	400 - 600	T-A	.005 - .007	.006 - .008	.006 - .008	.004 - .006	.005 - .007	.005 - .007
Stainless Steel 400 Series 416, 420, etc.	185-350	300 - 500	T-A or GEN3SYS	.007 - .009	.008 - .010	.009 - .011	.005 - .007	.007 - .009	.007 - .010
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-275	300 - 500	T-A or GEN3SYS	.006 - .008	.007 - .009	.008 - .010	.004 - .008	.006 - .010	.006 - .010
Super Duplex Stainless Steel	135-275	250 - 450	T-A or GEN3SYS	.005 - .007	.007 - .009	.007 - .009	.004 - .007	.006 - .009	.007 - .010
Wear Plate Hardox, AR400, T-1, etc.	400-600	300 - 500	T-A	.004 - .006	.006 - .008	.007 - .009	.003 - .005	.004 - .006	.004 - .006
Hardened Steel	300-500	300 - 500	T-A	.005 - .006	.006 - .008	.006 - .008	.003 - .005	.004 - .006	.004 - .006
Nodular, Grey, Ductile Cast Iron	120-320	500 - 800	T-A or GEN3SYS	.006 - .010	.008 - .012	.010 - .012	.008 - .010	.009 - .011	.010 - .012
Cast Aluminum	30-180	600 - 800	T-A or GEN3SYS	.010 - .014	.012 - .016	.012 - .016	.006 - .009	.008 - .011	.008 - .012
Wrought Aluminum	30-180	600 - 800	T-A or GEN3SYS	.008 - .012	.010 - .014	.010 - .014	.006 - .009	.008 - .011	.008 - .012
Aluminum Bronze	100-250	400 - 700	T-A or GEN3SYS	.005 - .008	.007 - .010	.009 - .011	.006 - .009	.007 - .010	.008 - .012
Brass	30-100	800	T-A or GEN3SYS	.007 - .009	.008 - .010	.009 - .012	.006 - .008	.007 - .009	.008 - .010
Copper	60	700	T-A or GEN3SYS	.003 - .006	.006 - .008	.008 - .010	.003 - .006	.006 - .008	.006 - .008

SFM = RPM • 0.262 • Dia. **RPM = SFM • 3.82/Dia.** **IPM = RPM • IPR**

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- For APX Bodies 8xD or longer, do not rotate tool more than 50 RPM unless it is engaged with workpiece or fixture.

Refer to page 49 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team.

Material	Hardness (BHN)	Outboard Insert		FEED (mm/rev)					
				3-8" IC	1-2" IC	9-16" IC	3-8" IC	1-2" IC	9-16" IC
		Series		38-44	44-51	51-57-63	70	76-83	89-95
		Speed (M/min)	Pilot Drill	38,00 - 47,88	47,89 - 56,13	56,14 - 69,99	70,00 - 75,99	76,00 - 88,99	89,00 - 101,60
Free Machining Steel 1118, 1215, 12L14, etc.	100-250	137 - 229	T-A or GEN3SYS	0,18 - 0,30	0,23 - 0,30	0,23 - 0,30	0,15 - 0,25	0,18 - 0,28	0,18 - 0,30
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-275	137- 229	T-A or GEN3SYS	0,18 - 0,30	0,23 - 0,30	0,23 - 0,30	0,15 - 0,25	0,18 - 0,28	0,18 - 0,30
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-325	137 - 229	T-A or GEN3SYS	0,18 - 0,30	0,23 - 0,30	0,23 - 0,30	0,15 - 0,25	0,18 - 0,28	0,18 - 0,30
Alloy Steel 4140, 5140, 8640, etc.	125-375	122 - 213	T-A or GEN3SYS	0,13 - 0,23	0,18 - 0,25	0,18 - 0,28	0,13 - 0,23	0,15 - 0,25	0,15 - 0,25
High Strength Alloy 4340, 4330V, 300M, etc.	225-400	91 - 152	T-A	0,13 - 0,18	0,13 - 0,20	0,15 - 0,23	0,13 - 0,18	0,13 - 0,20	0,15 - 0,20
Structural Steel A36, A285, A516, etc.	100-350	137 - 229	T-A or GEN3SYS	0,18 - 0,23	0,20 - 0,25	0,23 - 0,28	0,13 - 0,23	0,15 - 0,25	0,18 - 0,25
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-250	91 - 152	T-A or GEN3SYS	0,13 - 0,18	0,18 - 0,23	0,20 - 0,25	0,13 - 0,18	0,15 - 0,23	0,18 - 0,25
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-310	61 - 122	T-A	0,10 - 0,18	0,15 - 0,23	0,18 - 0,23	0,10 - 0,15	0,13 - 0,18	0,13 - 0,18
Titanium Alloy	140-310	91 - 152	T-A	0,15 - 0,20	0,18 - 0,23	0,20 - 0,25	0,10 - 0,15	0,13 - 0,18	0,13 - 0,18
Aerospace Alloy S82	185-350	122 - 183	T-A	0,13 - 0,18	0,15 - 0,20	0,15 - 0,20	0,10 - 0,15	0,13 - 0,18	0,13 - 0,18
Stainless Steel 400 Series 416, 420, etc.	185-350	91 - 152	T-A or GEN3SYS	0,18 - 0,23	0,20 - 0,25	0,23 - 0,28	0,13 - 0,18	0,18 - 0,23	0,18 - 0,25
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-275	91 - 152	T-A or GEN3SYS	0,15 - 0,20	0,18 - 0,23	0,20 - 0,25	0,10 - 0,20	0,15 - 0,25	0,15 - 0,25
Super Duplex Stainless Steel	135-275	76 - 137	T-A or GEN3SYS	0,13 - 0,18	0,18 - 0,23	0,18 - 0,23	0,10 - 0,18	0,15 - 0,23	0,18 - 0,25
Wear Plate Hardox, AR400, T-1, etc.	400-600	91 - 152	T-A	0,10 - 0,15	0,15 - 0,20	0,18 - 0,23	0,08 - 0,13	0,10 - 0,15	0,10 - 0,15
Hardened Steel	300-500	91 - 152	T-A	0,13 - 0,15	0,15 - 0,20	0,15 - 0,20	0,08 - 0,13	0,10 - 0,20	0,10 - 0,20
Nodular, Grey, Ductile Cast Iron	120-320	152 - 244	T-A or GEN3SYS	0,15 - 0,25	0,20 - 0,30	0,25 - 0,30	0,20 - 0,25	0,23 - 0,28	0,25 - 0,30
Cast Aluminum	30-180	183 - 244	T-A or GEN3SYS	0,25 - 0,36	0,30 - 0,40	0,30 - 0,40	0,15 - 0,23	0,20 - 0,28	0,20 - 0,30
Wrought Aluminum	30-180	183 - 244	T-A or GEN3SYS	0,20 - 0,30	0,25 - 0,36	0,25 - 0,36	0,15 - 0,23	0,20 - 0,28	0,20 - 0,30
Aluminum Bronze	100-250	123 - 213	T-A or GEN3SYS	0,13 - 0,20	0,18 - 0,25	0,23- 0,28	0,15 - 0,23	0,18 - 0,25	0,20 - 0,30
Brass	30-100	244	T-A or GEN3SYS	0,18 - 0,23	0,20 - 0,25	0,23 - 0,30	0,15 - 0,20	0,18 - 0,23	0,20 - 0,25
Copper	60	213	T-A or GEN3SYS	0,08 - 0,15	0,15 - 0,20	0,20 - 0,25	0,08 - 0,15	0,15 - 0,20	0,15 - 0,20

m/min = RPM • 0.003 • Dia. **RPM = m/min • 318.47/Dia.** **mm/min = RPM • mm/rev**

⚠ WARNING

Tool failure can cause serious injury. To prevent:

- For APX Bodies 8xD or longer, do not rotate tool more than 50 RPM unless it is engaged with workpiece or fixture.

Refer to page 49 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

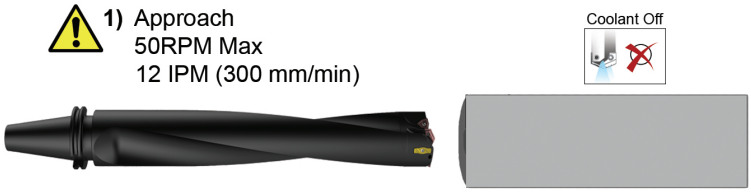
APX™

Coolant Recommendations

IMPORTANT: The coolant pressure and flow rate recommendations below represent a good approximation to obtain optimum tool life and chip evacuation at Allied 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.

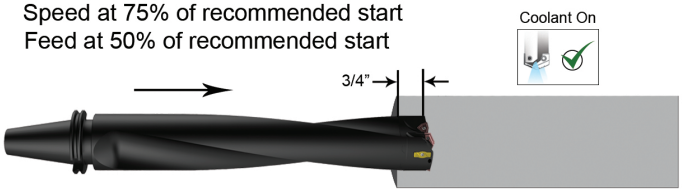
Series	Pressure		Flow Rate	
	PSI	BAR	GPM	LPM
38	300	21	10	38
44	275	19	12	45
51	250	17	18	68
57	225	16	20	76
63	200	14	22	83
70	150	10	25	95
76	100	7	28	106
83	100	7	30	114
89	100	7	33	125
95	100	7	33	125

1) Approach
50RPM Max
12 IPM (300 mm/min)



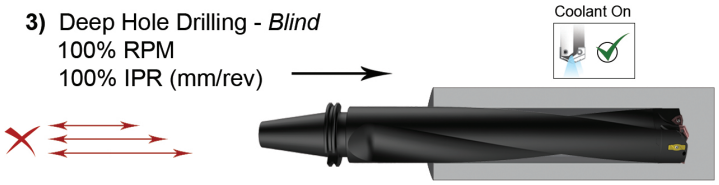
- Feed the longer drill within 1/16" (1,5 mm) short of the workpiece at a **maximum of 50 RPM** and 12 IPM (300 mm/min) feed rate

2) Feed In
Speed at 75% of recommended start
Feed at 50% of recommended start



- Drill 3/4" deep at 75% recommended speed and 50% recommended feed to establish hole

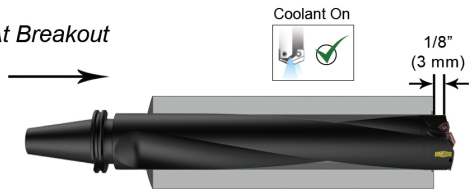
3) Deep Hole Drilling - *Blind*
100% RPM
100% IPR (mm/rev)



- Drill to full depth at recommended speed and feed for longer drills, according to Allied speed and feed charts

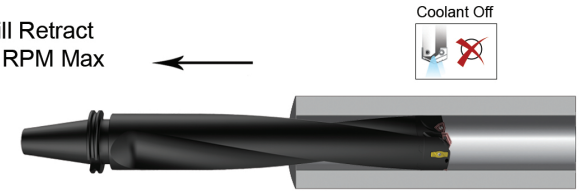
No peck cycle recommended

4) Deep Hole Drilling - *At Breakout*
50% RPM
100% IPR (mm/rev)



For Through Holes Only
- Reduce speed by 50% prior to break out
- Do not break out more than 1/8" (3 mm) past the full diameter of drill

5) Drill Retract
50 RPM Max



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

⚠ WARNING

Tool failure can cause serious injury. To prevent:

NEVER rotate these tool holders more than 50 RPM without proper engagement with a workpiece or fixture. Failure to do so could result in tool failure and/or personal injury.

Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

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

APX™

Geometry Guidelines

T-A®:

Standard T-A: Allied's Standard T-A Geometry is an excellent choice for general purpose use. The design provides fast penetration rates that produce good hole size and finish. Standard Geometry combines highly efficient, stable cutting action to minimize power consumption. Recommended for use in most steels, cast irons, high temperature alloys and aluminum alloys.

High Impact (HI): Allied Machines's High Impact geometry is specifically designed to enhance chip formation in materials with high elasticity/ductility, and poor chip forming characteristics. Includes Allied Machine's SK2 corner preparation for increased tool life. Effective at improving chip formation in structural, cast, and forged steels, plus, cast stainless steel and high temperature alloys, particularly in materials above 200 BHN.

GEN2 T-A®: For more stable applications with good rigidity to take advantage of the centering Notch Point® geometry and increased efficiency. Offers improved tool life verses Standard T-A. Recommended for most steels and cast iron.

GEN2 T-A High Efficiency (HE): AlliedMachine's GEN2 T-A -HE Geometry is designed for improved chip formation in elastic materials like low carbon steels. -HE Geometry combined with the other advanced features of the GEN2 T-A, allows for maximum performance and increased value.

Tiny Chip (TC): Allied Machine's Tiny Chip geometry is an excellent choice for applications that are running at lighter feed rates, or require a more manageable chip. Recommended for use in low carbon steels, soft alloy steels, and other long chipping materials.

GEN3SYS® XT:

GEN3SYS XT offers superior chip forming capabilities and material specific geometries such as (-AS), which is designed for austinetic stainless steels.

GEN3SYS® and GEN3SYS® XT

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Features & Benefits

- **The unique geometry of the GEN3SYS Drilling System provides excellent chip control**
- **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**

ALLIED MACHINE & ENGINEERING CORP

GEN3SYS® and GEN3SYS® XT

Reference Page

GEN3SYS Drill Insert

5	C2	12	H	–	.484	–	CI
Insert	Material	Series	Coating		Diameter		Geometry
	C1 C2	12 18 13 20 14 22 15 24 16 26 17 29	H = AM200®		Inch = 0017 Decimal = .515 Metric = 13		CI = Cast Iron LR = Low Rake

GEN3SYS XT Drill Insert

7	C2	12	P	–	.484	CI
Insert	Material	Series	Coating		Diameter	Geometry
	C1 C2	11 18 12 20 13 22 14 24 15 26 16 29 17 32	P = AM300®		Inch = 0017 Decimal = .515 Metric = 13	CI = Cast Iron LR = Low Rake AS = Stainless Steel

GEN3SYS and GEN3SYS XT Holder

6	03	12	H	–	20FM
Holder	Length	Series	Flute		Geometry
	01 = Stub Length 03 = 3 x Diameter 05 = 5 x Diameter 07 = 7 x Diameter	11 18 12 20 13 22 14 24 15 26 16 29 17 32	H = Helical S = Straight C45 = Drill/Chamfer		F = Flanged with Flat FM = Flanged Metric with Flat C = Cylindrical (No Flat) CM = Cylindrical Metric (No Flat)

Ordering Instructions for Standard Stocked Items

All orders are processed through Allied Machine's computerized Order Entry and Invoicing System. Please specify the correct catalog number (ADP) 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.

Holder Ordering Information

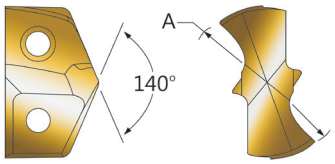
We use a series designator in the header, at the top of each page of both the drill insert and holder sections of the catalog, for your reference when ordering. Please refer to these series designators when placing your order. For example, series 12 drill inserts will fit in a series 12 holder.

Regrinding and Recoating

The GEN3SYS 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. Allied Machine is the only company that has the experience, knowledge, equipment and inspection process to manage a regrind program for you. Using our service assures 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.

GEN3SYS® XT Inserts

11 Series Range: 0.4331"-0.4723" (11,00mm-11,99mm)



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.4331	11,00	7C111P-11	❍	7C111P-11LR	▲	7C211P-11	❍	7C211P-11CI	▲	7C211P-11LR	▲	7C211P-11AS	❍
7/16"	0.4375	11,11	7C111P-0014	❍	7C111P-0014LR	▲	7C211P-0014	❍	7C211P-0014CI	▲	7C211P-0014LR	▲	7C211P-0014AS	❍
	0.4528	11,50	7C111P-11.5	❍	7C111P-11.5LR	▲	7C211P-11.5	❍	7C211P-11.5CI	▲	7C211P-11.5LR	▲	7C211P-11.5AS	❍
29/64"	0.4531	11,51	7C111P-.453	▲	7C111P-.453LR	▲	7C211P-.453	▲	7C211P-.453CI	▲	7C211P-.453LR	▲	7C211P-.453AS	▲
15/32"	0.4688	11,91	7C111P-0015	❍	7C111P-0015LR	▲	7C211P-0015	❍	7C211P-0015CI	▲	7C211P-0015LR	▲	7C211P-0015AS	❍

- see page 90 for geometry details

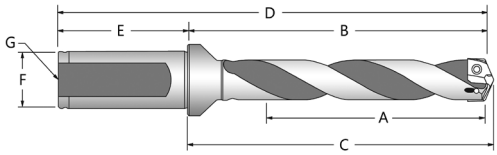
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

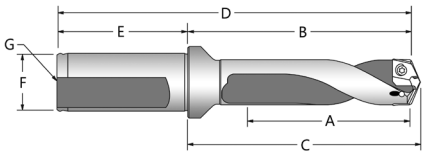
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .4340" AM300, 11 Series, C2 = 7C211P-.4340
Metric = 11,20 mm AM300, 11 Series, C2 = 7C211P-11.20

GEN3SYS® XT Holders

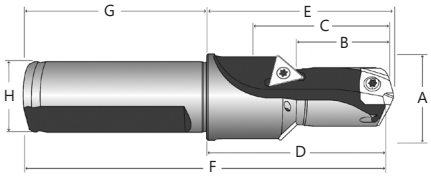
11 Series Range: 0.4331"-0.4723"(11,00mm-11,99mm)





GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60311S-063F	1-27/64"	2-29/64"	2-17/32"	YES	4-21/64"	1-7/8"	5/8"	1/16"
	5xD	60511S-063F	2-23/64"	3-13/32"	3-31/64"	YES	5-9/32"			1/16"
	7xD	60711S-063F	3-19/64"	4-11/32"	4-27/64"	YES	6-7/32"			1/16"
Helical	Stub	60111H-063F	5/8"	1-43/64"	1-3/4"	YES	3-35/64"	1-7/8"	5/8"	1/16"
	3xD	60311H-063F	1-27/64"	2-29/64"	2-17/32"	YES	4-21/64"			1/16"
		60311H-063C	1-27/64"	2-29/64"	2-17/32"	NO	4-21/64"			1/16"
	5xD	60511H-063F	2-23/64"	3-13/32"	3-31/64"	YES	5-9/32"			1/16"
		60511H-063C	2-23/64"	3-13/32"	3-31/64"	NO	5-9/32"			1/16"
	7xD	60711H-063F	3-19/64"	4-11/32"	4-27/64"	YES	6-7/32"			1/16"
		60711H-063C	3-19/64"	4-11/32"	4-27/64"	NO	6-7/32"			1/16"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60311S-16FM	36,0	62,6	64,7	YES	110,6	48	16	1/16"*
	5xD	60511S-16FM	59,9	86,6	88,6	YES	134,6			1/16"*
	7xD	60711S-16FM	83,9	110,6	112,6	YES	158,6			1/16"*
Helical	Stub	60111H-16FM	16,0	42,6	44,7	YES	90,7	48	16	1/16"*
	3xD	60311H-16FM	36,0	62,6	64,7	YES	110,6			1/16"*
		60311H-16CM	36,0	62,6	64,7	NO	110,6			1/16"*
	5xD	60511H-16FM	59,9	86,6	88,6	YES	134,6			1/16"*
		60511H-16CM	59,9	86,6	88,6	NO	134,6			1/16"*
	7xD	60711H-16FM	83,9	110,6	112,6	YES	158,6			1/16"*
		60711H-16CM	83,9	110,6	112,6	NO	158,6			1/16"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60111C45-063F	61/64"	21/32"	15/16"	1-43/64"	1-3/4"	3-35/64"	1-7/8"	5/8"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60111C45-16FM	24,1	16,5	23,8	42,3	44,3	96,4	48	16	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

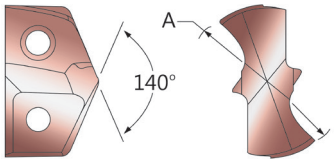
Series	TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
11	71843-IP6-1	8IP-6	8IP-6TL	8IP-6B	4.4 in-lbs	50 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

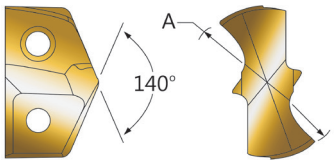
12 Series Range: 0.4724"-0.5117" (12,00mm-12,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.4724	12,00	5C112H-12	❍	5C112H-12-LR	▲	5C212H-12	❍	5C212H-12-CI	❍	5C212H-12-LR	▲
31/64"	0.4844	12,30	5C112H-.484	❍	5C112H-.484-LR	▲	5C212H-.484	❍	5C212H-.484-CI	▲	5C212H-.484-LR	▲
	0.4921	12,50	5C112H-12.5	❍	5C112H-12.5-LR	▲	5C212H-12.5	❍	5C212H-12.5-CI	❍	5C212H-12.5-LR	▲
1/2"	0.5000	12,70	5C112H-0016	❍	5C112H-0016-LR	▲	5C212H-0016	❍	5C212H-0016-CI	▲	5C212H-0016-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.4724	12,00	7C112P-12	❍	7C112P-12LR	▲	7C212P-12	❍	7C212P-12CI	❍	7C212P-12LR	▲	7C212P-12AS	❍
31/64"	0.4844	12,30	7C112P-.484	❍	7C112P-.484LR	▲	7C212P-.484	❍	7C212P-.484CI	▲	7C212P-.484LR	▲	7C212P-.484AS	❍
	0.4921	12,50	7C112P-12.5	❍	7C112P-12.5LR	▲	7C212P-12.5	❍	7C212P-12.5CI	❍	7C212P-12.5LR	▲	7C212P-12.5AS	❍
1/2"	0.5000	12,70	7C112P-0016	❍	7C112P-0016LR	▲	7C212P-0016	❍	7C212P-0016CI	❍	7C212P-0016LR	▲	7C212P-0016AS	❍

- see page 90 for geometry details

❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

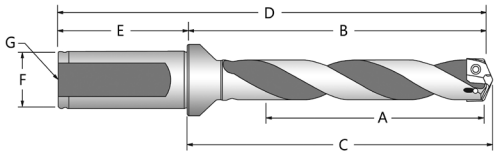
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

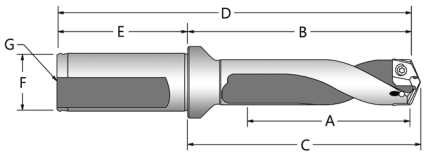
Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .4900" AM200, 12 Series, C2 = 5C212H-.4900
Metric = 12,20 mm AM200, 12 Series, C2 = 5C212H-12.20

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

GEN3SYS® and GEN3SYS® XT Holders

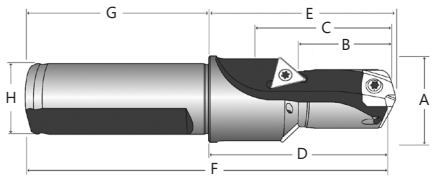
12 Series Range: 0.4724"-0.5117" (12,00mm-12,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60312S-075F	1-35/64"	2-5/8"	2-45/64"	YES	4-21/32"	2-1/32"	3/4"	1/8"
	5xD	60512S-075F	2-9/16"	3-21/32"	3-47/64"	YES	5-43/64"			1/8"
	7xD	60712S-075F	3-19/32"	4-25/32"	4-3/4"	YES	6-45/64"			1/8"
Helical	Stub	60112H-075F	5/8"	1-45/64"	1-25/32"	YES	3-47/64"			1/8"
	3xD	60312H-075F	1-35/64"	2-5/8"	2-45/64"	YES	4-21/32"			1/8"
		60312H-075C	1-35/64"	2-5/8"	2-45/64"	NO	4-21/32"			1/8"
	5xD	60512H-075F	2-9/16"	3-21/32"	3-47/64"	YES	5-43/64"			1/8"
		60512H-075C	2-9/16"	3-21/32"	3-47/64"	NO	5-43/64"			1/8"
	7xD	60712H-075F	3-19/32"	4-25/32"	4-3/4"	YES	6-45/64"			1/8"
		60712H-075C	3-19/32"	4-25/32"	4-3/4"	NO	6-45/64"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60312S-20FM	39,0	66,6	68,8	YES	116,6	50	20	1/8"*
	5xD	60512S-20FM	64,9	92,6	94,8	YES	142,6			1/8"*
	7xD	60712S-20FM	90,9	118,5	120,8	YES	168,6			1/8"*
Helical	Stub	60112H-20FM	16,0	43,2	45,4	YES	93,2			1/8"*
	3xD	60312H-20FM	39,0	66,6	68,8	YES	116,6			1/8"*
		60312H-20CM	39,0	66,6	68,8	NO	116,6			1/8"*
	5xD	60512H-20FM	64,9	92,6	94,8	YES	142,6			1/8"*
		60512H-20CM	64,9	92,6	94,8	NO	142,6			1/8"*
	7xD	60712H-20FM	90,9	118,5	120,8	YES	168,6			1/8"*
		60712H-20CM	90,9	118,5	120,8	NO	168,6			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60112C45-075F	31/32"	45/64"	63/64"	1-45/64"	1-25/32"	3-47/64"	2-1/32"	3/4"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60111C45-16FM	24,8	18,0	35,2	43,2	45,4	101,3	50	20	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

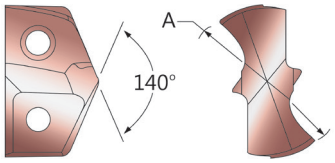
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
12	7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in-lbs	84 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

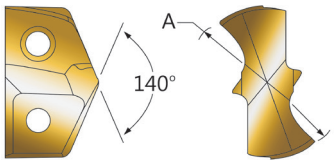
13 Series Range: 0.5118"-0.5511" (13,00mm-13,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.5118	13,00	5C113H-13	❍	5C113H-13-LR	▲	5C213H-13	❍	5C213H-13-CI	❍	5C213H-13-LR	▲
33/64"	0.5156	13,08	5C113H-.515	❍	5C113H-.515-LR	▲	5C213H-.515	❍	5C213H-.515-CI	▲	5C213H-.515-LR	▲
17/32"	0.5312	13,49	5C113H-0017	❍	5C113H-0017-LR	▲	5C213H-0017	❍	5C213H-0017-CI	❍	5C213H-0017-LR	▲
	0.5315	13,50	5C113H-13.5	❍	5C113H-13.5-LR	▲	5C213H-13.5	❍	5C213H-13.5-CI	❍	5C213H-13.5-LR	▲
35/64"	0.5469	13,89	5C113H-.546	❍	5C113H-.546-LR	▲	5C213H-.546	❍	5C213H-.546-CI	▲	5C213H-.546-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.5118	13,00	7C113P-13	❍	7C113P-13LR	▲	7C213P-13	❍	7C213P-13CI	❍	7C213P-13LR	▲	7C213P-13AS	❍
33/64"	0.5156	13,08	7C113P-.515	❍	7C113P-.515LR	▲	7C213P-.515	❍	7C213P-.515CI	▲	7C213P-.515LR	▲	7C213P-.515AS	❍
17/32"	0.5312	13,49	7C113P-0017	❍	7C113P-0017LR	▲	7C213P-0017	❍	7C213P-0017CI	❍	7C213P-0017LR	▲	7C213P-0017AS	❍
	0.5315	13,50	7C113P-13.5	❍	7C113P-13.5LR	▲	7C213P-13.5	❍	7C213P-13.5CI	❍	7C213P-13.5LR	▲	7C213P-13.5AS	❍
35/64"	0.5469	13,89	7C113P-.546	❍	7C113P-.546 LR	▲	7C213P-.546	❍	7C213P-.546CI	▲	7C213P-.546LR	▲	7C213P-.546AS	❍

- see page 90 for geometry details

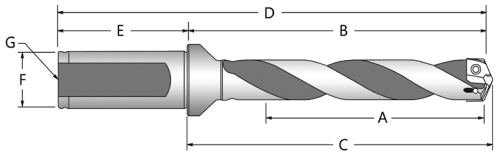
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

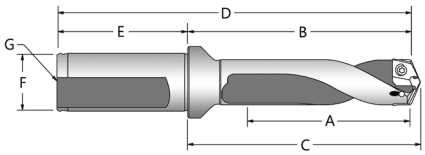
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .5200" AM200, 13 Series, C2 = 5C213H-.5200
Metric = 13,20 mm AM200, 13 Series, C2 = 5C213H-13.20

GEN3SYS® and GEN3SYS® XT Holders

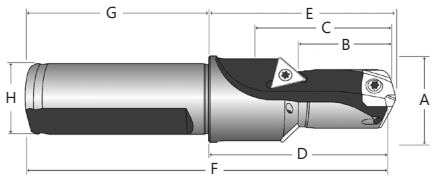
13 Series Range: 0.5118"-0.5511" (13,00mm-13,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60313S-075F	1-21/32"	2-47/64"	2-13/16"	YES	4-49/64"	2-1/32"	3/4"	1/8"
	5xD	60513S-075F	2-49/64"	3-53/64"	3-59/64"	YES	5-55/64"			1/8"
	7xD	60713S-075F	3-55/64"	4-15/16"	5-1/16"	YES	6-31/32"			1/8"
Helical	Stub	60113H-075F	5/8"	1-11/16"	1-25/32"	YES	3-23/32"	2-1/32"	3/4"	1/8"
	3xD	60313H-075F	1-21/32"	2-47/64"	2-13/16"	YES	4-49/64"			1/8"
		60313H-075C	1-21/32"	2-47/64"	2-13/16"	NO	4-49/64"			1/8"
	5xD	60513H-075F	2-49/64"	3-53/64"	3-59/64"	YES	5-55/64"			1/8"
		60513H-075C	2-49/64"	3-53/64"	3-59/64"	NO	5-55/64"			1/8"
	7xD	60713H-075F	3-55/64"	4-15/16"	5-1/16"	YES	6-31/32"			1/8"
		60713H-075C	3-55/64"	4-15/16"	5-1/16"	NO	6-31/32"			1/8"
METRIC (mm)	***Thread to BSP & ISO 7-1**									
Straight	3xD	60313S-20FM	42,0	69,3	71,5	YES	119,3	50	20	1/8"*
	5xD	60513S-20FM	70,0	97,3	99,5	YES	147,3			1/8"*
	7xD	60713S-20FM	97,9	125,3	127,5	YES	175,3			1/8"*
Helical	Stub	60113H-20FM	16,0	43,0	45,2	YES	93,0	50	20	1/8"*
	3xD	60313H-20FM	42,0	69,3	71,5	YES	119,3			1/8"*
		60313H-20CM	42,0	69,3	71,5	NO	119,3			1/8"*
	5xD	60513H-20FM	70,0	97,3	99,5	YES	147,3			1/8"*
		60513H-20CM	70,0	97,3	99,5	NO	147,3			1/8"*
	7xD	60713H-20FM	97,9	125,3	127,5	YES	175,3			1/8"*
		60713H-20CM	97,9	125,3	127,5	NO	175,3			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60113C45-075F	1-1/64"	49/64"	1"	1-11/16"	1-25/32"	3-23/32"	2-1/32"	3/4"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60113C45-20FM	25,8	19,5	25,4	43,0	45,2	101,3	50	20	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

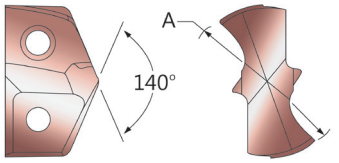
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch	Metric
						TORX Plus Screw Admissible Tightening Torque	TORX Plus Screw Admissible Tightening Torque
13	7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in.-lbs	84 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

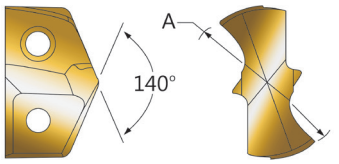
14 Series Range: 0.5512"-0.5905" (14,00mm-14,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.5512	14,00	5C114H-14	❍	5C114H-14-LR	▲	5C214H-14	❍	5C214H-14-CI	❍	5C214H-14-LR	▲
9/16"	0.5625	14,29	5C114H-0018	❍	5C114H-0018-LR	▲	5C214H-0018	❍	5C214H-0018-CI	❍	5C214H-0018-LR	▲
	0.5709	14,50	5C114H-14.5	❍	5C114H-14.5-LR	▲	5C214H-14.5	❍	5C214H-14.5-CI	❍	5C214H-14.5-LR	▲
37/64"	0.5781	14,68	5C114H-.578	❍	5C114H-.578-LR	▲	5C214H-.578	❍	5C214H-.578-CI	▲	5C214H-.578-LR	▲
	0.5827	14,80	5C114H-14.8	❍	5C114H-14.8-LR	▲	5C214H-14.8	❍	5C214H-14.8-CI	▲	5C214H-14.8-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.5512	14,00	7C114P-14	❍	7C114P-14LR	❍	7C214P-14	❍	7C214P-14CI	❍	7C214P-14LR	▲	7C214P-14AS	❍
9/16"	0.5625	14,29	7C114P-0018	❍	7C114P-0018LR	❍	7C214P-0018	❍	7C214P-0018CI	❍	7C214P-0018LR	▲	7C214P-0018AS	❍
	0.5709	14,50	7C114P-14.5	❍	7C114P-14.5LR	▲	7C214P-14.5	❍	7C214P-14.5CI	❍	7C214P-14.5LR	▲	7C214P-14.5AS	❍
37/64"	0.5781	14,68	7C114P-.578	❍	7C114P-.578LR	▲	7C214P-.578	❍	7C214P-.578CI	▲	7C214P-.578LR	▲	7C214P-.578AS	❍
	0.5827	14,80	7C114P-14.8	❍	7C114P-14.8LR	▲	7C214P-14.8	❍	7C214P-14.8CI	▲	7C214P-14.8LR	▲	7C214P-14.8AS	❍

- see page 90 for geometry details

❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

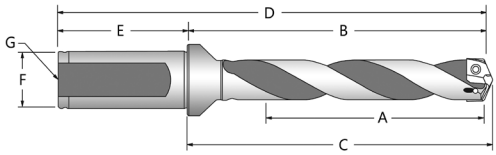
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

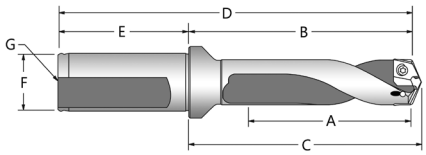
Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .5600" AM200, 14 Series, C2 = 5C214H-.5600
Metric = 14,10 mm AM200, 14 Series, C2 = 5C214H-14.10

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

GEN3SYS® and GEN3SYS® XT Holders

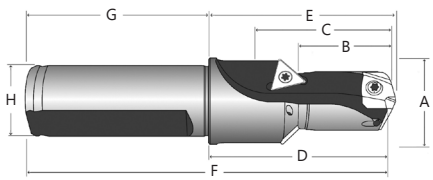
14 Series Range: 0.5512"-0.5905" (14,00mm-14,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60314S-075F	1-25/32"	2-55/64"	2-61/64"	YES	4-55/64"	2-1/32"	3/4"	1/8"
	5xD	60514S-075F	2-61/64"	4-1/32"	4-1/8"	YES	6-1/16"			1/8"
	7xD	60714S-075F	4-9/64"	5-7/32"	5-5/16"	YES	7-1/4"			1/8"
Helical	Stub	60114H-075F	11/16"	1-3/4"	1-55/64"	YES	3-25/32"	2-1/32"	3/4"	1/8"
	3xD	60314H-075F	1-25/32"	2-55/64"	2-61/64"	YES	4-55/64"			1/8"
		60314H-075C	1-25/32"	2-55/64"	2-61/64"	NO	4-55/64"			1/8"
	5xD	60514H-075F	2-61/64"	4-1/32"	4-1/8"	YES	6-1/16"			1/8"
		60514H-075C	2-61/64"	4-1/32"	4-1/8"	NO	6-1/16"			1/8"
	7xD	60714H-075F	4-9/64"	5-7/32"	5-5/16"	YES	7-1/4"			1/8"
		60714H-075C	4-9/64"	5-7/32"	5-5/16"	NO	7-1/4"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60314S-20FM	45,0	72,4	75,0	YES	122,4	50	20	1/8"*
	5xD	60514S-20FM	75,0	102,4	104,9	YES	152,4			1/8"*
	7xD	60714S-20FM	104,9	132,4	134,9	YES	182,4			1/8"*
Helical	Stub	60114H-20FM	17,5	44,6	47,2	YES	94,6	50	20	1/8"*
	3xD	60314H-20FM	45,0	72,4	75,0	YES	122,4			1/8"*
		60314H-20CM	45,0	72,4	75,0	NO	122,4			1/8"*
	5xD	60514H-20FM	75,0	102,4	104,9	YES	152,4			1/8"*
		60514H-20CM	75,0	102,4	104,9	NO	152,4			1/8"*
	7xD	60714H-20FM	104,9	132,4	134,9	YES	182,4			1/8"*
		60714H-20CM	104,9	132,4	134,9	NO	182,4			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60114C45-075F	1-3/64"	53/64"	1-3/64"	1-3/4"	1-55/64"	3-25/32"	2-1/32"	3/4"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60114C45-20FM	26,7	21,0	26,8	44,6	47,2	102,7	50	20	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

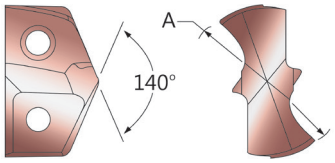
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
14	7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in.-lbs	84 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

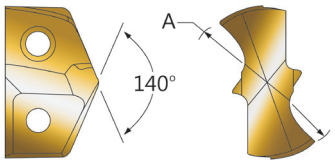
15 Series Range: 0.5906"-0.6298" (15,00mm-15,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.5906	15,00	5C115H-15	❍	5C115H-15-LR	▲	5C215H-15	❍	5C215H-15-CI	▲	5C215H-15-LR	▲
19/32"	0.5938	15,08	5C115H-0019	❍	5C115H-0019-LR	▲	5C215H-0019	❍	5C215H-0019-CI	❍	5C215H-0019-LR	▲
	0.6004	15,25	5C115H-15.25	▲	5C115H-15.25-LR	▲	5C215H-15.25	▲	5C215H-15.25-CI	❍	5C215H-15.25-LR	▲
39/64"	0.6094	15,48	5C115H-.609	❍	5C115H-.609-LR	▲	5C215H-.609	❍	5C215H-.609-CI	▲	5C215H-.609-LR	▲
	0.6103	15,50	5C115H-15.5	❍	5C115H-15.5-LR	▲	5C215H-15.5	❍	5C215H-15.5-CI	❍	5C215H-15.5-LR	▲
	0.6181	15,70	5C115H-.618	❍	5C115H-.618-LR	▲	5C215H-.618	❍	5C215H-.618-CI	▲	5C215H-.618-LR	▲
5/8"	0.6250	15,88	5C115H-0020	❍	5C115H-0020-LR	▲	5C215H-0020	❍	5C215H-0020-CI	❍	5C215H-0020-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.5906	15,00	7C115P-15	❍	7C115P-15LR	▲	7C215P-15	❍	7C215P-15CI	▲	7C215P-15LR	▲	7C215P-15AS	❍
19/32"	0.5938	15,08	7C115P-0019	❍	7C115P-0019LR	▲	7C215P-0019	❍	7C215P-0019CI	❍	7C215P-0019LR	▲	7C215P-0019AS	❍
	0.6004	15,25	7C115P-15.25	▲	7C115P-15.25LR	▲	7C215P-15.25	▲	7C215P-15.25CI	❍	7C215P-15.25LR	▲	7C215P-15.25AS	▲
39/64"	0.6094	15,48	7C115P-.609	❍	7C115P-.609LR	▲	7C215P-.609	❍	7C215P-.609CI	▲	7C215P-.609LR	▲	7C215P-.609AS	❍
	0.6103	15,50	7C115P-15.5	❍	7C115P-15.5LR	▲	7C215P-15.5	❍	7C215P-15.5CI	❍	7C215P-15.5LR	▲	7C215P-15.5AS	❍
	0.6181	15,70	7C115P-.618	❍	7C115P-.618LR	▲	7C215P-.618	❍	7C215P-.618CI	▲	7C215P-.618LR	▲	7C215P-.618AS	❍
5/8"	0.6250	15,88	7C115P-0020	❍	7C115P-0020LR	❍	7C215P-0020	❍	7C215P-0020CI	❍	7C215P-0020LR	▲	7C215P-0020AS	❍

- see page 90 for geometry details

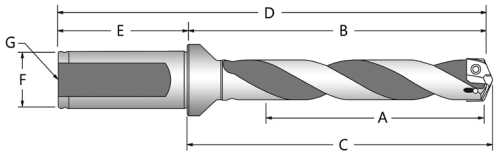
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

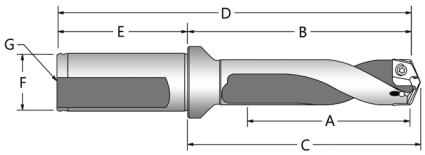
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .5925" AM200, 15 Series, C2 = 5C215H-.5925
Metric = 15,25 mm AM200, 15 Series, C2 = 5C215H-15.25

GEN3SYS® and GEN3SYS® XT Holders

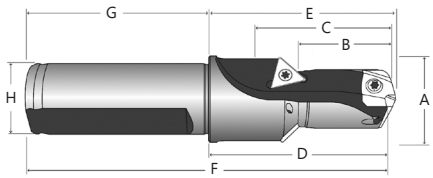
15 Series Range: 0.5906"-0.6298" (15,00mm-15,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60315S-075F	1-57/64"	2-61/64"	3-3/64"	YES	4-63/64"	2-1/32"	3/4"	1/8"
	5xD	60515S-075F	3-5/32"	4-7/32"	4-5/16"	YES	6-1/4"			1/8"
	7xD	60715S-075F	4-27/64"	5-31/64"	5-37/64"	YES	7-1/2"			1/8"
Helical	Stub	60115H-075F	11/16"	1-3/4"	1-27/32"	YES	3-25/32"	2-1/32"	3/4"	1/8"
	3xD	60315H-075F	1-57/64"	2-61/64"	3-3/64"	YES	4-63/64"			1/8"
		60315H-075C	1-57/64"	2-61/64"	3-3/64"	NO	4-63/64"			1/8"
	5xD	60515H-075F	3-5/32"	4-7/32"	4-5/16"	YES	6-1/4"			1/8"
		60515H-075C	3-5/32"	4-7/32"	4-5/16"	NO	6-1/4"			1/8"
	7xD	60715H-075F	4-27/64"	5-31/64"	5-37/64"	YES	7-1/2"			1/8"
		60715H-075C	4-27/64"	5-31/64"	5-37/64"	NO	7-1/2"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60315S-20FM	48,0	75,1	77,6	YES	125,1	50	20	1/8"*
	5xD	60515S-20FM	80,0	107,0	109,6	YES	157,0			1/8"*
	7xD	60715S-20FM	111,9	139,0	141,6	YES	189,0			1/8"*
Helical	Stub	60115H-20FM	17,5	44,3	46,8	YES	94,3	50	20	1/8"*
	3xD	60315H-20FM	48,0	75,1	77,6	YES	125,1			1/8"*
		60315H-20CM	48,0	75,1	77,6	NO	125,1			1/8"*
	5xD	60515H-20FM	80,0	107,0	109,6	YES	157,0			1/8"*
		60515H-20CM	80,0	107,0	109,6	NO	157,0			1/8"*
	7xD	60715H-20FM	111,9	139,0	141,6	YES	189,0			1/8"*
		60715H-20CM	111,9	139,0	141,6	NO	189,0			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60115C45-075F	1-1/16"	57/64"	1-1/16"	1-47/64"	1-27/32"	3-49/64"	2-1/32"	3/4"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60115C45-20FM	27,0	22,5	26,9	44,3	46,8	102,4	50	20	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

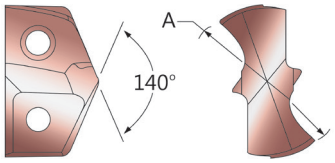
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
15	7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7.4 in.-lbs	84 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

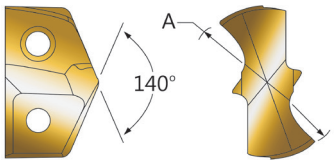
16 Series Range: 0.6299"-0.6692" (16,00mm-16,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.6299	16,00	5C116H-16	❍	5C116H-16-LR	▲	5C216H-16	❍	5C216H-16-CI	❍	5C216H-16-LR	▲
	0.6331	16,08	5C116H-16.08	▲	5C116H-16.08-LR	▲	5C216H-16.08	▲	5C216H-16.08-CI	▲	5C216H-16.08-LR	▲
41/64"	0.6406	16,27	5C116H-.640	❍	5C116H-.640-LR	▲	5C216H-.640	❍	5C216H-.640-CI	❍	5C216H-.640-LR	▲
	0.6496	16,50	5C116H-16.5	❍	5C116H-16.5-LR	▲	5C216H-16.5	❍	5C216H-16.5-CI	▲	5C216H-16.5-LR	▲
21/32"	0.6563	16,67	5C116H-0021	❍	5C116H-0021-LR	▲	5C216H-0021	❍	5C216H-0021-CI	❍	5C216H-0021-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.6299	16,00	7C116P-16	❍	7C116P-16LR	❍	7C216P-16	❍	7C216P-16CI	❍	7C216P-16LR	▲	7C216P-16AS	❍
	0.6331	16,08	7C116P-16.08	▲	7C116P-16.08LR	▲	7C216P-16.08	▲	7C216P-16.08CI	▲	7C216P-16.08LR	▲	7C216P-16.08AS	❍
41/64"	0.6406	16,27	7C116P-.640	❍	7C116P-.640LR	▲	7C216P-.640	❍	7C216P-.640CI	❍	7C216P-.640LR	▲	7C216P-.640AS	❍
	0.6496	16,50	7C116P-16.5	❍	7C116P-16.5LR	▲	7C216P-16.5	❍	7C216P-16.5CI	▲	7C216P-16.5LR	▲	7C216P-16.5AS	❍
21/32"	0.6563	16,67	7C116P-0021	❍	7C116P-0021LR	▲	7C216P-0021	❍	7C216P-0021CI	❍	7C216P-0021LR	▲	7C216P-0021AS	❍

- see page 90 for geometry details

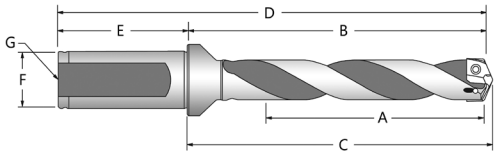
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

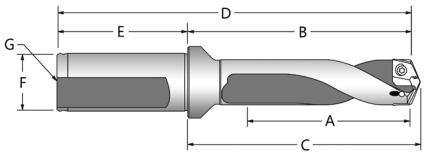
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .6300" AM200, 16 Series, C2 = 5C216H-.6300
Metric = 16,20 mm AM200, 16 Series, C2 = 5C216H-16.20

GEN3SYS® and GEN3SYS® XT Holders

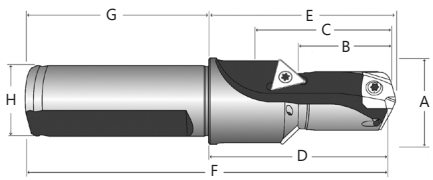
16 Series Range: 0.6299"-0.6692" (16,00mm-16,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60316S-075F	2-1/64"	3-13/64"	3-5/16"	YES	5-15/64"	2-1/32"	3/4"	1/8"
	5xD	60516S-075F	3-23/64"	4-35/64"	4-21/32"	YES	6-37/64"			1/8"
	7xD	60716S-075F	4-11/16"	5-29/32"	6"	YES	7-29/32"			1/8"
Helical	Stub	60116H-075F	13/16"	2"	2-7/64"	YES	4-1/32"			1/8"
	3xD	60316H-075F	2-1/64"	3-13/64"	3-5/16"	YES	5-15/64"			1/8"
		60316H-075C	2-1/64"	3-13/64"	3-5/16"	NO	5-15/64"			1/8"
	5xD	60516H-075F	3-23/64"	4-35/64"	4-21/32"	YES	6-37/64"			1/8"
		60516H-075C	3-23/64"	4-35/64"	4-21/32"	NO	6-37/64"			1/8"
	7xD	60716H-075F	4-11/16"	5-29/32"	6"	YES	7-29/32"			1/8"
		60716H-075C	4-11/16"	5-29/32"	6"	NO	7-29/32"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60316S-20FM	51,0	81,3	84,2	YES	131,3	50	20	1/8"*
	5xD	60516S-20FM	84,9	115,3	118,2	YES	165,3			1/8"*
	7xD	60716S-20FM	118,9	149,3	152,2	YES	199,3			1/8"*
Helical	Stub	60116H-20FM	21,0	50,8	53,7	YES	100,8			1/8"*
	3xD	60316H-20FM	51,0	81,3	84,2	YES	131,3			1/8"*
		60316H-20CM	51,0	81,3	84,2	NO	131,3			1/8"*
	5xD	60516H-20FM	84,9	115,3	118,2	YES	165,3			1/8"*
		60516H-20CM	84,9	115,3	118,2	NO	165,3			1/8"*
	7xD	60716H-20FM	118,9	149,3	152,2	YES	199,3			1/8"*
		60716H-20CM	118,9	149,3	152,2	NO	199,3			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60116C45-075F	1-1/16"	61/64"	1-19/64"	2"	2-7/64"	4-1/32"	2-1/32"	3/4"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60116C45-20FM	27,0	24,0	33,1	50,8	53,7	108,9	50	20	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

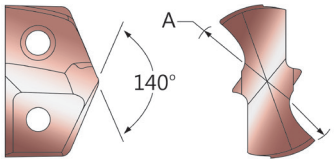
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
16	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in.-lbs	175 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

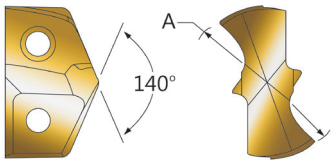
17 Series Range: 0.6693"-0.7086" (17,00mm-17,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.6693	17,00	5C117H-17	❍	5C117H-17-LR	▲	5C217H-17	❍	5C217H-17-CI	❍	5C217H-17-LR	▲
43/64"	0.6719	17,07	5C117H-.671	❍	5C117H-.671-LR	▲	5C217H-.671	❍	5C217H-.671-CI	▲	5C217H-.671-LR	▲
	0.6732	17,10	5C117H-17.1	▲	5C117H-17.1-LR	▲	5C217H-17.1	▲	5C217H-17.1-CI	❍	5C217H-17.1-LR	▲
	0.6772	17,20	5C117H-17.2	▲	5C117H-17.2-LR	▲	5C217H-17.2	▲	5C217H-17.2-CI	❍	5C217H-17.2-LR	▲
11/16"	0.6875	17,46	5C117H-0022	❍	5C117H-0022-LR	▲	5C217H-0022	❍	5C217H-0022-CI	❍	5C217H-0022-LR	▲
	0.6890	17,50	5C117H-17.5	❍	5C117H-17.5-LR	▲	5C217H-17.5	❍	5C217H-17.5-CI	❍	5C217H-17.5-LR	▲
45/64"	0.7031	17,86	5C117H-.703	❍	5C117H-.703-LR	▲	5C217H-.703	❍	5C217H-.703-CI	❍	5C217H-.703-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.6693	17,00	7C117P-17	❍	7C117P-17LR	▲	7C217P-17	❍	7C217P-17CI	❍	7C217P-17LR	▲	7C217P-17AS	❍
43/64"	0.6719	17,07	7C117P-.671	❍	7C117P-.671LR	▲	7C217P-.671	❍	7C217P-.671CI	▲	7C217P-.671LR	▲	7C217P-.671AS	❍
	0.6732	17,10	7C117P-17.1	▲	7C117P-17.1LR	▲	7C217P-17.1	▲	7C217P-17.1CI	❍	7C217P-17.1LR	▲	7C217P-17.1AS	▲
	0.6772	17,20	7C117P-17.2	▲	7C117P-17.2LR	▲	7C217P-17.2	▲	7C217P-17.2CI	❍	7C217P-17.2LR	▲	7C217P-17.2AS	▲
11/16"	0.6875	17,46	7C117P-0022	❍	7C117P-0022LR	❍	7C217P-0022	❍	7C217P-0022CI	❍	7C217P-0022LR	▲	7C217P-0022AS	❍
	0.6890	17,50	7C117P-17.5	❍	7C117P-17.5LR	▲	7C217P-17.5	❍	7C217P-17.5CI	❍	7C217P-17.5LR	▲	7C217P-17.5AS	❍
45/64"	0.7031	17,86	7C117P-.703	❍	7C117P-.703LR	▲	7C217P-.703	❍	7C217P-.703CI	❍	7C217P-.703LR	▲	7C217P-.703AS	❍

- see page 90 for geometry details

❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

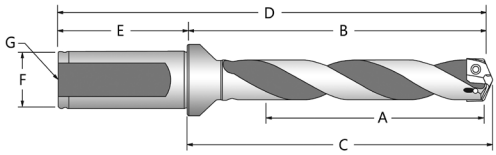
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

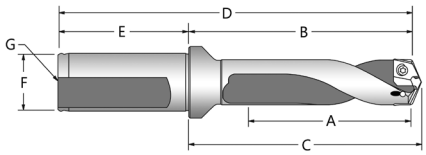
Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .6800" AM200, 17 Series, C2 = 5C217H-.6800
Metric = 17,20 mm AM200, 17 Series, C2 = 5C217H-17.20

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

GEN3SYS® and GEN3SYS® XT Holders

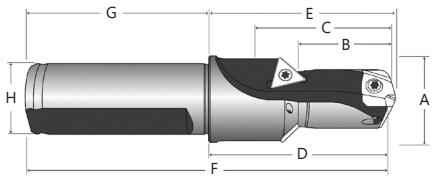
17 Series Range: 0.6693"-0.7086" (17,00mm-17,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60317S-075F	2-1/8"	3-5/16"	3-27/64"	YES	5-15/64"	2-1/32"	3/4"	1/8"
	5xD	60517S-075F	3-35/64"	4-47/64"	4-27/32"	YES	6-49/64"			1/8"
	7xD	60717S-075F	4-31/32"	6-9/64"	6-1/4"	YES	8-11/64"			1/8"
Helical	Stub	60117H-075F	13/16"	1-63/64"	2-7/64"	YES	4-1/64"			1/8"
	3xD	60317H-075F	2-1/8"	3-5/16"	3-27/64"	YES	5-15/64"			1/8"
		60317H-075C	2-1/8"	3-5/16"	3-27/64"	NO	5-15/64"			1/8"
	5xD	60517H-075F	3-35/64"	4-47/64"	4-27/32"	YES	6-49/64"			1/8"
		60517H-075C	3-35/64"	4-47/64"	4-27/32"	NO	6-49/64"			1/8"
	7xD	60717H-075F	4-31/32"	6-9/64"	6-1/4"	YES	8-11/64"			1/8"
		60717H-075C	4-31/32"	6-9/64"	6-1/4"	NO	8-11/64"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60317S-20FM	54,0	84,1	87,0	YES	134,1	50	20	1/8"*
	5xD	60517S-20FM	89,9	120,0	122,9	YES	170,1			1/8"*
	7xD	60717S-20FM	125,9	156,0	158,9	YES	206,0			1/8"*
Helical	Stub	60117H-20FM	21,0	50,5	53,4	YES	100,5			1/8"*
	3xD	60317H-20FM	54,0	84,1	87,0	YES	134,1			1/8"*
		60317H-20CM	54,0	84,1	87,0	NO	134,1			1/8"*
	5xD	60517H-20FM	89,9	120,0	122,9	YES	170,1			1/8"*
		60517H-20CM	89,9	120,0	122,9	NO	170,1			1/8"*
	7xD	60717H-20FM	125,9	156,0	158,9	YES	206,0			1/8"*
		60717H-20CM	125,9	156,0	158,9	NO	206,0			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60117C45-075F	1"	1"	1-5/16"	1-63/64"	2-7/64"	4-1/64"	2-1/32"	3/4"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60117C45-20FM	25,4	25,5	33,3	50,5	53,4	108,6	50	20	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

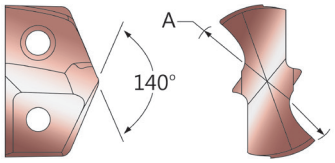
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch	Metric
						TORX Plus Screw Admissible Tightening Torque	TORX Plus Screw Admissible Tightening Torque
17	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in.-lbs	175 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

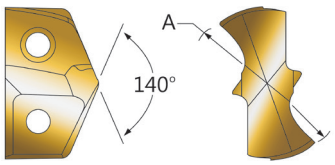
18 Series Range: 0.7087"-0.7873" (18,00mm-19,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.7087	18,00	5C118H-18	❍	5C118H-18-LR	▲	5C218H-18	❍	5C218H-18-CI	❍	5C218H-18-LR	▲
23/32"	0.7188	18,26	5C118H-0023	❍	5C118H-0023-LR	▲	5C218H-0023	❍	5C218H-0023-CI	❍	5C218H-0023-LR	▲
	0.7283	18,50	5C118H-18.5	❍	5C118H-18.5-LR	▲	5C218H-18.5	❍	5C218H-18.5-CI	❍	5C218H-18.5-LR	▲
47/64"	0.7344	18,65	5C118H-.734	❍	5C118H-.734-LR	▲	5C218H-.734	❍	5C218H-.734-CI	▲	5C218H-.734-LR	▲
	0.7480	19,00	5C118H-19	❍	5C118H-19-LR	▲	5C218H-19	❍	5C218H-19-CI	▲	5C218H-19-LR	▲
3/4"	0.7500	19,05	5C118H-0024	❍	5C118H-0024-LR	▲	5C218H-0024	❍	5C218H-0024-CI	❍	5C218H-0024-LR	▲
	0.7580	19,25	5C118H-.758	❍	5C118H-.758-LR	▲	5C218H-.758	❍	5C218H-.758-CI	❍	5C218H-.758-LR	▲
49/64"	0.7656	19,45	5C118H-.765	❍	5C118H-.765-LR	▲	5C218H-.765	❍	5C218H-.765-CI	▲	5C218H-.765-LR	▲
	0.7677	19,50	5C118H-19.5	❍	5C118H-19.5-LR	▲	5C218H-19.5	❍	5C218H-19.5-CI	❍	5C218H-19.5-LR	▲
	0.7795	19,80	5C118H-19.8	▲	5C118H-19.8-LR	▲	5C218H-19.8	▲	5C218H-19.8-CI	▲	5C218H-19.8-LR	▲
25/32"	0.7813	19,85	5C118H-0025	❍	5C118H-0025-LR	▲	5C218H-0025	❍	5C218H-0025-CI	❍	5C218H-0025-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.7087	18,00	7C118P-18	❍	7C118P-18LR	❍	7C218P-18	❍	7C218P-18CI	❍	7C218P-18LR	▲	7C218P-18AS	❍
23/32"	0.7188	18,26	7C118P-0023	❍	7C118P-0023LR	▲	7C218P-0023	❍	7C218P-0023CI	❍	7C218P-0023LR	▲	7C218P-0023AS	❍
	0.7283	18,50	7C118P-18.5	❍	7C118P-18.5LR	▲	7C218P-18.5	❍	7C218P-18.5CI	❍	7C218P-18.5LR	▲	7C218P-18.5AS	❍
47/64"	0.7344	18,65	7C118P-.734	❍	7C118P-.734LR	▲	7C218P-.734	❍	7C218P-.734CI	▲	7C218P-.734LR	▲	7C218P-.734AS	❍
	0.7480	19,00	7C118P-19	❍	7C118P-19LR	▲	7C218P-19	❍	7C218P-19CI	▲	7C218P-19LR	▲	7C218P-19AS	❍
3/4"	0.7500	19,05	7C118P-0024	❍	7C118P-0024LR	▲	7C218P-0024	❍	7C218P-0024CI	❍	7C218P-0024LR	▲	7C218P-0024AS	❍
	0.7580	19,25	7C118P-.758	❍	7C118P-.758LR	❍	7C218P-.758	❍	7C218P-.758CI	❍	7C218P-.758LR	▲	7C218P-.758AS	❍
49/64"	0.7656	19,45	7C118P-.765	❍	7C118P-.765LR	❍	7C218P-.765	❍	7C218P-.765CI	▲	7C218P-.765LR	▲	7C218P-.765AS	❍
	0.7677	19,50	7C118P-19.5	❍	7C118P-19.5LR	▲	7C218P-19.5	❍	7C218P-19.5CI	▲	7C218P-19.5LR	▲	7C218P-19.5AS	▲
	0.7795	19,80	7C118P-19.8	▲	7C118P-19.8LR	▲	7C218P-19.8	▲	7C218P-19.8CI	▲	7C218P-19.8LR	▲	7C218P-19.8AS	▲
25/32"	0.7813	19,85	7C118P-0025	❍	7C118P-0025LR	❍	7C218P-0025	❍	7C218P-0025CI	❍	7C218P-0025LR	▲	7C218P-0025AS	❍

- see page 90 for geometry details

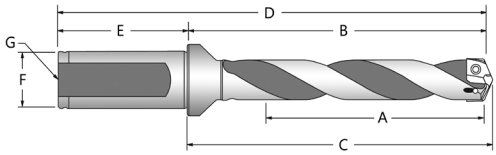
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

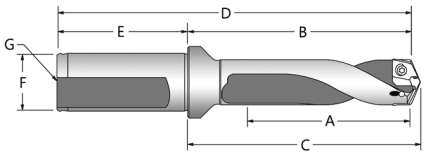
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .7350" AM200, 18 Series, C2 = 5C218H-.7350
Metric = 18,40 mm AM200, 18 Series, C2 = 5C218H-18.40

GEN3SYS® and GEN3SYS® XT Holders

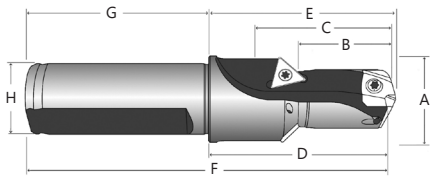
18 Series Range: 0.7087"-0.7873" (18,00mm-19,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60318S-100F	2-3/8"	3-45/64"	3-13/16"	YES	5-63/64"	2-9/32"	1"	1/8"
	5xD	60518S-100F	3-15/16"	5-9/32"	5-25/64"	YES	7-9/16"			1/8"
	7xD	60718S-100F	5-33/64"	6-55/64"	6-61/64"	YES	9-9/64"			1/8"
Helical	Stub	60118H-100F	7/8"	2-13/64"	2-5/16"	YES	4-31/64"	2-9/32"	1"	1/8"
	3xD	60318H-100F	2-3/8"	3-45/64"	3-13/16"	YES	5-63/64"			1/8"
		60318H-100C	2-3/8"	3-45/64"	3-13/16"	NO	5-63/64"			1/8"
	5xD	60518H-100F	3-15/16"	5-9/32"	5-25/64"	YES	7-9/16"			1/8"
		60518H-100C	3-15/16"	5-9/32"	5-25/64"	NO	7-9/16"			1/8"
	7xD	60718H-100F	5-33/64"	6-55/64"	6-61/64"	YES	9-9/64"			1/8"
		60718H-100C	5-33/64"	6-55/64"	6-61/64"	NO	9-9/64"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60318S-25FM	60,0	94,0	96,8	YES	150,0	56	25	1/8"*
	5xD	60518S-25FM	99,9	134,0	136,8	YES	190,0			1/8"*
	7xD	60718S-25FM	139,9	174,0	176,8	YES	230,0			1/8"*
Helical	Stub	60118H-25FM	22,0	56,0	58,8	YES	111,9	56	25	1/8"*
	3xD	60318H-25FM	60,0	94,0	96,8	YES	150,0			1/8"*
		60318H-25CM	60,0	94,0	96,8	NO	150,0			1/8"*
	5xD	60518H-25FM	99,9	134,0	136,8	YES	190,0			1/8"*
		60518H-25CM	99,9	134,0	136,8	NO	190,0			1/8"*
	7xD	60718H-25FM	139,9	174,0	176,8	YES	230,0			1/8"*
		60718H-25CM	139,9	174,0	176,8	NO	230,0			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60118C45-100F	63/64"	1-1/16"	1-25/64"	2-13/64"	2-5/16"	4-31/64"	2-9/32"	1"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60118C45-25FM	25,1	27,0	35,2	56,0	58,8	114,8	56	25	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

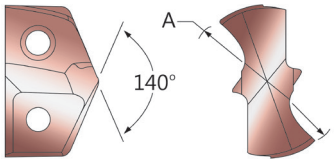
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
18	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in.-lbs	305 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

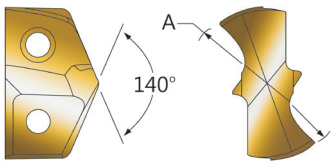
20 Series Range: 0.7874"-0.8660" (20,00mm-21,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.7874	20,00	5C120H-20	❍	5C120H-20-LR	▲	5C220H-20	❍	5C220H-20-CI	❍	5C220H-20-LR	▲
51/64"	0.7969	20,24	5C120H-.796	❍	5C120H-.796-LR	▲	5C220H-.796	❍	5C220H-.796-CI	▲	5C220H-.796-LR	▲
	0.8071	20,50	5C120H-20.5	❍	5C120H-20.5-LR	▲	5C220H-20.5	❍	5C220H-20.5-CI	❍	5C220H-20.5-LR	▲
13/16"	0.8125	20,64	5C120H-0026	❍	5C120H-0026-LR	▲	5C220H-0026	❍	5C220H-0026-CI	❍	5C220H-0026-LR	▲
	0.8268	21,00	5C120H-21	❍	5C120H-21-LR	▲	5C220H-21	❍	5C220H-21-CI	❍	5C220H-21-LR	▲
27/32"	0.8438	21,43	5C120H-0027	❍	5C120H-0027-LR	▲	5C220H-0027	❍	5C220H-0027-CI	❍	5C220H-0027-LR	▲
	0.8465	21,50	5C120H-21.5	❍	5C120H-21.5-LR	▲	5C220H-21.5	❍	5C220H-21.5-CI	❍	5C220H-21.5-LR	▲
55/64"	0.8594	21,83	5C120H-.859	❍	5C120H-.859-LR	▲	5C220H-.859	❍	5C220H-.859-CI	▲	5C220H-.859-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.7874	20,00	7C120P-20	❍	7C120P-20LR	▲	7C220P-20	❍	7C220P-20CI	❍	7C220P-20LR	▲	7C220P-20AS	❍
51/64"	0.7969	20,24	7C120P-.796	❍	7C120P-.796LR	▲	7C220P-.796	❍	7C220P-.796CI	▲	7C220P-.796LR	▲	7C220P-.796AS	❍
	0.8071	20,50	7C120P-20.5	❍	7C120P-20.5LR	▲	7C220P-20.5	❍	7C220P-20.5CI	❍	7C220P-20.5LR	▲	7C220P-20.5AS	❍
13/16"	0.8125	20,64	7C120P-0026	❍	7C120P-0026LR	❍	7C220P-0026	❍	7C220P-0026CI	❍	7C220P-0026LR	▲	7C220P-0026AS	❍
	0.8268	21,00	7C120P-21	❍	7C120P-21LR	▲	7C220P-21	❍	7C220P-21CI	❍	7C220P-21LR	▲	7C220P-21AS	❍
27/32"	0.8438	21,43	7C120P-0027	❍	7C120P-0027LR	▲	7C220P-0027	❍	7C220P-0027CI	❍	7C220P-0027LR	▲	7C220P-0027AS	❍
	0.8465	21,50	7C120P-21.5	❍	7C120P-21.5LR	▲	7C220P-21.5	❍	7C220P-21.5CI	▲	7C220P-21.5LR	▲	7C220P-21.5AS	❍
55/64"	0.8594	21,83	7C120P-.859	❍	7C120P-.859LR	▲	7C220P-.859	❍	7C220P-.859CI	▲	7C220P-.859LR	▲	7C220P-.859AS	❍

- see page 90 for geometry details

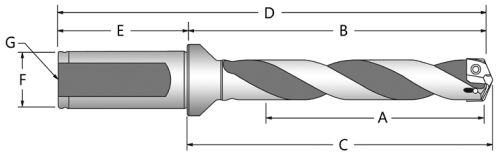
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

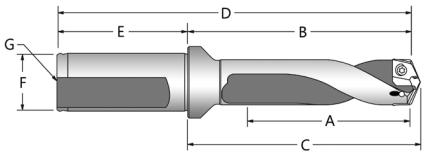
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .8025" AM200, 20 Series, C2 = 5C220H-.8025
Metric = 20,10 mm AM200, 20 Series, C2 = 5C220H-20.10

GEN3SYS® and GEN3SYS® XT Holders

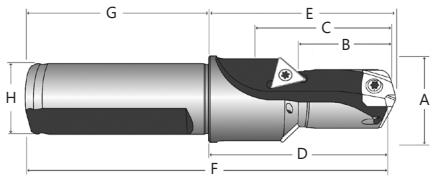
20 Series Range: 0.7874"-0.8660" (20,00mm-21,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60320S-100F	2-17/32"	3-61/64"	4-3/64"	YES	6-15/64"	2-9/32"	1"	1/8"
	5xD	60520S-100F	4-11/32"	5-11/16"	5-25/32"	YES	7-61/64"			1/8"
	7xD	60720S-100F	6-1/16"	7-13/32"	7-33/64"	YES	9-11/16"			1/8"
Helical	Stub	60120H-100F	15/16"	2-17/64"	2-3/8"	YES	4-35/64"	2-9/32"	1"	1/8"
	3xD	60320H-100F	2-17/32"	3-61/64"	4-3/64"	YES	6-15/64"			1/8"
		60320H-100C	2-17/32"	3-61/64"	4-3/64"	NO	6-15/64"			1/8"
	5xD	60520H-100F	4-11/32"	5-11/16"	5-25/32"	YES	7-61/64"			1/8"
		60520H-100C	4-11/32"	5-11/16"	5-25/32"	NO	7-61/64"			1/8"
	7xD	60720H-100F	6-1/16"	7-13/32"	7-33/64"	YES	9-11/16"			1/8"
		60720H-100C	6-1/16"	7-13/32"	7-33/64"	NO	9-11/16"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60320S-25FM	66,0	100,1	102,9	YES	156,1	56	25	1/8"*
	5xD	60520S-25FM	110,0	144,1	146,9	YES	200,1			1/8"*
	7xD	60720S-25FM	153,9	188,1	190,9	YES	244,0			1/8"*
Helical	Stub	60120H-25FM	24,0	57,6	60,4	YES	113,6	56	25	1/8"*
	3xD	60320H-25FM	66,0	100,1	102,9	YES	156,1			1/8"*
		60320H-25CM	66,0	100,1	102,9	NO	156,1			1/8"*
	5xD	60520H-25FM	110,0	144,1	146,9	YES	200,1			1/8"*
		60520H-25CM	110,0	144,1	146,9	NO	200,1			1/8"*
	7xD	60720H-25FM	153,9	188,1	190,9	YES	244,0			1/8"*
		60720H-25CM	153,9	188,1	190,9	NO	244,0			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60120C45-100F	1-5/64"	1-3/16"	1-29/64"	2-17/64"	2-3/8"	4-35/64"	2-9/32"	1"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60120C45-25FM	27,2	30,0	37,1	57,6	60,4	116,5	56	25	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

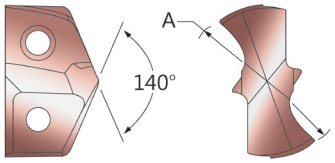
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
20	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in.-lbs	305 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

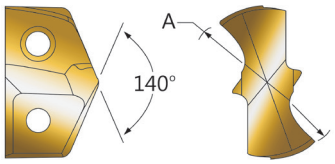
22 Series Range: 0.8661"-0.9448" (22,00mm-23,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.8661	22,00	5C122H-22	❍	5C122H-22-LR	▲	5C222H-22	❍	5C222H-22-CI	❍	5C222H-22-LR	▲
7/8"	0.8750	22,23	5C122H-0028	❍	5C122H-0028-LR	▲	5C222H-0028	❍	5C222H-0028-CI	❍	5C222H-0028-LR	▲
57/64"	0.8906	22,61	5C122H-.890	❍	5C122H-.890-LR	▲	5C222H-.890	❍	5C222H-.890-CI	▲	5C222H-.890-LR	▲
	0.9055	23,00	5C122H-23	❍	5C122H-23-LR	▲	5C222H-23	❍	5C222H-23-CI	❍	5C222H-23-LR	▲
29/32"	0.9063	23,02	5C122H-0029	❍	5C122H-0029-LR	▲	5C222H-0029	❍	5C222H-0029-CI	▲	5C222H-0029-LR	▲
59/64"	0.9219	23,42	5C122H-.921	❍	5C122H-.921-LR	▲	5C222H-.921	❍	5C222H-.921-CI	❍	5C222H-.921-LR	▲
15/16"	0.9375	23,81	5C122H-0030	❍	5C122H-0030-LR	▲	5C222H-0030	❍	5C222H-0030-CI	❍	5C222H-0030-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.8661	22,00	7C122P-22	❍	7C122P-22LR	❍	7C222P-22	❍	7C222P-22CI	❍	7C222P-22LR	▲	7C222P-22AS	❍
7/8"	0.8750	22,23	7C122P-0028	❍	7C122P-0028LR	❍	7C222P-0028	❍	7C222P-0028CI	❍	7C222P-0028LR	▲	7C222P-0028AS	❍
57/64"	0.8906	22,61	7C122P-.890	❍	7C122P-.890LR	▲	7C222P-.890	❍	7C222P-.890CI	▲	7C222P-.890LR	▲	7C222P-.890AS	❍
	0.9055	23,00	7C122P-23	❍	7C122P-23LR	▲	7C222P-23	❍	7C222P-23CI	❍	7C222P-23LR	▲	7C222P-23AS	❍
29/32"	0.9063	23,02	7C122P-0029	❍	7C122P-0029LR	▲	7C222P-0029	❍	7C222P-0029CI	▲	7C222P-0029LR	▲	7C222P-0029AS	❍
59/64"	0.9219	23,42	7C122P-.921	❍	7C122P-.921LR	▲	7C222P-.921	❍	7C222P-.921CI	❍	7C222P-.921LR	▲	7C222P-.921AS	❍
15/16"	0.9375	23,81	7C122P-0030	❍	7C122P-0030LR	❍	7C222P-0030	❍	7C222P-0030CI	❍	7C222P-0030LR	▲	7C222P-0030AS	❍

- see page 90 for geometry details

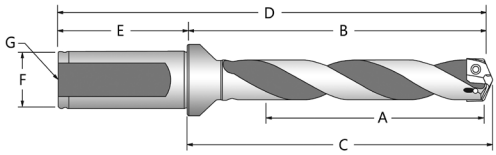
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

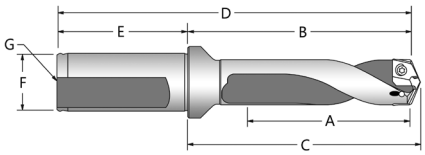
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = .8750" AM200, 22 Series, C1 = 5C122H-.8750
Metric = 23,12 mm AM200, 22 Series, C1 = 5C122H-23.12

GEN3SYS® and GEN3SYS® XT Holders

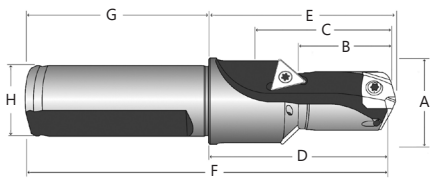
22 Series Range: 0.8661"-0.9448" (22,00mm-23,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60322S-100F	2-53/64"	4-9/64"	4-17/64"	YES	6-27/64"	2-9/32"	1"	1/8"
	5xD	60522S-100F	4-23/32"	6-1/32"	6-5/32"	YES	8-5/16"			1/8"
	7xD	60722S-100F	6-39/64"	7-59/64"	8-3/64"	YES	10-13/64"			1/8"
Helical	Stub	60122H-100F	1-1/16"	2-23/64"	2-31/64"	YES	4-41/64"	2-9/32"	1"	1/8"
	3xD	60322H-100F	2-53/64"	4-9/64"	4-17/64"	YES	6-27/64"			1/8"
		60322H-100C	2-53/64"	4-9/64"	4-17/64"	NO	6-27/64"			1/8"
	5xD	60522H-100F	4-23/32"	6-1/32"	6-5/32"	YES	8-5/16"			1/8"
		60522H-100C	4-23/32"	6-1/32"	6-5/32"	NO	8-5/16"			1/8"
	7xD	60722H-100F	6-39/64"	7-59/64"	8-3/64"	YES	10-13/64"			1/8"
		60722H-100C	6-39/64"	7-59/64"	8-3/64"	NO	10-13/64"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60322S-25FM	72,0	105,3	108,3	YES	161,3	56	25	1/8"*
	5xD	60522S-25FM	119,9	153,3	156,2	YES	209,3			1/8"*
	7xD	60722S-25FM	167,9	201,3	204,2	YES	257,3			1/8"*
Helical	Stub	60122H-25FM	27,0	60,1	63,0	YES	116,1	56	25	1/8"*
	3xD	60322H-25FM	72,0	105,3	108,3	YES	161,3			1/8"*
		60322H-25CM	72,0	105,3	108,3	NO	161,3			1/8"*
	5xD	60522H-25FM	119,9	153,3	156,2	YES	209,3			1/8"*
		60522H-25CM	119,9	153,3	156,2	NO	209,3			1/8"*
	7xD	60722H-25FM	167,9	201,3	204,2	YES	257,3			1/8"*
		60722H-25CM	167,9	201,3	204,2	NO	257,3			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60122C45-100F	1-9/64"	1-19/64"	1-19/32"	2-23/64"	2-31/64"	4-41/64"	2-9/32"	1"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60122C45-25FM	29,0	33,0	40,5	60,0	63,0	119,0	56	25	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

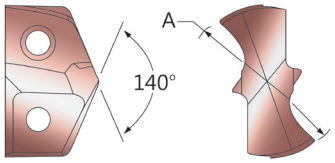
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
22	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9TB	27.0 in.-lbs	305 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

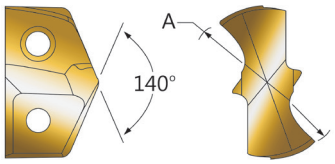
24 Series Range: 0.9449"-1.0235" (24,00mm-25,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	0.9449	24,00	5C124H-24	❍	5C124H-24-LR	▲	5C224H-24	❍	5C224H-24-CI	❍	5C224H-24-LR	▲
31/32"	0.9688	24,61	5C124H-0031	❍	5C124H-0031-LR	▲	5C224H-0031	❍	5C224H-0031-CI	❍	5C224H-0031-LR	▲
63/64"	0.9843	25,00	5C124H-25	❍	5C124H-25-LR	▲	5C224H-25	❍	5C224H-25-CI	❍	5C224H-25-LR	▲
1"	1.0000	25,40	5C124H-0100	❍	5C124H-0100-LR	▲	5C224H-0100	❍	5C224H-0100-CI	❍	5C224H-0100-LR	▲
	1.0080	25,60	5C124H-1.008	❍	5C124H-1.008-LR	▲	5C224H-1.008	❍	5C224H-1.008-CI	▲	5C224H-1.008-LR	▲
1-1/64"	1.0156	25,78	5C124H-1.015	❍	5C124H-1.015-LR	▲	5C224H-1.015	❍	5C224H-1.015-CI	❍	5C224H-1.015-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	0.9449	24,00	7C124P-24	❍	7C124P-24LR	❍	7C224P-24	❍	7C224P-24CI	❍	7C224P-24LR	▲	7C224P-24AS	❍
31/32"	0.9688	24,61	7C124P-0031	❍	7C124P-0031LR	▲	7C224P-0031	❍	7C224P-0031CI	❍	7C224P-0031LR	▲	7C224P-0031AS	❍
63/64"	0.9843	25,00	7C124P-25	❍	7C124P-25LR	▲	7C224P-25	❍	7C224P-25CI	❍	7C224P-25LR	▲	7C224P-25AS	❍
1"	1.0000	25,40	7C124P-0100	❍	7C124P-0100LR	❍	7C224P-0100	❍	7C224P-0100CI	❍	7C224P-0100LR	▲	7C224P-0100AS	❍
	1.0080	25,60	7C124P-1.008	❍	7C124P-1.008LR	❍	7C224P-1.008	❍	7C224P-1.008CI	▲	7C224P-1.008LR	▲	7C224P-1.008AS	❍
1-1/64"	1.0156	25,78	7C124P-1.015	❍	7C124P-1.015LR	❍	7C224P-1.015	❍	7C224P-1.015CI	❍	7C224P-1.015LR	▲	7C224P-1.015AS	❍

- see page 90 for geometry details

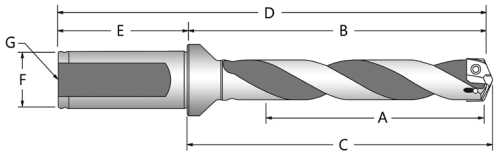
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

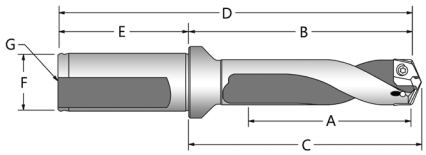
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = 1.0102" AM200, 24 Series, C1 = 5C124H-1.0102
Metric = 25,74 mm AM200, 24 Series, C1 = 5C124H-25.74

GEN3SYS® and GEN3SYS® XT Holders

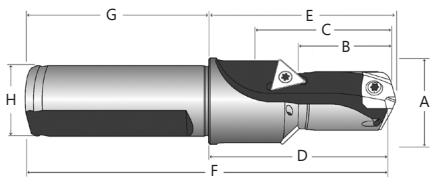
24 Series Range: 0.9449"-1.0235" (24,00mm-25,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60324S-100F	3-5/64"	4-31/64"	4-19/32"	YES	6-49/64"	2-9/32"	1"	1/8"
	5xD	60524S-100F	5-1/8"	6-17/32"	6-41/64"	YES	8-13/16"			1/8"
	7xD	60724S-100F	7-11/64"	8-37/64"	8-11/16"	YES	10-55/64"			1/8"
Helical	Stub	60124H-100F	1-1/8"	2-17/32"	2-41/64"	YES	4-13/16"	2-9/32"	1"	1/8"
	3xD	60324H-100F	3-5/64"	4-31/64"	4-19/32"	YES	6-49/64"			1/8"
		60324H-100C	3-5/64"	4-31/64"	4-19/32"	NO	6-49/64"			1/8"
	5xD	60524H-100F	5-1/8"	6-17/32"	6-41/64"	YES	8-13/16"			1/8"
		60524H-100C	5-1/8"	6-17/32"	6-41/64"	NO	8-13/16"			1/8"
	7xD	60724H-100F	7-11/64"	8-37/64"	8-11/16"	YES	10-55/64"			1/8"
		60724H-100C	7-11/64"	8-37/64"	8-11/16"	NO	10-55/64"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60324S-25FM	78,0	113,8	116,8	YES	169,8	56	25	1/8"*
	5xD	60524S-25FM	129,9	165,8	168,7	YES	221,8			1/8"*
	7xD	60724S-25FM	181,9	217,8	220,7	YES	273,8			1/8"*
Helical	Stub	60124H-25FM	28,5	64,2	67,1	YES	120,1	56	25	1/8"*
	3xD	60324H-25FM	78,0	113,8	116,8	YES	169,8			1/8"*
		60324H-25CM	78,0	113,8	116,8	NO	169,8			1/8"*
	5xD	60524H-25FM	129,9	165,8	168,7	YES	221,8			1/8"*
		60524H-25CM	129,9	165,8	168,7	NO	221,8			1/8"*
	7xD	60724H-25FM	181,9	217,8	220,7	YES	273,8			1/8"*
		60724H-25CM	181,9	217,8	220,7	NO	273,8			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60124C45-100F	1-7/32"	1-27/64"	1-51/64"	2-17/32"	2-41/64"	4-51/64"	2-9/32"	1"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60124C45-25FM	31,0	36,0	45,5	64,2	67,1	123,0	56	25	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

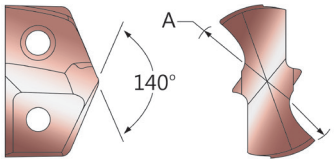
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
24	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in.-lbs	305 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

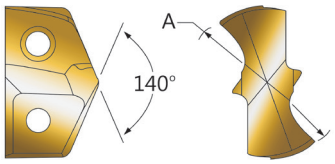
26 Series Range: 1.0236"-1.1416" (26,00mm-28,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	1.0236	26,00	5C126H-26	❍	5C126H-26-LR	▲	5C226H-26	❍	5C226H-26-CI	▲	5C226H-26-LR	▲
1-1/32"	1.0313	26,20	5C126H-0101	❍	5C126H-0101-LR	▲	5C226H-0101	❍	5C226H-0101-CI	▲	5C226H-0101-LR	▲
1-3/64"	1.0469	26,59	5C126H-1.046	❍	5C126H-1.046-LR	▲	5C226H-1.046	❍	5C226H-1.046-CI	▲	5C226H-1.046-LR	▲
1-1/16"	1.0625	26,99	5C126H-0102	❍	5C126H-0102-LR	▲	5C226H-0102	❍	5C226H-0102-CI	▲	5C226H-0102-LR	▲
	1.0630	27,00	5C126H-27	❍	5C126H-27-LR	▲	5C226H-27	❍	5C226H-27-CI	▲	5C226H-27-LR	▲
1-3/32"	1.0938	27,78	5C126H-0103	❍	5C126H-0103-LR	▲	5C226H-0103	❍	5C226H-0103-CI	▲	5C226H-0103-LR	▲
	1.1024	28,00	5C126H-28	❍	5C126H-28-LR	▲	5C226H-28	❍	5C226H-28-CI	▲	5C226H-28-LR	▲
1-7/64"	1.1094	28,17	5C126H-1.109	❍	5C126H-1.109-LR	▲	5C226H-1.109	❍	5C226H-1.109-CI	▲	5C226H-1.109-LR	▲
1-1/8"	1.1250	28,58	5C126H-0104	❍	5C126H-0104-LR	▲	5C226H-0104	❍	5C226H-0104-CI	❍	5C226H-0104-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	1.0236	26,00	7C126P-26	❍	7C126P-26LR	❍	7C226P-26	❍	7C226P-26CI	▲	7C226P-26LR	▲	7C226P-26AS	❍
1-1/32"	1.0313	26,20	7C126P-0101	❍	7C126P-0101LR	❍	7C226P-0101	❍	7C226P-0101CI	▲	7C226P-0101LR	▲	7C226P-0101AS	❍
1-3/64"	1.0469	26,59	7C126P-1.046	❍	7C126P-1.046LR	▲	7C226P-1.046	❍	7C226P-1.046CI	▲	7C226P-1.046LR	▲	7C226P-1.046AS	❍
1-1/16"	1.0625	26,99	7C126P-0102	❍	7C126P-0102LR	❍	7C226P-0102	❍	7C226P-0102CI	▲	7C226P-0102LR	▲	7C226P-0102AS	❍
	1.0630	27,00	7C126P-27	❍	7C126P-27LR	❍	7C226P-27	❍	7C226P-27CI	▲	7C226P-27LR	▲	7C226P-27AS	❍
1-3/32"	1.0938	27,78	7C126P-0103	❍	7C126P-0103LR	▲	7C226P-0103	❍	7C226P-0103CI	▲	7C226P-0103LR	▲	7C226P-0103AS	❍
	1.1024	28,00	7C126P-28	❍	7C126P-28LR	▲	7C226P-28	❍	7C226P-28CI	▲	7C226P-28LR	▲	7C226P-28AS	❍
1-7/64"	1.1094	28,17	7C126P-1.109	❍	7C126P-1.109LR	▲	7C226P-1.109	❍	7C226P-1.109CI	▲	7C226P-1.109LR	▲	7C226P-1.109AS	❍
1-1/8"	1.1250	28,58	7C126P-0104	❍	7C126P-0104LR	❍	7C226P-0104	❍	7C226P-0104CI	❍	7C226P-0104LR	▲	7C226P-0104AS	❍

- see page 90 for geometry details

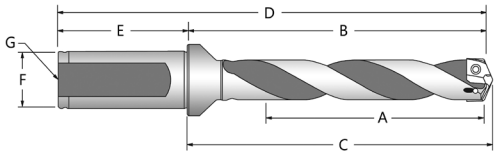
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

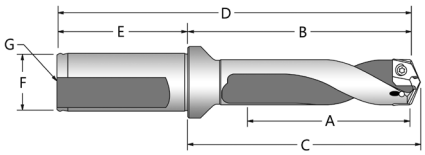
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = 1.1416" AM200, 26 Series, C1 = 5C126H-1.1416
Metric = 28,18 mm AM200, 26 Series, C1 = 5C126H-28.18

GEN3SYS® and GEN3SYS® XT Holders

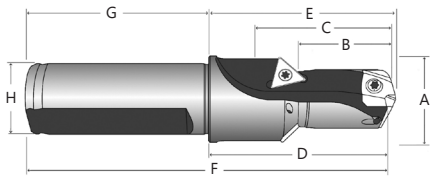
26 Series Range: 1.0236"-1.1416" (26,00mm-28,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60326S-125F	3-27/64"	5-1/16"	5-11/64"	YES	7-11/32"	2-9/32"	1-1/4"	1/8"
	5xD	60526S-125F	5-23/32"	7-11/32"	7-29/64"	YES	9-5/8"			1/8"
	7xD	60726S-125F	7-63/64"	9-5/8"	9-47/64"	YES	11-29/32"			1/8"
Helical	Stub	60126H-125F	1-1/4"	2-7/8"	2-63/64"	YES	5-5/32"	2-9/32"	1-1/4"	1/8"
	3xD	60326H-125F	3-27/64"	5-1/16"	5-11/64"	YES	7-11/32"			1/8"
		60326H-125C	3-27/64"	5-1/16"	5-11/64"	NO	7-11/32"			1/8"
	5xD	60526H-125F	5-23/32"	7-11/32"	7-29/64"	YES	9-5/8"			1/8"
		60526H-125C	5-23/32"	7-11/32"	7-29/64"	NO	9-5/8"			1/8"
	7xD	60726H-125F	7-63/64"	9-5/8"	9-47/64"	YES	11-29/32"			1/8"
		60726H-125C	7-63/64"	9-5/8"	9-47/64"	NO	11-29/32"			1/8"
METRIC (mm) *Thread to BSP & ISO 7-1										
Straight	3xD	60326S-32FM	87,0	128,1	130,9	YES	188,1	60	32	1/8"*
	5xD	60526S-32FM	145,0	186,1	188,8	YES	246,1			1/8"*
	7xD	60726S-32FM	202,9	244,0	246,8	YES	304,1			1/8"*
Helical	Stub	60126H-32FM	32,0	72,9	75,7	YES	133,0	60	32	1/8"*
	3xD	60326H-32FM	87,0	128,1	130,9	YES	188,1			1/8"*
		60326H-32CM	87,0	128,1	130,9	NO	188,1			1/8"*
	5xD	60526H-32FM	145,0	186,1	188,8	YES	246,1			1/8"*
		60526H-32CM	145,0	186,1	188,8	NO	246,1			1/8"*
	7xD	60726H-32FM	202,9	244,0	246,8	YES	304,1			1/8"*
		60726H-32CM	202,9	244,0	246,8	NO	304,1			1/8"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60126C45-125F	1-11/32"	1-17/32"	2-3/64"	2-7/8"	2-63/64"	5-5/32"	2-9/32"	1-1/4"	TCMT-110204	7256-IP8-1
METRIC (mm)										
60126C45-32FM	34,0	39,0	52,1	72,9	75,7	135,1	60	32	TCMT-110204	7256-IP8-1

Replacement TORX Plus Screws

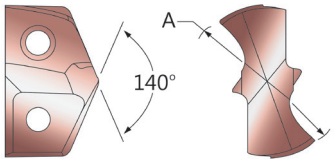
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch	Metric
						TORX Plus Screw Admissible Tightening Torque	TORX Plus Screw Admissible Tightening Torque
26	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in.-lbs	690 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® and GEN3SYS® XT Inserts

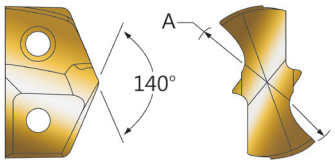
29 Series Range: 1.1417"-1.2597" (29,00mm-31,99mm)



GEN3SYS Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry									
Fractional Equivalent	(inch)	(mm)	C1 AM200® Standard	❶	C1 AM200 Low Rake	❶	C2 AM200 Standard	❶	C2 AM200 Cast Iron	❶	C2 AM200 Low Rake	❶
	1.1417	29,00	5C129H-29	❍	5C129H-29-LR	▲	5C229H-29	❍	5C229H-29-CI	▲	5C229H-29-LR	▲
1-5/32"	1.1563	29,37	5C129H-0105	❍	5C129H-0105-LR	▲	5C229H-0105	❍	5C229H-0105-CI	▲	5C229H-0105-LR	▲
	1.1811	30,00	5C129H-30	❍	5C129H-30-LR	▲	5C229H-30	❍	5C229H-30-CI	❍	5C229H-30-LR	▲
1-3/16"	1.1875	30,16	5C129H-0106	❍	5C129H-0106-LR	▲	5C229H-0106	❍	5C229H-0106-CI	▲	5C229H-0106-LR	▲
	1.2008	30,50	5C129H-30.5	❍	5C129H-30.5-LR	▲	5C229H-30.5	❍	5C229H-30.5-CI	▲	5C229H-30.5-LR	▲
1-7/32"	1.2188	30,96	5C129H-0107	❍	5C129H-0107-LR	▲	5C229H-0107	❍	5C229H-0107-CI	▲	5C229H-0107-LR	▲
	1.2205	31,00	5C129H-31	❍	5C129H-31-LR	▲	5C229H-31	❍	5C229H-31-CI	❍	5C229H-31-LR	▲
1-1/4"	1.2500	31,75	5C129H-0108	❍	5C129H-0108-LR	▲	5C229H-0108	❍	5C229H-0108-CI	❍	5C229H-0108-LR	▲

- see page 90 for geometry details



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	1.1417	29,00	7C129P-29	❍	7C129P-29LR	▲	7C229P-29	❍	7C229P-29CI	▲	7C229P-29LR	▲	7C229P-29AS	❍
1-5/32"	1.1563	29,37	7C129P-0105	❍	7C129P-0105LR	▲	7C229P-0105	❍	7C229P-0105CI	▲	7C229P-0105LR	▲	7C229P-0105AS	❍
	1.1811	30,00	7C129P-30	❍	7C129P-30LR	▲	7C229P-30	❍	7C229P-30CI	▲	7C229P-30LR	▲	7C229P-30AS	❍
1-3/16"	1.1875	30,16	7C129P-0106	❍	7C129P-0106LR	❍	7C229P-0106	❍	7C229P-0106CI	▲	7C229P-0106LR	▲	7C229P-0106AS	❍
	1.2008	30,50	7C129P-30.5	❍	7C129P-30.5LR	▲	7C229P-30.5	❍	7C229P-30.5CI	▲	7C229P-30.5LR	▲	7C229P-30.5AS	❍
1-7/32"	1.2188	30,96	7C129P-0107	❍	7C129P-0107LR	▲	7C229P-0107	❍	7C229P-0107CI	▲	7C229P-0107LR	▲	7C229P-0107AS	❍
	1.2205	31,00	7C129P-31	❍	7C129P-31LR	❍	7C229P-31	❍	7C229P-31CI	❍	7C229P-31LR	▲	7C229P-31AS	❍
1-1/4"	1.2500	31,75	7C129P-0108	❍	7C129P-0108LR	❍	7C229P-0108	❍	7C229P-0108CI	❍	7C229P-0108LR	▲	7C229P-0108AS	❍

- see page 90 for geometry details

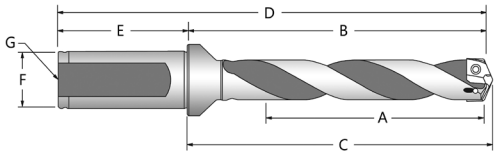
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

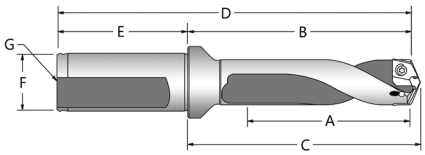
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = 1.2569" AM200, 29 Series, C2 = 5C229H-1.2569
Metric = 31,82 mm AM200, 29 Series, C2 = 5C226H-31.82

GEN3SYS® and GEN3SYS® XT Holders

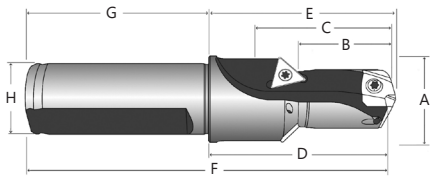
29 Series Range: 1.1417"-1.2597" (29,00mm-31,99mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60329S-125F	3-25/32"	5-3/8"	5-1/2"	YES	7-43/64"	2-9/32"	1-1/4"	1/4"
	5xD	60529S-125F	6-19/64"	7-29/32"	8-1/64"	YES	10-3/16"			1/4"
	7xD	60729S-125F	8-13/16"	10-27/64"	10-17/32"	YES	12-45/64"			1/4"
Helical	Stub	60129H-125F	1-3/8"	2-31/32"	3-5/64"	YES	5-1/4"	2-9/32"	1-1/4"	1/4"
	3xD	60329H-125F	3-25/32"	5-3/8"	5-1/2"	YES	7-43/64"			1/4"
		60329H-125C	3-25/32"	5-3/8"	5-1/2"	NO	7-43/64"			1/4"
	5xD	60529H-125F	6-19/64"	7-29/32"	8-1/64"	YES	10-3/16"			1/4"
		60529H-125C	6-19/64"	7-29/32"	8-1/64"	NO	10-3/16"			1/4"
	7xD	60729H-125F	8-13/16"	10-27/64"	10-17/32"	YES	12-45/64"			1/4"
		60729H-125C	8-13/16"	10-27/64"	10-17/32"	NO	12-45/64"			1/4"
METRIC (mm)	***Thread to BSP & ISO 7-1**									
Straight	3xD	60329S-32FM	96,0	136,2	139,1	YES	196,2	60	32	1/4"*
	5xD	60529S-32FM	159,9	200,1	203,1	YES	260,1			1/4"*
	7xD	60729S-32FM	223,9	264,1	267,1	YES	324,1			1/4"*
Helical	Stub	60129H-32FM	35,0	75,2	78,2	YES	135,2	60	32	1/4"*
	3xD	60329H-32FM	96,0	136,2	139,1	YES	196,2			1/4"*
		60329H-32CM	96,0	136,2	139,1	NO	196,2			1/4"*
	5xD	60529H-32FM	159,9	200,1	203,1	YES	260,1			1/4"*
		60529H-32CM	159,9	200,1	203,1	NO	260,1			1/4"*
	7xD	60729H-32FM	223,9	264,1	267,1	YES	324,1			1/4"*
		60729H-32CM	223,9	264,1	267,1	NO	324,1			1/4"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60129C45-125F	1-29/64"	1-23/32"	2-13/64"	2-31/32"	3-5/64"	5-15/64"	2-9/32"	1-1/4"	TCMT-16T304	7359-IP15-1
METRIC (mm)										
60129C45-32FM	37,1	43,5	55,9	75,2	78,2	137,3	60	32	TCMT-16T304	7359-IP15-1

Replacement TORX Plus Screws

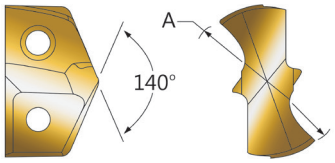
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch: TORX Plus Screw Admissible Tightening Torque	Metric: TORX Plus Screw Admissible Tightening Torque
29	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in.-lbs	690 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS® XT Inserts

32 Series Range: 1.2598"-1.3780" (32,00mm-35,00mm)



GEN3SYS XT Drill Inserts (supplied in 1 piece packages)

A (Diameter)			Availability & Geometry											
Fractional Equivalent	(inch)	(mm)	C1 AM300® Standard	❶	C1 AM300 Low Rake	❶	C2 AM300 Standard	❶	C2 AM300 Cast Iron	❶	C2 AM300 Low Rake	❶	C2 AM300 Stainless	❶
	1.2598	32,00	7C132P-32	❍	7C132P-32LR	▲	7C232P-32	❍	7C232P-32CI	▲	7C232P-32LR	▲	7C232P-32AS	❍
1-17/64"	1.2658	32,15	7C132P-32.15	❍	7C132P-32.15LR	▲	7C232P-32.15	❍	7C232P-32.15CI	▲	7C232P-32.15LR	▲	7C232P-32.15AS	▲
	1.2795	32,50	7C132P-32.5	❍	7C132P-32.5LR	▲	7C232P-32.5	❍	7C232P-32.5CI	▲	7C232P-32.5LR	▲	7C232P-32.5AS	▲
1-9/32"	1.2813	32,55	7C132P-0109	❍	7C132P-0109LR	▲	7C232P-0109	❍	7C232P-0109CI	▲	7C232P-0109LR	▲	7C232P-0109AS	▲
	1.2992	33,00	7C132P-33	❍	7C132P-33LR	❍	7C232P-33	❍	7C232P-33CI	▲	7C232P-33LR	▲	7C232P-33AS	❍
1-5/16"	1.3125	33,34	7C132P-0110	❍	7C132P-0110LR	❍	7C232P-0110	❍	7C232P-0110CI	▲	7C232P-0110LR	▲	7C232P-0110AS	❍
	1.3189	33,50	7C132P-33.5	❍	7C132P-33.5LR	▲	7C232P-33.5	❍	7C232P-33.5CI	▲	7C232P-33.5LR	▲	7C232P-33.5AS	▲
	1.3386	34,00	7C132P-34	❍	7C132P-34LR	▲	7C232P-34	❍	7C232P-34CI	▲	7C232P-34LR	▲	7C232P-34AS	❍
1-11/32"	1.3438	34,13	7C132P-0111	❍	7C132P-0111LR	▲	7C232P-0111	❍	7C232P-0111CI	▲	7C232P-0111LR	▲	7C232P-0111AS	▲
	1.3583	34,50	7C132P-34.5	❍	7C132P-34.5LR	▲	7C232P-34.5	❍	7C232P-34.5CI	▲	7C232P-34.5LR	▲	7C232P-34.5AS	▲
1-3/8"	1.3750	34,93	7C132P-0112	❍	7C132P-0112LR	❍	7C232P-0112	❍	7C232P-0112CI	▲	7C232P-0112LR	▲	7C232P-0112AS	❍
	1.3780	35,00	7C132P-35	❍	7C132P-35LR	▲	7C232P-35	❍	7C232P-35CI	▲	7C232P-35LR	▲	7C232P-35AS	▲

- see page 90 for geometry details

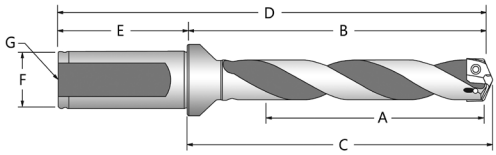
❶ Availability Codes
❍ Stocked
▲ Non-Stocked - 10 work day lead time

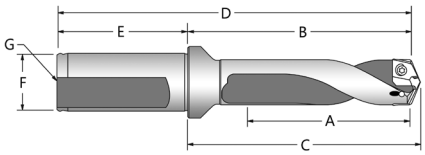
All other coatings are non-stocked standards - 10 day delivery and process fee applies.

Sizes not shown (non-standard diameters) are available in all coatings.
When ordering, please follow the examples shown below:
Decimals = 1.2825" AM300, 32 Series, C2 = 7C232P-1.2825
Metric = 34,20 mm AM300, 32 Series, C2 = 7C232P-34.20

GEN3SYS® XT Holders

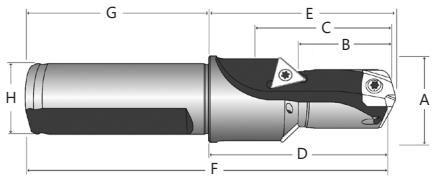
32 Series Range: 1.2598"-1.3780" (32,00mm-35,00mm)





GEN3SYS and GEN3SYS XT Holders

Style	Length	Item Number	A Drill Depth	B Body Length	C Reference Length	Flat	D Overall Length	E Shank Length	F Shank Diameter	G Pipe Tap
Straight	3xD	60332S-150F	4-9/64"	6-29/64"	6-11/32"	YES	8-57/64"	2-11/16"	1-1/2"	1/4"
	5xD	60532S-150F	6-59/64"	8-31/32"	9-7/64"	YES	11-21/32"			1/4"
	7xD	60732S-150F	9-41/64"	11-23/32"	11-55/64"	YES	14-13/32"			1/4"
Helical	Stub	60132H-150F	1-1/2"	3-37/64"	3-45/64"	YES	6-17/64"	2-11/16"	1-1/2"	1/4"
	3xD	60332H-150F	4-9/64"	6-29/64"	6-11/32"	YES	8-57/64"			1/4"
		60332H-150C	4-9/64"	6-29/64"	6-11/32"	NO	8-57/64"			1/4"
	5xD	60532H-150F	6-59/64"	8-31/32"	9-7/64"	YES	11-21/32"			1/4"
		60532H-150C	6-59/64"	8-31/32"	9-7/64"	NO	11-21/32"			1/4"
	7xD	60732H-150F	9-41/64"	11-23/32"	11-55/64"	YES	14-13/32"			1/4"
		60732H-150C	9-41/64"	11-23/32"	11-55/64"	NO	14-13/32"			1/4"
METRIC (mm)	***Thread to BSP & ISO 7-1**									
Straight	3xD	60332S-40FM	105,0	157,7	161,3	YES	227,7	70	40	1/4"*
	5xD	60532S-40FM	175,0	227,7	231,3	YES	297,7			1/4"*
	7xD	60732S-40FM	244,9	297,7	301,3	YES	367,7			1/4"*
Helical	Stub	60132H-40FM	38	90,7	94,2	YES	160,7	70	40	1/4"*
	3xD	60332H-40FM	105,0	157,7	161,3	YES	227,7			1/4"*
		60332H-40CM	105,0	157,7	161,3	NO	227,7			1/4"*
	5xD	60532H-40FM	175,0	227,7	231,3	YES	297,7			1/4"*
		60532H-40CM	175,0	227,7	231,3	NO	297,7			1/4"*
	7xD	60732H-40FM	244,9	297,7	301,3	YES	367,7			1/4"*
		60732H-40CM	244,9	297,7	301,3	NO	367,7			1/4"*



Drill / Chamfer Holders

Item Number	A Step Diameter	B Step Length	C Drill Depth	D Body Length	E Tool Ref. Length	F Overall Length	G Shank Length	H Shank Diameter	Chamfer Insert	Insert Screw (10 pack)
60132C45-150F	1-37/64"	1-57/64"	2-29/64"	3-37/64"	3-23/32"	5-1/4"	2-11/16"	1-1/2"	TCMT-16T304	7359-IP15-1
METRIC (mm)										
60132C45-40FM	40,1	48,0	62,4	90,7	94,2	160,6	70	40	TCMT-16T304	7359-IP15-1

Replacement TORX Plus Screws

Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch	Metric
						TORX Plus Screw Admissible Tightening Torque	TORX Plus Screw Admissible Tightening Torque
32	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in.-lbs	690 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

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

GEN3SYS®

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. For 7xD Diameter tools, see adjustment example at bottom of Speed & Feed chart.

Material	Hardness (BHN)	Grade	SPEED	FEED (IPR)											
				12	13	14	15	16	17	18	20	22	24	26	29
			AM200® SFM	0.4724" to 0.5117"	0.5118" to 0.5508"	0.5512" to 0.5905"	0.5906" to 0.6295"	0.6299" to 0.6689"	0.6693" to 0.7083"	0.7087" to 0.7870"	0.7874" to 0.8657"	0.8661" to 0.9375"	0.9449" to 1.0150"	1.0236" to 1.1250"	1.1417" to 1.2597"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	C1	480	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025
	150-200	C1	415	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.020	0.021	0.022	0.023
	200-250	C1	390	0.009	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	C1	450	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025
	125-175	C1	390	0.011	0.012	0.013	0.014	0.015	0.016	0.018	0.019	0.020	0.021	0.022	0.023
	175-225	C1	355	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022
	225-275	C1	310	0.008	0.009	0.010	0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	C1	390	0.011	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024
	175-225	C1	355	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023
	225-275	C1	310	0.009	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022
	275-325	C1	265	0.008	0.009	0.010	0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020
Alloy Steel 4140, 5140, 8640, etc.	125-175	C1	375	0.011	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024
	175-225	C1	345	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023
	225-275	C1	310	0.009	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022
	275-325	C1	285	0.007	0.008	0.009	0.010	0.011	0.012	0.014	0.015	0.016	0.017	0.018	0.019
	325-375	C1	255	0.006	0.007	0.008	0.009	0.010	0.011	0.013	0.014	0.015	0.016	0.017	0.018
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	C1	230	0.009	0.010	0.011	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019
	300-350	C1	205	0.007	0.008	0.009	0.010	0.011	0.011	0.012	0.013	0.014	0.015	0.016	0.017
	350-400	C1	185	0.006	0.007	0.008	0.009	0.010	0.010	0.011	0.012	0.013	0.014	0.015	0.016
Structural Steel A36, A285, A516, etc.	100-150	C1	355	0.011	0.012	0.013	0.013	0.015	0.015	0.017	0.019	0.021	0.022	0.023	0.024
	150-250	C1	285	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022
	250-350	C1	265	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	C1	255	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.011	0.012	0.013	0.014	0.015
	200-250	C1	195	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.011	0.012	0.013	0.014
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	C2	120	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.011	0.011	0.012	0.012	0.013
	220-310	C2	95	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012
Titanium Alloy	140-220	C2	140	0.006	0.007	0.008	0.008	0.009	0.009	0.010	0.011	0.011	0.012	0.012	0.013
	220-310	C2	110	0.005	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012
Aerospace Alloy S82	185-275	C2	145	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.011
	275-350	C2	120	0.003	0.004	0.005	0.005	0.006	0.006	0.006	0.007	0.008	0.008	0.009	0.010
Stainless Steel 400 Series 416, 420, etc.	185-275	C2	240	0.007	0.007	0.008	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
	275-350	C2	185	0.006	0.006	0.007	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	C2	220	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.010
	185-275	C2	160	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009
Super Duplex Stainless Steel	135-185	C2	125	0.003	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.008	0.008	0.008
	185-275	C2	100	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008
Wear Plate Hardox, AR400, T-1, etc.	400	C1	145	0.005	0.006	0.006	0.007	0.008	0.009	0.010	0.010	0.010	0.011	0.011	0.012
	500	C1	110	0.004	0.005	0.006	0.006	0.007	0.008	0.009	0.010	0.010	0.010	0.010	0.011
	600	C2	80	0.004	0.004	0.005	0.006	0.006	0.007	0.008	0.009	0.009	0.010	0.010	0.010
Hardened Steel	300-400	C1	155	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.010	0.010	0.010	0.010	0.011
	400-500	C1	120	0.004	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.010
SG / Nodular Cast Iron	120-150	C2	480	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.020	0.022	0.022	0.024	0.025
	150-200	C2	450	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.020	0.022	0.022	0.024
	200-220	C2	400	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.020	0.022	0.022
	220-260	C2	350	0.009	0.010	0.011	0.012	0.013	0.015	0.017	0.018	0.019	0.020	0.020	0.022
	260-320	C2	320	0.008	0.009	0.010	0.011	0.012	0.014	0.015	0.017	0.018	0.019	0.020	0.020
Grey / White Iron	120-150	C2	500	0.013	0.014	0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025	0.026
	150-200	C2	480	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025
	200-220	C2	430	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023	0.024
	220-260	C2	370	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
	260-320	C2	335	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022
Cast Aluminum	30	C2	1000	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.024
	180	C2	750	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023
Wrought Aluminum	30	C2	1400	0.015	0.016	0.017	0.018	0.019	0.020	0.022	0.023	0.024	0.026	0.027	0.029
	180	C2	1000	0.014	0.015	0.016	0.017	0.018	0.019	0.021	0.022	0.023	0.025	0.026	0.028
Aluminum Bronze	100-200	C2	360	0.011	0.012	0.012	0.013	0.014	0.015	0.015	0.016	0.017	0.018	0.019	0.019
	200-250	C2	295	0.009	0.010	0.011	0.012	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.018
Brass	100	C2	660	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.020	0.022	0.023	0.024	0.026
Copper	60	C2	425	0.003	0.004	0.005	0.006	0.006	0.007	0.008	0.008	0.008	0.010	0.010	0.010

.80 Adjustment for 7 x Diameter / Example: 200 SFM • 0.80 = 160 SFM 0.008 IPR • 0.80 = 0.0064 IPR

Recommended Speed and Feed Example: If recommended speed and feed is 200 SFM and 0.008 IPR for a 3 x diameter or 5 x diameter holder, then the speed and feed using a 7 x diameter holder in the same application would be 160 SFM and 0.0064 IPR.

GEN3SYS®

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. For 7xD Diameter tools, see adjustment example at bottom of Speed & Feed chart.

Material	Hardness (BHN)	Grade	SPEED	FEED (mm/rev)											
				12	13	14	15	16	17	18	20	22	24	26	29
			AM200® M/mm	12,00mm to 12,99mm	13,00mm to 13,99mm	14,00mm to 14,99mm	15,00mm to 15,99mm	16,00mm to 16,99mm	17,00mm to 17,99mm	18,00mm to 19,99mm	20,00mm to 21,99mm	22,00mm to 23,99mm	24,00mm to 25,99mm	26,00mm to 28,99mm	29,00mm to 31,99mm
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	K35	146	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,58	0,61	0,64
	150-200	K35	127	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,51	0,53	0,56	0,58
	200-250	K35	119	0,23	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	K35	137	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,58	0,61	0,64
	125-175	K35	119	0,28	0,30	0,33	0,36	0,38	0,41	0,46	0,48	0,51	0,53	0,56	0,58
	175-225	K35	108	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,46	0,48	0,51	0,53	0,56
	225-275	K35	95	0,20	0,23	0,25	0,28	0,30	0,33	0,38	0,41	0,43	0,46	0,48	0,51
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	K35	119	0,28	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61
	175-225	K35	108	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58
	225-275	K35	95	0,23	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56
	275-325	K35	81	0,20	0,23	0,25	0,28	0,30	0,33	0,38	0,41	0,43	0,46	0,48	0,51
Alloy Steel 4140, 5140, 8640, etc.	125-175	K35	114	0,28	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61
	175-225	K35	105	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58
	225-275	K35	95	0,23	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56
	275-325	K35	87	0,18	0,20	0,23	0,25	0,28	0,30	0,36	0,38	0,41	0,43	0,46	0,48
	325-375	K35	78	0,15	0,18	0,20	0,23	0,25	0,28	0,33	0,36	0,38	0,41	0,43	0,46
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	K35	70	0,23	0,25	0,28	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,46	0,48
	300-350	K35	63	0,18	0,20	0,23	0,25	0,28	0,28	0,30	0,33	0,36	0,38	0,41	0,43
	350-400	K35	56	0,15	0,18	0,20	0,23	0,25	0,25	0,28	0,30	0,33	0,36	0,38	0,41
Structural Steel A36, A285, A516, etc.	100-150	K35	108	0,28	0,30	0,33	0,33	0,38	0,38	0,43	0,48	0,53	0,56	0,58	0,61
	150-250	K35	87	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56
	250-350	K35	81	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,52
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	K35	78	0,18	0,18	0,20	0,20	0,23	0,23	0,25	0,28	0,30	0,33	0,36	0,38
	200-250	K35	59	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,25	0,28	0,30	0,33	0,36
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	K20	37	0,18	0,18	0,20	0,20	0,23	0,23	0,25	0,28	0,28	0,30	0,30	0,33
	220-310	K20	29	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,25	0,25	0,28	0,28	0,30
Titanium Alloy	140-220	K20	42	0,15	0,17	0,20	0,20	0,22	0,22	0,25	0,28	0,28	0,30	0,30	0,33
	220-310	K20	33	0,12	0,15	0,17	0,17	0,20	0,20	0,22	0,25	0,25	0,28	0,28	0,30
Aerospace Alloy S82	185-275	K20	45	0,10	0,12	0,14	0,15	0,16	0,18	0,18	0,20	0,22	0,24	0,26	0,28
	275-350	K20	37	0,09	0,10	0,12	0,14	0,15	0,16	0,16	0,18	0,20	0,22	0,24	0,26
Stainless Steel 400 Series 416, 420, etc.	185-275	K20	73	0,18	0,18	0,20	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,41
	275-350	K20	56	0,15	0,15	0,18	0,18	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	K20	64	0,13	0,13	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,23	0,25	0,25
	185-275	K20	47	0,10	0,10	0,13	0,13	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,23
Super Duplex Stainless Steel	135-185	K20	38	0,07	0,09	0,10	0,11	0,12	0,13	0,15	0,16	0,18	0,20	0,20	0,22
	185-275	K20	30	0,06	0,08	0,09	0,10	0,11	0,12	0,14	0,15	0,16	0,18	0,18	0,20
Wear Plate Hardox, AR400, T-1, etc.	400	K35	45	0,13	0,15	0,17	0,19	0,21	0,23	0,25	0,27	0,27	0,29	0,29	0,31
	500	K35	37	0,11	0,13	0,15	0,17	0,19	0,21	0,23	0,25	0,25	0,27	0,27	0,29
	600	K20	25	0,10	0,11	0,13	0,15	0,17	0,19	0,21	0,23	0,23	0,25	0,25	0,27
Hardened Steel	300-400	K35	47	0,13	0,15	0,17	0,19	0,21	0,22	0,23	0,25	0,25	0,27	0,27	0,29
	400-500	K35	37	0,11	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,23	0,25	0,25	0,27
SG / Nodular Cast Iron	120-150	K20	146	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61	0,64
	150-200	K20	138	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58	0,61
	200-220	K20	123	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56	0,58
	220-260	K20	108	0,23	0,25	0,28	0,30	0,33	0,38	0,43	0,46	0,48	0,51	0,53	0,56
	260-320	K20	97	0,21	0,23	0,25	0,28	0,30	0,36	0,38	0,43	0,46	0,48	0,51	0,53
Grey / White Iron	120-150	K20	152	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,58	0,61	0,64	0,66
	150-200	K20	146	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61	0,64
	200-220	K20	131	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58	0,61
	220-260	K20	113	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56	0,58
	260-320	K20	102	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,46	0,48	0,51	0,53	0,56
Cast Aluminum	30	K20	300	0,33	0,35	0,38	0,40	0,43	0,45	0,48	0,50	0,53	0,56	0,58	0,61
	180	K20	225	0,30	0,33	0,35	0,38	0,40	0,43	0,45	0,48	0,51	0,53	0,56	0,58
Wrought Aluminum	30	K20	425	0,38	0,40	0,43	0,45	0,48	0,50	0,55	0,58	0,61	0,66	0,68	0,74
	180	K20	300	0,35	0,38	0,40	0,43	0,45	0,48	0,50	0,55	0,58	0,63	0,66	0,71
Aluminum Bronze	100-200	K20	110	0,28	0,30	0,32	0,34	0,36	0,38	0,40	0,42	0,44	0,46	0,48	0,48
	200-250	K20	90	0,24	0,26	0,28	0,30	0,32	0,34	0,36	0,38	0,42	0,43	0,46	0,46
Brass	100	K20	200	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,60	0,63	0,66
Copper	60	K20	130	0,08	0,09	0,11	0,13	0,15	0,16	0,18	0,20	0,20	0,22	0,25	0,25

.80 Adjustment for 7 x Diameter / Example: 61 M/min • 0.80 = 48,8 M/min 0,20 mm/rev • 0.80 = 0,16 mm/rev

Recommended Speed and Feed Example: If recommended speed and feed is 61M/min and 0.20 mm/rev for a 3 x diameter or 5 x diameter holder, then the speed and feed using a 7 x diameter holder in the same application would be 48,8 M/min and 0,16 mm/rev.

GEN3SYS® XT

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. For 7xD Diameter tools, see adjustment example at bottom of Speed & Feed chart.

Material	Hardness (BHN)	Grade	SPEED	FEED (IPR)													
				11	12	13	14	15	16	17	18	20	22	24	26	29	32
			AM300° SFM	0.4331" to 0.4723"	0.4724" to 0.5117"	0.5118" to 0.5508"	0.5512" to 0.5905"	0.5906" to 0.6295"	0.6299" to 0.6689"	0.6693" to 0.7083"	0.7087" to 0.7870"	0.7874" to 0.8657"	0.8661" to 0.9375"	0.9449" to 1.0150"	1.0236" to 1.1250"	1.1417" to 1.2597"	1.2598" to 1.3780"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	C1	550	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025	0.026
	150-200	C1	475	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.020	0.021	0.022	0.023	0.024
	200-250	C1	425	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	C1	520	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025	0.026
	125-175	C1	450	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.018	0.019	0.020	0.021	0.022	0.023	0.024
	175-225	C1	410	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023
	225-275	C1	350	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	C1	450	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025
	175-225	C1	410	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023	0.024
	225-275	C1	350	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
	275-325	C1	300	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.021
Alloy Steel 4140, 5140, 8640, etc.	125-175	C1	415	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025
	175-225	C1	380	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023	0.024
	225-275	C1	340	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023
	275-325	C1	310	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.014	0.015	0.016	0.017	0.018	0.019	0.020
	325-375	C1	280	0.006	0.006	0.007	0.008	0.009	0.010	0.011	0.013	0.014	0.015	0.016	0.017	0.018	0.019
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	C1	250	0.008	0.009	0.010	0.011	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020
	300-350	C1	225	0.006	0.007	0.008	0.009	0.010	0.011	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018
	350-400	C1	200	0.005	0.006	0.007	0.008	0.009	0.010	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017
Structural Steel A36, A285, A516, etc.	100-150	C1	410	0.010	0.011	0.012	0.013	0.013	0.015	0.015	0.017	0.019	0.021	0.022	0.023	0.024	0.025
	150-250	C1	330	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022	0.023
	250-350	C1	305	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.021	0.022
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	C1	265	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
	200-250	C1	205	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	C2	130	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.011	0.011	0.012	0.012	0.013	0.014
	220-310	C2	100	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012	0.013
Titanium Alloy	140-220	C2	140	0.005	0.006	0.007	0.008	0.008	0.009	0.009	0.010	0.011	0.011	0.012	0.012	0.013	0.014
	220-310	C2	110	0.004	0.005	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.010	0.011	0.011	0.012	0.012
Aerospace Alloy S82	185-275	C2	165	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.011	0.012
	275-350	C2	135	0.003	0.003	0.004	0.005	0.005	0.006	0.006	0.006	0.007	0.008	0.008	0.009	0.010	0.011
Stainless Steel 400 Series 416, 420, etc.	185-275	C2	240	0.006	0.007	0.007	0.008	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016	0.017
	275-350	C2	182	0.005	0.006	0.006	0.007	0.007	0.008	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.016
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	C2	220	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.011
	185-275	C2	160	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010
Super Duplex Stainless Steel	135-185	C2	125	0.003	0.003	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.008	0.008	0.008	0.010
	185-275	C2	100	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008
Wear Plate Hardox, AR400, T-1, etc.	400	C1	160	0.005	0.005	0.006	0.006	0.007	0.008	0.009	0.010	0.010	0.010	0.011	0.011	0.012	0.012
	500	C1	130	0.004	0.004	0.005	0.006	0.006	0.007	0.008	0.009	0.010	0.010	0.010	0.010	0.011	0.011
	600	C2	90	0.004	0.004	0.004	0.005	0.006	0.006	0.007	0.008	0.009	0.009	0.010	0.010	0.010	0.010
Hardened Steel	300-400	C1	170	0.005	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.010	0.010	0.010	0.010	0.011	0.011
	400-500	C1	130	0.004	0.004	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.010	0.010
SG / Nodular Cast Iron	120-150	C2	550	0.010	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.020	0.022	0.022	0.024	0.025	0.026
	150-200	C2	520	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.019	0.020	0.020	0.022	0.022	0.024	0.024
	200-220	C2	465	0.008	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.020	0.022	0.022	0.023
	220-260	C2	405	0.008	0.009	0.010	0.011	0.012	0.013	0.015	0.017	0.018	0.019	0.020	0.020	0.022	0.022
	260-320	C2	365	0.008	0.008	0.009	0.010	0.011	0.012	0.014	0.015	0.017	0.018	0.019	0.020	0.020	0.021
Grey / White Iron	120-150	C2	575	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.021	0.022	0.023	0.024	0.025	0.026	0.027
	150-200	C2	550	0.011	0.012	0.013	0.014	0.015	0.016	0.018	0.020	0.021	0.022	0.023	0.024	0.025	0.026
	200-220	C2	495	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.020	0.020	0.021	0.022	0.023	0.024	0.025
	220-260	C2	425	0.009	0.010	0.011	0.012	0.013	0.014	0.016	0.018	0.019	0.020	0.021	0.022	0.023	0.024
	260-320	C2	380	0.009	0.010	0.011	0.012	0.013	0.014	0.015	0.017	0.018	0.019	0.020	0.021	0.022	0.023
Cast Aluminum	30	C2	1150	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.024	0.025
	180	C2	860	0.011	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.019	0.020	0.021	0.022	0.023	0.023
Wrought Aluminum	30	C2	1600	0.013	0.015	0.016	0.017	0.018	0.019	0.020	0.022	0.023	0.024	0.026	0.027	0.029	0.030
	180	C2	1150	0.012	0.014	0.015	0.016	0.017	0.018	0.019	0.021	0.022	0.023	0.025	0.026	0.028	0.029
Aluminum Bronze	100-200	C2	415	0.010	0.011	0.012	0.012	0.013	0.014	0.015	0.015	0.016	0.017	0.018	0.019	0.019	0.019
	200-250	C2	335	0.008	0.009	0.010	0.011	0.012	0.012	0.013	0.014	0.015	0.016	0.017	0.018	0.018	0.019
Brass	100	C2	755	0.010	0.012	0.013	0.014	0.015	0.016	0.017	0.019	0.020	0.022	0.023	0.024	0.026	0.026
Copper	60	C2	490	0.003	0.003	0.003	0.004	0.005	0.006	0.006	0.007	0.008	0.008	0.008	0.010	0.010	0.011

.80 Adjustment for 7 x Diameter / Example: 200 SFM • 0.80 = 160 SFM 0.008 IPR • 0.80 = 0.0064 IPR

Recommended Speed and Feed Example: If recommended speed and feed is 200 SFM and 0.008 IPR for a 3 x diameter or 5 x diameter holder, then the speed and feed using a 7 x diameter holder in the same application would be 160 SFM and 0.0064 IPR.

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GEN3SYS® XT

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. For 7xD Diameter tools, see adjustment example at bottom of Speed & Feed chart.

Material	Hardness (BHN)	Grade	SPEED	FEED (mm/rev)													
				11	12	13	14	15	16	17	18	20	22	24	26	29	32
			AM300® M/min	11,00mm to 11,99mm	12,00mm to 12,99mm	13,00mm to 13,99mm	14,00mm to 14,99mm	15,00mm to 15,99mm	16,00mm to 16,99mm	17,00mm to 17,99mm	18,00mm to 18,99mm	20,00mm to 21,99mm	22,00mm to 23,99mm	24,00mm to 25,99mm	26,00mm to 28,99mm	29,00mm to 31,99mm	32,00mm to 35,00mm
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	K35	168	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,58	0,61	0,64	0,66
	150-200	K35	145	0,25	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,51	0,53	0,56	0,58	0,61
	200-250	K35	130	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56	0,58
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	K35	158	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,58	0,61	0,64	0,66
	125-175	K35	137	0,25	0,28	0,30	0,33	0,36	0,38	0,41	0,46	0,48	0,51	0,53	0,56	0,58	0,61
	175-225	K35	125	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,42	0,46	0,48	0,51	0,53	0,56	0,58
	225-275	K35	107	0,18	0,20	0,23	0,25	0,28	0,30	0,33	0,38	0,41	0,42	0,46	0,48	0,51	0,53
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	K35	137	0,25	0,28	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61	0,64
	175-225	K35	125	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58	0,61
	225-275	K35	107	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56	0,58
	275-325	K35	91	0,18	0,20	0,23	0,25	0,28	0,30	0,33	0,38	0,41	0,43	0,46	0,48	0,51	0,53
Alloy Steel 4140, 5140, 8640, etc.	125-175	K35	126	0,25	0,28	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61	0,64
	175-225	K35	116	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58	0,61
	225-275	K35	104	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56	0,58
	275-325	K35	94	0,15	0,18	0,20	0,23	0,25	0,28	0,30	0,36	0,38	0,41	0,43	0,46	0,48	0,51
	325-375	K35	85	0,15	0,15	0,18	0,20	0,23	0,25	0,28	0,33	0,36	0,38	0,41	0,43	0,46	0,48
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	K35	76	0,20	0,23	0,25	0,28	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,46	0,48	0,51
	300-350	K35	69	0,15	0,18	0,20	0,23	0,25	0,28	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,46
	350-400	K35	61	0,13	0,18	0,18	0,20	0,23	0,25	0,25	0,28	0,30	0,33	0,36	0,38	0,41	0,43
Structural Steel A36, A285, A516, etc.	100-150	K35	125	0,25	0,28	0,30	0,33	0,33	0,38	0,38	0,43	0,48	0,53	0,56	0,58	0,61	0,64
	150-250	K35	101	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58
	250-350	K35	93	0,18	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	K35	81	0,15	0,18	0,18	0,20	0,20	0,23	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,41
	200-250	K35	62	0,13	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	K20	40	0,15	0,18	0,18	0,20	0,20	0,23	0,23	0,25	0,28	0,28	0,30	0,30	0,33	0,36
	220-310	K20	30	0,13	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,25	0,25	0,28	0,28	0,30	0,33
Titanium Alloy	140-220	K20	43	0,13	0,15	0,18	0,20	0,20	0,23	0,23	0,25	0,28	0,28	0,30	0,30	0,33	0,33
	220-310	K20	34	0,10	0,13	0,15	0,18	0,18	0,20	0,20	0,23	0,25	0,25	0,28	0,28	0,30	0,30
Aerospace Alloy S82	185-275	K20	50	0,10	0,10	0,12	0,14	0,15	0,16	0,18	0,18	0,20	0,22	0,24	0,26	0,28	0,31
	275-350	K20	41	0,09	0,09	0,10	0,12	0,14	0,15	0,16	0,16	0,18	0,20	0,22	0,24	0,26	0,29
Stainless Steel 400 Series 416, 420, etc.	185-275	K20	73	0,15	0,18	0,18	0,20	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,41	0,43
	275-350	K20	56	0,13	0,15	0,15	0,18	0,18	0,20	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,41
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	K20	67	0,10	0,13	0,13	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,23	0,25	0,25	0,28
	185-275	K20	49	0,08	0,10	0,10	0,13	0,13	0,15	0,15	0,18	0,18	0,20	0,20	0,23	0,23	0,25
Super Duplex Stainless Steel	135-185	K20	38	0,07	0,07	0,09	0,10	0,11	0,12	0,13	0,15	0,16	0,18	0,20	0,20	0,22	0,25
	185-275	K20	30	0,06	0,06	0,08	0,09	0,10	0,11	0,12	0,14	0,15	0,16	0,18	0,18	0,20	0,22
Wear Plate Hardox, AR400, T-1, etc.	400	K35	50	0,13	0,13	0,15	0,17	0,19	0,21	0,23	0,25	0,27	0,27	0,29	0,29	0,31	0,31
	500	K35	40	0,11	0,11	0,13	0,15	0,17	0,19	0,21	0,23	0,25	0,25	0,27	0,27	0,29	0,29
	600	K20	27	0,10	0,10	0,11	0,13	0,15	0,17	0,19	0,21	0,23	0,23	0,25	0,25	0,25	0,27
Hardened Steel	300-400	K35	51	0,13	0,13	0,15	0,17	0,19	0,21	0,22	0,23	0,25	0,25	0,27	0,27	0,29	0,29
	400-500	K35	40	0,11	0,11	0,13	0,15	0,17	0,19	0,20	0,21	0,23	0,23	0,25	0,25	0,27	0,27
SG / Nodular Cast Iron	120-150	K20	168	0,27	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61	0,64	0,66
	150-200	K20	159	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,48	0,51	0,53	0,56	0,58	0,61	0,63
	200-220	K20	141	0,22	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56	0,58	0,60
	220-260	K20	124	0,20	0,23	0,25	0,28	0,30	0,33	0,38	0,43	0,46	0,48	0,51	0,53	0,56	0,58
	260-320	K20	112	0,20	0,21	0,23	0,25	0,28	0,30	0,36	0,38	0,43	0,46	0,48	0,51	0,53	0,55
Grey / White Iron	120-150	K20	175	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,58	0,61	0,64	0,66	0,69
	150-200	K20	168	0,28	0,30	0,33	0,36	0,38	0,41	0,46	0,51	0,53	0,56	0,58	0,61	0,64	0,66
	200-220	K20	151	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,51	0,51	0,53	0,56	0,58	0,61	0,64
	220-260	K20	130	0,23	0,25	0,28	0,30	0,33	0,36	0,41	0,46	0,48	0,51	0,53	0,56	0,58	0,61
	260-320	K20	116	0,23	0,25	0,28	0,30	0,33	0,36	0,38	0,43	0,46	0,48	0,51	0,53	0,56	0,58
Cast Aluminum	30	K20	351	0,30	0,33	0,36	0,38	0,41	0,43	0,46	0,48	0,51	0,53	0,56	0,58	0,61	0,64
	180	K20	262	0,28	0,30	0,33	0,36	0,38	0,41	0,43	0,46	0,48	0,51	0,53	0,56	0,58	0,58
Wrought Aluminum	30	K20	488	0,33	0,38	0,41	0,43	0,46	0,48	0,51	0,53	0,56	0,61	0,66	0,69	0,74	0,76
	180	K20	351	0,30	0,36	0,38	0,41	0,43	0,46	0,48	0,53	0,56	0,58	0,64	0,66	0,71	0,74
Aluminum Bronze	100-200	K20	126	0,26	0,28	0,30	0,32	0,34	0,36	0,38	0,40	0,42	0,44	0,46	0,48	0,48	0,50
	200-250	K20	103	0,22	0,24	0,26	0,28	0,30	0,32	0,34	0,36	0,38	0,42	0,46	0,46	0,46	0,48
Brass	100	K20	230	0,29	0,30	0,33	0,36	0,38	0,41	0,43	0,48	0,53	0,56	0,60	0,63	0,66	0,66
Copper	60	K20	149	0,07	0,08	0,09	0,11	0,13	0,15	0,16	0,18	0,20	0,20	0,22	0,25	0,25	0,28

.80 Adjustment for 7 x Diameter / Example: 61 M/min • 0.80 = 48,8 M/min 0,20 mm/rev • 0.80 = 0,16 mm/rev

Recommended Speed and Feed Example: If recommended speed and feed is 61M/min and 0.20 mm/rev for a 3 x diameter or 5 x diameter holder, then the speed and feed using a 7 x diameter holder in the same application would be 48,8 M/min and 0,16 mm/rev.

GEN3SYS® and GEN3SYS® XT

Technical Information - Inch

TAP DRILL INFORMATION

AMERICAN - Unified Inch Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Prob Mean Oversize	Prob Hole Size	** Prob % Thread
1/2 - 20	29/64"	.4531"	72%	.003"	.4561"	68%
9/16 - 12	12.0 mm	.4724"	72%	.003"	.4754"	69%
	31/64"	.4844"	83%	.003"	.4874"	80%
9/16 - 18	1/2"	.5000"	87%	.003"	.5030"	82%
	13.0 mm	.5118"	70%	.003"	.5148"	66%
	31/64"	.5156"	65%	.003"	.5186"	61%
5/8 - 11	17/32"	.5313"	79%	.003"	.5343"	77%
5/8 - 12	35/64"	.5469"	72%	.003"	.5499"	69%
5/8 - 18	9/16"	.5625"	87%	.003"	.5655"	82%
	14.5 mm	.5709"	75%	.003"	.5739"	71%
	37/64"	.5781"	65%	.003"	.5811"	61%
11/16 - 12	39/64"	.6094"	72%	.003"	.6124"	69%
3/4 - 10	41/64"	.6406"	84%	.003"	.6436"	82%
	16.5 mm	.6496"	77%	.003"	.6526"	75%
	21/32"	.6563"	72%	.003"	.6593"	70%
3/4 - 12	43/64"	.6719"	72%	.003"	.6749"	69%
3/4 - 16	11/16"	.6875"	77%	.003"	.6905"	73%
	17.5 mm	.6890"	75%	.003"	.6920"	71%
7/8 - 9	49/64"	.7656"	76%	.003"	.7686"	74%
	25/32"	.7813"	65%	.003"	.7843"	63%
7/8 - 14	51/64"	.7969"	84%	.003"	.7999"	81%
	13/16"	.8125"	67%	.003"	.8155"	64%
15/16 - 12	55/64"	.8594"	72%	.003"	.8624"	69%
15/16 - 20	57/64"	.8906"	72%	.003"	.8936"	68%
1 - 8	22.0 mm	.8661"	82%	.003"	.8691"	81%
	7/8"	.8750"	77%	.003"	.8780"	75%
	57/64"	.8906"	67%	.003"	.8936"	65%
1 - 12	29/32"	.9063"	87%	.003"	.9093"	84%
	59/64"	.9219"	72%	.003"	.9249"	69%
1 - 14	15/16"	.9375"	67%	.003"	.9405"	64%
1-1/8 - 12	1-1/32"	1.0313"	87%	.003"	1.0343"	84%
	1-3/64"	1.0469"	72%	.003"	1.0499"	69%
1-1/4 - 7	1-7/64"	1.1094"	76%	.003"	1.1124"	74%

Taper Pipe Thread (NPT)						
Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Prob Mean Oversize	Prob Hole Size	** Prob % Thread
1/4 - 18	7/16"	.4375"	N/A	.003"	.4405"	N/A
3/8 - 18	9/16"	.5625"	N/A	.003"	.5655"	N/A
1/2 - 14	45/64"	.7031"	N/A	.003"	.7061"	N/A
3/4 - 14	29/32"	.9063"	N/A	.003"	.9093"	N/A

Based on nominal tap drill diameter. ** Based on .003" probable mean oversize.
To calculate percent of full thread for a given hole diameter:

$$\% \text{ Thread} = \#\text{ of Threads per inch} * \frac{\left(\text{Basic Major Dia. of thread (inch)} - \text{Drill Hole Size (inch)}\right)}{.0130}$$

The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirements.

The .003" probable mean oversize hole condition is based on optimum cutting conditions. Probable % of full thread may vary based on less ideal cutting conditions.

Formulas

1. $\text{RPM} = \frac{3.82 \bullet \text{SFM}}{\text{DIA}}$

where:
RPM = revolutions per minute (rev/min)
SFM = speed (ft/min)
DIA = diameter of drill (in)

2. $\text{IPM} = \text{RPM} \bullet \text{IPR}$

where:
IPM = inches per minute (in/min)
RPM = revolutions per minute (rev/min)
IPR = feed rate (in/rev)

3. $\text{SFM} = \text{RPM} \bullet 0.262 \bullet \text{DIA}$

where:
SFM = speed (ft/min)
RPM = revolutions per minute (rev/min)
DIA = diameter of drill (in)

4. $\text{Thrust} = 153{,}700 \bullet \text{IPR} \bullet \text{DIA} \bullet \text{Km}$

where:
Thrust = axial thrust (lbs)
IPR = feed rate (in/rev)
DIA = diameter of drill (in)
Km = specific cutting energy (lbs/in^2)

5. $\text{Tool Power} = .6911 \bullet \text{IPR} \bullet \text{RPM} \bullet \text{Km} \bullet \text{DIA}^2$

where:
Tool Power = tool power (HP)
IPR = feed rate (in/rev)
RPM = revolutions per minute (rev/min)
Km = specific cutting energy (lbs/in^2)
DIA = diameter of drill (in)

MATERIAL CONSTANTS

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

Note: The above table and equations are found in the Machinery's Handbook. Permission to simplify and print the equations is granted by the Editor of the Machinery's Handbook.

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TAP DRILL INFORMATION

Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Prob Mean Oversize	Prob Hole Size	** Prob % Thread
12 X 1,25	27/64"	.4219"	79%	0,075 mm	10,79 mm	74%
	10,8 mm	.4252"	74%	0,075 mm	10,88 mm	69%
14 X 2,0	15/32"	.4688"	81%	0,075 mm	11,98 mm	78%
	12,0 mm	.4724"	77%	0,075 mm	12,08 mm	74%
14 X 1,5	12,5 mm	.4921"	77%	0,075 mm	12,58 mm	73%
16 X 2,0	14,0 mm	.5512"	77%	0,075 mm	14,08 mm	74%
16 X 1,5	14,5 mm	.5709"	77%	0,075 mm	14,58 mm	73%
	37/64"	.5781"	68%	0,075 mm	14,76 mm	64%
18 X 2,5	15,5 mm	.6102"	77%	0,075 mm	15,58 mm	75%
18 X 1,5	16,5 mm	.6496"	77%	0,075 mm	16,58 mm	73%
	21/32"	.6563"	68%	0,075 mm	16,75 mm	64%
20 X 2,5	11/16"	.6875"	78%	0,075 mm	17,54 mm	76%
	17,5 mm	.6890"	77%	0,075 mm	17,58 mm	74%
20 X 1,5	18,5 mm	.7283"	77%	0,075 mm	18,58 mm	73%
	47/64"	.7344"	69%	0,075 mm	18,66 mm	65%
22 X 2,5	49/64"	.7656"	79%	0,075 mm	19,52 mm	76%
	19,5 mm	.7677"	77%	0,075 mm	19,58 mm	75%
22 X 1,5	20,5 mm	.8071"	77%	0,075 mm	20,58 mm	73%
	13/16"	.8125"	70%	0,075 mm	20,71 mm	66%
24 X 3	13/16"	.8125"	86%	0,075 mm	20,71 mm	84%
	21,0 mm	.8268"	76%	0,075 mm	21,08 mm	75%
24 X 2	22,0 mm	.8661"	77%	0,075 mm	22,08 mm	74%
	7/8"	.8750"	68%	0,075 mm	22,30 mm	65%
27 X 3	24,0 mm	.9449"	77%	0,075 mm	24,08 mm	75%

Taper Pipe Thread (BSP & ISO 7-1)						
Tap Size	Tap Drill Size	Decimal Equivalent	* Theo % Thread	Prob Mean Oversize	Prob Hole Size	** Prob % Thread
1/4-19	7/16"	.4375"	N/A	0,075 mm	11,19 mm	N/A
3/8-19	37/64"	.5781"	N/A	0,075 mm	14,76 mm	N/A
1/2-14	23/32"	.7188"	N/A	0,075 mm	18,33 mm	N/A
3/4-14	15/16"	.9375"	N/A	0,075 mm	23,89 mm	N/A

Based on nominal tap drill diameter. ** Based on 0,075 mm probable mean oversize.
To calculate percent of full thread for a given hole diameter:

$$\% \text{ Thread} = \frac{76{,}93}{\text{Pitch (mm)}} * \left(\text{Basic Major Diameter(mm)} - \text{Drill Hole Size (mm)} \right)$$

Formulas

1. $\text{RPM} = \dfrac{318{,}47 \bullet \text{M/min}}{\text{DIA}}$

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 • Km
where:
Thrust = axial thrust in newtons (N)
mm/rev = feed rate (mm/rev)
DIA = diameter of drill (mm)
Km = specific cutting energy (bar)

5. Tool Power = $\dfrac{(\text{mm/rev}) \bullet \text{RPM} \bullet \text{Km} \bullet \text{DIA}^2}{218604{,}8}$

where:
Tool Power = tool power (HP)
mm/rev = feed rate (mm/rev)
RPM = revolutions per minute (rev/min)
Km = specific cutting energy (bar)
DIA = diameter of drill (mm)

MATERIAL CONSTANTS

Type of Material	Km (kPa)
Plain Carbon and Alloy Steel	
85 - 200 BHN	5,45
200 - 275 BHN	6,48
275 - 375 BHN	6,89
375 - 425 BHN	7,93
High Temperature Alloys	9,93
Stainless Steel:	
135-275 BHN	6,48
30 - 45 RC	7,45
Copper Alloy	
20 - 80 RB	2,96
80 - 100 RB	4,96
Titanium Alloy	4,96
Aluminum Alloy	1,52
Magnesium Alloy	1,10
Cast Iron	
100 - 200 BHN	3,45
200 - 300 BHN	7,45

Note: The above table and equations are found in the Machinery's Handbook. Permission to simplify and print the equations is granted by the Editor of the Machinery's Handbook.

GEN3SYS® and GEN3SYS® XT

Coolant Recommendations - Inch and Metric

IMPORTANT: The coolant pressure and flow rate recommendations below represent a good approximation to obtain optimum tool life and chip evacuation at Allied recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the GEN3SYS High Penetration 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.

Stub, 3xD, 5xD, Holder Lengths

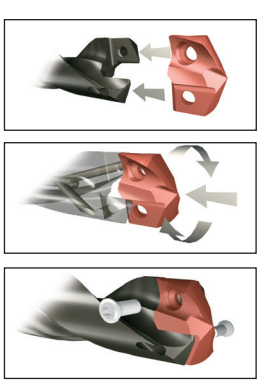
Series	Pressure		Flow Rate	
	PSI	BAR	GPM	LPM
11 mm	500	35	5	19
12 mm	500	35	5	19
13 mm	475	33	5.5	21
14 mm	450	32	6	23
15 mm	430	30	7	27
16 mm	410	29	8	31
17 mm	385	27	8.5	33
18 mm	360	25	9	35
20 mm	300	21	10	38
22 mm	300	21	11	42
24 mm	300	21	11	42
26 mm	300	21	12	46
29 mm	300	21	12	46
32 mm	300	21	12	46

7xD Holder Length

Series	Pressure		Flow Rate	
	PSI	BAR	GPM	LPM
11 mm	750	53	7,5	29
12 mm	750	53	7,5	29
13 mm	713	50	8,25	32
14 mm	675	48	9	35
15 mm	645	45	10,5	40
16 mm	615	44	12	46
17 mm	578	40	12,75	49
18 mm	540	38	13,5	52
20 mm	450	32	15	57
22 mm	450	32	16,5	63
24 mm	450	32	16,5	63
26 mm	450	32	18	69
29 mm	450	32	18	69
32 mm	450	32	18	69

Assembly of GEN3SYS and GEN3SYS XT Tools:

1. Align the flats on the GEN3SYS or GEN3SYS XT Drill Insert with the flats on the ears of the GEN3SYS Holder.
2. Slide the GEN3SYS or GEN3SYS XT Drill Insert into the precision ground locating pocket on the GEN3SYS Holder. The drill insert should not be turned, rotated, or twisted for locking purposes. The holder pocket and locating pads on the drill insert assure optimum fit and repeatability.
3. Place a generous amount of E-Z Break (provided in the packaging) onto the supplied TORX Plus Screws.
4. 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.



GEN3SYS® and GEN3SYS® XT

Troubleshooting Guide

	Potential Problem																			
	Accelerated corner wear	Barber pole	Bell mouth hole	Insert chipping	Blue chips	Build 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	Oversize hole	Poor hole finish	Poor tool life	Power spikes - Load meter	Retract spiral	
Setup Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	**Possible Solutions**
Worn or misaligned spindle (lathe, screw machine, chucker)	1		3				7		9	10	11		13			16	17			20	• Align spindle and turret or tailstock. • Repair spindle.
Use of low rigidity machine tools.		2	3	4			7		9	10			13	14						20	• Reduce penetration rate to fall within the physical limits of the machine or setup (**NOTICE:** Do not reduce feed below threshold of good chip formation.)
Poor work piece support		2		4			7			10	11				15		17			20	• Provide additional support for the work piece. Reduce penetration rate to fall within the physical limits of the machine or setup (**NOTICE:** Do not reduce feed below threshold of good chip formation.)
Flood coolant, low coolant pressure or low coolant volume	1				5	6		8		10		12				16	17	18	19		• 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.
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 micro-structure 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 micro-structure. Anneal or normalize parts to improve micro-structure for machining. • Reduce feeds. (**NOTICE:** Do not reduce feed below threshold of good chip formation.)
Poor chip control.								8		10	11		13			16	17	18	19		• Increase feed to recommended levels. Contact Allied 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 or cored holes.	1			4			7						13					18			• Spot hole with short tool of same or greater included angle as GEN3SYS Drill Insert. • Reduce feed. (**NOTICE:** Do not reduce feed below threshold of good chip formation.) If possible, drill from solid.

GEN3SYS® and GEN3SYS® XT

Geometry and Substrate Options

C1 Carbide (K35)
The primary application for this carbide grade is in steel applications. In addition to exceptional wear resistance, C1 carbide is considerably more durable when compared to other carbide grades. The higher toughness allows this grade to function in applications not suitable for other carbides.

C2 Carbide (K20)
The primary application for this carbide grade is in non-ferrous applications (high temperature alloys, stainless steels, aluminums, cast irons). It offers exceptionally high wear resistance. Tool life increases in steel applications can be realized; however, high machine tool rigidity is required.

GEN3SYS Standard Geometry
An excellent choice for general purpose high penetration drilling. This geometry is available as a standard in both C1 and C2 substrates with Allied's superior AM200® coating. The standard GEN3SYS geometry is recommended when drilling free machining, carbon, and softer alloy steels.

GEN3SYS Cast Iron Geometry (-CI)
Specifically designed to improve hole quality, exit, and increase tool life in all cast irons. This specialized geometry contains unique edge and corner preparations to maximize performance in cast irons when combined with Allied Machine's C2 substrate.

GEN3SYS Low Rake Geometry (-LR)
Designed to increase reliability in harder steels or lower rigidity applications. This geometry contains increased edge and corner strength combined with C1 carbide substrate to maximize insert fracture resistance in more difficult drilling applications.

GEN3SYS XT Standard Geometry
Allied Machine's next generation of high penetration drilling utilizes corner and cutting edge enhancements combined with our AM300® coating to deliver more durability, reliability, and productivity. The new GEN3SYS XT geometry is designed to increase penetration rates and tool life, providing the lowest cost per hole among high penetration drill lines. This geometry is available in both C1 and C2 carbide substrates.

GEN3SYS XT Stainless Steel Geometry (AS)
Designed with a specific geometry, C2 carbide substrate, and Allied Machine's AM300 coating 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.

GEN3SYS XT Cast Iron Geometry (CI)
Combination of a cutting edge enhancement and Allied Machine's AM300 coating delivers increased durability and tool life in ductile, nodular, and grey cast irons. This geometry is recommended in C2 carbide substrate.

GEN3SYS XT Low Rake Geometry (LR)
Allied Machine's GEN3SYS XT Low Rake is the toughest GEN3SYS geometry Allied offers and is designed for harder steels and less than ideal machining applications. This geometry is recommended in either a C1 or C2 substrate and AM300 coating.

T-A® and GEN2 T-A®

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Features & Benefits

- **Through coolant optimizes chip evacuation and improves tool performance**
- **Corner clip allows for effective heat dispersion and increased tool life**
- **Ground back location ensures accurate positioning**
- **Self-centering point eliminates center drilling**

ALLIED MACHINE & ENGINEERING CORP

T-A® and GEN2 T-A®

Reference Page

T-A Drill Insert

1	8	2	T	–	0031
Insert	Material	Series	Coating		Diameter

Material
3 = HSS
5 = Super Cobalt
8 = Premium Cobalt
C1 = Carbide (K35)
C2 = Carbide (K20)
C3 = Carbide (K10)
C5 = Carbide (P40)

Series

Y	4
Z	5
0	6
1	7
2	8
3	

Coating
H = AM200®
A = TiAlN
N = TiCN
T = TiN

Diameter
Inch = 0017
Decimal = .515
Metric = 13

GEN2 T-A Drill Insert

4	5	3	H	–	0115
Insert	Material	Series	Coating		Diameter

Material
5 = Super Cobalt
C1 = Carbide (K35)
C2 = Carbide (K20)

Series

Y	4
Z	5
0	6
1	7
2	8
3	

Coating
H = AM200
A = TiAlN
N = TiCN
T = TiN

Diameter
Inch = 0017
Decimal = .515
Metric = 13

T-A Holder

2	30	20	S	–	004	I
Holder	Length	Series	Flute		Shank Designator	Shank Code

Length
10 = Stub
20 = Short
30 = Intermediate
40 = Standard
50 = Extended
60 = Long
70 = XL
90 = 3XL

Series

Y	2
Z	2.5
0	3
0.5	4
1	5
1.5	7

Flute
H = Helical
S = Straight

Shank Designator

002 = 2MT	175 = 1-3/4"
003 = 3MT	200 = 2"
004 = 4MT	300 = 3"
005 = 5MT	16 = 16mm
063 = 5/8"	20 = 20mm
075 = 3/4"	25 = 25mm
100 = 1"	32 = 32mm
125 = 1-1/4"	40 = 40mm
150 = 1-1/2"	50 = 50mm

Shank Code
I = Imperial Morse Taper
M = Metric Morse Taper
L = Lathe Shank
F = Flanged Shank
FM = Flanged Metric Shank

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

Standard Stocked Items

All orders are processed through Allied Machine's computerized Order Entry and Invoicing System. Please specify the correct catalog 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 possibly 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.

Non-Standard T-A Drill Insert Sizes and Special Geometries

Order a **Non-Standard Diameter** by substituting your required diameter in place of the Allied standard diameter.

Standard Item Number	**132T-0101**
Non-Standard Diameter Standard Geometry (Inch)	**132T-1.0200** (Note: 4 decimal places)
Non-Standard Diameter Standard Geometry (Metric)	**132T-34.20** (Note: 2 decimal places)

Order a **Special Geometry** by adding the **Special Geometry Code** at the end of the Allied standard item number (see page 195)

Standard Item Number	**132T-0101**
Standard Diameter Special Geometry (Inch)	**132T-0101-SK**

Order a **Non-Standard Diameter** with **Special Geometry** by replacing the standard diameter and adding the **Special Geometry Code**

Standard Item Number	**132T-0101**
Non-Standard Diameter Special Geometry (Inch)	**132T-1.0200-SK** (Note: 4 decimal places)

Combinations of Special Geometries on the same item need to be quoted by our Engineering Department. When labeling these items, we will use the following format:

Standard Geometry

Series: #2 T-A
Diameter: 1.0200
Mat'l: CPM-4 TiN
132T-1.0200

SK2 Geometry

Series: #2 T-A
Diameter: 1.0200 (SK)
Mat'l: CPM-4 TiN
132T-1.0200-SK

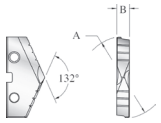
Holder Ordering Information

The chart at the right illustrates the correlation between the drill insert and holder series. We use a series designator in the header, at the top of each page of both the drill insert and holder sections of the catalog for your reference when ordering. Please refer to these series designators when placing your order. For example; series 2 drill inserts will fit in either a series 2 or 2.5 holder. Please note the limited drill range used in 0.5, 1.5 and 2.5 series holders.

Drill Insert Series	Holder Series
Y	Y
Z	Z
0	0 & 0.5
1	1 & 1.5
2	2 & 2.5
3	3
4	4
5 & 6	5
7 & 8	7

T-A® and GEN2 T-A® HSS Drill Inserts

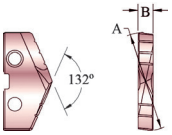
Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		0.3740	9,50	3/32"	15YT-9.5	❍	15YA-9.5	❍	15YN-9.5	❍
	3/8"	0.3750	9,53		15YT-0012	❍	15YA-0012	❍	15YN-0012	❍
	W	0.3860	9,80		15YT-.386	❍	15YA-.386	❍	15YN-.386	❍
	25/64"	0.3906	9,92		15YT-.390	❍	15YA-.390	❍	15YN-.390	❍
		0.3937	10,00		15YT-10	❍	15YA-10	❍	15YN-10	❍
		0.4016	10,20		15YT-10.2	❍	15YA-10.2	❍	15YN-10.2	❍
	13/32"	0.4063	10,32		15YT-0013	❍	15YA-0013	❍	15YN-0013	❍
		0.4134	10,50		15YT-10.5	❍	15YA-10.5	❍	15YN-10.5	❍
	27/64"	0.4219	10,72		15YT-.421	❍	15YA-.421	❍	15YN-.421	❍
		0.4252	10,80		15YT-10.8	❍	15YA-10.8	❍	15YN-10.8	❍
		0.4331	11,00		15YT-11	❍	15YA-11	❍	15YN-11	❍
Premium Cobalt		0.3740	9,50	3/32"	18YT-9.5	❍	18YA-9.5	❍	18YN-9.5	❍
	3/8"	0.3750	9,53		18YT-0012	❍	18YA-0012	❍	18YN-0012	❍
	W	0.3860	9,80		18YT-.386	❍	18YA-.386	❍	18YN-.386	❍
	25/64"	0.3906	9,92		18YT-.390	❍	18YA-.390	❍	18YN-.390	❍
		0.3937	10,00		18YT-10	❍	18YA-10	❍	18YN-10	❍
		0.4016	10,20		18YT-10.2	❍	18YA-10.2	❍	18YN-10.2	❍
	13/32"	0.4063	10,32		18YT-0013	❍	18YA-0013	❍	18YN-0013	❍
		0.4134	10,50		18YT-10.5	❍	18YA-10.5	❍	18YN-10.5	❍
	27/64"	0.4219	10,72		18YT-.421	❍	18YA-.421	❍	18YN-.421	❍
		0.4252	10,80		18YT-10.8	❍	18YA-10.8	❍	18YN-10.8	❍
		0.4331	11,00		18YT-11	❍	18YA-11	❍	18YN-11	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt		0.3740	9,50	3/32"	45YH-9.5	❍
	3/8"	0.3750	9,53		45YH-0012	❍
	W	0.3860	9,80		45YH-.386	❍
	25/64"	0.3906	9,92		45YH-.390	❍
		0.3937	10,00		45YH-10	❍
		0.4016	10,20		45YH-10.2	❍
	13/32"	0.4063	10,32		45YH-0013	❍
		0.4134	10,50		45YH-10.5	❍
	27/64"	0.4219	10,72		45YH-.421	❍
		0.4252	10,80		45YH-10.8	❍
		0.4331	11,00		45YH-11	❍

Geometries available (see page 197 for details): -HE.

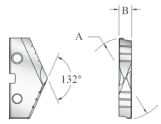
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

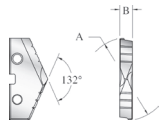
Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶
C2 (K20)		0.3740	9,50	3/32"	1C2YT-9.5	❍	1C2YA-9.5	❍
	3/8"	0.3750	9,53		1C2YT-0012	❍	1C2YA-0012	❍
	W	0.3860	9,80		1C2YT-.386	❍	1C2YA-.386	❍
	25/64"	0.3906	9,92		1C2YT-.390	❍	1C2YA-.390	❍
		0.3937	10,00		1C2YT-10	❍	1C2YA-10	❍
		0.4016	10,20		1C2YT-10.2	❍	1C2YA-10.2	❍
	13/32"	0.4063	10,32		1C2YT-0013	❍	1C2YA-0013	❍
		0.4134	10,50		1C2YT-10.5	❍	1C2YA-10.5	❍
	27/64"	0.4219	10,72		1C2YT-.421	❍	1C2YA-.421	❍
		0.4252	10,80		1C2YT-10.8	❍	1C2YA-10.8	❍
		0.4331	11,00		1C2YT-11	❍	1C2YA-11	❍
C5 (P40)		0.3740	9,50	3/32"	1C5YT-9.5	❍	1C5YA-9.5	❍
	3/8"	0.3750	9,53		1C5YT-0012	❍	1C5YA-0012	❍
	W	0.3860	9,80		1C5YT-.386	❍	1C5YA-.386	❍
	25/64"	0.3906	9,92		1C5YT-.390	❍	1C5YA-.390	❍
		0.3937	10,00		1C5YT-10	❍	1C5YA-10	❍
		0.4016	10,20		1C5YT-10.2	❍	1C5YA-10.2	❍
	13/32"	0.4063	10,32		1C5YT-0013	❍	1C5YA-0013	❍
		0.4134	10,50		1C5YT-10.5	❍	1C5YA-10.5	❍
	27/64"	0.4219	10,72		1C5YT-.421	❍	1C5YA-.421	❍
		0.4252	10,80		1C5YT-10.8	❍	1C5YA-10.8	❍
		0.4331	11,00		1C5YT-11	❍	1C5YA-11	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

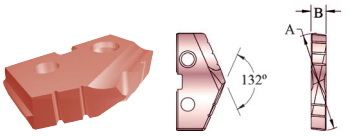


Cast Iron T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiAlN	❶
C3 (K10)		0.3740	9,50	3/32"	1C3YA-9.5-CI	❍
	3/8"	0.3750	9,53		1C3YA-0012-CI	❍
	W	0.3860	9,80		1C3YA-.386-CI	❍
	25/64"	0.3906	9,92		1C3YA-.390-CI	❍
		0.3937	10,00		1C3YA-10-CI	❍
		0.4016	10,20		1C3YA-10.2-CI	❍
	13/32"	0.4063	10,32		1C3YA-0013-CI	❍
		0.4134	10,50		1C3YA-10.5-CI	❍
	27/64"	0.4219	10,72		1C3YA-.421-CI	❍
		0.4252	10,80		1C3YA-10.8-CI	❍
		0.4331	11,00		1C3YA-11-CI	❍

GEN2 T-A® Carbide Drill Inserts

Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
C2 (K20)		0.3740	9,50	3/32"	4C2YH-9.5	❍
	3/8"	0.3750	9,53		4C2YH-0012	❍
	W	0.3860	9,80		4C2YH-.386	❍
	25/64"	0.3906	9,92		4C2YH-.390	❍
		0.3937	10,00		4C2YH-10	❍
		0.4016	10,20		4C2YH-10.2	❍
	13/32"	0.4063	10,32		4C2YH-0013	❍
		0.4134	10,50		4C2YH-10.5	❍
	27/64"	0.4219	10,72		4C2YH-.421	❍
		0.4252	10,80		4C2YH-10.8	❍
		0.4331	11,00		4C2YH-11	❍
C1 (K35)		0.3740	9,50	3/32"	4C1YH-9.5	❍
	3/8"	0.3750	9,53		4C1YH-0012	❍
	W	0.3860	9,80		4C1YH-.386	❍
	25/64"	0.3906	9,92		4C1YH-.390	❍
		0.3937	10,00		4C1YH-10	❍
		0.4016	10,20		4C1YH-10.2	❍
	13/32"	0.4063	10,32		4C1YH-0013	❍
		0.4134	10,50		4C1YH-10.5	❍
	27/64"	0.4219	10,72		4C1YH-.421	❍
		0.4252	10,80		4C1YH-10.8	❍
		0.4331	11,00		4C1YH-11	❍

Geometries available (see page 197 for details): -HE.

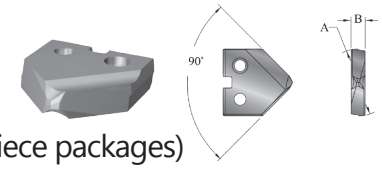
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® HSS Drill Inserts

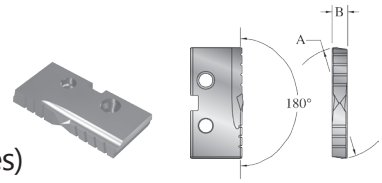
Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)



90° Spot and Chamfer T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		0.3740	9,50	3/32"	15YT-9.5-SP	▲	15YA-9.5-SP	▲	15YN-9.5-SP	▲
	3/8"	0.3750	9,53		15YT-0012-SP	❍	15YA-0012-SP	❍	15YN-0012-SP	❍
	W	0.3860	9,80		15YT-.386-SP	▲	15YA-.386-SP	▲	15YN-.386-SP	▲
	25/64"	0.3906	9,92		15YT-.390-SP	▲	15YA-.390-SP	▲	15YN-.390-SP	▲
		0.3937	10,00		15YT-10-SP	▲	15YA-10-SP	▲	15YN-10-SP	▲
		0.4016	10,20		15YT-10.2-SP	▲	15YA-10.2-SP	▲	15YN-10.2-SP	▲
	13/32"	0.4063	10,32		15YT-0013-SP	▲	15YA-0013-SP	▲	15YN-0013-SP	▲
		0.4134	10,50		15YT-10.5-SP	▲	15YA-10.5-SP	▲	15YN-10.5-SP	▲
	27/64"	0.4219	10,72		15YT-.421-SP	▲	15YA-.421-SP	▲	15YN-.421-SP	▲
		0.4252	10,80		15YT-10.8-SP	▲	15YA-10.8-SP	▲	15YN-10.8-SP	▲
		0.4331	11,00		15YT-11-SP	❍	15YA-11-SP	❍	15YN-11-SP	❍

Geometries available (see page 197 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



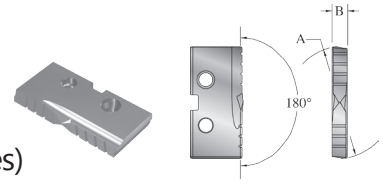
Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt		0.3740	9,50	3/32"	15YT-9.5-FB	❍
	3/8"	0.3750	9,53		15YT-0012-FB	❍
	W	0.3860	9,80		15YT-.386-FB	❍
	25/64"	0.3906	9,92		15YT-.390-FB	❍
		0.3937	10,00		15YT-10-FB	❍
		0.4016	10,20		15YT-10.2-FB	❍
	13/32"	0.4063	10,32		15YT-0013-FB	❍
		0.4134	10,50		15YT-10.5-FB	❍
	27/64"	0.4219	10,72		15YT-.421-FB	❍
		0.4252	10,80		15YT-10.8-FB	❍
		0.4331	11,00		15YT-11-FB	❍

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

T-A® Carbide Drill Inserts

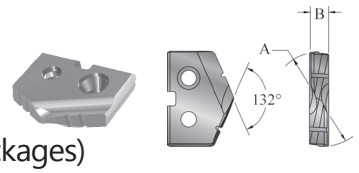
Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)



Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
C2 (K20)		0.3740	9,50	3/32"	1C2YT-9.5-FB	▲
	3/8"	0.3750	9,53		1C2YT-0012-FB	▲
	W	0.3860	9,80		1C2YT-.386-FB	▲
	25/64"	0.3906	9,92		1C2YT-.390-FB	▲
		0.3937	10,00		1C2YT-10-FB	▲
		0.4016	10,20		1C2YT-10.2-FB	▲
	13/32"	0.4063	10,32		1C2YT-0013-FB	▲
		0.4134	10,50		1C2YT-10.5-FB	▲
	27/64"	0.4219	10,72		1C2YT-.421-FB	▲
		0.4252	10,80		1C2YT-10.8-FB	▲
		0.4331	11,00		1C2YT-11-FB	▲

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



Diamond Coated T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	CVD Diamond	❶
N2		0.3740	9,50	3/32"	1N2YD-9.5	▲
	3/8"	0.3750	9,53		1N2YD-0012	▲
	W	0.3860	9,80		1N2YD-.386	▲
	25/64"	0.3906	9,92		1N2YD-.390	▲
		0.3937	10,00		1N2YD-10	▲
		0.4016	10,20		1N2YD-10.2	▲
	13/32"	0.4063	10,32		1N2YD-0013	▲
		0.4134	10,50		1N2YD-10.5	▲
	27/64"	0.4219	10,72		1N2YD-.421	▲
		0.4252	10,80		1N2YD-10.8	▲
		0.4331	11,00		1N2YD-11	▲

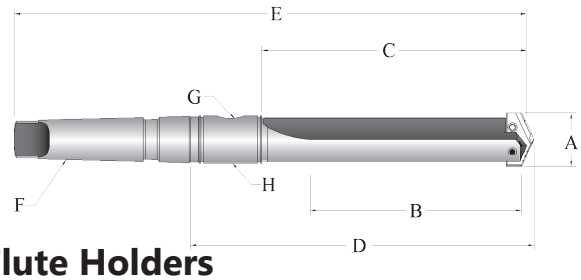
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

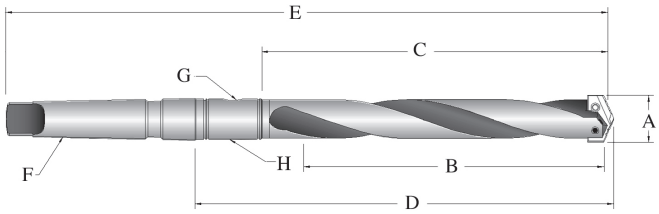
T-A® Holders

Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)



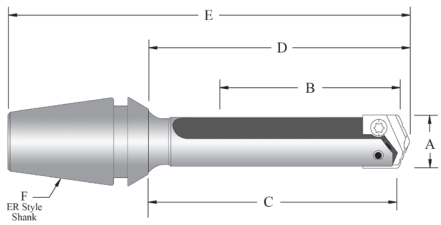
Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	220Y0S-002I	3/8" - 27/64"	1-1/4"	2-1/32"	3-15/32"	6-5/16"	#2	1/16"	2T-2SR
Standard	240Y0S-002I	3/8" - 27/64"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	2T-2SR
⚠ Extended	250Y0S-002I	3/8" - 27/64"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	2T-2SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	220Y0S-002M	9,5 - 11,0	31,8	51,5	88,0	160,3	#2**	1/16"*	2T-2SRM



Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Standard	240Y0H-002I	3/8" - 27/64"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	2T-2SR
⚠ Extended	250Y0H-002I	3/8" - 27/64"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	2T-2SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Standard	240Y0H-002M	9,5 - 11,0	60,3	80,2	116,7	188,9	#2**	1/16"*	2T-2SRM
⚠ Extended	250Y0H-002M	9,5 - 11,0	111,1	130,9	167,4	239,7	#2**	1/16"*	2T-2SRM



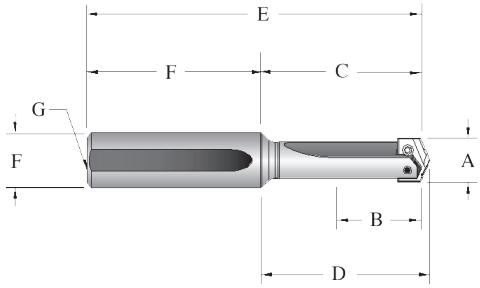
ER Collet Holders

Item Number	A	B	C	D	E	F	Collet Nut without Retaining Ring
	Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Collet Size	
210Y0S-16ER	3/8" - 27/64"	1-3/8"	1-29/32"	2"	3-5/64"	ER-16	ER-16N
210Y0S-20ER	3/8" - 27/64"	1-3/8"	1-29/32"	2"	3-15/64"	ER-20	ER-20N

⚠ **WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

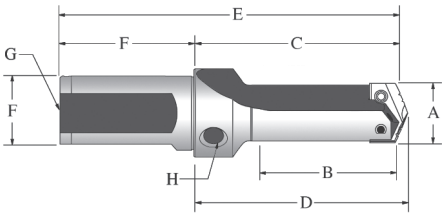
Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)

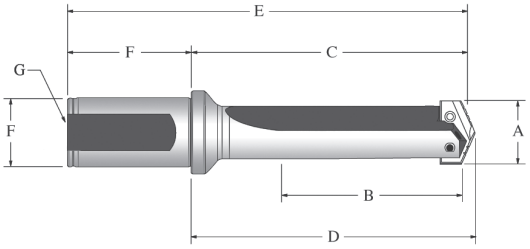


Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Short	220Y0S-075L	3/8" - 27/64"	1-1/4"	2-1/32"	2-1/8"	4-13/32"	3/4"	2-3/8"	1/8"
Standard	240Y0S-075L	3/8" - 27/64"	2-3/8"	3-5/32"	3-1/4"	5-17/32"	3/4"	2-3/8"	1/8"
⚠ Extended	250Y0S-075L	3/8" - 27/64"	4-3/8"	5-5/32"	5-1/4"	7-17/32"	3/4"	2-3/8"	1/8"
⚠ XL	270Y0S-075L	3/8" - 27/64"	8-3/4"	9-17/32"	9-5/8"	11-29/32"	3/4"	2-3/8"	1/8"
⚠ 3XL	290Y0S-075L	3/8" - 27/64"	11-7/16"	12-7/32"	12-5/16"	14-19/32"	3/4"	2-3/8"	1/8"

Stub Length Flanged Shank Holder





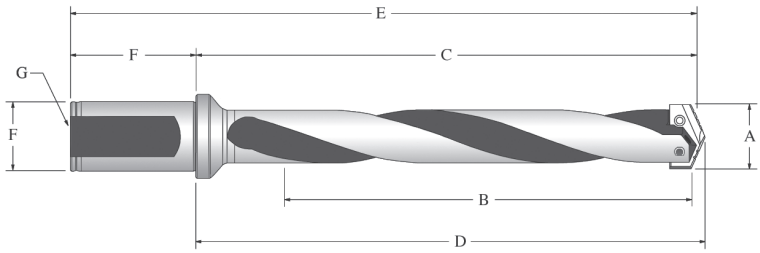
Flanged Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Stub	210Y0S-063F	3/8" - 27/64"	3/4"	1-7/8"	1-31/32"	3-3/4"	5/8"	1-7/8"	1/16"	1/8"
Short	220Y0S-075F	3/8" - 27/64"	1-1/4"	2-13/32"	2-1/2"	4-7/16"	3/4"	2-1/32"	1/8"	N/A
Standard	240Y0S-075F	3/8" - 27/64"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"	N/A
⚠ Extended	250Y0S-075F	3/8" - 27/64"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"	N/A
METRIC (mm)	*Metric Thread to BSP & ISO 7-1									
Stub	210Y0S-16FM	9,5 - 11,0	19,1	47,6	50,0	95,6	16,0	48,0	1/16"*	1/8"
Short	220Y0S-20FM	9,5 - 11,0	31,8	61,1	63,5	111,1	20,0	50,0	1/8"*	N/A
⚠ XL	270Y0S-20FM	9,5 - 11,0	222	251,7	254,1	301,7	20,0	50,0	1/8"*	N/A
⚠ 3XL	290Y0S-20FM	9,5 - 11,0	290	319,9	322,3	369,9	20,0	50,0	1/8"*	N/A

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

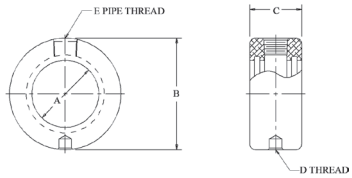
T-A® Holders

Y Series Range: 0.374"-0.436" (9,5mm-11,07mm)



Flanged Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Standard	240Y0H-075F	3/8" - 27/64"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"
Standard Plus	245Y0H-075F	3/8" - 27/64"	3-3/8"	4-35/64"	4-41/64"	6-43/64"	3/4"	2-1/32"	1/8"
Extended	250Y0H-075F	3/8" - 27/64"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"
METRIC (mm) *Metric Thread to BSP & ISO 7-1									
Standard	240Y0H-20FM	9,5 - 11,0	60,3	89,7	92,1	139,7	20,0	50,0	1/8"*
Standard Plus	245Y0H-20FM	9,5 - 11,0	86,0	115,4	117,8	165,4	20,0	50,0	1/8"*
Extended	250Y0H-20FM	9,5 - 11,0	111,1	140,5	142,9	190,5	20,0	50,0	1/8"*



Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-2SR	3/4"	1-3/4"	7/8"	5/16" - NC	1/8"	2T1-2SR	2T1-2OR-10
Metric	⚠ ◢ 2T-2SRM	19,05	44,45	22,23	M8 X 1,25	1/8"*	2T1-2SR	2T1-2OR-10

*** Thread to BSP & ISO 7-1**

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

◢ **Refer to page 200 for Proper RCA Assembly**

Replacement TORX Plus Screws

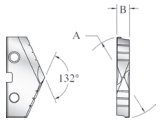
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch		Metric	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
Y	724-IP7-1	724N-IP7-1	8IP-7	8IP-7TL	8IP-7B	3/8" - 27/64"	7.4 in.-lbs	9,5 - 11,00	84 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® and GEN2 T-A® HSS Drill Inserts

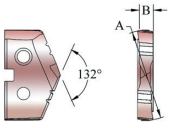
Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	7/16"	0.4375	11,11	3/32"	15ZT-0014	❍	15ZA-0014	❍	15ZN-0014	❍
		0.4528	11,50		15ZT-11.5	❍	15ZA-11.5	❍	15ZN-11.5	❍
	29/64"	0.4531	11,51		15ZT-.453	❍	15ZA-.453	❍	15ZN-.453	❍
	15/32"	0.4688	11,91		15ZT-0015	❍	15ZA-0015	❍	15ZN-0015	❍
		0.4724	12,00		15ZT-12	❍	15ZA-12	❍	15ZN-12	❍
	31/64"	0.4844	12,30		15ZT-.484	❍	15ZA-.484	❍	15ZN-.484	❍
		0.4921	12,50		15ZT-12.5	❍	15ZA-12.5	❍	15ZN-12.5	❍
	1/2"	0.5000	12,70		15ZT-0016	❍	15ZA-0016	❍	15ZN-0016	❍
Premium Cobalt	7/16"	0.4375	11,11	3/32"	18ZT-0014	❍	18ZA-0014	❍	18ZN-0014	❍
		0.4528	11,50		18ZT-11.5	❍	18ZA-11.5	❍	18ZN-11.5	❍
	29/64"	0.4531	11,51		18ZT-.453	❍	18ZA-.453	❍	18ZN-.453	❍
	15/32"	0.4688	11,91		18ZT-0015	❍	18ZA-0015	❍	18ZN-0015	❍
		0.4724	12,00		18ZT-12	❍	18ZA-12	❍	18ZN-12	❍
	31/64"	0.4844	12,30		18ZT-.484	❍	18ZA-.484	❍	18ZN-.484	❍
		0.4921	12,50		18ZT-12.5	❍	18ZA-12.5	❍	18ZN-12.5	❍
	1/2"	0.5000	12,70		18ZT-0016	❍	18ZA-0016	❍	18ZN-0016	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt	7/16"	0.4375	11,11	3/32"	45ZH-0014	❍
		0.4510	11,46		45ZH-.451	❍
		0.4528	11,50		45ZH-11.5	❍
	29/64"	0.4531	11,51		45ZH-.453	❍
	15/32"	0.4688	11,91		45ZH-0015	❍
		0.4724	12,00		45ZH-12	❍
	31/64"	0.4844	12,30		45ZH-.484	❍
		0.4921	12,50		45ZH-12.5	❍
	1/2"	0.5000	12,70		45ZH-0016	❍
		0.5060	12,85		45ZH-.506	❍
		0.5100	12,95		45ZH-.510	❍

Geometries available (see page 197 for details): -HE.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

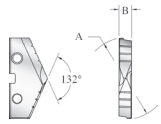
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

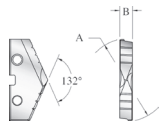
Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶
C2 (K20)	7/16"	0.4375	11,11	3/32"	1C2ZT-0014	❍	1C2ZA-0014	❍
		0.4528	11,50		1C2ZT-11.5	❍	1C2ZA-11.5	❍
	29/64"	0.4531	11,51		1C2ZT-.453	❍	1C2ZA-.453	❍
	15/32"	0.4688	11,91		1C2ZT-0015	❍	1C2ZA-0015	❍
		0.4724	12,00		1C2ZT-12	❍	1C2ZA-12	❍
	31/64"	0.4833	12,30		1C2ZT-.484	❍	1C2ZA-.484	❍
		0.4921	12,50		1C2ZT-12.5	❍	1C2ZA-12.5	❍
	1/2"	0.5000	12,70		1C2ZT-0016	❍	1C2ZA-0016	❍
C5 (P40)	7/16"	0.4375	11,11	3/32"	1C5ZT-0014	❍	1C5ZA-0014	❍
		0.4528	11,50		1C5ZT-11.5	❍	1C5ZA-11.5	❍
	29/64"	0.4531	11,51		1C5ZT-.453	❍	1C5ZA-.453	❍
	15/32"	0.4688	11,91		1C5ZT-0015	❍	1C5ZA-0015	❍
		0.4724	12,00		1C5ZT-12	❍	1C5ZA-12	❍
	31/64"	0.4833	12,30		1C5ZT-.484	❍	1C5ZA-.484	❍
		0.4921	12,50		1C5ZT-12.5	❍	1C5ZA-12.5	❍
	1/2"	0.5000	12,70		1C5ZT-0016	❍	1C5ZA-0016	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

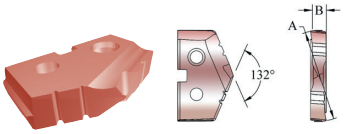


Cast Iron T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiAlN	❶
C3 (K10)	7/16"	0.4375	11,11	3/32"	1C3ZA-0014-CI	❍
		0.4528	11,50		1C3ZA-11.5-CI	❍
	29/64"	0.4531	11,51		1C3ZA-.453-CI	❍
	15/32"	0.4688	11,91		1C3ZA-0015-CI	❍
		0.4724	12,00		1C3ZA-12-CI	❍
	31/64"	0.4833	12,30		1C3ZA-.484-CI	❍
		0.4921	12,50		1C3ZA-12.5-CI	❍
	1/2"	0.5000	12,70		1C3ZA-0016-CI	❍

GEN2 T-A® Carbide Drill Inserts

Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
C2 (K20)	7/16"	0.4375	11,11	3/32"	4C2ZH-0014	❍
		0.4528	11,50		4C2ZH--11.5	❍
	29/64"	0.4531	11,51		4C2ZH-.453	❍
	15/32"	0.4688	11,91		4C2ZH-0015	❍
		0.4724	12,00		4C2ZH-12	❍
	31/64"	0.4844	12,30		4C2ZH-.484	❍
		0.4921	12,50		4C2ZH-12.5	❍
	1/2"	0.5000	12,70		4C2ZH-0016	❍
C1 (K35)	7/16"	0.4375	11,11	3/32"	4C1ZH-0014	❍
		0.4510	11,46		4C1ZH-.451	❍
		0.4528	11,50		4C1ZH-11.5	❍
	29/64"	0.4531	11,51		4C1ZH-.453	❍
	15/32"	0.4688	11,91		4C1ZH-0015	❍
		0.4724	12,00		4C1ZH-12	❍
	31/64"	0.4844	12,30		4C1ZH-.484	❍
		0.4921	12,50		4C1ZH-12.5	❍
	1/2"	0.5000	12,70		4C1ZH-0016	❍
		0.5060	12,85		4C1ZH-.506	❍
		0.5100	12,95		4C1ZH-.510	❍

Geometries available (see page 197 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

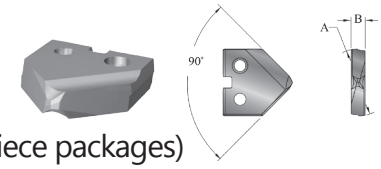
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

T-A® HSS Drill Inserts

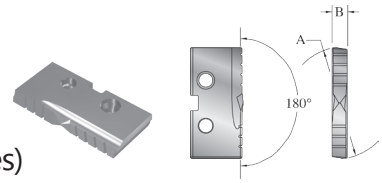
Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)



90° Spot and Chamfer T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	7/16"	0.4375	11,11	3/32"	15ZT-0014-SP	▲	15ZA-0014-SP	▲	15ZN-0014-SP	▲
		0.4528	11,50		15ZT-11.5-SP	▲	15ZA-11.5-SP	▲	15ZN-11.5-SP	▲
	29/64"	0.4531	11,51		15ZT-.453-SP	▲	15ZA-.453-SP	▲	15ZN-.453-SP	▲
	15/32"	0.4688	11,91		15ZT-0015-SP	▲	15ZA-0015-SP	▲	15ZN-0015-SP	▲
		0.4724	12,00		15ZT-12-SP	▲	15ZA-12-SP	▲	15ZN-12-SP	▲
	31/64"	0.4844	12,30		15ZT-.484-SP	▲	15ZA-.484-SP	▲	15ZN-.484-SP	▲
		0.4921	12,50		15ZT-12.5-SP	▲	15ZA-12.5-SP	▲	15ZN-12.5-SP	▲
	1/2"	0.5000	12,70		15ZT-0016-SP	❍	15ZA-0016-SP	❍	15ZN-0016-SP	❍

Geometries available (see page 197 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



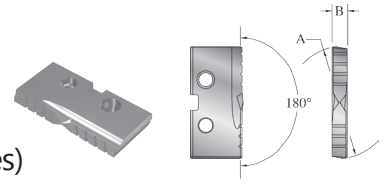
Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt	7/16"	0.4375	11,11	3/32"	15ZT-0014-FB	❍
		0.4528	11,50		15ZT-11.5-FB	❍
	29/64"	0.4531	11,51		15ZT-.453-FB	❍
	15/32"	0.4688	11,91		15ZT-0015-FB	❍
		0.4724	12,00		15ZT-12-FB	❍
	31/64"	0.4844	12,30		15ZT-.484-FB	❍
		0.4921	12,50		15ZT-12.5-FB	❍
	1/2"	0.5000	12,70		15ZT-0016-FB	❍

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

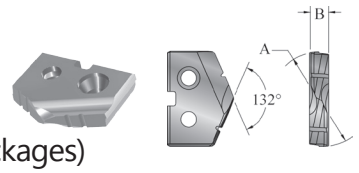
T-A® Carbide Drill Inserts

Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)



Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
C2 (K20)	7/16"	0.4375	11,11	3/32"	1C2ZT-0014-FB	▲
		0.4528	11,50		1C2ZT-11.5-FB	▲
	29/64"	0.4531	11,51		1C2ZT-.453-FB	▲
	15/32"	0.4688	11,91		1C2ZT-0015-FB	▲
		0.4724	12,00		1C2ZT-12-FB	▲
	31/64"	0.4844	12,30		1C2ZT-.484-FB	▲
		0.4921	12,50		1C2ZT-12.5-FB	▲
	1/2"	0.5000	12,70		1C2ZT-0016-FB	▲



Diamond Coated T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	CVD Diamond	❶
N2	7/16"	0.4375	11,11	3/32"	1N2ZD-0014	▲
		0.4528	11,50		1N2ZD-11.5	▲
	29/64"	0.4531	11,51		1N2ZD-.453	▲
	15/32"	0.4688	11,91		1N2ZD-0015	▲
		0.4724	12,00		1N2ZD-12	▲
	31/64"	0.4844	12,30		1N2ZD-.484	▲
		0.4921	12,50		1N2ZD-12.5	▲
	1/2"	0.5000	12,70		1N2ZD-0016	▲

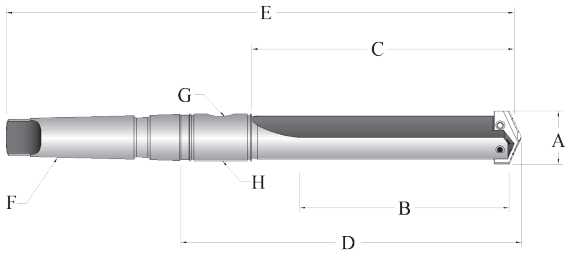
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

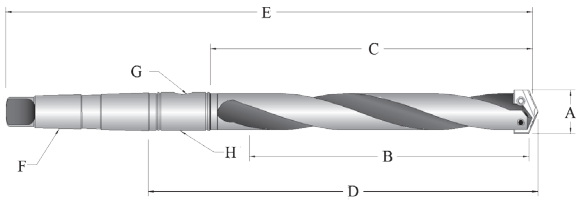
T-A® Holders

Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)



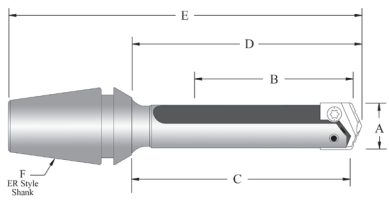
Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	220Z0S-002I	7/16" - 1/2"	1-1/4"	2-1/32"	3-15/32"	6-5/16"	#2	1/16"	2T-2SR
Standard	240Z0S-002I	7/16" - 1/2"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	2T-2SR
⚠ Extended	250Z0S-002I	7/16" - 1/2"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	2T-2SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	220Z0S-002M	11,5 - 12,5	31,8	51,5	88,0	160,3	#2	1/16"*	2T-2SRM



Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Standard	240Z0H-002I	7/16" - 1/2"	2-3/8"	3-5/32"	4-19/32"	7-7/16"	#2	1/16"	2T-2SR
⚠ Extended	250Z0H-002I	7/16" - 1/2"	4-3/8"	5-5/32"	6-19/32"	9-7/16"	#2	1/16"	2T-2SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Standard	240Z0H-002M	11,5 - 12,5	60,3	80,2	116,7	188,9	#2**	1/16"*	2T-2SRM
⚠ Extended	250Z0H-002M	11,5 - 12,5	111,1	130,9	167,4	239,7	#2**	1/16"*	2T-2SRM



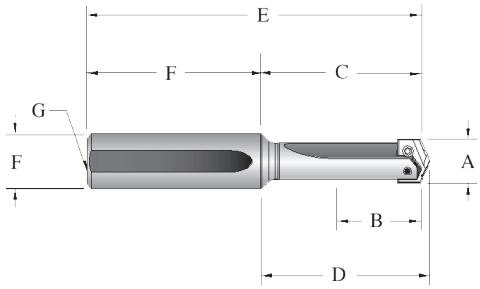
ER Collet Holders

Item Number	A	B	C	D	E	F	Collet Nut without Retaining Ring
	Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Collet Size	
210Z0S-16ER	7/16" - 1/2"	1-3/8"	1-29/32"	2"	3-5/64"	ER-16	ER-16N
210Z0S-20ER	7/16" - 1/2"	1-3/8"	1-29/32"	2"	3-15/64"	ER-20	ER-20N

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

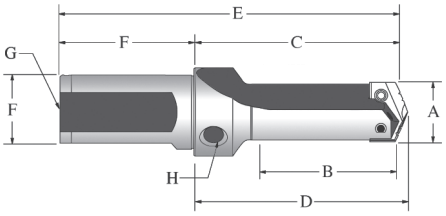
Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)

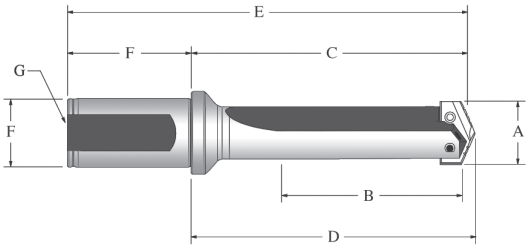


Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Short	220Z0S-075L	7/16" - 1/2"	1-1/4"	2-1/32"	2-1/8"	4-13/32"	3/4"	2-3/8"	1/8"
Standard	240Z0S-075L	7/16" - 1/2"	2-3/8"	3-5/32"	3-1/4"	5-17/32"	3/4"	2-3/8"	1/8"
⚠ Extended	250Z0S-075L	7/16" - 1/2"	4-3/8"	5-5/32"	5-1/4"	7-17/32"	3/4"	2-3/8"	1/8"
⚠ XL	270Z0S-075L	7/16" - 1/2"	8-3/4"	9-17/32"	9-5/8"	11-29/32"	3/4"	2-3/8"	1/8"
⚠ 3XL	290Z0S-075L	7/16" - 1/2"	11-7/16"	12-7/32"	12-5/16"	14-19/32"	3/4"	2-3/8"	1/8"

Stub Length Flanged Shank Holder





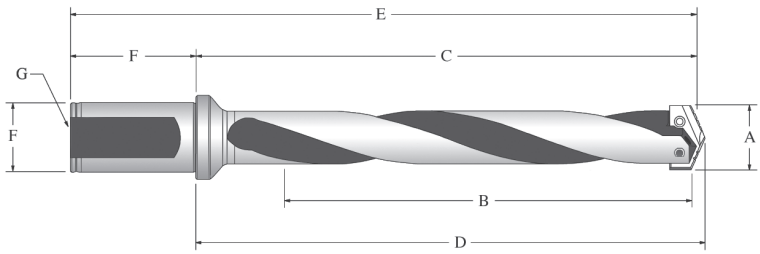
Flanged Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Stub	210Z0S-063F	7/16" - 1/2"	3/4"	1-51/64"	1-57/64"	3-43/64"	5/8"	1-7/8"	1/16"	1/8"
Short	220Z0S-075F	7/16" - 1/2"	1-1/4"	2-13/32"	2-1/2"	4-7/16"	3/4"	2-1/32"	1/8"	N/A
Standard	240Z0S-075F	7/16" - 1/2"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"	N/A
⚠ Extended	250Z0S-075F	7/16" - 1/2"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"	N/A
METRIC (mm) *Metric Thread to BSP & ISO 7-1										
Stub	210Z0S-16FM	11,5 - 12,5	19,1	45,6	48,0	104,6	16,0	48,0	1/16"*	1/8"
Short	220Z0S-20FM	11,5 - 12,5	31,8	61,1	63,5	111,1	20,0	50,0	1/8"*	N/A
⚠ XL	270Z0S-20FM	11,5 - 12,5	222,3	251,7	254,1	301,7	20,0	50,0	1/8"*	N/A
⚠ 3XL	290Z0S-20FM	11,5 - 12,5	290,5	319,9	322,3	369,9	20,0	50,0	1/8"*	N/A

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

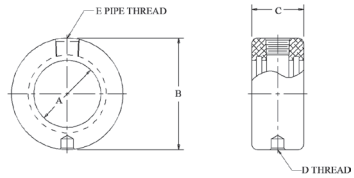
T-A® Holders

Z Series Range: 0.437"-0.510" (11,10mm-12,95mm)



Flanged Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Standard	240Z0H-075F	7/16" - 1/2"	2-3/8"	3-17/32"	3-5/8"	5-9/16"	3/4"	2-1/32"	1/8"
Standard Plus	245Z0H-075F	7/16" - 1/2"	3-3/8"	4-35/64"	4-41/64"	6-43/64"	3/4"	2-1/32"	1/8"
⚠ Extended	250Z0H-075F	7/16" - 1/2"	4-3/8"	5-17/32"	5-5/8"	7-9/16"	3/4"	2-1/32"	1/8"
⚠ Long	260Z0H-075F	7/16" - 1/2"	7-1/16"	8-1/4"	8-11/32"	10-3/8"	3/4"	2-1/32"	1/8"
METRIC (mm) *Metric Thread to BSP & ISO 7-1									
Standard	240Z0H-20FM	11,5 - 12,5	60,3	89,7	92,1	139,7	20,0	50,0	1/8"*
Standard Plus	245Z0H-20FM	11,5 - 12,8	86,0	115,4	117,8	165,4	20,0	50,0	1/8"*
⚠ Extended	250Z0H-20FM	11,5 - 12,5	111,1	140,5	142,9	190,5	20,0	50,0	1/8"*
⚠ Long	260Z0H-20FM	11,5 - 12,8	180,0	209,4	211,8	259,4	20,0	50,0	1/8"*



Rotary Coolant Adapter (RCA) and Accessories

	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-2SR	3/4"	1-3/4"	7/8"	5/16" - NC	1/8"	2T1-2SR	2T1-2OR-10
Metric	⚠ ◢ 2T-2SRM	19,05	44,45	22,23	M8 X 1,25	1/8"*	2T1-2SR	2T1-2OR-10

*** Thread to BSP & ISO 7-1**

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

◢ **Refer to page 200 for Proper RCA Assembly**

Replacement TORX Plus Screws

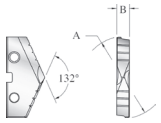
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch		Metric	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
Z	7247-IP7-1	7247N-IP7-1	8IP-7	8IP-7TL	8IP-7B	7/16" - 1/2"	7.4 in.-lbs	11,5 - 12,5	84 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® HSS Drill Inserts

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		0.5118	13,00	1/8"	150T-13	❍	150A-13	❍	150N-13	❍
	33/64"	0.5156	13,10		150T-.515	❍	150A-.515	❍	150N-.515	❍
	17/32"	0.5313	13,49		150T-0017	❍	150A-0017	❍	150N-0017	❍
		0.5315	13,50		150T-13.5	❍	150A-13.5	❍	150N-13.5	❍
	35/64"	0.5469	13,89		150T-.546	❍	150A-.546	❍	150N-.546	❍
		0.5512	14,00		150T-14	❍	150A-14	❍	150N-14	❍
	9/16"	0.5625	14,29		150T-0018	❍	150A-0018	❍	150N-0018	❍
		0.5709	14,50		150T-14.5	❍	150A-14.5	❍	150N-14.5	❍
	37/64"	0.5781	14,68		150T-.578	❍	150A-.578	❍	150N-.578	❍
		0.5906	15,00		150T-15	❍	150A-15	❍	150N-15	❍
	19/32"	0.5938	15,08		150T-0019	❍	150A-0019	❍	150N-0019	❍
	39/64"	0.6094	15,48		150T-.609*	❍	150A-.609*	❍	150N-.609*	❍
		0.6102	15,50		150T-15.5*	❍	150A-15.5*	❍	150N-15.5*	❍
	5/8"	0.6250	15,88		150T-0020*	❍	150A-0020*	❍	150N-0020*	❍
		0.6299	16,00		150T-16*	❍	150A-16*	❍	150N-16*	❍
	41/64"	0.6406	16,27		150T-.640*	❍	150A-.640*	❍	150N-.640*	❍
		0.6496	16,50		150T-16.5*	❍	150A-16.5*	❍	150N-16.5*	❍
	21/32"	0.6563	16,67		150T-0021*	❍	150A-0021*	❍	150N-0021*	❍
		0.6693	17,00		150T-17*	❍	150A-17*	❍	150N-17*	❍
	43/64"	0.6719	17,07		150T-.671*	❍	150A-.671*	❍	150N-.671*	❍
	11/16"	0.6875	17,46		150T-0022*	❍	150A-0022*	❍	150N-0022*	❍
		0.6890	17,50		150T-17.5*	❍	150A-17.5*	❍	150N-17.5*	❍
Premium Cobalt		0.5118	13,00	1/8"	180T-13	❍	180A-13	❍	180N-13	❍
	33/64"	0.5156	13,10		180T-.515	❍	180A-.515	❍	180N-.515	❍
	17/32"	0.5313	13,49		180T-0017	❍	180A-0017	❍	180N-0017	❍
		0.5315	13,50		180T-13.5	❍	180A-13.5	❍	180N-13.5	❍
	35/64"	0.5469	13,89		180T-.546	❍	180A-.546	❍	180N-.546	❍
		0.5512	14,00		180T-14	❍	180A-14	❍	180N-14	❍
	9/16"	0.5625	14,29		180T-0018	❍	180A-0018	❍	180N-0018	❍
		0.5709	14,50		180T-14.5	❍	180A-14.5	❍	180N-14.5	❍
	37/64"	0.5781	14,68		180T-.578	❍	180A-.578	❍	180N-.578	❍
		0.5906	15,00		180T-15	❍	180A-15	❍	180N-15	❍
	19/32"	0.5938	15,08		180T-0019	❍	180A-0019	❍	180N-0019	❍
	39/64"	0.6094	15,48		180T-.609*	❍	180A-.609*	❍	180N-.609*	❍
		0.6102	15,50		180T-15.5*	❍	180A-15.5*	❍	180N-15.5*	❍
	5/8"	0.6250	15,88		180T-0020*	❍	180A-0020*	❍	180N-0020*	❍
		0.6299	16,00		180T-16*	❍	180A-16*	❍	180N-16*	❍
	41/64"	0.6406	16,27		180T-.640*	❍	180A-.640*	❍	180N-.640*	❍
		0.6496	16,50		180T-16.5*	❍	180A-16.5*	❍	180N-16.5*	❍
	21/32"	0.6563	16,67		180T-0021*	❍	180A-0021*	❍	180N-0021*	❍
		0.6693	17,00		180T-17*	❍	180A-17*	❍	180N-17*	❍
	43/64"	0.6719	17,07		180T-.671*	❍	180A-.671*	❍	180N-.671*	❍
	11/16"	0.6875	17,46		180T-0022*	❍	180A-0022*	❍	180N-0022*	❍
		0.6890	17,50		180T-17.5*	❍	180A-17.5*	❍	180N-17.5*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 0.5 series T-A Holders.**

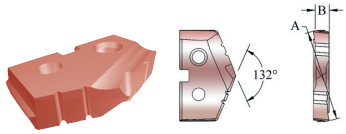
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

GEN2 T-A® HSS Drill Inserts

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



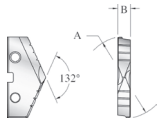
GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt		0.5118	13,00	1/8"	450H-13	❍
	33/64"	0.5156	13,10		450H-.515	❍
	17/32"	0.5313	13,49		450H-0017	❍
		0.5315	13,50		450H-13.5	❍
	35/64"	0.5469	13,89		450H-.546	❍
		0.5512	14,00		450H-14	❍
	9/16"	0.5625	14,29		450H-0018	❍
		0.5709	14,50		450H-14.5	❍
	37/64"	0.5781	14,68		450H-.578	❍
		0.5906	15,00		450H-15	❍
	19/32"	0.5938	15,08		450H-0019	❍
	39/64"	0.6094	15,48		450H-.609*	❍
		0.6102	15,50		450H-15.5*	❍
	5/8"	0.6250	15,88		450H-0020*	❍
		0.6299	16,00		450H-16*	❍
	41/64"	0.6406	16,27		450H-.640*	❍
		0.6496	16,50		450H-16.5*	❍
	21/32"	0.6563	16,67		450H-0021*	❍
		0.6693	17,00		450H-17*	❍
	43/64"	0.6719	17,07		450H-.671*	❍
	11/16"	0.6875	17,46		450H-0022*	❍
		0.6890	17,50		450H-17.5*	❍

Geometries available (see page 197 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 0.5 series T-A Holders.**

T-A® Carbide Drill Inserts

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶
C2 (K20)		0.5118	13,00	1/8"	1C20T-13	❍	1C20A-13	❍
	33/64"	0.5156	13,10		1C20T-.515	❍	1C20A-.515	❍
	17/32"	0.5313	13,49		1C20T-0017	❍	1C20A-0017	❍
		0.5315	13,50		1C20T-13.5	❍	1C20A-13.5	❍
	35/64"	0.5469	13,89		1C20T-.546	❍	1C20A-.546	❍
		0.5512	14,00		1C20T-14	❍	1C20A-14	❍
	9/16"	0.5625	14,29		1C20T-0018	❍	1C20A-0018	❍
		0.5709	14,50		1C20T-14.5	❍	1C20A-14.5	❍
	37/64"	0.5781	14,68		1C20T-.578	❍	1C20A-.578	❍
		0.5906	15,00		1C20T-15	❍	1C20A-15	❍
	19/32"	0.5938	15,08		1C20T-0019	❍	1C20A-0019	❍
	39/64"	0.6094	15,48		1C20T-.609*	❍	1C20A-.609*	❍
		0.6102	15,50		1C20T-15.5*	❍	1C20A-15.5*	❍
	5/8"	0.6250	15,88		1C20T-0020*	❍	1C20A-0020*	❍
		0.6299	16,00		1C20T-16*	❍	1C20A-16*	❍
	41/64"	0.6406	16,27		1C20T-.640*	❍	1C20A-.640*	❍
		0.6496	16,50		1C20T-16.5*	❍	1C20A-16.5*	❍
	21/32"	0.6563	16,67		1C20T-0021*	❍	1C20A-0021*	❍
		0.6693	17,00		1C20T-17*	❍	1C20A-17*	❍
	43/64"	0.6719	17,07		1C20T-.671*	❍	1C20A-.671*	❍
	11/16"	0.6875	17,46		1C20T-0022*	❍	1C20A-002*	❍
		0.6890	17,50		1C20T-17.5*	❍	1C20A-17.5*	❍
C5 (P40)		0.5118	13,00	1/8"	1C50T-13	❍	1C50A-13	❍
	33/64"	0.5156	13,10		1C50T-.515	❍	1C50A-.515	❍
	17/32"	0.5313	13,49		1C50T-0017	❍	1C50A-0017	❍
		0.5315	13,50		1C50T-13.5	❍	1C50A-13.5	▲
	35/64"	0.5469	13,89		1C50T-.546	❍	1C50A-.546	❍
		0.5512	14,00		1C50T-14	❍	1C50A-14	❍
	9/16"	0.5625	14,29		1C50T-0018	❍	1C50A-0018	❍
		0.5709	14,50		1C50T-14.5	❍	1C50A-14.5	❍
	37/64"	0.5781	14,68		1C50T-.578	❍	1C50A-.578	❍
		0.5906	15,00		1C50T-15	❍	1C50A-15	❍
	19/32"	0.5938	15,08		1C50T-0019	❍	1C50A-0019	❍
	39/64"	0.6094	15,48		1C50T-.609*	❍	1C50A-.609*	❍
		0.6102	15,50		1C50T-15.5*	❍	1C50A-15.5*	❍
	5/8"	0.6250	15,88		1C50T-0020*	❍	1C50A-0020*	❍
		0.6265	15,91		1C50T-.6265*	▲	1C50A-.6265*	▲
		0.6299	16,00		1C50T-16*	❍	1C50A-16*	❍
	41/64"	0.6406	16,27		1C50T-.640*	❍	1C50A-.640*	❍
		0.6496	16,50		1C50T-16.5*	❍	1C50A-16.5*	❍
	21/32"	0.6563	16,67		1C50T-0021*	❍	1C50A-0021*	❍
		0.6693	17,00		1C50T-17*	❍	1C50A-17*	❍
	43/64"	0.6719	17,07		1C50T-.671*	❍	1C50A-.671*	❍
	11/16"	0.6875	17,46		1C50T-0022*	❍	1C50A-0022*	❍
		0.6890	17,50		1C50T-17.5*	❍	1C50A-17.5*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 0.5 series T-A Holders.**

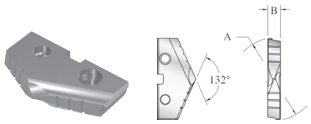
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



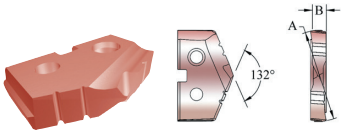
Cast Iron T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiAlN	❶
C3 (K10)		0.5118	13,00	1/8"	1C30A-13-CI	❍
	33/64"	0.5156	13,10		1C30A-.515-CI	❍
	17/32"	0.5313	13,49		1C30A-0017-CI	❍
		0.5315	13,50		1C30A-13.5-CI	❍
	35/64"	0.5469	13,89		1C30A-.546-CI	❍
		0.5512	14,00		1C30A-14-CI	❍
	9/16"	0.5625	14,29		1C30A-0018-CI	❍
		0.5709	14,50		1C30A-14.5-CI	❍
	37/64"	0.5781	14,68		1C30A-.578-CI	❍
		0.5906	15,00		1C30A-15-CI	❍
	19/32"	0.5938	15,08		1C30A-0019-CI	❍
	39/64"	0.6094	15,48		1C30A-.609-CI*	❍
		0.6102	15,50		1C30A-15.5-CI*	❍
	5/8"	0.6250	15,88		1C30A-0020-CI*	❍
		0.6299	16,00		1C30A-16-CI*	❍
	41/64"	0.6406	16,27		1C30A-.640-CI*	❍
		0.6496	16,50		1C30A-16.5-CI*	❍
	21/32"	0.6563	16,67		1C30A-0021-CI*	❍
		0.6693	17,00		1C30A-17-CI*	❍
	43/64"	0.6719	17,07		1C30A-.671-CI*	❍
	11/16"	0.6875	17,46		1C30A-0022-CI*	❍
		0.6890	17,50		1C30A-17.5-CI*	❍

*** Denotes inserts that will also fit 0.5 series T-A Holders.**

GEN2 T-A® Carbide Drill Inserts

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
C2 (K20)		0.5118	13,00	1/8"	4C20H-13	❍
	33/64"	0.5156	13,10		4C20H-.515	❍
	17/32"	0.5313	13,49		4C20H-0017	❍
		0.5315	13,50		4C20H-13.5	❍
	35/64"	0.5469	13,89		4C20H-.546	❍
		0.5512	14,00		4C20H-14	❍
	9/16"	0.5625	14,29		4C20H-0018	❍
		0.5709	14,50		4C20H-14.5	❍
	37/64"	0.5781	14,68		4C20H-.578	❍
		0.5906	15,00		4C20H-15	❍
	19/32"	0.5938	15,08		4C20H-0019	❍
	39/64"	0.6094	15,48		4C20H-.609*	❍
		0.6102	15,50		4C20H-15.5*	❍
	5/8"	0.6250	15,88		4C20H-0020*	❍
		0.6299	16,00		4C20H-16*	❍
	41/64"	0.6406	16,27		4C20H-.640*	❍
		0.6496	16,50		4C20H-16.5*	❍
	21/32"	0.6563	16,67		4C20H-0021*	❍
		0.6693	17,00		4C20H-17*	❍
	43/64"	0.6719	17,07		4C20H-.671*	❍
	11/16"	0.6875	17,46		4C20H-0022*	❍
		0.6890	17,50		4C20H-17.5*	❍
C1 (K35)		0.5118	13,00	1/8"	4C10H-13	❍
	33/64"	0.5156	13,10		4C10H-.515	❍
	17/32"	0.5313	13,49		4C10H-0017	❍
		0.5315	13,50		4C10H-13.5	❍
	35/64"	0.5469	13,89		4C10H-.546	❍
		0.5512	14,00		4C10H-14	❍
	9/16"	0.5625	14,29		4C10H-0018	❍
		0.5709	14,50		4C10H-14.5	❍
	37/64"	0.5781	14,68		4C10H-.578	❍
		0.5906	15,00		4C10H-15	❍
	19/32"	0.5938	15,08		4C10H-0019	❍
	39/64"	0.6094	15,48		4C10H-.609*	❍
		0.6102	15,50		4C10H-15.5*	❍
	5/8"	0.6250	15,88		4C10H-0020*	❍
		0.6299	16,00		4C10H-16*	❍
	41/64"	0.6406	16,27		4C10H-.640*	❍
		0.6496	16,50		4C10H-16.5*	❍
	21/32"	0.6563	16,67		4C10H-0021*	❍
		0.6693	17,00		4C10H-17*	❍
	43/64"	0.6719	17,07		4C10H-.671*	❍
	11/16"	0.6875	17,46		4C10H-0022*	❍
		0.6890	17,50		4C10H-17.5*	❍

Geometries available (see page 197 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 0.5 series T-A Holders.**

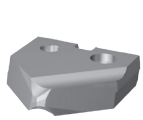
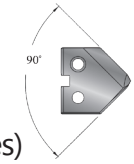
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® HSS Drill Inserts

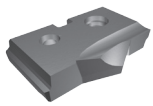
0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)

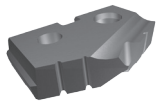



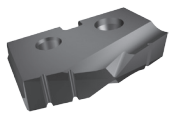
90° Spot and Chamfer T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt		0.5118	13,00	1/8"	150T-13-SP	▲	150A-13-SP	▲	150N-13-SP	▲
	33/64"	0.5156	13,10		150T-.515-SP	▲	150A-.515-SP	▲	150N-.515-SP	▲
	17/32"	0.5313	13,49		150T-0017-SP	▲	150A-0017-SP	▲	150N-0017-SP	▲
		0.5315	13,50		150T-13.5-SP	▲	150A-13.5-SP	▲	150N-13.5-SP	▲
	35/64"	0.5469	13,89		150T-.546-SP	▲	150A-.546-SP	▲	150N-.546-SP	▲
		0.5512	14,00		150T-14-SP	▲	150A-14-SP	▲	150N-14-SP	▲
	9/16"	0.5625	14,29		150T-0018-SP	▲	150A-0018-SP	▲	150N-0018-SP	▲
		0.5709	14,50		150T-14.5-SP	▲	150A-14.5-SP	▲	150N-14.5-SP	▲
	37/64"	0.5781	14,68		150T-.578-SP	▲	150A-.578-SP	▲	150N-.578-SP	▲
		0.5906	15,00		150T-15-SP	▲	150A-15-SP	▲	150N-15-SP	▲
	19/32"	0.5938	15,08		150T-0019-SP	▲	150A-0019-SP	▲	150N-0019-SP	▲
	39/64"	0.6094	15,48		150T-.609-SP*	▲	150A-.609-SP*	▲	150N-.609-SP*	▲
		0.6102	15,50		150T-15.5-SP*	▲	150A-15.5-SP*	▲	150N-15.5-SP*	▲
	5/8"	0.6250	15,88		150T-0020-SP*	❍	150A-0020-SP*	❍	150N-0020-SP*	❍
		0.6299	16,00		150T-16-SP*	▲	150A-16-SP*	▲	150N-16-SP*	▲
	41/64"	0.6406	16,27		150T-640-SP*	▲	150A-.640-SP*	▲	150N-.640-SP*	▲
		0.6496	16,50		150T-16.5-SP*	▲	150A-16.5-SP*	▲	150N-16.5-SP*	▲
	21/32"	0.6563	16,67		150T-0021-SP*	▲	150A-0021-SP*	▲	150N-0021-SP*	▲
		0.6693	17,00		150T-17-SP*	▲	150A-17-SP*	▲	150N-17-SP*	▲
	43/64"	0.6719	17,07		150T-.671-SP*	▲	150A-.671-SP*	▲	150N-.671-SP*	▲
	11/16"	0.6875	17,46		150T-0022-SP*	▲	150A-0022-SP*	▲	150N-0022-SP*	▲
		0.6890	17,50		150T-17.5-SP*	❍	150A-17.5-SP*	❍	150N-17.5-SP*	❍

Geometries available (see page 197 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 0.5 series T-A Holders.**


***Thin Wall**


****Notch Point**


****150° Structural Steel**

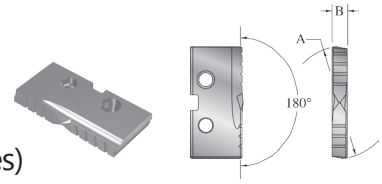
Structural Steel T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	*Thin Wall TiAlN	❶	**Notch Point TiAlN	❶	150° Structural Steel TiAlN	❶
Super Cobalt		0.5512	14,00	1/8"	150A-14-TW	❍	150A-14-NP	❍	150A-14-SS	❍
	9/16"	0.5625	14,29		150A-0018-TW	❍	150A-0018-NP	❍	150A-0018-SS	❍
	5/8"	0.6250	15,88		150A-0020-TW	❍	150A-0020-NP	❍	150A-0020-SS	❍
		0.6299	16,00		150A-16-TW	❍	150A-16-NP	❍	150A-16-SS	❍
	11/16"	0.6875	17,46		150A-0022-TW	❍	150A-0022-NP	❍	150A-0022-SS	❍
					AM200®					
Super Cobalt		0.5512	14,00	1/8"	150H-14-TW	❍	150H-14-NP	❍	150H-14-SS	❍
	9/16"	0.5625	14,29		150H-0018-TW	❍	150H-0018-NP	❍	150H-0018-SS	❍
	5/8"	0.6250	15,88		150H-0020-TW	❍	150H-0020-NP	❍	150H-0020-SS	❍
		0.6299	16,00		150H-16-TW	❍	150H-16-NP	❍	150H-16-SS	❍
	11/16"	0.6875	17,46		150H-0022-TW	❍	150H-0022-NP	❍	150H-0022-SS	❍

***Use Thin Wall Drill Inserts for material up to 7/16" thick.**
****Use Notch Point Geometry or 150° Structural Steel Drill Inserts for material over 7/16" thick. Use 150° Structural Steel for reduced exit burr.**

T-A® HSS Drill Inserts

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt		0.5118	13,00	1/8"	150T-13-FB	❍
	33/64"	0.5156	13,10		150T-.515-FB	❍
	17/32"	0.5313	13,49		150T-0017-FB	❍
		0.5315	13,50		150T-13.5-FB	❍
		0.5512	14,00		150T-14-FB	❍
	9/16"	0.5625	14,29		150T-0018-FB	❍
		0.5709	14,50		150T-14.5-FB	❍
	37/64"	0.5781	14,68		150T-.578-FB	❍
		0.5906	15,00		150T-15-FB	❍
	19/32"	0.5938	15,08		150T-0019-FB	❍
		0.6102	15,50		150T-15.5-FB*	❍
	5/8"	0.6250	15,88		150T-0020-FB*	❍
		0.6299	16,00		150T-16-FB*	❍
		0.6496	16,50		150T-16.5-FB*	❍
	21/32"	0.6563	16,67		150T-0021-FB*	❍
		0.6693	17,00		150T-17-FB*	❍
	11/16"	0.6875	17,46		150T-0022-FB*	❍
		0.6890	17,50		150T-17.5-FB*	❍

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 0.5 series T-A Holders.**

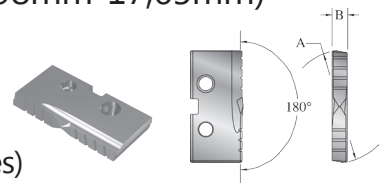
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

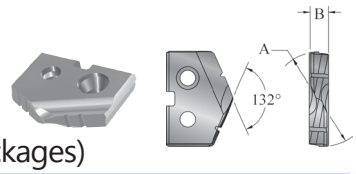
0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
C2 (K20)		0.5118	13,00	1/8"	1C20T-13-FB	▲
	33/64"	0.5156	13,10		1C20T-.515-FB	▲
	17/32"	0.5313	13,49		1C20T-0017-FB	▲
		0.5315	13,50		1C20T-13.5-FB	▲
	35/64"	0.5469	13,89		1C20T-.546-FB	▲
		0.5512	14,00		1C20T-14-FB	▲
	9/16"	0.5625	14,29		1C20T-0018-FB	▲
		0.5709	14,50		1C20T-14.5-FB	▲
	37/64"	0.5781	14,68		1C20T-.578-FB	▲
		0.5906	15,00		1C20T-15-FB	▲
	19/32"	0.5938	15,08		1C20T-0019-FB	▲
	39/64"	0.6094	15,48		1C20T-.609-FB*	▲
		0.6102	15,50		1C20T-15.5-FB*	▲
	5/8"	0.6250	15,88		1C20T-0020-FB*	▲
		0.6299	16,00		1C20T-16-FB*	▲
	41/64"	0.6406	16,27		1C20T-.640-FB*	▲
		0.6496	16,50		1C20T-16.5-FB*	▲
	21/32"	0.6563	16,67		1C20T-0021-FB*	▲
		0.6693	17,00		1C20T-17-FB*	▲
	43/64"	0.6719	17,07		1C20T-.671-FB*	▲
	11/16"	0.6875	17,46		1C20T-0022-FB*	▲
		0.6890	17,50		1C20T-17.5-FB*	▲

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 0.5 series T-A Holders.**

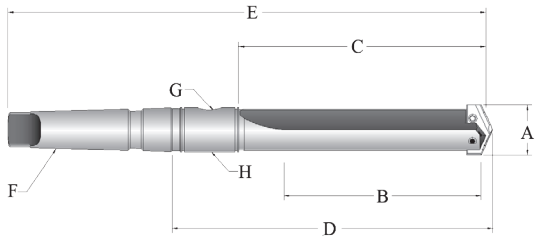


Diamond Coated T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	CVD Diamond	❶
N2		0.5118	13,00	1/8"	1N20D-13	▲
	33/64"	0.5156	13,10		1N20D-.515	▲
	17/32"	0.5313	13,49		1N20D-0017	▲
		0.5315	13,50		1N20D-13.5	▲
	35/64"	0.5469	13,89		1N20D-.546	▲
		0.5512	14,00		1N20D-14	▲
	9/16"	0.5625	14,29		1N20D-0018	▲
		0.5709	14,50		1N20D-14.5	▲
	37/64"	0.5781	14,68		1N20D-.578	▲
		0.5906	15,00		1N20D-15	▲
	19/32"	0.5938	15,08		1N20D-0019	▲
	39/64"	0.6094	15,48		1N20D-.609	▲
		0.6102	15,50		1N20D-15.5	▲
	5/8"	0.6250	15,88		1N20D-0020	▲
		0.6299	16,00		1N20D-16	▲
	41/64"	0.6406	16,27		1N20D-.640	▲
		0.6496	16,50		1N20D-16.5	▲
	21/32"	0.6563	16,67		1N20D-0021	▲
		0.6693	17,00		1N20D-17	▲
	43/64"	0.6719	17,07		1N20D-.671	▲
	11/16"	0.6875	17,46		1N20D-0022	▲
		0.6890	17,50		1N20D-17.5	▲

T-A® Holders

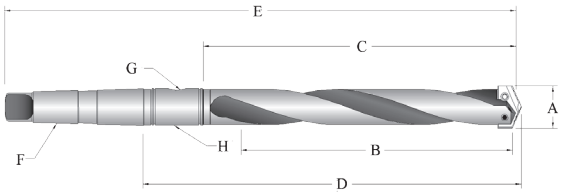
0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22000S-002I	33/64" - 11/16"	1-3/8"	2-3/16"	3-41/64"	6-15/32"	#2	1/16"	2T-2SR
Short	22005S-002I	39/64" - 11/16"	1-3/8"	2-3/16"	3-41/64"	6-15/32"	#2	1/16"	2T-2SR
Standard	24000S-002I	33/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
Standard	24005S-002I	39/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
⚠ Extended	25000S-002I	33/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
⚠ Extended	25005S-002I	39/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	22000S-002M	13,0 - 17,5	35,0	55,5	92,4	164,3	#2**	1/16"*	2T-2SRM
Short	22005S-002M	15,5 - 17,5	35,0	55,5	92,4	164,3	#2**	1/16"*	2T-2SRM

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders



Taper Shank Helical Flute Holders

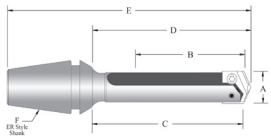
Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Standard	24000H-002I	33/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
Standard	24005H-002I	39/64" - 11/16"	2-1/2"	3-5/16"	4-49/64"	7-19/32"	#2	1/16"	2T-2SR
⚠ Extended	25000H-002I	33/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
⚠ Extended	25005H-002I	39/64" - 11/16"	4-1/2"	5-5/16"	6-49/64"	9-19/32"	#2	1/16"	2T-2SR
⚠ Long	26000H-002I	33/64" - 11/16"	7"	7-13/16"	8-17/64"	12-3/32"	#2	1/16"	2T-2SR
⚠ Long	26005H-002I	39/64" - 11/16"	7"	7-13/16"	8-17/64"	12-3/32"	#2	1/16"	2T-2SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Standard	24000H-002M	13,0 - 17,5	63,5	84,1	121,0	192,9	#2**	1/16"*	2T-2SRM
Standard	24005H-002M	15,5 - 17,5	63,5	84,1	121,0	192,9	#2**	1/16"*	2T-2SRM
⚠ Extended	25000H-002M	13,0 - 17,5	114,3	135,0	171,8	243,7	#2**	1/16"*	2T-2SRM
⚠ Extended	25005H-002M	15,5 - 17,5	114,3	135,0	171,8	243,7	#2**	1/16"*	2T-2SRM
⚠ Long	26000H-002M	13,0 - 17,5	177,8	198,5	235,3	307,2	#2**	1/16"*	2T-2SRM
⚠ Long	26005H-002M	15,5 - 17,5	177,8	198,5	235,3	307,2	#2**	1/16"*	2T-2SRM

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

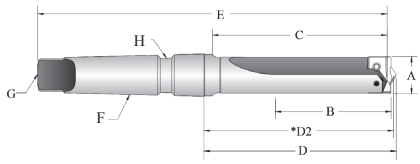
T-A® Holders

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



ER Collet Holders

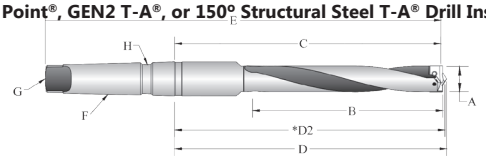
Item Number	A	B	C	D	E	F	Collet Nut without Retaining Ring
	Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Collet Size	
21000S-16ER	33/64" -11/16"	1-3/8"	1-57/64"	2"	3-5/64"	ER-16	ER-16N
21000S-20ER	33/64" -11/16"	1-3/8"	1-57/64"	2"	3-15/64"	ER-20	ER-20N



Structural Steel Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Short	22000S-003IS036	9/16"	1-3/8"	2-13/16"	2-35/64"	2-31/64"	6-1/16"	#3	TTC	TSC
Short	22005S-003IS040	5/8"	1-3/8"	2-13/16"	2-35/64"	2-31/64"	6-1/16"	#3	TTC	TSC
Short	22005S-003IS044	11/16"	1-3/8"	2-13/16"	2-35/64"	2-31/64"	6-1/16"	#3	TTC	TSC
METRIC (mm)										
Short	22000S-003IS036	14	35	56	64,7	63,1	154	#3	TTC	TSC
Short	22000S-003IS040	16	35	56	64,7	63,1	154	#3	TTC	TSC
Short	22000S-003IS044	17,5	35	56	64,7	63,1	154	#3	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150° Structural Steel T-A® Drill Insert Geometry**



Structural Steel Taper Shank Helical Flute Holders

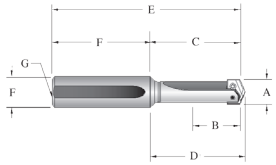
Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Standard	24000H-003IS036	9/16"	2-1/2"	3-5/16"	3-43/64"	3-39/64"	7-3/16"	#3	TTC	TSC
Standard	24005H-003IS040	5/8"	2-1/2"	3-5/16"	3-43/64"	3-39/64"	7-3/16"	#3	TTC	TSC
Standard	24005H-003IS044	11/16"	2-1/2"	3-5/16"	3-43/64"	3-39/64"	7-3/16"	#3	TTC	TSC
⚠ Extended	25000H-003IS036	9/16"	6-1/2"	9-7/16"	9-51/64"	9-19/32"	13-5/64"	#3	TTC	TSC
⚠ Extended	25005H-003IS044	11/16"	6-1/2"	9-7/16"	9-51/64"	9-19/32"	13-5/64"	#3	TTC	TSC
METRIC (mm)										
Standard	24000H-003IS036	14	64	84	93,3	91,7	183	#3	TTC	TSC
Standard	24005H-003IS040	16	64	84	93,3	91,7	183	#3	TTC	TSC
Standard	24005H-003IS044	17,5	64	84	93,3	91,7	183	#3	TTC	TSC
⚠ Extended	25000H-003IS036	14	165	240	248,8	243,7	338	#3	TTC	TSC
⚠ Extended	25005H-003IS044	17,5	165	240	248,8	243,7	338	#3	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150° Structural Steel T-A® Drill Insert Geometry**

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 198 for Structural Steel Guidelines & 199 for Deep Hole Drilling Guidelines in this section of the catalog.
Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures.
Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)

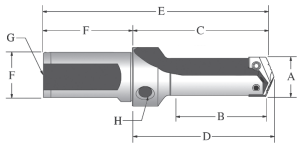


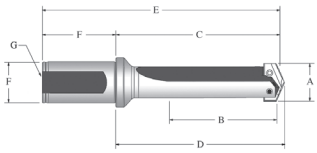
Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Short	22000S-075L	33/64" - 11/16"	1-3/8"	2-3/16"	2-19/64"	4-9/16"	3/4"	2-3/8"	1/8"
Short	22005S-075L	39/64" - 11/16"	1-3/8"	2-3/16"	2-19/64"	4-9/16"	3/4"	2-3/8"	1/8"
Standard	24000S-075L	33/64" - 11/16"	2-1/2"	3-5/16"	3-27/64"	5-11/16"	3/4"	2-3/8"	1/8"
Standard	24005S-075L	39/64" - 11/16"	2-1/2"	3-5/16"	3-27/64"	5-11/16"	3/4"	2-3/8"	1/8"
⚠ Extended	25000S-075L	33/64" - 11/16"	4-1/2"	5-5/16"	5-27/64"	7-11/16"	3/4"	2-3/8"	1/8"
⚠ Extended	25005S-075L	39/64" - 11/16"	4-1/2"	5-5/16"	5-27/64"	7-11/16"	3/4"	2-3/8"	1/8"
⚠ Long	26000S-075L	33/64" - 11/16"	7"	7-13/16"	7-59/64"	10-3/16"	3/4"	2-3/8"	1/8"
⚠ Long	26005S-075L	39/64" - 11/16"	7"	7-13/16"	7-59/64"	10-3/16"	3/4"	2-3/8"	1/8"
⚠ XL	27000S-075L	33/64" - 11/16"	11-5/8"	12-7/16"	12-35/64"	14-13/16"	3/4"	2-3/8"	1/8"
⚠ 3XL	29000S-075L	33/64" - 11/16"	15-1/4"	16-1/16"	16-11/64"	18-7/16"	3/4"	2-3/8"	1/8"

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

Stub Length Flanged Shank Holder





Flanged Shank Straight Flute Holders

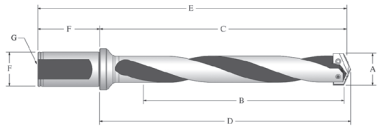
Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Stub	21000S-075F	33/64" - 11/16"	7/8"	1-7/8"	1-63/64"	3-29/32"	3/4"	2-1/32"	1/8"	1/8"
Stub	21005S-075F	39/64" - 11/16"	7/8"	1-7/8"	1-63/64"	3-29/32"	3/4"	2-1/32"	1/8"	1/8"
Short	22000S-075F	33/64" - 11/16"	1-3/8"	2-1/2"	2-39/64"	4-17/32"	3/4"	2-1/32"	1/8"	N/A
Short	22005S-075F	39/64" - 11/16"	1-3/8"	2-1/2"	2-39/64"	4-17/32"	3/4"	2-1/32"	1/8"	N/A
Standard	24000S-075F	33/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"	N/A
Standard	24005S-075F	39/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"	N/A
⚠ Extended	25000S-075F	33/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"	N/A
⚠ Extended	25005S-075F	39/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"	N/A
METRIC (mm)	*Metric Thread to BSP & ISO 7-1									
Stub	21000S-20FM	13,0 - 17,5	22,2	47,6	50,4	97,6	20,0	50,0	1/8"*	1/8"*
Stub	21005S-20FM	15,5 - 17,5	22,2	47,6	50,4	97,6	20,0	50,0	1/8"*	1/8"*
Short	22000S-20FM	13,0 - 17,5	34,9	63,5	66,3	113,5	20,0	50,0	1/8"*	N/A
Short	22005S-20FM	15,5 - 17,5	34,9	63,5	66,3	113,5	20,0	50,0	1/8"*	N/A
⚠ XL	27000S-20FM	13,0 - 17,5	295	323,9	326,7	373,9	20,0	50,0	1/8"*	N/A
⚠ 3XL	29000S-20FM	13,0 - 17,5	387	416,0	418,8	466,0	20,0	50,0	1/8"*	N/A

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

0 Series Range: 0.511"-0.695" (12,98mm-17,65mm)



Flanged Shank Helical Flute Holders

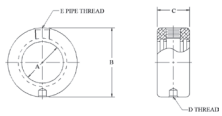
Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Standard	24000H-075F	33/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
Standard	24005H-075F	39/64" - 11/16"	2-1/2"	3-5/8"	3-47/64"	5-21/32"	3/4"	2-1/32"	1/8"
Standard Plus	24500H-075F	33/64" - 11/16"	3-1/2"	4-5/8"	4-37/64"	6-39/64"	3/4"	2-1/32"	1/8"
⚠ Extended	25000H-075F	33/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
⚠ Extended	25005H-075F	39/64" - 11/16"	4-1/2"	5-5/8"	5-47/64"	7-21/32"	3/4"	2-1/32"	1/8"
⚠ Long	26000H-075F	33/64" - 11/16"	7"	8-1/8"	8-15/64"	10-5/32"	3/4"	2-1/32"	1/8"
⚠ Long	26005H-075F	39/64" - 11/16"	7"	8-1/8"	8-15/64"	10-5/32"	3/4"	2-1/32"	1/8"
⚠ Long Plus	26500H-075F	33/64" - 11/16"	9-7/16"	10-37/64"	10-11/16"	12-23/32"	3/4"	2-1/32"	1/8"
METRIC (mm) *Metric Thread to BSP & ISO 7-1									
Standard	24000H-20FM	13,0 - 17,5	63,5	92,1	94,9	142,1	20,0	50,0	1/8"*
Standard	24005H-20FM	15,5 - 17,5	63,5	92,1	94,9	142,1	20,0	50,0	1/8"*
Standard Plus	24500H-20FM	13,0 - 17,5	89,0	117,6	120,4	167,6	20,0	50,0	1/8"*
⚠ Extended	25000H-20FM	13,0 - 17,5	114,3	142,9	145,7	192,9	20,0	50,0	1/8"*
⚠ Extended	25005H-20FM	15,5 - 17,5	114,3	142,9	145,7	192,9	20,0	50,0	1/8"*
⚠ Long	26000H-20FM	13,0 - 17,5	177,8	206,4	209,1	256,4	20,0	50,0	1/8"*
⚠ Long	26005H-20FM	15,5 - 17,5	177,8	206,4	209,1	256,4	20,0	50,0	1/8"*
⚠ Long Plus	26500H-20FM	13,0 - 17,5	240,0	268,6	271,4	318,6	20,0	50,0	1/8"*

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

T-ACR 45 Chamfer Ring and Accessories

Item Number	Min. Drill Dia (Inch)	Max. Drill Dia (Inch)	Max. Chamfer Dia (Inch)	Chamfer Ring Dia	Chamfer Ring Length	Insert Number 2 Pieces	Insert Screw (10 pack)	TORX Plus Driver	Clamping Screw (10 pack)	TORX Plus Driver
T-ACR-45-0	0.5118	0.6890	0.814	1.200	0.676	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7375-IP9-1	8IP-9

Rotary Coolant Adapter (RCA) and Accessories



Length	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-2SR	3/4"	1-3/4"	7/8"	5/16" - 18	1/8"	2T1-2SR	2T1-2OR-10
Metric	⚠ ◢ 2T-2SRM	19,05	44,45	22,23	M8 X 1,25	1/8"*	2T1-2SR	2T1-2OR-10

*** Thread to BSP & ISO 7-1**

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

◢ **Refer to page 200 for Proper RCA Assembly**

Replacement TORX Plus Screws

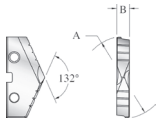
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch		Metric	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	33/64" - 11/16"	15.5 in.-lbs	13,0 - 17,5	175 N-cm
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	39/64" - 11/16"	15.5 in.-lbs	15,5 - 17,5	175 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® HSS Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
HSS	45/64"	0.7031	17,86	5/32"	131T-.703	❍	131A-.703	❍	131N-.703	❍
		0.7087	18,00		131T-18	❍	131A-18	❍	131N-18	❍
	23/32"	0.7188	18,26		131T-0023	❍	131A-0023	❍	131N-0023	❍
		0.7283	18,50		131T-18.5	❍	131A-18.5	❍	131N-18.5	❍
	47/64"	0.7344	18,65		131T-.734	❍	131A-.734	❍	131N-.734	❍
		0.7480	19,00		131T-19	❍	131A-19	❍	131N-19	❍
	3/4"	0.7500	19,05		131T-0024	❍	131A-0024	❍	131N-0024	❍
	49/64"	0.7656	19,45		131T-.765	❍	131A-.765	❍	131N-.765	❍
		0.7677	19,50		131T-19.5	❍	131A-19.5	❍	131N-19.5	❍
	25/32"	0.7813	19,84		131T-0025	❍	131A-0025	❍	131N-0025	❍
		0.7874	20,00		131T-20	❍	131A-20	❍	131N-20	❍
	51/64"	0.7969	20,24		131T-.796	❍	131A-.796	❍	131N-.796	❍
		0.8071	20,50		131T-20.5	❍	131A-20.5	❍	131N-20.5	❍
	13/16"	0.8125	20,64		131T-0026	❍	131A-0026	❍	131N-0026	❍
		0.8268	21,00		131T-21	❍	131A-21	❍	131N-21	❍
	27/32"	0.8438	21,43		131T-0027	❍	131A-0027	❍	131N-0027	❍
	55/64"	0.8594	21,83		131T-.859*	❍	131A-.859*	❍	131N-.859*	❍
		0.8661	22,00		131T-22*	❍	131A-22*	❍	131N-22*	❍
	7/8"	0.8750	22,23		131T-0028*	❍	131A-0028*	❍	131N-0028*	❍
	57/64"	0.8906	22,62		131T-.890*	❍	131A-.890*	❍	131N-.890*	❍
		0.9055	23,00		131T-23*	❍	131A-23*	❍	131N-23*	❍
	29/32"	0.9063	23,02		131T-0029*	❍	131A-0029*	❍	131N-0029*	❍
	59/64"	0.9219	23,42		131T-.921*	❍	131A-.921*	❍	131N-.921*	❍
	15/16"	0.9375	23,81		131T-0030*	❍	131A-0030*	❍	131N-0030*	❍
		0.9449	24,00		131T-24*	❍	131A-24	❍	131N-24*	❍
Super Cobalt	45/64"	0.7031	17,86	5/32"	151T-.703	❍	151A-.703	❍	151N-.703	❍
		0.7087	18,00		151T-18	❍	151A-18	❍	151N-18	❍
	23/32"	0.7188	18,26		151T-0023	❍	151A-0023	❍	151N-0023	❍
		0.7283	18,50		151T-18.5	❍	151A-18.5	❍	151N-18.5	❍
	47/64"	0.7344	18,65		151T-.734	❍	151A-.734	❍	151N-.734	❍
		0.7480	19,00		151T-19	❍	151A-19	❍	151N-19	❍
	3/4"	0.7500	19,05		151T-0024	❍	151A-0024	❍	151N-0024	❍
	49/64"	0.7656	19,45		151T-.765	❍	151A-.765	❍	151N-.765	❍
		0.7677	19,50		151T-19.5	❍	151A-19.5	❍	151N-19.5	❍
	25/32"	0.7813	19,84		151T-0025	❍	151A-0025	❍	151N-0025	❍
		0.7874	20,00		151T-20	❍	151A-20	❍	151N-20	❍
	51/64"	0.7969	20,24		151T-.796	❍	151A-.796	❍	151N-.796	❍
		0.8071	20,50		151T-20.5	❍	151A-20.5	❍	151N-20.5	❍
	13/16"	0.8125	20,64		151T-0026	❍	151A-0026	❍	151N-0026	❍
		0.8268	21,00		151T-21	❍	151A-21	❍	151N-21	❍
	27/32"	0.8438	21,43		151T-0027	❍	151A-0027	❍	151N-0027	❍
	55/64"	0.8594	21,83		151T-.859*	❍	151A-.859*	❍	151N-.859*	❍
		0.8661	22,00		151T-22*	❍	151A-22*	❍	151N-22*	❍
	7/8"	0.8750	22,23		151T-0028*	❍	151A-0028*	❍	151N-0028*	❍
	57/64"	0.8906	22,62		151T-.890*	❍	151A-.890*	❍	151N-.890*	❍
		0.9055	23,00		151T-23*	❍	151A-23*	❍	151N-23*	❍
	29/32"	0.9063	23,02		151T-0029*	❍	151A-0029*	❍	151N-0029*	❍
	59/64"	0.9219	23,42		151T-.921*	❍	151A-.921*	❍	151N-.921*	❍
	15/16"	0.9375	23,81		151T-0030*	❍	151A-0030*	❍	151N-0030*	❍
		0.9449	24,00		151T-24*	❍	151A-24*	❍	151N-24*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN,-TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**

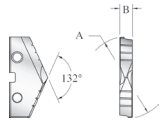
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® HSS Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



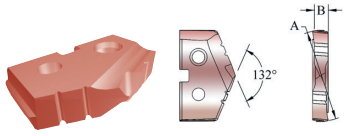
T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Premium Cobalt	45/64"	0.7031	17,86	5/32"	181T-.703	❍	181A-.703	❍	181N-.703	❍
		0.7087	18,00		181T-18	❍	181A-18	❍	181N-18	❍
	23/32"	0.7188	18,26		181T-0023	❍	181A-0023	❍	181N-0023	❍
		0.7283	18,50		181T-18.5	❍	181A-18.5	❍	181N-18.5	❍
	47/64"	0.7344	18,65		181T-.734	❍	181A-.734	❍	181N-.734	❍
		0.7480	19,00		181T-19	❍	181A-19	❍	181N-19	❍
	3/4"	0.7500	19,05		181T-0024	❍	181A-0024	❍	181N-0024	❍
	49/64"	0.7656	19,45		181T-.765	❍	181A-.765	❍	181N-.765	❍
		0.7677	19,50		181T-19.5	❍	181A-19.5	❍	181N-19.5	❍
	25/32"	0.7813	19,84		181T-0025	❍	181A-0025	❍	181N-0025	❍
		0.7874	20,00		181T-20	❍	181A-20	❍	181N-20	❍
	51/64"	0.7969	20,24		181T-.796	❍	181A-.796	❍	181N-.796	❍
		0.8071	20,50		181T-20.5	❍	181A-20.5	❍	181N-20.5	❍
	13/16"	0.8125	20,64		181T-0026	❍	181A-0026	❍	181N-0026	❍
		0.8268	21,00		181T-21	❍	181A-21	❍	181N-21	❍
	27/32"	0.8438	21,43		181T-0027	❍	181A-0027	❍	181N-0027	❍
	55/64"	0.8594	21,83		181T-.859*	❍	181A-.859*	❍	181N-.859*	❍
		0.8661	22,00		181T-22*	❍	181A-22*	❍	181N-22*	❍
	7/8"	0.8750	22,23		181T-0028*	❍	181A-0028*	❍	181N-0028*	❍
	57/64"	0.8906	22,62		181T-.890*	❍	181A-.890*	❍	181N-.890*	❍
		0.9055	23,00		181T-23*	❍	181A-23*	❍	181N-23*	❍
	29/32"	0.9063	23,02		181T-0029*	❍	181A-0029*	❍	181N-0029*	❍
	59/64"	0.9219	23,42		181T-.921*	❍	181A-.921*	❍	181N-.921*	❍
	15/16"	0.9375	23,81		181T-0030*	❍	181A-0030*	❍	181N-0030*	❍
		0.9449	24,00		181T-24*	❍	181A-24*	❍	181N-24*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**

GEN2 T-A® HSS Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt	45/64"	0.7031	17,86	5/32"	451H-.703	❍
		0.7087	18,00		451H-18	❍
	23/32"	0.7188	18,26		451H-0023	❍
		0.7283	18,50		451H-18.5	❍
	47/64"	0.7344	18,65		451H-.734	❍
		0.7480	19,00		451H-19	❍
	3/4"	0.7500	19,05		451H-0024	❍
	49/64"	0.7656	19,45		451H-.765	❍
		0.7677	19,50		451H-19.5	❍
	25/32"	0.7813	19,84		451H-0025	❍
		0.7874	20,00		451H-20	❍
	51/64"	0.7969	20,24		451H-.796	❍
		0.8010	20,34		451H-.801	❍
		0.8071	20,50		451H-20.5	❍
	13/16"	0.8125	20,64		451H-0026	❍
		0.8268	21,00		451H-21	❍
	27/32"	0.8438	21,43		451H-0027	❍
		0.8465	21,50		451H-21.5	❍
	55/64"	0.8564	21,83		451H-.859*	❍
		0.8661	22,00		451H-22*	❍
	7/8"	0.8750	22,23		451H-0028*	❍
		0.8858	22,50		451H-22.5*	❍
	57/64"	0.8906	22,62		451H-.890*	❍
		0.9055	23,00		451H-23*	❍
	29/32"	0.9063	23,02		451H-0029*	❍
	59/64"	0.9219	23,42		451H-.921*	❍
		0.9252	23,50		451H-23.5*	❍
	15/16"	0.9375	23,81		451H-0030*	❍
		0.9449	24,00		451H-24*	❍

Geometries available (see page 197 for details): -HE.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

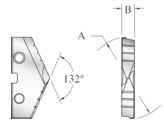
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

T-A® Carbide Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



T-A Drill Inserts (supplied in 2 piece packages)

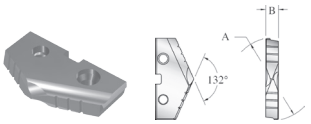
Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶
C2 (K20)	45/64"	0.7031	17,86	5/32"	1C21T-.703	❍	1C21A-.703	❍
		0.7087	18,00		1C21T-18	❍	1C21A-18	❍
	23/32"	0.7188	18,26		1C21T-0023	❍	1C21A-0023	❍
		0.7283	18,50		1C21T-18.5	❍	1C21A-18.5	❍
	47/64"	0.7344	18,65		1C21T-.734	❍	1C21A-.734	❍
		0.7480	19,00		1C21T-19	❍	1C21A-19	❍
	3/4"	0.7500	19,05		1C21T-0024	❍	1C21A-0024	❍
	49/64"	0.7656	19,45		1C21T-.765	❍	1C21A-.765	❍
		0.7677	19,50		1C21T-19.5	❍	1C21A-19.5	❍
	25/32"	0.7813	19,84		1C21T-0025	❍	1C21A-0025	❍
		0.7874	20,00		1C21T-20	❍	1C21A-20	❍
	51/64"	0.7969	20,24		1C21T-.796	❍	1C21A-.796	❍
		0.8071	20,50		1C21T-20.5	❍	1C21A-20.5	❍
	13/16"	0.8125	20,64		1C21T-0026	❍	1C21A-0026	❍
		0.8268	21,00		1C21T-21	❍	1C21A-21	❍
	27/32"	0.8438	21,43		1C21T-0027	❍	1C21A-0027	❍
	55/64"	0.8594	21,83		1C21T-.859*	❍	1C21A-.859*	❍
		0.8661	22,00		1C21T-22*	❍	1C21A-22*	❍
	7/8"	0.8750	22,23		1C21T-0028*	❍	1C21A-0028*	❍
	57/64"	0.8906	22,62		1C21T-.890*	❍	1C21A-.890*	❍
		0.9055	23,00		1C21T-23*	❍	1C21A-23*	❍
	29/32"	0.9063	23,02		1C21T-0029*	❍	1C21A-0029*	❍
	59/64"	0.9219	23,42		1C21T-.921*	❍	1C21A-.921*	❍
	15/16"	0.9375	23,81		1C21T-0030*	❍	1C21A-0030*	❍
		0.9449	24,00		1C21T-24*	❍	1C21A-24*	❍
C5 (P40)	45/64"	0.7031	17,86	5/32"	1C51T-.703	❍	1C51A-.703	❍
		0.7087	18,00		1C51T-18	❍	1C51A-18	❍
	23/32"	0.7188	18,26		1C51T-0023	❍	1C51A-0023	❍
		0.7283	18,50		1C51T-18.5	❍	1C51A-18.5	❍
	47/64"	0.7344	18,65		1C51T-.734	❍	1C51A-.734	❍
		0.7480	19,00		1C51T-19	❍	1C51A-19	❍
	3/4"	0.7500	19,05		1C51T-0024	❍	1C51A-0024	❍
	49/64"	0.7656	19,45		1C51T-.765	❍	1C51A-.765	❍
		0.7677	19,50		1C51T-19.5	❍	1C51A-19.5	❍
	25/32"	0.7813	19,84		1C51T-0025	❍	1C51A-0025	❍
		0.7874	20,00		1C51T-20	❍	1C51A-20	❍
	51/64"	0.7969	20,24		1C51T-.796	❍	1C51A-.796	❍
		0.8071	20,50		1C51T-20.5	❍	1C51A-20.5	❍
	13/16"	0.8125	20,64		1C51T-0026	❍	1C51A-0026	❍
		0.8268	21,00		1C51T-21	❍	1C51A-21	❍
	27/32"	0.8438	21,43		1C51T-0027	❍	1C51A-0027	❍
	55/64"	0.8594	21,83		1C51T-.859*	❍	1C51A-.859*	❍
		0.8661	22,00		1C51T-22*	❍	1C51A-22*	❍
	7/8"	0.8750	22,23		1C51T-0028*	❍	1C51A-0028*	❍
	57/64"	0.8906	22,62		1C51T-.890*	❍	1C51A-.890*	❍
		0.9055	23,00		1C51T-23*	❍	1C51A-23*	❍
	29/32"	0.9063	23,02		1C51T-0029*	❍	1C51A-0029*	❍
	59/64"	0.9219	23,42		1C51T-.921*	❍	1C51A-.921*	❍
	15/16"	0.9375	23,81		1C51T-0030*	❍	1C51A-0030*	❍
		0.9449	24,00		1C51T-24*	❍	1C51A-24*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**

T-A® Carbide Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)

Cast Iron T-A Drill Inserts (supplied in 2 piece packages)



Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiAlN	❶
C3 (K10)	45/64"	0.7031	17,86	5/32"	1C31A-.703-CI	❍
		0.7087	18,00		1C31A-18-CI	❍
	23/32"	0.7188	18,26		1C31A-0023-CI	❍
		0.7283	18,50		1C31A-18.5-CI	❍
	47/64"	0.7344	18,65		1C31A-.734-CI	❍
		0.7480	19,00		1C31A-19-CI	❍
	3/4"	0.7500	19,05		1C31A-0024-CI	❍
	49/64"	0.7656	19,45		1C31A-.765-CI	❍
		0.7677	19,50		1C31A-19.5-CI	❍
	25/32"	0.7813	19,84		1C31A-0025-CI	❍
		0.7874	20,00		1C31A-20-CI	❍
	51/64"	0.7969	20,24		1C31A-.796-CI	❍
		0.8071	20,50		1C31A-20.5-CI	❍
	13/16"	0.8125	20,64		1C31A-0026-CI	❍
		0.8268	21,00		1C31A-21-CI	❍
	27/32"	0.8438	21,43		1C31A-0027-CI	❍
	55/64"	0.8594	21,83		1C31A-.859-CI*	❍
		0.8661	22,00		1C31A-22-CI*	❍
	7/8"	0.8750	22,23		1C31A-0028-CI*	❍
	57/64"	0.8906	22,62		1C31A-.890-CI*	❍
		0.9055	23,00		1C31A-23-CI*	❍
	29/32"	0.9063	23,02		1C31A-0029-CI*	❍
	59/64"	0.9219	23,42		1C31A-.921-CI*	❍
	15/16"	0.9375	23,81		1C31A-0030-CI*	❍
		0.9449	24,00		1C31A-24-CI*	❍

*** Denotes inserts that will also fit 1.5 series T-A Holders.**

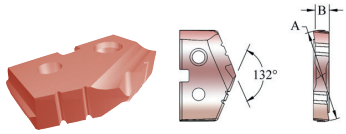
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

GEN2 T-A® Carbide Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



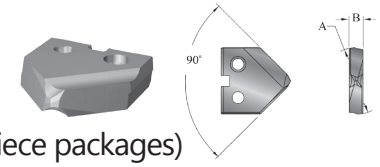
GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
C2 (K20)	45/64"	0.7031	17,86	5/32"	4C21H-.703	❍
		0.7087	18,00		4C21H-18	❍
	23/32"	0.7188	18,26		4C21H-0023	❍
		0.7283	18,50		4C21H-18.5	❍
	47/64"	0.7344	18,65		4C21H-.734	❍
		0.7480	19,00		4C21H-19	❍
	3/4"	0.7500	19,05		4C21H-0024	❍
	49/64"	0.7656	19,45		4C21H-.765	❍
		0.7677	19,50		4C21H-19.5	❍
	25/32"	0.7813	19,84		4C21H-0025	❍
		0.7874	20,00		4C21H-20	❍
	51/64"	0.7969	20,24		4C21H-.796	❍
		0.8071	20,50		4C21H-20.5	❍
	13/16"	0.8125	20,64		4C21H-0026	❍
		0.8268	21,00		4C21H-21	❍
	27/32"	0.8438	21,43		4C21H-0027	❍
		0.8465	21,50		4C21H-21.5	❍
	55/64"	0.8564	21,83		4C21H-.859*	❍
		0.8661	22,00		4C21H-22*	❍
	7/8"	0.8750	22,23		4C21H-0028*	❍
	57/64"	0.8906	22,62		4C21H-.890*	▲
		0.9055	23,00		4C21H-23*	❍
	29/32"	0.9063	23,02		4C21H-0029*	❍
	59/64"	0.9219	23,42		4C21H-.921*	❍
	15/16"	0.9375	23,81		4C21H-0030*	❍
		0.9449	24,00		4C21H-24*	❍
C1 (K35)	45/64"	0.7031	17.86	5/32"	4C11H-.703	❍
		0.7087	18,00		4C11H-18	❍
	23/32"	0.7188	18,26		4C11H-0023	❍
		0.7283	18,50		4C11H-18.5	❍
	47/64"	0.7344	18,65		4C11H-.734	▲
		0.7480	19,00		4C11H-19	❍
	3/4"	0.7500	19,05		4C11H-0024	❍
	49/64"	0.7656	19,45		4C11H-.765	❍
		0.7677	19,50		4C11H-19.5	❍
	25/32"	0.7813	19,84		4C11H-0025	❍
		0.7874	20,00		4C11H-20	❍
	51/64"	0.7969	20,24		4C11H-.796	❍
		0.8071	20,50		4C11H-20.5	❍
	13/16"	0.8125	20,64		4C11H-0026	❍
		0.8268	21,00		4C11H-21	❍
	27/32"	0.8438	21,43		4C11H-0027	❍
		0.8465	21,50		4C11H-21.5	❍
	55/64"	0.8594	21,83		4C11H-.859*	▲
		0.8661	22,00		4C11H-22*	❍
	7/8"	0.8750	22,23		4C11H-0028*	❍
	57/64"	0.8906	22,62		4C11H-.890*	❍
		0.9055	23,00		4C11H-23*	❍
	29/32"	0.9063	23,02		4C11H-0029*	❍
	59/64"	0.9219	23,42		4C11H-.921*	❍
		0.9252	23,50		4C11H-23.5*	❍
	15/16"	0.9375	23,81		4C11H-0030*	❍
		0.9449	24,00		4C11H-24*	❍

Geometries available (see page 197 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**

T-A® HSS Drill Inserts

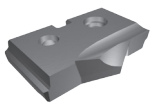
1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



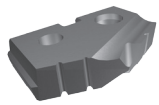
90° Spot and Chamfer T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	45/64"	0.7031	17,86	5/32"	151T-.703-SP	▲	151A-.703-SP	▲	151N-.703-SP	▲
		0.7087	18,00		151T-18-SP	▲	151A-18-SP	▲	151N-18-SP	▲
	23/32"	0.7188	18,26		151T-0023-SP	▲	151A-0023-SP	▲	151N-0023-SP	▲
		0.7283	18,50		151T-18.5-SP	▲	151A-18.5-SP	▲	151N-18.5-SP	▲
	47/64"	0.7344	18,65		151T-.734-SP	▲	151A-.734-SP	▲	151N-.734-SP	▲
		0.7480	19,00		151T-19-SP	▲	151A-19-SP	▲	151N-19-SP	▲
	3/4"	0.7500	19,05		151T-0024-SP	❍	151A-0024-SP	❍	151N-0024-SP	▲
	49/64"	0.7656	19,45		151T-.765-SP	▲	151A-.765-SP	▲	151N-.765-SP	▲
		0.7677	19,50		151T-19.5-SP	▲	151A-19.5-SP	▲	151N-19.5-SP	▲
	25/32"	0.7813	19,84		151T-0025-SP	❍	151A-0025-SP	▲	151N-0025-SP	▲
		0.7874	20,00		151T-20-SP	▲	151A-20-SP	▲	151N-20-SP	▲
	51/64"	0.7969	20,24		151T-.796-SP	▲	151A-.796-SP	▲	151N-.796-SP	▲
		0.8071	20,50		151T-20.5-SP	▲	151A-20.5-SP	▲	151N-20.5-SP	▲
	13/16"	0.8125	20,64		151T-0026-SP	▲	151A-0026-SP	▲	151N-0026-SP	▲
		0.8268	21,00		151T-21-SP	▲	151A-21-SP	▲	151N-21-SP	▲
	27/32"	0.8438	21,43		151T-0027-SP	▲	151A-0027-SP	▲	151N-0027-SP	▲
	55/64"	0.8594	21,83		151T-.859-SP*	▲	151A-.859-SP*	▲	151N-.859-SP*	▲
		0.8661	22,00		151T-22-SP*	▲	151A-22-SP*	▲	151N-22-SP*	▲
	7/8"	0.8750	22,23		151T-0028-SP*	❍	151A-0028-SP*	❍	151N-0028-SP*	❍
		0.8858	22,50		151T-22.5-SP*	▲	151A-22.5-SP*	▲	151N-22.5-SP*	▲
	57/64"	0.8906	22,62		151T-.890-SP*	▲	151A-.890-SP*	▲	151N-.890-SP*	▲
		0.9055	23,00		151T-23-SP*	▲	151A-23-SP*	▲	151N-23-SP*	▲
	29/32"	0.9063	23,02		151T-0029-SP*	▲	151A-0029-SP*	▲	151N-0029-SP*	▲
	59/64"	0.9219	23,42		151T-.921-SP*	▲	151A-.921-SP*	▲	151N-.921-SP*	▲
	15/16"	0.9375	23,81		151T-0030-SP*	❍	151A-0030-SP*	▲	151N-0030-SP*	▲
		0.9449	24,00		151T-24-SP*	❍	151A-24-SP*	❍	151N-24-SP*	❍

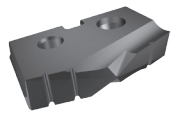
Geometries available (see page 197 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**



***Thin Wall**



****Notch Point®**



****150° Structural Steel**

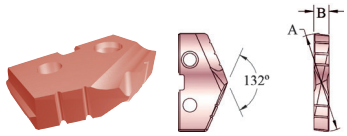
Structural Steel T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	*Thin Wall TiAlN	❶	**Notch Point TiAlN	❶	150° Structural Steel TiAlN	❶
Super Cobalt		0.7087	18,00	5/32"	151A-18-TW	❍	151A-18-NP	❍	151A-18-SS	❍
	13/16"	0.8125	20,64		151A-0026-TW	❍	151A-0026-NP	❍	151A-0026-SS	❍
		0.8661	22,00		151A-22-TW	❍	151A-22-NP	❍	151A-22-SS	❍
	7/8"	0.8750	22,23		151A-0028-TW	❍	151A-0028-NP	❍	151A-0028-SS	❍
	15/16"	0.9375	23,81		151A-0030-TW	❍	151A-0030-NP	❍	151A-0030-SS	❍
		0.9449	24,00		151A-24-TW	❍	151A-24-NP	❍	151A-24-SS	❍
					AM200®					
Super Cobalt		0.7087	18,00	5/32"	151H-18-TW	❍	151H-18-NP	❍	151H-18-SS	❍
	13/16"	0.8125	20,64		151H-0026-TW	❍	151H-0026-NP	❍	151H-0026-SS	❍
		0.8268	21,00		151H-21-TW	❍	151H-21-NP	❍	151H-21-SS	❍
		0.8661	22,00		151H-22-TW	❍	151H-22-NP	❍	151H-22-SS	❍
	7/8"	0.8750	22,23		151H-0028-TW	❍	151H-0028-NP	❍	151H-0028-SS	❍
	15/16"	0.9375	23,81		151H-0030-TW	❍	151H-0030-NP	❍	151H-0030-SS	❍
		0.9449	24,00		151H-24-TW	❍	151H-24-NP	❍	151H-24-SS	❍

***Use Thin Wall Drill Inserts for material up to 7/16" thick.**
****Use Notch Point Geometry or 150° Structural Steel Drill Inserts for material over 7/16" thick. Use 150° Structural Steel for reduced exit burr.**

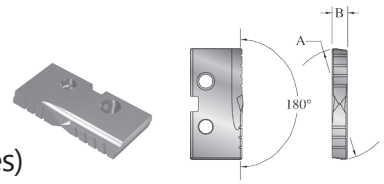
T-A® HSS Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



Tube Sheet T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
HSS		0.7580	19,25	5/32"	131H-.7580-IN	❍
	49/64"	0.7656	19,45		131H-.765-IN	❍
	25/32"	0.7813	19,85		131H-0025-IN	❍
Super Cobalt		0.7580	19,25	5/32"	151H-.7580-IN	❍
	49/64"	0.7656	19,45		151H-.765-IN	❍
	25/32"	0.7813	19,85		151H-0025-IN	❍



Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt	45/64"	0.7031	17,86	5/32"	151T-.703-FB	❍
		0.7087	18,00		151T-18-FB	❍
	23/32"	0.7188	18,26		151T-0023-FB	❍
		0.7283	18,50		151T-18.5-FB	❍
	47/64"	0.7344	18,65		151T-.734-FB	❍
		0.7480	19,00		151T-.19-FB	❍
	3/4"	0.7500	19,05		151T-0024-FB	❍
	49/64"	0.7656	19,45		151T-.765-FB	❍
		0.7677	19,50		151T-19.5-FB	❍
	25/32"	0.7813	19,84		151T-0025-FB	❍
		0.7874	20,00		151T-20-FB	❍
		0.8071	20,50		151T-20.5-FB	❍
	13/16"	0.8125	20,64		151T-0026-FB	❍
		0.8268	21,00		151T-21-FB	❍
	27/32"	0.8438	21,43		151T-0027-FB	❍
		0.8661	22,00		151T-22-FB*	❍
	7/8"	0.8750	22,23		151T-0028-FB*	❍
		0.9055	23,00		151T-23-FB*	❍
	29/32"	0.9063	23,02		151T-0029-FB*	❍
	59/64"	0.9219	23,42		151T-.921-FB*	❍
	15/16"	0.9375	23,81		151T-0030-FB*	❍
		0.9449	24,00		151T-24-FB*	❍

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**

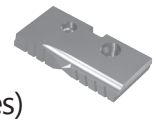
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

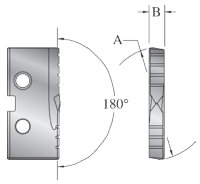
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)

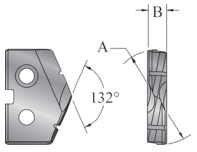




Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
C2 (K20)	45/64"	0.7031	17,86	5/32"	1C21T-.703-FB	▲
		0.7087	18,00		1C21T-18-FB	▲
	23/32"	0.7188	18,26		1C21T-0023-FB	▲
		0.7283	18,50		1C21T-18.5-FB	▲
	47/64"	0.7344	18,65		1C21T-.734-FB	▲
		0.7480	19,00		1C21T-19-FB	▲
	3/4"	0.7500	19,05		1C21T-0024-FB	▲
	49/64"	0.7656	19,45		1C21T-.765-FB	▲
		0.7677	19,50		1C21T-19.5-FB	▲
	25/32"	0.7813	19,84		1C21T-0025-FB	▲
		0.7874	20,00		1C21T-20-FB	▲
		0.8071	20,50		1C21T-20.5-FB	▲
	13/16"	0.8125	20,64		1C21T-0026-FB	▲
		0.8268	21,00		1C21T-21-FB	▲
	27/32"	0.8438	21,43		1C21T-0027-FB	▲
		0.8661	22,00		1C21T-22-FB*	▲
	7/8"	0.8750	22,23		1C21T-0028-FB*	▲
		0.9055	23,00		1C21T-23-FB*	▲
	29/32"	0.9063	23,02		1C21T-0029-FB*	▲
	59/64"	0.9219	23,42		1C21T-.921-FB*	▲
	15/16"	0.9375	23,81		1C21T-0030-FB*	▲
		0.9449	24,00		1C21T-24-FB*	▲

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 1.5 series T-A Holders.**

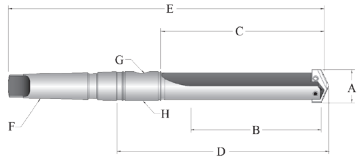


Diamond Coated T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	CVD Diamond	❶
N2	45/64"	0.7031	17,86	5/32"	1N21D-.703	▲
		0.7087	18,00		1N21D-18	▲
	23/32"	0.7188	18,26		1N21D-0023	▲
		0.7283	18,50		1N21D-18.5	▲
	47/64"	0.7344	18,65		1N21D-.734	▲
		0.7480	19,00		1N21D-19	▲
	3/4"	0.7500	19,05		1N21D-0024	▲
	49/64"	0.7656	19,45		1N21D-.765	▲
		0.7677	19,50		1N21D-19.5	▲
	25/32"	0.7813	19,84		1N21D-0025	▲
		0.7874	20,00		1N21D-20	▲
	51/64"	0.7969	20,24		1N21D-.796	▲
		0.8071	20,50		1N21D-20.5	▲
	13/16"	0.8125	20,64		1N21D-0026	▲
		0.8268	21,00		1N21D-21	▲
	27/32"	0.8438	21,43		1N21D-0027	▲
	55/64"	0.8594	21,83		1N21D-.859	▲
		0.8661	22,00		1N21D-22	▲
	7/8"	0.8750	22,23		1N21D-0028	▲
		0.8858	22,50		1N21D-22.5	▲
	57/64"	0.8906	22,62		1N21D-.890	▲
		0.9055	23,00		1N21D-23	▲
	29/32"	0.9063	23,02		1N21D-0029	▲
	59/64"	0.9219	23,42		1N21D-.921	▲
	15/16"	0.9375	23,81		1N21D-0030	▲
		0.9449	24,00		1N21D-24	▲

T-A® Holders

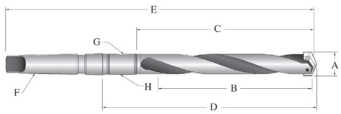
1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



Taper Shank Straight Flute Holders

Length	Item Number	A Drill Insert Range	B Drill Depth	C Body Length	D Tool Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Short	22010S-003I	45/64" - 15/16"	2-3/4"	3-7/8"	5-39/64"	9-5/32"	#3	1/8"	2T-3SR
Short	22010S-004I	45/64" - 15/16"	2-3/4"	3-7/8"	5-43/64"	10-5/32"	#4	1/8"	2T-3SR
Short	22015S-003I	55/64" - 15/16"	2-3/4"	3-7/8"	5-39/64"	9-5/32"	#3	1/8"	2T-3SR
Short	22015S-004I	55/64" - 15/16"	2-3/4"	3-7/8"	5-43/64"	10-5/32"	#4	1/8"	2T-3SR
Intermediate	23010S-003I	45/64" - 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	2T-3SR
Intermediate	23015S-003I	55/64" - 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	2T-3SR
Standard	24010S-003I	45/64" - 15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	2T-3SR
Standard	24010S-004I	45/64" - 15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	2T-3SR
Standard	24015S-003I	55/64" - 15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	2T-3SR
Standard	24015S-004I	55/64" - 15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	2T-3SR
⚠ Extended	25010S-003I	45/64" - 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	2T-3SR
⚠ Extended	25015S-003I	55/64" - 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	2T-3SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	22010S-003M	18,0 - 24,0	69,8	98,4	142,5	232,5	#3**	1/8"*	2T-3SRM
Short	22015S-003M	22,0 - 24,0	69,8	98,4	142,5	232,5	#3**	1/8"*	2T-3SRM

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders



Taper Shank Helical Flute Holders

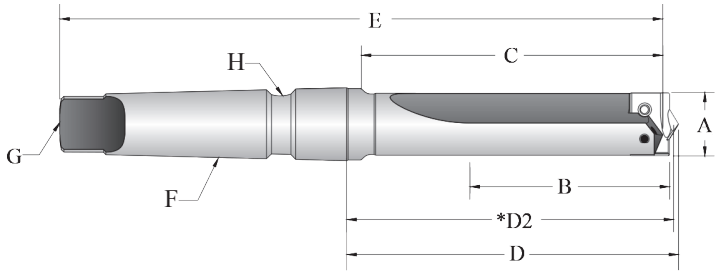
Length	Item Number	A Drill Insert Range	B Drill Depth	C Body Length	D Tool Ref. Length	E Overall Length	F MT	G Pipe Tap	H RCA
Intermediate	23010H-003I	45/64" - 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	2T-3SR
Intermediate	23015H-003I	55/64" - 15/16"	4-3/4"	5-7/8"	7-39/64"	11-5/32"	#3	1/8"	2T-3SR
Standard	24010H-003I	45/64" - 15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	2T-3SR
Standard	24010H-004I	45/64" - 15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	2T-3SR
Standard	24015H-003I	55/64" - 15/16"	6-3/4"	7-7/8"	9-39/64"	13-5/32"	#3	1/8"	2T-3SR
Standard	24015H-004I	55/64" - 15/16"	6-3/4"	7-7/8"	9-43/64"	14-5/32"	#4	1/8"	2T-3SR
⚠ Extended	25010H-003I	45/64" - 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	2T-3SR
⚠ Extended	25015H-003I	55/64" - 15/16"	10-3/4"	11-7/8"	13-39/64"	17-5/32"	#3	1/8"	2T-3SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Intermediate	23010H-003M	18,0 - 22,0	120,7	149,2	193,3	283,3	#3**	1/8"	2T-3SRM
Intermediate	23015H-003M	22,0 - 24,0	120,7	149,2	193,3	283,3	#3**	1/8"	2T-3SRM
Standard	24010H-003M	18,0 - 22,0	171,5	200,0	244,1	334,2	#3**	1/8"	2T-3SRM
Standard	24015H-003M	22,0 - 24,0	171,5	200,0	244,1	334,2	#3**	1/8"	2T-3SRM
⚠ Extended	25010H-003M	18,0 - 22,0	273,1	301,6	345,7	435,8	#3**	1/8"*	2T-3SRM
⚠ Extended	25015H-003M	22,0 - 24,0	273,1	301,6	345,7	435,8	#3**	1/8"*	2T-3SRM

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



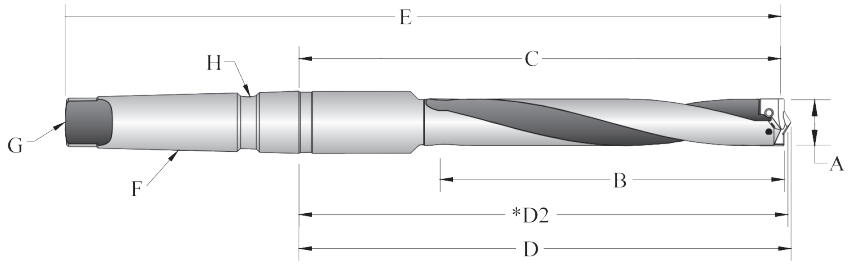
Structural Steel Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Short	22010S-003IS045	18mm	2-3/4"	3-7/8"	4-17/64"	4-13/64"	7-3/4"	#3	TTC	TSC
Short	22010S-004IS045	18mm	2-3/4"	3-7/8"	4-21/64"	4-17/64"	8-3/4"	#4	TTC	TSC
Short	22010S-003IS052	13/16"	2-3/4"	3-7/8"	4-17/64"	4-13/64"	7-3/4"	#3	TTC	TSC
Short	22010S-004IS052	13/16"	2-3/4"	3-7/8"	4-21/64"	4-17/64"	8-3/4"	#4	TTC	TSC
Short	22015S-003IS056	7/8"	2-3/4"	3-7/8"	4-17/64"	4-13/64"	7-3/4"	#3	TTC	TSC
Short	22015S-004IS056	7/8"	2-3/4"	3-7/8"	4-21/64"	4-17/64"	8-3/4"	#4	TTC	TSC
Short	22015S-003IS060	15/16"	2-3/4"	3-7/8"	4-17/64"	4-13/64"	7-3/4"	#3	TTC	TSC
Short	22015S-004IS060	15/16"	2-3/4"	3-7/8"	4-21/64"	4-17/64"	8-3/4"	#4	TTC	TSC
METRIC (mm)										
Short	22010S-003IS045	18	70	98	108,4	106,8	197	#3	TTC	TSC
Short	22010S-004IS045	18	70	98	109,9	108,3	222	#4	TTC	TSC
Short	22010S-003IS052	21	70	98	108,4	106,8	197	#3	TTC	TSC
Short	22010S-004IS052	21	70	98	109,9	108,3	222	#4	TTC	TSC
Short	22015S-003IS056	22	70	98	108,4	106,8	197	#3	TTC	TSC
Short	22015S-004IS056	22	70	98	109,9	108,3	222	#4	TTC	TSC
Short	22015S-003IS060	24	70	98	108,4	106,8	197	#3	TTC	TSC
Short	22015S-004IS060	24	70	98	109,9	108,3	222	#4	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150° Structural Steel T-A® Drill Insert Geometry**

T-A® Holders

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



Structural Steel Taper Shank Helical Flute Holders

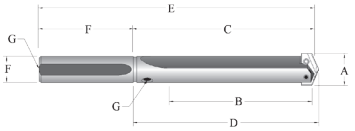
Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Standard	24010H-003IS045	18mm	4-3/4"	5-7/8"	6-17/64"	6-13/64"	9-3/4"	#3	TTC	TSC
Standard	24010H-004IS045	18mm	4-3/4"	5-7/8"	6-21/64"	6-17/64"	10-3/4"	#4	TTC	TSC
Standard	24010H-003IS052	13/16"	4-3/4"	5-7/8"	6-17/64"	6-13/64"	9-3/4"	#3	TTC	TSC
Standard	24010H-004IS052	13/16"	4-3/4"	5-7/8"	6-21/64"	6-17/64"	10-3/4"	#4	TTC	TSC
Standard	24015H-003IS056	7/8"	4-3/4"	5-7/8"	6-17/64"	6-13/64"	9-3/4"	#3	TTC	TSC
Standard	24015H-004IS056	7/8"	4-3/4"	5-7/8"	6-21/64"	6-17/64"	10-3/4"	#4	TTC	TSC
Standard	24015H-003IS060	15/16"	4-3/4"	5-7/8"	6-17/64"	6-13/64"	9-3/4"	#3	TTC	TSC
Standard	24015H-004IS060	15/16"	4-3/4"	5-7/8"	6-21/64"	6-17/64"	10-3/4"	#4	TTC	TSC
⚠ Extended	25010H-003IS045	18mm	6-1/2"	9-11/32"	9-47/64"	9-1/2"	13-7/32"	#3	TTC	TSC
⚠ Extended	25010H-003IS052	13/16"	6-1/2"	9-11/32"	9-47/64"	9-1/2"	13-7/32"	#3	TTC	TSC
⚠ Extended	25010H-004IS052	13/16"	6-1/2"	9-9/32"	9-47/64"	9-43/64"	14-5/32"	#4	TTC	TSC
⚠ Extended	25015H-003IS060	15/16"	6-1/2"	9-11/32"	9-47/64"	9-15/32"	13-7/32"	#3	TTC	TSC
⚠ Extended	25015H-004IS060	15/16"	6-1/2"	9-9/32"	9-47/64"	9-43/64"	14-5/32"	#4	TTC	TSC
⚠ Long	26010H-004IS052	13/16"	6-1/2"	15-25/32"	16-15/64"	16-11/64"	20-21/32"	#4	TTC	TSC
⚠ Long	26015H-004IS060	15/16"	6-1/2"	15-13/16"	16-17/64"	16-13/64"	20-11/16"	#4	TTC	TSC
METRIC (mm)										
Standard	24010H-003IS045	18	121	149	159,2	157,6	248	#3	TTC	TSC
Standard	24010H-004IS045	18	121	149	160,8	159,2	273	#4	TTC	TSC
Standard	24010H-003IS052	21	121	149	159,2	157,6	248	#3	TTC	TSC
Standard	24010H-004IS052	21	121	149	160,8	159,2	273	#4	TTC	TSC
Standard	24015H-003IS056	22	121	149	159,2	157,6	248	#3	TTC	TSC
Standard	24015H-004IS056	22	121	149	160,8	159,2	273	#4	TTC	TSC
Standard	24015H-003IS060	24	121	149	159,2	157,6	248	#3	TTC	TSC
Standard	24015H-004IS060	24	121	149	160,8	159,2	273	#4	TTC	TSC
⚠ Extended	25010H-003IS045	18	165	237	247,3	241,3	336	#3	TTC	TSC
⚠ Extended	25010H-003IS052	22	165	237	247,3	241,3	336	#3	TTC	TSC
⚠ Extended	25010H-004IS052	22	165	236	247,3	245,7	384	#4	TTC	TSC
⚠ Extended	25015H-003IS060	24	165	237	247,3	234,5	336	#3	TTC	TSC
⚠ Extended	25015H-004IS060	24	165	236	247,3	245,7	384	#4	TTC	TSC
⚠ Long	26010H-004IS052	22	165	401	412,4	410,8	525	#4	TTC	TSC
⚠ Long	26015H-004IS060	24	165	401	413,1	411,6	525	#4	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150° Structural Steel T-A® Drill Insert Geometry**

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 198 for Structural Steel Guidelines & 199 for Deep Hole Drilling Guidelines in this section of the catalog.
Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures.
Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

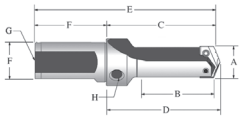
1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)

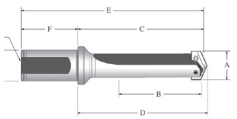


Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Short	22010S-075L	45/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	3/4"	3"	1/8"
Short	22010S-100L	45/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	1"	3"	1/8"
Short	22015S-075L	55/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	3/4"	3"	1/8"
Short	22015S-100L	55/64" - 15/16"	2-5/8"	3-7/8"	4-1/64"	6-7/8"	1"	3"	1/8"
Intermediate	23010S-100L	45/64" - 15/16"	4-5/8"	5-7/8"	6-1/64"	8-7/8"	1"	3"	1/8"
Intermediate	23015S-100L	55/64" - 15/16"	4-5/8"	5-7/8"	6-1/64"	8-7/8"	1"	3"	1/8"
Standard	24010S-075L	45/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	3/4"	3"	1/8"
Standard	24010S-100L	45/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	1"	3"	1/8"
Standard	24015S-075L	55/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	3/4"	3"	1/8"
Standard	24015S-100L	55/64" - 15/16"	6-5/8"	7-7/8"	8-1/64"	10-7/8"	1"	3"	1/8"
⚠ Extended	25010S-100L	45/64" - 15/16"	10-5/8"	11-7/8"	12-1/64"	14-7/8"	1"	3"	1/8"
⚠ Extended	25015S-100L	55/64" - 15/16"	10-5/8"	11-7/8"	12-1/64"	14-7/8"	1"	3"	1/8"
⚠ XL	27010S-100L	45/64" - 15/16"	18"	19-1/4"	19-25/64"	22-1/4"	1"	3"	1/8"
⚠ 3XL	29010S-100L	45/64" - 15/16"	22-1/4"	23-1/2"	23-41/64"	26-1/2"	1"	3"	1/8"

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders





Flanged Shank Straight Flute Holders

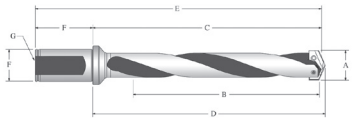
Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Stub	21010S-100F	45/64" - 15/16"	1-7/8"	2-63/64"	3-1/8"	5-17/64"	1"	2-9/32"	1/8"	1/8"
Stub	21015S-100F	55/64" - 15/16"	2-1/4"	3-31/64"	3-5/8"	5-49/64"	1"	2-9/32"	1/8"	1/8"
Short	22010S-100F	45/64" - 15/16"	2-5/8"	4-7/32"	4-23/64"	6-1/2"	1"	2-9/32"	1/8"	N/A
Short	22015S-100F	55/64" - 15/16"	2-5/8"	4-7/32"	4-23/64"	6-1/2"	1"	2-9/32"	1/8"	N/A
Intermediate	23010S-100F	45/64" - 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"	N/A
Intermediate	23015S-100F	55/64" - 15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"	N/A
Standard	24010S-100F	45/64" - 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"	N/A
Standard	24015S-100F	55/64" - 15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"	N/A
⚠ Extended	25010S-100F	45/64" - 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"	N/A
⚠ Extended	25015S-100F	55/64" - 15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"	N/A
METRIC (mm) *Metric Thread to BSP & ISO 7-1										
Stub	21010S-25FM	18,0 - 24,0	47,6	75,8	79,4	131,8	25,0	56,0	1/8"*	1/8"*
Stub	21015S-25FM	22,0 - 24,0	57,2	88,5	92,1	144,5	25,0	56,0	1/8"*	1/8"*
Short	22010S-25FM	18,0 - 24,0	66,7	107,2	110,7	163,2	25,0	56,0	1/8"*	N/A
Short	22015S-25FM	22,0 - 24,0	66,7	107,2	110,7	163,2	25,0	56,0	1/8"*	N/A
⚠ XL	27010S-25FM	18,0 - 24,0	457	494,5	498,1	550,5	25,0	56,0	1/8"*	N/A
⚠ 3XL	29010S-25FM	18,0 - 24,0	569	602,5	606,1	658,5	25,0	56,0	1/8"*	N/A

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

1 Series Range: 0.690"-0.960" (17,53mm-24,38mm)



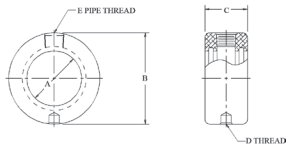
Flanged Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Intermediate	23010H-100F	45/64" -15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"
Intermediate	23015H-100F	55/64" -15/16"	4-5/8"	6-3/32"	6-15/64"	8-3/8"	1"	2-9/32"	1/8"
Standard	24010H-100F	45/64" -15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"
Standard	24015H-100F	55/64" -15/16"	6-5/8"	8-3/32"	8-15/64"	10-3/8"	1"	2-9/32"	1/8"
Standard Plus	24510H-100F	45/64" -15/16"	8-5/8"	10-3/32"	10-15/64"	12-33/64"	1"	2-9/32"	1/8"
⚠ Extended	25010H-100F	45/64" -15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"
⚠ Extended	25015H-100F	55/64" -15/16"	10-5/8"	12-3/32"	12-15/64"	14-3/8"	1"	2-9/32"	1/8"
⚠ Long	26010H-100F	45/64" -15/16"	14-3/8"	15-27/32"	15-63/64"	18-17/64"	1"	2-9/32"	1/8"
METRIC (mm) *Metric Thread to BSP & ISO 7-1									
Intermediate	23010H-25FM	18,0 - 24,0	117,5	154,8	158,4	210,8	25,0	56,0	1/8"*
Intermediate	23015H-25FM	22,0 - 24,0	117,5	154,8	158,4	210,8	25,0	56,0	1/8"*
Standard	24010H-25FM	18,0 - 24,0	168,3	205,6	209,2	261,6	25,0	56,0	1/8"*
Standard	24015H-25FM	22,0 - 24,0	168,3	205,6	209,2	261,6	25,0	56,0	1/8"*
Standard Plus	24510H-25FM	18,0 - 24,0	219,0	256,3	259,9	312,3	25,0	56,0	1/8"*
⚠ Extended	25010H-25FM	18,0 - 24,0	269,9	307,2	310,8	363,2	25,0	56,0	1/8"*
⚠ Extended	25015H-25FM	22,0 - 24,0	269,9	307,2	310,8	363,2	25,0	56,0	1/8"*
⚠ Long	26010H-25FM	18,0 - 24,0	365,0	402,3	405,9	458,3	25,0	56,0	1/8"*

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

T-ACR 45 Chamfer Ring and Accessories

Item Number	Min. Drill Dia (Inch)	Max. Drill Dia (Inch)	Max. Chamfer Dia (Inch)	Chamfer Ring Dia	Chamfer Ring Length	Insert Number 2 Pieces	Insert Screw (10 pack)	TORX Plus Driver	Clamping Screw (10 pack)	TORX Plus Driver
T-ACR-45-1	0.690	0.854	1.047	1-3/8"	51/64"	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7495-IP15-1	8IP-15
T-ACR-45-1.5	0.854	0.960	1.125	1-9/16"	57/64"					



Rotary Coolant Adapter (RCA) and Accessories

Length	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-3SR	1"	2-1/8"	1-1/8"	5/16" - 18	1/8"	2T1-3SR	2T1-3OR-10
Metric	⚠ ◢ 2T-3SRM	25,40	53,97	28,57	M8 X 1,25	1/8"*	2T1-3SR	2T1-3OR-10

⋆Thread to BSP & ISO 7-1 / ⋆⋆ RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers. / ◣Refer to page 200 for Proper RCA Assembly

Replacement TORX Plus Screws

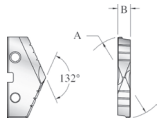
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch		Metric	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	45/64" - 15/16"	27.0 in.-lbs	18,0 - 24,0	305 N-cm
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	55/64" - 15/16"	27.0 in.-lbs	18,0 - 24,0	305 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® HSS Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



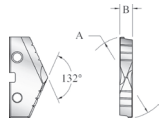
T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
HSS	31/32"	0.9688	24,61	3/16"	132T-0031	❍	132A-0031	❍	132N-0031	❍
	63/64"	0.9843	25,00		132T-25	❍	132A-25	❍	132N-25	❍
	1"	1.0000	25,40		132T-0100	❍	132A-0100	❍	132N-0100	❍
	1-1/64"	1.0156	25,80		132T-1.015	❍	132A-1.015	❍	132N-1.015	❍
		1.0236	26,00		132T-26	❍	132A-26	❍	132N-26	❍
	1-1/32"	1.0313	26,19		132T-0101	❍	132A-0101	❍	132N-0101	❍
	1-3/64"	1.0469	26,59		132T-1.046	❍	132A-1.046	❍	132N-1.046	❍
	1-1/16"	1.0625	26,99		132T-0102	❍	132A-0102	❍	132N-0102	❍
		1.0630	27,00		132T-27	❍	132A-27	❍	132N-27	❍
	1-3/32"	1.0938	27,78		132T-0103	❍	132A-0103	❍	132N-0103	❍
		1.1024	28,00		132T-28	❍	132A-28	❍	132N-28	❍
	1-7/64"	1.1094	28,18		132T-1.109	❍	132A-1.109	❍	132N-1.109	❍
	1-1/8"	1.1250	28,58		132T-0104	❍	132A-0104	❍	132N-0104	❍
		1.1417	29,00		132T-29	❍	132A-29	❍	132N-29	❍
	1-5/32"	1.1563	29,37		132T-0105	❍	132A-0105	❍	132N-0105	❍
		1.1811	30,00		132T-30	❍	132A-30	❍	132N-30	❍
	1-3/16"	1.1875	30,16		132T-0106*	❍	132A-0106*	❍	132N-0106*	❍
	1-7/32"	1.2188	30,96		132T-0107*	❍	132A-0107*	❍	132N-0107*	❍
		1.2205	31,00		132T-31*	❍	132A-31*	❍	132N-31*	❍
	1-1/4"	1.2500	31,75		132T-0108*	❍	132A-0108*	❍	132N-0108*	❍
		1.2598	32,00		132T-32*	❍	132A-32*	❍	132N-32*	❍
	1-9/32"	1.2813	32,54		132T-0109*	❍	132A-0109*	❍	132N-0109*	❍
		1.2992	33,00		132T-33*	❍	132A-33*	❍	132N-33*	❍
	1-5/16"	1.3125	33,34		132T-0110*	❍	132A-0110*	❍	132N-0110*	❍
		1.3386	34,00		132T-34*	❍	132A-34*	❍	132N-34*	❍
	1-11/32"	1.3438	34,13		132T-0111*	❍	132A-0111*	❍	132N-0111*	❍
	1-3/8"	1.3750	34,93		132T-0112*	❍	132A-0112*	❍	132N-0112*	❍
		1.3780	35,00		132T-35*	❍	132A-35*	❍	132N-35*	❍
Super Cobalt	31/32"	0.9688	24,61	3/16"	152T-0031	❍	152A-0031	❍	152N-0031	❍
	63/64"	0.9843	25,00		152T-25	❍	152A-25	❍	152N-25	❍
	1"	1.0000	25,40		152T-0100	❍	152A-0100	❍	152N-0100	❍
	1-1/64"	1.0156	25,80		152T-1.015	❍	152A-1.015	❍	152N-1.015	❍
		1.0236	26,00		152T-26	❍	152A-26	❍	152N-26	❍
	1-1/32"	1.0313	26,19		152T-0101	❍	152A-0101	❍	152N-0101	❍
	1-3/64"	1.0469	26,59		152T-1.046	❍	152A-1.046	❍	152N-1.046	❍
	1-1/16"	1.0625	26,99		152T-0102	❍	152A-0102	❍	152N-0102	❍
		1.0630	27,00		152T-27	❍	152A-27	❍	152N-27	❍
	1-3/32"	1.0938	27,78		152T-0103	❍	152A-0103	❍	152N-0103	❍
		1.1024	28,00		152T-28	❍	152A-28	❍	152N-28	❍
	1-7/64"	1.1094	28,18		152T-1.109	❍	152A-1.109	❍	152N-1.109	❍
	1-1/8"	1.1250	28,58		152T-0104	❍	152A-0104	❍	152N-0104	❍
		1.1417	29,00		152T-29	❍	152A-29	❍	152N-29	❍
	1-5/32"	1.1563	29,37		152T-0105	❍	152A-0105	❍	152N-0105	❍
		1.1811	30,00		152T-30	❍	152A-30	❍	152N-30	❍
	1-3/16"	1.1875	30,16		152T-0106*	❍	152A-0106*	❍	152N-0106*	❍
	1-7/32"	1.2188	30,96		152T-0107*	❍	152A-0107*	❍	152N-0107*	❍
		1.2205	31,00		152T-31*	❍	152A-31*	❍	152N-31*	❍
	1-1/4"	1.2500	31,75		152T-0108*	❍	152A-0108*	❍	152N-0108*	❍
		1.2598	32,00		152T-32*	❍	152A-32*	❍	152N-32*	❍
	1-9/32"	1.2813	32,54		152T-0109*	❍	152A-0109*	❍	152N-0109*	❍
		1.2992	33,00		152T-33*	❍	152A-33*	❍	152N-33*	❍
	1-5/16"	1.3125	33,34		152T-0110*	❍	152A-0110*	❍	152N-0110*	❍
		1.3386	34,00		152T-34*	❍	152A-34*	❍	152N-34*	❍
	1-11/32"	1.3438	34,13		152T-0111*	❍	152A-0111*	❍	152N-0111*	❍
	1-3/8"	1.3750	34,93		152T-0112*	❍	152A-0112*	❍	152N-0112*	❍
		1.3780	35,00		152T-35*	❍	152A-35*	❍	152N-35*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 2.5 series T-A Holders.**

T-A® HSS Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Premium Cobalt	31/32"	0.9688	24,61	3/16"	182T-0031	❍	182A-0031	❍	182N-0031	❍
	63/64"	0.9843	25,00		182T-25	❍	182A-25	❍	182N-25	❍
	1"	1.0000	25,40		182T-0100	❍	182A-0100	❍	182N-0100	❍
	1-1/64"	1.0156	25,80		182T-1.015	❍	182A-1.015	❍	182N-1.015	❍
		1.0236	26,00		182T-26	❍	182A-26	❍	182N-26	❍
	1-1/32"	1.0313	26,19		182T-0101	❍	182A-0101	❍	182N-0101	❍
	1-3/64"	1.0469	26,59		182T-1.046	❍	182A-1.046	❍	182N-1.046	❍
	1-1/16"	1.0625	26,99		182T-0102	❍	182A-0102	❍	182N-0102	❍
		1.0630	27,00		182T-27	❍	182A-27	❍	182N-27	❍
	1-3/32"	1.0938	27,78		182T-0103	❍	182A-0103	❍	182N-0103	❍
		1.1024	28,00		182T-28	❍	182A-28	❍	182N-28	❍
	1-7/64"	1.1094	28,18		182T-1.109	❍	182A-1.109	❍	182N-1.109	❍
	1-1/8"	1.1250	28,58		182T-0104	❍	182A-0104	❍	182N-0104	❍
		1.1417	29,00		182T-29	❍	182A-29	❍	182N-29	❍
	1-5/32"	1.1563	29,37		182T-0105	❍	182A-0105	❍	182N-0105	❍
		1.1811	30,00		182T-30	❍	182A-30	❍	182N-30	❍
	1-3/16"	1.1875	30,16		182T-0106*	❍	182A-0106*	❍	182N-0106*	❍
	1-7/32"	1.2188	30,96		182T-0107*	❍	182A-0107*	❍	182N-0107*	❍
		1.2205	31,00		182T-31*	❍	182A-31*	❍	182N-31*	❍
	1-1/4"	1.2500	31,75		182T-0108*	❍	182A-0108*	❍	182N-0108*	❍
		1.2598	32,00		182T-32*	❍	182A-32*	❍	182N-32*	❍
	1-9/32"	1.2813	32,54		182T-0109*	❍	182A-0109*	❍	182N-0109*	❍
		1.2992	33,00		182T-33*	❍	182A-33*	❍	182N-33*	❍
	1-5/16"	1.3125	33,34		182T-0110*	❍	182A-0110*	❍	182N-0110*	❍
		1.3386	34,00		182T-34*	❍	182A-34*	❍	182N-34*	❍
	1-11/32	1.3438	34,13		182T-0111*	❍	182A-0111*	❍	182N-0111*	❍
	1-3/8"	1.3750	34,93		182T-0112*	❍	182A-0112*	❍	182N-0112*	❍
		1.3780	35,00		182T-35*	❍	182A-35*	❍	182N-35*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 2.5 series T-A Holders.**

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

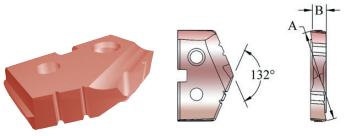
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

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

GEN2 T-A® HSS Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt		0.9646	24,50	3/16"	452H-24.5	❍
	31/32"	0.9688	24,61		452H-0031	❍
		0.9760	24,79		452H-.976	❍
	63/64"	0.9843	25,00		452H-25	❍
	1"	1.0000	25,40		452H-0100	❍
		1.0039	25,50		452H-25.5	❍
	1-1/64"	1.0156	25,80		452H-1.015	❍
		1.0236	26,00		452H-26	❍
	1-1/32"	1.0313	26,19		452H-0101	❍
		1.0433	26,50		452H-26.5	❍
	1-3/64"	1.0469	26,59		452H-1.046	❍
	1-1/16"	1.0625	26,99		452H-0102	❍
		1.0630	27,00		452H-27	❍
		1.0827	27,50		452H-27.5	❍
	1-3/32"	1.0938	27,78		452H-0103	❍
		1.1024	28,00		452H-28	❍
	1-7/64"	1.1094	28,18		452H-1.109	❍
		1.1220	28,50		452H-28.5	❍
	1-1/8"	1.1250	28,58		452H-0104	❍
		1.1417	29,00		452H-29	❍
	1-5/32"	1.1563	29,37		452H-0105	❍
		1.1614	29,50		452H-29.5	❍
		1.1811	30,00		452H-30	❍
	1-3/16"	1.1875	30,16		452H-0106*	❍
		1.2008	30,50		452H-30.5*	❍
	1-7/32"	1.2188	30,96		452H-0107*	❍
		1.2205	31,00		452H-31*	❍
		1.2260	31,14		452H-1.226*	❍
		1.2310	31,26		452H-1.231*	❍
		1.2340	31,34		452H-1.234*	❍
		1.2402	31,50		452H-31.5*	❍
	1-1/4"	1.2500	31,75		452H-0108*	❍
		1.2598	32,00		452H-32*	❍
		1.2795	32,50		452H-32.5*	❍
	1-9/32"	1.2813	32,54		452H-0109*	❍
		1.2992	33,00		452H-33*	❍
	1-5/16"	1.3125	33,34		452H-0110*	❍
		1.3189	33,50		452H-33.5*	❍
		1.3386	34,00		452H-34*	❍
	1-11/32"	1.3438	34,13		452H-0111*	❍
		1.3582	34,50		452H-34.5*	❍
	1-3/8"	1.3750	34,93		452H-0112*	❍
		1.3780	35,00		452H-35*	❍

Geometries available (see page 197 for details): -HE
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 2.5 series T-A Holders.**

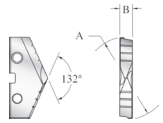
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



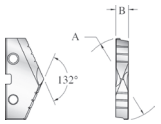
T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶
C2 (K20)	31/32"	0.9688	24,61	3/16"	1C22T-0031	❍	1C22A-0031	❍
	63/64"	0.9843	25,00		1C22T-25	❍	1C22A-25	❍
	1"	1.0000	25,40		1C22T-0100	❍	1C22A-0100	❍
		1.0236	26,00		1C22T-26	❍	1C22A-26	❍
	1-1/32"	1.0313	26,19		1C22T-0101	❍	1C22A-0101	❍
	1-3/64"	1.0469	26,59		1C22T-1.046	❍	1C22A-1.046	❍
	1-1/16"	1.0625	26,99		1C22T-0102	❍	1C22A-0102	❍
		1.0630	27,00		1C22T-27	❍	1C22A-27	❍
	1-3/32"	1.0938	27,78		1C22T-0103	❍	1C22A-0103	❍
		1.1024	28,00		1C22T-28	❍	1C22A-28	❍
	1-7/64"	1.1094	28,18		1C22T-1.109	❍	1C22A-1.109	❍
	1-1/8"	1.1250	28,58		1C22T-0104	❍	1C22A-0104	❍
		1.1417	29,00		1C22T-29	❍	1C22A-29	❍
	1-5/32"	1.1563	29,37		1C22T-0105	❍	1C22A-0105	❍
		1.1811	30,00		1C22T-30	❍	1C22A-30	❍
	1-3/16"	1.1875	30,16		1C22T-0106*	❍	1C22A-0106*	❍
	1-7/32"	1.2188	30,96		1C22T-0107*	❍	1C22A-0107*	❍
		1.2205	31,00		1C22T-31*	❍	1C22A-31*	❍
	1-1/4"	1.2500	31,75		1C22T-0108*	❍	1C22A-0108*	❍
		1.2598	32,00		1C22T-32*	❍	1C22A-32*	❍
	1-9/32"	1.2813	32,54		1C22T-0109*	❍	1C22A-0109*	❍
		1.2992	33,00		1C22T-33*	❍	1C22A-33*	❍
	1-5/16"	1.3125	33,34		1C22T-0110*	❍	1C22A-0110*	❍
		1.3386	34,00		1C22T-34*	❍	1C22A-34*	❍
	1-11/32"	1.3438	34,13		1C22T-0111*	❍	1C22A-0111*	❍
	1-3/8"	1.3750	34,93		1C22T-0112*	❍	1C22A-0112*	❍
		1.3780	35,00		1C22T-35*	❍	1C22A-35*	❍
C5 (P40)	31/32"	0.9688	24,61	3/16"	1C52T-0031	❍	1C52A-0031	❍
	63/64"	0.9843	25,00		1C52T-25	❍	1C52A-25	❍
	1"	1.0000	25,40		1C52T-0100	❍	1C52A-0100	❍
		1.0236	26,00		1C52T-26	❍	1C52A-26	❍
	1-1/32"	1.0313	26,19		1C52T-0101	❍	1C52A-0101	❍
	1-3/64"	1.0469	26,59		1C52T-1.046	❍	1C52A-1.046	❍
	1-1/16"	1.0625	26,99		1C52T-0102	❍	1C52A-0102	❍
		1.0630	27,00		1C52T-27	❍	1C52A-27	❍
	1-3/32"	1.0938	27,78		1C52T-0103	❍	1C52A-0103	❍
		1.1024	28,00		1C52T-28	❍	1C52A-28	❍
	1-7/64"	1.1094	28,18		1C52T-1.109	❍	1C52A-1.109	❍
	1-1/8"	1.1250	28,58		1C52T-0104	❍	1C52A-0104	❍
		1.1417	29,00		1C52T-29	❍	1C52A-29	❍
	1-5/32"	1.1563	29,37		1C52T-0105	❍	1C52A-0105	❍
		1.1811	30,00		1C52T-30	❍	1C52A-30	❍
	1-3/16"	1.1875	30,16		1C52T-0106*	❍	1C52A-0106*	❍
	1-7/32"	1.2188	30,96		1C52T-0107*	❍	1C52A-0107*	❍
		1.2205	31,00		1C52T-31*	❍	1C52A-31*	❍
	1-1/4"	1.2500	31,75		1C52T-0108*	❍	1C52A-0108*	❍
		1.2598	32,00		1C52T-32*	❍	1C52A-32*	❍
	1-9/32"	1.2813	32,54		1C52T-0109*	❍	1C52A-0109*	❍
		1.2992	33,00		1C52T-33*	❍	1C52A-33*	❍
	1-5/16"	1.3125	33,34		1C52T-0110*	❍	1C52A-0110*	❍
		1.3386	34,00		1C52T-34*	❍	1C52A-34*	❍
	1-11/32"	1.3438	34,13		1C52T-0111*	❍	1C52A-0111*	❍
	1-3/8"	1.3750	34,93		1C52T-0112*	❍	1C52A-0112*	❍
		1.3780	35,00		1C52T-35*	❍	1C52A-35*	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -CP, -NP, -IN, -RN, -CN, -NC, -WC, -AN, -TC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 2.5 series T-A Holders.**

T-A® Carbide Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



Cast Iron T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiAlN	❶
C3 (K10)	31/32"	0.9688	24,61	3/16"	1C32A-0031-CI	❍
	63/64"	0.9843	25,00		1C32A-25-CI	❍
	1"	1.0000	25,40		1C32A-0100-CI	❍
		1.0236	26,00		1C32A-26-CI	❍
	1-1/32"	1.0313	26,19		1C32A-0101-CI	❍
	1-3/64"	1.0469	26,59		1C32A-1.046-CI	❍
	1-1/16"	1.0625	26,99		1C32A-0102-CI	❍
		1.0630	27,00		1C32A-27-CI	❍
	1-3/32"	1.0938	27,78		1C32A-0103-CI	❍
		1.1024	28,00		1C32A-28-CI	❍
	1-7/64"	1.1094	28,18		1C32A-1.109-CI	❍
	1-1/8"	1.1250	28,58		1C32A-0104-CI	❍
		1.1417	29,00		1C32A-29-CI	❍
	1-5/32"	1.1563	29,37		1C32A-0105-CI	❍
		1.1811	30,00		1C32A-30-CI	❍
	1-3/16"	1.1875	30,16		1C32A-0106-CI*	❍
	1-7/32"	1.2188	30,96		1C32A-0107-CI*	❍
		1.2205	31,00		1C32A-31-CI*	❍
	1-1/4"	1.2500	31,75		1C32A-0108-CI*	❍
		1.2598	32,00		1C32A-32-CI*	❍
	1-9/32"	1.2813	32,54		1C32A-0109-CI*	❍
		1.2992	33,00		1C32A-33-CI*	❍
	1-5/16"	1.3125	33,34		1C32A-0110-CI*	❍
		1.3386	34,00		1C32A-34-CI*	❍
	1-11/32"	1.3438	34,13		1C32A-0111-CI*	❍
	1-3/8"	1.3750	34,93		1C32A-0112-CI*	❍
		1.3780	35,00		1C32A-35-CI*	❍

*** Denotes inserts that will also fit 2.5 series T-A Holders.**

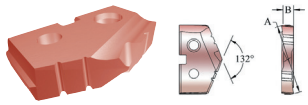
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

GEN2 T-A® Carbide Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



GEN2 T-A Drill Inserts (supplied in 2 piece packages)

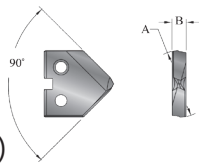
Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
C2 (K20)		0.9646	24,50	3/16"	4C22H-24.5	❍
	31/32"	0.9688	24,61		4C22H-0031	❍
	63/64"	0.9843	25,00		4C22H-25	❍
	1"	1.0000	25,40		4C22H-0100	❍
		1.0150	25,78		4C22H-1.015	❍
		1.0236	26,00		4C22H-26	❍
	1-1/32"	1.0313	26,19		4C22H-0101	❍
		1.0433	26,50		4C22H-26.5	❍
	1-3/64"	1.0469	26,59		4C22H-1.046	❍
	1-1/16"	1.0625	26,99		4C22H-0102	❍
		1.0630	27,00		4C22H-27	❍
	1-3/32"	1.0938	27,78		4C22H-0103	❍
		1.1024	28,00		4C22H-28	❍
	1-7/64"	1.1094	28,18		4C22H-1.109	❍
	1-1/8"	1.1250	28,58		4C22H-0104	❍
		1.1417	29,00		4C22H-29	❍
	1-5/32"	1.1563	29,37		4C22H-0105	❍
		1.1811	30,00		4C22H-30	❍
	1-3/16"	1.1875	30,16		4C22H-0106*	❍
	1-7/32"	1.2188	30,96		4C22H-0107*	❍
		1.2205	31,00		4C22H-31*	❍
		1.2310	31,26		4C22H-1.231*	❍
	1-1/4"	1.2500	31,75		4C22H-0108*	❍
		1.2598	32,00		4C22H-32*	❍
		1.2795	32,50		4C22H-32.5*	❍
	1-9/32"	1.2813	32,54		4C22H-0109*	❍
		1.2992	33,00		4C22H-33*	❍
	1-5/16"	1.3125	33,34		4C22H-0110*	❍
		1.3386	34,00		4C22H-34*	❍
	1-11/32"	1.3438	34,13		4C22H-0111*	❍
	1-3/8"	1.3750	34,93		4C22H-0112*	❍
		1.3780	35,00		4C22H-35*	❍
C1 (K35)	31/32"	0.9688	24,61	3/16"	4C12H-0031	❍
	63/64"	0.9843	25,00		4C12H-25	❍
	1"	1.0000	25,40		4C12H-0100	❍
	1-1/64"	1.0150	25,78		4C12H-1.015	❍
		1.0236	26,00		4C12H-26	❍
	1-1/32"	1.0313	26,19		4C12H-0101	❍
	1-3/64"	1.0469	26,59		4C12H-1.046	❍
	1-1/16"	1.0625	26,99		4C12H-0102	❍
		1.0630	27,00		4C12H-27	❍
	1-3/32"	1.0938	27,78		4C12H-0103	❍
		1.1024	28,00		4C12H-28	❍
	1-7/64"	1.1094	28,18		4C12H-1.109	❍
	1-1/8"	1.1250	28,58		4C12H-0104	❍
		1.1417	29,00		4C12H-29	❍
	1-5/32"	1.1563	29,37		4C12H-0105	❍
		1.1811	30,00		4C12H-30	❍
	1-3/16"	1.1875	30,16		4C12H-0106*	❍
	1-7/32"	1.2188	30,96		4C12H-0107*	❍
		1.2205	31,00		4C12H-31*	❍
		1.2310	31,26		4C12H-1.231*	❍
	1-1/4"	1.2500	31,75		4C12H-0108*	❍
		1.2598	32,00		4C12H-32*	❍
	1-9/32"	1.2813	32,54		4C12H-0109*	❍
		1.2992	33,00		4C12H-33*	❍
	1-5/16"	1.3125	33,34		4C12H-0110*	❍
		1.3386	34,00		4C12H-34*	❍
	1-11/32"	1.3438	34,13		4C12H-0111*	❍
	1-3/8"	1.3750	34,93		4C12H-0112*	❍
		1.3780	35,00		4C12H-35*	❍

Geometries available (see page 197 for details): -HE. Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details. * Denotes inserts that will also fit 2.5 series T-A Holders.

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

T-A® Carbide Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



90º Spot and Chamfer T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	31/32"	0.9688	24,61	3/16"	152T-0031-SP	▲	152A-0031-SP	▲	152N-0031-SP	▲
	63/64"	0.9843	25,00		152T-25-SP	▲	152A-25-SP	▲	152N-25-SP	▲
	1"	1.0000	25,40		152T-0100-SP	❍	152A-0100-SP	▲	152N-0100-SP	▲
	1-1/64"	1.0150	25,78		152T-1.015-SP	▲	152A-1.015-SP	▲	152N-1.015-SP	▲
		1.0236	26,00		152T-26-SP	▲	152A-26-SP	▲	152N-26-SP	▲
	1-1/32"	1.0313	26,19		152T-0101-SP	▲	152A-0101-SP	▲	152N-0101-SP	▲
	1-3/64"	1.0469	26,59		152T-1.046-SP	▲	152A-1.046-SP	▲	152N-1.046-SP	▲
	1-1/16"	1.0625	26,99		152T-0102-SP	❍	152A-0102-SP	▲	152N-0102-SP	▲
		1.0630	27,00		152T-27-SP	▲	152A-27-SP	▲	152N-27-SP	▲
	1-3/32"	1.0938	27,78		152T-0103-SP	▲	152A-0103-SP	▲	152N-0103-SP	▲
		1.1024	28,00		152T-28-SP	▲	152A-28-SP	▲	152N-28-SP	▲
	1-7/64"	1.1094	28,18		152T-1.109-SP	▲	152A-1.109-SP	▲	152N-1.109-SP	▲
	1-1/8"	1.1250	28,58		152T-0104-SP	▲	152A-0104-SP	▲	152N-0104-SP	▲
		1.1417	29,00		152T-29-SP	▲	152A-29-SP	▲	152N-29-SP	▲
	1-5/32"	1.1563	29,37		152T-0105-SP	▲	152A-0105-SP	▲	152N-0105-SP	▲
		1.1811	30,00		152T-30-SP	▲	152A-30-SP	▲	152N-30-SP	▲
	1-3/16"	1.1875	30,16		152T-0106-SP*	▲	152A-0106-SP*	▲	152N-0106-SP*	▲
	1-7/32"	1.2188	30,96		152T-0107-SP*	▲	152A-0107-SP*	▲	152N-0107-SP*	▲
		1.2205	31,00		152T-31-SP*	▲	152A-31-SP*	▲	152N-31-SP*	▲
	1-1/4"	1.2500	31,75		152T-0108-SP*	❍	152A-0108-SP*	❍	152N-0108-SP*	❍
		1.2598	32,00		152T-32-SP*	▲	152A-32-SP*	▲	152N-32-SP*	▲
	1-9/32"	1.2813	32,54		152T-0109-SP*	▲	152A-0109-SP*	▲	152N-0109-SP*	▲
		1.2992	33,00		152T-33-SP*	▲	152A-33-SP*	▲	152N-33-SP*	▲
	1-5/16"	1.3125	33,34		152T-0110-SP*	▲	152A-0110-SP*	▲	152N-0110-SP*	▲
		1.3386	34,00		152T-34-SP*	▲	152A-34-SP*	▲	152N-34-SP*	▲
	1-11/32"	1.3438	34,13		152T-0111-SP*	▲	152A-0111-SP*	▲	152N-0111-SP*	▲
	1-3/8"	1.3750	34,93		152T-0112-SP*	▲	152A-0112-SP*	▲	152N-0112-SP*	▲
		1.3780	35,00		152T-35-SP*	❍	152A-35-SP*	❍	152N-35-SP*	❍

Geometries available (see page 197 for details): -SW. Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.* Denotes inserts that will also fit 2.5 series T-A Holders.

*Thin Wall

**Notch Point®

**150º Structural Steel

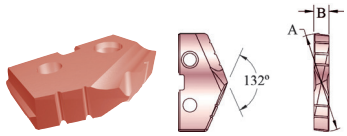
Structural Steel T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	*Thin Wall TiAlN	❶	**Notch Point TiAlN	❶	150º Structural Steel TiAlN	❶
Super Cobalt	1"	1.0000	25,40	3/16"	152A-0100-TW	❍	152A-0100-NP	❍	152A-0100-SS	❍
		1.0236	26,00		152A-26-TW	❍	152A-26-NP	❍	152A-26-SS	❍
	1-1/16"	1.0625	26,99		152A-0102-TW	❍	152A-0102-NP	❍	152A-0102-SS	❍
		1.0630	27,00		152A-27-TW	❍	152A-27-NP	❍	152A-27-SS	❍
	1-1/8"	1.1250	28,58		152A-0104-TW	❍	152A-0104-NP	❍	152A-0104-SS	❍
	1-3/16"	1.1875	30,16		152A-0106-TW	❍	152A-0106-NP	❍	152A-0106-SS	❍
		1.2205	31,00		152A-31-TW	❍	152A-31-NP	❍	152A-31-SS	❍
	1-1/4"	1.2500	31,75		152A-0108-TW	❍	152A-0108-NP	❍	152A-0108-SS	❍
		1.2992	33,00		152A-33-TW	❍	152A-33-NP	❍	152A-33-SS	❍
	1-5/16"	1.3125	33,34		152A-0110-TW	❍	152A-0110-NP	❍	152A-0110-SS	❍
	1-3/8"	1.3750	34,93		152A-0112-TW	❍	152A-0112-NP	❍	152A-0112-SS	❍
					AM200®					
Super Cobalt	1"	1.0000	25,40	3/16"	152H-0100-TW	❍	152H-0100-NP	❍	152H-0100-SS	❍
		1.0236	26,00		152H-26-TW	❍	152H-26-NP	❍	152H-26-SS	❍
	1-1/16"	1.0625	26,99		152H-0102-TW	❍	152H-0102-NP	❍	152H-0102-SS	❍
		1.0630	27,00		152H-27-TW	❍	152H-27-NP	❍	152H-27-SS	❍
	1-1/8"	1.1250	28,58		152H-0104-TW	❍	152H-0104-NP	❍	152H-0104-SS	❍
	1-3/16"	1.1875	30,16		152H-0106-TW	❍	152H-0106-NP	❍	152H-0106-SS	❍
		1.2205	31,00		152H-31-TW	❍	152H-31-NP	❍	152H-31-SS	❍
	1-1/4"	1.2500	31,75		152H-0108-TW	❍	152H-0108-NP	❍	152H-0108-SS	❍
		1.2992	33,00		152H-33-TW	❍	152H-33-NP	❍	152H-33-SS	❍
	1-5/16"	1.3125	33,34		152H-0110-TW	❍	152H-0110-NP	❍	152H-0110-SS	❍
	1-3/8"	1.3750	34,93		152H-0112-TW	❍	152H-0112-NP	❍	152H-0112-SS	❍

*Use Thin Wall Drill Inserts for material up to 7/16" thick. **Use Notch Point Geometry or 150º Structural Steel Drill Inserts for material over 7/16" thick. Use 150º Structural Steel for reduced exit burr.

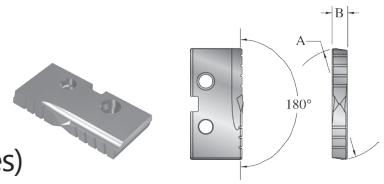
T-A® HSS Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



Tube Sheet T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
HSS		1.0080	25,60	3/16"	132H-1.0080-IN	❍
	1-1/64"	1.0156	25,80		132H-1.015-IN	❍
	1-1/32"	1.0313	26,19		132H-0101-IN	❍
Super Cobalt		1.0080	25,60	3/16"	152H-.0080-IN	❍
	1-1/64"	1.0156	25,80		152H-1.015-IN	❍
	1-1/32"	1.0313	26,19		152H-0101-IN	❍



Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt	31/32"	0.9688	24,61	3/16"	152T-0031-FB	❍
	63/64"	0.9843	25,00		152T-25-FB	❍
	1"	1.0000	25,40		152T-0100-FB	❍
	1-1/64"	1.0156	25,80		152T-1.015-FB	❍
		1.0236	26,00		152T-26-FB	❍
	1-1/32"	1.0313	26,19		152T-0101-FB	❍
	1-1/16"	1.0625	26,99		152T-0102-FB	❍
		1.0630	27,00		152T-27-FB	❍
	1-3/32"	1.0938	27,78		152T-0103-FB	❍
		1.1024	28,00		152T-28-FB	❍
	1-1/8"	1.1250	28,58		152T-0104-FB	❍
		1.1417	29,00		152T-29-FB	❍
	1-5/32"	1.1563	29,37		152T-0105-FB	❍
		1.1811	30,00		152T-30-FB	❍
	1-3/16"	1.1875	30,16		152T-0106-FB*	❍
	1-7/32"	1.2188	30,96		152T-0107-FB*	❍
		1.2205	31,00		152T-31-FB*	❍
	1-1/4"	1.2500	31,75		152T-0108-FB*	❍
		1.2598	32,00		152T-32-FB*	❍
	1-9/32"	1.2813	32,54		152T-0109-FB*	❍
		1.2992	33,00		152T-33-FB*	❍
	1-5/16"	1.3125	33,34		152T-0110-FB*	❍
		1.3386	34,00		152T-34-FB*	❍
	1-11/32"	1.3438	34,13		152T-0111-FB*	❍
	1-3/8"	1.3750	34,93		152T-0112-FB*	❍
		1.3780	35,00		152T-35-FB*	❍

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 2.5 series T-A Holders.**

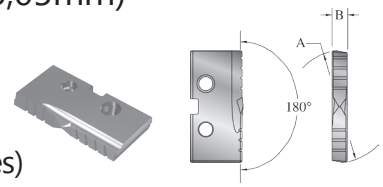
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



Flat Bottom T-A Drill Inserts (supplied in 2 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
C2 (K20)	31/32"	0.9688	24,61	3/16"	1C22T-0031-FB	▲
	63/64"	0.9843	25,00		1C22T-25-FB	▲
	1"	1.0000	25,40		1C22T-0100-FB	▲
	1-1/64"	1.0156	25,80		1C22T-1.015-FB	▲
		1.0236	26,00		1C22T-26-FB	▲
	1-1/32"	1.0313	26,19		1C22T-0101-FB	▲
	1-1/16"	1.0625	26,99		1C22T-0102-FB	▲
		1.0630	27,00		1C22T-27-FB	▲
	1-3/32"	1.0938	27,78		1C22T-0103-FB	▲
		1.1024	28,00		1C22T-28-FB	▲
	1-1/8"	1.1250	28,58		1C22T-0104-FB	▲
		1.1417	29,00		1C22T-29-FB	▲
	1-5/32"	1.1563	29,37		1C22T-0105-FB	▲
		1.1811	30,00		1C22T-30-FB	▲
	1-3/16"	1.1875	30,16		1C22T-0106-FB*	▲
	1-7/32"	1.2188	30,96		1C22T-0107-FB*	▲
		1.2205	31,00		1C22T-31-FB*	▲
	1-1/4"	1.2500	31,75		1C22T-0108-FB*	▲
		1.2598	32,00		1C22T-32-FB*	▲
	1-9/32"	1.2813	32,54		1C22T-0109-FB*	▲
		1.2992	33,00		1C22T-33-FB*	▲
	1-5/16"	1.3125	33,34		1C22T-0110-FB*	▲
		1.3386	34,00		1C22T-34-FB*	▲
	1-11/32"	1.3438	34,13		1C22T-0111-FB*	▲
	1-3/8"	1.3750	34,93		1C22T-0112-FB*	▲
		1.3780	35,00		1C22T-35-FB*	▲

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.
*** Denotes inserts that will also fit 2.5 series T-A Holders.**

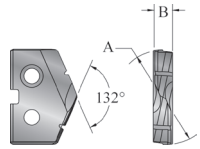
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

T-A® Carbide Drill Inserts

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



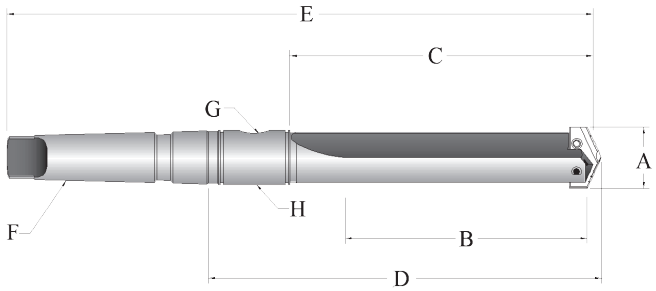
Diamond Coated T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	CVD Diamond	❶
N2	31/32"	0.9688	24,61	3/16"	1N22D-0031	▲
	63/64"	0.9843	25,00		1N22D-25	▲
	1"	1.0000	25,40		1N22D-0100	▲
	1-1/64"	1.0156	25,80		1N22D-1.015	▲
		1.0236	26,00		1N22D-26	▲
	1-1/32"	1.0313	26,19		1N22D-0101	▲
	1-3/64"	1.0469	26,59		1N22D-1.046	▲
	1-1/16"	1.0625	26,99		1N22D-0102	▲
		1.0630	27,00		1N22D-27	▲
	1-3/32"	1.0938	27,78		1N22D-0103	▲
		1.1024	28,00		1N22D-28	▲
	1-7/64"	1.1094	28,18		1N22D-1.109	▲
	1-1/8"	1.1250	28,58		1N22D-0104	▲
		1.1417	29,00		1N22D-29	▲
	1-5/32"	1.1563	29,37		1N22D-0105	▲
		1.1811	30,00		1N22D-30	▲
	1-3/16"	1.1875	30,16		1N22D-0106*	▲
	1-7/32"	1.2188	30,96		1N22D-0107*	▲
		1.2205	31,00		1N22D-31*	▲
	1-1/4"	1.2500	31,75		1N22D-0108*	▲
		1.2598	32,00		1N22D-32*	▲
	1-9/32"	1.2813	32,54		1N22D-0109*	▲
		1.2992	33,00		1N22D-33*	▲
	1-5/16"	1.3125	33,34		1N22D-0110*	▲
		1.3386	34,00		1N22D-34*	▲
	1-11/32"	1.3438	34,13		1N22D-0111*	▲
	1-3/8"	1.3750	34,93		1N22D-0112*	▲
		1.3780	35,00		1N22D-35*	▲

*** Denotes inserts that will also fit 2.5 series T-A Holders.**

T-A® Holders

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



Taper Shank Straight Flute Holders

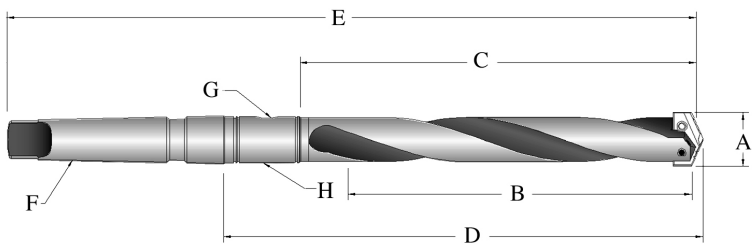
Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22020S-003I	31/32" - 1-3/8"	3-3/8"	4-1/2"	6-15/64"	9-25/32"	#3	1/8"	2T-3SR
Short	22020S-004I	31/32" - 1-3/8"	3-3/8"	4-1/2"	6-19/64"	10-25/32"	#4	1/8"	2T-3SR
Short	22025S-003I	1-3/16" - 1-3/8"	3-3/8"	4-1/2"	6-15/64"	9-25/32"	#3	1/8"	2T-3SR
Short	22025S-004I	1-3/16" - 1-3/8"	3-3/8"	4-1/2"	6-37/64"	11-1/16"	#4	1/4"	2T-4SR
Intermediate	23020S-004I	31/32" - 1-3/8"	5-3/8"	6-1/2"	8-19/64"	12-25/32"	#4	1/8"	2T-3SR
Intermediate	23025S-004I	1-3/16" - 1-3/8"	5-3/8"	6-1/2"	8-37/64"	13-1/16"	#4	1/4"	2T-4SR
Standard	24020S-003I	31/32" - 1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	2T-3SR
Standard	24020S-004I	31/32" - 1-3/8"	7-3/8"	8-1/2"	10-19/64"	14-25/32"	#4	1/8"	2T-3SR
Standard	24025S-003I	1-3/16" - 1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	2T-3SR
Standard	24025S-004I	1-3/16" - 1-3/8"	7-3/8"	8-1/2"	10-37/64"	15-1/16"	#4	1/8"	2T-4SR
⚠ Extended	25020S-004I	31/32" - 1-3/8"	11-3/8"	12-1/2"	14-15/64"	18-25/32"	#4	1/4"	2T-3SR
⚠ Extended	25025S-004I	1-3/16" - 1-3/8"	11-3/8"	12-1/2"	14-37/64"	19-1/16"	#4	1/4"	2T-4SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	22020S-004M	25,0 - 35,0	85,7	114,3	160,4	273,8	#4**	1/8"*	2T-3SRM
Short	22025S-004M	30,0 - 35,0	85,7	114,3	167,6	281,0	#4**	1/4"*	2T-4SRM

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



Taper Shank Helical Flute Holders

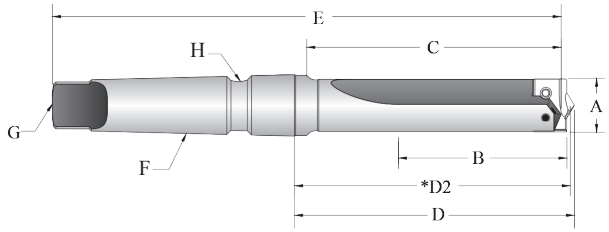
Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Intermediate	23020H-004I	31/32" - 1-3/8"	5-3/8"	6-1/2"	8-19/64"	12-25/32"	#4	1/8"	2T-3SR
Intermediate	23025H-004I	1-3/16" - 1-3/8"	5-3/8"	6-1/2"	8-37/64"	13-1/16"	#4	1/4"	2T-4SR
Standard	24020H-003I	31/32" - 1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	2T-3SR
Standard	24020H-004I	31/32" - 1-3/8"	7-3/8"	8-1/2"	10-19/64"	14-25/32"	#4	1/8"	2T-3SR
Standard	24025H-003I	1-3/16" - 1-3/8"	7-3/8"	8-1/2"	10-15/64"	13-25/32"	#3	1/8"	2T-3SR
Standard	24025H-004I	1-3/16" - 1-3/8"	7-3/8"	8-1/2"	10-37/64"	15-1/16"	#4	1/4"	2T-4SR
⚠ Extended	25020H-004I	31/32" - 1-3/8"	11-3/8"	12-1/2"	14-15/64"	18-25/32"	#4	1/8"	2T-3SR
⚠ Extended	25025H-004I	1-3/16" - 1-3/8"	11-3/8"	12-1/2"	14-37/64"	19-1/16"	#4	1/4"	2T-4SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Intermediate	23020H-004M	25,0 - 35,0	136,5	165,1	211,2	324,6	#4**	1/8"*	2T-3SRM
Intermediate	23025H-004M	30,0 - 35,0	136,5	165,1	218,4	331,8	#4**	1/4"*	2T-4SRM
Standard	24020H-004M	25,0 - 35,0	187,3	215,9	262,0	375,4	#4**	1/8"*	2T-3SRM
Standard	24025H-004M	30,0 - 35,0	187,3	215,9	269,2	382,6	#4**	1/4"*	2T-4SRM
⚠ Extended	25020H-004M	25,0 - 35,0	289,0	317,5	363,6	477,0	#4**	1/8"*	2T-3SRM
⚠ Extended	25025H-004M	30,0 - 35,0	289,0	317,5	370,8	484,2	#4**	1/4"*	2T-4SRM

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

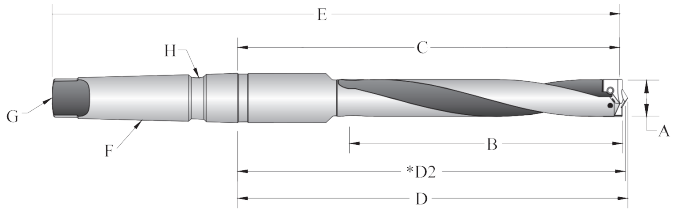
2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



Structural Steel Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Short	22020S-004IS100	1" - 1-3/8"	3-3/8"	4-1/2"	4-63/64"	4-57/64"	9-3/8"	#4	TTC	TSC
Short	22025S-004IS112	1-3/16" - 1-3/8"	3-3/8"	4-1/2"	4-63/64"	4-57/64"	9-3/8"	#4	TTC	TSC
METRIC (mm)										
Short	22020S-004IS100	26	86	114	126,6	124,2	238	#4	TTC	TSC
Short	22025S-004IS112	31	86	114	126,6	124,2	238	#4	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150º Structural Steel T-A® Drill Insert Geometry**



Structural Steel Taper Shank Helical Flute Holders

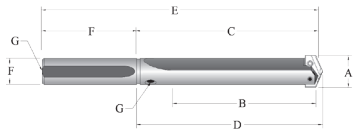
Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Standard	24020H-004IS100	1" - 1-3/8"	5-3/8"	6-1/2"	6-63/64"	6-57/64"	11-3/8"	#4	TTC	TSC
Standard	24025H-004IS112	1-3/16" - 1-3/8"	5-3/8"	6-1/2"	6-63/64"	6-57/64"	11-3/8"	#4	TTC	TSC
⚠ Extended	25020H-003IS100	1" - 1-3/8"	6-1/2"	9-11/32"	9-3/4"	9-29/64"	13-7/32"	#3	TTC	TSC
⚠ Extended	25020H-004IS100	1" - 1-3/8"	6-1/2"	9-7/32"	9-3/4"	9-43/64"	14-5/32"	#4	TTC	TSC
⚠ Long	26020H-004IS100	1" - 1-3/8"	6-1/2"	16"	16-15/32"	16-25/64"	20-7/8"	#4	TTC	TSC
METRIC (mm)										
Standard	24020H-004IS100	26	137	165	177,4	175,0	289	#4	TTC	TSC
Standard	24025H-004IS112	31	137	165	177,4	175,0	289	#4	TTC	TSC
⚠ Extended	25020H-003IS100	26	165	237	247,7	240,1	336	#3	TTC	TSC
⚠ Extended	25020H-004IS100	26	165	237	247,7	245,7	360	#4	TTC	TSC
⚠ Long	26020H-004IS100	26	165	406	418,3	416,3	530	#4	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150º Structural Steel T-A® Drill Insert Geometry**

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 198 for Structural Steel Guidelines & 199 for Deep Hole Drilling Guidelines in this section of the catalog.
Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures.
Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

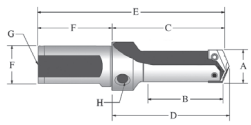
2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)

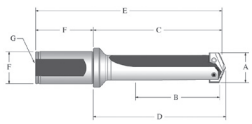


Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Short	22020S-100L	31/32" - 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1"	3-1/2"	1/8"
Short	22020S-125L	31/32" - 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1-1/4"	3-1/2"	1/8"
Short	22025S-100L	1-3/16" - 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1"	3-1/2"	1/8"
Short	22025S-125L	1-3/16" - 1-3/8"	3-3/8"	4-1/2"	4-41/64"	8"	1-1/4"	3-1/2"	1/8"
Intermediate	23020S-125L	31/32" - 1-3/8"	5-3/8"	6-1/2"	6-41/64"	10"	1-1/4"	3-1/2"	1/8"
Intermediate	23025S-125L	1-3/16" - 1-3/8"	5-3/8"	6-1/2"	6-41/64"	10"	1-1/4"	3-1/2"	1/8"
Standard	24020S-100L	31/32" - 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1"	3-1/2"	1/8"
Standard	24020S-125L	31/32" - 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1-1/4"	3-1/2"	1/8"
Standard	24025S-100L	1-3/16" - 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1"	3-1/2"	1/8"
Standard	24025S-125L	1-3/16" - 1-3/8"	7-3/8"	8-1/2"	8-41/64"	12"	1-1/4"	3-1/2"	1/8"
⚠ Extended	25020S-125L	31/32" - 1-3/8"	11-3/8"	12-1/2"	12-41/64"	16"	1-1/4"	3-1/2"	1/8"
⚠ Extended	25025S-125L	1-3/16" - 1-3/8"	11-3/8"	12-1/2"	12-41/64"	16"	1-1/4"	3-1/2"	1/8"
⚠ XL	27020S-125L	31/32" - 1-3/8"	20-1/8"	21-1/4"	21-25/64"	24-3/4"	1-1/4"	3-1/2"	1/8"
⚠ 3XL	29020S-125L	31/32" - 1-3/8"	27-1/4"	28-3/8"	28-33/64"	31-7/8"	1-1/4"	3-1/2"	1/8"

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders





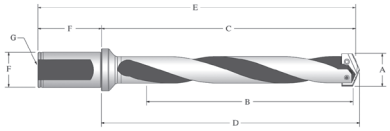
Flanged Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Stub	21020S-125F	31/32" - 1-3/8"	2-1/4"	3-31/64"	3-5/8"	5-49/64"	1-1/4"	2-9/32"	1/4"	1/8"
Stub	21025S-125F	1-3/16" - 1-3/8"	3-5/8"	4-55/64"	5"	7-9/64"	1-1/4"	2-9/32"	1/4"	1/8"
Short	22020S-125F	31/32" - 1-3/8"	3-3/8"	5-1/16"	5-13/64"	7-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Short	22025S-125F	1-3/16" - 1-3/8"	3-3/8"	5-1/16"	5-13/64"	7-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Intermediate	23020S-125F	31/32" - 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Intermediate	23025S-125F	1-3/16" - 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Standard	24020S-125F	31/32" - 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Standard	24025S-125F	1-3/16" - 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"	N/A
⚠ Extended	25020S-125F	31/32" - 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"	N/A
⚠ Extended	25025S-125F	1-3/16" - 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"	N/A
METRIC (mm)	*Metric Thread to BSP & ISO 7-1									
Stub	21020S-32FM	25,0 -35,0	57,2	88,5	92,1	148,5	32,0	60,0	1/4"*	1/8"*
Stub	21025S-32FM	30,0 -35,0	92,1	123,4	127,0	183,4	32,0	60,0	1/4"*	1/8"*
Short	22020S-32FM	25,0 -35,0	85,7	128,6	132,2	188,6	32,0	60,0	1/4"*	N/A
Short	22025S-32FM	30,0 -35,0	85,7	128,6	132,2	188,6	32,0	60,0	1/4"*	N/A
⚠ XL	27020S-32FM	25,0 -35,0	511	554,1	557,7	614,1	32,0	60,0	1/4"*	N/A
⚠ 3XL	29020S-32FM	25,0 -35,0	692	735,1	738,7	795,1	32,0	60,0	1/4"*	N/A

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

2 Series Range: 0.961"-1.380" (24,41mm-35,05mm)



Flanged Shank Helical Flute Holders

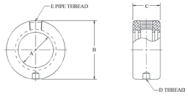
Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Intermediate	23020H-125F	31/32" - 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Intermediate	23025H-125F	1-3/16" - 1-3/8"	5-3/8"	7-1/16"	7-13/64"	9-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Standard	24020H-125F	31/32" - 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Standard	24025H-125F	1-3/16" - 1-3/8"	7-3/8"	9-1/16"	9-13/64"	11-11/32"	1-1/4"	2-9/32"	1/4"	N/A
Standard Plus	24520H-125F	31/32" - 1-3/8"	9-3/8"	11-1/16"	11-13/64"	13-31/64"	1-1/4"	2-9/32"	1/4"	N/A
⚠ Extended	25020H-125F	31/32" - 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"	N/A
⚠ Extended	25025H-125F	1-3/16" - 1-3/8"	11-3/8"	13-1/16"	13-13/64"	15-11/32"	1-1/4"	2-9/32"	1/4"	N/A
⚠ Long	26020H-125F	31/32" - 1/3/8"	16-1/8"	17-53/64"	17-31/32"	20-1/4"	1-1/4"	2-9/32"	1/4"	N/A
METRIC (mm)	*Metric Thread to BSP & ISO 7-1									
Intermediate	23020H-32FM	25,0 - 35,0	136,5	179,4	183,0	239,4	32,0	60,0	1/4"*	N/A
Intermediate	23025H-32FM	30,0 - 35,0	136,5	179,4	183,0	239,4	32,0	60,0	1/4"*	N/A
Standard	24020H-32FM	25,0 - 35,0	187,3	230,2	233,8	290,2	32,0	60,0	1/4"*	N/A
Standard	24025H-32FM	30,0 - 35,0	187,3	230,2	233,8	290,2	32,0	60,0	1/4"*	N/A
Standard Plus	24520H-32FM	24,5 - 35,0	238,0	280,9	284,5	340,9	32,0	60,0	1/4"*	N/A
⚠ Extended	25020H-32FM	25,0 - 35,0	288,9	331,8	335,4	391,8	32,0	60,0	1/4"*	N/A
⚠ Extended	25025H-32FM	30,0 - 35,0	288,9	331,8	335,4	391,8	32,0	60,0	1/4"*	N/A
⚠ Long	26020H-32FM	24,5 - 35,0	410,0	452,9	456,5	512,9	32,0	60,0	1/4"*	N/A

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders

T-ACR 45 Chamfer Ring and Accessories

Item Number	Min. Drill Dia (Inch)	Max. Drill Dia (Inch)	Max. Chamfer Dia (Inch)	Chamfer Ring Dia	Chamfer Ring Length	Insert Number 2 Pieces	Insert Screw (10 pack)	TORX Plus Driver	Clamping Screw (10 pack)	TORX Plus Driver
T-ACR-45-2	0.9610	1.380	1.568	1-51/64"	1"	T-ACRI-45-B-C5A	7255-IP8-1	8IP-8	7514-IP20-1	8IP-20

Rotary Coolant Adapter (RCA) and Accessories



Length	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢2T-3SR	1"	2-1/8"	1-1/8"	5/16" - NC	1/8"	2T1-3SR	2T1-3OR-10
	⚠ ◢2T-4SR	1-1/4"	2-1/2"	1-3/8"	3/8" - NC	1/4"	2T1-4SR	2T1-4OR-10
Metric	⚠ ◢2T-3SRM	25,40	53,97	28,57	M8 X 1,25	1/8"*	2T1-3SR	2T1-3OR-10
	⚠ ◢2T-4SRM	31,75	63,50	34,92	M10 X 1,50	1/4"*	2T1-4SR	2T1-4OR-10

***Thread to BSP & ISO 7-1 / ** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers. / ◣Refer to page 200 for Proper RCA Assembly**

Replacement TORX Plus Screws

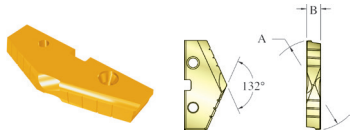
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Preset Torque TORX Plus Hand Driver	Replacement TORX Plus Tips	Inch		Metric	
						Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
2	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	31/32" - 1-3/8"	61.0 in.-lbs	25,0 - 35,0	690 N-cm
2.5	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	1-3/16" - 1-3/8"	61.0 in.-lbs	30,0 - 35,0	690 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Original T-A® Drill Inserts

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt	1-13/32"	1.4063	35,72	1/4"	153T-0113	❍
		1.4173	36,00		153T-36	❍
	1-7/16"	1.4375	36,51		153T-0114	❍
		1.4567	37,00		153T-37	❍
	1-15/32"	1.4688	37,31		153T-0115	❍
		1.4961	38,00		153T-38	❍
	1-1/2"	1.5000	38,10		153T-0116	❍
	1-17/32"	1.5313	38,89		153T-0117	❍
		1.5354	39,00		153T-39	❍
	1-9/16"	1.5625	39,69		153T-0118	❍
		1.5748	40,00		153T-40	❍
	1-19/32"	1.5938	40,48		153T-0119	❍
		1.6142	41,00		153T-41	❍
	1-5/8"	1.6250	41,28		153T-0120	❍
		1.6535	42,00		153T-42	❍
	1-21/32"	1.6563	42,07		153T-0121	❍
	1-11/16"	1.6875	42,86		153T-0122	❍
		1.6929	43,00		153T-43	❍
	1-23/32"	1.7188	43,66		153T-0123	❍
		1.7323	44,00		153T-44	❍
	1-3/4"	1.7500	44,45		153T-0124	❍
		1.7717	45,00		153T-45	❍
	1-25/32"	1.7813	45,24		153T-0125	❍
		1.8110	46,00		153T-46	❍
	1-13/16"	1.8125	46,04		153T-0126	❍
	1-27/32"	1.8438	46,83		153T-0127	❍
		1.8504	47,00		153T-47	❍
	1-7/8"	1.8750	47,63		153T-0128	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

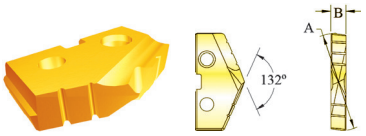
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

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

GEN2 T-A® HSS Drill Inserts

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	1-13/32"	1.4063	35,72	1/4"	433T-0113	❍
		1.4173	36,00		433T-36	❍
	1-7/16"	1.4375	36,51		433T-0114	❍
		1.4567	37,00		433T-37	❍
	1-15/32"	1.4688	37,31		433T-0115	❍
		1.4961	38,00		433T-38	❍
	1-1/2"	1.5000	38,10		433T-0116	❍
	1-17/32"	1.5313	38,89		433T-0117	❍
		1.5354	39,00		433T-39	❍
	1-9/16"	1.5625	39,69		433T-0118	❍
		1.5748	40,00		433T-40	❍
	1-19/32"	1.5938	40,48		433T-0119	❍
		1.6142	41,00		433T-41	❍
	1-5/8"	1.6250	41,28		433T-0120	❍
		1.6535	42,00		433T-42	❍
	1-21/32"	1.6563	42,07		433T-0121	❍
	1-11/16"	1.6875	42,86		433T-0122	❍
		1.6929	43,00		433T-43	❍
	1-23/32"	1.7188	43,66		433T-0123	❍
		1.7323	44,00		433T-44	❍
	1-3/4"	1.7500	44,45		433T-0124	❍
		1.7717	45,00		433T-45	❍
	1-25/32"	1.7813	45,24		433T-0125	❍
		1.8110	46,00		433T-46	❍
	1-13/16"	1.8125	46,04		433T-0126	❍
	1-27/32"	1.8438	46,83		433T-0127	❍
		1.8504	47,00		433T-47	❍
	1-7/8"	1.8750	47,63		433T-0128	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC, -HE.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

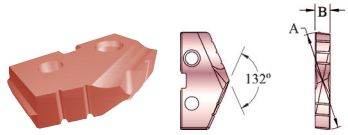
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

GEN2 T-A® HSS Drill Inserts

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



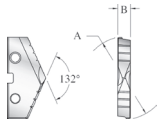
GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	AM200®	❶
Super Cobalt	1-13/32"	1.4063	35,72	1/4"	453T-0113	❍	453H-0113	❍
		1.4173	36,00		453T-36	❍	453H-36	❍
	1-7/16"	1.4375	36,51		453T-0114	❍	453H-0114	❍
		1.4567	37,00		453T-37	❍	453H-37	❍
	1-15/32"	1.4688	37,31		453T-0115	❍	453H-0115	❍
		1.4961	38,00		453T-38	❍	453H-38	❍
	1-1/2"	1.5000	38,10		453T-0116	❍	453H-0116	❍
	1-17/32"	1.5313	38,89		453T-0117	❍	453H-0117	❍
		1.5354	39,00		453T-39	❍	453H-39	❍
		1.5470	39,29		453T-1.547	▲	453H-1.547	❍
	1-9/16"	1.5625	39,69		453T-0118	❍	453H-0118	❍
		1.5748	40,00		453T-40	❍	453H-40	❍
	1-19/32"	1.5938	40,48		453T-0119	❍	453H-0119	❍
		1.6142	41,00		453T-41	❍	453H-41	❍
	1-5/8"	1.6250	41,28		453T-0120	❍	453H-0120	❍
		1.6535	42,00		453T-42	❍	453H-42	❍
	1-21/32"	1.6563	42,07		453T-0121	❍	453H-0121	❍
	1-11/16"	1.6875	42,86		453T-0122	❍	453H-0122	❍
		1.6929	43,00		453T-43	❍	453H-43	❍
	1-23/32"	1.7188	43,66		453T-0123	❍	453H-0123	❍
		1.7323	44,00		453T-44	❍	453H-44	❍
	1-3/4"	1.7500	44,45		453T-0124	❍	453H-0124	❍
		1.7717	45,00		453T-45	❍	453H-45	❍
	1-25/32"	1.7813	45,24		453T-0125	❍	453H-0125	❍
		1.7913	45,50		453T-45.5	❍	453H-45.5	❍
		1.7970	45,64		453T-1.797	▲	453H-1.797	❍
		1.8110	46,00		453T-46	❍	453H-46	❍
	1-13/16"	1.8125	46,04		453T-0126	❍	453H-0126	❍
	1-27/32"	1.8438	46,83		453T-0127	❍	453H-0127	❍
		1.8504	47,00		453T-47	❍	453H-47	❍
	1-7/8"	1.8750	47,63		453T-0128	❍	453H-0128	❍
Premium Cobalt	1-13/32"	1.4063	35,72	1/4"	483T-0113	▲	483H-0113	▲
		1.4173	36,00		483T-36	▲	483H-36	▲
	1-7/16"	1.4375	36,51		483T-0114	▲	483H-0114	▲
		1.4567	37,00		483T-37	▲	483H-37	▲
	1-15/32"	1.4688	37,31		483T-0115	▲	483H-0115	▲
		1.4961	38,00		483T-38	▲	483H-38	▲
	1-1/2"	1.5000	38,10		483T-0116	▲	483H-0116	▲
	1-17/32"	1.5313	38,89		483T-0117	▲	483H-0117	▲
		1.5354	39,00		483T-39	▲	483H-39	▲
	1-9/16"	1.5625	39,69		483T-0118	▲	483H-0118	▲
		1.5748	40,00		483T-40	▲	483H-40	▲
	1-19/32"	1.5938	40,48		483T-0119	▲	483H-0119	▲
		1.6142	41,00		483T-41	▲	483H-41	▲
	1-5/8"	1.6250	41,28		483T-0120	▲	483H-0120	▲
		1.6535	42,00		483T-42	▲	483H-42	▲
	1-21/32"	1.6563	42,07		483T-0121	▲	483H-0121	▲
	1-11/16"	1.6875	42,86		483T-0122	▲	483H-0122	▲
		1.6929	43,00		483T-43	▲	483H-43	▲
	1-23/32"	1.7188	43,66		483T-0123	▲	483H-0123	▲
		1.7323	44,00		483T-44	▲	483H-44	▲
	1-3/4"	1.7500	44,45		483T-0124	▲	483H-0124	▲
		1.7717	45,00		483T-45	▲	483H-45	▲
	1-25/32"	1.7813	45,24		483T-0125	▲	483H-0125	▲
		1.8110	46,00		483T-46	▲	483H-46	▲
	1-13/16"	1.8125	46,04		483T-0126	▲	483H-0126	▲
	1-27/32"	1.8438	46,83		483T-0127	▲	483H-0127	▲
		1.8504	47,00		483T-47	▲	483H-47	▲
	1-7/8"	1.8750	47,63		483T-0128	▲	483H-0128	▲

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC,-HE.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

T-A® Carbide Drill Inserts

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



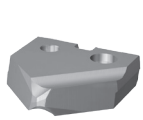
T-A Drill Inserts (supplied in 1 piece packages)

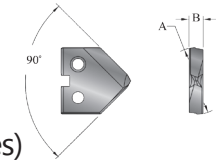
Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶
C2 (K20)	1-13/32"	1.4063	35,72	1/4"	1C23T-0113	❍	1C23A-0113	❍
		1.4173	36,00		1C23T-36	❍	1C23A-36	❍
	1-7/16"	1.4375	36,51		1C23T-0114	❍	1C23A-0114	❍
		1.4567	37,00		1C23T-37	❍	1C23A-37	❍
	1-15/32"	1.4688	37,31		1C23T-0115	❍	1C23A-0115	❍
		1.4961	38,00		1C23T-38	❍	1C23A-38	❍
	1-1/2"	1.5000	38,10		1C23T-0116	❍	1C23A-0116	❍
	1-17/32"	1.5313	38,89		1C23T-0117	❍	1C23A-0117	❍
		1.5354	39,00		1C23T-39	❍	1C23A-39	❍
	1-9/16"	1.5625	39,69		1C23T-0118	❍	1C23A-0118	❍
		1.5748	40,00		1C23T-40	❍	1C23A-40	❍
	1-19/32"	1.5938	40,48		1C23T-0119	❍	1C23A-0119	❍
		1.6142	41,00		1C23T-41	❍	1C23A-41	❍
	1-5/8"	1.6250	41,28		1C23T-0120	❍	1C23A-0120	❍
		1.6535	42,00		1C23T-42	❍	1C23A-42	❍
	1-21/32"	1.6563	42,07		1C23T-0121	❍	1C23A-0121	❍
	1-11/16"	1.6875	42,86		1C23T-0122	❍	1C23A-0122	❍
		1.6929	43,00		1C23T-43	❍	1C23A-43	❍
	1-23/32"	1.7188	43,66		1C23T-0123	❍	1C23A-0123	❍
		1.7323	44,00		1C23T-44	❍	1C23A-44	❍
	1-3/4"	1.7500	44,45		1C23T-0124	❍	1C23A-0124	❍
		1.7717	45,00		1C23T-45	❍	1C23A-45	❍
	1-25/32"	1.7813	45,24		1C23T-0125	❍	1C23A-0125	❍
		1.8110	46,00		1C23T-46	❍	1C23A-46	❍
	1-13/16"	1.8125	46,04		1C23T-0126	❍	1C23A-0126	❍
	1-27/32"	1.8438	46,83		1C23T-0127	❍	1C23A-0127	❍
		1.8504	47,00		1C23T-47	❍	1C23A-47	❍
	1-7/8"	1.8750	47,63		1C23T-0128	❍	1C23A-0128	❍
C5 (P40)	1-13/32"	1.4063	35,72	1/4"	1C53T-0113	❍	1C53A-0113	❍
		1.4173	36,00		1C53T-36	❍	1C53A-36	❍
	1-7/16"	1.4375	36,51		1C53T-0114	❍	1C53A-0114	❍
		1.4567	37,00		1C53T-37	❍	1C53A-37	❍
	1-15/32"	1.4688	37,31		1C53T-0115	❍	1C53A-0115	❍
		1.4961	38,00		1C53T-38	❍	1C53A-38	❍
	1-1/2"	1.5000	38,10		1C53T-0116	❍	1C53A-0116	❍
	1-17/32"	1.5313	38,89		1C53T-0117	❍	1C53A-0117	❍
		1.5354	39,00		1C53T-39	❍	1C53A-39	❍
		1.5470	39,29		1C53T-1.547	❍	1C53A-1.547	❍
	1-9/16"	1.5625	39,69		1C53T-0118	❍	1C53A-0118	❍
		1.5748	40,00		1C53T-40	❍	1C53A-40	❍
	1-19/32"	1.5938	40,48		1C53T-0119	❍	1C53A-0119	❍
		1.6142	41,00		1C53T-41	❍	1C53A-41	❍
	1-5/8"	1.6250	41,28		1C53T-0120	❍	1C53A-0120	❍
		1.6535	42,00		1C53T-42	❍	1C53A-42	❍
	1-21/32"	1.6563	42,07		1C53T-0121	❍	1C53A-0121	❍
	1-11/16"	1.6875	42,86		1C53T-0122	❍	1C53A-0122	❍
		1.6929	43,00		1C53T-43	❍	1C53A-43	❍
	1-23/32"	1.7188	43,66		1C53T-0123	❍	1C53A-0123	❍
		1.7323	44,00		1C53T-44	❍	1C53A-44	❍
	1-3/4"	1.7500	44,45		1C53T-0124	❍	1C53A-0124	❍
		1.7717	45,00		1C53T-45	❍	1C53A-45	❍
	1-25/32"	1.7813	45,24		1C53T-0125	❍	1C53A-0125	❍
		1.7913	45,50		1C53T-45.5	❍	1C53A-45.5	❍
		1.7970	45,64		1C53T-1.797	❍	1C53A-1.797	❍
		1.8110	46,00		1C53T-46	❍	1C53A-46	❍
	1-13/16"	1.8125	46,04		1C53T-0126	❍	1C53A-0126	❍
	1-27/32"	1.8438	46,83		1C53T-0127	❍	1C53A-0127	❍
		1.8504	47,00		1C53T-47	❍	1C53A-47	❍
	1-7/8"	1.8750	47,63		1C53T-0128	❍	1C53A-0128	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NP, -IN, -RN, -CN, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

T-A® HSS Drill Inserts

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)

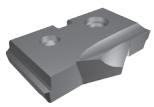




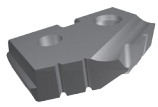
90° Spot and Chamfer T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	TiAlN	❶	TiCN	❶
Super Cobalt	1-13/32"	1.4063	35,72	1/4"	153T-0113-SP	▲	153A-0113-SP	▲	153N-0113-SP	▲
		1.4173	36,00		153T-36-SP	▲	153A-36-SP	▲	153N-36-SP	▲
	1-7/16"	1.4375	36,51		153T-0114-SP	▲	153A-0114-SP	▲	153N-0114-SP	▲
		1.4567	37,00		153T-37-SP	▲	153A-37-SP	▲	153N-37-SP	▲
	1-15/32"	1.4688	37,31		153T-0115-SP	▲	153A-0115-SP	▲	153N-0115-SP	▲
		1.4961	38,00		153T-38-SP	▲	153A-38-SP	▲	153N-38-SP	▲
	1-1/2"	1.5000	38,10		153T-0116-SP	❍	153A-0116-SP	❍	153N-0116-SP	❍
	1-17/32"	1.5313	38,89		153T-0117-SP	▲	153A-0117-SP	▲	153N-0117-SP	▲
		1.5354	39,00		153T-39-SP	▲	153A-39-SP	▲	153N-39-SP	▲
	1-9/16"	1.5625	39,69		153T-0118-SP	▲	153A-0118-SP	▲	153N-0118-SP	▲
		1.5748	40,00		153T-40-SP	▲	153A-40-SP	▲	153N-40-SP	▲
	1-19/32"	1.5938	40,48		153T-0119-SP	▲	153A-0119-SP	▲	153N-0119-SP	▲
		1.6142	41,00		153T-41-SP	▲	153A-41-SP	▲	153N-41-SP	▲
	1-5/8"	1.6250	41,28		153T-0120-SP	▲	153A-0120-SP	▲	153N-0120-SP	▲
		1.6535	42,00		153T-42-SP	▲	153A-42-SP	▲	153N-42-SP	▲
	1-21/32"	1.6563	42,07		153T-0121-SP	▲	153A-0121-SP	▲	153N-0121-SP	▲
	1-11/16"	1.6875	42,86		153T-0122-SP	▲	153A-0122-SP	▲	153N-0122-SP	▲
		1.6929	43,00		153T-43-SP	▲	153A-43-SP	▲	153N-43-SP	▲
	1-23/32"	1.7188	43,66		153T-0123-SP	▲	153A-0123-SP	▲	153N-0123-SP	▲
		1.7323	44,00		153T-44-SP	▲	153A-44-SP	▲	153N-44-SP	▲
	1-3/4"	1.7500	44,45		153T-0124-SP	▲	153A-0124-SP	▲	153N-0124-SP	▲
		1.7717	45,00		153T-45-SP	▲	153A-45-SP	▲	153N-45-SP	▲
	1-25/32"	1.7813	45,24		153T-0125-SP	▲	153A-0125-SP	▲	153N-0125-SP	▲
		1.8110	46,00		153T-46-SP	▲	153A-46-SP	▲	153N-46-SP	▲
	1-13/16"	1.8125	46,04		153T-0126-SP	▲	153A-0126-SP	▲	153N-0126-SP	▲
	1-27/32"	1.8438	46,83		153T-0127-SP	▲	153A-0127-SP	▲	153N-0127-SP	▲
		1.8504	47,00		153T-47-SP	▲	153A-47-SP	▲	153N-47-SP	▲
	1-7/8"	1.8750	47,63		153T-0128-SP	❍	153A-0128-SP	❍	153N-0128-SP	❍

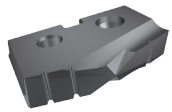
Geometries available (see page 197 for details): -SW.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.



***Thin Wall**



****Notch Point®**



****150° Structural Steel**

Structural Steel T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry					
	Fractional Equivalent	(inch)	(mm)	Thickness	*Thin Wall TiAlN	❶	**Notch Point TiAlN	❶	150° Structural Steel TiAlN	❶
Super Cobalt	1-7/16"	1.4375	36,51	1/4"	153A-0114-TW	❍	153A-0114-NP	❍	153A-0114-SS	❍
	1-1/2"	1.5000	38,10		153A-0116-TW	❍	153A-0116-NP	❍	153A-0116-SS	❍
		1.5354	39,00		153A-39-TW	❍	153A-39-NP	❍	153A-39-SS	❍
	1-9/16"	1.5625	39,69		153A-0118-TW	❍	153A-0118-NP	❍	153A-0118-SS	❍
					AM200					
Super Cobalt	1-7/16"	1.4375	36,51	1/4"	153H-0114-TW	❍	153H-0114-NP	❍	153H-0114-SS	❍
	1-1/2"	1.5000	38,10		153H-0116-TW	❍	153H-0116-NP	❍	153H-0116-SS	❍
		1.5354	39,00		153H-39-TW	❍	153H-39-NP	❍	153H-39-SS	❍
	1-9/16"	1.5625	39,69		153H-0118-TW	❍	153H-0118-NP	❍	153H-0118-SS	❍

***Use Thin Wall Drill Inserts for material up to 7/16" thick.**
****Use Notch Point Geometry or 150° Structural Steel Drill Inserts for material over 7/16" thick. Use 150° Structural Steel for reduced exit burr.**

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

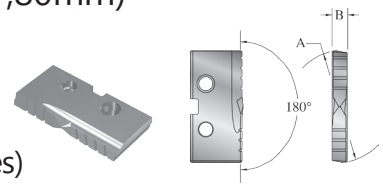
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

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

T-A® HSS Drill Inserts

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



Flat Bottom T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt	1-13/32"	1.4063	35,72	1/4"	153T-0113-FB	❍
		1.4173	36,00		153T-36-FB	❍
	1-7/16"	1.4375	36,51		153T-0114-FB	❍
		1.4567	37,00		153T-37-FB	❍
	1-15/32"	1.4688	37,31		153T-0115-FB	❍
		1.4961	38,00		153T-38-FB	❍
	1-1/2"	1.5000	38,10		153T-0116-FB	❍
	1-17/32"	1.5313	38,89		153T-0117-FB	❍
		1.5354	39,00		153T-39-FB	❍
	1-9/16"	1.5625	39,69		153T-0118-FB	❍
		1.5748	40,00		153T-40-FB	❍
	1-19/32"	1.5938	40,48		153T-0119-FB	❍
		1.6142	41,00		153T-41-FB	❍
	1-5/8"	1.6250	41,28		153T-0120-FB	❍
		1.6535	42,00		153T-42-FB	❍
	1-21/32"	1.6563	42,07		153T-0121-FB	❍
	1-11/16"	1.6875	42,86		153T-0122-FB	❍
		1.6929	43,00		153T-43-FB	❍
	1-23/32"	1.7188	43,66		153T-0123-FB	❍
		1.7323	44,00		153T-44-FB	❍
	1-3/4"	1.7500	44,45		153T-0124-FB	❍
		1.7717	45,00		153T-45-FB	❍
	1-25/32"	1.7813	45,24		153T-0125-FB	❍
		1.8110	46,00		153T-46-FB	❍
	1-13/16"	1.8125	46,04		153T-0126-FB	❍
	1-27/32"	1.8438	46,83		153T-0127-FB	❍
		1.8504	47,00		153T-47-FB	❍
	1-7/8"	1.8750	47,63		153T-0128-FB	❍

Geometries available (see page 197 for details): -FN
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

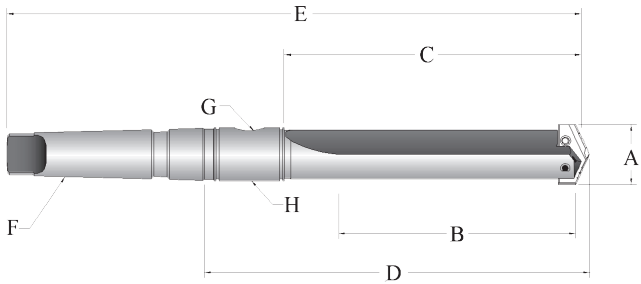
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

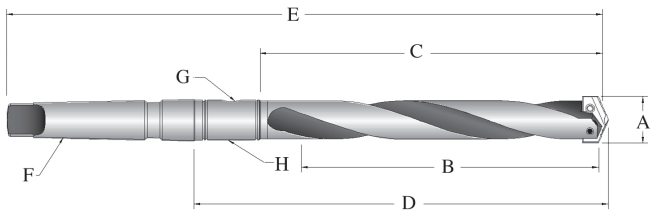
T-A® Holders

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22030S-004I	1-13/32" - 1-7/8"	4-3/4"	6"	8-1/8"	12-9/16"	#4	1/4"	2T-4SR
Short	22030S-005I	1-13/32" - 1-7/8"	4-3/4"	6"	8-1/8"	13-13/16"	#5	1/4"	2T-5SR
Intermediate	23030S-004I	1-13/32" - 1-7/8"	6-1/2"	7-3/4"	9-7/8"	14-5/16"	#4	1/4"	2T-4SR
Standard	24030S-004I	1-13/32" - 1-7/8"	8-1/4"	9-1/2"	11-5/8"	16-1/16"	#4	1/4"	2T-4SR
Standard	24030S-005I	1-13/32" - 1-7/8"	8-1/4"	9-1/2"	11-5/8"	17-5/16"	#5	1/4"	2T-5SR
⚠ Extended	25030S-004I	1-13/32" - 1-7/8"	13-3/4"	15"	17-1/8"	21-9/16"	#4	1/4"	2T-4SR
⚠ XL	27030S-004I	1-13/32" - 1-7/8"	22"	23-1/4"	25-3/8"	29-13/16"	#4	1/4"	2T-4SR
⚠ 3XL	29030S-004I	1-13/32" - 1-7/8"	31"	32-1/4"	34-3/8"	38-13/16"	#4	1/4"	2T-4SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	22030S-004M	36,0 - 47,0	120,6	152,4	206,4	319,1	#4**	1/4"*	2T-4SRM
⚠ Extended	25030S-004M	36,0 - 47,0	349,3	381,0	435,0	547,7	#4**	1/4"*	2T-4SRM
⚠ XL	27030S-004M	36,0 - 47,0	558,8	590,6	644,6	757,2	#4**	1/4"*	2T-4SRM
⚠ 3XL	29030S-004M	36,0 - 47,0	787,4	819,2	873,2	985,8	#4**	1/4"*	2T-4SRM



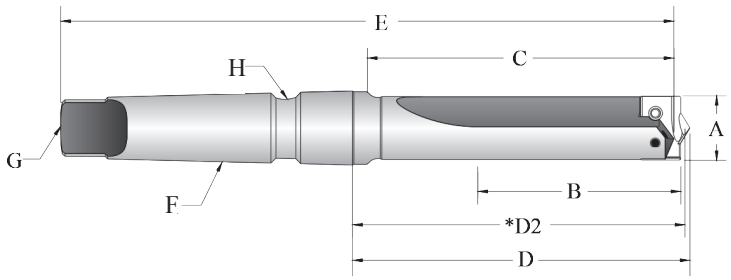
Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Intermediate	23030H-004M	36,0 - 47,0	165,1	196,9	250,9	363,6	#4**	1/4"*	2T-4SRM
Standard	24030H-004M	36,0 - 47,0	209,5	241,3	295,3	408,0	#4**	1/4"*	2T-4SRM

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

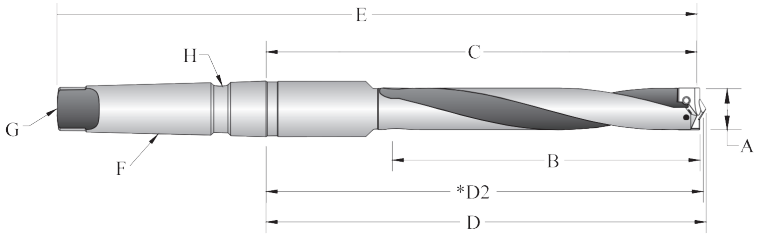
3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



Structural Steel Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Short	22030S-004IS126	1-13/32" - 1-7/8"	4-3/4"	6"	6-1/2"	6-7/16"	10-7/8"	#4	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150° Structural Steel T-A® Drill Insert Geometry**



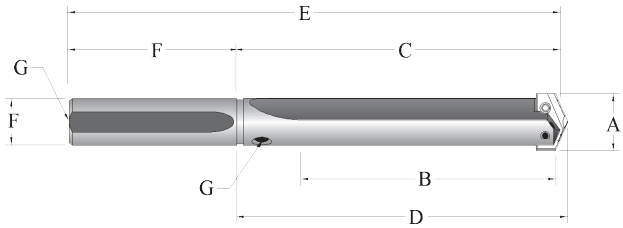
Structural Steel Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	*D2	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Tool Ref. Length	Overall Length	MT	Coolant Inlet Style	
Standard	24030H-004IS126	1-13/32" - 1-7/8"	6-1/2"	7-3/4"	8-1/4"	8-3/16"	12-5/8"	#4	TTC	TSC

***If using Structural Steel Holder with Notch Point®, GEN2 T-A®, or 150° Structural Steel T-A® Drill Insert Geometry**

T-A® Holders

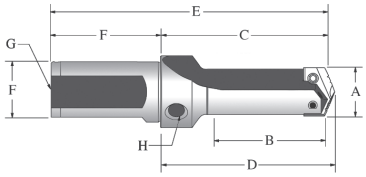
3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)

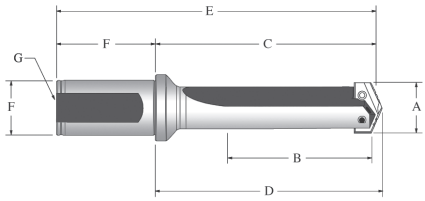


Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Short	22030S-125L	1-13/32" - 1-7/8"	4-3/4"	6"	6-3/16"	10"	1-1/4"	4"	1/4"
Short	22030S-150L	1-13/32" - 1-7/8"	4-3/4"	6"	6-3/16"	10"	1-1/2"	4"	1/4"
Intermediate	23030S-150L	1-13/32" - 1-7/8"	6-1/2"	7-3/4"	7-15/16"	11-3/4"	1-1/2"	4"	1/4"
Standard	24030S-125L	1-13/32" - 1-7/8"	8-1/4"	9-1/2"	9-11/16"	13-1/2"	1-1/4"	4"	1/4"
Standard	24030S-150L	1-13/32" - 1-7/8"	8-1/4"	9-1/2"	9-11/16"	13-1/2"	1-1/2"	4"	1/4"
⚠ Extended	25030S-125L	1-13/32" - 1-7/8"	13-3/4"	15"	15-3/16"	19"	1-1/4"	4"	1/4"
⚠ XL	27030S-150L	1-13/32" - 1-7/8"	22"	23-1/4"	23-7/16"	27-1/4"	1-1/2"	4"	1/4"
⚠ 3XL	29030S-150L	1-13/32" - 1-7/8"	31"	32-1/4"	32-7/16"	36-1/4"	1-1/2"	4"	1/4"

Stub Length Flanged Shank Holder





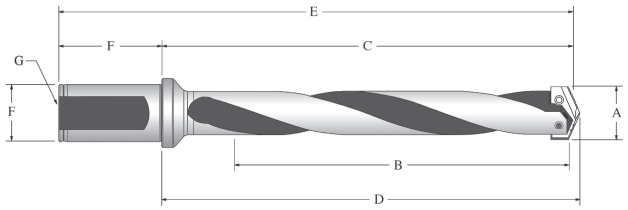
Flanged Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Stub	21030S-150F	1-13/32" - 1-7/8"	3"	4-59/64"	5-7/64"	7-39/64"	1-1/2"	2-11/16"	1/4"	1/4"
Short	22030S-150F	1-13/32" - 1-7/8"	4-3/4"	6-13/16"	7"	9-1/2"	1-1/2"	2-11/16"	1/4"	N/A
Intermediate	23030S-150F	1-13/32" - 1-7/8"	6-1/2"	8-9/16"	8-3/4"	11-1/4"	1-1/2"	2-11/16"	1/4"	N/A
Standard	24030S-150F	1-13/32" - 1-7/8"	8-1/4"	10-5/16"	10-1/2"	13"	1-1/2"	2-11/16"	1/4"	N/A
METRIC (mm)	*Metric Thread to BSP & ISO 7-1									
Stub	21030S-40FM	36,0 - 47,0	76,2	125,0	129,8	195,0	40,0	70,0	1/4"*	1/4"*
Short	22030S-40FM	36,0 - 47,0	120,7	173,0	177,8	243,0	40,0	70,0	1/4"*	N/A
⚠ Extended	25030S-40FM	36,0 - 47,0	349,3	401,6	406,4	471,6	40,0	70,0	1/4"*	N/A
⚠ XL	27030S-40FM	36,0 - 47,0	558,8	611,1	615,9	681,1	40,0	70,0	1/4"*	N/A
⚠ 3XL	29030S-40FM	36,0 - 47,0	787,4	839,7	844,5	909,7	40,0	70,0	1/4"*	N/A

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

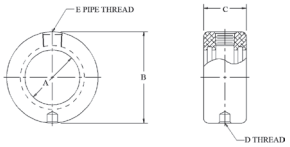
T-A® Holders

3 Series Range: 1.353"-1.882" (34,36mm-47,80mm)



Flanged Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	Rear
Intermediate	23030H-150F	1-13/32" - 1-7/8"	6-1/2"	8-9/16"	8-3/4"	11-1/4"	1-1/2"	2-11/16"	1/4"
Standard	24030H-150F	1-13/32" - 1-7/8"	8-1/4"	10-5/16"	10-1/2"	13"	1-1/2"	2-11/16"	1/4"
METRIC (mm)	*Metric Thread to BSP & ISO 7-1								
Intermediate	23030H-40FM	36,0 - 47,0	165,1	217,5	222,3	287,5	40,0	70,0	1/4"*
Standard	24030H-40FM	36,0 - 47,0	209,6	261,9	266,7	331,9	40,0	70,0	1/4"*



Rotary Coolant Adapter (RCA) and Accessories

Length	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-4SR	1-1/4"	2-1/2"	1-3/8"	3/8" - NC	1/4"	2T1-4SR	2T1-4OR-10
	⚠ ◢ 2T-5SR	1-3/4"	3"	1-3/8"	3/8" - NC	1/4"	2T1-5SR	2T1-5OR-10
Metric	⚠ ◢ 2T-4SRM	31,75	63,50	34,92	M10 X 1,50	1/4"*	2T1-4SR	2T1-4OR-10
	⚠ ◢ 2T-5SRM	44,45	76,20	34,92	M10 X 1,50	1/4"*	2T1-5SR	2T1-5OR-10

*** Thread to BSP & ISO 7-1**

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

◢ **Refer to page 200 for Proper RCA Assembly**

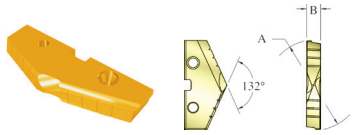
Replacement TORX Plus Screws

Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Inch		Metric	
				Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
3	7514-IP20-1	7514N-IP20-1	8IP-20	1-13/32" - 1-7/8"	121.3 in.-lbs	36,0 - 65,0	1370 N-cm

Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

Original T-A® Drill Inserts

4 Series Range: 1.850"-2.570" (46,99mm-65,28mm)



T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt		1.8898	48,00	5/16"	154T-48	❍
	1-29/32"	1.9063	48,42		154T-0129	❍
		1.9291	49,00		154T-49	❍
	1-15/16"	1.9375	49,21		154T-0130	❍
		1.9685	50,00		154T-50	❍
	1-31/32"	1.9688	50,01		154T-0131	❍
	2"	2.0000	50,80		154T-0200	❍
		2.0079	51,00		154T-51	❍
	2-1/32"	2.0313	51,59		154T-0201	❍
	2-3/64"	2.0472	52,00		154T-52	❍
	2-1/16"	2.0625	52,39		154T-0202	❍
		2.0866	53,00		154T-53	❍
	2-3/32"	2.0938	53,18		154T-0203	❍
	2-1/8"	2.1250	53,98		154T-0204	❍
		2.1260	54,00		154T-54	❍
	2-5/32"	2.1563	54,77		154T-0205	❍
		2.1654	55,00		154T-55	❍
	2-3/16"	2.1875	55,56		154T-0206	❍
		2.2047	56,00		154T-56	❍
	2-7/32"	2.2188	56,36		154T-0207	❍
		2.2441	57,00		154T-57	❍
	2-1/4"	2.2500	57,15		154T-0208	❍
	2-9/32"	2.2813	57,94		154T-0209	❍
		2.2835	58,00		154T-58	❍
	2-5/16"	2.3125	58,74		154T-0210	❍
		2.3228	59,00		154T-59	❍
	2-11/32"	2.3438	59,53		154T-0211	❍
		2.3622	60,00		154T-60	❍
	2-3/8"	2.3750	60,33		154T-0212	❍
		2.4016	61,00		154T-61	❍
	2-13/32"	2.4063	61,12		154T-0213	❍
	2-7/16"	2.4375	61,91		154T-0214	❍
		2.4409	62,00		154T-62	❍
	2-15/32"	2.4688	62,71		154T-0215	❍
		2.4803	63,00		154T-63	❍
	2-1/2"	2.5000	63,50		154T-0216	❍
		2.5197	64,00		154T-64	❍
	2-17/32"	2.5313	64,29		154T-0217	❍
		2.5591	65,00		154T-65	❍
	2-9/16"	2.5625	65,09		154T-0218	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

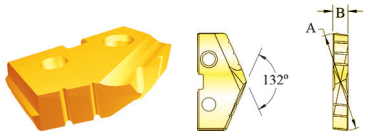
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

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

GEN2 T-A® HSS Drill Inserts

4 Series Range: 1.850"-2.570" (46,99mm-65,28mm)



GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS		1.8898	48,00	5/16"	434T-48	❍
	1-29/32"	1.9063	48,42		434T-0129	❍
		1.9291	49,00		434T-49	❍
	1-15/16"	1.9375	49,21		434T-0130	❍
		1.9685	50,00		434T-50	❍
	1-31/32"	1.9688	50,01		434T-0131	❍
	2"	2.0000	50,80		434T-0200	❍
		2.0079	51,00		434T-51	❍
	2-1/32"	2.0313	51,59		434T-0201	❍
	2-3/64"	2.0472	52,00		434T-52	❍
	2-1/16"	2.0625	52,39		434T-0202	❍
		2.0866	53,00		434T-53	❍
	2-3/32"	2.0938	53,18		434T-0203	❍
	2-1/8"	2.1250	53,98		434T-0204	❍
		2.1260	54,00		434T-54	❍
	2-5/32"	2.1563	54,77		434T-0205	❍
		2.1654	55,00		434T-55	❍
	2-3/16"	2.1875	55,56		434T-0206	❍
		2.2047	56,00		434T-56	❍
	2-7/32"	2.2188	56,36		434T-0207	❍
		2.2441	57,00		434T-57	❍
	2-1/4"	2.2500	57,15		434T-0208	❍
	2-9/32"	2.2813	57,94		434T-0209	❍
		2.2835	58,00		434T-58	❍
	2-5/16"	2.3125	58,74		434T-0210	❍
		2.3228	59,00		434T-59	❍
	2-11/32"	2.3438	59,53		434T-0211	❍
		2.3622	60,00		434T-60	❍
	2-3/8"	2.3750	60,33		434T-0212	❍
		2.4016	61,00		434T-61	❍
	2-13/32"	2.4063	61,12		434T-0213	❍
	2-7/16"	2.4375	61,91		434T-0214	❍
		2.4409	62,00		434T-62	❍
	2-15/32"	2.4688	62,71		434T-0215	❍
		2.4803	63,00		434T-63	❍
	2-1/2"	2.5000	63,50		434T-0216	❍
		2.5197	64,00		434T-64	❍
	2-17/32"	2.5313	64,29		434T-0217	❍
		2.5591	65,00		434T-65	❍
	2-9/16"	2.5625	65,09		434T-0218	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC, -HE.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

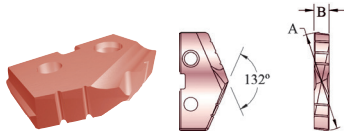
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

GEN2 T-A® HSS Drill Inserts

4 Series Range: 1.850"-2.570" (46,99mm-65,28mm)



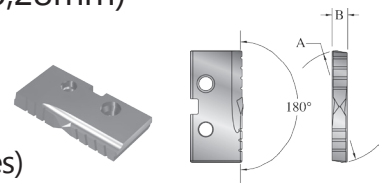
GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry			
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶	AM200®	❶
Super Cobalt		1.8898	48,00	5/16"	454T-48	❍	454H-48	❍
	1-29/32"	1.9063	48,42		454T-0129	❍	454H-0129	❍
		1.9291	49,00		454T-49	❍	454H-49	❍
	1-15/16"	1.9375	49,21		454T-0130	❍	454H-0130	❍
		1.9685	50,00		454T-50	❍	454H-50	❍
	1-31/32"	1.9688	50,01		454T-0131	❍	454H-0131	❍
	2"	2.0000	50,80		454T-0200	❍	454H-0200	❍
		2.0079	51,00		454T-51	❍	454H-51	❍
	2-1/32"	2.0313	51,59		454T-0201	❍	454H-0201	❍
	2-3/64"	2.0472	52,00		454T-52	❍	454H-52	❍
	2-1/16"	2.0625	52,39		454T-0202	❍	454H-0202	❍
		2.0866	53,00		454T-53	❍	454H-53	❍
	2-3/32"	2.0938	53,18		454T-0203	❍	454H-0203	❍
	2-1/8"	2.1250	53,98		454T-0204	❍	454H-0204	❍
		2.1260	54,00		454T-54	❍	454H-54	❍
	2-5/32"	2.1563	54,77		454T-0205	❍	454H-0205	❍
		2.1654	55,00		454T-55	❍	454H-55	❍
	2-3/16"	2.1875	55,56		454T-0206	❍	454H-0206	❍
		2.2047	56,00		454T-56	❍	454H-56	❍
	2-7/32"	2.2188	56,36		454T-0207	❍	454H-0207	❍
		2.2441	57,00		454T-57	❍	454H-57	❍
	2-1/4"	2.2500	57,15		454T-0208	❍	454H-0208	❍
	2-9/32"	2.2813	57,94		454T-0209	❍	454H-0209	❍
		2.2835	58,00		454T-58	❍	454H-58	❍
	2-5/16"	2.3125	58,74		454T-0210	❍	454H-0210	❍
		2.3228	59,00		454T-59	❍	454H-59	❍
	2-11/32"	2.3438	59,53		454T-0211	❍	454H-0211	❍
		2.3622	60,00		454T-60	❍	454H-60	❍
	2-3/8"	2.3750	60,33		454T-0212	❍	454H-0212	❍
		2.4016	61,00		454T-61	❍	454H-61	❍
	2-13/32"	2.4063	61,12		454T-0213	❍	454H-0213	❍
		2.4130	61,29		454T-2.413	❍	454H-2.413	❍
		2.4213	61,50		454T-61.5	❍	454H-61.5	❍
	2-7/16"	2.4375	61,91		454T-0214	❍	454H-0214	❍
		2.4409	62,00		454T-62	❍	454H-62	❍
	2-15/32"	2.4688	62,71		454T-0215	❍	454H-0215	❍
		2.4803	63,00		454T-63	❍	454H-63	❍
	2-1/2"	2.5000	63,50		454T-0216	❍	454H-0216	❍
		2.5197	64,00		454T-64	❍	454H-64	❍
	2-17/32"	2.5313	64,29		454T-0217	❍	454H-0217	❍
		2.5591	65,00		454T-65	❍	454H-65	❍
	2-9/16"	2.5625	65,09		454T-0218	❍	454H-0218	❍

Geometries available (see page 197 for details): -CI, -SK, -CR, -HI, -HR, -BR, -NC, -WC, -HE.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

T-A® HSS Drill Inserts

4 Series Range: 1.850"-2.570" (46,99mm-65,28mm)



Flat Bottom T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
Super Cobalt		1.8898	48,00	5/16"	154T-48-FB	❍
	1-29/32"	1.9063	48,42		154T-0129-FB	❍
		1.9291	49,00		154T-49-FB	❍
	1-15/16"	1.9375	49,21		154T-0130-FB	❍
		1.9685	50,00		154T-50-FB	❍
	1-31/32"	1.9688	50,01		154T-0131-FB	❍
	2"	2.0000	50,80		154T-0200-FB	❍
		2.0079	51,00		154T-51-FB	❍
	2-1/32"	2.0313	51,59		154T-0201-FB	❍
	2-3/64"	2.0472	52,00		154T-52-FB	❍
	2-1/16"	2.0625	52,39		154T-0202-FB	❍
		2.0866	53,00		154T-53-FB	❍
	2-3/32"	2.0938	53,18		154T-0203-FB	❍
	2-1/8"	2.1250	53,98		154T-0204-FB	❍
		2.1260	54,00		154T-54-FB	❍
	2-5/32"	2.1563	54,77		154T-0205-FB	❍
		2.1654	55,00		154T-55-FB	❍
	2-3/16"	2.1875	55,56		154T-0206-FB	❍
		2.2047	56,00		154T-56-FB	❍
	2-7/32"	2.2188	56,36		154T-0207-FB	❍
		2.2441	57,00		154T-57-FB	❍
	2-1/4"	2.2500	57,15		154T-0208-FB	❍
	2-9/32"	2.2813	57,94		154T-0209-FB	❍
		2.2835	58,00		154T-58-FB	❍
	2-5/16"	2.3125	58,74		154T-0210-FB	❍
		2.3228	59,00		154T-59-FB	❍
	2-11/32"	2.3438	59,53		154T-0211-FB	❍
		2.3622	60,00		154T-60-FB	❍
	2-3/8"	2.3750	60,33		154T-0212-FB	❍
		2.4016	61,00		154T-61-FB	❍
	2-13/32"	2.4063	61,12		154T-0213-FB	❍
	2-7/16"	2.4375	61,91		154T-0214-FB	❍
		2.4409	62,00		154T-62-FB	❍
	2-15/32"	2.4688	62,71		154T-0215-FB	❍
		2.4803	63,00		154T-63-FB	❍
	2-1/2"	2.5000	63,50		154T-0216-FB	❍
		2.5197	64,00		154T-64-FB	❍
	2-17/32"	2.5313	64,29		154T-0217-FB	❍
		2.5591	65,00		154T-65-FB	❍
	2-9/16"	2.5625	65,09		154T-0218-FB	❍

Geometries available (see page 197 for details): -FN.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

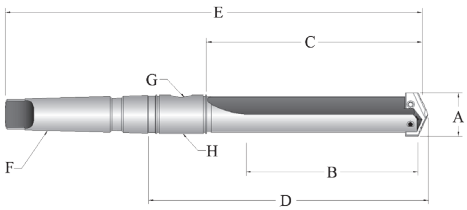
Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

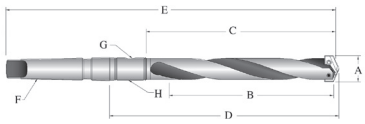
T-A® Holders

4 Series Range: 1.850"-2.570" (46,99mm-65,28mm)



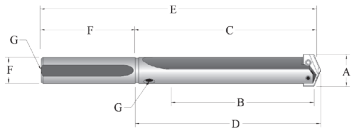
Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22040S-004I	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	8-5/8"	13-1/16"	#4	1/4"	2T-4SR
Short	22040S-005I	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	8-5/8"	14-5/16"	#5	1/4"	2T-5SR
Standard	24040S-004I	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	12-5/8"	17-1/16"	#4	1/4"	2T-4SR
Standard	24040S-005I	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	12-5/8"	18-5/16"	#5	1/4"	2T-5SR
⚠ Extended	25040S-005I	1-29/32" - 2-9/16"	16-5/8"	18"	20-1/8"	25-13/16"	#5	1/4"	2T-5SR
⚠ XL	27040S-005I	1-29/32" - 2-9/16"	24-5/8"	26"	28-1/8"	33-13/16"	#5	1/4"	2T-5SR
⚠ 3XL	29040S-005I	1-29/32" - 2-9/16"	34-5/8"	36"	38-1/8"	43-13/16"	#5	1/4"	2T-5SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	22040S-005M	48,0 - 65,0	130,1	165,1	219,1	363,5	#5**	1/4"*	2T-5SRM
⚠ Extended	25040S-005M	48,0 - 65,0	422,3	457,2	511,2	655,6	#5**	1/4"*	2T-5SRM
⚠ XL	27040S-005M	48,0 - 65,0	625	660,4	714,4	858,8	#5**	1/4"*	2T-5SRM
⚠ 3XL	29040S-005M	48,0 - 65,0	879	914,4	968,4	1112,8	#5**	1/4"*	2T-5SRM



Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Standard	24040H-005M	48,0 - 65,0	231,8	266,7	320,7	465,1	#5**	1/4"*	2T-5SRM



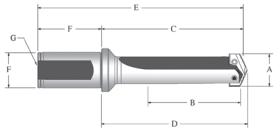
Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank Dia	Shank Length	Pipe Tap
Short	22040S-150L	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	6-11/16"	10-1/2"	1-1/2"	4"	1/4"
Short	22040S-175L	1-29/32" - 2-9/16"	5-1/8"	6-1/2"	6-11/16"	10-1/2"	1-3/4"	4"	1/4"
Standard	24040S-150L	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	10-11/16"	14-1/2"	1-1/2"	4"	1/4"
Standard	24040S-175L	1-29/32" - 2-9/16"	9-1/8"	10-1/2"	10-11/16"	14-1/2"	1-3/4"	4"	1/4"
⚠ Extended	25040S-150L	1-29/32" - 2-9/16"	16-5/8"	18"	18-3/16"	22"	1-1/2"	4"	1/4"
⚠ XL	27040S-150L	1-29/32" - 2-9/16"	24-5/8"	26"	26-3/16"	30"	1-1/2"	4"	1/4"
⚠ 3XL	29040S-150L	1-29/32" - 2-9/16"	34-5/8"	36"	36-3/16"	40"	1-1/2"	4"	1/4"

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

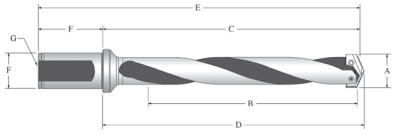
T-A® Holders

4 Series Range: 1.850"-2.570" (46,99mm-65,28mm)



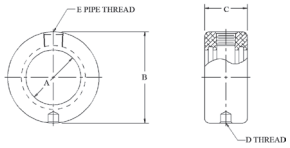
Flanged Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	Rear
Short	22040S-150F	1-29/32" - 2-9/16"	5-1/8"	7-1/6"	7-1/4"	9-3/4"	1-1/2"	2-11/16"	1/4"
Standard	24040S-150F	1-29/32" - 2-9/16"	9-1/8"	11-1/16"	11-1/4"	13-3/4"	1-1/2"	2-11/16"	1/4"
METRIC (mm)	*Metric Thread to BSP & ISO 7-1								
Short	22040S-40FM	48,0 - 65,0	130,2	179,4	184,0	249,4	40,0	70,0	1/4"*
⚠ Extended	25040S-40FM	48,0 - 65,0	422,3	471,5	476,0	541,5	40,0	70,0	1/4"*
⚠ XL	27040S-40FM	48,0 - 65,0	625	674,7	679,0	744,7	40,0	70,0	1/4"*
⚠ 3XL	29040S-40FM	48,0 - 65,0	879	928,7	933,0	998,7	40,0	70,0	1/4"*



Flanged Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	Rear
Standard	24040H-150F	1-29/32" - 2-9/16"	9-1/8"	11-1/16"	11-1/4"	13-3/4"	1-1/2"	2-11/16"	1/4"
METRIC (mm)	*Metric Thread to BSP & ISO 7-1								
Standard	24040H-40FM	48,0 - 65,0	231,8	281,0	285,8	351,0	40,0	70,0	1/4"*



Rotary Coolant Adapter (RCA) and Accessories

Length	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-4SR	1-1/4"	2-1/2"	1-3/8"	3/8" - NC	1/4"	2T1-4SR	2T1-4OR-10
	⚠ ◢ 2T-5SR	1-3/4"	3"	1-3/8"	3/8" - NC	1/4"	2T1-5SR	2T1-5OR-10
Metric	⚠ ◢ 2T-4SRM	31,75	63,50	34,92	M10 X 1,50	1/4"*	2T1-4SR	2T1-4OR-10
	⚠ ◢ 2T-5SRM	44,45	76,20	34,92	M10 X 1,50	1/4"*	2T1-5SR	2T1-5OR-10

***Thread to BSP & ISO 7-1 / ** RCA Repair Kit includes (2) O-rings, (2) snap rings and (2) thrust washers. / ◣Refer to page 200 for Proper RCA Assembly**

Replacement TORX Plus Screws

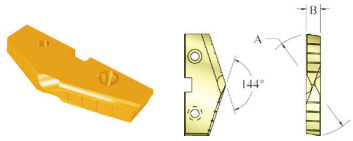
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Inch		Metric	
				Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
4	7514-IP20-1	7514N-IP20-1	8IP-20	1-29/32" - 2-9/16"	121.3 in.-lbs	36,0 - 65,0	1370 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Original T-A® Drill Inserts

5 Series Range: 2.456"-3.000" (62,38mm-76,20mm)



T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	2-1/2"	2.5000	63,50	7/16"	135T-0216	❍
		2.5197	64,00		135T-64	❍
	2-17/32"	2.5313	64,29		135T-0217	❍
	2-9/16"	2.5625	65,09		135T-0218	❍
	2-19/32"	2.5938	65,88		135T-0219	❍
		2.5984	66,00		135T-66	❍
	2-5/8"	2.6250	66,68		135T-0220	❍
	2-21/32"	2.6563	67,47		135T-0221	❍
		2.6772	68,00		135T-68	❍
	2-11/16"	2.6875	68,26		135T-0222	❍
	2-23/32"	2.7188	69,05		135T-0223	❍
	2-3/4"	2.7500	69,85		135T-0224	❍
		2.7559	70,00		135T-70	❍
	2-25/32"	2.7813	70,64		135T-0225	❍
	2-13/16"	2.8125	71,44		135T-0226	❍
		2.8346	72,00		135T-72	❍
	2-27/32"	2.8438	72,23		135T-0227	❍
	2-7/8"	2.8750	73,03		135T-0228	❍
	2-29/32"	2.9063	73,82		135T-0229	❍
		2.9134	74,00		135T-74	❍
	2-15/16"	2.9375	74,41		135T-0230	❍
	2-31/32"	2.9688	75,61		135T-0231	❍
		2.9921	76,00		135T-76	❍
	3"	3.0000	76,20		135T-0300	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

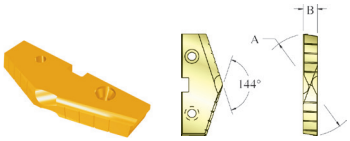
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

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

GEN2 T-A® HSS Drill Inserts

5 Series Range: 2.456"-3.000" (62,38mm-76,20mm)



GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	2-1/2"	2.5000	63,50	7/16"	435T-0216	❍
		2.5197	64,00		435T-64	❍
	2-17/32"	2.5313	64,29		435T-0217	❍
	2-9/16"	2.5625	65,09		435T-0218	❍
	2-19/32"	2.5938	65,88		435T-0219	❍
		2.5984	66,00		435T-66	❍
	2-5/8"	2.6250	66,68		435T-0220	❍
	2-21/32"	2.6563	67,47		435T-0221	❍
		2.6772	68,00		435T-68	❍
	2-11/16"	2.6875	68,26		435T-0222	❍
	2-23/32"	2.7188	69,05		435T-0223	❍
	2-3/4"	2.7500	69,85		435T-0224	❍
		2.7559	70,00		435T-70	❍
	2-25/32"	2.7813	70,64		435T-0225	❍
	2-13/16"	2.8125	71,44		435T-0226	❍
		2.8346	72,00		435T-72	❍
	2-27/32"	2.8438	72,23		435T-0227	❍
	2-7/8"	2.8750	73,03		435T-0228	❍
	2-29/32"	2.9063	73,82		435T-0229	❍
		2.9134	74,00		435T-74	❍
	2-15/16"	2.9375	74,41		435T-0230	❍
	2-31/32"	2.9688	75,61		435T-0231	❍
		2.9921	76,00		435T-76	❍
	3"	3.0000	76,20		435T-0300	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

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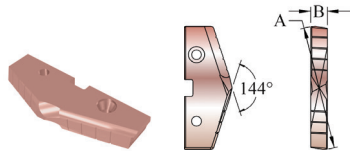
GEN2 T-A® HSS Drill Inserts

5 Series Range: 2.456"-3.000" (62,38mm-76,20mm)



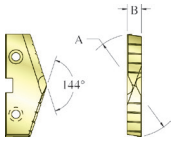
GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt	2-1/2"	2.5000	63,50	7/16"	455H-0216	❍
		2.5197	64,00		455H-64	❍
	2-17/32"	2.5313	64,29		455H-0217	❍
	2-9/16"	2.5625	65,09		455H-0218	❍
	2-19/32"	2.5938	65,88		455H-0219	❍
		2.5984	66,00		455H-66	❍
	2-5/8"	2.6250	66,68		455H-0220	❍
	2-21/32"	2.6563	67,47		455H-0221	❍
		2.6772	68,00		455H-68	❍
	2-11/16"	2.6875	68,26		455H-0222	❍
	2-23/32"	2.7188	69,05		455H-0223	❍
	2-3/4"	2.7500	69,85		455H-0224	❍
		2.7559	70,00		455H-70	❍
	2-25/32"	2.7813	70,64		455H-0225	❍
	2-13/16"	2.8125	71,44		455H-0226	❍
		2.8346	72,00		455H-72	❍
	2-27/32"	2.8439	72,23		455H-0227	❍
	2-7/8"	2.8750	73,03		455H-0228	❍
	2-29/32"	2.9063	73,82		455H-0229	❍
		2.9134	74,00		455H-74	❍
	2-15/16"	2.9375	74,41		455H-0230	❍
	2-31/32"	2.9688	75,61		455H-0231	❍
		2.9921	76,00		455H-76	❍
	3"	3.0000	76,20		455H-0300	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Original T-A® Drill Inserts

6 Series Range: 3.001"-3.507" (76,22mm-89,08mm)
For use with 5 Series Holders



T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	3-1/32"	3.0313	76,99	7/16"	136T-0301	❍
	3-1/16"	3.0625	77,79		136T-0302	❍
		3.0709	78,00		136T-78	❍
	3-3/32"	3.0938	78,58		136T-0303	❍
	3-1/8"	3.1250	79,38		136T-0304	❍
		3.1496	80,00		136T-80	❍
	3-5/32"	3.1563	80,17		136T-0305	❍
	3-3/16"	3.1875	80,96		136T-0306	❍
	3-7/32"	3.2188	81,76		136T-0307	❍
		3.2283	82,00		136T-82	❍
	3-1/4"	3.2500	82,55		136T-0308	❍
	3-9/32"	3.2813	83,34		136T-0309	❍
		3.3071	84,00		136T-84	❍
	3-5/16"	3.3125	84,14		136T-0310	❍
	3-11/32"	3.3438	84,93		136T-0311	❍
	3-3/8"	3.3750	85,73		136T-0312	❍
		3.3858	86,00		136T-86	❍
	3-13/32"	3.4063	86,52		136T-0313	❍
	3-7/16"	3.4375	87,31		136T-0314	❍
		3.4646	88,00		136T-88	❍
	3-15/32"	3.4688	88,11		136T-0315	❍
	3-1/2"	3.5000	88,90		136T-0316	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

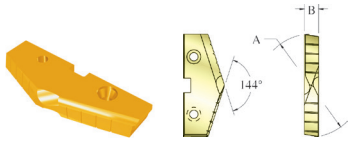
❶ Availability Codes
❍ Stocked
▲ Non-Stocked

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

GEN2 T-A® HSS Drill Inserts

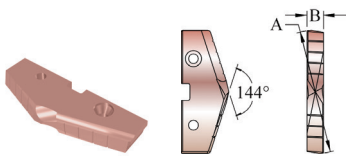
6 Series Range: 3.001"-3.507" (76,22mm-89,08mm)

For use with 5 Series Holders



GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	3-1/32"	3.0313	76,99	7/16"	436T-0301	❍
	3-1/16"	3.0625	77,79		436T-0302	❍
		3.0709	78,00		436T-78	❍
	3-3/32"	3.0938	78,58		436T-0303	❍
	3-1/8"	3.1250	79,38		436T-0304	❍
		3.1496	80,00		436T-80	❍
	3-5/32"	3.1563	80,17		436T-0305	❍
	3-3/16"	3.1875	80,96		436T-0306	❍
	3-7/32"	3.2188	81,76		436T-0307	❍
		3.2283	82,00		436T-82	❍
	3-1/4"	3.2500	82,55		436T-0308	❍
	3-9/32"	3.2813	83,34		436T-0309	❍
		3.3071	84,00		436T-84	❍
	3-5/16"	3.3125	84,14		436T-0310	❍
	3-11/32"	3.3438	84,93		436T-0311	❍
	3-3/8"	3.3750	85,73		436T-0312	❍
		3.3858	86,00		436T-86	❍
	3-13/32"	3.4063	86,52		436T-0313	❍
	3-7/16"	3.4375	87,31		436T-0314	❍
		3.4646	88,00		436T-88	❍
	3-15/32"	3.4688	88,11		436T-0315	❍
	3-1/2"	3.5000	88,90		436T-0316	❍



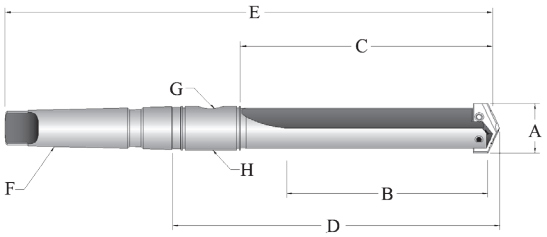
GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt	3-1/32"	3.0313	76,99	7/16"	456H-0301	❍
	3-1/16"	3.0625	77,79		456H-0302	❍
		3.0709	78,00		456H-78	❍
	3-3/32"	3.0938	78,58		456H-0303	❍
	3-1/8"	3.1250	79,38		456H-0304	❍
		3.1496	80,00		456H-80	❍
	3-5/32"	3.1563	80,17		456H-0305	❍
	3-3/16"	3.1875	80,96		456H-0306	❍
	3-7/32"	3.2188	81,76		456H-0307	❍
		3.2283	82,00		456H-82	❍
	3-1/4"	3.2500	82,55		456H-0308	❍
	3-9/32"	3.2813	83,34		456H-0309	❍
		3.3071	84,00		456H-84	❍
	3-5/16"	3.3125	84,14		456H-0310	❍
	3-11/32"	3.3438	84,93		456H-0311	❍
	3-3/8"	3.3750	85,73		456H-0312	❍
		3.3858	86,00		456H-86	❍
	3-13/32"	3.4063	86,52		456H-0313	❍
	3-7/16"	3.4375	87,31		456H-0314	❍
		3.4646	88,00		456H-88	❍
	3-15/32"	3.4688	88,11		456H-0315	❍
	3-1/2"	3.5000	88,90		456H-0316	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

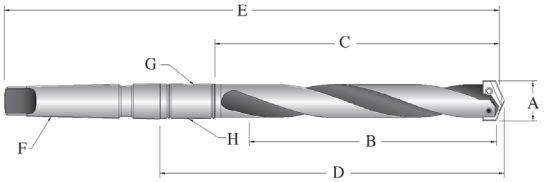
T-A® Holders

5 Series Range: 2.456"-3.507" (62,38mm-89,08mm)



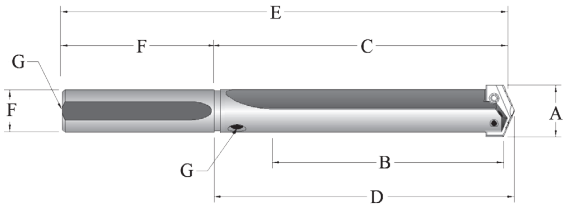
Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22050S-005I	2-1/2" - 3-1/2"	6-3/4"	8-1/2"	11-5/16"	16-15/16"	#5	1/2"	2T-6SR
Standard	24050S-005I	2-1/2" - 3-1/2"	10-3/4"	12-1/2"	15-5/16"	20-15/16"	#5	1/2"	2T-6SR
⚠ Extended	25050S-005I	2-1/2" - 3-1/2"	18-1/4"	20"	22-13/16"	28-7/16"	#5	1/2"	2T-6SR
⚠ XL	27050S-005I	2-1/2" - 3-1/2"	26"	27-3/4"	30-9/16"	36-3/16"	#5	1/2"	2T-6SR
⚠ 3XL	29050S-005I	2-1/2" - 3-1/2"	35"	36-3/4"	39-9/16"	45-3/16"	#5	1/2"	2T-6SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	22050S-005M	64,0 - 88,0	171,5	215,9	287,3	430,2	#5**	1/2"*	2T-6SRM
⚠ Extended	25050S-005M	64,0 - 88,0	463,6	508,0	579,4	722,3	#5**	1/2"*	2T-6SRM
⚠ XL	27050S-005M	64,0 - 88,0	660	704,8	776,2	919,1	#5**	1/2"*	2T-6SRM
⚠ 3XL	29050S-005M	64,0 - 88,0	889	933,4	1004,8	1147,7	#5**	1/2"*	2T-6SRM



Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Standard	24050H-005M	64,0 - 88,0	273,1	317,5	388,9	531,8	#5**	1/2"*	2T-6SRM



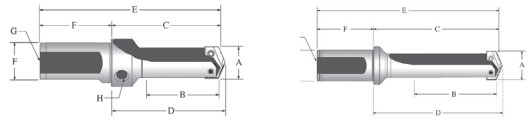
Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank Dia	Shank Length	Pipe Tap
Short	22050S-200L	2-1/2" - 3-1/2"	6-3/4"	8-1/2"	8-3/4"	12-1/2"	2"	4"	1/2"
Standard	24050S-200L	2-1/2" - 3-1/2"	10-3/4"	12-1/2"	12-3/4"	16-1/2"	2"	4"	1/2"
⚠ Extended	25050S-200L	2-1/2" - 3-1/2"	18-1/4"	20"	20-1/4"	24"	2"	4"	1/2"
⚠ XL	27050S-200L	2-1/2" - 3-1/2"	26"	27-3/4"	28"	31-3/4"	2"	4"	1/2"
⚠ 3XL	29050S-200L	2-1/2" - 3-1/2"	35"	36-3/4"	37"	40-3/4"	2"	4"	1/2"

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

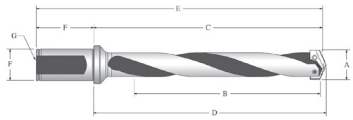
5 Series Range: 2.456"-3.507" (62,38mm-89,08mm)



Flanged Shank Straight Flute Holders

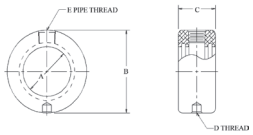
Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Short	22050S-200F	2-1/2" - 3-1/2"	6-49/64"	8-1/2"	8-3/4"	13-1/4"	2"	4-1/2"	1/2"	N/A
⚠ Extended	25050S-200F	2-1/2" - 3-1/2"	18-17/64"	20"	20-1/4"	24-3/4"	2"	4-1/2"	1/2"	N/A
METRIC (mm) *Metric Thread to BSP & ISO 7-1										
Short	22050S-50FM	64,0 - 88,0	172	215,9	222,3	302,3	50	80	1/2"*	N/A
⚠ Extended	25050S-50FM	64,0 - 88,0	464	508	514,4	594,4	50	80	1/2"*	N/A

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders



Flanged Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Standard	24050H-200F	2-1/2" - 3-1/2"	10-3/4"	12-1/2"	12-3/4"	17-1/4"	2"	4-1/2"	1/2"
METRIC (mm) *Metric Thread to BSP & ISO 7-1									
Standard	24050H-50FM	64,0 - 88,0	273	317,5	323,9	403,9	50	80	1/2"



Rotary Coolant Adapter (RCA) and Accessories

Length	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-6SR	2-1/4"	3-3/4"	1-3/4"	1/2" - NC	1/2"	2T1-6SR	2T1-6OR-10
Metric	⚠ ◢ 2T-6SRM	57,15	95,27	44,45	M12 X 1,75	1/2"*	2T1-6SR	2T1-6OR-10

*** Thread to BSP & ISO 7-1**

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

◢ **Refer to page 200 for Proper RCA Assembly**

Replacement TORX Plus Screws

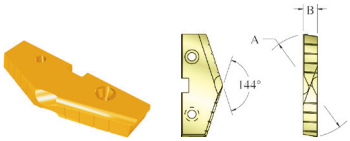
Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Inch		Metric	
				Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
5	7619-IP25-1	N/A	8IP-25	2-1/2" - 4-1/2"	155.0 in.-lbs	64,0 - 114,0	1750 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

Original T-A® Drill Inserts

7 Series Range: 3.508"-4.000" (89,10mm-101,60mm)



T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	3-17/32"	3.5313	89,96	7/16"	137T-0317	❍
		3.5433	90,00		137T-90	❍
	3-9/16"	3.5625	90,49		137T-0318	❍
	3-19/32"	3.5938	91,28		137T-0319	❍
		3.6221	92,00		137T-92	❍
	3-5/8"	3.6250	92,08		137T-0320	❍
	3-21/32"	3.6563	92,87		137T-0321	❍
	3-11/16"	3.6875	93,66		137T-0322	❍
		3.7008	94,00		137T-94	❍
	3-23/32"	3.7188	94,46		137T-0323	❍
	3-3/4"	3.7500	95,25		137T-0324	❍
		3.7795	96,00		137T-96	❍
	3-25/32"	3.7813	96,04		137T-0325	❍
	3-13/16"	3.8125	96,84		137T-0326	❍
	3-27/32"	3.8438	97,63		137T-0327	❍
		3.8583	98,00		137T-98	❍
	3-7/8"	3.8750	98,43		137T-0328	❍
	3-29/32"	3.9063	99,22		137T-0329	❍
		3.9370	100,00		137T-100	❍
	3-15/16"	3.9375	100,01		137T-0330	❍
	3-31/32"	3.9688	100,81		137T-0331	❍
	4"	4.0000	101,60		137T-0400	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

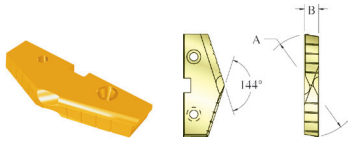
TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

❶ Availability Codes
❍ Stocked
▲ Non-Stocked

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

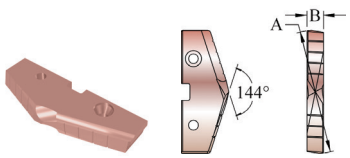
GEN2 T-A® HSS Drill Inserts

7 Series Range: 3.508"-4.000" (89,10mm-101,60mm)



GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	3-17/32"	3.5313	89,69	7/16"	437T-0317	❍
		3.5433	90,00		437T-90	❍
	3-9/16"	3.5625	90,49		437T-0318	❍
	3-19/32"	3.5938	91,28		437T-0319	❍
		3.6221	92,00		437T-92	❍
	3-5/8"	3.6250	92,08		437T-0320	❍
	3-21/32"	3.6563	92,87		437T-0321	❍
	3-11/16"	3.6875	93,66		437T-0322	❍
		3.7008	94,00		437T-94	❍
	3-23/32"	3.7188	94,46		437T-0323	❍
	3-3/4"	3.7500	95,25		437T-0324	❍
		3.7795	96,00		437T-96	❍
	3-25/32"	3.7813	96,04		437T-0325	❍
	3-13/16"	3.8125	96,84		437T-0326	❍
	3-27/32"	3.8438	97,63		437T-0327	❍
		3.8583	98,00		437T-98	❍
	3-7/8"	3.8750	98,43		437T-0328	❍
	3-29/32"	3.9063	99,22		437T-0329	❍
		3.9370	100,00		437T-100	❍
	3-15/16"	3.9375	100,01		437T-0330	❍
	3-31/32"	3.9688	100,81		437T-0331	❍
	4"	4.0000	101,60		437T-0400	❍



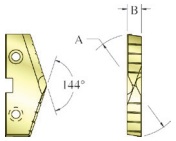
GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt	3-17/32"	3.5313	89,69	7/16"	457H-0317	❍
		3.5433	90,00		457H-90	❍
	3-9/16"	3.5625	90,49		457H-0318	❍
	3-19/32"	3.5938	91,28		457H-0319	❍
		3.6221	92,00		457H-92	❍
	3-5/8"	3.6250	92,08		457H-0320	❍
	3-21/32"	3.6563	92,87		457H-0321	❍
	3-11/16"	3.6875	93,66		457H-0322	❍
		3.7008	94,00		457H-94	❍
	3-23/32"	3.7188	94,46		457H-0323	❍
	3-3/4"	3.7500	95,25		457H-0324	❍
		3.7795	96,00		457H-96	❍
	3-25/32"	3.7813	96,04		457H-0325	❍
	3-13/16"	3.8125	96,84		457H-0326	❍
	3-27/32"	3.8438	97,63		457H-0327	❍
		3.8583	98,00		457H-98	❍
	3-7/8"	3.8750	98,43		457H-0328	❍
	3-29/32"	3.9063	99,22		457H-0329	❍
		3.9370	100,00		457H-100	❍
	3-15/16"	3.9375	100,01		457H-0330	❍
	3-31/32"	3.9688	100,81		457H-0331	❍
	4"	4.0000	101,60		457H-0400	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Original T-A® Drill Inserts

8 Series Range: 4.001"-4.507" (101,63mm-114,48mm)
For use with 7 Series Holders



T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	4-1/64"	4.0157	102,00	7/16"	138T-102	❍
	4-1/16"	4.0625	103,19		138T-0402	❍
		4.0945	104,00		138T-104	❍
	4-1/8"	4.1250	104,75		138T-0404	❍
		4.1732	106,00		138T-106	❍
	4-3/16"	4.1875	106,36		138T-0406	❍
	4-1/4"	4.2500	107,95		138T-0408	❍
		4.2520	108,00		138T-108	❍
	4-5/16"	4.3125	109,54		138T-0410	❍
		4.3307	110,00		138T-110	❍
	4-3/8"	4.3750	111,13		138T-0412	❍
		4.4094	112,00		138T-112	❍
	4-7/16"	4.4375	112,71		138T-0414	❍
		4.4882	114,00		138T-114	❍
	4-1/2"	4.5000	114,30		138T-0416	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

Can be supplied with other coatings as a non-stocked standard. Process fee applies. Example:

TiN	XXXT-XXXX
TiAlN	XXXA-XXXX
TiCN	XXXN-XXXX
AM200®	XXXH-XXXX

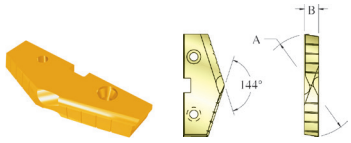
❶ Availability Codes
❍ Stocked
▲ Non-Stocked

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

GEN2 T-A® HSS Drill Inserts

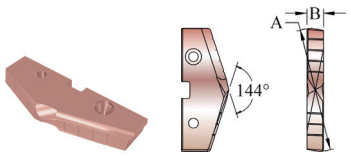
8 Series Range: 4.001"-4.507" (101,63mm-114,48mm)

For use with 7 Series Holders



GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	TiN	❶
HSS	4-1/64"	4.0157	102,00	7/16	438T-102	❍
	4-1/16"	4.0625	103,19		438T-0402	❍
	4-3/32"	4.0945	104,00		438T-104	❍
	4-1/8"	4.1250	104,75		438T-0404	❍
		4.1732	106,00		438T-106	❍
	4-3/16"	4.1875	106,36		438T-0406	❍
	4-1/4"	4.2500	107,95		438T-0408	❍
		4.2520	108,00		438T-108	❍
	4-5/16"	4.3125	109,54		438T-0410	❍
		4.3307	110,00		438T-110	❍
	4-3/8"	4.3750	111,13		438T-0412	❍
		4.4094	112,00		438T-112	❍
	4-7/16"	4.4375	112,71		438T-0414	❍
		4.4882	114,00		438T-114	❍
	4-1/2"	4.5000	114,30		438T-0416	❍



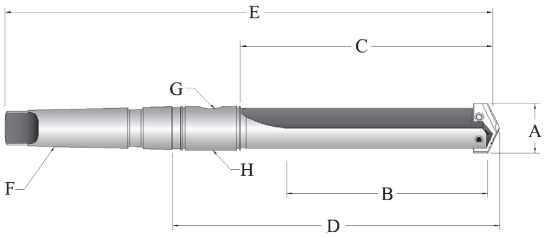
GEN2 T-A Drill Inserts (supplied in 1 piece packages)

Material	A (Diameter)			B	Availability & Geometry	
	Fractional Equivalent	(inch)	(mm)	Thickness	AM200®	❶
Super Cobalt	4-1/64"	4.0157	102,00	7/16"	458H-102	❍
	4-1/16"	4.0625	103,19		458H-0402	❍
	4-3/32"	4.0945	104,00		458H-104	❍
	4-1/8"	4.1250	104,75		458H-0404	❍
		4.1732	106,00		458H-106	❍
	4-3/16"	4.1875	106,36		458H-0406	❍
	4-1/4"	4.2500	107,95		458H-0408	❍
		4.2520	108,00		458H-108	❍
	4-5/16"	4.3125	109,54		458H-0410	❍
		4.3307	110,00		458H-110	❍
	4-3/8"	4.3750	111,13		458H-0412	❍
		4.4094	112,00		458H-112	❍
	4-7/16"	4.4375	112,71		458H-0414	❍
		4.4882	114,00		458H-114	❍
	4-1/2"	4.5000	114,30		458H-0416	❍

Geometries available (see page 197 for details): -SK, -CR, -HI, -HR, -BR, -NC, -WC.
Additional lead time and process fees apply. Please refer to the Drilling Product Price List for details.

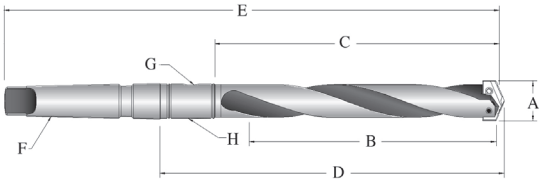
T-A® Holders

7 Series Range: 3.455"-4.507" (87,76mm-114,48mm)



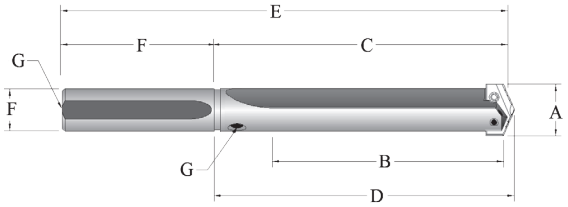
Taper Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
Short	22070S-005I	3-17/32" - 4-1/2"	6-3/4"	8-7/8"	11-11/16"	17-5/16"	#5	1/2"	2T-6SR
Standard	24070S-005I	3-17/32" - 4-1/2"	10-3/4"	12-7/8"	15-11/16"	21-5/16"	#5	1/2"	2T-6SR
⚠ Extended	25070S-005I	3-17/32" - 4-1/2"	21-7/8"	24"	26-13/16"	32-7/16"	#5	1/2"	2T-6SR
⚠ XL	27070S-005I	3-17/32" - 4-1/2"	27"	29-1/8"	31-15/16"	37-9/16"	#5	1/2"	2T-6SR
⚠ 3XL	29070S-005I	3-17/32" - 4-1/2"	37"	39-1/8"	41-5/16"	47-9/16"	#5	1/2"	2T-6SR
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Short	22070S-005M	90,0 - 114,0	171,5	225,4	296,8	439,7	#5**	1/2"*	2T-6SRM
⚠ Extended	25070S-005M	90,0 - 114,0	555,6	609,6	681,1	823,9	#5**	1/2"*	2T-6SRM
⚠ XL	27070S-005M	90,0 - 114,0	685	739,7	811,2	954,0	#5**	1/2"*	2T-6SRM
⚠ 3XL	29070S-005M	90,0 - 114,0	939	993,7	1065,2	1208,0	#5**	1/2"*	2T-6SRM



Taper Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F	G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	MT	Pipe Tap	RCA
METRIC (mm) *Metric Thread to BSP & ISO 7-1 **Per ISO 296 Type BEK									
Standard	24070H-005M	90,0 - 114,0	273,1	327,0	398,5	541,3	#5**	1/2"*	2T-6SRM



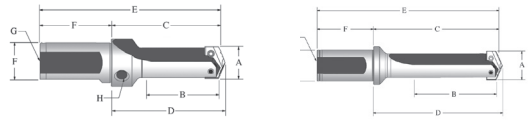
Straight Shank Straight Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank Dia	Shank Length	Pipe Tap
Short	22070S-300L	3-17/32" - 4-1/2"	6-3/4"	8-7/8"	9-1/8"	13-7/8"	3"	5"	1/2"
Standard	24070S-300L	3-17/32" - 4-1/2"	10-3/4"	12-7/8"	13-1/8"	17-7/8"	3"	5"	1/2"
⚠ Extended	25070S-300L	3-17/32" - 4-1/2"	21-7/8"	24"	24-1/4"	29"	3"	5"	1/2"
⚠ XL	27070S-300L	3-17/32" - 4-1/2"	27"	29-1/8"	29-3/8"	34-1/8"	3"	5"	1/2"
⚠ 3XL	29070S-300L	3-17/32" - 4-1/2"	37"	39-1/8"	39-3/8"	44-1/8"	3"	5"	1/2"

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® Holders

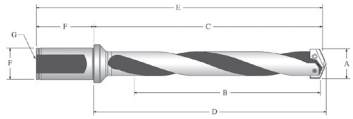
7 Series Range: 3.455"-4.507" (87,76mm-114,48mm)



Flanged Shank Straight Flute Holders

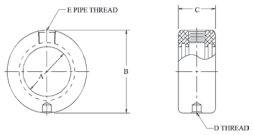
Length	Item Number	A	B	C	D	E	F		G	H
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap	
							Dia	Length	Rear	Side
Short	22070S-200F	3-17/32" - 4-1/2"	6-49/64"	8-7/8"	9-1/8"	13-5/8"	2"	4-1/2"	1/2"	N/A
⚠ Extended	25070S-200F	3-17/32" - 4-1/2"	21-57/64"	23-57/64"	24-1/4"	27-3/4"	2"	4-1/2"	1/2"	N/A
METRIC (mm) *Metric Thread to BSP & ISO 7-1										
Short	22070S-50FM	90,0 - 114,0	172	225,4	231,8	311,8	50	80	1/2"*	N/A
⚠ Extended	25070S-50FM	90,0 - 114,0	556	606,9	616	696	50	80	1/2"*	N/A

NOTE: Refer to page 198 for instructions on the recommended use of the 0.5, 1.5, or 2.5 series holders



Flanged Shank Helical Flute Holders

Length	Item Number	A	B	C	D	E	F		G
		Drill Insert Range	Drill Depth	Body Length	Tool Ref. Length	Overall Length	Shank		Pipe Tap
							Dia	Length	
Standard	24070H-200F	3-17/32" - 4-1/2"	10-3/4"	12-7/8"	13-1/8"	17-5/8"	2"	4-1/2"	1/2"*
METRIC (mm) *Metric Thread to BSP & ISO 7-1									
Standard	24070H-50FM	90,0 - 114,0	273	327	333,4	413,4	50	80	1/2"*



Rotary Coolant Adapter (RCA) and Accessories

Length	Item Number	A	B	C	D	E	RCA O-Ring Kit Item Number **	RCA O-Ring Replacements 10 Pieces
		Inner Dia	Outer Dia	Length	Thread for Driving Rod	Pipe Tap		
Inch	⚠ ◢ 2T-6SR	2-1/4"	3-3/4"	1-3/4"	1/2" - 13 UNC	1/2"	2T1-6SR	2T1-6OR-10
Metric	⚠ ◢ 2T-6SRM	57,15	95,27	44,45	M12 X 1,75	1/2"*	2T1-6SR	2T1-6OR-10

*** Thread to BSP & ISO 7-1**

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

◢ **Refer to page 200 for Proper RCA Assembly**

Replacement TORX Plus Screws

Series	TORX Plus Screws (10 pack)	Nylon Locking TORX Plus Screws (10 pack)	TORX Plus Hand Driver	Inch		Metric	
				Drill Range Used With	TORX Plus Screw Admissible Tightening Torque	Drill Range Used With	TORX Plus Screw Admissible Tightening Torque
7	7619-IP25-1	N/A	8IP-25	3-17/32" - 4-1/2"	155.0 in.-lbs	64,0 - 114,0	1750 N-cm

Tightening torques are calculated with a friction coefficient of μ = 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 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

T-A® HSS Drill Inserts

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED			FEED (IPR)						
			TiN SFM	TiAlN SFM	TiCN SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"	1-29/32" to 2-9/16"	2-19/32" to 4-1/2"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	HSS	200	280	260	0.007	0.010	0.013	0.016	0.020	0.023	0.028
	150-200	HSS	180	260	235	0.007	0.010	0.013	0.016	0.020	0.023	0.028
	200-250	HSS	160	240	210	0.006	0.010	0.013	0.016	0.020	0.023	0.028
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	HSS	170	250	220	0.006 ❖	0.009	0.012	0.015	0.019	0.023	0.027
	125-175	HSS	160	240	210	0.006 ❖	0.009	0.012	0.015	0.019	0.023	0.027
	175-225	HSS	150	225	195	0.005 ❖	0.008	0.010	0.014	0.018	0.021	0.024
	225-275	HSS	140	210	180	0.005 ❖	0.008	0.010	0.014	0.018	0.021	0.024
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	HSS	160	240	210	0.006	0.009	0.012	0.015	0.019	0.023	0.027
	175-225	HSS	150	225	195	0.005	0.008	0.010	0.014	0.018	0.021	0.024
	225-275	HSS	140	210	180	0.005	0.008	0.010	0.014	0.018	0.021	0.024
	275-325	SC, PC	130	195	170	0.004	0.007	0.009	0.012	0.016	0.019	0.022
Alloy Steel 4140, 5140, 8640, etc.	125-175	HSS	150	210	195	0.006	0.008	0.010	0.014	0.017	0.019	0.022
	175-225	HSS	140	195	180	0.005	0.008	0.010	0.014	0.017	0.019	0.022
	225-275	HSS	130	180	170	0.005	0.007	0.010	0.014	0.017	0.019	0.022
	275-325	SC, PC	120	170	155	0.004	0.006	0.009	0.012	0.015	0.017	0.020
	325-375	SC, PC	110	155	145	0.003	0.006	0.009	0.012	0.015	0.017	0.020
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	SC, PC	80	110	100	0.005 ❖	0.007	0.009	0.010	0.014	0.017	0.020
	300-350	SC, PC	60	85	80	0.004 ❖	0.007	0.009	0.010	0.014	0.017	0.020
	350-400	PC	50	70	65	0.003 ❖	0.006	0.008	0.009	0.012	0.015	0.018
Structural Steel A36, A285, A516, etc.	100-150	HSS	140	200	180	0.006 ❖	0.010	0.012	0.014	0.018	0.021	0.026
	150-250	HSS	120	170	155	0.005 ❖	0.009	0.010	0.012	0.016	0.019	0.024
	250-350	SC, PC	100	140	130	0.003 ❖	0.008	0.009	0.010	0.014	0.017	0.020
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	SC	80	110	105	0.004	0.006	0.008	0.010	0.012	0.015	0.017
	200-250	SC, PC	60	90	85	0.004	0.006	0.008	0.010	0.012	0.015	0.017
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	SC, PC	30	40	35	0.003 ❖	0.007	0.008	0.010	0.012	0.015	-
	220-310	PC	25	35	30	0.003 ❖	0.006	0.007	0.008	0.010	0.012	-
Titanium Alloy	140-220	SC, PC	35	50	45	0.003 ❖	0.007	0.008	0.010	0.012	0.015	-
	220-310	PC	30	45	35	0.003 ❖	0.006	0.007	0.008	0.010	0.012	-
Aerospace Alloy S82	185-275	SC, PC	75	105	95	0.006 ❖	0.008	0.009	0.010	0.014	0.016	0.020
	275-350	SC, PC	60	90	80	0.005 ❖	0.007	0.008	0.008	0.012	0.014	0.018
Stainless Steel 400 Series 416, 420, etc.	185-275	SC, PC	75	105	95	0.006 ❖	0.008	0.009	0.010	0.014	0.016	0.020
	275-350	SC, PC	60	90	80	0.005 ❖	0.007	0.008	0.008	0.012	0.014	0.018
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	SC, PC	75	105	95	0.003 ❖	0.007	0.008	0.010	0.014	0.016	0.020
	185-275	SC, PC	60	90	80	0.003 ❖	0.006	0.007	0.008	0.012	0.014	0.018
Super Duplex Stainless Steel	135-185	SC, PC	60	80	70	0.003 ❖	0.007	0.008	0.010	0.014	0.016	0.020
	185-275	SC, PC	50	65	60	0.003 ❖	0.006	0.007	0.008	0.012	0.014	0.018
Wear Plate Hardox, AR400, T-1, etc.	400	SC, PC	45	70	55	0.003 ❖	0.006	0.008	0.009	0.012	0.016	0.018
	500	PC	35	45	40	0.002 ❖	0.005	0.007	0.008	0.010	0.012	0.016
	600	N/A	-	-	-	-	-	-	-	-	-	-
Hardened Steel	300-400	PC	50	95	70	0.003 ❖	0.006	0.008	0.009	0.012	0.016	0.018
	400-500	PC	35	45	40	0.002 ❖	0.005	0.007	0.008	0.010	0.012	0.016
Nodular, Grey, Ductile Cast Iron	120-150	HSS	170	250	220	0.007	0.012	0.016	0.020	0.024	0.027	0.030
	150-200	HSS	150	225	195	0.006	0.011	0.014	0.018	0.022	0.025	0.028
	200-220	HSS	130	195	170	0.006	0.009	0.012	0.016	0.018	0.021	0.024
	220-260	SC, PC	110	165	145	0.005	0.007	0.009	0.012	0.014	0.017	0.020
	260-320	SC, PC	90	135	120	0.004	0.006	0.007	0.009	0.012	0.014	0.016
Cast Aluminum	30	HSS	600	850	750	0.008	0.013	0.016	0.020	0.022	0.025	0.025
	180	HSS	300	450	400	0.008	0.013	0.016	0.018	0.022	0.025	0.025
Wrought Aluminum	30	HSS	600	850	750	0.004	0.006	0.010	0.012	0.022	0.025	0.025
	180	HSS	300	450	400	0.008	0.013	0.016	0.018	0.022	0.025	0.025
Aluminum Bronze	100-200	SC	170	250	220	0.006	0.011	0.014	0.018	0.022	0.026	0.028
	200-250	SC	130	190	170	0.005	0.007	0.009	0.012	0.014	0.017	0.020
Brass	100	HSS	300	445	400	0.007	0.012	0.016	0.020	0.024	0.028	0.030
Copper	60	SC	130	165	150	0.002 ❖	0.003	0.006	0.008	0.012	0.014	0.016

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If 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 • .75 = 150 SFM **.008 • 0.90 = .007 IPR**

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T-A® Carbide Drill Inserts

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED			FEED (IPR)				
			TiN SFM	TiAlN SFM	TiCN SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	C5	320	420	375	0.008	0.012	0.015	0.018	0.021
	150-200	C5	280	360	325	0.007	0.011	0.014	0.016	0.019
	200-250	C5	260	340	295	0.006	0.010	0.013	0.015	0.017
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	C5	300	390	360	0.008 ❖	0.010	0.013	0.017	0.019
	125-175	C5	260	340	295	0.007 ❖	0.010	0.013	0.016	0.018
	175-225	C5	240	310	270	0.006 ❖	0.009	0.012	0.015	0.017
	225-275	C5	210	270	245	0.005 ❖	0.009	0.012	0.015	0.017
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	C5	260	340	295	0.007	0.010	0.013	0.016	0.018
	175-225	C5	240	310	275	0.006	0.009	0.012	0.015	0.017
	225-275	C5	210	270	235	0.006	0.009	0.012	0.015	0.017
	275-325	C5	180	230	205	0.005	0.008	0.011	0.014	0.016
Alloy Steel 4140, 5140, 8640, etc.	125-175	C5	250	325	285	0.007	0.010	0.013	0.016	0.018
	175-225	C5	230	300	260	0.006	0.009	0.012	0.015	0.017
	225-275	C5	210	270	235	0.006	0.009	0.012	0.015	0.017
	275-325	C5	200	250	225	0.005	0.008	0.011	0.014	0.016
	325-375	C5	170	220	195	0.004	0.007	0.010	0.013	0.015
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	C5	160	200	180	0.006 ❖	0.009	0.010	0.012	0.015
	300-350	C5	140	180	160	0.005 ❖	0.008	0.009	0.011	0.014
	350-400	C5	120	160	140	0.004 ❖	0.007	0.008	0.010	0.012
Structural Steel A36, A285, A516, etc.	100-150	C5	240	310	275	0.008 ❖	0.011	0.014	0.016	0.018
	150-250	C5	200	250	225	0.006 ❖	0.010	0.012	0.014	0.016
	250-350	C5	180	230	205	0.005 ❖	0.009	0.011	0.012	0.014
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	C5	160	220	190	0.004	0.007	0.009	0.011	0.013
	200-250	C5	120	170	145	0.004	0.007	0.009	0.011	0.013
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	C2	80	105	90	0.004 ❖	0.007	0.009	0.011	0.013
	220-310	C2	60	85	70	0.004 ❖	0.006	0.008	0.010	0.012
Titanium Alloy	140-220	C2	100	125	105	0.004 ❖	0.007	0.009	0.011	0.013
	220-310	C2	80	110	90	0.004 ❖	0.006	0.008	0.010	0.012
Aerospace Alloy S82	185-275	C2	160	210	185	0.007 ❖	0.006	0.011	0.014	0.016
	275-350	C2	120	160	140	0.006 ❖	0.008	0.010	0.012	0.014
Stainless Steel 400 Series 416, 420, etc.	185-275	C2	160	210	185	0.007 ❖	0.008	0.011	0.014	0.016
	275-350	C2	120	160	140	0.006 ❖	0.007	0.010	0.012	0.014
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	C2	160	210	185	0.005 ❖	0.007	0.009	0.010	0.012
	185-275	C2	120	160	140	0.004 ❖	0.006	0.008	0.009	0.010
Super Duplex Stainless Steel	135-185	C2	80	110	95	0.004 ❖	0.007	0.008	0.009	0.011
	185-275	C2	60	80	70	0.003 ❖	0.006	0.007	0.008	0.009
Wear Plate Hardox, AR400, T-1, etc.	400	C5	75	115	100	0.003 ❖	0.006	0.008	0.010	0.012
	500	C5	50	85	70	0.002 ❖	0.005	0.006	0.008	0.010
	600	C5	35	75	55	0.001 ❖	0.004	0.005	0.006	0.008
Hardened Steel	300-400	C5	110	140	130	0.004 ❖	0.006	0.009	0.011	0.013
	400-500	C5	65	85	75	0.003 ❖	0.005	0.008	0.009	0.011
Nodular, Grey, Ductile Cast Iron	120-150	C2,C3	320	460	415	0.008	0.012	0.015	0.019	0.023
	150-200	C2,C3	270	400	335	0.007	0.011	0.013	0.017	0.021
	200-220	C2,C3	240	360	305	0.006	0.009	0.012	0.015	0.018
	220-260	C2,C3	210	310	260	0.005	0.008	0.011	0.013	0.015
	260-320	C2,C3	180	270	225	0.005	0.007	0.010	0.011	0.013
Cast Aluminum	30	C2	1200	1500	1330	0.010	0.013	0.018	0.020	0.022
	180	C2	800	1000	900	0.009	0.013	0.016	0.018	0.020
Wrought Aluminum	30	C2	1200	1500	1330	0.004	0.006	0.010	0.012	0.014
	180	C2	800	1000	900	0.008	0.013	0.014	0.018	0.020
Aluminum Bronze	100-200	C2	275	360	325	0.005	0.008	0.010	0.014	0.017
	200-250	C2	210	305	260	0.004	0.007	0.007	0.010	0.013
Brass	100	C2	425	600	520	0.006	0.009	0.011	0.015	0.018
Copper	60	C2	260	390	325	0.002 ❖	0.003	0.004	0.006	0.010

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If 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 • .75 = 150 SFM **.008 • 0.90 = .007 IPR**

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

GEN2 T-A® HSS Drill Inserts

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED		FEED (IPR)						
			TiN SFM	AM200® SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"	1-29/32" to 2-9/16"	2-29/32" to 4-1/2"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	HSS	200	325	0.008	0.012	0.016	0.019	0.020	0.023	0.028
	150-200	HSS	180	300	0.007	0.011	0.015	0.017	0.020	0.023	0.028
	200-250	HSS	160	280	0.006	0.010	0.014	0.016	0.020	0.023	0.028
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	HSS	170	290	0.008 ❖	0.010	0.014	0.018	0.019	0.023	0.027
	125-175	HSS	160	275	0.007 ❖	0.010	0.014	0.017	0.019	0.023	0.027
	175-225	HSS	150	260	0.006 ❖	0.009	0.013	0.016	0.018	0.021	0.024
	225-275	HSS	140	240	0.005 ❖	0.009	0.013	0.016	0.018	0.021	0.024
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	HSS	160	275	0.007	0.010	0.014	0.017	0.019	0.023	0.027
	175-225	HSS	150	260	0.006	0.009	0.013	0.016	0.018	0.021	0.024
	225-275	HSS	140	240	0.006	0.009	0.013	0.016	0.018	0.021	0.024
	275-325	SC	130	225	0.005	0.008	0.012	0.015	0.016	0.019	0.022
Alloy Steel 4140, 5140, 8640, etc.	125-175	HSS	150	240	0.007	0.010	0.014	0.017	0.017	0.019	0.022
	175-225	HSS	140	225	0.006	0.009	0.013	0.016	0.017	0.019	0.022
	225-275	HSS	130	210	0.006	0.009	0.013	0.016	0.017	0.019	0.022
	275-325	SC	120	195	0.005	0.008	0.012	0.015	0.015	0.017	0.020
	325-375	SC	110	180	0.004	0.007	0.011	0.014	0.015	0.017	0.020
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	SC	80	125	0.006 ❖	0.009	0.011	0.013	0.014	0.017	0.020
	300-350	SC	60	100	0.005 ❖	0.008	0.010	0.012	0.014	0.017	0.020
	350-400	SC	50	80	0.004 ❖	0.007	0.009	0.011	0.012	0.015	0.018
Structural Steel A36, A285, A516, etc.	100-150	HSS	140	235	0.008 ❖	0.011	0.015	0.017	0.018	0.021	0.026
	150-250	HSS	120	190	0.006 ❖	0.010	0.013	0.015	0.016	0.019	0.024
	250-350	SC	100	160	0.005 ❖	0.009	0.012	0.013	0.014	0.017	0.020
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	SC	80	125	0.004	0.007	0.010	0.012	0.012	0.015	0.017
	200-250	SC	60	105	0.004	0.007	0.010	0.012	0.012	0.015	0.017
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	SC	30	45	0.004 ❖	0.007	0.009	0.011	0.012	0.015	0.017
	220-310	SC	25	40	0.004 ❖	0.006	0.008	0.010	0.010	0.012	0.014
Titanium Alloy	140-220	SC	35	55	0.004 ❖	0.007	0.008	0.010	0.012	0.015	0.017
	220-310	SC	30	50	0.003 ❖	0.006	0.007	0.009	0.010	0.012	0.014
Aerospace Alloy S82	185-275	SC	75	110	0.006 ❖	0.008	0.009	0.011	0.014	0.016	0.020
	275-350	SC	60	100	0.005 ❖	0.007	0.008	0.010	0.012	0.014	0.018
Stainless Steel 400 Series 416, 420, etc.	185-275	SC	75	110	0.006 ❖	0.008	0.009	0.011	0.014	0.016	0.020
	275-350	SC	60	100	0.005 ❖	0.007	0.008	0.010	0.012	0.014	0.018
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	SC	75	110	0.003 ❖	0.007	0.008	0.011	0.014	0.016	0.020
	185-275	SC	60	100	0.003 ❖	0.006	0.007	0.010	0.012	0.014	0.018
Super Duplex Stainless Steel	135-185	SC	60	85	0.003 ❖	0.007	0.008	0.011	0.014	0.016	0.020
	185-275	SC	50	70	0.003 ❖	0.006	0.007	0.010	0.012	0.014	0.018
Wear Plate Hardox, AR400, T-1, etc.	400	SC	45	70	0.003 ❖	0.006	0.008	0.009	0.012	0.016	0.018
	500	SC	35	45	0.002 ❖	0.005	0.007	0.008	0.010	0.012	0.016
	600	N/A	-	-	-	-	-	-	-	-	-
Hardened Steel	300-400	SC	50	95	0.004 ❖	0.006	0.009	0.011	0.012	0.016	0.018
	400-500	SC	35	45	0.002 ❖	0.005	0.007	0.009	0.010	0.012	0.016
Nodular, Grey, Ductile Cast Iron	120-150	HSS	170	290	0.008	0.012	0.016	0.020	0.024	0.027	0.030
	150-200	HSS	150	260	0.007	0.011	0.015	0.019	0.022	0.025	0.028
	200-220	HSS	130	225	0.006	0.009	0.013	0.017	0.018	0.021	0.024
	220-260	SC	110	190	0.005	0.008	0.011	0.014	0.014	0.017	0.020
	260-320	SC	90	155	0.005	0.007	0.010	0.012	0.012	0.014	0.016
Cast Aluminum	30	HSS	600	-	0.009	0.015	0.018	0.023	0.022	0.025	0.025
	180	HSS	300	-	0.008	0.013	0.016	0.020	0.022	0.025	0.025
Wrought Aluminum	30	HSS	600	900	0.005	0.013	0.016	0.020	0.022	0.025	0.025
	180	HSS	300	650	0.005	0.007	0.012	0.014	0.022	0.025	0.025
Aluminum Bronze	100-200	SC	170	270	0.006	0.009	0.012	0.015	0.017	0.019	0.021
	200-250	SC	130	210	0.005	0.007	0.009	0.011	0.014	0.016	0.018
Brass	100	HSS	300	470	0.007	0.011	0.013	0.018	0.019	0.021	0.023
Copper	60	SC	130	190	0.003 ❖	0.004	0.007	0.010	0.009	0.011	0.012

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If 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 • .75 = 150 SFM **.008 • 0.90 = .007 IPR**

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GEN2 T-A® Carbide Drill Inserts

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED	FEED (IPR)			
			AM200® SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	C1	480	0.008	0.012	0.016	0.019
	150-200	C1	415	0.007	0.011	0.015	0.017
	200-250	C1	390	0.006	0.010	0.014	0.016
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	C1	450	0.008 ❖	0.010	0.014	0.018
	125-175	C1	390	0.007 ❖	0.010	0.014	0.017
	175-225	C1	355	0.006 ❖	0.009	0.013	0.016
	225-275	C1	310	0.005 ❖	0.009	0.013	0.016
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	C1	390	0.007	0.010	0.014	0.017
	175-225	C1	355	0.006	0.009	0.013	0.016
	225-275	C1	310	0.006	0.009	0.013	0.016
	275-325	C1	265	0.005	0.008	0.012	0.015
Alloy Steel 4140, 5140, 8640, etc.	125-175	C1	375	0.007	0.010	0.014	0.017
	175-225	C1	345	0.006	0.009	0.013	0.016
	225-275	C1	310	0.006	0.009	0.013	0.016
	275-325	C1	285	0.005	0.008	0.012	0.015
	325-375	C1	255	0.004	0.007	0.011	0.014
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	C1	230	0.006 ❖	0.009	0.011	0.013
	300-350	C1	205	0.005 ❖	0.008	0.010	0.012
	350-400	C1	185	0.004 ❖	0.007	0.009	0.011
Structural Steel A36, A285, A516, etc.	100-150	C1	355	0.008 ❖	0.011	0.015	0.017
	150-250	C1	285	0.006 ❖	0.010	0.013	0.015
	250-350	C1	265	0.005 ❖	0.009	0.012	0.013
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	C1	255	0.007	0.007	0.010	0.012
	200-250	C1	195	0.007	0.007	0.010	0.012
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	C2	120	0.004 ❖	0.007	0.009	0.011
	220-310	C2	95	0.004 ❖	0.006	0.008	0.010
Titanium Alloy	140-220	C2	140	0.004 ❖	0.007	0.008	0.011
	220-310	C2	110	0.003 ❖	0.006	0.007	0.009
Aerospace Alloy S82	185-275	C2	240	0.005 ❖	0.006	0.007	0.009
	275-350	C2	180	0.004 ❖	0.005	0.006	0.008
Stainless Steel 400 Series 416, 420, etc.	185-275	C2	240	0.007 ❖	0.009	0.012	0.014
	275-350	C2	180	0.006 ❖	0.008	0.011	0.012
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	C2	240	0.006 ❖	0.007	0.009	0.012
	185-275	C2	180	0.005 ❖	0.006	0.008	0.009
Super Duplex Stainless Steel	135-185	C2	125	0.005 ❖	0.007	0.008	0.010
	185-275	C2	100	0.004 ❖	0.006	0.007	0.009
Wear Plate Hardox, AR400, T-1, etc.	400	C2	150	0.003 ❖	0.005	0.008	0.010
	500	C2	120	0.002 ❖	0.004	0.006	0.008
	600	C2	100	0.001 ❖	0.003	0.005	0.006
Hardened Steel	300-400	C1	150	0.004 ❖	0.006	0.009	0.011
	400-500	C1	120	0.003 ❖	0.005	0.008	0.010
Nodular, Grey, Ductile Cast Iron	120-150	C2	500	0.008	0.012	0.015	0.019
	150-200	C2	480	0.007	0.011	0.013	0.017
	200-220	C2	430	0.006	0.009	0.012	0.015
	220-260	C2	370	0.005	0.008	0.011	0.013
	260-320	C2	335	0.005	0.007	0.010	0.011
Cast Aluminum	30	C2	975	0.009	0.015	0.018	0.023
	180	C2	730	0.008	0.013	0.016	0.020
Wrought Aluminum	30	C2	1385	0.005	0.013	0.016	0.020
	180	C2	975	0.005	0.007	0.012	0.014
Aluminum Bronze	100-200	C2	360	0.006	0.009	0.012	0.015
	200-250	C2	300	0.005	0.007	0.009	0.011
Brass	100	C2	650	0.007	0.011	0.013	0.018
Copper	60	C2	420	0.003 ❖	0.004	0.007	0.010

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If 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 • .75 = 150 SFM **.008 • 0.90 = .007 IPR**

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

Structural Steel T-A® Drill Inserts

Recommended Speeds and Feeds

NOTE: The below speed and feed recommendations are based on a rigid setup utilizing air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.

NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact our Application Engineering Team for assistance.

Super Cobalt Thin Wall Drill Inserts

Material	Hardness (BHN)	SPEED		FEED (IPR)			
		-TW TiAlN SFM (Mist Coolant)	-TW AM200® SFM (Mist Coolant)	9/16" to 11/16"	13/16" to 15/16"	1" to 1-3/8"	1-13/32" to 1-7/8"
Structural Steel A36, A285, A516, etc.	100-150	110	125	0.012	0.018	0.019	0.020
	150-250	100	115	0.011	0.016	0.017	0.019
	250-350	90	105	0.010	0.014	0.016	0.018

Material	Hardness (BHN)	SPEED		FEED (mm/rev)			
		-TW TiAlN M/min (Mist Coolant)	-TW AM200® M/min (Mist Coolant)	14mm to 16mm	18mm to 24mm	25mm to 35mm	36mm to 47mm
Structural Steel A36, A285, A516, etc.	100-150	34	39	0,30	0,45	0,48	0,50
	150-250	31	35	0,28	0,40	0,43	0,48
	250-350	28	32	0,25	0,36	0,40	0,45

Super Cobalt Notch Point® and 150° Structural Steel Drill Inserts

Material	Hardness (BHN)	SPEED		FEED (IPR)			
		-NP & -SS TiAlN SFM (Mist Coolant)	-NP & -SS AM200 SFM (Mist Coolant)	9/16" to 11/16"	13/16" to 15/16"	1" to 1-3/8"	1-13/32" to 1-7/8"
Structural Steel A36, A285, A516, etc.	100-150	110	125	0.010	0.012	0.014	0.018
	150-250	100	115	0.009	0.011	0.012	0.016
	250-350	90	105	0.008	0.010	0.011	0.014

Material	Hardness (BHN)	SPEED		FEED (mm/rev)			
		-NP & -SS TiAlN M/min (Mist Coolant)	-NP & -SS AM200 M/min (Mist Coolant)	14mm to 16mm	18mm to 24mm	25mm to 35mm	36mm to 47mm
Structural Steel A36, A285, A516, etc.	100-150	34	39	0,25	0,30	0,36	0,45
	150-250	31	35	0,23	0,28	0,30	0,40
	250-350	28	32	0,20	0,25	0,28	0,36

Super Cobalt GEN2 T-A® Drill Inserts

Material	Hardness (BHN)	SPEED	FEED (IPR)			
		AM200 SFM (Mist Coolant)	9/16" to 11/16"	13/16" to 15/16"	1" to 1-3/8"	1-13/32" to 1-7/8"
Structural Steel A36, A285, A516, etc.	100-150	125	0.010	0.012	0.014	0.018
	150-250	115	0.009	0.011	0.012	0.016
	250-350	105	0.008	0.010	0.011	0.014

Material	Hardness (BHN)	SPEED	FEED (mm/rev)			
		AM200 M/min (Mist Coolant)	14mm to 16mm	18mm to 24mm	25mm to 35mm	36mm to 47mm
Structural Steel A36, A285, A516, etc.	100-150	39	0,25	0,30	0,36	0,46
	150-250	35	0,23	0,28	0,30	0,40
	250-350	32	0,20	0,25	0,28	0,36

C1 Carbide GEN2 T-A® Drill Inserts

Material	Hardness (BHN)	SPEED	FEED (IPR)			
		AM200 SFM (Mist Coolant)	9/16" to 11/16"	13/16" to 15/16"	1" to 1-3/8"	1-13/32" to 1-7/8"
Structural Steel A36, A285, A516, etc.	100-150	165	0.008	0.011	0.015	0.017
	150-250	155	0.006	0.010	0.013	0.015
	250-350	140	0.005	0.009	0.012	0.013

Material	Hardness (BHN)	SPEED	FEED (mm/rev)			
		AM200 M/min (Mist Coolant)	14mm to 16mm	18mm to 24mm	25mm to 35mm	36mm to 47mm
Structural Steel A36, A285, A516, etc.	100-150	50	0,20	0,28	0,38	0,43
	150-250	47	0,15	0,25	0,33	0,38
	250-350	43	0,13	0,23	0,30	0,33

Flat Bottom T-A® HSS and Carbide Drill Inserts

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED				FEED (IPR)						Grade	SPEED				FEED (IPR)			
			TiN SFM	TiAlN SFM	TiCN SFM	AM200 SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"	1-13/32" to 1-7/8"	1-29/32" to 2-9/16"		TiN SFM	TiAlN SFM	TiCN SFM	AM200 SFM	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	HSS	170	250	230	290	0.006	0.009	0.011	0.014	0.016	0.018	C2	270	380	325	425	0.007	0.010	0.013	0.015
	150-200	HSS	155	230	205	265	0.006	0.009	0.011	0.014	0.016	0.018	C2	240	320	280	375	0.006	0.009	0.012	0.014
	200-250	HSS	140	210	185	245	0.005	0.009	0.011	0.014	0.015	0.017	C2	220	300	260	350	0.005	0.009	0.011	0.013
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	HSS	150	220	195	255	0.005 ❖	0.008	0.010	0.013	0.015	0.017	C2	260	345	315	410	0.007 ❖	0.009	0.011	0.014
	125-175	HSS	140	210	185	245	0.005 ❖	0.008	0.010	0.013	0.015	0.016	C2	220	300	260	350	0.006 ❖	0.009	0.011	0.014
	175-225	HSS	130	195	175	225	0.004 ❖	0.007	0.009	0.012	0.014	0.016	C2	200	280	235	320	0.005 ❖	0.008	0.010	0.013
	225-275	HSS	120	185	155	215	0.004 ❖	0.007	0.009	0.012	0.014	0.015	C2	180	240	215	285	0.004 ❖	0.008	0.010	0.013
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	HSS	140	210	185	245	0.005	0.008	0.010	0.013	0.015	0.018	C2	220	300	260	350	0.006	0.009	0.011	0.014
	175-225	HSS	130	195	175	225	0.004	0.007	0.009	0.012	0.014	0.017	C2	200	280	240	320	0.005	0.008	0.010	0.013
	225-275	HSS	120	185	155	215	0.004	0.007	0.009	0.012	0.014	0.017	C2	180	240	210	285	0.005	0.008	0.010	0.013
	275-325	SC	110	175	150	205	0.004	0.006	0.008	0.010	0.013	0.015	C2	150	210	180	240	0.004	0.007	0.009	0.012
Alloy Steel 4140, 5140, 8640, etc.	125-175	HSS	130	185	175	215	0.005	0.007	0.009	0.012	0.013	0.016	C2	215	290	250	340	0.006	0.009	0.011	0.014
	175-225	HSS	120	175	155	205	0.004	0.007	0.009	0.012	0.013	0.016	C2	200	270	230	320	0.005	0.008	0.010	0.013
	225-275	HSS	110	155	145	180	0.004	0.006	0.009	0.012	0.013	0.016	C2	180	230	205	290	0.005	0.008	0.010	0.013
	275-325	SC	105	145	135	170	0.004	0.005	0.008	0.010	0.012	0.015	C2	175	215	190	280	0.004	0.007	0.009	0.012
	325-375	SC	95	135	125	155	0.003	0.005	0.008	0.010	0.012	0.014	C2	145	190	170	230	0.003	0.006	0.009	0.011
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	SC	70	95	85	110	0.004 ❖	0.006	0.008	0.009	0.010	0.012	C2	140	170	160	220	0.005 ❖	0.008	0.009	0.010
	300-350	SC	50	75	70	90	0.003 ❖	0.006	0.008	0.009	0.010	0.012	C2	120	160	140	190	0.004 ❖	0.007	0.008	0.009
	350-400	SC	45	65	60	75	0.003 ❖	0.005	0.007	0.008	0.009	0.011	C2	100	145	120	160	0.003 ❖	0.006	0.007	0.009
Structural Steel A36, A285, A516, etc.	100-150	HSS	120	170	155	195	0.005 ❖	0.009	0.010	0.012	0.015	0.017	C2	205	265	240	325	0.007 ❖	0.009	0.012	0.014
	150-250	HSS	105	145	135	170	0.004 ❖	0.008	0.009	0.010	0.013	0.016	C2	170	215	200	270	0.005 ❖	0.009	0.010	0.012
	250-350	SC	85	120	110	140	0.004 ❖	0.007	0.008	0.009	0.012	0.015	C2	155	200	180	240	0.004 ❖	0.008	0.009	0.010
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	SC	70	95	90	110	0.004	0.005	0.007	0.009	0.010	0.012	C2	140	190	160	220	0.003	0.006	0.008	0.009
	200-250	SC	50	80	75	95	0.004	0.005	0.007	0.009	0.009	0.011	C2	100	150	120	160	0.003	0.006	0.008	0.009
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	SC	25	35	30	40	0.003 ❖	0.006	0.007	0.009	0.010	0.012	C2	70	90	80	110	0.003 ❖	0.006	0.008	0.009
	220-310	SC	20	30	25	35	0.003 ❖	0.005	0.006	0.007	0.008	0.010	C2	50	70	60	80	0.003 ❖	0.005	0.007	0.009
Titanium Alloy	140-220	SC	35	45	40	50	0.003 ❖	0.006	0.007	0.009	0.010	0.012	C2	85	110	90	130	0.003 ❖	0.005	0.006	0.008
	220-310	SC	26	40	35	45	0.003 ❖	0.005	0.006	0.007	0.008	0.010	C2	70	95	80	100	0.003 ❖	0.004	0.005	0.007
Aerospace Alloy S82	185-275	SC	65	90	85	110	0.005 ❖	0.007	0.008	0.010	0.012	0.015	C2	140	120	165	130	0.006 ❖	0.006	0.010	0.012
	275-350	SC	50	80	70	90	0.004 ❖	0.006	0.007	0.009	0.010	0.012	C2	110	90	125	105	0.005 ❖	0.005	0.009	0.010
Stainless Steel 400 Series 416, 420, etc.	185-275	SC	65	90	85	110	0.005 ❖	0.007	0.008	0.010	0.012	0.014	C2	140	180	165	210	0.006 ❖	0.008	0.010	0.012
	275-350	SC	50	80	70	90	0.004 ❖	0.006	0.007	0.009	0.010	0.011	C2	110	140	125	160	0.005 ❖	0.007	0.009	0.010
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	SC	65	90	85	110	0.005 ❖	0.007	0.008	0.010	0.012	0.014	C2	90	120	110	130	0.005 ❖	0.007	0.008	0.010
	185-275	SC	50	80	70	90	0.004 ❖	0.006	0.007	0.009	0.010	0.011	C2	70	90	80	105	0.004 ❖	0.006	0.007	0.009
Super Duplex Stainless Steel	135-185	SC	65	90	85	110	0.005 ❖	0.007	0.008	0.010	0.012	0.014	C2	70	95	85	110	0.004 ❖	0.006	0.007	0.008
	185-275	SC	50	80	70	90	0.004 ❖	0.006	0.007	0.009	0.010	0.011	C2	55	70	60	85	0.003 ❖	0.005	0.006	0.007
Wear Plate Hardox, AR400, T-1, etc.	400	SC	-	-	-	-	-	-	-	-	-	-	C2	65	100	85	130	0.003 ❖	0.004	0.006	0.008
	500	SC	-	-	-	-	-	-	-	-	-	-	C2	45	75	60	100	0.002 ❖	0.003	0.005	0.006
	600	N/A	-	-	-	-	-	-	-	-	-	-	C2	35	65	45	80	0.001 ❖	0.002	0.004	0.005
Hardened Steel	300-400	SC	45	65	60	80	0.003 ❖	0.005	0.007	0.008	0.011	0.015	C2	100	125	110	135	0.004 ❖	0.006	0.007	0.009
	400-500	SC	25	40	35	45	0.002 ❖	0.004	0.006	0.007	0.009	0.011	C2	60	75	65	110	0.003 ❖	0.005	0.06	0.007
Nodular, Grey, Ductile Cast Iron	120-150	HSS	150	220	195	255	0.006	0.010	0.014	0.017	0.019	0.020	C2	270	405	360	450	0.007	0.010	0.013	0.016
	150-200	HSS	130	195	175	225	0.005	0.009	0.012	0.016	0.018	0.019	C2	230	350	290	390	0.006	0.009	0.011	0.014
	200-220	HSS	110	175	150	205	0.005	0.008	0.010	0.014	0.016	0.017	C2	200	320	260	350	0.005	0.008	0.010	0.013
	220-260	SC	95	150	125	175	0.004	0.006	0.008	0.010	0.013	0.014	C2	180	270	220	300	0.004	0.007	0.009	0.011
	260-320	SC	80	120	105	140	0.004	0.005	0.006	0.008	0.010	0.012	C2	160	240	200	265	0.004	0.006	0.009	0.009
Cast Aluminum	30	HSS	520	750	650	-	0.007	0.011	0.014	0.017	0.018	0.019	C2	520	750	650	-	0.009	0.013	0.016	0.017
	180	HSS	260	400	350	-	0.007	0.011	0.014	0.016	0.017	0.019	C2	260	400	350	-	0.008	0.012	0.014	0.015
Wrought Aluminum	30	HSS	520	750	650	850	0.007	0.011	0.014	0.017	0.018	0.019	C2	950	1200	1070	1270	0.005	0.007	0.009	0.010
	180	HSS	260	400	350	450	0.007	0.011	0.014	0.016	0.017	0.019	C2	630	800	715	850	0.004	0.006	0.008	0.009
Aluminum Bronze	100-200	SC	130	190	175	230	0.005	0.009	0.012	0.016	0.020	0.024	C2	240	310	280	340	0.004	0.006	0.008	0.011
	200-250	SC	95	150	125	165	0.004	0.006	0.008	0.010	0.012	0.015	C2	180	265	220	285	0.003	0.005	0.006	0.008
Brass	100	HSS	150	220	190	250	0.006	0.010	0.014	0.017	0.021	0.025	C2	370	520	450	600	0.005	0.006	0.008	0.012
Copper	60	SC	115	150	130	170	0.002 ❖	0.003	0.006	0.008	0.010	0.014	C2	220	345	280	380	0.002 ❖	0.002	0.003	0.005

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If 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 • .75 = 150 SFM **.008 • 0.90 = .007 IPR**

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

Diamond Coated T-A® Drill Inserts

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts..

Material		CARBIDE					
			SPEED	FEED (IPR)			
		Grade	CVD Diamond	3/8" to 1/2"	33/64" to 11/16"	45/64" to 15/16"	31/32" to 1-3/8"
Polymer Matrix Composites	Carbon (Hard)	N2	1000-1500	0.004-0.006	0.008-0.010	0.010-0.012	0.012-0.014
	Carbon Fiber						
	Carbon/Glass Fiber						
	Fiberglass						
	Graphite						
	Plastics	N2	250-1000	0.004-0.006	0.008-0.010	0.010-0.012	0.012-0.014
	Epoxy Resin						
	Bismaleimide Resin						
	Polyester Resin						
	Phenolic Resin						
	Rubber						
Metal Matrix Composites	Aluminum	N2	1000	0.008	0.013	0.016	0.020
	Si<10%						
	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						
	Copper	N2	100-250	0.004-0.006	0.008-0.010	0.010-0.012	0.012-0.014
	Copper Alloys						
	Lead Alloys						
	Magnesium Alloys						
	Precious Metals						
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)						
	Ceramic (Pre-Sintered)						

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If 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 • .75 = 150 SFM **.008 • 0.90 = .007 IPR**

T-A® Drill Inserts

Coolant Recommendations - Inch

IMPORTANT: The coolant pressure and flow rate recommendation below represents a good approximation to obtain optimum tool life and chip evacuation at Allied recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the TA 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.

Material	Pressure or Flow Rate	HSS							Carbide				
		3/8" to 1/2"	33/64" to 11/16"	23/32" to 1"	1" to 1-1/4"	1-1/4" to 2"	2" to 3"	3" to 4"	3/8" to 1/2"	33/64" to 11/16"	23/32" to 1"	1" to 1-3/8"	1-13/32" to 1-7/8"
Free Machining Steel 1118, 1215, 12L14, etc.	PSI	175-185	100-120	105-140	80-115	75-100	40-50	65-90	195	140	160	140	155
	GPM	2.5-2.6	2.8-3.0	4.4-5.2	7-8	12-14	30-33	38-44	2.6	3.3	5.5	9	18
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	PSI	165-170	75-90	75-95	60-80	55-75	30-40	50-65	180	105	105	110	115
	GPM	2.4-2.5	2.4-2.6	3.7-4.2	6-7	11-12	26-30	33-38	2.5	2.9	4.4	8	15
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	PSI	160-165	70-85	70-90	55-75	50-70	30-40	50-65	175	100	90	70	75
	GPM	2.3-2.4	2.3-2.6	3.7-4.2	5-6	10-12	26-30	33-38	2.5	2.8	4.1	7	13
Alloy Steel 4140, 5140, 8640, etc.	PSI	160-165	65-75	65-80	50-70	45-60	30-35	40-50	165	85	100	75	70
	GPM	2.3-2.4	2.2-2.4	3.5-3.9	5-6	10-11	26-28	30-33	2.4	2.6	4.3	6	12
High Strength Alloy 4340, 4330V, 300M, etc.	PSI	150-155	55-60	45-50	25-30	25-30	20-25	40-50	175	115	105	75	70
	GPM	2.3-2.4	2.1-2.2	2.9-3.1	4-5	7-8	21-23	23-26	2.4	2.3	3.2	5	8
Structural Steel A36, A285, A516, etc.	PSI	160-165	75-85	65-80	40-55	40-50	25-30	40-50	175	115	105	75	70
	GPM	2.3-2.4	2.4-2.6	3.5-3.9	5-6	9-10	23-26	30-33	2.5	3.0	4.4	6	12
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	PSI	150-155	55-60	45-50	25-30	25-30	20-25	25-30	155	60	55	40	35
	GPM	2.3-2.4	2.1-2.2	2.9-3.1	4-5	7-8	21-23	23-26	2.4	2.2	3.2	5	8
High Temp. Alloy Hastelloy B, Inconel 600, etc.	PSI	150-155	60-65	50-55	30-35	25-30	25-30	44	247	160	174	160	130
	GPM	2.3-2.4	2.2-2.3	3.1-3.2	4-5	7-8	23-26	33	3	4	6	9	16
Titanium Alloy	PSI	150-155	60-65	50-55	30-35	25-30	25-30	44	247	160	174	160	130
	GPM	2.3-2.4	2.2-2.3	3.1-3.2	4-5	7-8	23-26	33	3	4	6	9	16
Aerospace Alloy S82	PSI	150-155	60-65	50-55	30-35	25-30	25-30	44	247	160	174	160	130
	GPM	2.3-2.4	2.2-2.3	3.1-3.2	4-5	7-8	23-26	33	3	4	6	9	16
Stainless Steel 400 Series 416, 420, etc.	PSI	171	86	75	55	51	29	45	329	239	260	250	190
	GPM	3	3	4	6	10	26	31	3	4	7	12	20
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	PSI	171	86	75	55	51	29	45	329	239	260	250	190
	GPM	3	3	4	6	10	26	31	3	4	7	12	20
Super Duplex Stainless Steel	PSI	171	86	75	55	51	29	45	329	239	260	250	190
	GPM	3	3	4	6	10	26	31	3	4	7	12	20
Wear Plate Hardox, AR400, T-1, etc.	PSI	155	61	51	29	29	25	29	210	75	70	49	45
	GPM	2	2	3	5	8	23	26	3	2	4	5	10
Hardened Steel	PSI	155	61	51	29	29	25	29	210	75	70	49	45
	GPM	2	2	3	5	8	23	26	3	2	4	5	10
SG / Nodular Cast Iron	PSI	160	65	61	41	35	29	35	225	104	90	90	80
	GPM	2	2	3	5	9	26	28	3	3	4	7	13
Grey / White Iron	PSI	160	65	61	41	35	29	35	225	104	90	90	80
	GPM	2	2	3	5	9	26	28	3	3	4	7	13
Cast Aluminum	PSI	210	180	230	159	125	51	80	350	319	315	284	200
	GPM	3	4	6	9	16	33	42	4	5	8	12	20
Wrought Aluminum	PSI	210	180	230	159	125	51	80	350	319	315	284	200
	GPM	3	4	6	9	16	33	42	4	5	8	12	20
Aluminum Bronze	PSI	186	120	140	115	100	51	90	290	239	239	220	174
	GPM	2.5	3	5	8	14	33	44	3	4	7	11	19
Brass	PSI	159	65	61	41	35	29	35	350	319	315	284	200
	GPM	2	2	3	5	9	26	28	4	5	8	12	20
Copper	PSI	186	120	140	115	100	51	90	290	239	239	220	174
	GPM	2.5	3	5	8	14	33	44	3	4	7	11	19

Deep Hole Drilling Coolant Adjustment

Holder	Extended	Long	XL	3XL
Pressure & Flow	1.3	1.5	2	3

COOLANT RECOMMENDATION EXAMPLE: If the recommended pressure and flow is 150 PSI and 2.4 GPM for a standard length holder, the adjusted pressure and flow would be 450 PSI and 7.2 GPM respectively for the 3XL holder.

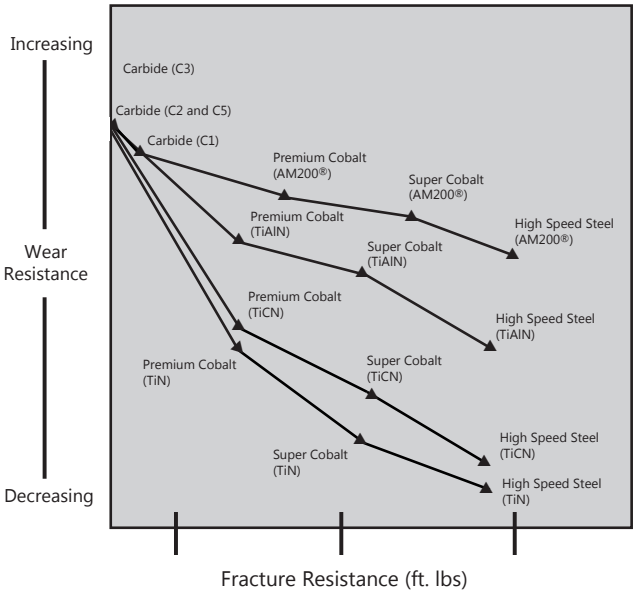
150 • 3 = 450 PSI **2.4 • 3 = 7.2 GPM**

T-A® Drill Inserts

Technical Information - Inch

WEAR vs TOUGHNESS

When selecting a grade of cutting tool material for your application, both wear resistance and grade toughness should be considered. The higher the wear resistance a cutting tool material exhibits, the more likely chipping or fracture is to occur, thus requiring 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 below 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.



FORMULAS

1. RPM = $\frac{3.82 \bullet SFM}{DIA}$

where:
RPM = revolutions per minute (rev/min)
SFM = surface feet per minute (ft/min)
DIA = diameter of drill (in)

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 (in)

4. Thrust = (133,650) • (IPR) • (DIA) • (Km)

where:
Thrust = axial thrust (lbs)
IPR = feed rate (in/rev)
DIA = diameter of drill (in)
K_m = specific cutting energy (lbs/in^2)

5. Tool Power = .6283 • IPR • RPM • Km • DIA^2

where:
Tool Power = tool power (HP)
IPR = feed rate (in/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (lbs/in^2)
DIA = diameter of drill (in)

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

This table and equations are found in the **Machinery's Handbook**. Permission to simplify and print the equations is granted by the editor of the **Machinery's Handbook.**

TAP DRILL INFORMATION

American - Unified Inch Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalant	*Theo % Thread	Prob. Mean Size	Prob. Hole Size	**Prob. % Thread
7/16 - 20	W	.3860	79%	.003"	.3890"	75%
	25/64"	.3906	72%	.003"	.3936"	68%
1/2 - 13	10,5mm	.4134	87%	.003"	.4164"	84%
	27/64"	.4219	78%	.003"	.4249"	75%
	7/16"	.4375	63%	.003"	.4405"	60%
1/2 - 20	29/64"	.4531	72%	.003"	.4561"	68%
9/16 - 12	15/32"	.4688	87%	.003"	.4718"	84%
	12,0mm	.4724	72%	.003"	.4874"	69%
	31/64"	.4844	83%	.003"	.4754"	80%
9/16 - 18	1/2"	.5000"	87%	.003"	.5030"	82%
	13,0mm	.5118"	70%	.003"	.5148"	66%
	31/64"	.5156"	65%	.003"	.5186"	61%
5/8 - 11	17/32"	.5313"	79%	.003"	.5343"	77%
5/8 - 12	35/64"	.5469"	72%	.003"	.5499"	69%
5/8 - 18	9/16"	.5625"	87%	.003"	.5655"	82%
	14,5mm	.5709"	75%	.003"	.5739"	75%
	37/64"	.5781"	65%	.003"	.5811"	70%
11/16 - 12	39/64"	.6094"	72%	.003"	.6124"	69%
3/4 - 10	41/64"	.6406"	84%	.003"	.6436"	82%
	16,5mm	.6496"	77%	.003"	.6526"	75%
	21/32"	.6563"	72%	.003"	.6593"	70%
3/4 - 12	43/64"	.6719"	72%	.003"	.6749"	69%
3/4 - 16	11/16"	.6875"	77%	.003"	.6905"	73%
	17,5mm	.6890"	75%	.003"	.6920"	71%
7/8 - 9	49/64"	.7656"	76%	.003"	.7686"	74%
	25/32"	.7813"	65%	.003"	.7843"	63%
7/8 - 14	51/64"	.7969"	84%	.003"	.7999"	81%
	13/16"	.8125"	67%	.003"	.8155"	64%
15/16 - 12	55/64"	.8594"	72%	.003"	.8624"	69%
15/16 - 20	57/64"	.8906"	72%	.003"	.8936"	68%
1 - 8	22,0mm	.8661"	82%	.003"	.8691"	81%
	7/8"	.8750"	77%	.003"	.8780"	75%
	57/64"	.8906"	67%	.003"	.8936"	65%
1 - 12	29/32"	.9063"	87%	.003"	.9093"	84%
	59/64"	.9219"	72%	.003"	.9249"	69%
1 - 14	15/16"	.9375"	67%	.003"	.9405"	64%
1-1/8 - 12	1-1/32"	1.0313"	87%	.003"	1.0343"	84%
	1-3/64"	1.0469"	72%	.003"	1.0499"	69%
1-1/4 - 7	1-7/64"	1.1094"	76%	.003"	1.1124"	74%

*Based on nominal tap drill diameter. **Based on .003" probable mean oversize.
To calculate percentage of full thread for a given hole diameter:

$$\% \text{ Thread} = \#\text{ of Threads per Inch} \bullet \left(\frac{\text{Basic Major Diameter of thread (inch)} - \text{Drill Hole Size (inch)}}{.0130} \right)$$

Taper Pipe Thread (NPT)

Tap Size	Tap Drill Size	Decimal Equivalant	*Theo % Thread	Prob. Mean Size	Prob. Hole Size	**Prob. % Thread
1/4 - 18	7/16	.4375"	N/A	.003"	.4405"	N/A
3/8 -18	9/16	.5625"	N/A	.003"	.5655"	N/A
1/2 - 14	45/64	.7031"	N/A	.003"	.7061"	N/A
3/4 - 14	29/32	.9063"	N/A	.003"	.9093"	N/A

The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special blade diameters may be required in order to meet a user specific percentage of thread requirements.

The .003" probable mean oversize hole condition is based on optimum cutting conditions. Probable % of full thread may vary based on less ideal cutting conditions.

T-A® HSS Drill Inserts

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED			FEED (mm/rev)						
			TiN M/min	TiAlN M/min	TiCN M/min	9,5 to 12,95	12,98 to 17,52	17,53 to 24,38	24,41 to 35,00	35,01 to 47,80	47,85 to 65,99	66,00 to 114,48
Free Machining Steel 1118, 1215, 12L14, etc,	100-150	HSS	61	85	79	0,18	0,25	0,33	0,41	0,51	0,58	0,71
	150-200	HSS	55	79	72	0,18	0,25	0,33	0,41	0,51	0,58	0,71
	200-250	HSS	49	73	64	0,15	0,25	0,33	0,41	0,51	0,58	0,71
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc,	85-125	HSS	52	76	67	0,15 ❖	0,23	0,30	0,38	0,48	0,58	0,69
	125-175	HSS	49	73	64	0,15 ❖	0,23	0,30	0,38	0,48	0,58	0,69
	175-225	HSS	46	69	59	0,13 ❖	0,20	0,25	0,36	0,46	0,53	0,61
	225-275	HSS	43	64	55	0,13 ❖	0,20	0,25	0,36	0,46	0,53	0,61
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc,	125-175	HSS	49	73	64	0,15	0,23	0,30	0,38	0,48	0,58	0,69
	175-225	HSS	46	69	59	0,13	0,20	0,25	0,36	0,46	0,53	0,61
	225-275	HSS	43	64	55	0,13	0,20	0,25	0,36	0,46	0,53	0,61
	275-325	SC, PC	40	59	52	0,10	0,18	0,23	0,30	0,41	0,48	0,56
Alloy Steel 4140, 5140, 8640, etc,	125-175	HSS	46	64	59	0,15	0,20	0,25	0,36	0,43	0,48	0,56
	175-225	HSS	43	59	55	0,13	0,20	0,25	0,36	0,43	0,48	0,56
	225-275	HSS	40	55	52	0,13	0,18	0,25	0,36	0,43	0,48	0,56
	275-325	SC, PC	37	52	47	0,10	0,15	0,23	0,30	0,38	0,43	0,51
	325-375	SC, PC	34	47	44	0,08	0,15	0,23	0,30	0,38	0,43	0,51
High Strength Alloy 4340, 4330V, 300M, etc,	225-300	SC, PC	24	34	30	0,13 ❖	0,18	0,23	0,25	0,36	0,43	0,51
	300-350	SC, PC	18	26	24	0,10 ❖	0,18	0,23	0,25	0,36	0,43	0,51
	350-400	PC	15	21	20	0,08 ❖	0,15	0,20	0,23	0,30	0,38	0,46
Structural Steel A36, A285, A516, etc,	100-150	HSS	43	61	55	0,15 ❖	0,25	0,30	0,36	0,46	0,53	0,66
	150-250	HSS	37	52	47	0,13 ❖	0,23	0,25	0,30	0,41	0,48	0,61
	250-350	SC, PC	30	43	40	0,10 ❖	0,20	0,23	0,25	0,36	0,43	0,51
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc,	150-200	SC	24	34	32	0,10	0,15	0,20	0,25	0,30	0,38	0,43
	200-250	SC, PC	18	27	26	0,10	0,15	0,20	0,25	0,30	0,38	0,43
High Temp, Alloy Hastelloy B, Inconel 600, etc,	140-220	SC, PC	9	12	11	0,08 ❖	0,18	0,20	0,25	0,30	0,38	-
	220-310	PC	8	11	9	0,08 ❖	0,15	0,18	0,20	0,25	0,30	-
Titanium Alloy	140-220	SC, PC	11	15	14	0,08 ❖	0,18	0,20	0,25	0,30	0,38	-
	220-310	PC	9	14	11	0,08 ❖	0,15	0,18	0,20	0,25	0,30	-
Aerospace Alloy S82	185-275	SC, PC	23	32	29	0,15 ❖	0,20	0,23	0,25	0,36	0,41	0,51
	275-350	SC, PC	18	27	24	0,13 ❖	0,18	0,20	0,20	0,30	0,36	0,46
Stainless Steel 400 Series 416, 420, etc,	185-275	SC, PC	23	32	29	0,15 ❖	0,20	0,23	0,25	0,36	0,41	0,51
	275-350	SC, PC	18	27	24	0,13 ❖	0,18	0,20	0,20	0,30	0,36	0,46
Stainless Steel 300 Series 304, 316, 17-4PH, etc,	135-185	SC, PC	23	32	29	0,08 ❖	0,18	0,20	0,25	0,36	0,41	0,51
	185-275	SC, PC	18	27	24	0,08 ❖	0,15	0,18	0,20	0,30	0,36	0,46
Super Duplex Stainless Steel	135-185	SC, PC	18	24	21	0,08 ❖	0,18	0,20	0,25	0,36	0,41	0,51
	185-275	SC, PC	15	20	18	0,08 ❖	0,15	0,18	0,20	0,30	0,36	0,46
Wear Plate Hardox, AR400, T-1, etc,	400	SC, PC	14	21	17	0,08 ❖	0,15	0,20	0,23	0,30	0,41	0,46
	500	PC	11	14	12	0,05 ❖	0,13	0,18	0,20	0,25	0,30	0,41
	600	N/A	-	-	-	-	-	-	-	-	-	-
Hardened Steel	300-400	PC	15	29	21	0,08 ❖	0,15	0,20	0,23	0,30	0,41	0,46
	400-500	PC	11	14	12	0,05 ❖	0,13	0,18	0,20	0,25	0,30	0,41
Nodular, Grey, Ductile Cast Iron	120-150	HSS	52	76	67	0,18	0,30	0,41	0,51	0,61	0,69	0,76
	150-200	HSS	46	69	59	0,15	0,28	0,36	0,46	0,56	0,64	0,71
	200-220	HSS	40	59	52	0,15	0,23	0,30	0,41	0,46	0,53	0,61
	220-260	SC, PC	34	50	44	0,13	0,18	0,23	0,30	0,36	0,43	0,51
	260-320	SC, PC	27	41	37	0,10	0,15	0,18	0,23	0,30	0,36	0,41
Cast Aluminum	30	HSS	183	259	229	0,20	0,33	0,41	0,51	0,56	0,64	0,64
	180	HSS	91	137	122	0,20	0,33	0,41	0,46	0,56	0,64	0,64
Wrought Aluminum	30	HSS	183	259	229	0,10	0,15	0,25	0,30	0,56	0,64	0,64
	180	HSS	91	137	122	0,20	0,33	0,41	0,46	0,56	0,64	0,64
Aluminum Bronze	100-200	SC	52	76	67	0,15	0,28	0,36	0,46	0,56	0,66	0,71
	200-250	SC	40	58	52	0,13	0,18	0,23	0,30	0,36	0,43	0,51
Brass	100	HSS	91	136	122	0,18	0,30	0,41	0,51	0,61	0,71	0,76
Copper	60	SC	40	50	46	0,05 ❖	0,08	0,15	0,20	0,30	0,36	0,41

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 50 M/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 M/min and 0.18 mm/rev.

50 • .75 = 37.5 M/min **0.20 • 0.90 = .18 mm/rev**

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

T-A® Carbide Drill Inserts

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED			FEED (mm/rev)				
			TiN M/min	TiAlN M/min	TiCN M/min	9,5 to 12,95	12,98 to 17,52	17,53 to 24,38	24,41 to 35,00	35,01 to 47,80
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	C5	96	128	115	0,20	0,30	0,38	0,45	0,53
	150-200	C5	85	110	100	0,18	0,28	0,35	0,40	0,48
	200-250	C5	79	104	90	0,15	0,25	0,33	0,38	0,43
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	C5	91	119	110	0,20 ❖	0,25	0,33	0,43	0,48
	125-175	C5	79	104	90	0,18 ❖	0,25	0,33	0,40	0,45
	175-225	C5	73	95	82	0,15 ❖	0,23	0,30	0,38	0,43
	225-275	C5	64	83	75	0,13 ❖	0,23	0,30	0,38	0,43
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	C5	79	104	90	0,18	0,25	0,33	0,40	0,45
	175-225	C5	73	95	84	0,15	0,23	0,30	0,38	0,43
	225-275	C5	67	83	72	0,15	0,23	0,30	0,38	0,43
	275-325	C5	55	70	62	0,13	0,20	0,28	0,35	0,40
Alloy Steel 4140, 5140, 8640, etc.	125-175	C5	76	99	87	0,18	0,25	0,33	0,40	0,45
	175-225	C5	70	92	80	0,15	0,23	0,30	0,38	0,43
	225-275	C5	64	83	72	0,15	0,23	0,30	0,38	0,43
	275-325	C5	61	76	68	0,13	0,20	0,28	0,35	0,40
	325-375	C5	52	67	60	0,10	0,18	0,25	0,33	0,38
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	C5	49	61	55	0,15 ❖	0,23	0,25	0,30	0,38
	300-350	C5	43	55	49	0,13 ❖	0,20	0,23	0,28	0,35
	350-400	C5	37	49	43	0,10 ❖	0,18	0,20	0,25	0,30
Structural Steel A36, A285, A516, etc.	100-150	C5	73	95	84	0,20 ❖	0,28	0,35	0,40	0,45
	150-250	C5	61	76	68	0,15 ❖	0,25	0,30	0,35	0,40
	250-350	C5	55	70	62	0,13 ❖	0,23	0,28	0,30	0,35
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	C5	49	67	58	0,10	0,18	0,23	0,28	0,33
	200-250	C5	37	52	45	0,10	0,18	0,23	0,28	0,33
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	C2	24	32	28	0,10 ❖	0,18	0,23	0,28	0,33
	220-310	C2	18	26	22	0,10 ❖	0,15	0,20	0,25	0,30
Titanium Alloy	140-220	C2	30	38	32	0,10 ❖	0,18	0,23	0,28	0,33
	220-310	C2	24	33	28	0,10 ❖	0,15	0,20	0,25	0,30
Aerospace Alloy S82	185-275	C2	49	64	57	0,17 ❖	0,22	0,29	0,35	0,40
	275-350	C2	37	49	43	0,14 ❖	0,19	0,27	0,30	0,35
Stainless Steel 400 Series 416, 420, etc.	185-275	C2	49	64	57	0,17 ❖	0,22	0,29	0,35	0,40
	275-350	C2	37	49	43	0,14 ❖	0,19	0,27	0,30	0,35
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	C2	49	64	57	0,13 ❖	0,17	0,22	0,26	0,30
	185-275	C2	37	49	43	0,11 ❖	0,14	0,20	0,22	0,25
Super Duplex Stainless Steel	135-185	C2	25	33	29	0,11 ❖	0,15	0,19	0,23	0,27
	185-275	C2	19	25	22	0,09 ❖	0,13	0,18	0,20	0,23
Wear Plate Hardox, AR400, T-1, etc.	400	C5	23	35	30	0,07	0,12	0,20	0,25	0,30
	500	C5	15	26	21	0,05	0,10	0,15	0,20	0,25
	600	C5	11	22	16	0,04	0,08	0,12	0,16	0,20
Hardened Steel	300-400	C5	34	43	39	0,10 ❖	0,18	0,23	0,28	0,33
	400-500	C5	20	25	23	0,08 ❖	0,15	0,20	0,23	0,28
Nodular, Grey, Ductile Cast Iron	120-150	C2, C3	98	141	127	0,20	0,30	0,38	0,48	0,58
	150-200	C2, C3	82	122	102	0,18	0,28	0,33	0,43	0,53
	200-220	C2, C3	73	110	93	0,15	0,23	0,30	0,38	0,45
	220-260	C2, C3	64	95	79	0,13	0,20	0,28	0,33	0,38
	260-320	C2, C3	55	83	69	0,13	0,18	0,25	0,28	0,33
Cast Aluminum	30	C2	366	460	410	0,25	0,38	0,45	0,50	0,55
	180	C2	244	306	275	0,23	0,33	0,40	0,45	0,50
Wrought Aluminum	30	C2	366	460	410	0,10	0,15	0,25	0,30	0,36
	180	C2	244	306	275	0,20	0,28	0,36	0,45	0,50
Aluminum Bronze	100-200	C2	85	110	100	0,13	0,20	0,25	0,36	0,42
	200-250	C2	64	94	79	0,10	0,15	0,18	0,25	0,33
Brass	100	C2	130	184	160	0,15	0,23	0,28	0,38	0,45
Copper	60	C2	80	120	100	0,05 ❖	0,08	0,10	0,15	0,25

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 50 M/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 M/min and 0.18 mm/rev.

50 • .75 = 37.5 M/min **0.20 • 0.90 = .18 mm/rev**

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GEN2 T-A® HSS Drill Inserts

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED		FEED (mm/rev)						
			TiN M/min	AM200® M/min	9,5 to 12,95	12,98 to 17,53	17,53 to 24,38	24,41 to 35,00	35,01 to 47,80	47,85 to 65,99	66,00 to 114,48
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	HSS	61	99	0,20	0,30	0,41	0,48	0,51	0,58	0,71
	150-200	HSS	55	91	0,18	0,28	0,38	0,43	0,51	0,58	0,71
	200-250	HSS	49	85	0,15	0,25	0,36	0,41	0,51	0,58	0,71
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	HSS	52	88	0,20 ❖	0,25	0,36	0,46	0,48	0,58	0,69
	125-175	HSS	49	83	0,18 ❖	0,25	0,36	0,43	0,48	0,58	0,69
	175-225	HSS	46	79	0,15 ❖	0,23	0,33	0,41	0,46	0,53	0,61
	225-275	HSS	43	73	0,13 ❖	0,23	0,33	0,41	0,46	0,53	0,61
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	HSS	49	83	0,18	0,25	0,36	0,43	0,48	0,58	0,69
	175-225	HSS	46	79	0,15	0,23	0,33	0,41	0,46	0,53	0,61
	225-275	HSS	43	73	0,15	0,23	0,33	0,41	0,46	0,53	0,61
	275-325	SC, PC	40	68	0,13	0,20	0,30	0,38	0,41	0,48	0,56
Alloy Steel 4140, 5140, 8640, etc.	125-175	HSS	46	73	0,18	0,25	0,36	0,43	0,43	0,48	0,56
	175-225	HSS	43	68	0,15	0,23	0,33	0,41	0,43	0,48	0,56
	225-275	HSS	40	64	0,15	0,23	0,33	0,41	0,43	0,48	0,56
	275-325	SC, PC	37	59	0,13	0,20	0,30	0,38	0,38	0,43	0,51
	325-375	SC, PC	34	54	0,10	0,18	0,28	0,36	0,38	0,43	0,51
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	SC, PC	24	38	0,15 ❖	0,23	0,28	0,33	0,36	0,43	0,51
	300-350	SC, PC	18	30	0,13 ❖	0,20	0,25	0,30	0,36	0,43	0,51
	350-400	PC	15	24	0,10 ❖	0,18	0,23	0,28	0,30	0,41	0,46
Structural Steel A36, A285, A516, etc.	100-150	HSS	43	71	0,20 ❖	0,28	0,38	0,43	0,46	0,53	0,66
	150-250	HSS	37	57	0,15 ❖	0,25	0,33	0,38	0,41	0,48	0,61
	250-350	SC, PC	30	48	0,13 ❖	0,23	0,30	0,33	0,36	0,43	0,51
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	SC	24	38	0,10	0,18	0,25	0,30	0,30	0,38	0,43
	200-250	SC, PC	18	32	0,10	0,18	0,25	0,30	0,30	0,38	0,43
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	SC, PC	9	13	0,10 ❖	0,18	0,23	0,28	0,30	0,38	-
	220-310	PC	8	12	0,10 ❖	0,15	0,20	0,25	0,25	0,30	-
Titanium Alloy	140-220	SC, PC	11	16	0,10 ❖	0,18	0,21	0,27	0,30	0,38	-
	220-310	PC	10	15	0,08 ❖	0,15	0,18	0,23	0,25	0,30	-
Aerospace Alloy S82	185-275	SC, PC	23	35	0,15 ❖	0,20	0,23	0,28	0,36	0,41	0,51
	275-350	SC, PC	18	31	0,13 ❖	0,18	0,20	0,25	0,30	0,36	0,46
Stainless Steel 400 Series 416, 420, etc.	185-275	SC, PC	23	35	0,15 ❖	0,20	0,23	0,28	0,36	0,41	0,51
	275-350	SC, PC	18	31	0,13 ❖	0,18	0,20	0,25	0,30	0,36	0,46
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	SC, PC	23	35	0,08 ❖	0,18	0,20	0,28	0,36	0,41	0,51
	185-275	SC, PC	18	31	0,08 ❖	0,15	0,18	0,25	0,30	0,36	0,46
Super Duplex Stainless Steel	135-185	SC, PC	18	26	0,08 ❖	0,18	0,20	0,28	0,36	0,41	0,51
	185-275	SC, PC	15	22	0,08 ❖	0,15	0,18	0,25	0,30	0,36	0,46
Wear Plate Hardox, AR400, T-1, etc.	400	SC, PC	14	21	0,08 ❖	0,15	0,20	0,23	0,30	0,41	0,46
	500	PC	10	14	0,05 ❖	0,12	0,18	0,20	0,25	0,30	0,40
	600	N/A	-	-	-	-	-	-	-	-	-
Hardened Steel	300-400	PC	15	29	0,10 ❖	0,15	0,23	0,27	0,30	0,41	0,46
	400-500	PC	10	14	0,06 ❖	0,12	0,18	0,24	0,25	0,30	0,40
Nodular, Grey, Ductile Cast Iron	120-150	HSS	52	84	0,20	0,30	0,41	0,51	0,61	0,69	0,76
	150-200	HSS	46	79	0,18	0,28	0,38	0,48	0,56	0,64	0,71
	200-220	HSS	40	68	0,15	0,23	0,33	0,43	0,46	0,53	0,61
	220-260	SC, PC	34	57	0,13	0,20	0,28	0,36	0,36	0,43	0,51
	260-320	SC, PC	27	47	0,13	0,18	0,25	0,28	0,28	0,36	0,41
Cast Aluminum	30	HSS	183	-	0,23	0,38	0,46	0,58	0,56	0,64	0,64
	180	HSS	91	-	0,20	0,33	0,40	0,50	0,56	0,64	0,64
Wrought Aluminum	30	HSS	183	280	0,12	0,33	0,40	0,50	0,56	0,64	0,64
	180	HSS	91	200	0,12	0,18	0,30	0,35	0,56	0,64	0,64
Aluminum Bronze	100-200	SC	52	82	0,15	0,24	0,30	0,38	0,43	0,48	0,53
	200-250	SC	40	65	0,12	0,18	0,23	0,28	0,36	0,40	0,46
Brass	100	HSS	91	144	0,18	0,27	0,33	0,45	0,47	0,53	0,58
Copper	60	SC	40	58	0,07 ❖	0,10	0,18	0,26	0,23	0,27	0,31

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 50 M/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 M/min and 0.18 mm/rev.

50 • .75 = 37.5 M/min **0.20 • 0.90 = .18 mm/rev**

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

GEN2 T-A® Carbide Drill Inserts

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED	FEED (mm/rev)			
			AM200® M/min	9,50 to 12,95	12,98 to 17,53	17,54 to 24,38	24,41 to 35,00
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	C1	146	0,20	0,30	0,41	0,48
	150-200	C1	126	0,18	0,28	0,38	0,43
	200-250	C1	119	0,15	0,25	0,36	0,41
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	C1	137	0,20 ❖	0,25	0,36	0,46
	125-175	C1	119	0,18 ❖	0,25	0,36	0,43
	175-225	C1	108	0,15 ❖	0,23	0,33	0,41
	225-275	C1	95	0,13 ❖	0,23	0,33	0,41
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	C1	119	0,18	0,25	0,36	0,43
	175-225	C1	108	0,15	0,23	0,33	0,41
	225-275	C1	95	0,15	0,23	0,33	0,41
	275-325	C1	80	0,13	0,20	0,30	0,38
Alloy Steel 4140, 5140, 8640, etc.	125-175	C1	115	0,18	0,25	0,36	0,43
	175-225	C1	105	0,15	0,23	0,33	0,43
	225-275	C1	95	0,15	0,23	0,33	0,41
	275-325	C1	87	0,13	0,20	0,30	0,38
	325-375	C1	78	0,10	0,18	0,28	0,36
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	C1	70	0,15 ❖	0,23	0,28	0,33
	300-350	C1	63	0,13 ❖	0,20	0,25	0,30
	350-400	C1	56	0,10 ❖	0,18	0,23	0,28
Structural Steel A36, A285, A516, etc.	100-150	C1	108	0,20 ❖	0,28	0,38	0,43
	150-250	C1	87	0,15 ❖	0,25	0,33	0,38
	250-350	C1	80	0,13 ❖	0,23	0,30	0,33
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	C1	78	0,10	0,18	0,25	0,30
	200-250	C1	59	0,10	0,18	0,25	0,30
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	C2	37	0,10 ❖	0,18	0,23	0,28
	220-310	C2	29	0,10 ❖	0,15	0,20	0,25
Titanium Alloy	140-220	C2	42	0,10 ❖	0,18	0,21	0,27
	220-310	C2	33	0,08 ❖	0,15	0,18	0,23
Aerospace Alloy S82	185-275	C2	73	0,12 ❖	0,16	0,18	0,22
	275-350	C2	56	0,10 ❖	0,14	0,16	0,19
Stainless Steel 400 Series 416, 420, etc.	185-275	C2	73	0,18 ❖	0,23	0,30	0,36
	275-350	C2	56	0,15 ❖	0,20	0,28	0,30
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	C2	73	0,14 ❖	0,18	0,24	0,29
	185-275	C2	56	0,12 ❖	0,16	0,22	0,24
Super Duplex Stainless Steel	135-185	C2	38	0,12 ❖	0,17	0,22	0,26
	185-275	C2	30	0,10 ❖	0,15	0,18	0,22
Wear Plate Hardox, AR400, T-1, etc.	400	C2	45	0,07 ❖	0,12	0,20	0,25
	500	C2	37	0,05 ❖	0,10	0,15	0,20
	600	C2	30	0,04 ❖	0,08	0,12	0,16
Hardened Steel	300-400	C1	47	0,10 ❖	0,18	0,23	0,27
	400-500	C1	37	0,06 ❖	0,12	0,18	0,24
Nodular, Grey, Ductile Cast Iron	120-150	C2	152	0,20	0,30	0,38	0,48
	150-200	C2	146	0,18	0,28	0,33	0,43
	200-220	C2	131	0,15	0,23	0,30	0,38
	220-260	C2	113	0,13	0,20	0,28	0,33
	260-320	C2	102	0,13	0,18	0,25	0,28
Cast Aluminum	30	C2	300	0,23	0,38	0,46	0,58
	180	C2	225	0,20	0,33	0,40	0,50
Wrought Aluminum	30	C2	426	0,12	0,33	0,40	0,50
	180	C2	300	0,12	0,18	0,30	0,35
Aluminum Bronze	100-200	C2	110	0,15	0,24	0,30	0,38
	200-250	C2	90	0,12	0,18	0,23	0,28
Brass	100	C2	200	0,18	0,27	0,33	0,45
Copper	60	C2	130	0,07 ❖	0,10	0,18	0,26

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 50 M/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 M/min and 0.18 mm/rev.

50 • .75 = 37.5 M/min **0.20 • 0.90 = .18 mm/rev**

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Flat Bottom T-A® HSS and Carbide Drill Inserts

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED				FEED (mm/rev)						Grade	SPEED				FEED (mm/rev)			
			TiN M/min	TiAlN M/min	TiCN M/min	AM200 M/min	9,5 to 12,95	12,98 to 17,53	17,53 to 24,38	24,41 to 35,00	35,01 to 47,80	47,85 to 65,99		TiN M/min	TiAlN M/min	TiCN M/min	AM200 M/min	9,50 to 12,95	12,98 to 17,53	17,54 to 24,38	24,41 to 35,00
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	HSS	52	76	70	88	0,15	0,23	0,28	0,35	0,41	0,46	C2	82	110	98	126	0,17	0,26	0,32	0,39
	150-200	HSS	47	70	62	81	0,15	0,23	0,28	0,35	0,41	0,46	C2	73	94	85	110	0,15	0,24	0,30	0,35
	200-250	HSS	43	64	56	74	0,13	0,23	0,28	0,35	0,38	0,43	C2	67	88	76	102	0,13	0,22	0,28	0,32
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	HSS	46	67	59	77	0,13 ❖	0,20	0,25	0,33	0,38	0,43	C2	79	102	94	117	0,17 ❖	0,22	0,28	0,37
	125-175	HSS	43	64	56	74	0,13 ❖	0,20	0,25	0,33	0,38	0,41	C2	67	88	76	102	0,15 ❖	0,22	0,28	0,35
	175-225	HSS	40	59	53	68	0,10 ❖	0,18	0,23	0,30	0,36	0,41	C2	61	81	70	93	0,13 ❖	0,19	0,26	0,32
	225-275	HSS	37	56	47	65	0,10 ❖	0,18	0,23	0,30	0,36	0,38	C2	55	70	64	81	0,11 ❖	0,19	0,26	0,32
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	HSS	43	64	56	74	0,13	0,20	0,25	0,33	0,38	0,46	C2	67	88	76	102	0,15	0,22	0,28	0,35
	175-225	HSS	40	59	53	68	0,10	0,18	0,23	0,30	0,36	0,43	C2	61	81	72	93	0,13	0,19	0,26	0,32
	225-275	HSS	37	56	47	65	0,10	0,18	0,23	0,30	0,36	0,43	C2	55	70	61	81	0,13	0,19	0,26	0,32
	275-325	SC	34	53	46	61	0,10	0,15	0,20	0,25	0,33	0,38	C2	46	61	53	70	0,11	0,17	0,24	0,30
Alloy Steel 4140, 5140, 8640, etc.	125-175	HSS	40	56	53	65	0,13	0,18	0,23	0,30	0,33	0,41	C2	64	85	75	99	0,15	0,22	0,28	0,35
	175-225	HSS	37	53	47	61	0,10	0,18	0,23	0,30	0,33	0,41	C2	59	79	67	91	0,13	0,19	0,26	0,32
	225-275	HSS	34	47	44	54	0,10	0,15	0,23	0,30	0,33	0,41	C2	55	70	61	81	0,13	0,19	0,26	0,32
	275-325	SC	32	44	41	51	0,10	0,13	0,20	0,25	0,30	0,38	C2	52	66	58	76	0,11	0,17	0,24	0,30
	325-375	SC	29	41	38	47	0,08	0,13	0,20	0,25	0,30	0,36	C2	44	58	50	67	0,09	0,15	0,22	0,28
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	SC	21	29	26	33	0,10 ❖	0,15	0,20	0,23	0,25	0,30	C2	41	52	47	59	0,13 ❖	0,19	0,22	0,26
	300-350	SC	15	23	21	27	0,08 ❖	0,15	0,20	0,23	0,25	0,30	C2	37	47	41	55	0,11 ❖	0,17	0,19	0,24
	350-400	SC	13	20	18	23	0,08 ❖	0,13	0,18	0,20	0,23	0,28	C2	30	41	37	47	0,09 ❖	0,15	0,17	0,22
Structural Steel A36, A285, A516, etc.	100-150	HSS	36	52	47	60	0,13 ❖	0,23	0,25	0,30	0,38	0,43	C2	62	81	72	93	0,17 ❖	0,24	0,30	0,35
	150-250	HSS	32	44	41	51	0,10 ❖	0,20	0,23	0,25	0,33	0,41	C2	52	66	58	76	0,13 ❖	0,22	0,28	0,30
	250-350	SC	26	37	34	43	0,10 ❖	0,18	0,20	0,23	0,30	0,38	C2	47	61	53	70	0,11 ❖	0,19	0,25	0,26
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	SC	21	29	27	33	0,10	0,13	0,18	0,23	0,25	0,30	C2	41	58	49	67	0,09	0,15	0,19	0,24
	200-250	SC	15	24	23	28	0,10	0,13	0,18	0,23	0,23	0,28	C2	30	44	37	50	0,09	0,15	0,19	0,24
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	SC	7	10	9	13	0,08 ❖	0,15	0,18	0,23	0,25	0,30	C2	21	27	23	32	0,09 ❖	0,15	0,19	0,24
	220-310	SC	6	9	7	10	0,08 ❖	0,13	0,15	0,18	0,20	0,25	C2	15	21	18	24	0,09 ❖	0,13	0,17	0,22
Titanium Alloy	140-220	SC	10	14	12	16	0,08 ❖	0,15	0,18	0,23	0,25	0,30	C2	26	33	28	40	0,08 ❖	0,14	0,17	0,20
	220-310	SC	8	12	11	14	0,08 ❖	0,13	0,15	0,18	0,20	0,25	C2	21	29	25	30	0,08 ❖	0,12	0,15	0,18
Aerospace Alloy S82	185-275	SC	20	27	26	34	0,13 ❖	0,18	0,20	0,25	0,30	0,38	C2	43	37	50	40	0,15 ❖	0,17	0,25	0,30
	275-350	SC	15	24	21	28	0,10 ❖	0,15	0,18	0,23	0,25	0,30	C2	33	28	38	32	0,13 ❖	0,15	0,23	0,25
Stainless Steel 400 Series 416, 420, etc.	185-275	SC	20	27	26	34	0,13 ❖	0,18	0,20	0,25	0,30	0,36	C2	43	56	50	64	0,15 ❖	0,20	0,25	0,30
	275-350	SC	15	24	21	28	0,10 ❖	0,15	0,18	0,23	0,25	0,28	C2	33	43	38	49	0,13 ❖	0,18	0,23	0,25
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	SC	20	27	26	34	0,13 ❖	0,18	0,20	0,25	0,30	0,36	C2	28	37	33	40	0,13 ❖	0,17	0,21	0,25
	185-275	SC	15	24	21	28	0,10 ❖	0,15	0,18	0,23	0,25	0,28	C2	21	28	25	32	0,11 ❖	0,15	0,19	0,21
Super Duplex Stainless Steel	135-185	SC	20	27	26	34	0,13 ❖	0,18	0,20	0,25	0,30	0,36	C2	22	29	26	33	0,10 ❖	0,14	0,17	0,20
	185-275	SC	15	24	21	28	0,10 ❖	0,15	0,18	0,23	0,25	0,28	C2	17	22	19	26	0,08 ❖	0,12	0,15	0,17
Wear Plate Hardox, AR400, T-1, etc.	400	SC	-	-	-	-	-	-	-	-	-	-	C2	20	31	26	39	0,06 ❖	0,10	0,16	0,20
	500	SC	-	-	-	-	-	-	-	-	-	-	C2	13	23	18	31	0,04 ❖	0,08	0,12	0,16
	600	N/A	-	-	-	-	-	-	-	-	-	-	C2	10	19	14	25	0,03 ❖	0,06	0,10	0,13
Hardened Steel	300-400	SC	13	20	18	24	0,08 ❖	0,13	0,18	0,20	0,27	0,38	C2	30	38	34	41	0,08 ❖	0,14	0,18	0,22
	400-500	SC	8	12	10	13	0,06 ❖	0,10	0,15	0,18	0,23	0,28	C2	18	22	20	33	0,06 ❖	0,12	0,16	0,18
Nodular, Grey, Ductile Cast Iron	120-150	HSS	46	67	59	77	0,15	0,25	0,36	0,43	0,48	0,51	C2	82	120	108	137	0,17	0,26	0,32	0,41
	150-200	HSS	40	59	53	68	0,13	0,23	0,30	0,41	0,46	0,48	C2	70	104	87	119	0,15	0,24	0,28	0,38
	200-220	HSS	34	53	46	61	0,13	0,20	0,25	0,36	0,41	0,43	C2	61	94	79	108	0,13	0,19	0,26	0,32
	220-260	SC	29	46	38	53	0,10	0,15	0,20	0,25	0,33	0,33	C2	55	81	67	93	0,11	0,17	0,24	0,28
	260-320	SC	24	37	32	43	0,10	0,13	0,15	0,20	0,25	0,25	C2	47	70	58	81	0,11	0,15	0,22	0,24
Cast Aluminum	30	HSS	160	228	198	-	0,18	0,28	0,36	0,43	0,46	0,48	C2	160	228	198	-	0,22	0,32	0,41	0,43
	180	HSS	79	122	107	-	0,18	0,28	0,36	0,41	0,43	0,48	C2	79	122	107	-	0,19	0,28	0,35	0,39
Wrought Aluminum	30	HSS	160	228	198	261	0,18	0,28	0,36	0,43	0,46	0,48	C2	292	368	328	390	0,12	0,18	0,23	0,25
	180	HSS	79	122	107	141	0,18	0,28	0,36	0,41	0,43	0,48	C2	195	245	220	260	0,10	0,16	0,20	0,22
Aluminum Bronze	100-200	SC	40	59	53	70	0,13	0,23	0,30	0,41	0,51	0,61	C2	73	95	85	105	0,10	0,16	0,20	0,29
	200-250	SC	29	46	38	50	0,10	0,15	0,20	0,25	0,31	0,38	C2	55	81	68	87	0,08	0,12	0,14	0,20
Brass	100	HSS	46	67	59	78	0,15	0,25	0,36	0,43	0,53	0,63	C2	112	160	138	185	0,12	0,18	0,22	0,30
Copper	60	SC	35	45	40	53	0,05 ❖	0,08	0,15	0,20	0,25	0,35	C2	68	105	85	117	0,04 ❖	0,06	0,08	0,12

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 50 M/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 M/min and 0.18 mm/rev.

50 • .75 = 37.5 M/min **0.20 • 0.90 = .18 mm/rev**

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

Diamond Coated T-A® Drill Inserts

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. See adjustment examples at bottom of Speed & Feed charts. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material		CARBIDE					
			SPEED	FEED (mm/rev)			
		Grade	CVD Diamond	9,5 to 12,5	13 to 17,5	18 to 24	25 to 35
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						
	Carbon/Glass Fiber						
	Fiberglass						
	Graphite						
	Plastics	N2	76-305	0,10-0,15	0,20-0,25	0,25-0,30	0,30-0,36
	Epoxy Resin						
	Bismaleimide Resin						
	Polyester Resin						
	Phenolic Resin						
	Rubber						
Metal Matrix Composites	Aluminum	N2	305	0,20	0,33	0,41	0,51
	Si<10%						
	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						
	Copper	N2	30-76	0,10-0,15	0,20-0,25	0,25-0,30	0,30-0,36
	Copper Alloys						
	Lead Alloys						
	Magnesium Alloys						
	Precious Metals						
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)						
	Ceramic (Pre-Sintered)						

⚠ 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 workpiece or fixture

Refer to page 199 for Deep Hole Drilling Guidelines in this section of the catalog. Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

Deep Hole Drilling Speed & Feed Adjustment

Holder	Extended	Long	XL	3XL
SPEED	⚠ 0.90	⚠ 0.85	⚠ 0.80	⚠ 0.75
FEED	-	⚠ 0.95	⚠ 0.90	⚠ 0.90

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 50 M/min and 0.20 mm/rev for a standard length holder, then the speed and feed using a 3XL holder in the same application would be 37.5 M/min and 0.18 mm/rev.

50 • .75 = 37.5 M/min **0.20 • 0.90 = .18 mm/rev**

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T-A® Drill Inserts

Coolant Recommendations - Metric

IMPORTANT: The coolant pressure and flow rate recommendation below represents a good approximation to obtain optimum tool life and chip evacuation at Allied recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the TA 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.

Material	Pressure or Flow Rate	HSS							Carbide				
		9,5 to 12,5	13 to 17	18 to 24	25 to 35	36 to 50	51 to 76	76 to 102	9,5 to 12,5	13 to 17	18 to 24	25 to 35	36 to 47
Free Machining Steel 1118, 1215, 12L14, etc.	**BAR**	12-13	7-8	7-10	6-8	5-7	4	5-6	17-20	17	15	15	20
	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	12,2	16,3	25,2	41,5	71,9
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	**BAR**	11-12	5-6	5-7	4-6	4-5	2-3	3-5	18	11	11	12	9
	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	11,4	13,3	20,6	36,5	62,0
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	**BAR**	11	5-6	5-6	4-5	3-5	2-3	3-5	17	10	10	10	8
	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	11,3	12,5	20,0	33,8	57,0
Alloy Steel 4140, 5140, 8640, etc.	**BAR**	11	5	5-6	3-5	3-4	2	3	17	9	10	8	7
	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	11,1	12,3	19,3	30,0	55,8
High Strength Alloy 4340, 4330V, 300M, etc.	**BAR**	10-11	4	3	2	2	1-2	2	15	5	4	3	3
	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	10,4	9,1	12,6	18,8	33,6
Structural Steel A36, A285, A516, etc.	**BAR**	11	5-6	5-6	3-4	3	2	3	16	9	8	7	5
	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	10,8	12,0	17,5	27,8	47,1
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	**BAR**	10-11	4	3	2	2	1-2	2	15	5	5	3	3
	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	10,4	9,1	13,6	19,7	36,5
High Temp. Alloy Hastelloy B, Inconel 600, etc.	**BAR**	10-11	4-5	3-4	2	2	2	3	17	11	12	11	9
	LPM	8,7-9,1	8,3-8,7	11,7-12,1	15,1-18,9	26,5-30,3	87-98	125	11,1	13,5	21,9	35,4	62,0
Titanium Alloy	**BAR**	10-11	4-5	3-4	2	2	2	3	17	11	12	11	9
	LPM	8,7-9,1	8,3-8,7	11,7-12,1	15,1-18,9	26,5-30,3	87-98	125	11,1	13,5	21,9	35,4	62,0
Aerospace Alloy S82	**BAR**	10-11	4-5	3-4	2	2	2	3	17	11	12	11	9
	LPM	8,7-9,1	8,3-8,7	11,7-12,1	15,1-18,9	26,5-30,3	87-98	125	11,1	13,5	21,9	35,4	62,0
Stainless Steel 400 Series 416, 420, etc.	**BAR**	11,8	5,9	5,2	3,8	3,5	2	3,1	22,7	16,5	17,9	17,2	13,1
	LPM	9,5	9,8	14	23	38	98	117	13	16,3	26,3	44,2	75
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	**BAR**	11,8	5,9	5,2	3,8	3,5	2	3,1	22,7	16,5	17,9	17,2	13,1
	LPM	9,5	9,8	14	23	38	98	117	13	16,3	26,3	44,2	75
Super Duplex Stainless Steel	**BAR**	11,8	5,9	5,2	3,8	3,5	2	3,1	22,7	16,5	17,9	17,2	13,1
	LPM	9,5	9,8	14	23	38	98	117	13	16,3	26,3	44,2	75
Wear Plate Hardox, AR400, T-1, etc.	**BAR**	10,7	4,2	3,5	2	2	1,7	2	14,5	5,2	4,8	3,4	3,1
	LPM	9,1	8,3	11,7	19	30	87	98	10,4	9,1	13,6	19,7	36,5
Hardened Steel	**BAR**	10,7	4,2	3,5	2	2	1,7	2	14,5	5,2	4,8	3,4	3,1
	LPM	9,1	8,3	11,7	19	30	87	98	10,4	9,1	13,6	19,7	36,5
SG / Nodular Cast Iron	**BAR**	11	4,5	4,2	2,8	2,4	2	2,4	15,5	7,2	6,2	6,2	5,5
	LPM	9,1	8,7	12,5	19	34	98	106	10,7	10,8	15,4	26,5	48,7
Grey / White Iron	**BAR**	11	4,5	4,2	2,8	2,4	2	2,4	15,5	7,2	6,2	6,2	5,5
	LPM	9,1	8,7	12,5	19	34	98	106	10,7	10,8	15,4	26,5	48,7
Cast Aluminum	**BAR**	14,5	12,4	15,8	11	8,6	3,5	5,5	24,1	22	21,7	19,6	13,8
	LPM	10	14	23	34	61	125	159	13,4	18,8	29	47,2	77
Wrought Aluminum	**BAR**	14,5	12,4	15,8	11	8,6	3,5	5,5	24,1	22	21,7	19,6	13,8
	LPM	10	14	23	34	61	125	159	13,4	18,8	29	47,2	77
Aluminum Bronze	**BAR**	12,8	8,3	9,65	7,95	6,9	3,5	6,2	20	16,5	16,5	15,2	12
	LPM	9,6	11,4	19,7	30,3	53	125	167	12,2	16,3	25,2	41,5	71,9
Brass	**BAR**	11	4,5	4,2	2,8	2,4	2	2,4	24,1	22	21,7	19,6	13,8
	LPM	9,1	8,7	12,5	19	34	98	106	13,4	18,8	29	47,2	77
Copper	**BAR**	12,8	8,3	9,65	7,95	6,9	3,5	6,2	20	16,5	16,5	15,2	12
	LPM	9,6	11,4	19,7	30,3	53	125	167	12,2	16,3	25,2	41,5	71,9

Deep Hole Drilling Coolant Adjustment

Holder	Extended	Long	XL	3XL
Pressure & Flow	1.3	1.5	2	3

COOLANT RECOMMENDATION EXAMPLE: If the recommended pressure and flow is 12 bar and 22 LPM for a standard length holder, the adjusted pressure and flow would be 36 bar and 66 LPM respectively for the 3XL holder.

12 • 3 = 36 bar **22 • 3 = 66 LPM**

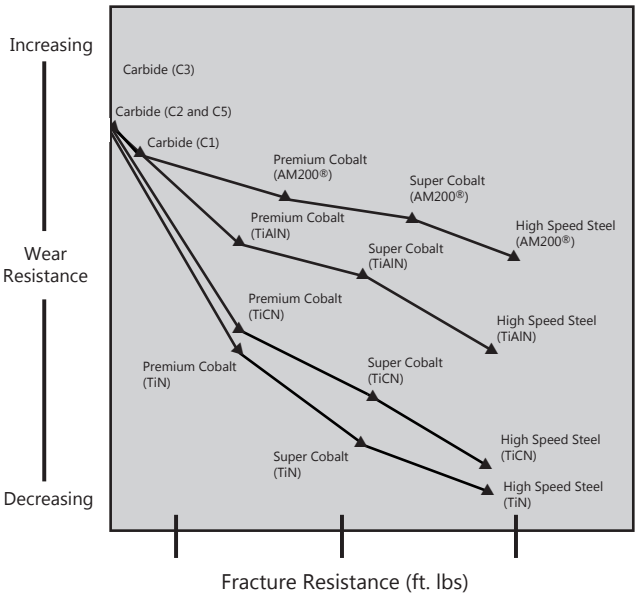
Allied Machine & Engineering Corp. patent information can be found at **www.alliedmachine.com/patents**

T-A® Drill Inserts

Technical Information - Metric

WEAR vs TOUGHNESS

When selecting a grade of cutting tool material for your application, both wear resistance and grade toughness should be considered. The higher the wear resistance a cutting tool material exhibits, the more likely chipping or fracture is to occur, thus requiring 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 below 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.



FORMULAS

1. RPM = $\frac{318{,}47 \cdot M/min}{DIA}$

where:
RPM = revolutions per minute (rev/min)
M/min = speed (M/min)
DIA = diameter of drill (mm)

2. mm/min = RPM • 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 = (133,9) • (mm/rev) • (DIA) • Km)
where:
Thrust = axial thrust in newtons (N)
mm/rev = feed rate (mm/rev)
DIA = diameter of drill (mm)
K_m = specific cutting energy (kPa)

5. Tool Power = $\frac{(mm/rev) \cdot (RPM) \cdot (Km) \cdot (DIA^2)}{240442{,}4}$

where:
Tool Power = tool power (KW)
mm/rev = feed rate (mm/rev)
RPM = revolutions per minute (rev/min)
K_m = specific cutting energy (kPa)
DIA = diameter of drill (mm)

Type of Material	Km (kPa)
Plain Carbon and Alloy Steel	
85-200 BHN	5,45
200-275 BHN	6,48
275-375 BHN	6,89
375-425 BHN	7,93
High Temperature Alloys	9,93
Stainless Steel	
135-275 BHN	6,48
30-45 RC	7,45
Copper Alloy	
20-80 RB	2,96
80-100 RB	4,96
Titanium Alloy	4,96
Aluminum Alloy	1,52
Magnesium Alloy	1,10
Cast Iron	
100-200 BHN	3,45
200-300 BHN	7,45

This table and equations are found in the **Machinery's Handbook**. Permission to simplify and print the equations is granted by the editor of the **Machinery's Handbook.**

TAP DRILL INFORMATION

Metric Profile Screw Thread

Tap Size	Tap Drill Size	Decimal Equivalant	*Theo % Thread	Prob. Mean Size	Prob. Hole Size	**Prob. % Thread
12 X 1,75	10,2mm	.4016"	79%	0,075mm	10,28mm	76%
	13/32"	.4063"	74%	0,075mm	10,40mm	71%
12 X 1,25	27/64"	.4219"	79%	0,075mm	10,79mm	74%
	10,8mm	.4252"	74%	0,075mm	10,88mm	69%
14 X 2,0	15/32"	.4688"	81%	0,075mm	11,98mm	78%
	12,0mm	.4724"	77%	0,075mm	12,08mm	74%
14 X 1,5	12,5mm	.4921"	77%	0,075mm	12,58mm	73%
16 X 2,0	14,0mm	.5512"	77%	0,075mm	14,08mm	74%
16 X 1,5	14,5mm	.5709"	77%	0,075mm	14,58mm	73%
	37/64"	.5781"	68%	0,075mm	14,76mm	64%
18 X 2,5	15,5mm	.6102"	77%	0,075mm	15,58mm	75%
18 X 1,5	16,5mm	.6496"	77%	0,075mm	16,58mm	73%
	21/32"	.6563"	68%	0,075mm	16,75mm	64%
20 X 2,5	11/16"	.6875"	78%	0,075mm	17,54mm	76%
	17,5mm	.6890"	77%	0,075mm	17,58mm	74%
20 X 1,5	18,5mm	.7283"	77%	0,075mm	18,58mm	73%
	47/64"	.7344"	69%	0,075mm	18,66mm	65%
22 X 2,5	49/64"	.7656"	79%	0,075mm	19,52mm	76%
	19,5mm	.7677"	77%	0,075mm	19,58mm	75%
22 X 1,5	20,5mm	.8071"	77%	0,075mm	20,58mm	73%
	13/16"	.8125"	70%	0,075mm	20,71mm	66%
24 X 3	13/16"	.8125"	86%	0,075mm	20,71mm	84%
	21,0mm	.8268"	76%	0,075mm	21,08mm	75%
24 X 2	22,0mm	.8661"	77%	0,075mm	22,08mm	74%
	7/8"	.8750"	68%	0,075mm	22,30mm	65%
27 X 3	24,0mm	.9449"	77%	0,075mm	24,08mm	75%

*Based on nominal tap drill diameter. **Based on 0,075mm probable mean oversize.
To calculate percentage of full thread for a given hole diameter:

$$\% \text{ Thread} = \frac{76{,}93}{\text{Pitch (mm)}} \bullet \left(\text{Basic Major Diameter of thread (mm)} - \text{Drill Hole Size (mm)} \right)$$

Taper Pipe Thread (BSP & ISO 7-1)

Tap Size	Tap Drill Size	Decimal Equivalant	*Theo % Thread	Prob. Mean Size	Prob. Hole Size	**Prob. % Thread
1/4 - 19	7/16"	.4325"	N/A	0,075mm	11,19mm	N/A
3/8 -19	37/64"	.5781"	N/A	0,075mm	14,76mm	N/A
1/2 - 14	23/32"	.7188"	N/A	0,075mm	18,33mm	N/A
3/4 - 14	15/16"	.9375"	N/A	0,075mm	23,89mm	N/A

The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special blade diameters may be required in order to meet a user specific percentage of thread requirements.

The 0,075mm probable mean oversize hole condition is based on optimum cutting conditions. Probable % of full thread may vary based on less ideal cutting conditions.

Special Geometry & Grades

Standard Geometry

Allied's Standard T-A® Geometry is an excellent choice for general purpose use. The design provides fast penetration rates that produce good hole size and finish. Standard Geometry combines highly efficient, stable cutting action to minimize power consumption. Recommended for use in most steels, cast irons, high temperature alloys and aluminum alloys. NC-No Chipbreakers / WC-Without Corner Clips. Available in the Y through 8 Series.
Grades: HSS, Super Cobalt, Premium Cobalt, Carbide inch (C2 and C5) metric (K20 and P40) / Sample Item Number: 132A-0112

Flat Bottom (FB) Geometry

Allied's Flat Bottom geometry is used to square the bottom of pre-existing, same diameter holes. While it produces a nearly true flat bottom, the tool creates a slight dimple at the center of the hole that is less than 0.010" (.25mm) deep. However, this style tool (when used with short length holders) may also be used to counter bore holes smaller than the tool diameter. The patented geometry provides efficient and stable cutting action. For a Flat Bottom Drill Insert without chipbreakers, please specify using -FN. Available in Super Cobalt in the Y though 4 series. Available in C2 Carbide in the Y through 2 series / Sample Item Number: 152T-0112-FB

Cast Iron (CI) Geometry

Allied's cast iron geometry is specifically designed for use in grey and white cast irons. This special geometry provides exceptional edge strength and tool life. Includes Allied's SK2 corner preparation. TiAlN coating is recommended. Available in the Y through 4 series.
Grades: Stocked in C3 Carbide with TiAlN coating / Sample Item Number: 1C32A-0112-CI

90º Spot and Chamfer (SP) Geometry

Allied's highly efficient 90º Spot and Chamfer Drill Insert geometry is combined with a center cutting web designed to improve stability and strength. The primary use is to spot and chamfer, eliminating the need for secondary chamfering operations. One tool will cover a wide application range by simply adjusting the depth. By listing the item number with a SW, the 90º Spot and Chamfer Drill Insert will be supplied with chipbreakers. Available in the Y through 3 Series.
Grades: Super Cobalt / Sample Item Number: 152A-0112-SP, 152T-0112-SW 90º Spot and Chamfer with chipbreakers.

SK2 (SK) Geometry

Allied's special corner preparation is designed to increase tool life by providing effecient, uniform heat dispersion at the insert corners. Ideal for all materials. Available in the Y through 8 Series. Sample Item Number: 132A-0112-SK

Corner Radius (CR) Geometry

Allied's special corner preparation is designed to increase tool life, improve surface finish, and minimize exit burrs. Provides excellent heat dispersion at the insert corners. Available in the Y through 8 series. Sample Item Number: 132A-0112-CR

High Impact (HI) Geometry

Allied's high impact geometry is specifically designed to enhance chip formation in materials with high elasticity/ductility, and poor chip forming characteristics. Includes Allied's SK2 corner preparation for increased tool life. Effective at improving chip formation in structural, cast, and forged steels, plus cast stainless steel and high temperature alloys, particularly in materials above 200 BHN. Available in the Y through 8 Series. Sample Item Number: 132A-0112-HI

High Rake (HR) Geometry

Allied's high rake geometry is specifically designed to improve chip formation in materials with very high elasticity, extremely poor chip forming characteristics, and low material hardness. This special geometry shortens chip length, improving chip control and evacuation from the hole. Includes Allied's SK2 corner preparation for increased tool life. Recommended for use in most soft gummy steels, steel castings, and steel forgings under a material hardness of 200 BRN. Available in the Y through 8 Series.
Sample Item Number: 132A-0112-HR.

Brass (BR) Geometry

Allied's brass geometry is specifically designed for efficient drilling in brass. Our specialized geometry and edge preparation provides excellent tool life and eliminates the tendency of the tool to self feed, as well as drill windup, in soft brass materials. Available in the Y through 2 Series. Sample Item Number: 132A-0112-BR

Aluminum (AN) Geometry

Allied's Aluminum Geometry is specifically designed to maximize tool life and chip formation capabilities in materials such as 6061 or wrought aluminums. The Aluminum geometry also features Allied's exclusive Notch Point® Geometry for increased stability and lower drilling forces. Available in the Y through 2 series.
Sample Item Number: 1C22T-0102-AN

Cam Point (CP) Geometry

Allied's special cam ground point geometry is designed to provide excellent self-centering characteristics. The helical cam ground point provides efficient chisel edge cutting action to produce outstanding drill stability. Recommended for use with standard and extended length T-A Holders on all materials, especially steels and cast irons, castings and forgings. Available in the Y through 2 series. Sample Item Number: 132A-0112-CP

Notch Point® (NP) Geometry

Allied's patented Notch Point geometry provides an excellent solution for reducing bell mouth and tool lead off. In addition, the Notch Point geometry significantly reduces thrust while providing improved chip control. This new geometry may be applied to all standard T-A drill inserts and provides excellent stability for deep hole drilling applications. This geometry can also be utilized in combination with other geometries including Cast Iron, High Rake and High Impact. (See sample item numbers below.) Available in the Y through 2 series, and is a standard feature on GEN2 T-A® 3 through 8 series drill inserts. Sample Item Number: 132A-0112-NP
Combination Geometry Item Numbers: Cast Iron Notch Point: 1C32A-0103-CN, High Rake Notch Point: 132A-0112-RN. High Impact Notch Point: 132A-0112-IN

Tiny Chip (TC) Geometry

Allied's Tiny Chip geometry is an excellent choice for applications that are running at lighter feed rates or require a more manageable chip. It may be beneficial in deep hole applications by providing better chip formation that is more readily evacuated. Recommended for use in low carbon steels, soft alloy steels, and other long chipping materials. Available in Y-2 series. Grades: HSS, SC, PC, C2, C5 carbide. Sample item number: 1C21A-0024-TC

Thin Wall (TW)

Allied's patent pending Thin Wall Geometry is designed for I-beam and steel plate applications less than 7/16" thick. The Thin Wall geometry provides better hole tolerance and improved hole roundness. Thin Wall inserts are made from Super Cobalt for excellent wear resistance and coated with TiAlN for improved tool life. Available in select diameters in the 0 through 3 series. Sample Item Number: 151A-0030-TW

Structural Steel 150º (SS) Geometry

Allied's 150º Structural Steel Geometry is designed for I-Beam and steel plate applications over 7/16" thick. The 150º Structural Steel Geometry provides reduced exit burrs, eliminating secondary operations. 150º Structural Steel Inserts feature patented Notch Point geometry for increased stability and lower drilling forces. These inserts are made from Super Cobalt for excellent wear resistance and coated with TiAlN for improved tool life. Available in select diameters in the 0 through 3 series.

High Efficiency (HE) Geometry

Allied's GEN2 T-A -HE Geometry is designed for improved chip formation in elastic materials like low carbon steels. -HE Geometry, combined with the other advanced features of the GEN2 T-A, allows for maximum performance and increased value. This Geometry is available on Y-4 Series GEN2 T-A Drill Inserts. Sample Item Number: 4C11H-0024-HE

T-A® Insert System Guidelines

T-A Insert System Guidelines for Use

- Select the shortest holder possible for the application.
- Use the 'T-A Technical Information' (180-196) section for guidance in selecting correct insert grades, along with speed and feed information.

These cutting parameters are starting conditions only and make no allowance for machine or component rigidity.

Factory Assistance is available at (800) 321-5537 or (330) 343-4283 outside the US and Canada.

- Ensure the T-A holder is held securely and is within 0.003" (0,08 mm) of centerline.

- The T-A insert should be installed in the slot of the holder using the TORX Plus screws provided which should be tightened to the values listed on the T-A Holder / Accessory pages. The holder slot should be clean from dirt or debris.

- Check that the insert outer diameter is a minimum 0.012" (0,30 mm) larger than the holder body diameter.

- When setting up new applications, check coolant flows adequately through the tool before beginning. It is best practice to:
  - Drill a short hole 1 x diameter 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.

Spot and Chamfer Inserts - SP

Use cutting data as per standard T-A HSS Drill Inserts, in stub or short length holders. Speed should be calculated for the required spot or chamfer diameter.

Flat Bottom Inserts - FB

For cutting data, please refer to catalog pages 185 and 193. Please contact Allied Machine's Application Engineers for advice when attempting to drill from solid.

0.5, 1.5, and 2.5 Holders

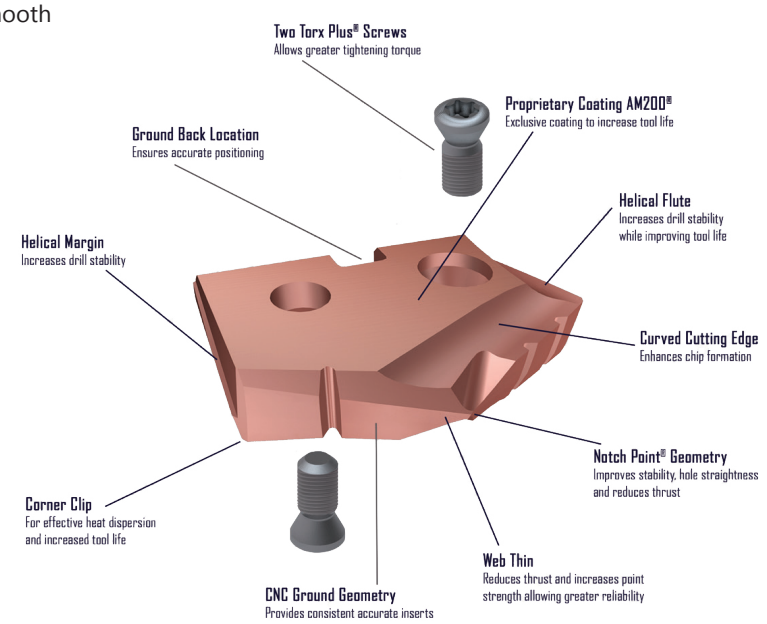
Allied Machine recommends the use of 0.5, 1.5, or 2.5 series holders when running carbide inserts towards the upper end of each series' drill range, as well as in tougher applications requiring more insert support and holder strength.

Extended and Long Structural Steel Holders

When utilizing structural Extended & Long Length holders in applications other than structural steel:

- Refer to Allied's standard speed and feed charts for recommended speeds and feeds, along with the associated reductions in speed and feed and Allied's Deep Hole Drilling Guidelines on the next page.

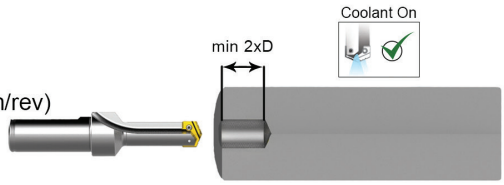
GEN2 T-A® pictured



Deep Hole Drilling Guidelines

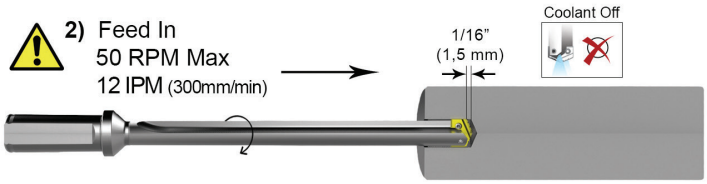
For use with Allied drills greater than 9xD (Depths to Diameter), including Extended, Long, XL, 3XL, and Special Length

1) Pilot Hole
100% RPM
100% IPR (mm/rev)



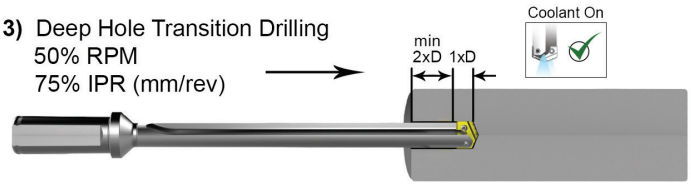
- Establish the pilot hole using the same diameter short drill to a depth of a 2xD minimum
- Utilize a pilot drill with the same or larger included point angle

2) Feed In
50 RPM Max
12 IPM (300mm/min)



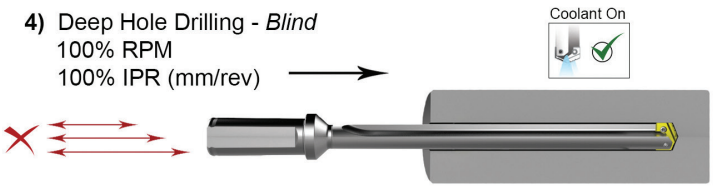
- Feed the longer drill within 1/16" (1,5 mm) short of the established pilot hole bottom at a **maximum of 50 RPM** and 12 IPM (300 mm/min) feed rate

3) Deep Hole Transition Drilling
50% RPM
75% IPR (mm/rev)



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

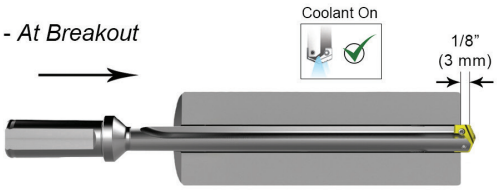
4) Deep Hole Drilling - *Blind*
100% RPM
100% IPR (mm/rev)



- Drill to full depth at recommended speed and feed for longer drills according to Allied speed and feed charts

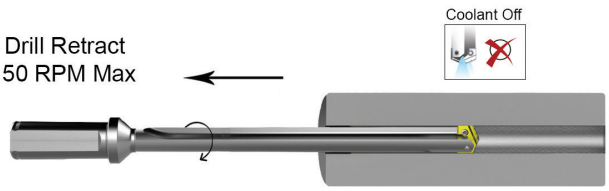
No peck cycle recommended

5) Deep Hole Drilling - *At Breakout*
50% RPM
75% IPR (mm/rev)



For Through Holes Only
- Reduce speed by 50% and feed by 25% prior to break out
- Do not break out more than 1/8" (3 mm) past the full diameter of drill

6) Drill Retract
50 RPM Max



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

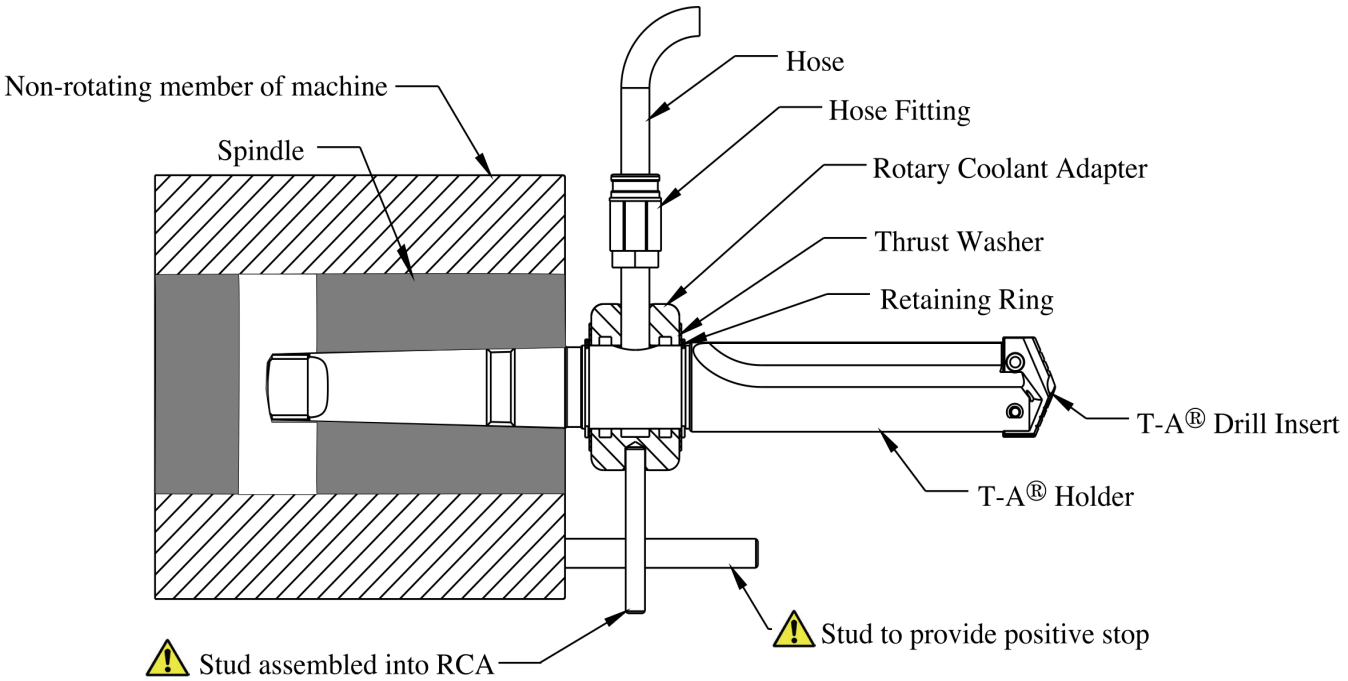
⚠ WARNING

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 workpiece or fixture

Visit **www.alliedmachine.com/deepholeguidelines.aspx** for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

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

RCA Reference



⚠ 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.

Max Recommended RCA Speed

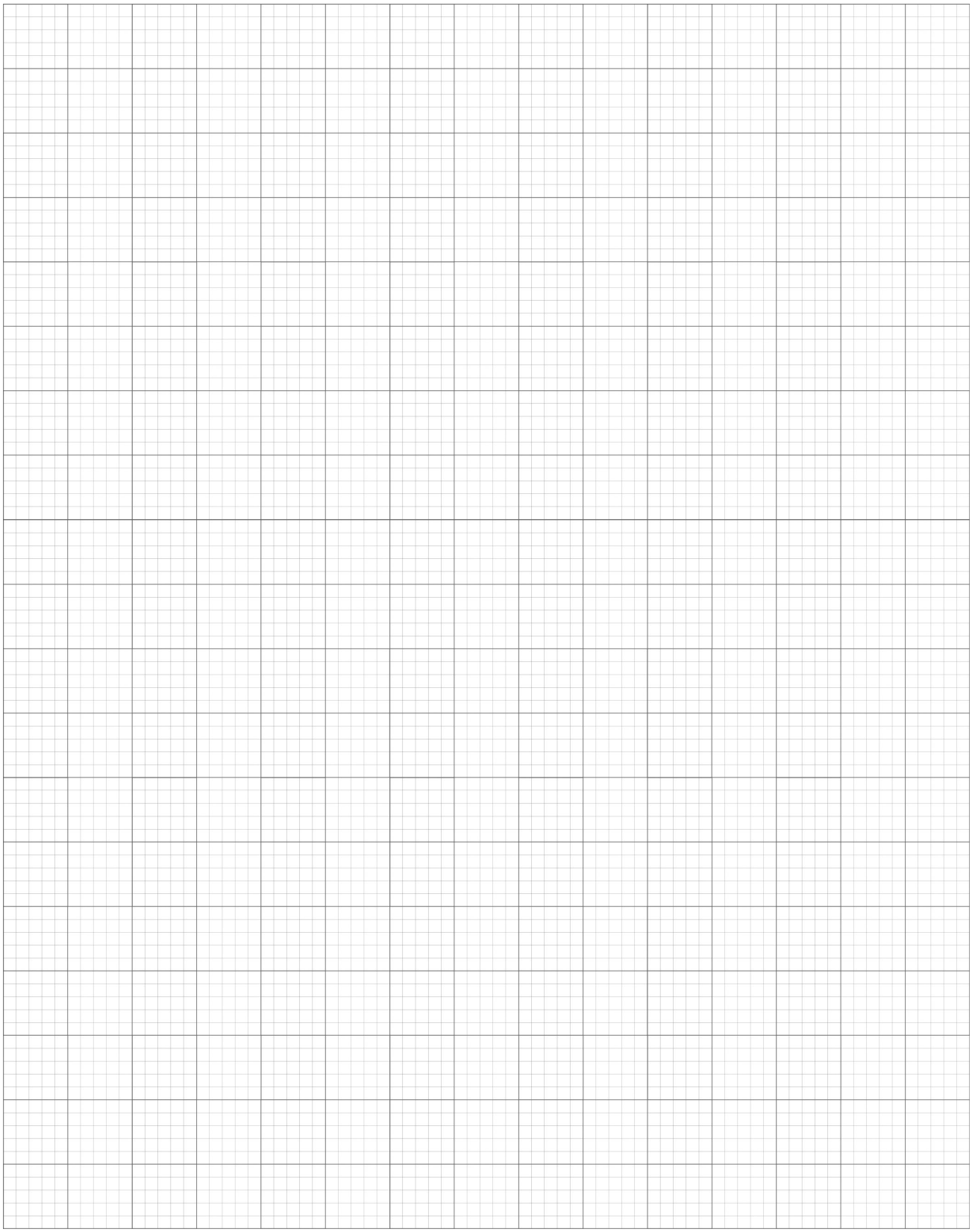
RCA	Max Recommended RPM
2SR / 2SRM	3500
3SR / 3SRM	2500
4SR / 4SRM	2000
5SR / 5SRM	1500
6SR / 6SRM	1100
55SR	1100
60SR	900
65SR	700

NOTE: Max recommended pressure is 600 PSI (42 bar)
NOTE: Recommendations above are based on water and oil based coolants

T-A® and GEN2 T-A®
Troubleshooting Guide

	Potential Problem																					
	Accelerated corner wear	Barber pole	Bell mouth hole	Blade chipping	Blue chips	Build up Edge (BUE)	Chatter	Chip packing	Chipping of blade point	Damaged or broken tools	Excessive margin wear	High Flank wear	Hole lead off	Hole out of position	Hole out of round	Notching of blade	Oversized hole	Poor hole finish	Poor tool life	Power spikes - Load meter	Retract spiral	Step burned on blade	
Setup Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Possible Solutions
⚠Use of Standard, Extended, Long, XL, and 3XL holders See pg 199 for Deep Hole Drilling Guidelines		2	3				7		9				13	14			17				21		• Start with short holder and drill a minimum depth equal to 2 x Diameter (Refer to 199 for detailed 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 a special holder with wear pads or chrome bearing area to work with drill bushings.
Starting on an inclined surface							7		9	10	11		13		15						21		• 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 a special holder with wear pads or chrome bearing area to work with drill bushings.
Worn or mis-aligned spindle (lathe, screw machine, chucker)	1		3				7		9	10	11		13				17	18			21		• Align spindle and turret 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							21		• 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 a special holder with wear pads or chrome bearing area to work with drill bushings. • Use tougher tool steel grades with high wear resistant coatings.
Poor work piece support		2		4			7			10	11				15			18			21		• Provide additional support for the work piece. • Reduce penetration rate to fall within the physical limits of the machine or setup (**NOTICE:** do not reduce feed below threshold of good chip formation.) • Use tougher tool steel grades with high wear resistant coatings.
Flood coolant, low coolant pressure or low coolant volume	1				5	6		8		10		12					17	18	19	20		22	• 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 physical limits of the machine or setup (**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, stepped surfaces, cross holes and cast or forged surfaces).				4			7		9	10	11		13	14	15		17	18	19				• Pre-mill (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			22	• Reduce speed if a step is worn in the blade, 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 a tool 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 castings)				4		6				10		12	13			16			19				• Compare the performance of other tools for similar wear problems, which may indicate poor micro-structure. Anneal or normalize parts to improve micro-structure for machining. • To improve tool life in materials with poor micro-structure try carbide grades. • For hard spots or inclusions use the tougher tool 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 Application Engineering Group for technical recommendations. • Increase coolant pressure and volume. • Improve coolant condition by use of quality products and regular maintenance. • See page 197 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 stub tool of same or greater included angle as T-A Drill Insert . • Reduce Feeds (**NOTICE:** do not reduce feed below threshold of good chip formation. • If possible, drill from solid
Use of high wear resistant tool grades.				4						10													• Use tougher grade of T-A (from carbide to cobalt to HSS). See wear versus toughness chart in this catalog. • Increase rigidity of setup.

Notes



AccuPort 432®

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SAE AS5202 209

AccuPort 432 Kits 210

Speeds & Feeds 211-212

Coolant Recommendations 213-214

Features & Benefits

- **Replaceable insert eliminates regrinding and resetting**
- **Absolute repeatability**
- **Excellent surface finish**
- **Eliminates the need for pre-drilling**

ALLIED MACHINE & ENGINEERING CORP

AccuPort 432®

Reference Page

AccuPort 432 Port Form Insert

J1926	–	02	–	C5	A

Port Specification
AS5202
J1926
X1926
I6149
G1731

Insert Size

Substrate
C5
C3

Coating
A = TiAlN
H = AM200®

AccuPort 432 Holder

J1926	–	04Y	–	063F

Port Specification
AS5202
J1926
X1926
I6149
G1731

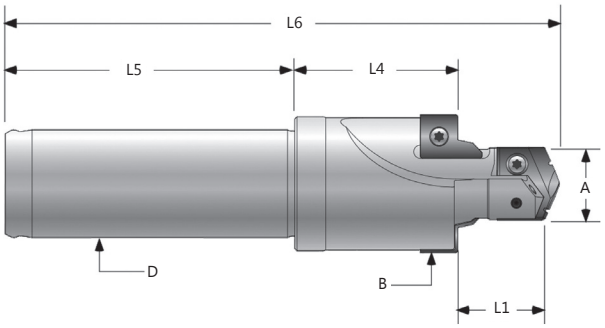
Port Tube Dash Number
04 14
05 16
06 20
08 24
10 32
12

Corresponding T-A® Series
Y 2
Z 3
0 4
1

Shank Configuration
063F 16FM
075F 20FM
100F 25FM
125F 32FM
150F 40FM

Made to order tool specifications - Priced on Request

Fax or mail a copy of the table below to Allied's Application Engineering Department (330) 364-7666 to receive pricing for a made-to-order AccuPort 432 Port Contour Cutter.



			A	L1	B	L4	D	L5	L6
Tube Dash Number	**Specification**	**Port Thread Size**	Minor Dia.	Minor Dia. Length	Spotface Dia.	Spotface to Shoulder Length	Shank Dia.	Shank Length	OAL
	☐ J1926 ☐ ISO 6149 ☐ ISO 6149 (without ridge) ☐ JDS-G173.1 ☐ AS5202								
Company Name		**Contact Name**				**Telephone**			
Distributor Name						**Fax**			

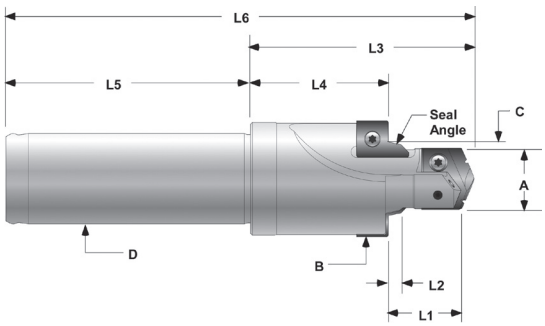
Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

Port Standards

SAE J-1926 / ISO 11926-1 and MS-16142

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	T-A® Drill Item Numbers				Port Form Insert Item Numbers			
			Super Cobalt GEN2 T-A® (AM200®)	Carbide GEN2 T-A (AM200)	Torx Plus Screw	Torx Plus Driver	C5 Carbide (TiAlN)	C3 Carbide (AM200)	Torx Plus Screw	Torx Plus Driver
-4	J1926-04Y-063F	7/16-20 UNF-2B	45YH-.386	4C1YH-.386	724-IP7-1	8IP-7	J1926-02-C5A	J1926-02-C3H	72556-IP8-1	8IP-8
-5	J1926-05Z-063F	1/2-20 UNF-2B	45ZH-11.5	4C1ZH-11.5	7247-IP7-1	8IP-7	J1926-03-C5A	J1926-03-C3H	72556-IP8-1	8IP-8
-6	J1926-060-075F	9/16-18 UNF-2B	450H-13	4C10H-13	72556-IP8-1	8IP-8	J1926-03-C5A	J1926-03-C3H	72556-IP8-1	8IP-8
-8	J1926-080-075F	3/4-16 UNF-2B	450H-0022	4C10H-0022	72567-IP8-1	8IP-8	J1926-07-C5A	J1926-07-C3H	72556-IP8-1	8IP-8
-10	J1926-101-100F	7/8-14 UNF-2B	451H-20.5	4C11H-20.5	7375-IP9-1	8IP-9	J1926-04-C5A	J1926-04-C3H	72556-IP8-1	8IP-8
-12	J1926-122-125F	1 1/16-12 UN-2B	452H-25	4C12H-25	7495-IP15-1	8IP-15	J1926-08-C5A	J1926-08-C3H	72556-IP8-1	8IP-8
-14	J1926-142-125F	1 3/16-12 UN-2B	452H-28	4C12H-28	7495-IP15-1	8IP-15	J1926-08-C5A	J1926-08-C3H	72556-IP8-1	8IP-8
-16	J1926-162-125F	1 5/16-12 UN-2B	452H-1.231	4C12H-1.231	7495-IP15-1	8IP-15	J1926-09-C5A	J1926-09-C3H	7375-IP9-1	8IP-9
-20	J1926-203-150F	1 5/8-12 UN-2B	453H-39	1C53A-39	7514-IP20-1	8IP-20	J1926-10-C5A	J1926-10-C3H	7375-IP9-1	8IP-9
-24	J1926-243-150F	1 7/8-12 UN-2B	453H-45.5	1C53A-45.5	7514-IP20-1	8IP-20	J1926-11-C5A	J1926-11-C3H	7375-IP9-1	8IP-9
-32	J1926-324-150F	2 1/2-12 UN-2B	454H-61.5	N/A	7514-IP20-1	8IP-20	J1926-12-C5A	J1926-12-C3H	7375-IP9-1	8IP-9

Inserts sold separately



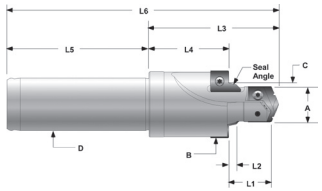
Tube Dash Number	Port Contour Cutter Number	Port Thread Size	Inch or Metric	A	**L1	B	Seal Angle	C	L2	L3	L4	D	L5	L6
				Minor Dia.	Minor Dia. Length	Spotface Dia.		Seal Angle Dia.	Seal Angle Length	Total Head Length	Spotface to Shoulder Length	Shank Dia.	Shank Length	OAL
-4	J1926-04Y-063F	7/16-20 UNF-2B	mm	9,8	14,0	21,3	12°	12,5	2,7	38,8	22,8	15,9	47,6	86,4
			inch	0.386	0.551	0.840	12°	0.490	0.106	1.527	0.896	0.625	1.875	3.402
-5	J1926-05Z-063F	1/2-20 UNF-2B	mm	11,5	14,0	23,5	12°	14,1	2,7	38,8	22,5	15,9	47,6	86,4
			inch	0.453	0.551	0.926	12°	0.553	0.106	1.527	0.885	0.625	1.875	3.402
-6	J1926-060-075F	9/16-18 UNF-2B	mm	13,0	15,5	25,1	12°	15,7	2,7	47,2	29,0	19,1	50,0	97,2
			inch	0.512	0.610	0.989	12°	0.618	0.106	1.857	1.144	0.750	1.969	3.826
-8	J1926-080-075F	3/4-16 UNF-2B	mm	17,5	17,5	30,6	15°	20,7	2,7	50,3	29,2	19,1	50,0	100,4
			inch	0.689	0.689	1.206	15°	0.813	0.106	1.982	1.150	0.750	1.969	3.951
-10	J1926-101-100F	7/8-14 UNF-2B	mm	20,5	20,0	34,1	15°	24,0	2,7	54,4	30,1	25,4	57,9	112,3
			inch	0.807	0.787	1.344	15°	0.945	0.106	2.140	1.185	1.000	2.281	4.421
-12	J1926-122-125F	1 1/16-12 UN-2B	mm	25,0	23,0	42,0	15°	29,2	3,5	67,1	38,9	31,8	57,9	125,0
			inch	0.984	0.906	1.655	15°	1.150	0.138	2.640	1.530	1.250	2.281	4.921
-14	J1926-142-125F	1 3/16-12 UN-2B	mm	28,0	23,0	45,2	15°	32,4	3,5	67,1	38,2	31,8	57,9	125,0
			inch	1.102	0.906	1.781	15°	1.276	0.138	2.640	1.504	1.250	2.281	4.921
-16	J1926-162-125F	1 5/16-12 UN-2B	mm	31,2	23,0	49,1	15°	35,6	3,5	67,1	37,5	31,8	57,9	125,0
			inch	1.231	0.906	1.934	15°	1.400	0.138	2.640	1.477	1.250	2.281	4.921
-20	J1926-203-150F	1 5/8-12 UN-2B	mm	39,0	23,0	58,5	15°	43,6	3,5	77,8	46,6	38,1	68,3	146,0
			inch	1.535	0.906	2.306	15°	1.715	0.138	3.062	1.835	1.500	2.688	5.750
-24	J1926-243-150F	1 7/8-12 UN-2B	mm	45,5	23,0	65,1	15°	49,9	3,5	77,8	45,2	38,1	68,3	146,0
			inch	1.791	0.906	2.564	15°	1.965	0.138	3.062	1.778	1.500	2.688	5.750
-32	J1926-324-150F	2 1/2-12 UN-2B	mm	61,5	23,0	88,1	15°	65,8	3,5	96,8	60,8	38,1	68,3	165,1
			inch	2.421	0.906	3.470	15°	2.589	0.138	3.812	2.393	1.500	2.688	6.500

** AccuPort 432 Port Contour Cutters are available with extended pilot (L1), see page 206.
For details on tools made to your requirements, see page 204.

All AccuPort Holders are stocked standard items

Port Standards

SAE J-1926 / ISO 11926-1 and MS-16142

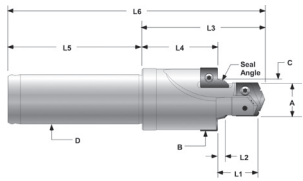


Metric Shank

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	Inch or Metric	A	L1	B	Seal Angle	C	L2	L3	L4	D	L5	L6
				Minor Dia.	Minor Dia. Length	Spotface Dia.		Seal Angle Dia.	Seal Angle Length	Total Head Length	Spotface to Shoulder Length	Shank Dia.	Shank Length	OAL
-4	J1926-04Y-16FM	7/16-20 UNF-2B	mm	9,8	14,0	21,3	12°	12,5	2,7	45,1	22,8	16,0	41,9	80,7
			inch	0.386	0.551	0.840	12°	0.490	0.106	1.777	0.896	0.630	1.650	3.18
-5	J1926-05Z-16FM	1/2-20 UNF-2B	mm	11,5	14,0	23,5	12°	14,1	2,7	45,1	22,5	16,0	41,9	80,7
			inch	0.453	0.551	0.926	12°	0.553	0.106	1.777	0.885	0.630	1.650	3.18
-6	J1926-060-20FM	9/16-18 UNF-2B	mm	13,0	15,5	25,1	12°	15,7	2,7	47,2	29,0	20,0	41,9	89,1
			inch	0.512	0.610	0.989	12°	0.618	0.106	1.857	1.144	0.787	1.650	3.51
-8	J1926-080-20FM	3/4-16 UNF-2B	mm	17,5	17,5	30,6	15°	20,7	2,7	50,3	29,2	20,0	41,9	92,3
			inch	0.689	0.689	1.206	15°	0.813	0.106	1.982	1.150	0.787	1.650	3.63
-10	J1926-101-25FM	7/8-14 UNF-2B	mm	20,5	20,0	34,1	15°	24,0	2,7	54,4	30,1	25,0	53,1	107,4
			inch	0.807	0.787	1.344	15°	0.945	0.106	2.140	1.185	0.984	2.091	4.23
-12	J1926-122-32FM	1 1/16-12 UN-2B	mm	25,0	23,0	42,0	15°	29,2	3,5	67,1	38,9	32,0	57,9	125,0
			inch	0.984	0.906	1.655	15°	1.150	0.138	2.640	1.530	1.260	2.280	4.92
-14	J1926-142-32FM	1 3/16-12 UN-2B	mm	28,0	23,0	45,2	15°	32,4	3,5	67,1	38,2	32,0	57,9	125,0
			inch	1.102	0.906	1.781	15°	1.276	0.138	2.640	1.504	1.260	2.280	4.92
-16	J1926-162-32FM	1 5/16-12 UN-2B	mm	31,2	23,0	49,1	15°	35,6	3,5	67,1	37,5	32,0	57,9	125,0
			inch	1.231	0.906	1.934	15°	1.400	0.138	2.640	1.477	1.260	2.280	4.92
-20	J1926-203-32FM*	1 5/8-12 UN-2B	mm	39,0	23,0	58,5	15°	43,6	3,5	77,8	46,6	32,0	65,5	143,3
			inch	1.535	0.906	2.306	15°	1.715	0.138	3.062	1.835	1.260	2.580	5.64
-24	J1926-243-32FM*	1 7/8-12 UN-2B	mm	45,5	23,0	65,1	15°	49,9	3,5	77,8	45,2	32,0	65,5	143,3
			inch	1.791	0.906	2.564	15°	1.965	0.138	3.062	1.778	1.260	2.580	5.64
-32	J1926-324-32FM*	2 1/2-12 UN-2B	mm	61,5	23,0	88,1	15°	65,8	3,5	96,8	60,8	32,0	65,5	162,3
			inch	2.421	0.906	3.470	15°	2.589	0.138	3.812	2.393	1.260	2.580	6.39

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

All AccuPort Holders are stocked standard items



Extended Minor Dia. Lengths (L1)

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	Inch or Metric	A	L1	B	Seal Angle	C	L2	L3	L4	D	L5	L6
				Minor Dia.	Minor Dia. Length	Spotface Dia.		Seal Angle Dia.	Seal Angle Length	Total Head Length	Spotface to Shoulder Length	Shank Dia.	Shank Length	OAL
-4	X1926-04Y-063F	7/16-20 UNF-2B	mm	9,8	20,3	21,3	12°	12,5	2,7	45,1	22,8	15,9	47,6	92,8
			inch	0.386	0.801	0.840	12°	0.490	0.106	1.777	0.896	0.625	1.875	3.65
-5	X1926-05Z-063F	1/2-20 UNF-2B	mm	11,5	20,3	23,5	12°	14,1	2,7	45,1	22,5	15,9	47,6	92,8
			inch	0.453	0.801	0.926	12°	0.553	0.106	1.777	0.885	0.625	1.875	3.65
-6	X1926-060-075F	9/16-18 UNF-2B	mm	13,0	21,8	25,1	12°	15,7	2,7	53,5	29,0	19,1	50,0	103,5
			inch	0.512	0.860	0.989	12°	0.618	0.106	2.107	1.144	0.750	1.969	4.07
-8	X1926-080-075F	3/4-16 UNF-2B	mm	17,5	23,8	30,6	15°	20,7	2,7	56,7	29,2	19,1	50,0	106,7
			inch	0.689	0.939	1.206	15°	0.813	0.106	2.232	1.150	0.750	1.969	4.20
-10	X1926-101-100F	7/8-14 UNF-2B	mm	20,5	26,3	34,1	15°	24,0	2,7	60,7	30,1	25,4	57,9	118,6
			inch	0.807	1.037	1.344	15°	0.945	0.106	2.390	1.185	1.000	2.281	4.67
-12	X1926-122-125F	1 1/16-12 UN-2B	mm	25,0	29,3	42,0	15°	29,2	3,5	73,4	38,9	31,8	57,9	131,3
			inch	0.984	1.156	1.655	15°	1.150	0.138	2.890	1.530	1.250	2.280	5.17
-14	X1926-142-125F	1 3/16-12 UN-2B	mm	28,0	29,3	45,2	15°	32,4	3,5	73,4	38,2	31,8	57,9	131,3
			inch	1.102	1.156	1.781	15°	1.276	0.138	2.890	1.504	1.250	2.281	5.17
-16	X1926-162-125F	1 5/16-12 UN-2B	mm	31,2	29,3	49,1	15°	35,6	3,5	73,4	37,5	31,8	57,9	131,3
			inch	1.231	1.156	1.934	15°	1.400	0.138	2.890	1.477	1.250	2.281	5.17
-20	X1926-203-150F	1 5/8-12 UN-2B	mm	39,0	29,3	58,5	15°	43,6	3,5	84,1	46,6	38,1	68,3	152,4
			inch	1.535	1.156	2.306	15°	1.715	0.138	3.312	1.835	1.500	2.688	6.00
-24	X1926-243-150F	1 7/8-12 UN-2B	mm	45,5	29,3	65,1	15°	49,9	3,5	84,1	45,2	38,1	68,3	152,4
			inch	1.791	1.156	2.564	15°	1.965	0.138	3.312	1.778	1.500	2.688	6.00
-32	X1926-324-150F	2 1/2-12 UN-2B	mm	61,5	29,3	88,1	15°	65,8	3,5	103,2	60,8	38,1	68,3	171,4
			inch	2.421	1.156	3.470	15°	2.589	0.138	4.062	2.393	1.500	2.688	6.75

All AccuPort Holders are stocked standard items

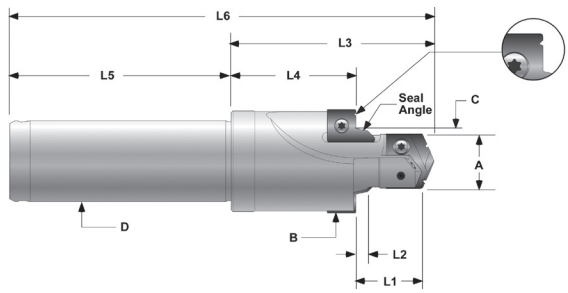
Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

Port Standards

ISO 6149-1:2006 and SAE J-2244/1

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	T-A® Drill Item Numbers				Port Form Insert Item Numbers					
			Super Cobalt GEN2 T-A (AM200)	Carbide GEN2 T-A (AM200)	Torx Plus Screw	Torx Plus Driver	C5 Carbide (TiAlN) with ID ridge	C5 Carbide (TiAlN) without ID ridge	C3 Carbide (AM200) with ID ridge	C3 Carbide (AM200) without ID ridge	Torx Plus Screw	Torx Plus Driver
-4	I6149-04RY-16FM	M12 X 1.5	45YH-10.5	4C1YH-10.5	724-IP7-1	8IP-7	I6149-04R-C5A	I6149-04-C5A	I6149-04R-C3H	I6149-04-C3H	72556-IP8-1	8IP-8
-5	I6149-05RZ-16FM	M14 X 1.5	45ZH-12.5	4C1ZH-12.5	7247-IP7-1	8IP-7	I6149-04R-C5A	I6149-04-C5A	I6149-04R-C3H	I6149-04-C3H	72556-IP8-1	8IP-8
-6	I6149-06R0-20FM	M16 X 1.5	450H-14.5	4C10H-14.5	72567-IP8-1	8IP-8	I6149-06R-C5A	I6149-06-C5A	I6149-06R-C3H	I6149-06-C3H	72556-IP8-1	8IP-8
-8	I6149-08R0-20FM	M18 X 1.5	450H-16.5	4C10H-16.5	72567-IP8-1	8IP-8	I6149-06R-C5A	I6149-06-C5A	I6149-06R-C3H	I6149-06-C3H	72556-IP8-1	8IP-8
-10	I6149-10R1-25FM	M22 X 1.5	451H-20.5	4C11H-20.5	7375-IP9-1	8IP-9	I6149-04R-C5A	I6149-04-C5A	I6149-04R-C3H	I6149-04-C3H	72556-IP8-1	8IP-8
-12	I6149-12R2-32FM	M27 X 2	452H-25	4C12H-25	7495-IP15-1	8IP-15	I6149-12R-C5A	I6149-12-C5A	I6149-12R-C3H	I6149-12-C3H	72556-IP8-1	8IP-8
-14	I6149-14R2-32FM	M30 X 2	452H-28	4C12H-28	7495-IP15-1	8IP-15	I6149-14R-C5A	I6149-14-C5A	I6149-14R-C3H	I6149-14-C3H	72556-IP8-1	8IP-8
-16	I6149-16R2-32FM	M33 X 2	452H-31	4C12H-31	7495-IP15-1	8IP-15	I6149-16R-C5A	I6149-16-C5A	I6149-16R-C3H	I6149-16-C3H	7375-IP9-1	8IP-9
-20	I6149-20R3-32FM*	M42 X 2	453H-40	1C53A-40	7514-IP20-1	8IP-20	I6149-20R-C5A	I6149-20-C5A	I6149-20R-C3H	I6149-20-C3H	7375-IP9-1	8IP-9
-24	I6149-24R3-32FM*	M48 X 2	453H-46	1C53A-46	7514-IP20-1	8IP-20	I6149-24R-C5A	I6149-24-C5A	I6149-24R-C3H	I6149-24-C3H	7375-IP9-1	8IP-9
-32	I6149-32R4-32FM*	M60 X 2	454H-58	N/A	7514-IP20-1	8IP-20	I6149-32R-C5A	I6149-32-C5A	I6149-32R-C3H	I6149-32-C3H	7375-IP9-1	8IP-9

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.



Tube Dash Number	Port Contour Cutter Number	Port Thread Size	Inch or Metric	A	L1	B	Seal Angle	C	L2	L3	L4	D	L5	L6
				Minor Dia.	Minor Dia. Length	Spotface Dia.		Seal Angle Dia.	Seal Angle Length	Total Head Length	Spotface to Shoulder Length	Shank Dia.	Shank Length	OAL
-4	I6149-04RY-16FM	M12 X 1.5	mm	10,5	14,1	24,0	15°	13,81	2,6	38,8	22,2	16,0	41,9	80,7
			inch	0.413	0.556	0.945	15°	0.544	0.102	1.527	0.876	0.630	1.650	3.18
-5	I6149-05RZ-16FM	M14 X 1.5	mm	12,5	14,1	26,0	15°	15,8	2,6	38,8	21,8	16,0	41,9	80,7
			inch	0.492	0.556	1.024	15°	0.623	0.102	1.527	0.858	0.630	1.650	3.18
-6	I6149-06R0-20FM	M16 X 1.5	mm	14,5	15,6	28,0	15°	17,8	2,6	47,2	28,3	20,0	41,9	89,1
			inch	0.571	0.615	1.102	15°	0.702	0.102	1.857	1.116	0.787	1.650	3.51
-8	I6149-08R0-20FM	M18 X 1.5	mm	16,5	17,1	30,0	15°	19,8	2,6	50,3	29,6	20,0	41,9	92,2
			inch	0.650	0.674	1.181	15°	0.781	0.102	1.982	1.164	0.787	1.650	3.63
-10	I6149-10R1-25FM	M22 X 1.5	mm	20,5	18,2	34,0	15°	23,8	2,6	54,4	31,6	25,0	53,1	107,5
			inch	0.807	0.717	1.339	15°	0.938	0.102	2.140	1.246	0.984	2.091	4.23
-12	I6149-12R2-32FM	M27 X 2	mm	25,0	22,2	40,0	15°	29,4	3,3	67,1	39,4	32,0	57,9	125,0
			inch	0.984	0.874	1.575	15°	1.159	0.130	2.640	1.552	1.260	2.280	4.92
-14	I6149-14R2-32FM	M30 X 2	mm	28,0	22,2	43,0	15°	32,4	3,3	67,1	38,8	32,0	57,9	125,0
			inch	1.102	0.874	1.693	15°	1.277	0.130	2.64	1.526	1.260	2.280	4.92
-16	I6149-16R2-32FM	M33 X 2	mm	31,0	22,2	49,0	15°	35,4	3,3	67,1	38,1	32,0	57,9	125,0
			inch	1.220	0.874	1.929	15°	1.395	0.130	2.640	1.499	1.260	2.280	4.92
-20	I6149-20R3-32FM*	M42 X 2	mm	40,0	22,7	60,0	15°	44,4	3,3	77,8	46,4	32,0	65,5	143,3
			inch	1.575	0.895	2.362	15°	1.749	0.130	3.062	1.828	1.260	2.580	5.64
-24	I6149-24R3-32FM*	M48 X 2	mm	46,0	25,2	66,1	15°	50,4	3,3	77,8	42,6	32,0	65,5	143,3
			inch	1.811	0.993	2.602	15°	1.985	0.130	3.062	1.676	1.260	2.580	5.64
-32	I6149-32R4-32FM*	M60 X 2	mm	58,0	27,7	76,0	15°	62,4	3,3	96,8	56,6	32,0	65,5	162,3
			inch	2.283	1.092	2.992	15°	2.458	0.130	3.812	2.228	1.260	2.580	6.39

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

All AccuPort Holders are stocked standard items

AccuPort 432 Port Contour Cutters without ID ridges use same holder.
For details on tools made to your requirements, see page 204.

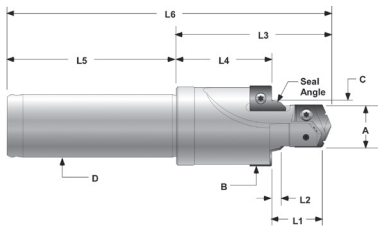
Port Standards

JDS-G173.1

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	T-A® Drill Item Numbers				Port Form Insert Item Numbers		
			Super Cobalt GEN2 T-A® (AM200®)	Carbide GEN2 T-A (AM200)	Torx Plus Screw	Torx Plus Driver	C3 Carbide (AM200)	Torx Plus Screw	Torx Plus Driver
-4	G1731-04Y-16FM	M12x1.5	45YH-10.5	4C2YH-10.5	724-IP7-1	8IP-7	G1731-01-C3H	72556-IP8-1	8IP-8
-5	G1731-05Z-16FM	M14x1.5	45ZH-12.5	4C2ZH-12.5	7247-IP7-1	8IP-7	G1731-01-C3H	72556-IP8-1	8IP-8
-6	G1731-060-20FM	M16x1.5	450H-14.5	4C20H-14.5	72567-IP8-1	8IP-8	G1731-02-C3H	72556-IP8-1	8IP-8
-8	G1731-080-20FM	M18x1.5	450H-16.5	4C20H-16.5	72567-IP8-1	8IP-8	G1731-02-C3H	72556-IP8-1	8IP-8
-10	G1731-101-25FM	M22x1.5	451H-20.5	4C21H-20.5	739-IP9-1	8IP-9	G1731-02-C3H	72556-IP8-1	8IP-8
-12	G1731-122-32FM	M27x2	452H-25	4C22H-25	7495-IP15-1	8IP-15	G1731-03-C3H	72556-IP8-1	8IP-8
-14	G1731-142-32FM	M30x2	452H-28	4C22H-28	7495-IP15-1	8IP-15	G1731-03-C3H	72556-IP8-1	8IP-8
-16	G1731-162-32FM	M33x2	452H-31	4C22H-31	7495-IP15-1	8IP-15	G1731-04-C3H	7375-IP9-1	8IP-9
-18	G1731-183-32FM*	M38x2	453H-36	-	7514-IP20-1	8IP-20	G1731-04-C3H	7375-IP9-1	8IP-9
-20	G1731-203-32FM*	M42x2	453H-40	-	7514-IP20-1	8IP-20	G1731-05-C3H	7375-IP9-1	8IP-9
-24	G1731-243-32FM*	M48x2	453H-46	-	7514-IP20-1	8IP-20	G1731-05-C3H	7375-IP9-1	8IP-9
-32	G1731-324-32FM*	M60x2	454H-58	-	7514-IP20-1	8IP-20	G1731-06-C3H	7375-IP9-1	8IP-9
Cartridge Cavity	G1731-CV1-25FM	M20x1.5	451H-18.5	4C21H-18.5	739-IP9-1	8IP-9	G1731-02-C3H	72556-IP8-1	8IP-8

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

Inserts sold separately



Tube Dash Number	Port Contour Cutter Number	Port Thread Size	Inch or Metric	A	L1	B	Seal Angle	C	L2	L3	L4	D	L5	L6
				Drill Dia.	Pilot Length	Spotface Dia.		Seal Angle Dia.	Seal Angle Length	Body Length	Spotface to Shoulder Length	Shank Dia.	Shank Length	OAL
-4	G1731-04Y-16FM	M12x1.5	mm	10,5	18,0	24,0	15°	13,9	2,65	40,1	22,2	16,0	41,9	84,5
			inch	0.413	0.709	0.945	15°	0.547	0.104	1.58	0.875	0.630	1.650	3.32
-5	G1731-05Z-16FM	M14x1.5	mm	12,5	18,0	26,0	15°	15,9	2,65	40,1	21,8	16,0	41,9	84,5
			inch	0.492	0.709	1.024	15°	0.626	0.104	1.58	0.858	0.630	1.650	3.32
-6	G1731-060-20FM	M16x1.5	mm	14,5	19,0	29,0	15°	17,9	2,65	47,6	28,4	20,0	41,9	92,2
			inch	0.571	0.748	1.142	15°	0.705	0.104	1.87	1.117	0.787	1.650	3.63
-8	G1731-080-20FM	M18x1.5	mm	16,5	21,0	31,0	15°	19,9	2,65	51,2	29,5	20,0	41,9	95,8
			inch	0.650	0.827	1.220	15°	0.783	0.104	2.02	1.161	0.787	1.650	3.77
-10	G1731-101-25FM	M22x1.5	mm	20,5	22,0	35,0	15°	23,9	2,65	54,4	31,6	25,0	53,1	111,0
			inch	0.807	0.866	1.378	15°	0.941	0.104	2.14	1.246	0.984	2.090	4.37
-12	G1731-122-32FM	M27x2	mm	25,0	27,0	41,0	15°	29,5	3,35	68,1	39,4	32,0	57,9	129,6
			inch	0.984	1.063	1.614	15°	1.161	0.132	2.68	1.553	1.260	2.280	5.10
-14	G1731-142-32FM	M30x2	mm	28,0	27,0	44,0	15°	32,5	3,35	68,1	39,7	32,0	57,9	129,6
			inch	1.102	1.063	1.732	15°	1.280	0.132	2.68	1.526	1.260	2.280	5.10
-16	G1731-162-32FM	M33x2	mm	31,0	27,0	50,0	15°	35,5	3,35	68,1	38,1	32,0	57,9	129,6
			inch	1.221	1.063	1.969	15°	1.398	0.132	2.68	1.500	1.260	2.280	5.10
-18	G1731-183-32FM*	M38x2	mm	36,0	27,0	55,0	15°	40,5	3,35	76,6	46,8	32,0	65,5	146,8
			inch	1.417	1.063	2.165	15°	1.594	0.132	3.02	1.844	1.260	2.580	5.78
-20	G1731-203-32FM*	M42x2	mm	40,0	27,0	61,0	15°	44,5	3,35	76,6	45,9	32,0	65,5	146,8
			inch	1.575	1.063	2.402	15°	1.752	0.132	3.02	1.809	1.260	2.580	5.78
-24	G1731-243-32FM*	M48x2	mm	46,0	29,0	67,0	15°	50,5	3,35	76,6	42,8	32,0	65,5	146,8
			inch	1.811	1.142	2.638	15°	1.988	0.132	3.02	1.687	1.260	2.580	5.78
-32	G1731-324-32FM*	M60x2	mm	58,0	32,0	77,0	15°	62,5	3,35	96,1	58,4	32,0	65,5	166,4
			inch	2.284	1.260	3.031	15°	2.461	0.132	3.78	2.300	1.260	2.580	6.55
Cartridge Cavity	G1731-CV1-25FM	M20x1.5	mm	18,5	18,0	33,0	15°	21,9	2,65	50,8	32,5	25,0	53,1	107,4
			inch	0.728	0.709	1.299	15°	0.862	0.104	2.00	1.281	0.984	2.090	4.23

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

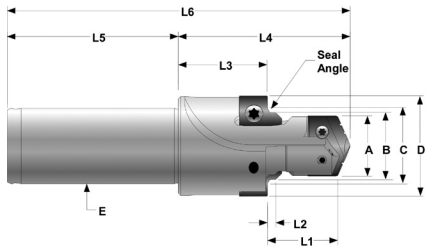
Port Standards

SAE AS5202 (Formerly MilSpec MS-33649)

Also conforms to AND10050 Using Alternate Tap Drill Dia. (shown in red)

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	T-A® Drill Item Numbers				Port Form Insert Item Numbers		
			Super Cobalt GEN2 T-A® (AM200®)	Carbide GEN2 T-A (AM200)	Torx Plus Screw	Torx Plus Driver	C5 Carbide (TiAlN)	Torx Plus Screw	Torx Plus Driver
-4	AS5202-04Y-063F	7/16-20 UNJF-3B	45YH-.390	4C1YH-.390	724-IP7-1	8IP-7	AS5202-04-C5A	72556-IP8-1	8IP-8
		7/16-20 UNF-3B	45YH-.386	4C1YH-.386					
-5	AS5202-05Z-063F	1/2-20 UNJF-3B	45ZH-11.5	4C1ZH-11.5	7247-IP7-1	8IP-7	AS5202-05-C5A	72556-IP8-1	8IP-8
		1/2-20 UNF-3B	45ZH-.451	4C1ZH-.451					
-6	AS5202-06Z-075F	9/16-18 UNJF-3B	45ZH-.510	4C1ZH-.510	7247-IP7-1	8IP-7	AS5202-06-C5A	72556-IP8-1	8IP-8
		9/16-18 UNF-3B	45ZH-.506	4C1ZH-.506					
-8	AS5202-080-075F	3/4-16 UNJF-3B	450H-17.5	4C10H-17.5	72567-IP8-1	8IP-8	AS5202-08-C5A	72556-IP8-1	8IP-8
		3/4-16 UNF-3B	450H-0022	4C10H-0022					
-10	AS5202-101-100F	7/8-14 UNJF-3B	451H-20.5	4C11H-20.5	7375-IP9-1	8IP-9	AS5202-10-C5A	7495-IP15-1	8IP-15
		7/8-14 UNF-3B	451H-.801	4C11H-.801					
-12	AS5202-122-125F	1 1/16-12 UNJ-3B	452H-25	4C12H-25	7495-IP15-1	8IP-15	AS5202-12-C5A	7495-IP15-1	8IP-15
		1 1/16-12 UN-3B	452H-.976	4C12H-.976					
-14	AS5202-142-125F	1 3/16-12 UNJ-3B	452H-1.109	4C12H-1.109	7495-IP15-1	8IP-15	AS5202-14-C5A	7495-IP15-1	8IP-15
		1 3/16-12 UN-3B	452H-28	4C12H-28					
-16	AS5202-162-125F	1 5/16-12 UNJ-3B	452H-1.234	4C12H-1.234	7495-IP15-1	8IP-15	AS5202-16-C5A	7495-IP15-1	8IP-15
		1 5/16-12 UN-3B	452H-1.226	4C12H-1.226					
-20	AS5202-203-150F	1 5/8-12 UNJ-3B	453H-1.547	1C53A-1.547	7514-IP20-1	8IP-20	AS5202-20-C5A	7495-IP15-1	8IP-15
		1 5/8-12 UN-3B	453H-39	1C53A-39					
-24	AS5202-243-150F	1 7/8-12 UNJ-3B	453H-1.797	1C53A-1.797	7514-IP20-1	8IP-20	AS5202-24-C5A	7495-IP15-1	8IP-15
		1 7/8-12 UN-3B	453H-45.5	1C53A-45.5					
-32	AS5202-324-150F	2 1/2-12 UNJ-3B	454H-2.421	N/A	7514-IP20-1	8IP-20	AS5202-32-C5A	7495-IP15-1	8IP-15
		2 1/2-12 UN-3B	454H-2.413	N/A					

A1 = AND10050 Specifications (shown in red)
A2 = SAE AS5202 Specifications



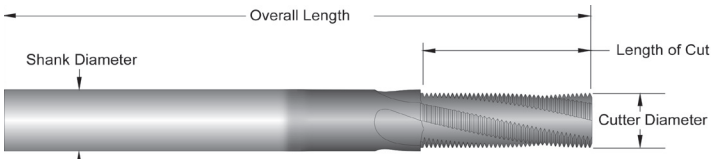
Tube Dash Number	Port Contour Cutter Number	Port Thread Size	Inch or Metric	A1 Dia.	A2 Dia.	L1 Minor Dia. Length	B Pilot Dia.	L2 Pilot Length	Seal Angle	C Seal Angle Dia.	D Spotface Dia.	L3 Spotface to Shoulder Length	L4 Total Head Length	E Shank Dia.	L5 Shank Length	L6 OAL
-4	AS5202-04Y-063F	7/16-20 UNJF-3B	mm	9,8	9,9	16,79	11,53	2,11	60°	14,34	22,23	22,76	41,58	15,88	47,63	89,20
			inch	0.386	0.390	0.661	0.454	0.083	60°	0.564	0.875	0.896	1.637	0.625	1.875	3.51
-5	AS5202-05Z-063F	1/2-20 UNJF-3B	mm	11,45	11,5	16,79	13,13	2,11	60°	15,88	23,27	22,39	41,58	15,88	47,63	89,20
			inch	0.451	0.453	0.661	0.517	0.083	60°	0.625	0.916	0.882	1.637	0.625	1.875	3.51
-6	AS5202-06Z-075F	9/16-18 UNJF-3B	mm	12,85	12,95	18,14	14,73	2,11	60°	17,46	24,87	28,43	49,28	19,05	50,01	99,29
			inch	0.506	0.51	0.714	0.580	0.083	60°	0.688	0.979	1.119	1.940	0.750	1.969	3.91
-8	AS5202-080-075F	3/4-16 UNJF-3B	mm	17,46	17,5	21,31	19,53	2,39	60°	22,23	30,43	28,57	53,52	19,05	50,01	103,53
			inch	0.688	0.689	0.839	0.769	0.094	60°	0.875	1.198	1.125	2.107	0.75	1.969	4.08
-10	AS5202-101-100F	7/8-14 UNJF-3B	mm	20,35	20,5	23,75	22,76	2,72	60°	25,46	34,39	30,19	58,17	25,40	57,94	116,10
			inch	0.801	0.807	0.935	0.896	0.107	60°	1.002	1.354	1.189	2.29	1.000	2.281	4.57
-12	AS5202-122-125F	1 1/16-12 UNJ-3B	mm	24,8	25,0	27,15	27,58	3,18	60°	31,42	41,53	37,94	70,23	31,75	57,94	128,17
			inch	0.976	0.984	1.069	1.086	0.125	60°	1.237	1.635	1.494	2.765	1.250	2.281	5.05
-14	AS5202-142-125F*	1 3/16-12 UNJ-3B	mm	28,0	28,17	27,15	30,76	3,18	60°	34,61	45,09	37,22	70,23	31,75	57,94	128,17
			inch	1.102	1.109	1.069	1.211	0.125	60°	1.363	1.775	1.465	2.765	1.250	2.281	5.05
-16	AS5202-162-125F	1 5/16-12 UNJ-3B	mm	31,15	31,34	27,15	33,93	3,18	60°	37,77	48,77	36,51	70,23	31,75	57,94	128,17
			inch	1.226	1.234	1.069	1.336	0.125	60°	1.487	1.920	1.437	2.765	1.250	2.281	5.05
-20	AS5202-203-150F	1 5/8-12 UNJ-3B	mm	39,0	39,29	28,47	41,86	3,18	60°	45,69	57,91	44,32	80,95	38,10	68,28	149,23
			inch	1.535	1.547	1.121	1.648	0.125	60°	1.799	2.280	1.745	3.187	1.500	2.688	5.88
-24	AS5202-243-150F*	1 7/8-12 UNJ-3B	mm	45,5	45,64	28,75	48,21	3,18	60°	52,07	65,28	42,58	80,95	38,10	68,28	149,23
			inch	1.791	1.797	1.132	1.898	0.125	60°	2.050	2.570	1.676	3.187	1.500	2.688	5.88
-32	AS5202-324-150F*	2 1/2-12 UNJ-3B	mm	61,3	61,49	34,87	64,11	3,18	60°	67,97	88,65	45,78	93,65	38,10	68,28	161,93
			inch	2.413	2.421	1.373	2.524	0.125	60°	2.676	3.490	1.802	3.687	1.500	2.688	6.38

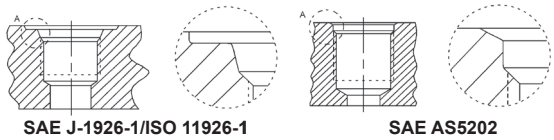
* Non-Stocked Item

For details on tools made to your requirements, see page 204.

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

AccuPort 432® Kits



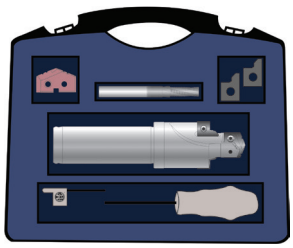


Accuport Specific - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form spec.

AccuPort 432 Specific Thread Mills (for use with AccuPort Port Contour Cutter)

Port Size	Pitch	Item Number	Flutes	Cutter Dia.	Shank Dia.	Length of Cut	OAL	*AM210® ❶
-4 to -5	20	TMAK0438-20	4	0.335	0.375	0.600	3.5	❍
-6	18	TMAK0563-18	4	0.370	0.375	0.666	3.5	❍
-8	16	TMAK0750-16	4	0.495	0.500	0.750	3.5	❍
-10	14	TMAK0875-14	4	0.495	0.500	0.857	3.5	❍
-12 to -32	12	TMAK1063-12	4	0.495	0.500	0.917	3.5	❍

* All other coatings are non-stocked standards with 10 to 15 day delivery



AccuPort 432 AccuThread 856® Ferrous Material Kit

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	QTY	T-A® Drill Item Numbers		Port Form Insert Item Numbers		AccuThread 856 Item Numbers		Kit Item Number
				Super Cobalt (AM200®)	QTY	C5 Carbide (TiAlN)	QTY	Solid Carbide *(AM210)	QTY	
-4	J1926-04Y-063F	7/16-20 UNF-2B	1	45YH-.386	2	J1926-02-C5A	2	TMAK0438-20	1	ATK-K-04
-5	J1926-05Z-063F	1/2-20 UNF-2B	1	45ZH-11.5	2	J1926-02-C5A	2	TMAK0438-20	1	ATK-K-05
-6	J1926-060-075F	9/16-18 UNF-2B	1	450H-13	2	J1926-02-C5A	2	TMAK0563-18	1	ATK-K-06
-8	J1926-080-075F	3/4-16 UNF-2B	1	450H-0022	2	J1926-07-C5A	2	TMAK0750-16	1	ATK-K-08
-10	J1926-101-100F	7/8-14 UNF-2B	1	451H-20.5	2	J1926-07-C5A	2	TMAK0875-14	1	ATK-K-10
-12	J1926-122-125F	1 1/16-12 UN-2B	1	452H-25	2	J1926-08-C5A	2	TMAK1063-12	1	ATK-K-12
-14	J1926-142-125F	1 3/16-12 UN-2B	1	452H-28	2	J1926-08-C5A	2	TMAK1063-12	1	ATK-K-14
-16	J1926-162-125F	1 5/16-12 UN-2B	1	452H-1.231	2	J1926-08-C5A	2	TMAK1063-12	1	ATK-K-16
-20	J1926-203-150F	1 5/8-12 UN-2B	1	453H-39	1	J1926-10-C5A	2	TMAK1063-12	1	ATK-K-20
-24	J1926-243-150F	1 7/8-12 UN-2B	1	453H-45.5	1	J1926-10-C5A	2	TMAK1063-12	1	ATK-K-24
-32	J1926-324-150F	2 1/2-12 UN-2B	1	454H-61.5	1	J1926-12-C5A	2	TMAK1063-12	1	ATK-K-32

* All other coatings are non-stocked standards with 10 to 15 day delivery

AccuPort 432 AccuThread 856 Non-ferrous Material Kit

Tube Dash Number	Port Contour Cutter Number	Port Thread Size	QTY	T-A Drill Item Numbers		Port Form Insert Item Numbers		AccuThread 856 Item Numbers		Kit Item Number
				Super Cobalt (TiN)	QTY	C5 Carbide (TiAlN)	QTY	Solid Carbide (Uncoated)	QTY	
-4	J1926-04Y-063F	7/16-20 UNF-2B	1	15YT-.386	2	J1926-02-C5A	2	TMAU0438-20	1	ATK-U-04
-5	J1926-05Z-063F	1/2-20 UNF-2B	1	15ZT-11.5	2	J1926-02-C5A	2	TMAU0438-20	1	ATK-U-05
-6	J1926-060-075F	9/16-18 UNF-2B	1	150T-13	2	J1926-02-C5A	2	TMAU0563-18	1	ATK-U-06
-8	J1926-080-075F	3/4-16 UNF-2B	1	150T-0022	2	J1926-07-C5A	2	TMAU0750-16	1	ATK-U-08
-10	J1926-101-100F	7/8-14 UNF-2B	1	151T-20.5	2	J1926-07-C5A	2	TMAU0875-14	1	ATK-U-10
-12	J1926-122-125F	1 1/16-12 UN-2B	1	152T-25	2	J1926-08-C5A	2	TMAU1063-12	1	ATK-U-12
-14	J1926-142-125F	1 3/16-12 UN-2B	1	152T-28	2	J1926-08-C5A	2	TMAU1063-12	1	ATK-U-14
-16	J1926-162-125F	1 5/16-12 UN-2B	1	152T-1.231	2	J1926-08-C5A	2	TMAU1063-12	1	ATK-U-16
-20	J1926-203-150F	1 5/8-12 UN-2B	1	453T-39	1	J1926-10-C5A	2	TMAU1063-12	1	ATK-U-20
-24	J1926-243-150F	1 7/8-12 UN-2B	1	453T-45.5	1	J1926-10-C5A	2	TMAU1063-12	1	ATK-U-24
-32	J1926-324-150F	2 1/2-12 UN-2B	1	454T-61.5	1	J1926-12-C5A	2	TMAU1063-12	1	ATK-U-32

AccuPort 432®

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED				FEED (IPR) - HSS						Grade	SPEED			FEED (IPR) - Carbide				
			TiN SFM	TiAlN SFM	TiCN SFM	AM200 SFM	Tube # 4-5 Series Y-Z	Tube # 6-8 Series 0	Tube # 10 Series 1	Tube # 12-16 Series 2	Tube # 20-24 Series 3	Tube # 32 Series 4		TiN SFM	TiAlN SFM	AM200 SFM	Tube # 4-5 Series Y-Z	Tube # 6-8 Series 0	Tube # 10 Series 1	Tube # 12-16 Series 2	Tube # 20-24 Series 3
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	HSS	200	280	260	325	0.007	0.010	0.013	0.016	0.020	0.023	C1,C5	320	420	480	0.008	0.012	0.015	0.018	0.021
	150-200	HSS	180	260	235	300	0.007	0.010	0.013	0.016	0.020	0.023	C1,C5	280	360	415	0.007	0.011	0.014	0.016	0.019
	200-250	HSS	160	240	210	280	0.006	0.010	0.013	0.016	0.020	0.023	C1,C5	260	340	390	0.006	0.010	0.013	0.015	0.017
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	HSS	170	250	220	290	0.006 ❖	0.009	0.012	0.015	0.019	0.023	C1,C5	300	390	450	0.008 ❖	0.010	0.013	0.017	0.019
	125-175	HSS	160	240	210	275	0.006 ❖	0.009	0.012	0.015	0.019	0.023	C1,C5	260	340	390	0.007 ❖	0.010	0.013	0.016	0.018
	175-225	HSS	150	225	195	260	0.005 ❖	0.008	0.010	0.014	0.018	0.021	C1,C5	240	310	355	0.006 ❖	0.009	0.012	0.015	0.017
	225-275	HSS	140	210	180	240	0.005 ❖	0.008	0.010	0.014	0.018	0.021	C1,C5	210	270	310	0.005 ❖	0.009	0.012	0.015	0.017
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	HSS	160	240	210	275	0.006	0.009	0.012	0.015	0.019	0.023	C1,C5	260	340	390	0.007	0.010	0.013	0.016	0.018
	175-225	HSS	150	225	195	260	0.005	0.008	0.010	0.014	0.018	0.021	C1,C5	240	310	355	0.006	0.009	0.012	0.015	0.017
	225-275	HSS	140	210	180	240	0.005	0.008	0.010	0.014	0.018	0.021	C1,C5	210	270	310	0.006	0.009	0.012	0.015	0.017
	275-325	SC	130	195	170	225	0.004	0.007	0.009	0.012	0.016	0.019	C1,C5	180	230	265	0.005	0.008	0.011	0.014	0.016
Alloy Steel 4140, 5140, 8640, etc.	125-175	HSS	150	210	195	240	0.006	0.008	0.010	0.014	0.017	0.019	C1,C5	250	325	375	0.007	0.010	0.013	0.016	0.018
	175-225	HSS	140	195	180	225	0.005	0.008	0.010	0.014	0.017	0.019	C1,C5	230	300	345	0.006	0.009	0.012	0.015	0.017
	225-275	HSS	130	180	170	210	0.005	0.007	0.010	0.014	0.017	0.019	C1,C5	210	270	310	0.006	0.009	0.012	0.015	0.017
	275-325	SC	120	170	155	195	0.004	0.006	0.009	0.012	0.015	0.017	C1,C5	200	250	285	0.005	0.008	0.011	0.014	0.016
	325-375	SC	110	155	145	180	0.003	0.006	0.009	0.012	0.015	0.017	C1,C5	170	220	255	0.004	0.007	0.010	0.013	0.015
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	SC	80	110	100	125	0.005 ❖	0.007	0.009	0.010	0.014	0.017	C1,C5	160	200	230	0.006 ❖	0.009	0.010	0.012	0.015
	300-350	SC	60	85	80	100	0.004 ❖	0.007	0.009	0.010	0.014	0.017	C1,C5	140	180	205	0.005 ❖	0.008	0.009	0.011	0.014
	350-400	SC	50	70	65	80	0.003 ❖	0.006	0.008	0.009	0.012	0.015	C1,C5	120	160	185	0.004 ❖	0.007	0.008	0.010	0.012
Structural Steel A36, A285, A516, etc.	100-150	HSS	140	200	180	235	0.006 ❖	0.010	0.012	0.014	0.018	0.021	C1,C5	240	310	355	0.008 ❖	0.011	0.014	0.016	0.018
	150-250	HSS	120	170	155	190	0.005 ❖	0.009	0.010	0.012	0.016	0.019	C1,C5	200	250	285	0.006 ❖	0.010	0.012	0.014	0.016
	250-350	SC	100	140	130	160	0.004 ❖	0.009	0.009	0.010	0.014	0.017	C1,C5	180	230	265	0.005 ❖	0.009	0.011	0.012	0.014
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	SC	80	110	105	125	0.004 ❖	0.006	0.008	0.010	0.014	0.015	C1,C5	160	220	255	0.004 ❖	0.007	0.009	0.011	0.013
	200-250	SC	60	90	85	105	0.004 ❖	0.006	0.008	0.010	0.012	0.015	C1,C5	120	170	195	0.004 ❖	0.007	0.009	0.011	0.013
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	SC	30	40	35	45	0.003 ❖	0.007	0.008	0.010	0.012	0.015	C2	80	105	120	0.004 ❖	0.007	0.009	0.011	0.013
	220-310	SC	25	35	30	40	0.003 ❖	0.006	0.007	0.008	0.010	0.012	C2	60	85	95	0.004 ❖	0.006	0.008	0.010	0.012
Stainless Steel 416, 420, 303, etc.	185-275	SC	75	105	95	110	0.006 ❖	0.008	0.009	0.011	0.012	0.016	C2	160	210	240	0.007 ❖	0.009	0.012	0.014	0.016
	275-350	SC	60	90	80	100	0.005 ❖	0.007	0.008	0.010	0.012	0.014	C2	120	160	185	0.006 ❖	0.008	0.011	0.012	0.014
Nodular, Grey, Ductile Cast Iron	120-150	HSS	170	250	220	290	0.007	0.012	0.016	0.020	0.024	0.027	C2, C3	320	460	500	0.008	0.012	0.015	0.019	0.023
	150-200	HSS	150	225	195	260	0.006	0.011	0.014	0.018	0.022	0.025	C2, C3	270	400	480	0.007	0.011	0.013	0.017	0.021
	200-220	HSS	130	195	170	225	0.006	0.009	0.012	0.016	0.018	0.021	C2, C3	240	360	430	0.006	0.009	0.012	0.015	0.018
	220-260	SC	110	165	145	190	0.005	0.007	0.009	0.012	0.014	0.017	C2, C3	210	310	370	0.005	0.008	0.011	0.013	0.015
	260-320	SC	90	135	120	155	0.004	0.006	0.007	0.009	0.012	0.014	C2, C3	180	270	335	0.005	0.007	0.010	0.011	0.013
Aluminum	30	HSS	600	850	750	-	0.008	0.013	0.016	0.020	0.022	0.025	C2	1200	1500	-	0.010	0.015	0.018	0.020	0.022
	180	HSS	300	450	400	-	0.008	0.013	0.016	0.018	0.022	0.025	C2	800	1000	-	0.009	0.013	0.016	0.018	0.020

Formulas: IPM = (RPM) (IPR) **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82 / DIA**

AccuPort 432®

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Material	Hardness (BHN)	Grade	SPEED				FEED (mm/rev) - HSS						Grade	SPEED			FEED (mm/rev) - Carbide				
			TiN M/min	TiAlN M/min	TiCN M/min	AM200 M/min	Tube # 4-5 Series Y-Z	Tube # 6-8 Series 0	Tube # 10 Series 1	Tube # 12-16 Series 2	Tube # 20-24 Series 3	Tube # 32 Series 4		TiN M/min	TiAlN M/min	AM200 M/min	Tube # 4-5 Series Y-Z	Tube # 6-8 Series 0	Tube # 10 Series 1	Tube # 12-16 Series 2	Tube # 20-24 Series 3
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	HSS	61	85	79	92	0,18	0,25	0,33	0,41	0,51	0,58	K35,P40	98	128	146	0,020	0,30	0,38	0,46	0,53
	150-200	HSS	55	79	72	87	0,18	0,25	0,33	0,41	0,51	0,58	K35,P40	85	110	126	0,18	0,28	0,36	0,41	0,48
	200-250	HSS	49	73	64	81	0,15	0,25	0,33	0,41	0,51	0,58	K35,P40	79	104	119	0,15	0,25	0,33	0,38	0,43
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	HSS	52	76	67	84	0,15 ❖	0,23	0,30	0,38	0,48	0,58	K35,P40	91	119	137	0,20 ❖	0,25	0,33	0,43	0,48
	125-175	HSS	49	73	64	81	0,15 ❖	0,23	0,30	0,38	0,48	0,58	K35,P40	79	104	119	0,18 ❖	0,25	0,33	0,41	0,46
	175-225	HSS	46	69	59	76	0,13 ❖	0,20	0,25	0,36	0,46	0,53	K35,P40	73	94	108	0,15 ❖	0,23	0,30	0,38	0,43
	225-275	HSS	43	64	55	70	0,13 ❖	0,20	0,25	0,36	0,46	0,53	K35,P40	64	82	94	0,13 ❖	0,23	0,30	0,38	0,43
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	HSS	49	73	64	79	0,15	0,23	0,30	0,38	0,48	0,58	K35,P40	79	104	119	0,18	0,25	0,33	0,41	0,46
	175-225	HSS	46	69	59	75	0,13	0,20	0,25	0,36	0,46	0,53	K35,P40	73	94	108	0,15	0,23	0,30	0,38	0,43
	225-275	HSS	43	64	55	70	0,13	0,20	0,25	0,36	0,46	0,53	K35,P40	64	82	94	0,15	0,23	0,30	0,38	0,43
	275-325	SC	40	59	52	66	0,10	0,18	0,23	0,30	0,41	0,48	K35,P40	55	70	81	0,13	0,20	0,28	0,36	0,41
Alloy Steel 4140, 5140, 8640, etc.	125-175	HSS	46	64	59	69	0,15	0,20	0,25	0,36	0,43	0,48	K35,P40	76	99	114	0,18	0,25	0,33	0,41	0,46
	175-225	HSS	43	59	55	66	0,13	0,20	0,25	0,36	0,43	0,48	K35,P40	70	91	105	0,15	0,23	0,30	0,38	0,43
	225-275	HSS	40	55	52	60	0,13	0,18	0,25	0,36	0,43	0,48	K35,P40	64	82	94	0,15	0,23	0,30	0,38	0,43
	275-325	SC	37	52	47	56	0,10	0,15	0,23	0,30	0,38	0,43	K35,P40	61	76	87	0,13	0,20	0,28	0,36	0,41
	325-375	SC	34	47	44	55	0,08	0,15	0,23	0,30	0,38	0,43	K35,P40	52	67	78	0,10	0,18	0,25	0,33	0,38
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	SC	24	34	30	37	0,13 ❖	0,18	0,23	0,25	0,36	0,43	K35,P40	49	61	73	0,15 ❖	0,23	0,25	0,30	0,38
	300-350	SC	18	26	24	27	0,10 ❖	0,18	0,23	0,25	0,36	0,43	K35,P40	43	55	62	0,13 ❖	0,20	0,23	0,28	0,36
	350-400	SC	15	21	20	23	0,08 ❖	0,15	0,20	0,23	0,30	0,38	K35,P40	37	49	56	0,10 ❖	0,18	0,20	0,25	0,30
Structural Steel A36, A285, A516, etc.	100-150	HSS	43	61	55	67	0,15 ❖	0,25	0,30	0,36	0,46	0,53	K35,P40	73	94	108	0,20 ❖	0,28	0,36	0,41	0,46
	150-250	HSS	37	52	47	56	0,13 ❖	0,23	0,25	0,30	0,41	0,48	K35,P40	61	76	87	0,15 ❖	0,25	0,30	0,36	0,41
	250-350	SC	30	43	40	47	0,10 ❖	0,20	0,23	0,25	0,36	0,43	K35,P40	55	70	81	0,13 ❖	0,23	0,28	0,30	0,36
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	SC	24	34	32	37	0,10	0,15	0,20	0,25	0,30	0,38	K35,P40	49	67	78	0,10 ❖	0,18	0,23	0,28	0,33
	200-250	SC	18	27	26	31	0,10	0,15	0,20	0,25	0,30	0,38	K35,P40	37	52	59	0,10 ❖	0,18	0,23	0,28	0,33
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	SC	9	12	11	14	0,08 ❖	0,18	0,20	0,25	0,30	0,38	K20	24	32	36	0,10 ❖	0,18	0,23	0,28	0,33
	220-310	SC	8	11	9	12	0,08 ❖	0,15	0,18	0,20	0,25	0,30	K20	18	26	29	0,10 ❖	0,15	0,20	0,25	0,30
Stainless Steel 416, 420, 303, etc.	185-275	SC	23	32	29	33	0,15 ❖	0,20	0,23	0,28	0,36	0,41	K20	49	64	73	0,18 ❖	0,23	0,30	0,36	0,41
	275-350	SC	18	27	24	29	0,13 ❖	0,18	0,20	0,25	0,30	0,36	K20	37	49	46	0,15 ❖	0,20	0,28	0,30	0,36
Nodular, Grey, Ductile Cast Iron	120-150	HSS	52	76	67	82	0,18	0,30	0,41	0,51	0,61	0,69	K20,K10	98	140	152	0,20	0,30	0,38	0,48	0,58
	150-200	HSS	46	69	59	75	0,15	0,28	0,36	0,46	0,56	0,64	K20,K10	82	122	146	0,18	0,28	0,33	0,43	0,53
	200-220	HSS	40	59	52	66	0,15	0,23	0,30	0,41	0,46	0,53	K20,K10	73	110	131	0,15	0,23	0,30	0,38	0,46
	220-260	SC	34	50	44	55	0,13	0,18	0,23	0,30	0,36	0,43	K20,K10	64	94	113	0,13	0,20	0,28	0,33	0,38
	260-320	SC	27	41	37	44	0,10	0,15	0,18	0,23	0,30	0,36	K20,K10	55	82	102	0,13	0,18	0,25	0,28	0,33
Aluminum	30	HSS	183	259	229	-	0,20	0,33	0,41	0,51	0,56	0,64	K20	366	457	-	0,25	0,38	0,46	0,51	0,56
	180	HSS	91	137	122	-	0,20	0,33	0,41	0,46	0,56	0,64	K20	244	305	-	0,23	0,33	0,41	0,46	0,51

Formulas: IPM = (RPM) (mm/rev) **M/min = RPM • 0.003 • DIA** **RPM = M/min • 318.47 / DIA**

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AccuPort 432®
Coolant Recommendations - Inch

IMPORTANT: The coolant pressure and flow rate recommendation below represents a good approximation to obtain optimum tool life and chip evacuation at Allied recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds.

Material	Pressure or Flow Rate	HSS						Carbide				
		Tube # 4-5	Tube # 6-8	Tube # 10	Tube # 12-16	Tube # 20-24	Tube # 32	Tube # 4-5	Tube # 6-8	Tube # 10	Tube # 12-16	Tube # 20-24
		Series Y-Z	Series 0	Series 1	Series 2	Series 3	Series 4	Series Y-Z	Series 0	Series 1	Series 2	Series 3
Free Machining Steel 1118, 1215, 12L14, etc.	PSI	175-185	100-120	105-140	80-115	75-100	40-50	195	140	160	140	155
	GPM	2.5-2.6	2.8-3.0	4.4-5.2	7-8	12-14	30-33	2.6	3.3	5.5	9	18
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	PSI	165-170	75-90	75-95	60-80	55-75	30-40	180	105	105	110	115
	GPM	2.4-2.5	2.4-2.6	3.7-4.2	6-7	11-12	26-30	2.5	2.9	4.4	8	15
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	PSI	160-165	70-85	70-90	55-75	50-70	30-40	175	100	90	100	75
	GPM	2.3-2.4	2.3-2.6	3.7-4.2	5-6	10-12	26-30	2.5	2.8	4.1	7	13
Alloy Steel 4140, 5140, 8640, etc.	PSI	160-165	65-75	65-80	50-70	45-60	30-35	165	85	100	75	70
	GPM	2.3-2.4	2.2-2.4	3.5-3.9	5-6	10-11	26-28	2.4	2.6	4.3	6	12
High Strength Alloy 4340, 4330V, 300M, etc.	PSI	150-155	55-60	45-50	25-30	25-30	20-25	160	65	55	40	35
	GPM	2.3-2.4	2.1-2.2	2.9-3.1	4-5	7-8	21-23	2.4	2.3	3.2	5	8
Structural Steel A36, A285, A516, etc.	PSI	160-165	75-85	65-80	40-55	40-50	25-30	175	115	105	75	70
	GPM	2.3-2.4	2.4-2.6	3.5-3.9	5-6	9-10	23-26	2.5	3	4.4	6	12
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	PSI	150-155	55-60	45-50	25-30	25-30	20-25	155	60	55	40	35
	GPM	2.3-2.4	2.1-2.2	2.9-3.1	4-5	7-8	21-23	2.4	2.2	3.2	5	8
High Temp. Alloy Hastelloy B, Inconel 600, etc.	PSI	150-155	60-65	50-55	30-35	25-30	25-30	239	165	180	159	130
	GPM	2.3-2.4	2.2-2.3	3.1-3.2	4-5	7-8	23-26	3	4	6	9	16
Stainless Steel 416, 420, 303, etc.	PSI	171	86	75	55	51	29	329	239	260	250	190
	GPM	3	3	4	6	10	26	3	4	7	12	20
Nodular, Grey, Ductile Cast Iron	PSI	160	65	61	41	35	29	225	104	90	90	80
	GPM	2	2	3	5	9	26	3	3	4	7	13
Aluminum	PSI	210	180	230	159	125	51	350	319	315	284	200
	GPM	3	4	6	9	16	33	4	5	8	12	20

AccuPort 432® Port Contour Cutters

Coolant Recommendations - Metric

IMPORTANT: The coolant pressure and flow rate recommendation below represents a good approximation to obtain optimum tool life and chip evacuation at Allied recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds.

Material	Pressure or Flow Rate	HSS						Carbide				
		Tube # 4-5	Tube # 6-8	Tube # 10	Tube # 12-16	Tube # 20-24	Tube # 32	Tube # 4-5	Tube # 6-8	Tube # 10	Tube # 12-16	Tube # 20-24
		Series Y-Z	Series 0	Series 1	Series 2	Series 3	Series 4	Series Y-Z	Series 0	Series 1	Series 2	Series 3
Free Machining Steel 1118, 1215, 12L14, etc.	BAR	12-13	7-8	7-10	6-8	6-7	3-4	20	16	17	15	12
	LPM	9,5-9,8	10,6-11,4	16,7-19,7	26,5-30,3	45,4-53,0	114-125	12,2	16,3	25,3	41,5	71,9
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	BAR	11-12	5-6	5-7	4-6	4-5	2-3	18	11	11	12	9
	LPM	9,1-9,5	9,1-9,8	14,0-15,9	22,7-26,5	41,6-45,4	98-114	11,4	13,3	20,6	36,5	62
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	BAR	11	5-6	5-6	4-5	3-5	2-3	17	10	10	10	8
	LPM	8,7-9,1	8,7-9,8	13,6-15,5	18,9-22,7	37,9-45,4	98-114	11,3	12,5	20	33,8	57
Alloy Steel 4140, 5140, 8640, etc.	BAR	11	5-6	5	3-5	3-4	2	17	9	10	8	7
	LPM	8,7-9,1	13,2-14,8	8,3-9,1	18,9-22,7	34,1-37,9	87-98	11,1	12,3	19,3	30	55,8
High Strength Alloy 4340, 4330V, 300M, etc.	BAR	10-11	4-5	3-4	2	2	2	15	5	4	3	3
	LPM	8,7-9,1	7,9-8,3	11,0-11,7	15,1-18,9	26,5-30,3	79-87	10,4	9,1	12,6	18,8	33,6
Structural Steel A36, A285, A516, etc.	BAR	11	5-6	5-6	3-4	3	2	16	9	8	7	5
	LPM	8,7-9,1	9,1-9,8	13,2-14,8	18,9-22,7	34,1-37,9	87-98	10,8	12	17,5	27,8	47,1
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	BAR	4	10-11	3	2	2	1-2	15	5	5	3	3
	LPM	7,9-8,3	8,7-9,1	11,0-11,7	15,1-18,9	26,5-30,3	79-87	10,4	9,1	13,6	19,7	36,5
High Temp. Alloy Hastelloy B, Inconel 600, etc.	BAR	10-11	4-5	3-4	2	2	2	17	11,4	12,4	11	9
	LPM	8,7-9,1	8,3-8,7	11,7-12,1	15,1-18,9	26,5-30,3	87-98	11,1	13,5	21,9	35,4	62
Stainless Steel 400 Series 416, 420, 303, etc.	BAR	11,4 - 11,7	4,8 - 5,8	4,5 - 5,2	2,7 - 3,8	2,7 - 3,4	1,7 - 2	22,7	16,5	17,9	17,2	13,1
	LPM	9,1 - 9,5	8,7 - 9,8	13,2 - 14	18,9 - 22,7	34,1 - 37,9	87 - 98	13	16,3	26,3	44,2	75
Nodular, Grey, Ductile Cast Iron	BAR	10,7 - 11,0	4,1 - 4,5	3,4 - 4,1	2 - 2,7	2 - 2,4	1,7 - 2	15,5	7,2	6,2	6,2	5,5
	LPM	8,7 - 9,1	8,3 - 8,7	11,7 - 12,5	15,1 - 18,9	30,3 - 34,1	87 - 98	10,7	10,8	15,4	26,5	48,7
Aluminum	BAR	13,1 - 14,5	9,6 - 12,4	10,3 - 15,8	7,9 - 11	6,2 - 8,6	2,7 - 3,4	24,1	22	21,7	19,6	13,8
	LPM	9,8 - 10,2	12,5 - 14	20,1 - 23,1	30,3 - 34,1	53 - 60,6	114 - 125	13,4	18,8	29	47,2	77

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ASC 320®

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Features & Benefits

- **Unique combination of geometry and coating allows for use in a wide variety of applications**
- **Reinforced shank adds durability**
- **High productivity in difficult materials**
- **Ideal for use on Stainless Steel, Inconel, Hastelloy, Titanium, etc.**

ALLIED MACHINE & ENGINEERING CORP

ASC 320®

Reference Page

ASC 320

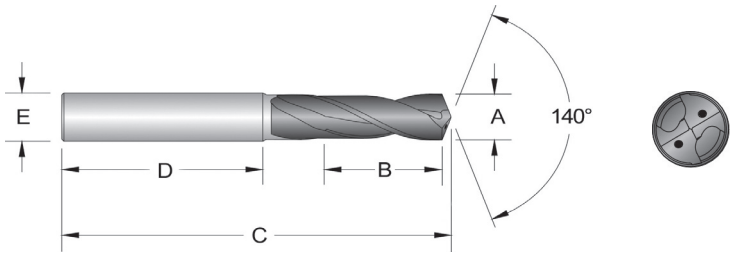
3	60	M	07500	A21	M
ASC 320 Designates as ASC 320	**Length** 3.5 = 35 6 = 60 9 = 90	**Style** E = English M = Metric	**Diameter**	**Substrate Geometry**	**Multi-Layer Coating**

Regrinding and Recoating

The ASC 320 Drills are reground and recoated by Allied Machine to maintain the high level of performance achieved with these tools. Allied Machine is the only company that has the experience, knowledge, equipment and inspection process to manage a regrind program for you. Using our services assures 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 drills for regrinding in their original packaging will help avoid damage during shipment. ASC 320 Drills reground by Allied are repackaged and clearly identified as "Allied Regrind" to avoid any confusion with new tools.

ASC 320®
3.5 X Diameter



Item Number	A (Diameter)			Tap Size*	B (Drill Depth)		C (OAL)		D Shank Length (mm)	E Shank Dia. (mm)	❶
	Fractional Equivalent	(inch)	(mm)		(inch)	(mm)	(inch)	(mm)			
335E01250A21M	1/8"	0.1250	3,17		0.551	14	2.47	62,7	36	4	❍
335M04000A21M		0.1575	4,00		0.551	14	2.47	62,7	36	4	❍
335M04200A21M		0.1654	4,20	M5x0.8	0.827	21	2.64	67,1	36	6	❍
335E01719A21M	11/64"	0.1719	4,37		0.827	21	2.64	67,1	36	6	❍
335M04500A21M	#16	0.1772	4,50	#12-24	0.827	21	2.64	67,1	36	6	❍
335M04600A21M		0.1811	4,60	#12-28	0.827	21	2.64	67,1	36	6	▲
335E01875A21M	3/16"	0.1875	4,76		0.827	21	2.64	67,1	36	6	❍
335M05000A21M		0.1969	5,00	M6x1	0.827	21	2.64	67,1	36	6	❍
335E02031A21M	13/64"	0.2031	5,16		0.827	21	2.64	67,1	36	6	❍
335E02188A21M	7/32"	0.2188	5,56		0.827	21	2.64	67,1	36	6	❍
335E02280A21M	#1	0.2280	5,79		0.827	21	2.64	67,1	36	6	▲
335E02344A21M	15/64"	0.2344	5,95		0.827	21	2.64	67,1	36	6	▲
335M06000A21M		0.2362	6,00	M7x1	0.827	21	2.64	67,1	36	6	❍
335E02500A21M	1/4"	0.2500	6,35		1.102	28	3.13	79,4	36	8	❍
335M06500A21M		0.2559	6,50		1.102	28	3.13	79,4	36	8	❍
335E02656A21M	17/64"	0.2656	6,75	M8x1.25	1.102	28	3.13	79,4	36	8	❍
335M07000A21M		0.2756	7,00	M8x1	1.102	28	3.13	79,4	36	8	❍
335E02812A21M	9/32"	0.2812	7,14		1.102	28	3.13	79,4	36	8	❍
335M07300A21M		0.2874	7,30		1.102	28	3.13	79,4	36	8	▲
335M07500A21M		0.2953	7,50		1.102	28	3.13	79,4	36	8	❍
335E02969A21M	19/64"	0.2969	7,54		1.102	28	3.13	79,4	36	8	▲
335M07800A21M		0.3071	7,80		1.102	28	3.13	79,4	36	8	▲
335E03125A21M	5/16"	0.3125	7,94	3/8-16	1.102	28	3.13	79,4	36	8	❍
335M08000A21M		0.3150	8,00		1.102	28	3.13	79,4	36	8	❍
335E03281A21M	21/64"	0.3281	8,33		1.378	35	3.57	90,7	40	10	❍
335E03320A21M	Q	0.3320	8,43	3/8-24	1.378	35	3.57	90,7	40	10	❍
335M08500A21M		0.3346	8,50	M10.1.5	1.378	35	3.57	90,7	40	10	❍
335E03438A21M	11/32"	0.3438	8,73		1.378	35	3.57	90,7	40	10	❍
335M08800A21M		0.3465	8,80		1.378	35	3.57	90,7	40	10	▲
335M09000A21M		0.3543	9,00		1.378	35	3.57	90,7	40	10	❍
335E03594A21M	23/64"	0.3594	9,13		1.378	35	3.57	90,7	40	10	▲
335E03680A21M	U	0.3680	9,35	7/16-14	1.378	35	3.57	90,7	40	10	▲
335M09500A21M		0.3740	9,50		1.378	35	3.57	90,7	40	10	❍
335E03750A21M	3/8"	0.3750	9,53		1.378	35	3.57	90,7	40	10	❍
335E03858A21M		0.3858	9,80		1.378	35	3.57	90,7	40	10	▲
335E03906A21M	25/64"	0.3906	9,92	7/16-20	1.378	35	3.57	90,7	40	10	❍
335M10000A21M		0.3937	10,00		1.378	35	3.57	90,7	40	10	❍
335M10200A21M		0.4016	10,20	M12x1.75	1.654	42	4.18	106,1	45	12	▲
335E04062A21M	13/32"	0.4062	10,32		1.378	42	4.18	106,1	45	12	❍
335M10500A21M		0.4134	10,50		1.378	42	4.18	106,1	45	12	❍

* Tap drill diameters allow approximately 75% of full thread to be produced.

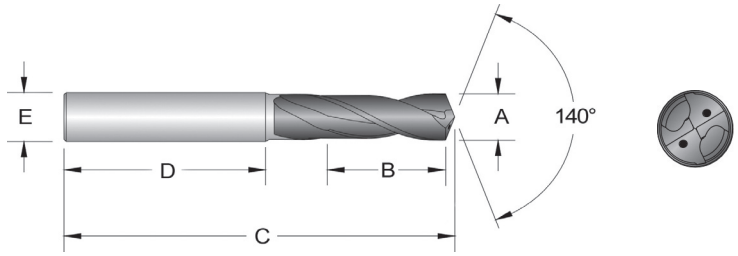
❶ **Availability Codes**
❍ Stocked
▲ Non-stocked - 10 work days
Regrinds - 10 work days

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Inch	=0.3450	=335E03450A21M
Metric	=7,250mm	=335M07250A21M

ASC 320®

3.5 X Diameter



Item Number	A (Diameter)			Tap Size*	B (Drill Depth)		C (OAL)		D Shank Length (mm)	E Shank Dia. (mm)	❶
	Fractional Equivalent	(inch)	(mm)		(inch)	(mm)	(inch)	(mm)			
335E04219A21M	27/64"	0.4219	10,72	1/2-13	1.654	42	4.18	106,1	45	12	❍
335M11000A21M		0.4331	11,00		1.654	42	4.18	106,1	45	12	❍
335E04375A21M	7/16"	0.4375	11,11		1.654	42	4.18	106,1	45	12	❍
335M11500A21M		0.4528	11,50		1.654	42	4.18	106,1	45	12	❍
335E04531A21M	29/64"	0.4531	11,51	1/2-20	1.654	42	4.18	106,1	45	12	▲
335E04688A21M	15/32"	0.4688	11,91		1.654	42	4.18	106,1	45	12	▲
335M12000A21M		0.4724	12,00	M14Xx2	1.654	42	4.18	106,1	45	12	❍
335E04844A21M	31/64"	0.4844	12,30	9/16-12	1.929	49	4.55	115,6	45	14	▲
335M12500A21M		0.4921	12,50	M14x1.5	1.929	49	4.55	115,6	45	14	❍
335E05000A21M	1/2"	0.5000	12,70		1.929	49	4.55	115,6	45	14	❍
335M13000A21M		0.5118	13,00		1.929	49	4.55	115,6	45	14	❍
335E05156A21M	33/64"	0.5156	13,10	9/16-18	1.929	49	4.55	115,6	45	14	▲
335E05312A21M	17/32"	0.5312	13,49	5/8-11	1.929	49	4.55	115,6	45	14	❍
335M13500A21M		0.5315	13,50		1.929	49	4.55	115,6	45	14	▲
335M13700A21M		0.5394	13,70		1.929	49	4.55	115,6	45	14	▲
335E05469A21M	35/64"	0.5469	13,89	5/8-12	1.929	49	4.55	115,6	45	14	▲
335M14000A21M		0.5512	14,00	M16x2	1.929	49	4.55	115,6	45	14	❍
335E05625A21M	9/16"	0.5625	14,29		2.205	56	5.07	128,8	48	16	❍
335M14500A21M		0.5709	14,50	M16x1.5	2.205	56	5.07	128,8	48	16	❍
335E05781A21M	37/64"	0.5781	14,68	5/8-18	2.205	56	5.07	128,8	48	16	▲
335M15000A21M		0.5906	15,00		2.205	56	5.07	128,8	48	16	❍
335E05938A21M	19/32"	0.5938	15,08		2.205	56	5.07	128,8	48	16	▲
335E06094A21M	39/64"	0.6094	15,48	11/16-12	2.205	56	5.07	128,8	48	16	▲
335M15500A21M		0.6102	15,50	M18x2.5	2.205	56	5.07	128,8	48	16	❍
335E06250A21M	5/8"	0.6250	15,88		2.205	56	5.07	128,8	48	16	❍
335M16000A21M		0.6299	16,00		2.205	56	5.07	128,8	48	16	❍
335M16500A21M		0.6496	16,50	M18x1.5	2.480	63	5.44	138,2	48	18	❍
335E06563A21M	21/32"	0.6563	16,67	3/4-10	2.480	63	5.44	138,2	48	18	▲
335M17000A21M		0.6693	17,00		2.480	63	5.44	138,2	48	18	❍
335E06719A21M	43/64"	0.6719	17,07	3/4-12	2.480	63	5.44	138,2	48	18	▲
335E06875A21M	11/16"	0.6875	17,46	3/4-16	2.480	63	5.44	138,2	48	18	▲
335M17500A21M		0.6890	17,50	M20x2.5	2.480	63	5.44	138,2	48	18	❍
335E07031A21M	45/64"	0.7031	17,86		2.480	63	5.44	138,2	48	18	▲
335M18000A21M		0.7087	18,00		2.480	63	5.44	138,2	48	18	❍
335M18500A21M		0.7283	18,50	M20x1.5	2.756	70	5.89	149,5	50	20	▲
335E07344A21M	47/64"	0.7344	18,65		2.756	70	5.89	149,5	50	20	▲
335M19000A21M		0.7480	19,00		2.756	70	5.89	149,5	50	20	❍
335E07580A21M		0.7580	19,25		2.756	70	5.89	149,5	50	20	❍
335M19500A21M		0.7677	19,50	M22x2.5	2.756	70	5.89	149,5	50	20	▲
335E07813A21M	25/32"	0.7813	19,84		2.756	70	5.89	149,5	50	20	▲
335M20000A21M		0.7874	20,00		2.756	70	5.89	149,5	50	20	▲

* Tap drill diameters allow approximately 75% of full thread to be produced.

❶ **Availability Codes**
❍ Stocked
▲ Non-stocked - 10 work days
Regrinds - 10 work days

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Inch	=0.6200	=335E06200A21M
Metric	=13,25mm	=335M13250A21M

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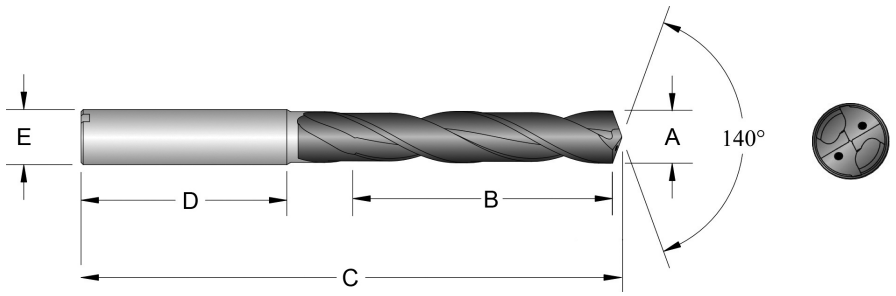
ASC 320®
6 X Diameter



Item Number	A (Diameter)			Tap Size*	B (Drill Depth)		C (OAL)		D Shank Length (mm)	E Shank Dia. (mm)	❶
	Fractional Equivalent	(inch)	(mm)		(inch)	(mm)	(inch)	(mm)			
360M03000A21M		0.1181	3,00		0.9450	24	2.86	72,7	36	4	▲
360E01250A21M	1/8"	0.1250	3,18		0.9450	24	2.86	72,7	36	4	❍
360M03200A21M		0.1260	3,20		0.9450	24	2.86	72,7	36	4	▲
360M03300A21M		0.1299	3,30	M4X0.7	0.9450	24	2.86	72,7	36	4	❍
360M03500A21M		0.1378	3,50		0.9450	24	2.86	72,7	36	4	❍
360E01406A21M	9/64"	0.1406	3,57		0.9450	24	2.86	72,7	36	4	▲
360M03800A21M	#25	0.1496	3,80	#10-24	0.9450	24	2.86	72,7	36	4	▲
360E01563A21M	5/32"	0.1563	3,97		0.9450	24	2.86	72,7	36	4	❍
360M04000A21M		0.1575	4,00		0.9450	24	2.86	72,7	36	4	❍
360M04200A21M		0.1654	4,20	M5X0.8	1.1417	36	3.27	83,1	36	6	▲
360E01719A21M	11/64"	0.1719	4,37		1.1417	36	3.27	83,1	36	6	❍
360M04500A21M	#16	0.1772	4,50	#12-24	1.1417	36	3.27	83,1	36	6	❍
360M04600A21M		0.1811	4,60	#12-28	1.1417	36	3.27	83,1	36	6	▲
360M04650A21M		0.1831	4,65		1.1417	36	3.27	83,1	36	6	▲
360E01875A21M	3/16"	0.1875	4,76		1.1417	36	3.27	83,1	36	6	❍
360M04950A21M		0.1950	4,95		1.1417	36	3.27	83,1	36	6	▲
360M05000A21M		0.1969	5,00	M6X1	1.1417	36	3.27	83,1	36	6	❍
360E01990A21M	#8	0.1990	5,05		1.1417	36	3.27	83,1	36	6	▲
360E02010A21M	#7	0.2010	5,11	1/4-20	1.1417	36	3.27	83,1	36	6	❍
360E02031A21M	13/64"	0.2031	5,16		1.1417	36	3.27	83,1	36	6	❍
360M05330A21M		0.2098	5,33		1.1417	36	3.27	83,1	36	6	▲
360E02130A21M	#3	0.2130	5,41	1/4-28	1.1417	36	3.27	83,1	36	6	▲
360M05500A21M		0.2165	5,50		1.1417	36	3.27	83,1	36	6	❍
360E02188A21M	7/32"	0.2188	5,56		1.1417	36	3.27	83,1	36	6	❍
360E02280A21M	#1	0.2280	5,79		1.1417	36	3.27	83,1	36	6	❍
360M05840A21M		0.2299	5,84		1.1417	36	3.27	83,1	36	6	▲
360E02344A21M	15/64"	0.2344	5,95		1.1417	36	3.27	83,1	36	6	❍
360M06000A21M		0.2362	6,00	M7X1	1.1417	36	3.27	83,1	36	6	❍
360M06090A21M		0.2398	6,09		1.8900	48	4.31	109,4	36	8	▲
360E02460A21M	D	0.2460	6,25		1.8900	48	4.31	109,4	36	8	▲
360E02500A21M	1/4"	0.2500	6,35		1.8900	48	4.31	109,4	36	8	❍
360M06500A21M		0.2559	6,50		1.8900	48	4.31	109,4	36	8	❍
360E02570A21M	F	0.2570	6,53	5/16-18	1.8900	48	4.31	109,4	36	8	❍
360E02656A21M	17/64"	0.2656	6,75	M8X1.25	1.8900	48	4.31	109,4	36	8	❍
360M06800A21M		0.2677	6,80		1.8900	48	4.31	109,4	36	8	▲
360E02720A21M	I	0.2720	6,91	5/16-24	1.8900	48	4.31	109,4	36	8	❍
360M07000A21M		0.2756	7,00	M8X1	1.8900	48	4.31	109,4	36	8	❍
360M07100A21M		0.2795	7,10		1.8900	48	4.31	109,4	36	8	▲
360E02812A21M	9/32"	0.2812	7,14		1.8900	48	4.31	109,4	36	8	❍
360M07300A21M		0.2874	7,30		1.8900	48	4.31	109,4	36	8	▲
360M07400A21M		0.2913	7,40		1.8900	48	4.31	109,4	36	8	▲

* Tap drill diameters allow approximately 75% of full thread to be produced.

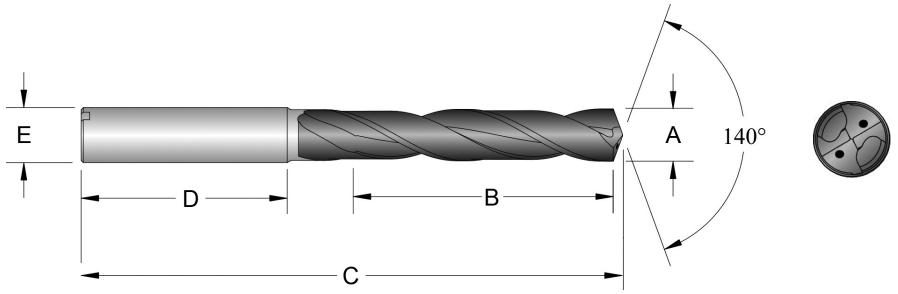
❶ **Availability Codes**
❍ Stocked
▲ Non-stocked - 10 work days
Regrinds - 10 work days

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Inch	=0.2525	=360E02525A21M
Metric	=5,250 mm	=360M05250A21M

ASC 320®

6 X Diameter



Item Number	A (Diameter)			Tap Size*	B (Drill Depth)		C (OAL)		D Shank Length (mm)	E Shank Dia. (mm)	❶
	Fractional Equivalent	(inch)	(mm)		(inch)	(mm)	(inch)	(mm)			
360M07500A21M		0.2953	7,50		1.890	48	4.31	109,4	36	8	❍
360E02969A21M	19/64"	0.2969	7,54		1.890	48	4.31	109,4	36	8	❍
360E03125A21M	5/16"	0.3125	7,94	3/8-16	1.890	48	4.31	109,4	36	8	❍
360M08000A21M		0.3150	8,00		1.890	48	4.31	109,4	36	8	❍
360E03281A21M	21/64"	0.3281	8,33		2.362	60	4.56	115,4	40	10	▲
360M08430A21M	Q	0.3320	8,43	3/8-24	2.362	60	4.56	115,4	40	10	▲
360M08500A21M		0.3346	8,50	M10x1.5	2.362	60	4.56	115,4	40	10	❍
360M08600A21M		0.3386	8,60		2.362	60	4.56	115,4	40	10	▲
360E03438A21M	11/32"	0.3438	8,73		2.362	60	4.56	115,4	40	10	❍
360M08800A21M		0.3465	8,80		2.362	60	4.56	115,4	40	10	❍
360M09000A21M		0.3543	9,00		2.362	60	4.56	115,4	40	10	❍
360E03594A21M	23/64"	0.3594	9,13		2.362	60	4.56	115,4	40	10	❍
360M09200A21M		0.3622	9,20		2.362	60	4.56	115,4	40	10	▲
360E03680A21M	U	0.3680	9,35	7/16-14	2.362	60	4.56	115,4	40	10	❍
360M09470A21M		0.3730	9,47		2.362	60	4.56	115,4	40	10	▲
360M09500A21M		0.3740	9,50		2.362	60	4.56	115,4	40	10	❍
360E03750A21M	3/8"	0.3750	9,53		2.362	60	4.56	115,4	40	10	❍
360M09600A21M		0.3780	9,60		2.362	60	4.56	115,4	40	10	❍
360M09700A21M		0.3820	9,70		2.362	60	4.56	115,4	40	10	▲
360E03906A21M	25/64"	0.3906	9,92	7/16-20	2.362	60	4.56	115,4	40	10	❍
360M10000A21M		0.3937	10,00		2.362	60	4.56	115,4	40	10	❍
360M10200A21M		0.4016	10,20	M12x1.75	2.835	72	5.36	136,2	45	12	❍
360E04040A21M	Y	0.4040	10,31		2.835	72	5.36	136,2	45	12	▲
360E04062A21M	13/32"	0.4062	10,32		2.835	72	5.36	136,2	45	12	❍
360M10500A21M		0.4134	10,50		2.835	72	5.36	136,2	45	12	❍
360E04219A21M	27/64"	0.4219	10,72	1/2-13	2.835	72	5.36	136,2	45	12	❍
360M10800A21M		0.4252	10,80	M12x4.25	2.835	72	5.36	136,2	45	12	▲
360M10900A21M		0.4290	10,90		2.835	72	5.36	136,2	45	12	▲
360M11000A21M		0.4331	11,00		2.835	72	5.36	136,2	45	12	❍
360E04375A21M	7/16"	0.4375	11,11		2.835	72	5.36	136,2	45	12	❍
360M11200A21M		0.4409	11,20		2.835	72	5.36	136,2	45	12	▲
360M11500A21M		0.4528	11,50		2.835	72	5.36	136,2	45	12	❍
360E04531A21M	29/64"	0.4531	11,51	1/2-20	2.835	72	5.36	136,2	45	12	❍
360M11800A21M		0.4646	11,80		2.835	72	5.36	136,2	45	12	▲
360E04688A21M	15/32"	0.4688	11,91		2.835	72	5.36	136,2	45	12	❍
360M12000A21M		0.4724	12,00	M14x2	2.835	72	5.36	136,2	45	12	❍
360E04844A21M	31/64"	0.4844	12,30	9/16-12	3.307	84	5.93	150,5	45	14	❍
360M12500A21M		0.4921	12,50	M14x1.5	3.307	84	5.93	150,5	45	14	❍
360E05000A21M	1/2"	0.5000	12,70		3.307	84	5.93	150,5	45	14	❍
360M12950A21M		0.5100	12,95		3.307	84	5.93	150,5	45	14	▲
360M13000A21M		0.5118	13,00		3.307	84	5.93	150,5	45	14	❍
360E05156A21M	33/64"	0.5156	13,10	9/16-18	3.307	84	5.93	150,5	45	14	❍
360M13200A21M		0.5197	13,20		3.307	84	5.93	150,5	45	14	▲

* Tap drill diameters allow approximately 75% of full thread to be produced.

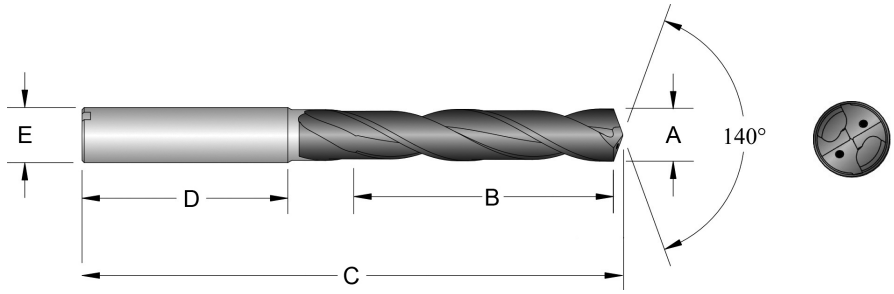
❶ **Availability Codes**

❍ Stocked
▲ Non-stocked - 10 work days
Regrinds - 10 work days

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Inch =.3800 =360E03800A21M
Metric =11,35mm =360M11350A21M

ASC 320®
6 X Diameter



Item Number	A (Diameter)			Tap Size*	B (Drill Depth)		C (OAL)		D Shank Length (mm)	E Shank Dia. (mm)	❶
	Fractional Equivalent	(inch)	(mm)		(inch)	(mm)	(inch)	(mm)			
360E05312A21M	17/32"	0.5312	13,49	5/8-11	3.307	84	5.93	150,5	45	14	❍
360M13500A21M		0.5315	13,50		3.307	84	5.93	150,5	45	14	❍
360M13800A21M		0.5433	13,80		3.307	84	5.93	150,5	45	14	▲
360E05469A21M	35/64"	0.5469	13,89	5/8-12	3.307	84	5.93	150,5	45	14	❍
360M14000A21M		0.5512	14,00	M16x2	3.307	84	5.93	150,5	45	14	❍
360E05625A21M	9/16"	0.5625	14,29		3.780	96	6.65	168,9	48	16	❍
360M14500A21M		0.5709	14,50	M16x1.5	3.780	96	6.65	168,9	48	16	❍
360E05781A21M	37/64"	0.5781	14,68	5/8-18	3.780	96	6.65	168,9	48	16	❍
360M15000A21M		0.5906	15,00		3.780	96	6.65	168,9	48	16	❍
360E05938A21M	19/32"	0.5938	15,08		3.780	96	6.65	168,9	48	16	▲
360E06094A21M	39/64"	0.6094	15,48	11/16-12	3.780	96	6.65	168,9	48	16	❍
360M15500A21M		0.6102	15,50	M18x2.5	3.780	96	6.65	168,9	48	16	❍
360E06250A21M	5/8"	0.6250	15,88		3.780	96	6.65	168,9	48	16	❍
360M16000A21M		0.6299	16,00		3.780	96	6.65	168,9	48	16	❍
360M16020A21M		0.6307	16,02		4.252	108	7.22	183,3	48	18	▲
360M16080A21M		0.6331	16,08		4.252	108	7.22	183,3	48	18	▲
360M16200A21M		0.6378	16,20		4.252	108	7.22	183,3	48	18	▲
360E06406A21M	41/64"	0.6406	16,27		4.252	108	7.22	183,3	48	18	▲
360M16500A21M		0.6496	16,50	M18x1.5	4.252	108	7.22	183,3	48	18	❍
360E06563A21M	21/32"	0.6563	16,67	3/4-10	4.252	108	7.22	183,3	48	18	❍
360M17000A21M		0.6693	17,00		4.252	108	7.22	183,3	48	18	❍
360E06719A21M	43/64"	0.6719	17,07	3/4-12	4.252	108	7.22	183,3	48	18	❍
360E06875A21M	11/16"	0.6875	17,46	3/4-16	4.252	108	7.22	183,3	48	18	❍
360M17500A21M		0.6890	17,50	M20x2.5	4.252	108	7.22	183,3	48	18	❍
360E07031A21M	45/64"	0.7031	17,86		4.252	108	7.22	183,3	48	18	▲
360M18000A21M		0.7087	18,00		4.252	108	7.22	183,3	48	18	▲
360M18030A21M		0.7098	18,03		4.724	120	7.86	199,6	50	20	▲
360E07188A21M	23/32"	0.7188	18,26		4.724	120	7.86	199,6	50	20	❍
360M18500A21M		0.7283	18,50	M20x1.5	4.724	120	7.86	199,6	50	20	▲
360E07344A21M	47/64"	0.7344	18,65		4.724	120	7.86	199,6	50	20	▲
360M19000A21M		0.7480	19,00		4.724	120	7.86	199,6	50	20	❍
360E07500A21M	3/4"	0.7500	19,05		4.724	120	7.86	199,6	50	20	❍
360M19100A21M		0.7520	19,10		4.724	120	7.86	199,6	50	20	▲
360M19140A21M		0.7535	19,14		4.724	120	7.86	199,6	50	20	▲
360M19160A21M		0.7543	19,16		4.724	120	7.86	199,6	50	20	▲
360M19200A21M		0.7559	19,20		4.724	120	7.86	199,6	50	20	▲
360E07580A21M		0.7580	19,25		4.724	120	7.86	199,6	50	20	▲
360M19300A21M		0.7598	19,30		4.724	120	7.86	199,6	50	20	▲
360E07656A21M	49/64"	0.7656	19,45	7/8-09	4.724	120	7.86	199,6	50	20	▲
360M19500A21M		0.7677	19,50	M22x2.5	4.724	120	7.86	199,6	50	20	❍
360E07813A21M	25/32"	0.7813	19,84		4.724	120	7.86	199,6	50	20	▲
360M20000A21M		0.7874	20,00		4.724	120	7.86	199,6	50	20	❍

* Tap drill diameters allow approximately 75% of full thread to be produced.

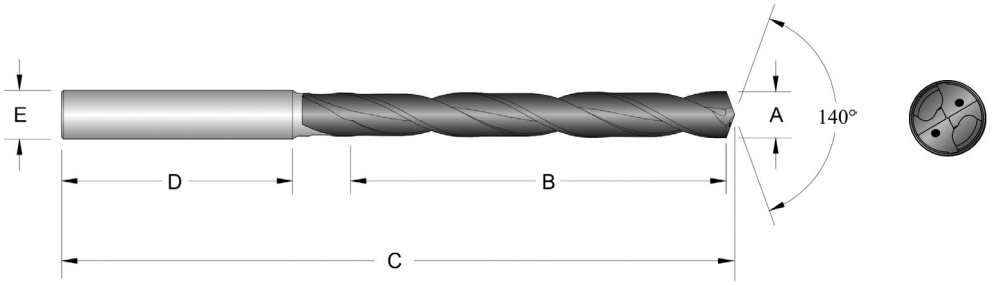
❶ **Availability Codes**
❍ Stocked
▲ Non-stocked - 10 work days
Regrinds - 10 work days

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Inch	=0.6500	=360E06500A21M
Metric	=18,50mm	=360M18500A21M

ASC 320®

9 X Diameter



Item Number	A (Diameter)			Tap Size*	B (Drill Depth)		C (OAL)		D Shank Length (mm)	E Shank Dia. (mm)	❶
	Fractional Equivalent	(inch)	(mm)		(inch)	(mm)	(inch)	(mm)			
390M05000A21M		0.1969	5,00	M6X1	2.126	54	3.98	101,1	36	6	❍
390M06000A21M		0.2362	6,00	M7X1	2.126	54	3.98	101,1	36	6	❍
390E02461A21M	D	0.2461	6,25		2.835	72	4.86	123,4	36	8	▲
390E02500A21M	1/4"	0.2500	6,35		2.835	72	4.86	123,4	36	8	❍
390M06500A21M		0.2559	6,50		2.835	72	4.86	123,4	36	8	▲
390E02656A21M	17/64"	0.2656	6,75	M8X1.25	2.835	72	4.86	123,4	36	8	❍
390E02720A21M	I	0.2720	6,91	5/16-24	2.835	72	4.86	123,4	36	8	❍
390M07000A21M		0.2756	7,00	M8X1	2.835	72	4.86	123,4	36	8	❍
390M07500A21M		0.2953	7,50		2.835	72	4.86	123,4	36	8	▲
390E02969A21M	19/64"	0.2969	7,54		2.835	72	4.86	123,4	36	8	❍
390E03125A21M	5/16"	0.3125	7,94	3/8-16	2.835	72	4.86	123,4	36	8	❍
390M08000A21M		0.3150	8,00		2.835	72	4.86	123,4	36	8	❍
390E03281A21M	21/64"	0.3281	8,33		3.543	90	5.74	145,8	40	10	▲
390M08430A21M	Q	0.3319	8,43	3/8-24	3.543	90	5.74	145,8	40	10	▲
390M08500A21M		0.3346	8,50	M10X1.5	3.543	90	5.74	145,8	40	10	▲
390M08600A21M		0.3386	8,60		3.543	90	5.74	145,8	40	10	❍
390E03438A21M	11/32"	0.3438	8,73		3.543	90	5.74	145,8	40	10	❍
390M08800A21M		0.3465	8,80		3.543	90	5.74	145,8	40	10	▲
390M09000A21M		0.3543	9,00		3.543	90	5.74	145,8	40	10	❍
390E03594A21M	23/64"	0.3594	9,13		3.543	90	5.74	145,8	40	10	❍
390E03680A21M	U	0.3680	9,35	7/16-14	3.543	90	5.74	145,8	40	10	▲
390M09500A21M		0.3740	9,50		3.543	90	5.74	145,8	40	10	▲
390E03750A21M	3/8"	0.3750	9,53		3.543	90	5.74	145,8	40	10	❍
390M09600A21M		0.3780	9,60		3.543	90	5.74	145,8	40	10	❍
390E03906A21M	25/64"	0.3906	9,92	7/16-20	3.543	90	5.74	145,8	40	10	▲
390M10000A21M		0.3937	10,00		3.543	90	5.74	145,8	40	10	❍
390M10200A21M		0.4016	10,20	M12x1.75	4.252	108	6.78	172,2	45	12	❍
390E04040A21M		0.4040	10,26		4.252	108	6.78	172,2	45	12	▲
390E04062A21M	13/32"	0.4062	10,32		4.252	108	6.78	172,2	45	12	❍
390M10500A21M		0.4134	10,50		4.252	108	6.78	172,2	45	12	▲
390E04219A21M	27/64"	0.4219	10,72	1/2-13	4.252	108	6.78	172,2	45	12	❍
390M11000A21M		0.4331	11,00		4.252	108	6.78	172,2	45	12	❍
390E04375A21M	7/16"	0.4375	11,11		4.252	108	6.78	172,2	45	12	❍
390M11500A21M		0.4528	11,50		4.252	108	6.78	172,2	45	12	▲
390E04531A21M	29/64"	0.4531	11,51	1/2-20	4.252	108	6.78	172,2	45	12	▲
390E04688A21M	15/32"	0.4688	11,91		4.252	108	6.78	172,2	45	12	❍
390M12000A21M		0.4724	12,00	M14X2	4.252	108	6.78	172,2	45	12	❍
390E04844A21M	31/64"	0.4844	12,30	9/16-12	4.961	126	7.58	192,5	45	14	▲
390M12500A21M		0.4921	12,50	M14X1.5	4.961	126	7.58	192,5	45	14	▲
390E05000A21M	1/2"	0.5000	12,70		4.961	126	7.58	192,5	45	14	❍
390M13000A21M		0.5118	13,00		4.961	126	7.58	192,5	45	14	▲
390E05156A21M	33/64"	0.5156	13,10	9/16-18	4.961	126	7.58	192,5	45	14	▲

* Tap drill diameters allow approximately 75% of full thread to be produced.

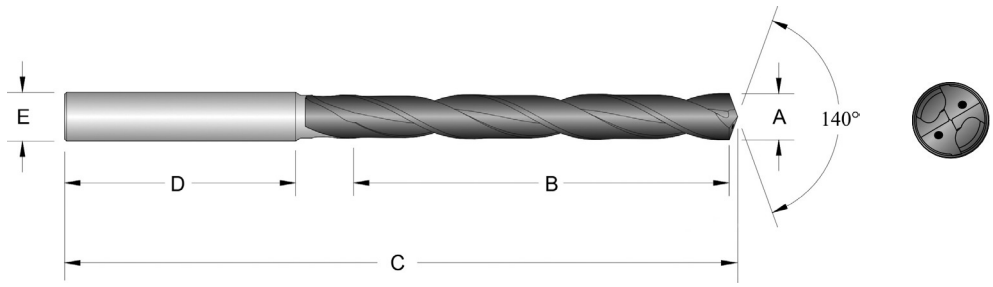
❶ **Availability Codes**
❍ Stocked
▲ Non-stocked - 10 work days
Regrinds - 10 work days

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Inch	=0.7350	=390E07350A21M
Metric	=19,25mm	=390M19250A21M

Allied Machine & Engineering Corp. (330) 343-4283 (330) 602-3400 www.alliedmachine.com

ASC 320®
9 X Diameter



Item Number	A (Diameter)			Tap Size*	B (Drill Depth)		C (OAL)		D Shank Length (mm)	E Shank Dia. (mm)	❶
	Fractional Equivalent	(inch)	(mm)		(inch)	(mm)	(inch)	(mm)			
390E05312A21M	17/32"	0.5312	13,49	5/8-11	4.961	126	7.58	192,5	45	14	❍
390M13500A21M		0.5315	13,50		4.961	126	7.58	192,5	45	14	▲
390E05469A21M	35/64"	0.5469	13,89	5/8-12	4.961	126	7.58	192,5	45	14	❍
390M14000A21M		0.5512	14,00	M16X2	4.961	126	7.58	192,5	45	14	❍
390E05625A21M	9/16"	0.5625	14,29		5.669	144	8.54	216,9	48	16	❍
390M14500A21M		0.5709	14,50	M16X1.5	5.669	144	8.54	216,9	48	16	▲
390E05781A21M	37/64"	0.5781	14,68	5/8-18	5.669	144	8.54	216,9	48	16	▲
390M15000A21M		0.5906	15,00		5.669	144	8.54	216,9	48	16	▲
390E05938A21M	19/32"	0.5938	15,08		5.669	144	8.54	216,9	48	16	▲
390E06094A21M	39/64"	0.6094	15,48	11/16-12	5.669	144	8.54	216,9	48	16	❍
390M15500A21M		0.6102	15,50	M18X2.5	5.669	144	8.54	216,9	48	16	▲
390E06250A21M	5/8"	0.6250	15,88		5.669	144	8.54	216,9	48	16	❍
390M16000A21M		0.6299	16,00		5.669	144	8.54	216,9	48	16	▲
390E06406A21M	41/64"	0.6406	16,27		6.378	162	9.34	237,3	48	18	▲
390M16500A21M		0.6496	16,50	M18X1.5	6.378	162	9.34	237,3	48	18	▲
390E06563A21M	21/32"	0.6563	16,67	3/4-10	6.378	162	9.34	237,3	48	18	▲
390M17000A21M		0.6693	17,00		6.378	162	9.34	237,3	48	18	▲
390E06719A21M	43/64"	0.6719	17,07	3/4-12	6.378	162	9.34	237,3	48	18	▲
390E06875A21M	11/16"	0.6875	17,46	3/4-16	6.378	162	9.34	237,3	48	18	❍
390M17500A21M		0.6890	17,50	M20X2.5	6.378	162	9.34	237,3	48	18	▲
390E07031A21M	45/64"	0.7031	17,86		6.378	162	9.34	237,3	48	18	▲
390M18000A21M		0.7087	18,00		6.378	162	9.34	237,3	48	18	❍
390E07188A21M	23/32"	0.7188	18,26		7.087	180	10.22	259,6	50	20	▲
390M18500A21M		0.7283	18,50	M20X1.5	7.087	180	10.22	259,6	50	20	▲
390E07344A21M	47/64"	0.7344	18,65		7.087	180	10.22	259,6	50	20	▲
390M19000A21M		0.7480	19,00		7.087	180	10.22	259,6	50	20	❍
390E07500A21M	3/4"	0.7500	19,05		7.087	180	10.22	259,6	50	20	❍
390E07656A21M	49/64"	0.7656	19,45	7/8-09	7.087	180	10.22	259,6	50	20	▲
390M19500A21M		0.7677	19,50	M22X2.5	7.087	180	10.22	259,6	50	20	▲
390E07813A21M	25/32"	0.7813	19,84		7.087	180	10.22	259,6	50	20	▲
390M20000A21M		0.7874	20,00		7.087	180	10.22	259,6	50	20	▲

* Tap drill diameters allow approximately 75% of full thread to be produced.

❶ **Availability Codes**
❍ Stocked
▲ Non-stocked - 10 work days
Regrinds - 10 work days

Sizes not shown (Non-Standard Diameters) are available. When ordering, please follow the examples shown below:

Inch	=0.7350	=390E07350A21M
Metric	=19,25mm	=390M19250A21M

ASC 320®

Recommended Speeds and Feeds - Inch

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team.

Material	Hardness (BHN)	SPEED	FEED (IPR)								
		SFM	.118" to .157"	.161" to .236"	.240" to .315"	.319" to .394"	.398" to .472"	.476" to .551"	.555" to .630"	.634" to .709"	.713" to .787"
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	450	0.007	0.009	0.011	0.013	0.014	0.016	0.018	0.020	0.022
	150-200	400	0.005	0.008	0.009	0.011	0.012	0.014	0.016	0.018	0.020
	200-250	375	0.004	0.006	0.007	0.009	0.010	0.012	0.014	0.016	0.018
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	425	0.007	0.009	0.011	0.013	0.015	0.017	0.019	0.019	0.021
	125-175	390	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.018	0.020
	175-225	360	0.005	0.008	0.010	0.011	0.013	0.015	0.017	0.017	0.019
	225-275	330	0.004	0.007	0.009	0.010	0.012	0.014	0.016	0.016	0.018
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	390	0.006	0.008	0.010	0.012	0.013	0.014	0.016	0.018	0.020
	175-225	360	0.005	0.007	0.010	0.012	0.012	0.013	0.015	0.017	0.019
	225-275	320	0.004	0.006	0.009	0.011	0.011	0.012	0.014	0.016	0.018
	275-325	285	0.003	0.006	0.008	0.010	0.010	0.011	0.013	0.015	0.017
Alloy Steel 4140, 5140, 8640, etc.	175-225	375	0.006	0.008	0.010	0.012	0.013	0.014	0.016	0.018	0.020
	225-275	340	0.005	0.007	0.009	0.011	0.012	0.013	0.015	0.017	0.019
	275-325	300	0.004	0.006	0.008	0.010	0.011	0.012	0.013	0.016	0.018
	325-375	275	0.003	0.005	0.007	0.009	0.010	0.010	0.012	0.014	0.016
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	260	0.005	0.007	0.008	0.011	0.011	0.012	0.013	0.014	0.016
	300-350	210	0.004	0.006	0.007	0.009	0.010	0.011	0.012	0.013	0.015
	350-400	160	0.003	0.005	0.006	0.008	0.009	0.010	0.011	0.012	0.013
Structural Steel A36, A285, A516, etc.	100-150	360	0.005	0.008	0.009	0.011	0.012	0.013	0.014	0.016	0.018
	150-250	320	0.004	0.007	0.008	0.010	0.011	0.012	0.013	0.015	0.017
	250-350	270	0.003	0.005	0.007	0.008	0.009	0.010	0.011	0.013	0.015
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	260	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011
	200-250	220	0.002	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	120	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.010	0.011
	220-310	90	0.002	0.003	0.003	0.004	0.005	0.006	0.007	0.008	0.009
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	200	0.004	0.005	0.006	0.007	0.008	0.009	0.011	0.012	0.013
	185-275	140	0.003	0.004	0.004	0.005	0.006	0.007	0.009	0.010	0.011
Nodular, Grey, Ductile Cast Iron	120-150	550	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022	0.024
	150-200	500	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022	0.024
	200-220	475	0.007	0.009	0.011	0.013	0.015	0.017	0.019	0.021	0.023
	220-260	430	0.007	0.009	0.011	0.013	0.015	0.017	0.019	0.021	0.023
	260-320	400	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022
Cast Aluminum	30	1500	0.008	0.010	0.013	0.015	0.017	0.020	0.022	0.024	0.026
	180	1000	0.006	0.008	0.011	0.013	0.015	0.018	0.020	0.022	0.024
Wrought Aluminum	30	1500	0.008	0.010	0.013	0.015	0.017	0.020	0.022	0.024	0.026
	180	1000	0.006	0.008	0.011	0.013	0.015	0.018	0.020	0.022	0.024

Formulas: IPM = RPM • IPR **SFM = RPM • 0.262 • DIA** **RPM = SFM • 3.82/DIA**

To calculate speeds and feeds for 6 and 9 X Diameter ASC 320 Solid Carbide High Performance Drills, use the following:

SPEED AND FEED ADJUSTMENT		
3.5 X Diameter	6 X Diameter	9 X Diameter
See Above Chart	0.90	0.75

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 300 SFM and 0.010 IPR, then reduce to 225 SFM and 0.0075 IPR when using a 9xD tool.

300 • 0.75 = 225 SFM **0.010 • 0.75 = 0.0075 IPR**

ASC 320®

Recommended Speeds and Feeds - Metric

IMPORTANT: The speeds and feeds listed below are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team.

Material	Hardness (BHN)	SPEED	FEED (mm/rev)								
		M/min	3,00 to 4,00	4,01 to 6,00	6,01 to 8,00	8,01 to 10,00	10,01 to 12,00	12,01 to 14,00	14,01 to 16,00	16,01 to 18,00	18,01 to 20,00
Free Machining Steel 1118, 1215, 12L14, etc.	100-150	137	0,18	0,23	0,28	0,33	0,36	0,41	0,46	0,51	0,56
	150-200	122	0,13	0,20	0,23	0,28	0,30	0,36	0,41	0,46	0,51
	200-250	114	0,10	0,15	0,18	0,23	0,25	0,30	0,36	0,41	0,46
Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85-125	130	0,18	0,23	0,28	0,33	0,38	0,43	0,48	0,48	0,53
	125-175	119	0,15	0,20	0,25	0,30	0,36	0,41	0,46	0,46	0,51
	175-225	110	0,13	0,20	0,25	0,28	0,33	0,38	0,43	0,43	0,48
	225-275	101	0,10	0,18	0,23	0,25	0,30	0,36	0,41	0,41	0,46
Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125-175	119	0,15	0,20	0,25	0,30	0,33	0,36	0,41	0,46	0,51
	175-225	110	0,13	0,18	0,25	0,30	0,30	0,33	0,38	0,43	0,48
	225-275	98	0,10	0,15	0,23	0,28	0,28	0,30	0,36	0,41	0,48
	275-325	87	0,08	0,15	0,20	0,25	0,25	0,28	0,33	0,38	0,43
Alloy Steel 4140, 5140, 8640, etc.	175-225	114	0,15	0,20	0,25	0,30	0,33	0,36	0,41	0,46	0,51
	225-275	104	0,13	0,18	0,23	0,28	0,30	0,33	0,38	0,43	0,48
	275-325	91	0,10	0,15	0,20	0,25	0,28	0,30	0,33	0,41	0,46
	325-375	84	0,08	0,13	0,18	0,23	0,25	0,25	0,30	0,36	0,41
High Strength Alloy 4340, 4330V, 300M, etc.	225-300	79	0,13	0,18	0,20	0,28	0,28	0,30	0,33	0,36	0,41
	300-350	64	0,10	0,15	0,18	0,23	0,25	0,28	0,30	0,33	0,38
	350-400	49	0,08	0,13	0,15	0,20	0,23	0,25	0,28	0,30	0,33
Structural Steel A36, A285, A516, etc.	100-150	110	0,13	0,20	0,23	0,28	0,30	0,33	0,36	0,41	0,46
	150-250	98	0,10	0,18	0,20	0,25	0,28	0,30	0,33	0,38	0,43
	250-350	82	0,08	0,13	0,18	0,20	0,23	0,25	0,28	0,33	0,38
Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150-200	79	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,25	0,28
	200-250	67	0,05	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,25
High Temp. Alloy Hastelloy B, Inconel 600, etc.	140-220	37	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,25	0,28
	220-310	27	0,05	0,08	0,08	0,10	0,13	0,15	0,18	0,20	0,23
Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135-185	61	0,10	0,13	0,15	0,18	0,20	0,23	0,28	0,30	0,33
	185-275	43	0,08	0,10	0,10	0,13	0,15	0,18	0,23	0,25	0,28
Nodular, Grey, Ductile Cast Iron	120-150	168	0,20	0,25	0,30	0,36	0,41	0,46	0,51	0,56	0,61
	150-200	152	0,20	0,25	0,30	0,36	0,41	0,46	0,51	0,56	0,61
	200-220	145	0,18	0,23	0,28	0,33	0,38	0,43	0,48	0,53	0,58
	220-260	131	0,18	0,23	0,28	0,33	0,38	0,43	0,48	0,53	0,58
	260-320	122	0,15	0,20	0,25	0,30	0,36	0,41	0,46	0,51	0,56
Cast Aluminum	30	457	0,20	0,25	0,33	0,38	0,43	0,51	0,56	0,61	0,66
	180	305	0,15	0,20	0,28	0,33	0,38	0,46	0,51	0,56	0,61
Wrought Aluminum	30	457	0,20	0,25	0,33	0,38	0,43	0,51	0,56	0,61	0,66
	180	305	0,15	0,20	0,28	0,33	0,38	0,46	0,51	0,56	0,61

Formulas: mm/min = RPM • mm/rev **M/min = RPM • 0.003 • DIA** **RPM = M/min • 318.47/DIA**

To calculate speeds and feeds for 6 and 9 X Diameter ASC 320 Solid Carbide High Performance Drills, use the following:

SPEED AND FEED ADJUSTMENT		
3.5 X Diameter	6 X Diameter	9 X Diameter
See Above Chart	0.90	0.75

RECOMMENDED SPEED AND FEED EXAMPLE: If recommended speed and feed is 91 M/min and 0.25 mm/rev, then reduce to 68 M/min and 0.19 mm/rev when using a 9xD tool.

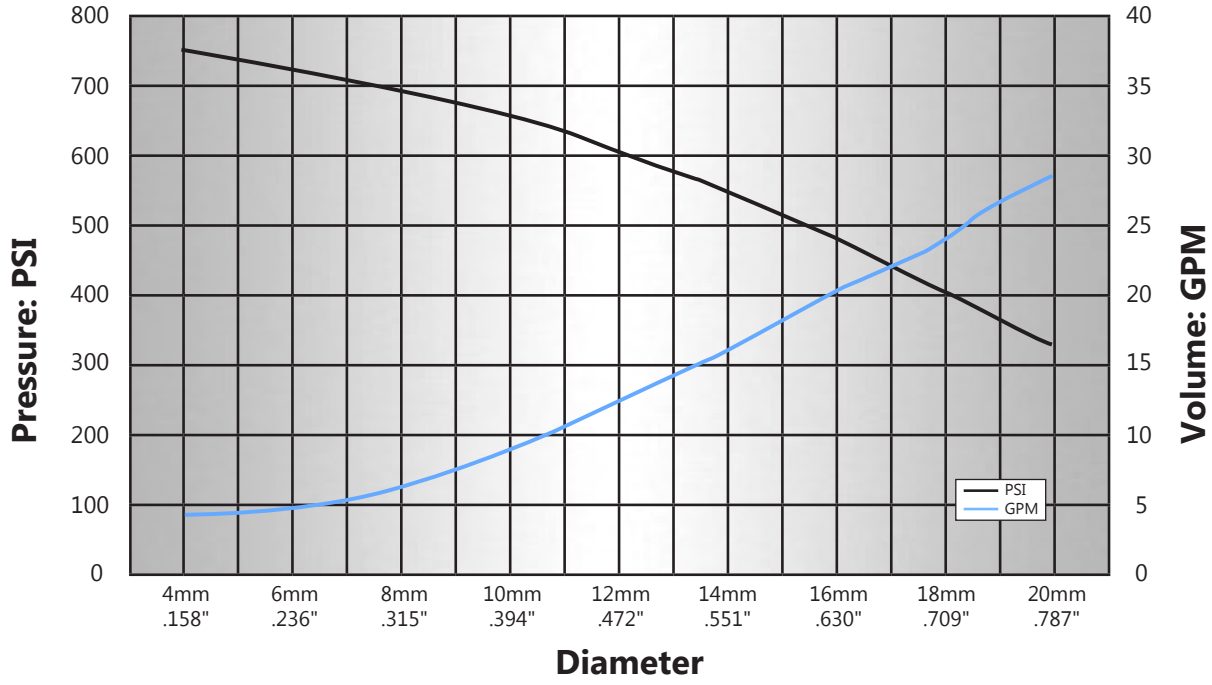
91 • 0.75 = 68 M/min **0.25 • 0.75 = 0.19 mm/rev**

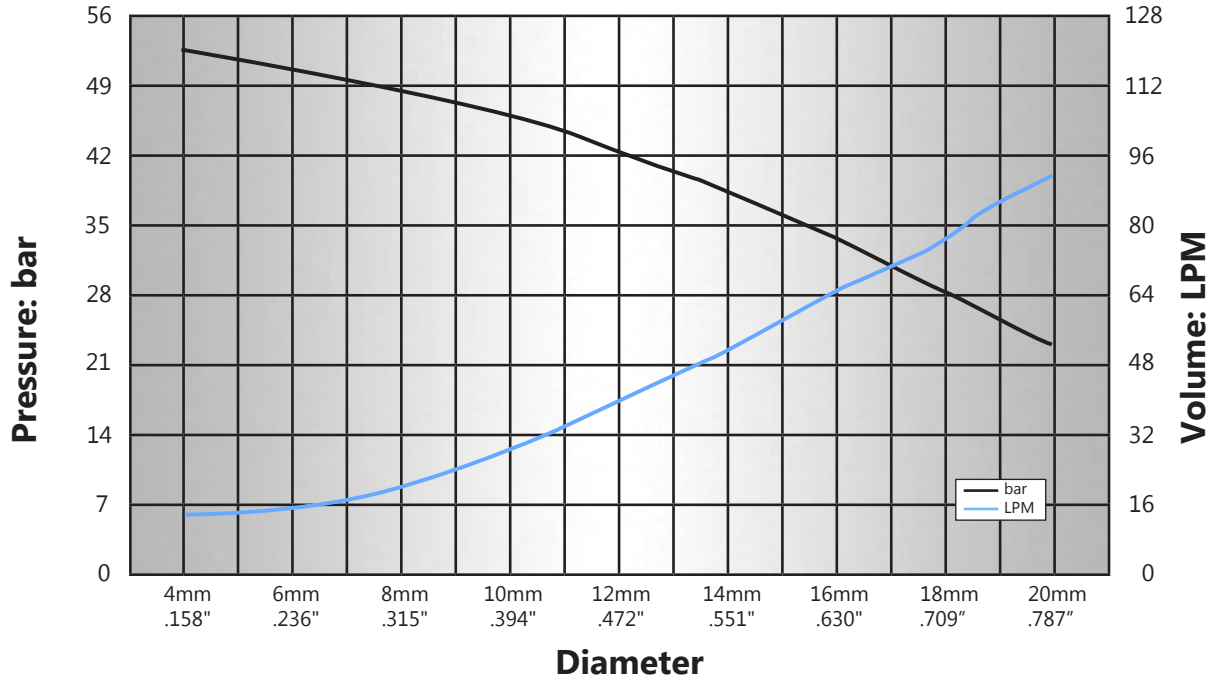
Allied Machine & Engineering Corp. patent information can be found at **www.alliedmachine.com/patents**

ASC 320®

Coolant Recommendations - Inch and Metric

IMPORTANT: The coolant pressure and flow rate recommendations below represent a good approximation to obtain optimum tool life and chip evacuation at Allied recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the ASC 320 drilling system will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds.





Coolant Adjustment

Drill Length	6xD	9xD
Pressure & Flow	1.5	2

COOLANT RECOMMENDATION EXAMPLE: If the recommended pressure and flow is 600 PSI and 12 GPM for a 3.5x Diameter ASC 320, the adjusted pressure and flow would be 1200 PSI and 24 GPM, respectively, for the 9x Diameter ASC 320.

600 • 2 = 1200 PSI **12 • 2 = 24 GPM**

Special Tooling

CONTENTS

Special Tooling Concepts 228-229

Special Tooling Design Section 230-231

QDSI 34® Inserts 232

Specials Offerings

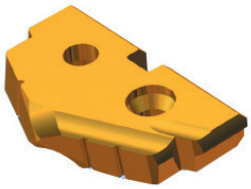
- **i-Form**
  Allied Machine & Engineering Corp. brings you the i-Form Custom Indexable Drill/Form Tool System. i-Form allows for complex designs with a replaceable cutting edge.

- **Engineered Specials**
  Engineered Specials can drastically lower cycle times and remove unnecessary steps in the manufacturing process. This can save you significant amounts of money and dramatically lower your cost-per-hole.

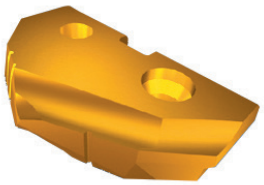
- **Insta-Quote™**
  Insta-Quote lets you design, quote and receive prints in minutes. Insta-Quote includes Original T-A® and GEN2 T-A® holders and inserts, as well as the GEN3SYS® High Penetration Drilling System holders.

Special Tooling
Concepts

Our drilling systems are excellent choices when looking for the ultimate in high-tech drilling for CNC or manual equipment. We manufacture to your drawings or offer turn key design solutions. Please use pages 230 and 231 or visit **www.alliedmachine.com** to develop special products for your applications.



Spot Drill & Countersink



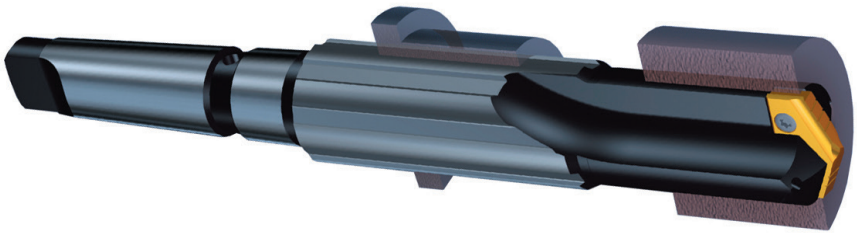
Double Angle Drill Insert

Guided T-A® replacement style holders are designed to provide optimal hole straightness in deep-hole applications.

⚠ **Refer to page 199 for Deep Hole Drilling Guidelines**

This multi-step tool design utilizes "wrap-around" style inserts to provide finish tolerance forms in one operation.

This shallow hole design has a bushing support diameter larger than the largest drill to be used. It requires only one bushing size for a variety of drill diameters. Rapid set-up and size change is especially beneficial in multiple spindle applications.



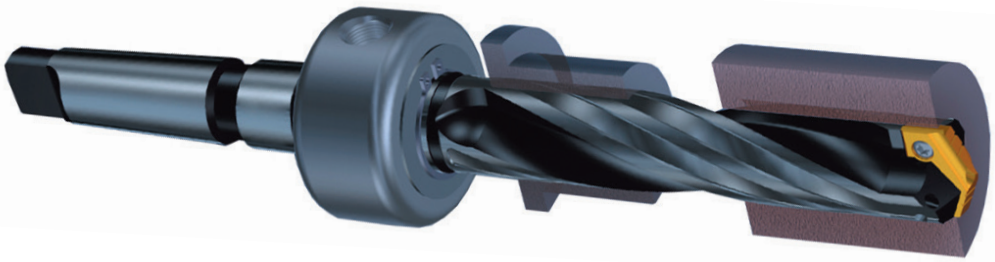
A Combination Drill, Countersink and Counterbore tool used to complete a lug hole in one operation for the aluminum wheel industry.

Allied drill inserts are excellent choices when combined with indexable carbide inserts. The inserts are very forgiving and add stability to the machining process. High production rates and exceptional tool life without any need for machine adjustment or regrinding make this product unique!

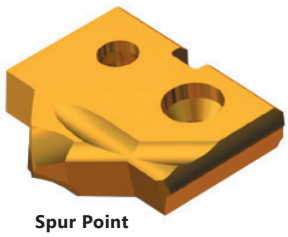
This helical gullet combination tool is for shallow holes when a drill bushing is used. The larger body allows the indexable carbide inserts to pass through a drill bushing without damaging the inserts.

This complex Chamfer / Back Chamfer Tool provides a unique form utilizing indexable carbide inserts for the top chamfer and a special application T-A® drill insert to circle interpolate the bottom chamfer.

Helical gullet holders for dedicated sizes allow the Allied T-A drill insert to work in the same type of applications as twist drills. This replaceable tip oil hole drill offers higher production rates and longer tool life without any need to adjust machine length settings when the drill tip is changed. Replaceable drill tips, in various material grades and coatings, make this product cost effective in a wide range of applications.

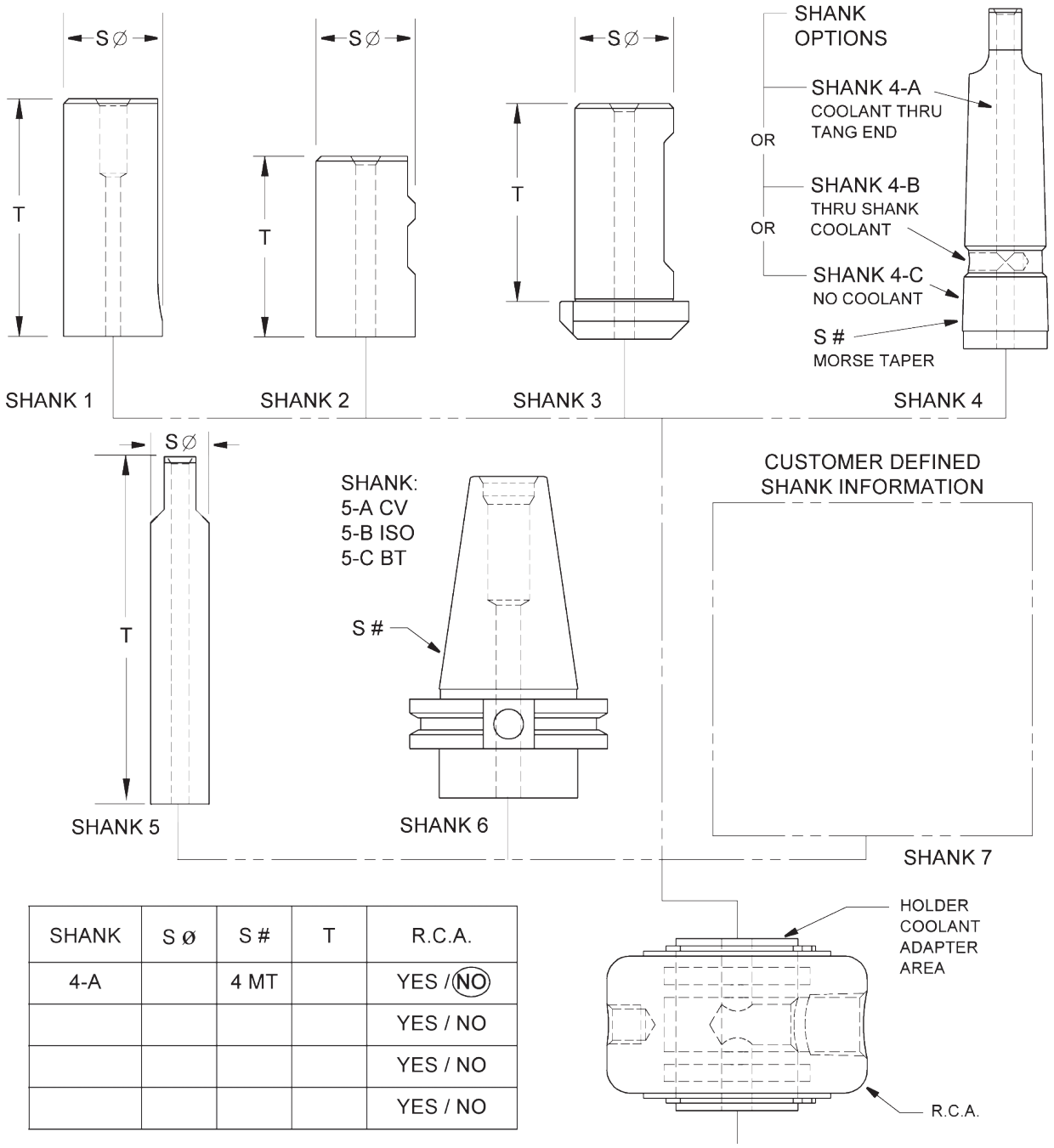


Holders with carbide wearpads can be used when necessary to drill through an interrupted cut. Wear strip holders are also used for deeper hole applications where straightness is critical.



Spur Point

Special Tooling
Design



SHANK	S Ø	S #	T	R.C.A.
4-A		4 MT		YES / (NO)
				YES / NO
				YES / NO
				YES / NO

We have included these two pages so you may assist us with defining your special tooling requirements. Select Shanks 1-6 or define Shank 7 to be used with or without a Rotary Coolant Adapter.

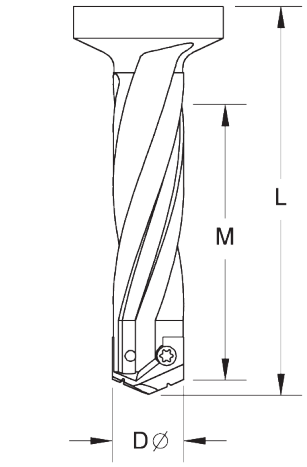
We ask that you define your hole profile and offer an example of a tool form to help us with the design process. Tools 1-5 cover only a small portion of our capability so feel free to use your own imagination. Please photocopy these pages, record your information in the boxes at the top of page 231, and fax or email the information for our quickest response.

ITEM	TOOL	A_1	A_2	A_3	B_1	B_2	B_3	C	D∅	E∅	F∅	G	L	M
EXAMPLE	5	30°			1.00			.25	.620	1.25			4.50	3.00
Customer Signature:										Date:				

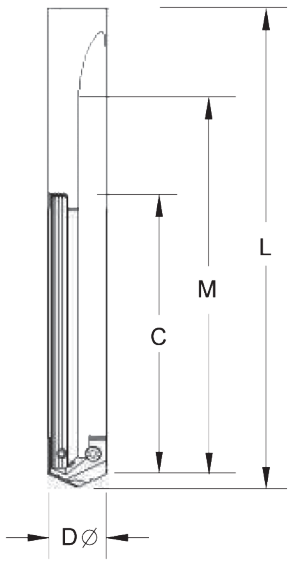
Please fax or mail to Allied Machine & Engineering Corp.'s Application Engineering Department.

Toll Free US & Canada: (800) 321-5537
Fax (330) 343-7666
Email aesupport@alliedmachine.com

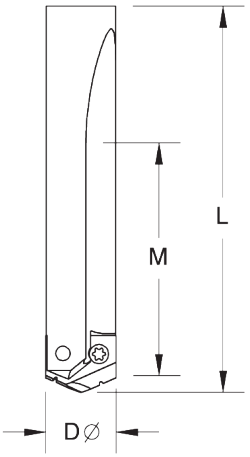
Please be sure to include shank and coolant information from page 230 when sending in special tool designs.



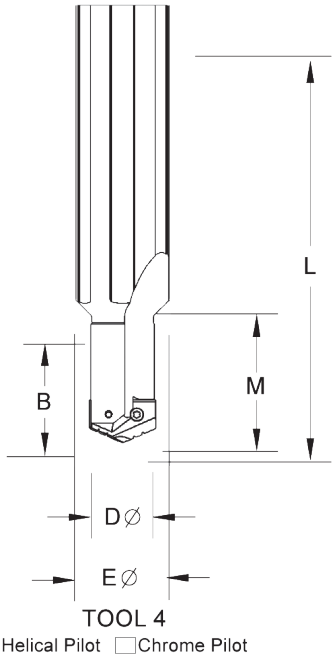
TOOL 1
☐ CARBIDE CLAD ☐ CHROME PLATE
☐ Helical ☐ Straight



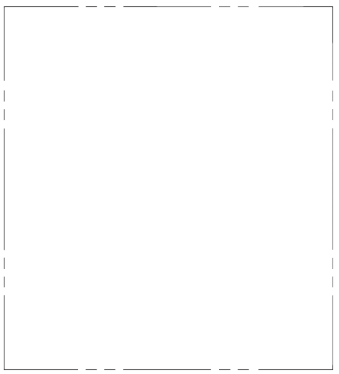
TOOL 2
☐ Helical Pilot ☐ Chrome Pilot



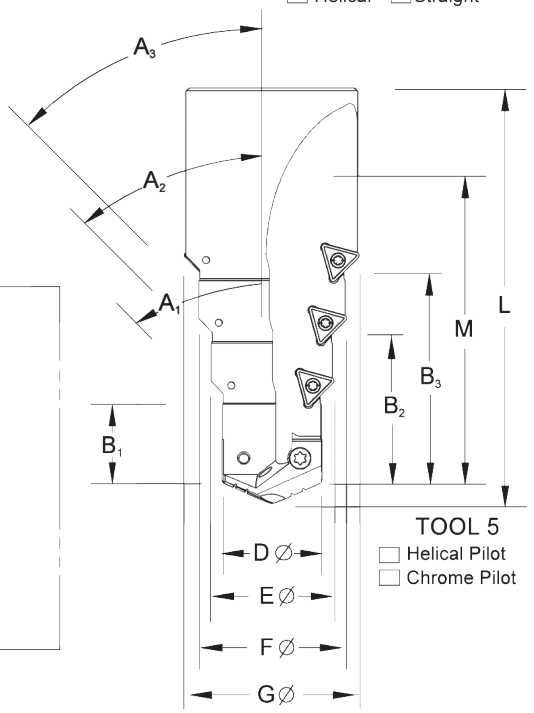
TOOL 3
SPECIAL LENGTH
☐ Helical ☐ Straight



TOOL 4
☐ Helical Pilot ☐ Chrome Pilot



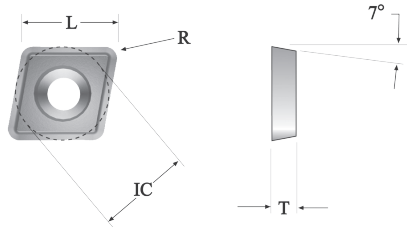
HOLE PROFILE



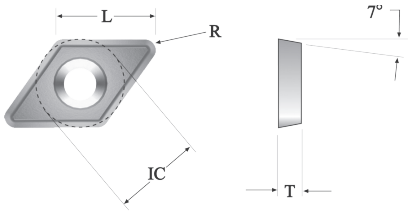
TOOL 5
☐ Helical Pilot
☐ Chrome Pilot

Special Tooling
QDSI 34® Inserts

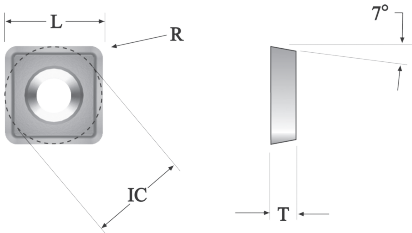
QDSI 34 Inserts are utilized only in Special ICS Holders.
Speeds and feeds for QDSI 34 Inserts are determined by drill insert.



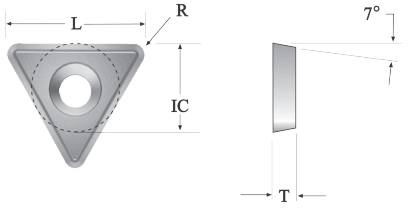
80° Diamond Inserts



55° Diamond Inserts



Square Inserts



60° Triangle Inserts

Type	Insert Item Number	ANSI Designation	Inch or Metric	IC	L	T	R	Screw Item Number (10 pack)	Torx Plus Driver
80° Diamond	CCGT-060202	CCGT 2(1.5)0.5	Inch	0.250	0.249	0.094	0.008	7256-IP8-1 (M2,5x0,45x6,0)	8IP-8
			Metric	6,35	6,32	2,39	0,20		
	CCMT-060204	CCMT 2(1.5)1	Inch	0.250	0.247	0.094	0.016		
			Metric	6,35	6,28	2,39	0,40		
	CCMT-060208	CCMT 2(1.5)2	Inch	0.250	0.244	0.094	0.031		
			Metric	6,35	6,21	2,39	0,79		
	CCGT-06T308	CCGT 2(2.5)2	Inch	0.250	0.244	0.156	0.031		
			Metric	6,35	6,21	3,96	0,79		
	CCGT-09T302	CCGT 3(2.5)0.5	Inch	0.375	0.374	0.156	0.008	7359-IP15-1 (M3,5x0,6x9,0)	8IP-15
			Metric	9,53	9,49	3,96	0,20		
	CCMT-09T304	CCMT 3(2.5)1	Inch	0.375	0.372	0.156	0.016		
			Metric	9,53	9,46	3,96	0,40		
	CCMT-09T308	CCMT 3(2.5)2	Inch	0.375	0.369	0.156	0.031		
			Metric	9,53	9,39	3,96	0,79		
	CCMT-120404	CCMT 431	Inch	0.500	0.497	0.188	0.016	745105-IP20-1 (M4,5x0,75x10,5)	8IP-20
			Metric	12,70	12,63	4,76	0,40		
	CCMT-120408	CCMT 432	Inch	0.500	0.494	0.188	0.031		
			Metric	12,70	12,56	4,76	0,79		
55° Diamond	DCGT-070202	DCGT 2(1.5)0.5	Inch	0.250	0.243	0.094	0.008	7256-IP8-1 (M2,5x0,45x6,0)	8IP-8
			Metric	6,35	6,18	2,39	0,20		
	DCMT-070204	DCMT 2(1.5)1	Inch	0.250	0.237	0.094	0.016		
			Metric	6,35	6,01	2,39	0,40		
	DCMT-070208	DCMT 2(1.5)2	Inch	0.250	0.223	0.094	0.031		
			Metric	6,35	5,67	2,39	0,79		
	DCMT-11T304	DCMT 3(2.5)1	Inch	0.375	0.362	0.156	0.016	7359-IP15-1 (M3,5x0,6x9,0)	8IP-15
			Metric	9,53	9,19	3,96	0,40		
	DCMT-11T308	DCMT 3(2.5)2	Inch	0.375	0.348	0.156	0.031		
			Metric	9,53	8,85	3,96	0,79		
Square	SCMT-09T304	SCMT 3(2.5)1	Inch	0.375	0.375	0.156	0.016	7359-IP15-1 (M3,5x0,6x9,0)	8IP-15
			Metric	9,53	9,53	3,96	0,40		
60° Triangle	TCGT-06T102	TCGT 1.2(1.2)0.5	Inch	0.156	0.259	0.078	0.008	724-IP6-1 (M2,0x0,4x4,0)	8IP-6
			Metric	3,97	6,58	1,98	0,20		
	TCGT-06T104	TCGT 1.2(1.2)1	Inch	0.156	0.248	0.078	0.016		
			Metric	3,97	6,29	1,98	0,40		
	TCGT-06T108	TCGT 1.2(1.2)2	Inch	0.156	0.225	0.078	0.031		
			Metric	3,97	5,71	1,98	0,79		
	TCGT-090202	TCGT 1.8(1.5)0.5	Inch	0.219	0.367	0.094	0.008	7225-IP7-1 (M2.2,5x-0,45x5,0)	8IP-7
			Metric	5,56	9,33	2,39	0,20		
	TCGT-090204	TCGT 1.8(1.5)1	Inch	0.219	0.356	0.094	0.016		
			Metric	5,56	9,04	2,39	0,40		
	TCGT-090208	TCGT 1.8(1.5)2	Inch	0.219	0.333	0.094	0.031		
			Metric	5,56	8,46	2,39	0,79		
	TCGT-110202	TCGT 2(1.5)0.5	Inch	0.250	0.422	0.094	0.008	7256-IP8-1 (M2,5x0,45x6,0)	8IP-8
			Metric	6,35	10,71	2,39	0,20		
	TCMT-110204	TCMT 2(1.5)1	Inch	0.250	0.410	0.094	0.016		
			Metric	6,35	10,42	2,39	0,40		
	TCMT-110208	TCMT 2(1.5)2	Inch	0.250	0.387	0.094	0.031		
			Metric	6,35	9,84	2,39	0,79		
	TCMT-16T304	TCMT 3(2.5)1	Inch	0.375	0.627	0.156	0.016	7359-IP15-1 (M3,5x0,6x9,0)	8IP-15
			Metric	9,53	15,92	3,96	0,40		
	TCMT-16T308	TCMT 3(2.5)2	Inch	0.375	0.604	0.156	0.031		
			Metric	9,53	15,34	3,96	0,79		
	TCGT-220408	TCGT 432	Inch	0.500	0.820	0.188	0.031	745105-IP20-1 (M4,5x0,75x10,5)	8IP-20
			Metric	12,70	20,83	4,76	0,79		

Guaranteed Test/Demo and Warranty Information

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Test/Demo Application Form 234

Warranty Information 235

ALLIED MACHINE & ENGINEERING CORP

Guaranteed Test/Demo Application Form

Distributor PO # _____

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

Distributor:		End User:	
Contact:		Contact:	
Account Number:		Industry:	
Phone:		Phone:	
Email:		Email:	

Current Process

List all tooling, coatings, substrates, speeds and feeds, tool life and any problems

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.)

Pre-existing Diameter: _____ in/mm Depth of Cut: _____ in/mm Hardness: _____ (BHN/Rc)

Required Finish: _____ RMS Material 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.)

Rigidity: ☐ Excellent ☐ Good ☐ Poor

Tool Rotating: ☐ Yes ☐ No

Power: _____ HP/KW

Thrust: _____ Lbs./N

Orientation: ☐ Vertical ☐ Horizontal

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

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Toll Free USA & Canada: (800) 321-5537
Fax: (330) 602-3400

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(Vol. 15)