



ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing



Boring



Reaming



Burnishing



Threading



Drilling

▶ APX Drill

Deep Hole / Large Diameter Drilling System



Specials



The Foundation

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



The Beginning



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

The T-A[®]

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



The Innovation

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



The Future

Allied Machine is constantly investing in the brightest and sharpest minds, shaping a future filled with success and quality for customers around the world.



Steve Stokey
Executive Vice President

William H. Stokey
President and CEO

Mike Stokey
Executive Vice President



ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

WOHLHAUPTER



SUPERION

CRITERION

DRILLING

High Penetration



GEN3SYS® XT Pro



GEN3SYS® XT



ASC 320®

General Production

(certain sizes are ideal for deep hole drilling and/or large diameter drilling)



GEN2 T-A®



Original T-A®



High Performance



Universal

Large Diameter



Revolution Drill®



Opening Drill®

Large Diameter / Deep Hole



APX Drill



BT-A Drill

Deep Hole



Guided T-A® Drill
(special)

Porting



AccuPort 432®

Structural Steel



GEN3SYS® XT



T-A®

BORING



WOHLHAUPTER®

Bringing you the finest in precision cutting tools

CRITERION™

REAMING



ALVAN®
Reaming Systems

S.C.A.M.I.®



S.C.A.M.I.®
Roller Burnishing

THREADING



AccuThread™ 856
Pin Style Indexable



AccuThread™ 856
Bolt-in Style Indexable



AccuThread™ 856
Solid Carbide



ThreadMills USA
Solid Carbide



SPECIALS



Insta-Quote™
Online custom tool builder and quote generator



i-Form
Custom indexable drill / form tool system

Engineered Specials

If your special holmaking needs cannot be met with the Insta-Quote system, Allied Machine can specially engineer ANY product to make your application a success. Simply contact your local Field Sales Engineer or the Allied Machine Application Engineering department for assistance with creating your special tooling. Let Allied Machine resolve your challenges today.

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

APX Drill

Deep Hole / Large Diameter Drilling System

► **Diameter Range:** 1.4961" - 4.0000" (38.00mm - 101.60mm)

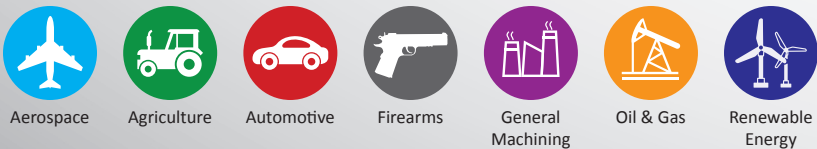


Don't Let Your Machine Slow You Down

The APX deep hole/large diameter drilling system delivers the strength and versatility needed for any deep hole drilling application. The breakthrough geometry is designed to increase penetration rates and tool life. By allowing for higher spindle speeds, the APX lets you take advantage of the power curve on modern CNC machines.

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

Applicable Industries



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.

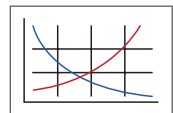
Visit www.alliedmachine.com for the most up-to-date information and procedures.

Reference Icons

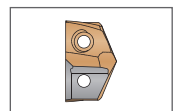
The following icons will appear throughout the catalog to help you navigate between products.

**Setup / Assembly Information**

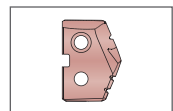
Detailed instructions and information regarding the corresponding part(s)

**Recommended Cutting Data**

Speed and feed recommendations for optimum and safe drilling

**GEN3SYS® Pilot Inserts**

Lists the GEN3SYS XT pilot insert options for each APX Drill series

**T-A® Pilot Inserts**

Lists the Original T-A® and GEN2 T-A® pilot insert options for each APX Drill series

Series	Diameter Range	
	Imperial (inch)	Metric (mm)
33	1.2992 - 1.4688	33.00 - 37.99
38	1.4961 - 1.7322	38.00 - 43.99
44	1.7323 - 2.0075	44.00 - 50.99
51	2.0076 - 2.2438	51.00 - 56.99
57	2.2439 - 2.4799	57.00 - 62.99
63	2.4800 - 2.7555	63.00 - 69.99
70	2.7556 - 2.9917	70.00 - 75.99
76	2.9918 - 3.2673	76.00 - 82.99
83	3.2674 - 3.5035	83.00 - 88.99
89	3.5036 - 3.7400	89.00 - 94.99
95	3.7401 - 4.0000	95.00 - 101.60

Introduction Information

Drill Selection Guide / Assembly Details	2 - 3
Pilot Insert Options / Details	4
Product Nomenclature	5

Drill Series

33 Series	6 - 7
38 Series	8 - 9
44 Series	10 - 11
51 Series	12 - 13
57 Series	14 - 15
63 Series	16 - 17
70 Series	18 - 19
76 Series	20 - 21
83 Series	22 - 23
89 Series	24 - 25
95 Series	26 - 27

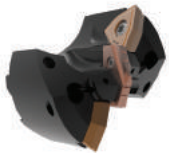
Recommended Cutting Data

Imperial (inch)	28
Metric (mm)	29
Deep Hole Drilling Guidelines	30



Drill Selection Guide

Series	33	38	44	51	57
					
Page	6 - 7	8 - 9	10 - 11	12 - 13	14 - 15
D ₅ inch	1.2992 - 1.4960	1.4961 - 1.7322	1.7323 - 2.0075	2.0076 - 2.2438	2.2439 - 2.4799
D ₅ mm	33.00 - 37.99	38.00 - 43.99	44.00 - 50.99	51.00 - 56.99	57.00 - 62.99
ISO Material					
IC Insert Shape					
IC Insert Size	5/16	3/8"	3/8", 1/2"	1/2", 9/16"	9/16"
Wear Pads	NO	NO	NO	NO	NO
Holders					
Drill Depth (inch)	4-7/16 - 14-29/32	5-1/8 - 17-1/4	6 - 20-1/8	6-3/8 - 22-3/8	7-1/8 - 24-3/4
Drill Depth (mm)	112.6 - 378.6	130.5 - 439.9	151.5 - 510.0	161.8 - 570.0	179.9 - 626.9
Pilot Insert					
T-A Series	0, 1	0, 1	1	1	1, 2
GEN3SYS XT Series	16, 18, 20	15, 17, 18, 20	17, 18, 22	18, 20, 22	22, 24, 26



T-A® Style Pilot Insert Head

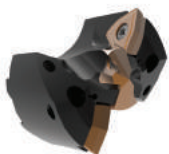
- Utilizes both Original T-A® and GEN2 T-A® inserts (0 - 2 series)
- Multiple geometry options are available to achieve optimal results in different types of applications



GEN2 T-A Pilot Inserts



Original T-A Pilot Inserts



GEN3SYS® XT Style Pilot Insert Head

- Utilizes GEN3SYS® XT inserts (15 - 32 series)
- Multiple geometry options are available to achieve optimal results in different types of applications



GEN3SYS XT Pilot Inserts



Flanged Straight Shank



CAT40 / CAT50 Integral Shank



A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

63	70	76	83	89	95
16 - 17	18 - 19	20 - 21	22 - 23	24 - 25	26 - 27
2.4800 - 2.7555	2.7556 - 2.9917	2.9918 - 3.2673	3.2674 - 3.5035	3.5036 - 3.7400	3.7401 - 4.0000
63.00 - 69.99	70.00 - 75.99	76.00 - 82.99	83.00 - 88.99	89.00 - 94.99	95.00 - 101.60
9/16"	3/8"	1/2"	1/2"	9/16"	9/16"
NO	YES	YES	YES	YES	YES
7-7/8 - 27-1/8	8-3/4 - 27-7/8	9-1/2 - 26-1/8	10-1/8 - 27-3/4	10-7/8 - 27-5/8	11-7/8 - 27-1/2
200.8 - 688.3	218.8 - 709.4	239.9 - 664.0	257.8 - 704.9	275.8 - 701.8	302.0 - 698.5
2	2	2	2	2	2
26, 29, 32	29	29	32	29	32



Step 1:

Lower the APX head assembly onto the APX holder.

Step 2:

Insert the head mounting screws into points A and B. Tighten until the head is properly secured to the holder.

Step 3:

Tighten with the head mounting driver using the torque setting chart below.

Torque Setting Chart

Series	Screw	Driver	Torque
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)



Pilot Insert Options

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

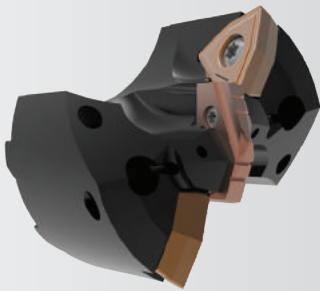
E

THREADING

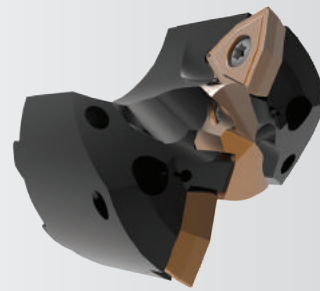
X

SPECIALS

T-A® Pilot Inserts



GEN3SYS® XT Pilot Inserts



GEN2 T-A Standard

- Designed for rigid machining applications, primarily used for drilling exotic and high alloy materials
- Ideal for general use when the surface speed needs to be increased



Standard Geometry

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



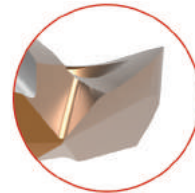
GEN2 T-A High Efficiency (-HE)

- Designed for improved chip formation in elastic materials like low carbon steels
- Maximizes performance and increases value



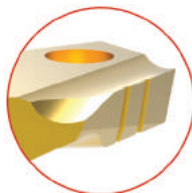
Cast Iron Geometry (-CI)

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



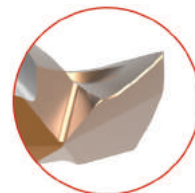
Original T-A Standard

- Excellent choice for general purpose use
- Provides fast penetration rates that produce good hole size and finish
- Combines highly efficient, stable cutting action to minimize power consumption



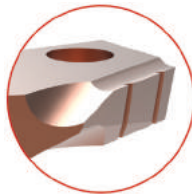
Low Rake Geometry (-LR)

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



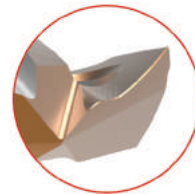
Original T-A Tiny Chip (-TC)

- Unique lip and point design for excellent chip control
- Improved capabilities in long-chipping materials such as low carbon steels and soft alloy steels
- Enhanced performance in lower powered machines for better chip formation at lower feed rates



Stainless Steel Geometry (-AS)

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



Original T-A High Impact (-HI)

- Designed to enhance chip formation in materials with high elasticity/ductility and poor chip forming characteristics
- SK2 corner preparation for increased tool life
- Improves chip formation in structural, cast, and forged steels



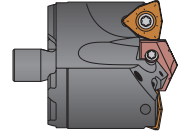
NOTE: For a complete offering of pilot inserts, see sections **A20** (GEN3SYS Drilling Systems) and **A30** (T-A Drilling Systems) of our catalog.



Product Nomenclature

APX Drill Heads

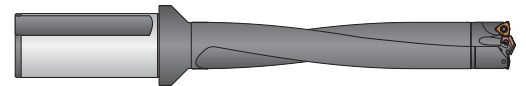
V	38	15	D	–	0116
1	2	3	4		5



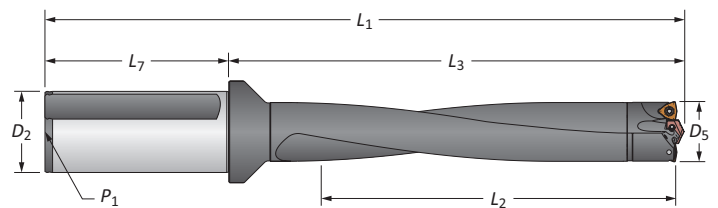
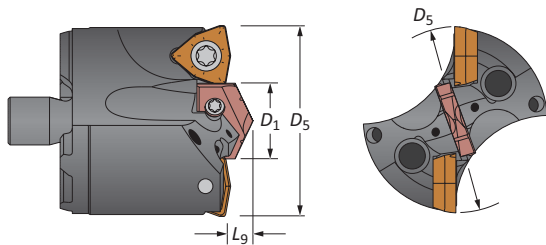
1. APX Head	2. Series	3. Pilot Series
V = Head	33 = 33 series 70 = 70 series 38 = 38 series 76 = 76 series 44 = 44 series 83 = 83 series 51 = 51 series 89 = 89 series 57 = 57 series 95 = 95 series 63 = 63 series	T-A® Pilot Insert GEN3SYS® XT Pilot Insert 00 = 0 series 15 = 15 series 24 = 24 series 01 = 1 series 17 = 17 series 26 = 26 series 02 = 2 series 18 = 18 series 29 = 29 series 20 = 20 series 32 = 32 series 22 = 22 series
4. Effective Cutting	5. Major Diameter	Ordering Non-Stocked Diameters: Non-stocked diameters are also available. Please refer to the price list for applicable process fees. Follow the ordering examples below: - Inch: 38 series, T-A (1 series), 1.6790" = V3801D-1.6790 - Metric: 38 series, T-A (1 series), 42.15mm = V3801D-42.15
D = Double effective S = Single effective	0116 = Inch 1.5153 = Decimal 68 = Metric	

APX Drill Holders

W	38	05	H	–	200F
1	2	3	4		5



1. APX Holder	2. Series	3. Drill Length	4. Flute Style	5. Shank
W = Holder	33 = 33 series 70 = 70 series 38 = 38 series 76 = 76 series 44 = 44 series 83 = 83 series 51 = 51 series 89 = 89 series 57 = 57 series 95 = 95 series 63 = 63 series	03 = 3xD 05 = 5xD 08 = 8xD 10 = 10xD	H = Helical	150F = 1-1/2" flanged straight shank 200F = 2" flanged straight shank 40FM = 40mm flanged straight shank 50FM = 50mm flanged straight shank CV40 = CAT40 integral shank CV50 = CAT50 integral shank



Reference Key

Symbol	Attribute
D₁	Pilot insert diameter
D₅	Major cutting diameter
L₉	Pilot insert length

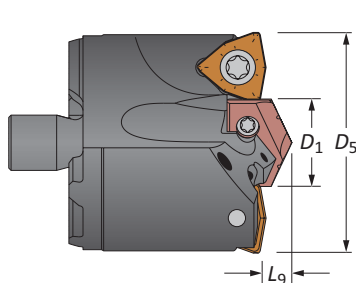
Reference Key

Symbol	Attribute	Symbol	Attribute
D₂	Shank diameter	L₃	Holder reference length
D₅	Drill diameter range	L₇	Shank length
L₁	Overall length	P₁	Rear pipe tap
L₂	Drill depth		

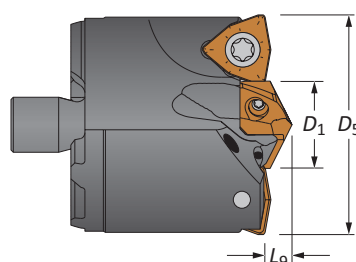
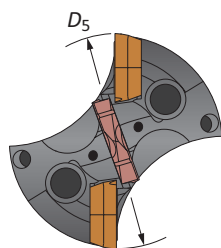


APX Drill Heads

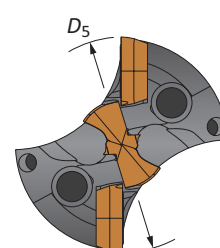
33 Series | Diameter Range: 1.2992" - 1.4688" (33.00mm - 37.99mm)



T-A® Head



GEN3SYS® XT Head



Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	1.2992	33.00	16	1/4	V3300D-33	0	4C*0H-16	V3316D-33	16	7C*16P-16	5/16
1-5/16	1.3125	33.34	16	1/4	V3300D-0110	0	4C*0H-16	V3316D-0110	16	7C*16P-16	5/16
–	1.3386	34.00	18	1/4	V3301D-34	1	4C*1H-18	V3318D-34	18	7C*18P-18	5/16
1-11/32	1.3438	34.13	18	1/4	V3301D-0111	1	4C*1H-18	V3318D-0111	18	7C*18P-18	5/16
1-3/8	1.3750	34.93	18	1/4	V3301D-0112	1	4C*1H-18	V3318D-0112	18	7C*18P-18	5/16
–	1.3780	35.00	18	1/4	V3301D-35	1	4C*1H-18	V3318D-35	18	7C*18P-18	5/16
1-13/32	1.4063	35.72	18	1/4	V3301D-0113	1	4C*1H-18	V3318D-0113	18	7C*18P-18	5/16
–	1.4173	36.00	20	1/4	V3301D-36	1	4C*1H-20	V3320D-36	20	7C*20P-20	5/16
1-7/16	1.4375	36.51	20	1/4	V3301D-0114	1	4C*1H-20	V3320D-0114	20	7C*20P-20	5/16
–	1.4567	37.00	20	1/4	V3301D-37	1	4C*1H-20	V3320D-37	20	7C*20P-20	5/16
1-15/32	1.4688	37.31	20	1/4	V3301D-0115	1	4C*1H-20	V3320D-0115	20	7C*20P-20	5/16

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	5/16	C5	Standard	OP-05T308-PW	IS-10-1	8IP-10	27.0 in-lbs (305 N-cm)
AM300®	5/16	C1	Standard	OP-05T308-1PW	IS-10-1	8IP-10	27.0 in-lbs (305 N-cm)
AM300®	5/16	C5	High Rake	OP-05T308-PWHR	IS-10-1	8IP-10	27.0 in-lbs (305 N-cm)

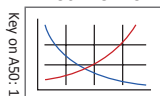
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	0	72567-IP8-1	8IP-8	15.5 in-lbs (175 N-cm)
T-A	1	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	16	72556-IP8-1	8IP-8	15.5 in-lbs (175 N-cm)
GEN3SYS	18	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	20	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)

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

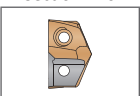
A50: 28 - 29



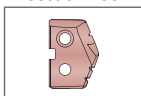
A50: 2 - 5



Section A20



Section A30



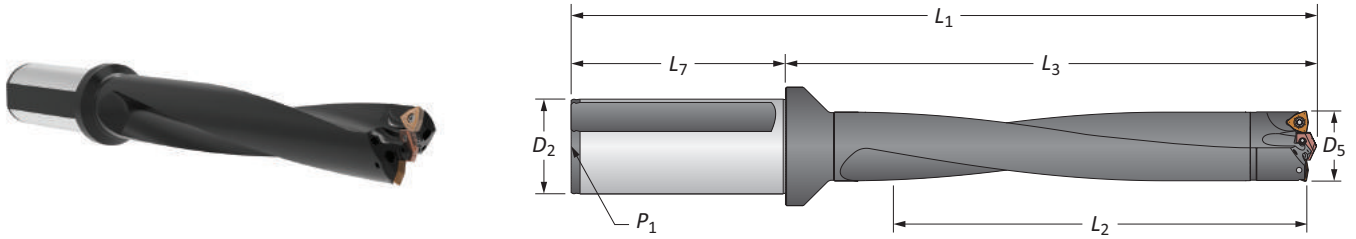
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

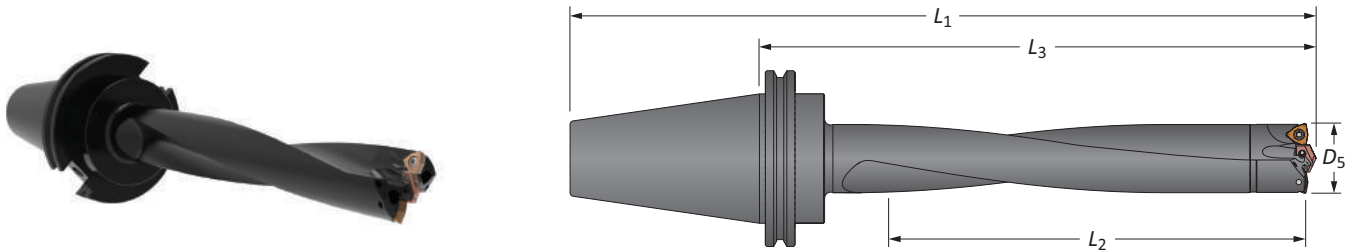
33 Series | Diameter Range: 1.2992" - 1.4688" (33.00mm - 37.99mm)



Straight Shank

	Length	D_5	Body			Shank			Part No.
			L_2	L_3	L_1	L_7	D_2	P_1	
i	3xD	1.2992 - 1.4960	4-7/16	6-19/32	9-9/32	2-11/16	1-1/2	1/4	W3303H-150F
	5xD	1.2992 - 1.4960	7-27/64	9-37/64	12-9/32	2-11/16	1-1/2	1/4	W3305H-150F
	8xD	1.2992 - 1.4960	11-59/64	14-5/64	16-3/4	2-11/16	1-1/2	1/4	W3308H-150F
	10xD	1.2992 - 1.4960	14-29/32	17-1/16	19-3/4	2-11/16	1-1/2	1/4	W3310H-150F
m	3xD	33.00 - 37.99	112.6	167.4	237.4	70.0	40.0	1/4*	W3303H-40FM
	5xD	33.00 - 37.99	188.6	243.4	313.4	70.0	40.0	1/4*	W3305H-40FM
	8xD	33.00 - 37.99	302.6	357.4	427.4	70.0	40.0	1/4*	W3308H-40FM
	10xD	33.00 - 37.99	378.6	433.4	503.4	70.0	40.0	1/4*	W3310H-40FM

*Thread to BSP and ISO 7-1



CAT Integral Shank

	Length	D_5		Body			Shank	Part No.
		inch	mm	L_2	L_3	L_1		
i	3xD	1.2992 - 1.4960	33.00 - 37.99	4-7/16	7-3/8	10-3/16	CV40	W3303H-CV40
	5xD	1.2992 - 1.4960	33.00 - 37.99	7-27/64	10-23/64	13-11/64	CV40	W3305H-CV40
	8xD	1.2992 - 1.4960	33.00 - 37.99	11-59/64	14-55/64	17-21/32	CV40	W3308H-CV40
	10xD	1.2992 - 1.4960	33.00 - 37.99	14-29/32	17-27/32	20-21/32	CV40	W3310H-CV40
	3xD	1.2992 - 1.4960	33.00 - 37.99	4-7/16	7-3/8	11-1/2	CV50	W3303H-CV50
	5xD	1.2992 - 1.4960	33.00 - 37.99	7-27/64	10-23/64	14-31/64	CV50	W3305H-CV50
	8xD	1.2992 - 1.4960	33.00 - 37.99	11-59/64	14-55/64	18-31/32	CV50	W3308H-CV50
	10xD	1.2992 - 1.4960	33.00 - 37.99	14-29/32	17-27/32	21-31/32	CV50	W3310H-CV50

Connection Accessories

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

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

i = Imperial (in)

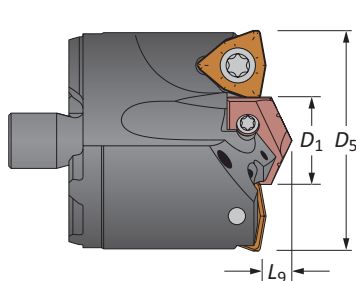
m = Metric (mm)

Mounting screws sold in multiples of 4

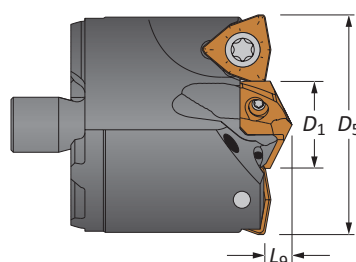
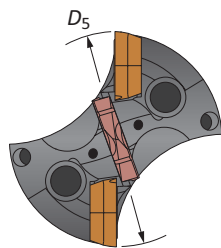


APX Drill Heads

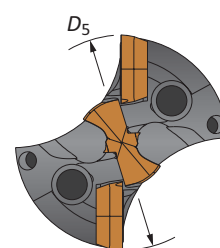
38 Series | Diameter Range: 1.4961" - 1.7322" (38.00mm - 43.99mm)



T-A® Head



GEN3SYS® XT Head

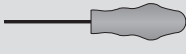


Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	1.4961	38.00	5/8	19/64	V3800D-38	0	4C*0H-0020	V3815D-38	15	7C*15P-0020	3/8
1-1/2	1.5000	38.10	5/8	19/64	V3800D-0116	0	4C*0H-0020	V3815D-0116	15	7C*15P-0020	3/8
1-17/32	1.5313	38.90	5/8	19/64	V3800D-0117	0	4C*0H-0020	V3815D-0117	15	7C*15P-0020	3/8
–	1.5354	39.00	5/8	19/64	V3800D-39	0	4C*0H-0020	V3815D-39	15	7C*15P-0020	3/8
1-9/16	1.5625	39.69	5/8	19/64	V3800D-0118	0	4C*0H-0020	V3815D-0118	15	7C*15P-0020	3/8
–	1.5748	40.00	11/16	19/64	V3800D-40	0	4C*0H-0022	V3817D-40	17	7C*17P-0022	3/8
1-19/32	1.5938	40.48	11/16	19/64	V3800D-0119	0	4C*0H-0022	V3817D-0119	17	7C*17P-0022	3/8
–	1.6142	41.00	11/16	19/64	V3800D-41	0	4C*0H-0022	V3817D-41	17	7C*17P-0022	3/8
1-5/8	1.6250	41.28	11/16	19/64	V3800D-0120	0	4C*0H-0022	V3817D-0120	17	7C*17P-0022	3/8
–	1.6535	42.00	3/4	19/64	V3801D-42	1	4C*0H-0024	V3818D-42	18	7C*18P-0024	3/8
1-21/32	1.6563	42.07	3/4	19/64	V3801D-0121	1	4C*0H-0024	V3818D-0121	18	7C*18P-0024	3/8
1-11/16	1.6875	42.86	3/4	19/64	V3801D-0122	1	4C*0H-0024	V3818D-0122	18	7C*18P-0024	3/8
–	1.6929	43.00	13/16	19/64	V3801D-43	1	4C*0H-0026	V3820D-43	20	7C*20P-0026	3/8
1-23/32	1.7188	43.66	13/16	19/64	V3801D-0123	1	4C*0H-0026	V3820D-0123	20	7C*20P-0026	3/8

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	3/8	C5	Standard	OP-060408-PW	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C1	Standard	OP-060408-1PW	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C5	High Rake	OP-060408-PWHR	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C5	High Impact	OP-060408-PWHI	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)

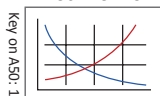
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	0	72567-IP8-1	8IP-8	15.5 in-lbs (175 N-cm)
T-A	1	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	15	7247-IP7-1	8IP-7	7.4 in-lbs (84 N-cm)
GEN3SYS	17	72567-IP8-1	8IP-8	15.5 in-lbs (175 N-cm)
GEN3SYS	18	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	20	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)

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

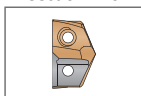
A50: 28 - 29



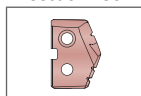
A50: 2 - 5



Section A20



Section A30



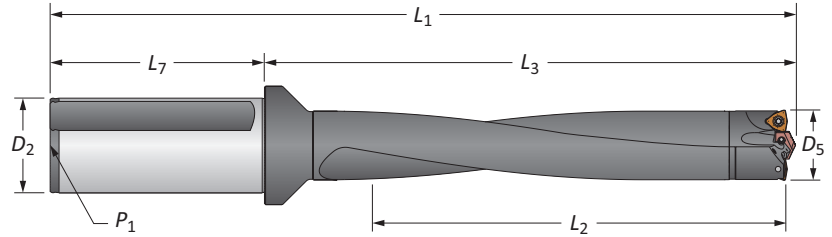
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

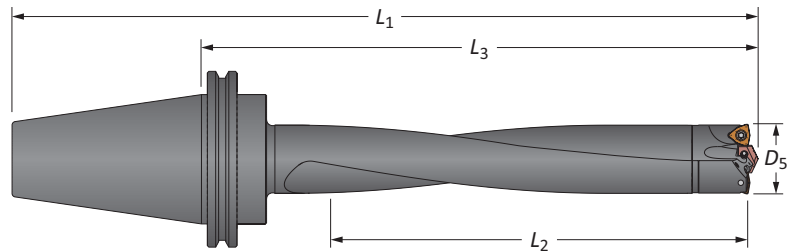
38 Series | Diameter Range: 1.4961" - 1.7322" (38.00mm - 43.99mm)



Straight Shank

	Length	D ₅	L ₂	Body L ₃	L ₁	L ₇	Shank D ₂	P ₁	Part No.
i	3xD	1.4961 - 1.7322	5-1/8	7-47/64	10-25/64	2-11/16	1-1/2	1/4	W3803H-150F
	5xD	1.4961 - 1.7322	8-5/8	11-13/64	13-55/64	2-11/16	1-1/2	1/4	W3805H-150F
	8xD	1.4961 - 1.7322	13-7/8	16-25/64	19-3/64	2-11/16	1-1/2	1/4	W3808H-150F
	10xD	1.4961 - 1.7322	17-1/4	19-27/32	22-33/64	2-11/16	1-1/2	1/4	W3810H-150F
	3xD	1.4961 - 1.7322	5-1/8	7-47/64	12-15/64	4-1/2	2	1/4	W3803H-200F
	5xD	1.4961 - 1.7322	8-5/8	11-13/64	15-45/64	4-1/2	2	1/4	W3805H-200F
	8xD	1.4961 - 1.7322	13-7/8	16-25/64	20-57/64	4-1/2	2	1/4	W3808H-200F
	10xD	1.4961 - 1.7322	17-1/4	19-27/32	24-59/64	4-1/2	2	1/4	W3810H-200F
m	3xD	38.00 - 43.99	130.5	196.5	265.7	70.0	40.0	1/4*	W3803H-40FM
	5xD	38.00 - 43.99	220.0	284.5	353.7	70.0	40.0	1/4*	W3805H-40FM
	8xD	38.00 - 43.99	352.0	416.5	485.7	70.0	40.0	1/4*	W3808H-40FM
	10xD	38.00 - 43.99	439.9	503.9	573.7	70.0	40.0	1/4*	W3810H-40FM
	3xD	38.00 - 43.99	130.5	196.5	276.5	80.0	50.0	1/4*	W3803H-50FM
	5xD	38.00 - 43.99	220.0	284.5	364.5	80.0	50.0	1/4*	W3805H-50FM
	8xD	38.00 - 43.99	352.0	416.5	496.3	80.0	50.0	1/4*	W3808H-50FM
	10xD	38.00 - 43.99	439.9	503.9	583.9	80.0	50.0	1/4*	W3810H-50FM

*Thread to BSP and ISO 7-1



CAT Integral Shank

	Length	D ₅ inch	D ₅ mm	L ₂	Body L ₃	L ₁	Shank	Part No.
i	3xD	1.4961 - 1.7322	38.00 - 43.99	5-1/8	8-5/16	11	CV40	W3803H-CV40
	5xD	1.4961 - 1.7322	38.00 - 43.99	8-5/8	11-49/64	14-29/64	CV40	W3805H-CV40
	8xD	1.4961 - 1.7322	38.00 - 43.99	13-7/8	16-31/32	19-21/32	CV40	W3808H-CV40
	10xD	1.4961 - 1.7322	38.00 - 43.99	17-1/4	20-7/16	23-1/8	CV40	W3810H-CV40
	3xD	1.4961 - 1.7322	38.00 - 43.99	5-1/8	8-5/16	12-5/16	CV50	W3803H-CV50
	5xD	1.4961 - 1.7322	38.00 - 43.99	8-5/8	11-49/64	15-49/64	CV50	W3805H-CV50
	8xD	1.4961 - 1.7322	38.00 - 43.99	13-7/8	16-31/32	20-31/32	CV50	W3808H-CV50
	10xD	1.4961 - 1.7322	38.00 - 43.99	17-1/4	20-7/16	24-7/16	CV50	W3810H-CV50

Connection Accessories

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

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

i = Imperial (in)

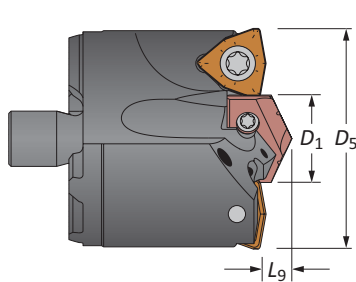
m = Metric (mm)

Mounting screws sold in multiples of 4

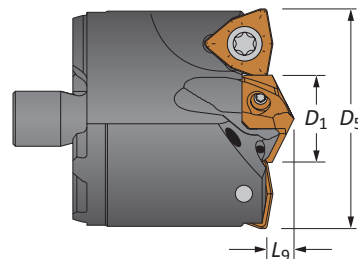
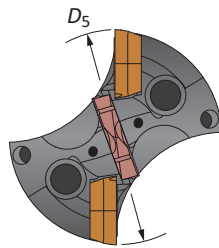


APX Drill Heads

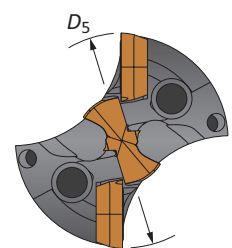
44 Series | Diameter Range: 1.7323" - 2.0075" (44.00mm - 50.99mm)



T-A® Head



GEN3SYS® XT Head



Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	1.7323	44.00	7/8	21/64	V4401D-44	1	4C*1H-0028	V4422D-44	22	7C*22P-0028	3/8
1-3/4	1.7500	44.45	7/8	21/64	V4401D-0124	1	4C*1H-0028	V4422D-0124	22	7C*22P-0028	3/8
–	1.7717	45.00	7/8	21/64	V4401D-45	1	4C*1H-0028	V4422D-45	22	7C*22P-0028	3/8
1-25/32	1.7813	45.25	7/8	21/64	V4401D-0125	1	4C*1H-0028	V4422D-0125	22	7C*22P-0028	3/8
–	1.8110	46.00	15/16	21/64	V4401D-46	1	4C*1H-0030	V4422D-46	22	7C*22P-0030	3/8
1-13/16	1.8125	46.04	15/16	21/64	V4401D-0126	1	4C*1H-0030	V4422D-0126	22	7C*22P-0030	3/8
1-27/32	1.8438	46.83	15/16	21/64	V4401D-0127	1	4C*1H-0030	V4422D-0127	22	7C*22P-0030	3/8
–	1.8504	47.00	15/16	21/64	V4401D-47	1	4C*1H-0030	V4422D-47	22	7C*22P-0030	3/8
1-7/8	1.8750	47.63	15/16	21/64	V4401D-0128	1	4C*1H-0030	V4422D-0128	22	7C*22P-0030	3/8
–	1.8898	48.00	45/64	21/64	V4401D-48	1	4C*1H-.703	V4417D-48	17	7C*17P-.703	1/2
1-29/32	1.9063	48.42	45/64	21/64	V4401D-0129	1	4C*1H-.703	V4417D-0129	17	7C*17P-.703	1/2
–	1.9291	49.00	45/64	21/64	V4401D-49	1	4C*1H-.703	V4417D-49	17	7C*17P-.703	1/2
1-15/16	1.9375	49.21	45/64	21/64	V4401D-0130	1	4C*1H-.703	V4417D-0130	17	7C*17P-.703	1/2
–	1.9685	50.00	47/64	21/64	V4401D-50	1	4C*1H-.734	V4418D-50	18	7C*18P-.734	1/2
1-31/32	1.9688	50.01	47/64	21/64	V4401D-0131	1	4C*1H-.734	V4418D-0131	18	7C*18P-.734	1/2
2	2.0000	50.80	47/64	21/64	V4401D-0200	1	4C*1H-.734	V4418D-0200	18	7C*18P-.734	1/2

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

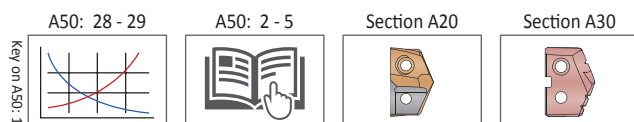
Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	3/8	C5	Standard	OP-060408-PW	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C1	Standard	OP-060408-1PW	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C5	High Rake	OP-060408-PWHR	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C5	High Impact	OP-060408-PWHI	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	1/2	C5	Standard	OP-080508-PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C1	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Rake	OP-080508-PWHR	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Impact	OP-080508-PWHI	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	1	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	17	72567-IP8-1	8IP-8	15.5 in-lbs (175 N-cm)
GEN3SYS	18	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	22	739-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)

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



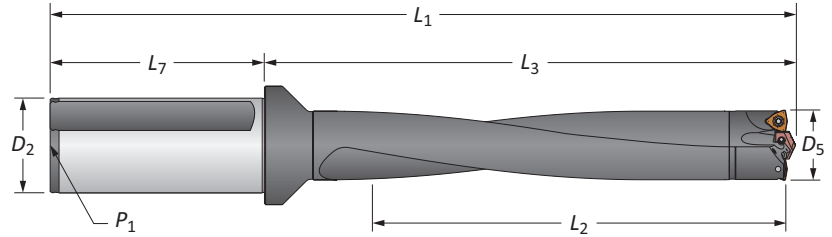
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

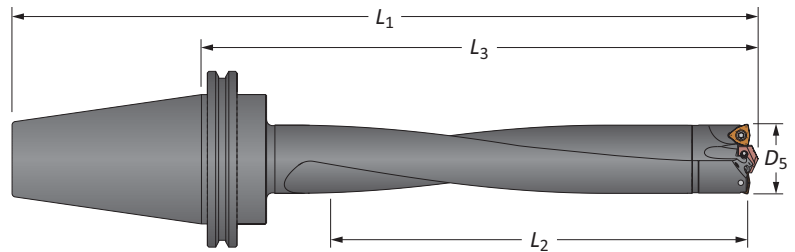
44 Series | Diameter Range: 1.7323" - 2.0075" (44.00mm - 50.99mm)



Straight Shank

	Length	D ₅	L ₂	Body L ₃	L ₁	L ₇	Shank D ₂	P ₁	Part No.
i	3xD	1.7323 - 2.0075	6	8-17/32	11-15/64	2-11/16	1-1/2	1/4	W4403H-150F
	5xD	1.7323 - 2.0075	10	12-35/64	15-1/4	2-11/16	1-1/2	1/4	W4405H-150F
	8xD	1.7323 - 2.0075	16	18-37/64	21-17/64	2-11/16	1-1/2	1/4	W4408H-150F
	10xD	1.7323 - 2.0075	20-1/8	22-19/32	25-9/32	2-11/16	1-1/2	1/4	W4410H-150F
	3xD	1.7323 - 2.0075	6	8-33/64	13-1/32	4-1/2	2	1/4	W4403H-200F
	5xD	1.7323 - 2.0075	10	12-35/64	17-3/64	4-1/2	2	1/4	W4405H-200F
	8xD	1.7323 - 2.0075	16	18-37/64	23-5/64	4-1/2	2	1/4	W4408H-200F
	10xD	1.7323 - 2.0075	20-1/8	22-19/32	27-3/32	4-1/2	2	1/4	W4410H-200F
m	3xD	44.00 - 50.99	151.5	216.8	286.9	70.0	40.0	1/4*	W4403H-40FM
	5xD	44.00 - 50.99	255.0	318.8	388.9	70.0	40.0	1/4*	W4405H-40FM
	8xD	44.00 - 50.99	407.9	471.8	541.8	70.0	40.0	1/4*	W4408H-40FM
	10xD	44.00 - 50.99	510.0	573.8	643.8	70.0	40.0	1/4*	W4410H-40FM
	3xD	44.00 - 50.99	151.5	216.8	296.9	80.0	50.0	1/4*	W4403H-50FM
	5xD	44.00 - 50.99	255.0	318.8	398.8	80.0	50.0	1/4*	W4405H-50FM
	8xD	44.00 - 50.99	407.9	471.8	551.7	80.0	50.0	1/4*	W4408H-50FM
	10xD	44.00 - 50.99	510.0	573.8	653.8	80.0	50.0	1/4*	W4410H-50FM

*Thread to BSP and ISO 7-1



CAT Integral Shank

	Length	D ₅ inch	mm	L ₂	Body L ₃	L ₁	Shank	Part No.
i	3xD	1.7323 - 2.0075	44.00 - 50.99	6	9-1/4	11-15/16	CV40	W4403H-CV40
	5xD	1.7323 - 2.0075	44.00 - 50.99	10	13-17/64	15-61/64	CV40	W4405H-CV40
	8xD	1.7323 - 2.0075	44.00 - 50.99	16	19-19/64	21-63/64	CV40	W4408H-CV40
	10xD	1.7323 - 2.0075	44.00 - 50.99	20-1/8	23-5/16	26	CV40	W4410H-CV40
	3xD	1.7323 - 2.0075	44.00 - 50.99	6	9-1/4	13-1/4	CV50	W4403H-CV50
	5xD	1.7323 - 2.0075	44.00 - 50.99	10	13-17/64	17-17/64	CV50	W4405H-CV50
	8xD	1.7323 - 2.0075	44.00 - 50.99	16	19-19/64	23-19/64	CV50	W4408H-CV50
	10xD	1.7323 - 2.0075	44.00 - 50.99	20	23-5/16	27-5/16	CV50	W4410H-CV50

Connection Accessories

		Admissible Tightening Torque*
75020-IP20-1	8IP-20	60 in-lb (678 N-cm)

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

i = Imperial (in)

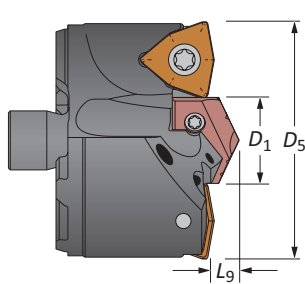
m = Metric (mm)

Mounting screws sold in multiples of 4

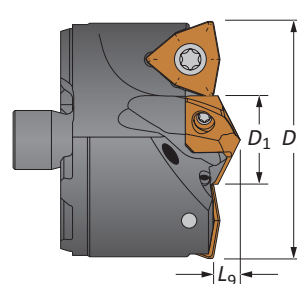
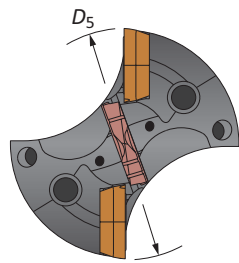


APX Drill Heads

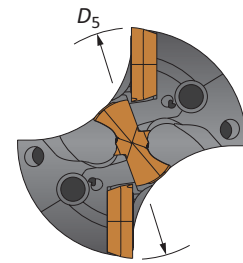
51 Series | Diameter Range: 2.0076" - 2.2438" (51.00mm - 56.99mm)



T-A® Head



GEN3SYS® XT Head



Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	2.0079	51.00	25/32	11/32	V5101D-51	1	4C*1H-0025	V5118D-51	18	7C*18P-0025	1/2
2-1/32	2.0313	51.59	25/32	11/32	V5101D-0201	1	4C*1H-0025	V5118D-0201	18	7C*18P-0025	1/2
–	2.0472	52.00	25/32	11/32	V5101D-52	1	4C*1H-0025	V5118D-52	18	7C*18P-0025	1/2
2-1/16	2.0625	52.39	25/32	11/32	V5101D-0202	1	4C*1H-0025	V5118D-0202	18	7C*18P-0025	1/2
–	2.0866	53.00	27/32	11/32	V5101D-53	1	4C*1H-0027	V5120D-53	20	7C*20P-0027	1/2
2-3/32	2.0938	53.18	27/32	11/32	V5101D-0203	1	4C*1H-0027	V5120D-0203	20	7C*20P-0027	1/2
2-1/8	2.1250	53.98	27/32	11/32	V5101D-0204	1	4C*1H-0027	V5120D-0204	20	7C*20P-0027	1/2
–	2.1260	54.00	15/16	11/32	V5101D-54	1	4C*1H-0030	V5122D-54	22	7C*22P-0030	1/2
2-5/32	2.1563	54.77	15/16	11/32	V5101D-0205	1	4C*1H-0030	V5122D-0205	22	7C*22P-0030	1/2
–	2.1654	55.00	15/16	11/32	V5101D-55	1	4C*1H-0030	V5122D-55	22	7C*22P-0030	1/2
2-3/16	2.1875	55.56	15/16	11/32	V5101D-0206	1	4C*1H-0030	V5122D-0206	22	7C*22P-0030	1/2
–	2.2047	56.00	15/16	11/32	V5101D-56	1	4C*1H-0030	V5122D-56	22	7C*22P-0030	1/2
2-7/32	2.2188	56.36	13/16	11/32	V5101D-0207	1	4C*1H-0026	V5120D-0207	20	7C*20P-0026	9/16

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	1/2	C5	Standard	OP-080508-PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C1	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Rake	OP-080508-PWHR	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Impact	OP-080508-PWHI	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	9/16	C5	Standard	OP-090608-PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C1	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Impact	OP-090608-PWHI	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)

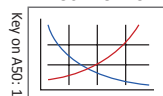
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	1	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	18	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	20	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	22	739-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)

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

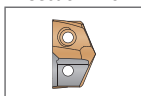
A50: 28 - 29



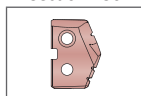
A50: 2 - 5



Section A20



Section A30



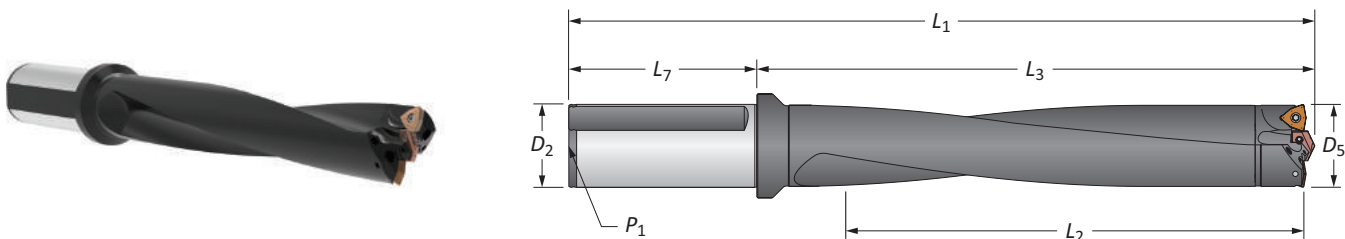
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

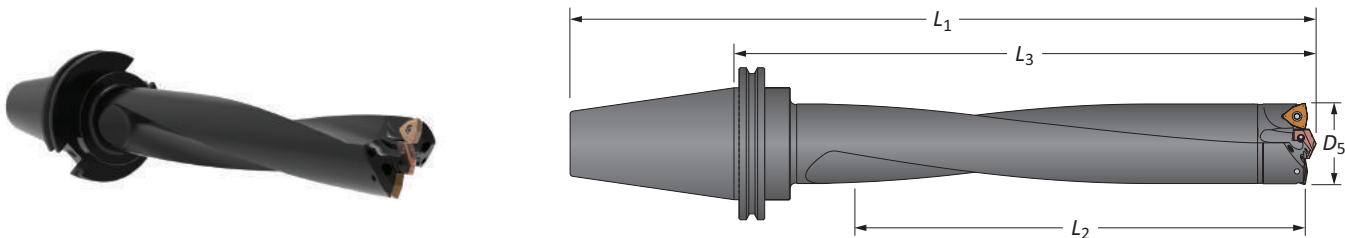
51 Series | Diameter Range: 2.0076" - 2.2438" (51.00mm - 56.99mm)



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
i	3xD	2.0076 - 2.2438	6-3/8	8-7/8	13-3/8	4-1/2	2	1/4	W5103H-200F
	5xD	2.0076 - 2.2438	11-1/8	13-3/8	17-7/8	4-1/2	2	1/4	W5105H-200F
	8xD	2.0076 - 2.2438	17-7/8	20-3/32	24-19/32	4-1/2	2	1/4	W5108H-200F
	10xD	2.0076 - 2.2438	22-3/8	24-19/32	29-3/32	4-1/2	2	1/4	W5110H-200F
m	3xD	51.00 - 56.99	161.8	225.5	305.5	80.0	50.0	1/4*	W5103H-50FM
	5xD	51.00 - 56.99	285.0	339.6	419.6	80.0	50.0	1/4*	W5105H-50FM
	8xD	51.00 - 56.99	455.9	510.5	590.5	80.0	50.0	1/4*	W5108H-50FM
	10xD	51.00 - 56.99	570.0	624.6	704.6	80.0	50.0	1/4*	W5110H-50FM

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		inch	mm	L ₂	L ₃	L ₁		
i	3xD	2.0076 - 2.2438	51.00 - 56.99	6-3/8	9-47/64	13-47/64	CV50	W5103H-CV50
	5xD	2.0076 - 2.2438	51.00 - 56.99	11-1/4	14-7/32	18-7/32	CV50	W5105H-CV50
	8xD	2.0076 - 2.2438	51.00 - 56.99	17-7/8	20-61/64	24-61/64	CV50	W5108H-CV50
	10xD	2.0076 - 2.2438	51.00 - 56.99	22-3/8	25-7/16	29-7/16	CV50	W5110H-CV50

Connection Accessories

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

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

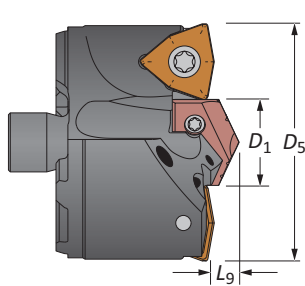
i = Imperial (in)
m = Metric (mm)

Mounting screws sold in multiples of 4

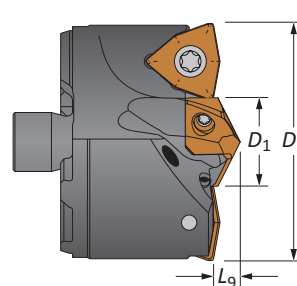
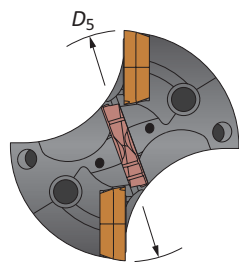


APX Drill Heads

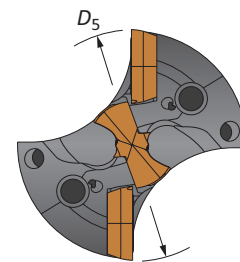
57 Series | Diameter Range: 2.2439" - 2.4799" (57.00mm - 62.99mm)



T-A® Head



GEN3SYS® XT Head

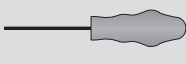


Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	2.2441	57.00	29/32	25/64	V5701D-57	1	4C*1H-0029	V5722D-57	22	7C*22P-0029	9/16
2-1/4	2.2500	57.15	29/32	25/64	V5701D-0208	1	4C*1H-0029	V5722D-0208	22	7C*22P-0029	9/16
2-9/32	2.2813	57.94	29/32	25/64	V5701D-0209	1	4C*1H-0029	V5722D-0209	22	7C*22P-0029	9/16
–	2.2835	58.00	29/32	25/64	V5701D-58	1	4C*1H-0029	V5722D-58	22	7C*22P-0029	9/16
2-5/16	2.3125	58.74	29/32	25/64	V5701D-0210	1	4C*1H-0029	V5722D-0210	22	7C*22P-0029	9/16
–	2.3228	59.00	15/16	25/64	V5701D-59	1	4C*1H-0030	V5722D-59	22	7C*22P-0030	9/16
2-11/32	2.3438	59.53	15/16	25/64	V5701D-0211	1	4C*1H-0030	V5722D-0211	22	7C*22P-0030	9/16
–	2.3622	60.00	15/16	25/64	V5701D-60	1	4C*1H-0030	V5722D-60	22	7C*22P-0030	9/16
2-3/8	2.3750	60.33	15/16	25/64	V5701D-0212	1	4C*1H-0030	V5722D-0212	22	7C*22P-0030	9/16
–	2.4016	61.00	1	25/64	V5702D-61	2	4C*2H-0100	V5724D-61	24	7C*24P-0100	9/16
2-13/32	2.4063	61.12	1	25/64	V5702D-0213	2	4C*2H-0100	V5724D-0213	24	7C*24P-0100	9/16
2-7/16	2.4375	61.91	1	25/64	V5702D-0214	2	4C*2H-0100	V5724D-0214	24	7C*24P-0100	9/16
–	2.4409	62.00	1-1/16	25/64	V5702D-62	2	4C*2H-0102	V5726D-62	26	7C*26P-0102	9/16
2-15/32	2.4688	62.71	1-1/16	25/64	V5702D-0215	2	4C*2H-0102	V5726D-0215	26	7C*26P-0102	9/16

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	9/16	C5	Standard	OP-090608-PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C1	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Impact	OP-090608-PWHI	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)

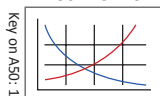
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	1	7375-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
T-A	2	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	22	739-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	24	739-IP9-1	8IP-9	27.0 in-lbs (305 N-cm)
GEN3SYS	26	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

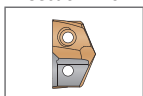
A50: 28 - 29



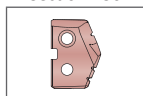
A50: 2 - 5



Section A20



Section A30



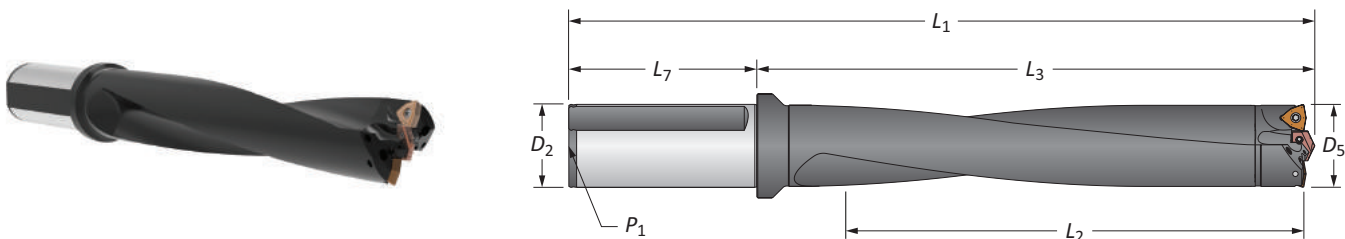
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

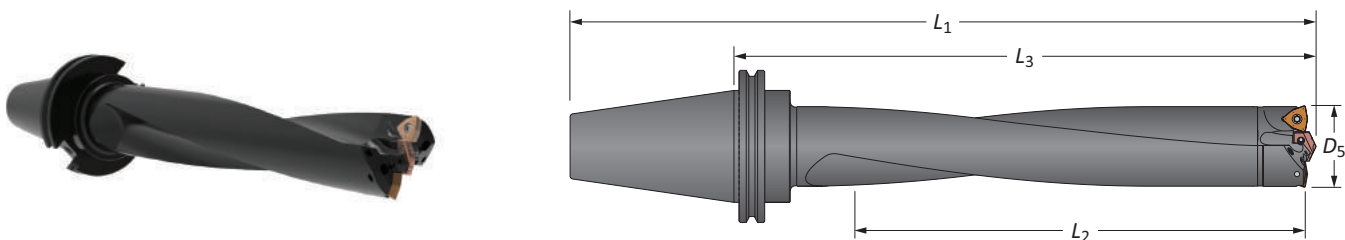
57 Series | Diameter Range: 2.2439" - 2.4799" (57.00mm - 62.99mm)



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
i	3xD	2.2439 - 2.4799	7-1/8	9-35/64	14-1/16	4-1/2	2	1/4	W5703H-200F
	5xD	2.2439 - 2.4799	12-3/8	14-33/64	19-1/64	4-1/2	2	1/4	W5705H-200F
	8xD	2.2439 - 2.4799	19-3/4	21-31/32	26-15/32	4-1/2	2	1/4	W5708H-200F
	10xD	2.2439 - 2.4799	24-3/4	26-59/64	31-27/64	4-1/2	2	1/4	W5710H-200F
m	3xD	57.00 - 62.99	179.9	242.7	322.7	80.0	50.0	1/4*	W5703H-50FM
	5xD	57.00 - 62.99	315.0	368.6	448.6	80.0	50.0	1/4*	W5705H-50FM
	8xD	57.00 - 62.99	503.9	557.8	637.8	80.0	50.0	1/4*	W5708H-50FM
	10xD	57.00 - 62.99	626.9	683.8	763.8	80.0	50.0	1/4*	W5710H-50FM

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		inch	mm	L ₂	L ₃	L ₁		
i	3xD	2.2439 - 2.4799	57.00 - 62.99	7-1/8	10-17/32	14-17/32	CV50	W5703H-CV50
	5xD	2.2439 - 2.4799	57.00 - 62.99	12-3/8	15-31/64	19-31/64	CV50	W5705H-CV50
	8xD	2.2439 - 2.4799	57.00 - 62.99	19-7/8	22-15/16	26-15/16	CV50	W5708H-CV50
	10xD	2.2439 - 2.4799	57.00 - 62.99	24-3/4	27-57/64	31-57/64	CV50	W5710H-CV50

Connection Accessories

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

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

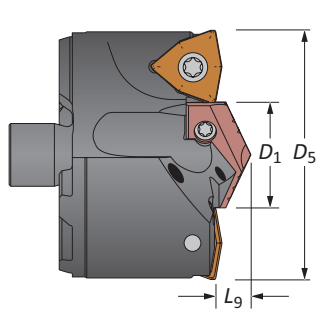
i = Imperial (in)
m = Metric (mm)

Mounting screws sold in multiples of 4

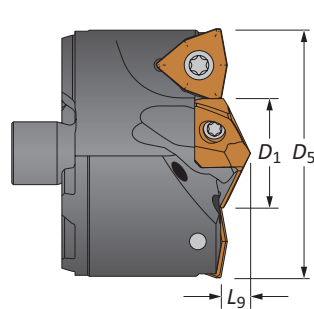
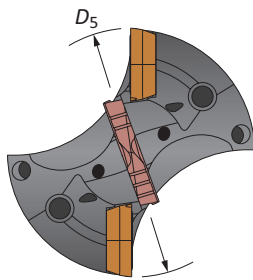


APX Drill Heads

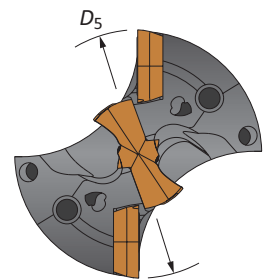
63 Series | Diameter Range: 2.4800" - 2.755" (63.00mm - 69.99mm)



T-A® Head



GEN3SYS® XT Head



Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	2.4803	63.00	1-1/8	7/16	V6302D-63	2	4C*2H-0104	V6326D-63	26	7C*26P-0104	9/16
2-1/2	2.5000	63.50	1-1/8	7/16	V6302D-0216	2	4C*2H-0104	V6326D-0216	26	7C*26P-0104	9/16
–	2.5197	64.00	1-1/8	7/16	V6302D-64	2	4C*2H-0104	V6326D-64	26	7C*26P-0104	9/16
2-17/32	2.5313	64.29	1-1/8	7/16	V6302D-0217	2	4C*2H-0104	V6326D-0217	26	7C*26P-0104	9/16
–	2.5591	65.00	1-1/8	7/16	V6302D-65	2	4C*2H-0104	V6326D-65	26	7C*26P-0104	9/16
2-9/16	2.5625	65.09	1-3/16	7/16	V6302D-0218	2	4C*2H-0106	V6329D-0218	29	7C*29P-0106	9/16
2-19/32	2.5938	65.88	1-3/16	7/16	V6302D-0219	2	4C*2H-0106	V6329D-0219	29	7C*29P-0106	9/16
–	2.5984	66.00	1-3/16	7/16	V6302D-66	2	4C*2H-0106	V6329D-66	29	7C*29P-0106	9/16
2-5/8	2.6250	66.68	1-3/16	7/16	V6302D-0220	2	4C*2H-0106	V6329D-0220	29	7C*29P-0106	9/16
–	2.6378	67.00	1-1/4	7/16	V6302D-67	2	4C*2H-0108	V6329D-67	29	7C*29P-0108	9/16
2-21/32	2.6563	67.47	1-1/4	7/16	V6302D-0221	2	4C*2H-0108	V6329D-0221	29	7C*29P-0108	9/16
–	2.6772	68.00	1-1/4	7/16	V6302D-68	2	4C*2H-0108	V6329D-68	29	7C*29P-0108	9/16
2-11/16	2.6875	68.26	1-1/4	7/16	V6302D-0222	2	4C*2H-0108	V6329D-0222	29	7C*29P-0108	9/16
–	2.7165	69.00	1-5/16	7/16	V6302D-69	2	4C*2H-0110	V6332D-69	32	7C*32P-0110	9/16
2-23/32	2.7188	69.06	1-5/16	7/16	V6302D-0223	2	4C*2H-0110	V6332D-0223	32	7C*32P-0110	9/16
2-3/4	2.7500	69.85	1-5/16	7/16	V6302D-0224	2	4C*2H-0110	V6332D-0224	32	7C*32P-0110	9/16

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	9/16	C5	Standard	OP-090608-PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C1	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Impact	OP-090608-PWHI	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)

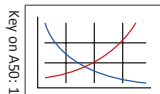
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	26	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	29	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	32	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

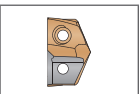
A50: 28 - 29



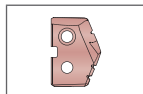
A50: 2 - 5



Section A20



Section A30



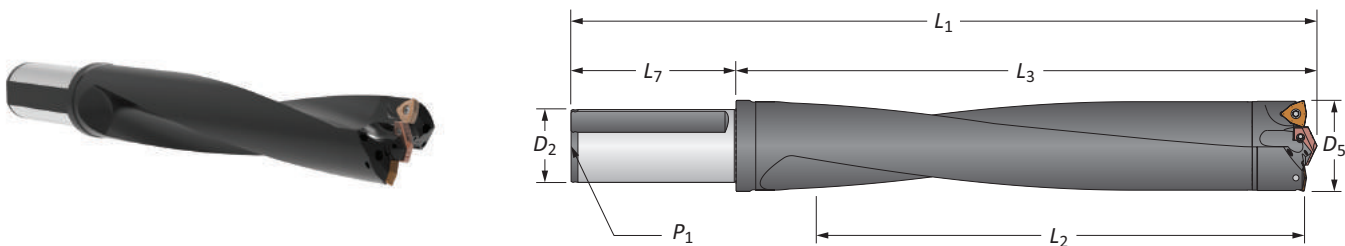
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

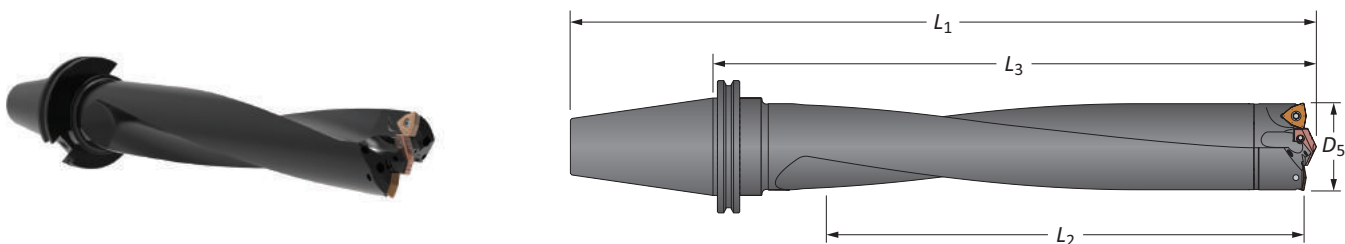
63 Series | Diameter Range: 2.4800" - 2.755" (63.00mm - 69.99mm)



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
i	3xD	2.4800 - 2.7555	7-7/8	10-11/32	14-27/32	4-1/2	2	1/4	W6303H-200F
	5xD	2.4800 - 2.7555	13-3/4	15-27/32	20-11/32	4-1/2	2	1/4	W6305H-200F
	8xD	2.4800 - 2.7555	22-1/8	24-1/8	28-5/8	4-1/2	2	1/4	⚠ W6308H-200F
	10xD	2.4800 - 2.7555	27-1/8	29-11/64	33-43/64	4-1/2	2	1/4	⚠ W6310H-200F
m	3xD	63.00 - 69.99	200.8	262.6	342.6	80.0	50.0	1/4*	W6303H-50FM
	5xD	63.00 - 69.99	350.0	402.6	482.6	80.0	50.0	1/4*	W6305H-50FM
	8xD	63.00 - 69.99	560.0	612.6	692.6	80.0	50.0	1/4*	⚠ W6308H-50FM
	10xD	63.00 - 69.99	688.3	740.9	820.9	80.0	50.0	1/4*	⚠ W6310H-50FM

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		inch	mm	L ₂	L ₃	L ₁		
i	3xD	2.4800 - 2.7555	63.00 - 69.99	7-7/8	11-7/16	15-7/16	CV50	W6303H-CV50
	5xD	2.4800 - 2.7555	63.00 - 69.99	13-3/4	16-15/16	20-15/16	CV50	W6305H-CV50
	8xD	2.4800 - 2.7555	63.00 - 69.99	22	25-13/64	29-13/64	CV50	⚠ W6308H-CV50
	10xD	2.4800 - 2.7555	63.00 - 69.99	26-1/2	29-43/64	33-43/64	CV50	⚠ W6310H-CV50

Connection Accessories

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

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

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

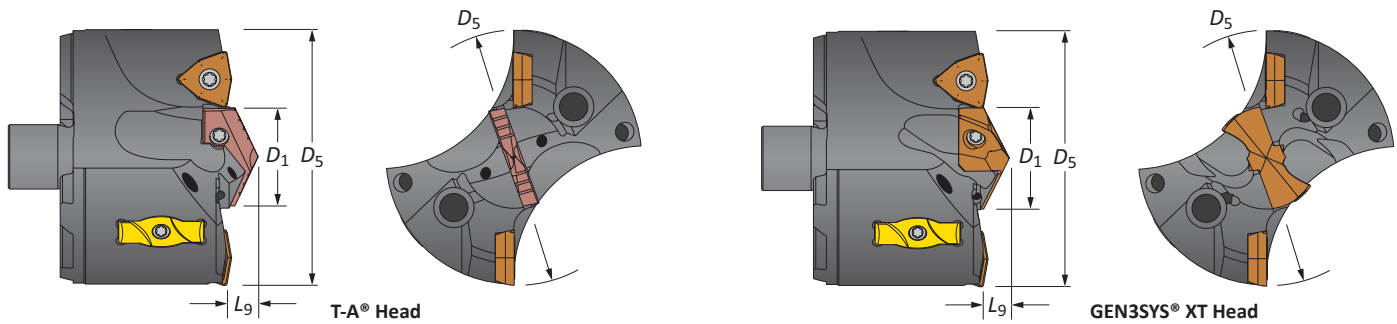
i = Imperial (in)
m = Metric (mm)

Mounting screws sold in multiples of 4



APX Drill Heads

70 Series | Diameter Range: 2.7556" - 2.9917" (70.00mm - 75.99mm)



Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
-	2.7559	70.00	1-7/32	25/64	V7002S-70	2	4C*2H-0107	V7029S-70	29	7C*29P-0107	3/8
2-13/16	2.8125	71.44	1-7/32	25/64	V7002S-0226	2	4C*2H-0107	V7029S-0226	29	7C*29P-0107	3/8
-	2.8346	72.00	1-7/32	25/64	V7002S-72	2	4C*2H-0107	V7029S-72	29	7C*29P-0107	3/8
2-7/8	2.8750	73.03	1-7/32	25/64	V7002S-0228	2	4C*2H-0107	V7029S-0228	29	7C*29P-0107	3/8
-	2.9134	74.00	1-7/32	25/64	V7002S-74	2	4C*2H-0107	V7029S-74	29	7C*29P-0107	3/8
2-15/16	2.9375	74.61	1-7/32	25/64	V7002S-0230	2	4C*2H-0107	V7029S-0230	29	7C*29P-0107	3/8

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	3/8	C5	Standard	OP-060408-PW	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C1	Standard	OP-060408-1PW	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C5	High Rake	OP-060408-PWHR	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)
AM300®	3/8	C5	High Impact	OP-060408-PWHI	73595-IP15-1	8IP-15	41.0 in-lbs (465 N-cm)

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

Wear Pads

 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	27.0 in-lbs (300 N-cm)

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

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	29	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

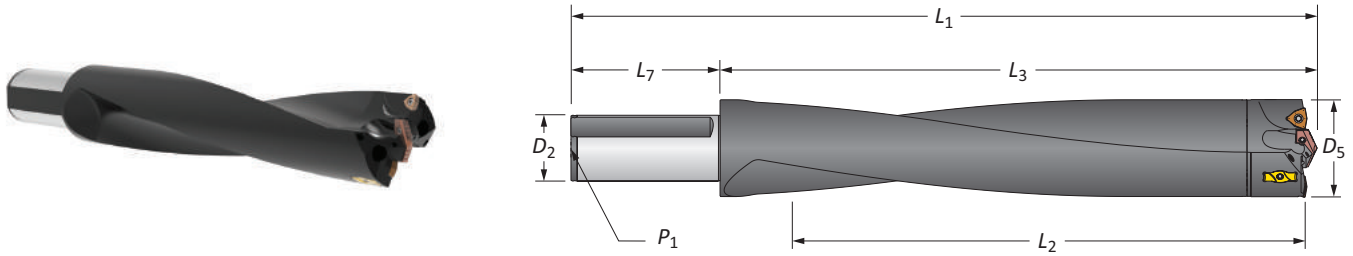
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

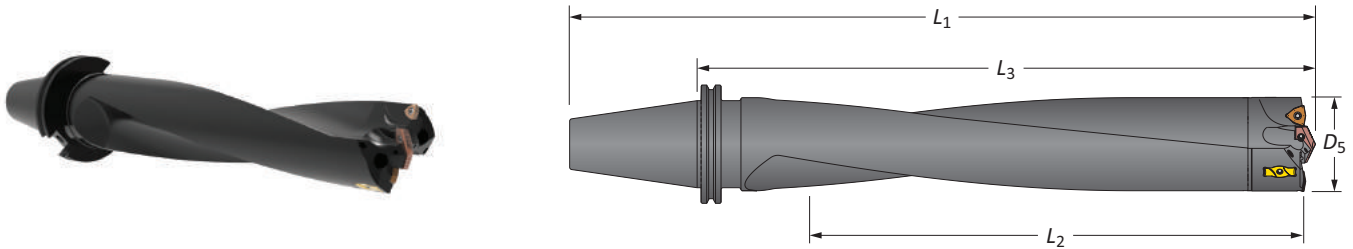
70 Series | Diameter Range: 2.7556" - 2.9917" (70.00mm - 75.99mm)



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
i	3xD	2.7556 - 2.9917	8-3/4	10-19/32	15-3/32	4-1/2	2	1/4	W7003H-200F
	5xD	2.7556 - 2.9917	14-7/8	16-37/64	21-5/64	4-1/2	2	1/4	W7005H-200F
	8xD	2.7556 - 2.9917	23-7/8	25-35/64	30-3/64	4-1/2	2	1/4	W7008H-200F
	10xD	2.7556 - 2.9917	27-7/8	29-35/64	34-3/64	4-1/2	2	1/4	W7010H-200F
m	3xD	70.00 - 75.99	218.8	269.0	349.0	80.0	50.0	1/4*	W7003H-50FM
	5xD	70.00 - 75.99	380.0	421.1	501.1	80.0	50.0	1/4*	W7005H-50FM
	8xD	70.00 - 75.99	608.0	649.0	729.0	80.0	50.0	1/4*	W7008H-50FM
	10xD	70.00 - 75.99	709.4	750.3	830.3	80.0	50.0	1/4*	W7010H-50FM

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		inch	mm	L ₂	L ₃	L ₁		
i	3xD	2.7556 - 2.9917	70.00 - 75.99	8-3/4	12-7/32	16-7/32	CV50	W7003H-CV50
	5xD	2.7556 - 2.9917	70.00 - 75.99	14-7/8	18-13/64	22-13/64	CV50	W7005H-CV50
	8xD	2.7556 - 2.9917	70.00 - 75.99	23-7/8	27-5/32	31-5/32	CV50	W7008H-CV50
	10xD	2.7556 - 2.9917	70.00 - 75.99	26-3/4	29-61/64	33-61/64	CV50	W7010H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

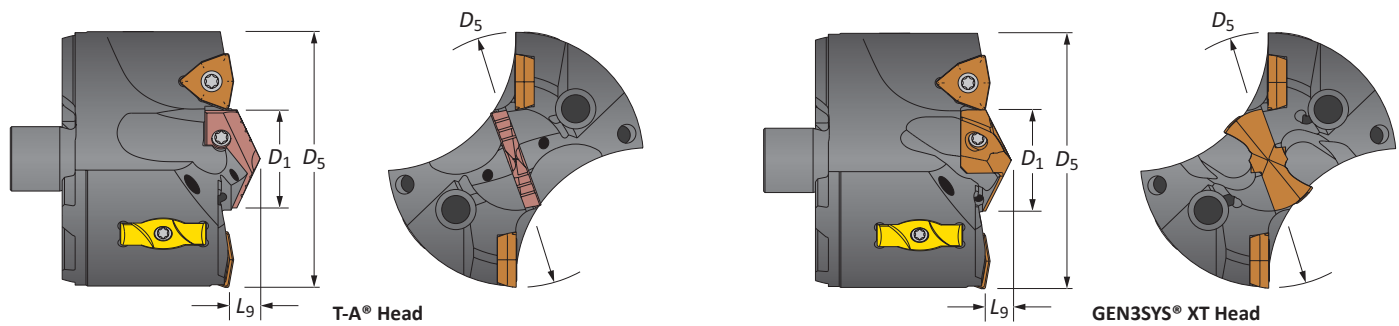
i = Imperial (in)
m = Metric (mm)

Mounting screws sold in multiples of 4



APX Drill Heads

76 Series | Diameter Range: 2.9918" - 3.2673" (76.00mm - 82.99mm)



Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	2.9921	76.00	1-7/32	13/32	V7602S-76	2	4C*2H-0107	V7629S-76	29	7C*29P-0107	1/2
3	3.0000	76.20	1-7/32	13/32	V7602S-0300	2	4C*2H-0107	V7629S-0300	29	7C*29P-0107	1/2
3-1/16	3.0625	77.79	1-7/32	13/32	V7602S-0302	2	4C*2H-0107	V7629S-0302	29	7C*29P-0107	1/2
–	3.0709	78.00	1-7/32	13/32	V7602S-78	2	4C*2H-0107	V7629S-78	29	7C*29P-0107	1/2
3-1/8	3.1250	79.38	1-7/32	13/32	V7602S-0304	2	4C*2H-0107	V7629S-0304	29	7C*29P-0107	1/2
–	3.1496	80.00	1-7/32	13/32	V7602S-80	2	4C*2H-0107	V7629S-80	29	7C*29P-0107	1/2
3-3/16	3.1875	80.96	1-7/32	13/32	V7602S-0306	2	4C*2H-0107	V7629S-0306	29	7C*29P-0107	1/2
–	3.2282	82.00	1-7/32	13/32	V7602S-82	2	4C*2H-0107	V7629S-82	29	7C*29P-0107	1/2
3-1/4	3.2500	82.55	1-7/32	13/32	V7602S-0308	2	4C*2H-0107	V7629S-0308	29	7C*29P-0107	1/2

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	1/2	C5	Standard	OP-080508-PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C1	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Rake	OP-080508-PWHR	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Impact	OP-080508-PWHI	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

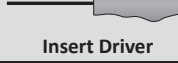
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Wear Pads

 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	27.0 in-lbs (300 N-cm)

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

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	29	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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



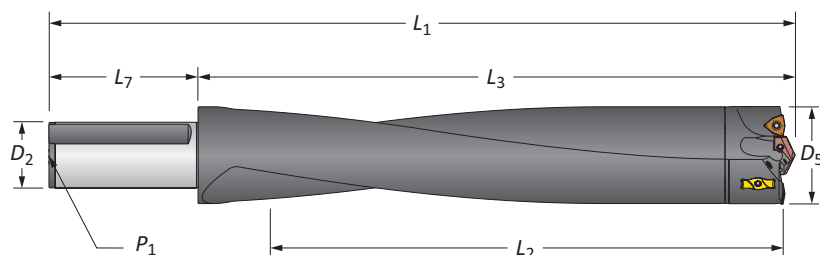
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

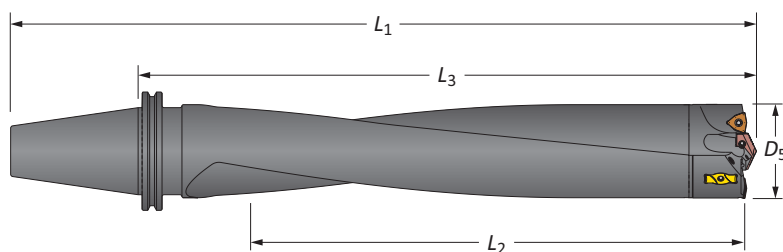
76 Series | Diameter Range: 2.9918" - 3.2673" (76.00mm - 82.99mm)



Straight Shank

	Length	D_5	Body			Shank			Part No.
			L_2	L_3	L_1	L_7	D_2	P_1	
i	3xD	2.9918 - 3.2673	9-1/2	11-33/64	16-1/64	4-1/2	2	1/4	W7603H-200F
	5xD	2.9918 - 3.2673	16-3/8	18-3/64	22-35/64	4-1/2	2	1/4	W7605H-200F
	8xD	2.9918 - 3.2673	26-1/8	27-27/32	32-11/32	4-1/2	2	1/4	W7608H-200F
m	3xD	76.00 - 82.99	239.9	292.4	372.4	80.0	50.0	1/4*	W7603H-50FM
	5xD	76.00 - 82.99	415.0	458.2	538.2	80.0	50.0	1/4*	W7605H-50FM
	8xD	76.00 - 82.99	664.0	707.1	787.1	80.0	50.0	1/4*	W7608H-50FM

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D_5		Body			Shank	Part No.
		inch	mm	L_2	L_3	L_1		
i	3xD	2.9918 - 3.2673	76.00 - 82.99	9-1/2	12-57/64	16-57/64	CV50	W7603H-CV50
	5xD	2.9918 - 3.2673	76.00 - 82.99	16-3/8	19-27/64	23-27/64	CV50	W7605H-CV50
	8xD	2.9918 - 3.2673	76.00 - 82.99	26-1/8	29-7/32	33-7/32	CV50	W7608H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

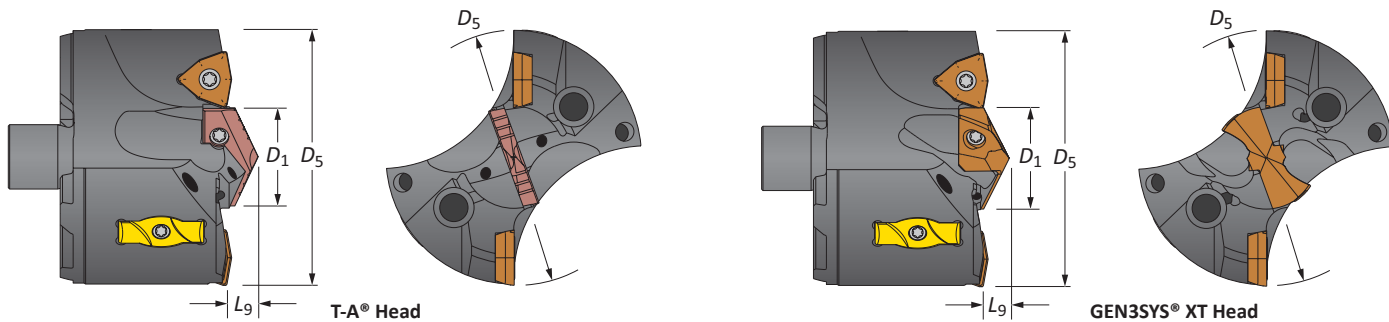
i = Imperial (in)
m = Metric (mm)

Mounting screws sold in multiples of 4



APX Drill Heads

83 Series | Diameter Range: 3.2674" - 3.5035" (83.00mm - 88.99mm)



Heads

Head					T-A Head			GEN3SYS XT Head			
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series		Part No.	Pilot Series		IC Insert Size
–	3.3071	84.00	1-3/8	7/16	V8302S-84	2	4C*2H-0112	V8332S-84	32	7C*32P-0112	1/2
3-5/16	3.3125	84.14	1-3/8	7/16	V8302S-0310	2	4C*2H-0112	V8332S-0310	32	7C*32P-0112	1/2
3-3/8	3.3750	85.73	1-3/8	7/16	V8302S-0312	2	4C*2H-0112	V8332S-0312	32	7C*32P-0112	1/2
–	3.3859	86.00	1-3/8	7/16	V8302S-86	2	4C*2H-0112	V8332S-86	32	7C*32P-0112	1/2
3-7/16	3.4375	87.31	1-3/8	7/16	V8302S-0314	2	4C*2H-0112	V8332S-0314	32	7C*32P-0112	1/2
–	3.4646	88.00	1-3/8	7/16	V8302S-88	2	4C*2H-0112	V8332S-88	32	7C*32P-0112	1/2
3-1/2	3.5000	88.90	1-3/8	7/16	V8302S-0316	2	4C*2H-0112	V8332S-0316	32	7C*32P-0112	1/2

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	1/2	C5	Standard	OP-080508-PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C1	Standard	OP-080508-1PW	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Rake	OP-080508-PWHR	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
AM300®	1/2	C5	High Impact	OP-080508-PWHI	74012-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

Wear Pads

 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	27.0 in-lbs (300 N-cm)

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

Pilot Accessories

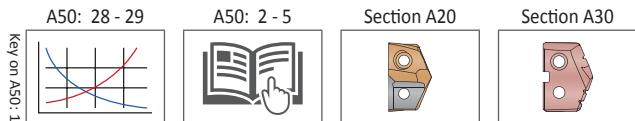
Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	32	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

Non-stocked diameters are also available. Follow the examples shown below.

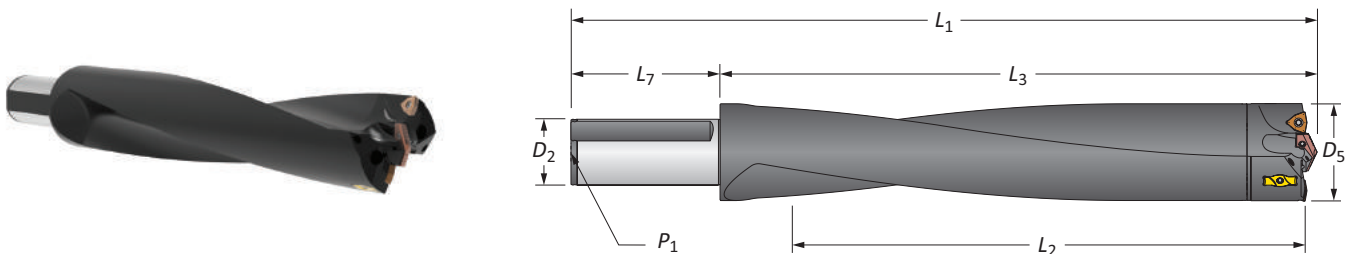
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10



APX Drill Holders

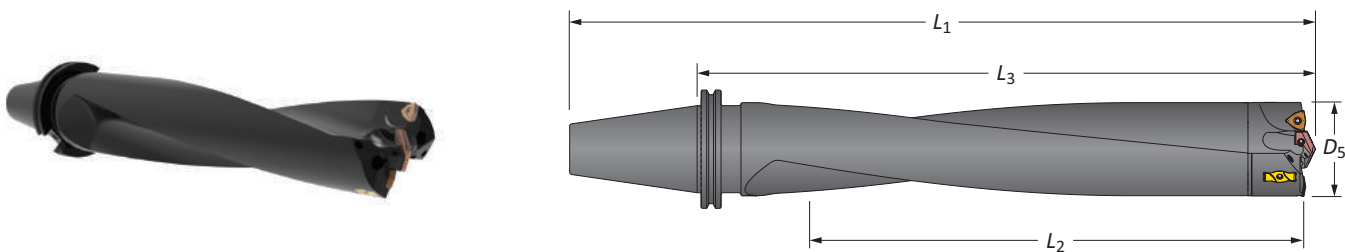
83 Series | Diameter Range: 3.2674" - 3.5035" (83.00mm - 88.99mm)



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
i	3xD	3.2674 - 3.5035	10-1/8	12-5/16	16-13/16	4-1/2	2	1/4	W8303H-200F
	5xD	3.2674 - 3.5035	17-1/2	19-5/16	23-13/16	4-1/2	2	1/4	W8305H-200F
	8xD	3.2674 - 3.5035	27-3/4	29-35/64	34-3/64	4-1/2	2	1/4	W8308H-200F
m	3xD	83.00 - 88.99	257.8	312.5	392.6	80.0	50.0	1/4*	W8303H-50FM
	5xD	83.00 - 88.99	445.0	490.5	570.5	80.0	50.0	1/4*	W8305H-50FM
	8xD	83.00 - 88.99	704.9	750.3	830.3	80.0	50.0	1/4*	W8308H-50FM

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		inch	mm	L ₂	L ₃	L ₁		
i	3xD	3.2674 - 3.5035	83.00 - 88.99	10-1/8	13-11/16	17-11/16	CV50	W8303H-CV50
	5xD	3.2674 - 3.5035	83.00 - 88.99	17-1/2	20-11/16	24-11/16	CV50	W8305H-CV50
	8xD	3.2674 - 3.5035	83.00 - 88.99	26-7/8	30-3/64	34-3/64	CV50	W8308H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

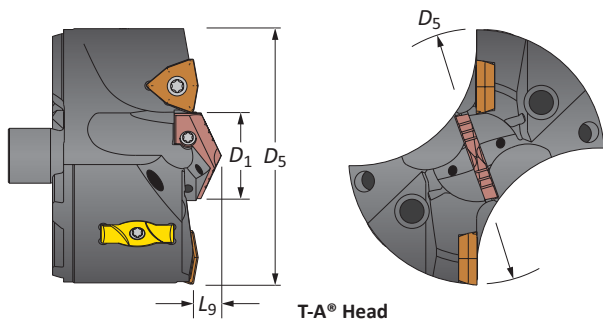
i = Imperial (in)
m = Metric (mm)

Mounting screws sold in multiples of 4

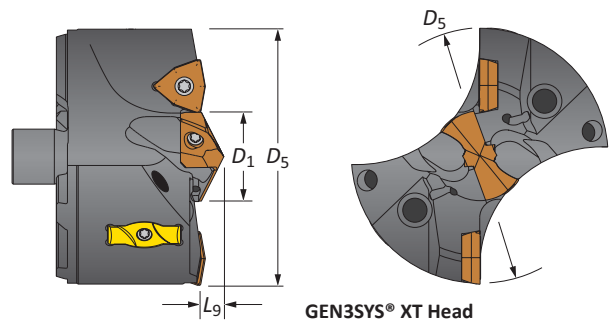


APX Drill Heads

89 Series | Diameter Range: 3.5036" - 3.7400" (89.00mm - 94.99mm)



T-A® Head



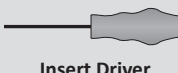
GEN3SYS® XT Head

Heads

Head					T-A Head			GEN3SYS XT Head			IC Insert Size
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series	 Pilot Insert	Part No.	Pilot Series	 Pilot Insert	
–	3.5433	90.00	1-1/4	27/64	V8902S-90	2	4C*2H-0108	V8929S-90	29	7C*29P-0108	9/16
3-9/16	3.5625	90.49	1-1/4	27/64	V8902S-0318	2	4C*2H-0108	V8929S-0318	29	7C*29P-0108	9/16
–	3.6220	92.00	1-1/4	27/64	V8902S-92	2	4C*2H-0108	V8929S-92	29	7C*29P-0108	9/16
3-5/8	3.6250	92.08	1-1/4	27/64	V8902S-0320	2	4C*2H-0108	V8929S-0320	29	7C*29P-0108	9/16
3-11/16	3.6875	93.66	1-1/4	27/64	V8902S-0322	2	4C*2H-0108	V8929S-0322	29	7C*29P-0108	9/16
–	3.7008	94.00	1-1/4	27/64	V8902S-94	2	4C*2H-0108	V8929S-94	29	7C*29P-0108	9/16

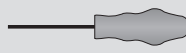
*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	9/16	C5	Standard	OP-090608-PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C1	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Impact	OP-090608-PWHI	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)

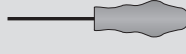
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Wear Pads

 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	27.0 in-lbs (300 N-cm)

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

Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	29	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

Non-stocked diameters are also available. Follow the examples shown below.

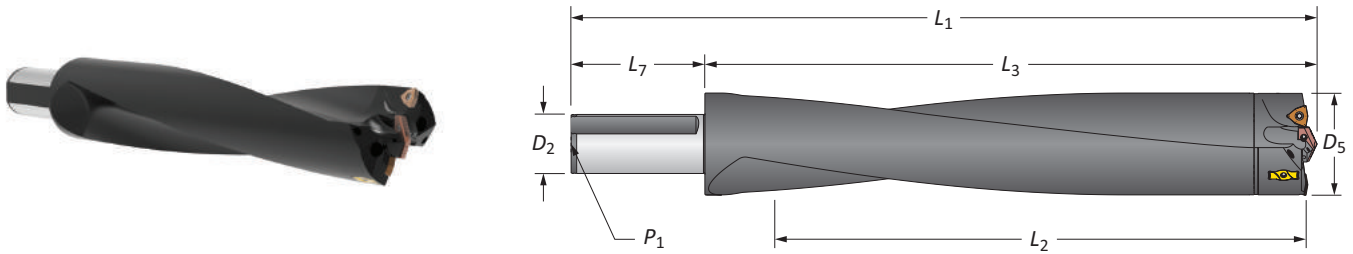
Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10



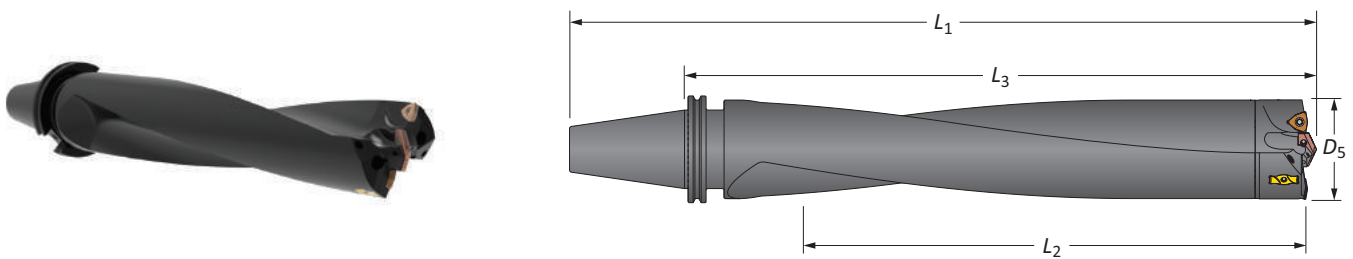
APX Drill Holders

89 Series | Diameter Range: 3.5036" - 3.7400" (89.00mm - 94.99mm)

**Straight Shank**

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
i	3xD	3.5036 - 3.7400	10-7/8	13-1/8	17-5/8	4-1/2	2	1/4	W8903H-200F
	5xD	3.5036 - 3.7400	18-5/8	20-5/8	25-1/8	4-1/2	2	1/4	W8905H-200F
	8xD	3.5036 - 3.7400	27-5/8	29-35/64	34-3/64	4-1/2	2	1/4	W8908H-200F
m	3xD	89.00 - 94.99	275.8	333.6	413.6	80.0	50.0	1/4*	W8903H-50FM
	5xD	89.00 - 94.99	475.0	523.7	603.7	80.0	50.0	1/4*	W8905H-50FM
	8xD	89.00 - 94.99	701.8	750.3	830.3	80.0	50.0	1/4*	W8908H-50FM

*Thread to BSP and ISO 7-1

**CV50 Shank**

	Length	D ₅		Body			Shank	Part No.
		inch	mm	L ₂	L ₃	L ₁		
i	3xD	3.5036 - 3.7400	89.00 - 94.99	10-7/8	14-33/64	18-33/64	CV50	W8903H-CV50
	5xD	3.5036 - 3.7400	89.00 - 94.99	18-5/8	22	26	CV50	W8905H-CV50
	8xD	3.5036 - 3.7400	89.00 - 94.99	26-3/4	30-1/32	34-1/32	CV50	W8908H-CV50

Connection Accessories

		Admissible Tightening Torque*
Mounting Screw	Mounting Screw Bit	
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

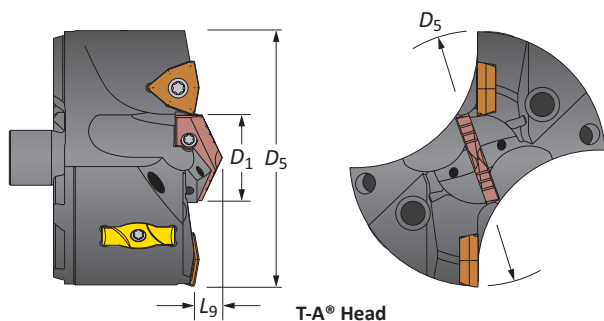
i = Imperial (in)**m** = Metric (mm)

Mounting screws sold in multiples of 4

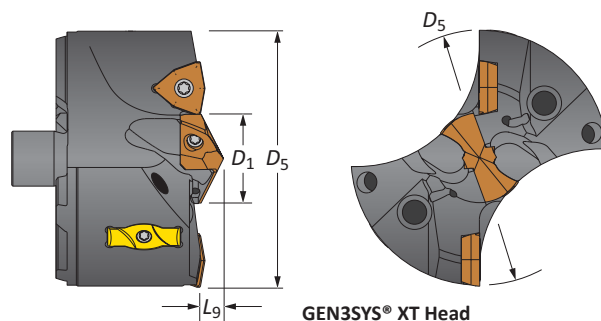


APX Drill Heads

95 Series | Diameter Range: 3.7401" - 4.0000" (95.00mm - 101.60mm)



T-A® Head



GEN3SYS® XT Head

Heads

Head					T-A Head			GEN3SYS XT Head			IC Insert Size
D_5 fractional	D_5 inch	D_5 mm	D_1	L_9	Part No.	Pilot Series	 Pilot Insert	Part No.	Pilot Series	 Pilot Insert	
3-3/4	3.7500	95.25	1-3/8	29/64	V9502S-0324	2	4C*2H-0112	V9532S-0324	32	7C*32P-0112	9/16
–	3.7795	96.00	1-3/8	29/64	V9502S-96	2	4C*2H-0112	V9532S-96	32	7C*32P-0112	9/16
3-13/16	3.8125	96.84	1-3/8	29/64	V9502S-0326	2	4C*2H-0112	V9532S-0326	32	7C*32P-0112	9/16
–	3.8583	98.00	1-3/8	29/64	V9502S-98	2	4C*2H-0112	V9532S-98	32	7C*32P-0112	9/16
3-7/8	3.8750	98.43	1-3/8	29/64	V9502S-0328	2	4C*2H-0112	V9532S-0328	32	7C*32P-0112	9/16
–	3.9370	100.00	1-3/8	29/64	V9502S-100	2	4C*2H-0112	V9532S-100	32	7C*32P-0112	9/16
3-15/16	3.9375	100.01	1-3/8	29/64	V9502S-0330	2	4C*2H-0112	V9532S-0330	32	7C*32P-0112	9/16
4	4.0000	101.60	1-3/8	29/64	V9502S-0400	2	4C*2H-0112	V9532S-0400	32	7C*32P-0112	9/16

*Denotes carbide grade (1 = C1, 2 = C2)

IC Inserts

Coating	Size	Grade	Geometry	 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
AM300®	9/16	C5	Standard	OP-090608-PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C1	Standard	OP-090608-1PW	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Rake	OP-090608-PWHR	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)
AM300®	9/16	C5	High Impact	OP-090608-PWHI	75014-IP20-1	8IP-20	121.0 in-lbs (1370 N-cm)

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

Wear Pads

 Part No.	 Insert Screw	 Insert Driver	Admissible Tightening Torque*
WP7095	7358-IP10-1	8IP-10	27.0 in-lbs (300 N-cm)

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

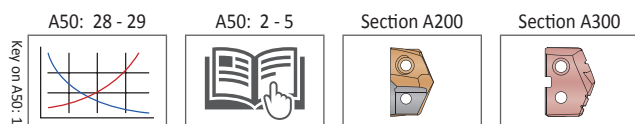
Pilot Accessories

Pilot Style	Series	 Insert Screws	 Insert Driver	Admissible Tightening Torque*
T-A	2	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)
GEN3SYS	32	7495-IP15-1	8IP-15	61.0 in-lbs (690 N-cm)

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

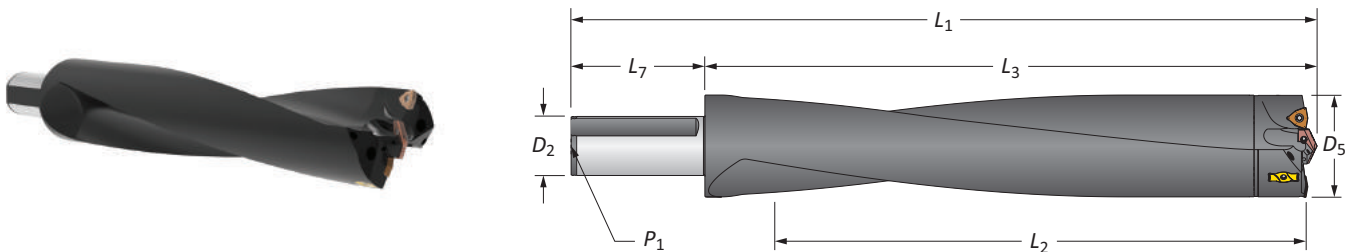
Non-stocked diameters are also available. Follow the examples shown below.

Inch	38 series, T-A (1 series), 1.6790"	Part No. = V3801D-1.6790
Metric	38 series, T-A (1 series), 42.15mm	Part No. = V3801D-42.15

Wear pads sold in multiples of 2 | Wear pad screws sold in multiples of 4
IC inserts sold in multiples of 2 | Insert screws sold in multiples of 10

APX Drill Holders

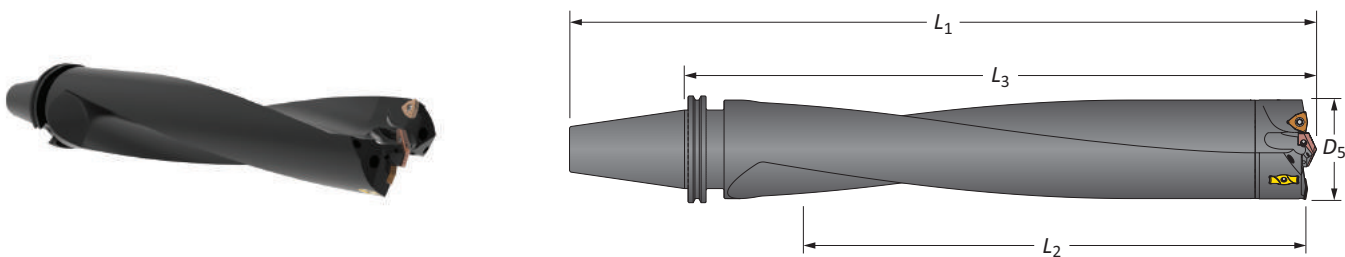
95 Series | Diameter Range: 3.7401" - 4.0000" (95.00mm - 101.60mm)



Straight Shank

	Length	D ₅	Body			Shank			Part No.
			L ₂	L ₃	L ₁	L ₇	D ₂	P ₁	
i	3xD	3.7401 - 4.0000	11-7/8	14-9/32	18-25/32	4-1/2	2	1/4	W9503H-200F
	5xD	3.7401 - 4.0000	20	22-19/64	26-51/64	4-1/2	2	1/4	W9505H-200F
	8xD	3.7401 - 4.0000	27-1/2	29-51/64	34-19/64	4-1/2	2	1/4	W9508H-200F
m	3xD	95.00 - 101.60	302.0	362.8	442.8	80.0	50.0	1/4*	W9503H-50FM
	5xD	95.00 - 101.60	508.0	566.2	646.2	80.0	50.0	1/4*	W9505H-50FM
	8xD	95.00 - 101.60	698.5	756.7	836.7	80.0	50.0	1/4*	W9508H-50FM

*Thread to BSP and ISO 7-1



CV50 Shank

	Length	D ₅		Body			Shank	Part No.
		inch	mm	L ₂	L ₃	L ₁		
i	3xD	3.7401 - 4.0000	95.00 - 101.60	11-7/8	15-43/64	19-43/64	CV50	W9503H-CV50
	5xD	3.7401 - 4.0000	95.00 - 101.60	20	23-43/64	27-43/64	CV50	W9505H-CV50
	8xD	3.7401 - 4.0000	95.00 - 101.60	26-5/8	30-9/32	34-9/32	CV50	W9508H-CV50

Connection Accessories

Mounting Screw	Mounting Screw Bit	Admissible Tightening Torque*
78027-IP30-1	8IP-30B	250 in-lb (2825 N-cm)

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A50: 30 for deep hole drilling guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

i = Imperial (in)

m = Metric (mm)

Mounting screws sold in multiples of 4



Recommended Drilling Data | Imperial (inch)

ISO	Material	Hardness (BHN)	Feed Rate (IPR) by Diameter								
			Outboard Insert		5/16" IC	3/8" IC	1/2" IC	9/16" IC	3/8" IC	1/2" IC	9/16" IC
			Series		33	38 - 44	44 - 51	51 - 57 - 63	70	76 - 83	89 - 95
			Speed (SFM)	Pilot Style	1.299 - 1.495	1.496 - 1.885	1.886 - 2.210	2.211 - 2.775	2.756 - 2.991	2.992 - 3.502	3.503 - 4.000
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 250	450 - 750	T-A/GEN3SYS	.006 - .011	.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/GEN3SYS	.006 - .011	.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/GEN3SYS	.006 - .011	.007 - .012	.009 - .012	.009 - .012	.006 - .010	.007 - .011	.007 - .012
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	400 - 700	T-A/GEN3SYS	.005 - .007	.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/GEN3SYS	.005 - .006	.005 - .007	.005 - .008	.006 - .009	.005 - .007	.005 - .008	.006 - .008
	Structural Steel A36, A285, A516, etc.	100 - 350	450 - 750	T-A/GEN3SYS	.006 - .008	.007 - .009	.008 - .010	.009 - .011	.005 - .009	.006 - .010	.007 - .010
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	300 - 500	T-A/GEN3SYS	.005 - .006	.005 - .007	.007 - .009	.008 - .010	.005 - .007	.006 - .009	.007 - .010
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	200 - 400	T-A	.004 - .005	.004 - .007	.006 - .009	.007 - .009	.004 - .006	.005 - .007	.005 - .007
	Titanium Alloy	140 - 310	300 - 500	T-A	.005 - .007	.006 - .008	.007 - .009	.008 - .010	.004 - .006	.005 - .007	.005 - .007
	Aerospace Alloy S82	185 - 350	400 - 600	T-A/GEN3SYS	.004 - .006	.005 - .007	.006 - .008	.006 - .008	.004 - .006	.005 - .007	.005 - .007
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	300 - 500	T-A/GEN3SYS	.006 - .008	.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/GEN3SYS	.005 - .007	.006 - .008	.007 - .009	.008 - .010	.004 - .008	.006 - .010	.006 - .010
	Super Duplex Stainless Steel	135 - 275	250 - 450	T-A/GEN3SYS	.004 - .006	.005 - .007	.007 - .009	.007 - .009	.004 - .007	.006 - .009	.007 - .010
H	Wear Plate Hardox, AR400, T-1, etc.	400 - 600	300 - 500	T-A	.003 - .005	.004 - .006	.006 - .008	.007 - .009	.003 - .005	.004 - .006	.004 - .006
	Hardened Steel	300 - 500	300 - 500	T-A	.004 - .005	.005 - .006	.006 - .008	.006 - .008	.003 - .005	.004 - .006	.004 - .006
K	Nodular, Grey, Ductile Cast Iron	120 - 320	500 - 800	T-A/GEN3SYS	.005 - .009	.006 - .010	.008 - .012	.010 - .012	.008 - .010	.009 - .011	.010 - .012
N	Cast Aluminum	30 - 180	600 - 800	T-A/GEN3SYS	.009 - .012	.010 - .014	.012 - .016	.012 - .016	.006 - .009	.008 - .011	.008 - .012
	Wrought Aluminum	30 - 180	600 - 800	T-A/GEN3SYS	.007 - .011	.008 - .012	.010 - .014	.010 - .014	.006 - .009	.008 - .011	.008 - .012
	Aluminum Bronze	100 - 250	400 - 700	T-A/GEN3SYS	.005 - .007	.005 - .008	.007 - .010	.009 - .011	.006 - .009	.007 - .010	.008 - .012
	Brass	30 - 100	800	T-A/GEN3SYS	.006 - .008	.007 - .009	.008 - .010	.009 - .012	.006 - .008	.007 - .009	.008 - .012
	Copper	60	700	T-A/GEN3SYS	.002 - .005	.003 - .006	.006 - .008	.008 - .010	.006 - .008	.006 - .008	.006 - .008

Coolant Recommendations

Series	Pressure (PSI)	Flow Rate (GPM)
33	350	10
38	300	10
44	275	12
51	250	18
57	225	20
63	200	22
70	150	25
76	100	28
83	100	30
89	100	33
95	100	33

Calculations

Value	Formula
SFM	$RPM \cdot 0.262 \cdot \text{Diameter}$
RPM	$(SFM \cdot 3.82) / \text{Diameter}$
IPM	$RPM \cdot \text{IPR}$

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

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied Machine recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the APX Drilling System will still function at reduced penetration rates. Contact our Application Engineering department for a more specific recommendation of coolant requirements and/or speeds and feeds.

⚠ WARNING Tool failure can cause serious injury. To prevent: For APX holders 8xD or longer, do not rotate tool more than 50 RPM unless it is engaged with workpiece or fixture. Refer to page A50: 30 for Deep Hole Drilling Guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.



Recommended Drilling Data | Metric (mm)

ISO Material		Hardness (BHN)			Feed Rate (mm/rev) by Diameter						
					Outboard Insert		5/16" IC	3/8" IC	1/2" IC	9/16" IC	3/8" IC
			Series		33	38 - 44	44 - 51	51 - 57 - 63	70	76 - 83	89 - 95
			Speed (M/min)	Pilot Style	33.00 - 37.99	38.00 - 47.88	47.89 - 56.13	56.14 - 69.99	70.00 - 75.99	76.00 - 88.99	89.00 - 101.60
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 250	137 - 229	T-A/GEN3SYS	0.15 - 0.28	0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 275	137 - 229	T-A/GEN3SYS	0.15 - 0.28	0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 325	137 - 229	T-A/GEN3SYS	0.15 - 0.28	0.18 - 0.30	0.23 - 0.30	0.23 - 0.30	0.15 - 0.25	0.18 - 0.28	0.18 - 0.30
	Alloy Steel 4140, 5140, 8640, etc.	125 - 375	122 - 213	T-A/GEN3SYS	0.13 - 0.18	0.13 - 0.23	0.18 - 0.25	0.18 - 0.28	0.13 - 0.23	0.15 - 0.25	0.15 - 0.25
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 400	91 - 152	T-A/GEN3SYS	0.13 - 0.15	0.13 - 0.18	0.13 - 0.20	0.15 - 0.23	0.13 - 0.18	0.13 - 0.20	0.15 - 0.20
	Structural Steel A36, A285, A516, etc.	100 - 350	137 - 229	T-A/GEN3SYS	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.23 - 0.28	0.13 - 0.23	0.15 - 0.25	0.15 - 0.25
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 250	91 - 152	T-A/GEN3SYS	0.13 - 0.15	0.13 - 0.18	0.18 - 0.23	0.20 - 0.25	0.13 - 0.18	0.15 - 0.23	0.18 - 0.25
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 310	61 - 122	T-A	0.10 - 0.13	0.10 - 0.18	0.15 - 0.23	0.18 - 0.23	0.10 - 0.15	0.13 - 0.18	0.13 - 0.18
	Titanium Alloy	140 - 310	91 - 152	T-A	0.13 - 0.18	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.10 - 0.15	0.13 - 0.18	0.13 - 0.18
	Aerospace Alloy S82	185 - 350	122 - 183	T-A/GEN3SYS	0.10 - 0.15	0.13 - 0.18	0.15 - 0.20	0.15 - 0.20	0.10 - 0.15	0.13 - 0.18	0.13 - 0.18
M	Stainless Steel 400 Series 416, 420, etc.	185 - 350	91 - 152	T-A/GEN3SYS	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.23 - 0.28	0.13 - 0.18	0.18 - 0.23	0.18 - 0.25
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 275	91 - 152	T-A/GEN3SYS	0.13 - 0.18	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.10 - 0.20	0.15 - 0.25	0.15 - 0.25
	Super Duplex Stainless Steel	135 - 275	76 - 137	T-A/GEN3SYS	0.10 - 0.15	0.13 - 0.18	0.18 - 0.23	0.18 - 0.23	0.10 - 0.18	0.15 - 0.23	0.18 - 0.25
H	Wear Plate Hardox, AR400, T-1, etc.	400 - 600	91 - 152	T-A	0.07 - 0.13	0.10 - 0.15	0.15 - 0.20	0.18 - 0.23	0.08 - 0.13	0.10 - 0.15	0.10 - 0.15
	Hardened Steel	300 - 500	91 - 152	T-A	0.10 - 0.13	0.13 - 0.15	0.15 - 0.20	0.15 - 0.20	0.08 - 0.13	0.10 - 0.20	0.10 - 0.20
K	Nodular, Grey, Ductile Cast Iron	120 - 320	152 - 244	T-A/GEN3SYS	0.13 - 0.23	0.15 - 0.25	0.20 - 0.30	0.25 - 0.30	0.20 - 0.25	0.23 - 0.28	0.25 - 0.30
N	Cast Aluminum	30 - 180	183 - 244	T-A/GEN3SYS	0.23 - 0.30	0.25 - 0.36	0.30 - 0.40	0.30 - 0.40	0.15 - 0.23	0.20 - 0.28	0.20 - 0.30
	Wrought Aluminum	30 - 180	183 - 244	T-A/GEN3SYS	0.18 - 0.28	0.20 - 0.30	0.25 - 0.36	0.25 - 0.36	0.15 - 0.23	0.20 - 0.28	0.20 - 0.30
	Aluminum Bronze	100 - 250	123 - 213	T-A/GEN3SYS	0.13 - 0.18	0.13 - 0.20	0.18 - 0.25	0.23 - 0.28	0.15 - 0.23	0.18 - 0.25	0.20 - 0.30
	Brass	30 - 100	244	T-A/GEN3SYS	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25	0.23 - 0.30	0.15 - 0.20	0.18 - 0.23	0.20 - 0.25
	Copper	60	213	T-A/GEN3SYS	0.05 - 0.13	0.08 - 0.15	0.15 - 0.20	0.20 - 0.25	0.08 - 0.15	0.15 - 0.20	0.15 - 0.20

Coolant Recommendations

Series	Pressure (BAR)	Flow Rate (LPM)
33	24	38
38	21	38
44	19	45
51	17	68
57	16	76
63	14	83
70	10	95
76	7	106
83	7	114
89	7	125
95	7	125

Calculations

Value	Formula
M/min	$RPM \cdot 0.003 \cdot \text{Diameter}$
RPM	$(M/min \cdot 318.47) / \text{Diameter}$
mm/min	$RPM \cdot \text{mm/rev}$

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

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied Machine recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the APX Drilling System will still function at reduced penetration rates. Contact our Application Engineering department for a more specific recommendation of coolant requirements and/or speeds and feeds.

⚠ WARNING Tool failure can cause serious injury. To prevent: For APX holders 8xD or longer, do not rotate tool more than 50 RPM unless it is engaged with workpiece or fixture. Refer to page A50: 30 for Deep Hole Drilling Guidelines in this section of the catalog. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.



Deep Hole Drilling Guidelines

A

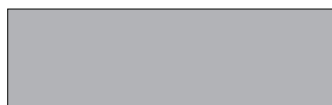
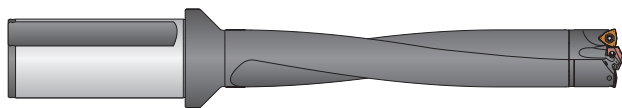
DRILLING



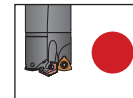
1. Approach

50 RPM max
12 IPM (300 mm/min)

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



Coolant OFF



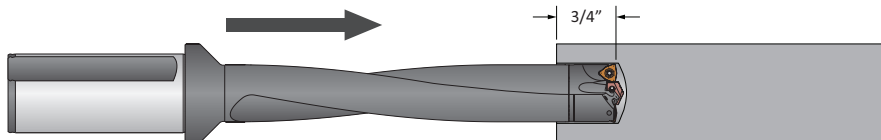
B

BORING

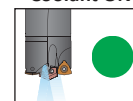
2. Feed-in

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 the hole.



Coolant ON



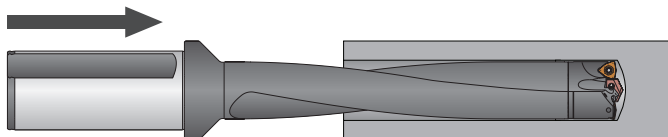
C

REAMING

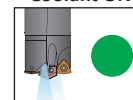
3. Deep Hole Drilling - Blind

100 % RPM
100% IPR (mm/rev)

Drill to full depth at recommended speed and feed for longer drills (according to Allied Machine speed and feed charts).
***No peck cycle recommended.**



Coolant ON



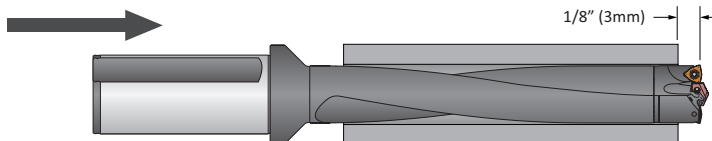
D

BURNISHING

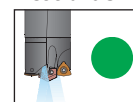
4. Deep Hole Drilling - at Breakout

50% RPM
100% IPR (mm/rev)

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



Coolant ON



E

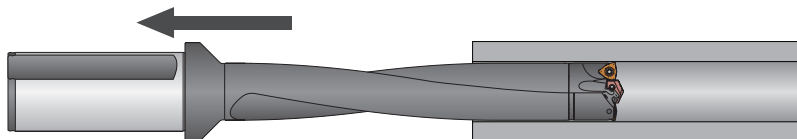
THREADING



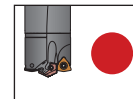
5. Drill Retract

50 RPM max

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



Coolant OFF



X

SPECIALS

! WARNING

Tool failure can cause serious injury. To prevent: NEVER rotate these tool holders more than 50 RPM without proper engagement with a workpiece or fixture. Failure to do so could result in tool failure and/or personal injury. Visit www.alliedmachine.com/DeepHoleGuidelines for the most up-to-date information and procedures. Factory technical assistance is also available for your specific applications.

This page left intentionally blank

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

Guaranteed Test / Demo Application Form

Distributor PO #

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

Distributor Information

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

End User Information

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

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

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

Application Information

Hole Diameter: _____ in/mm Tolerance: _____ Material: _____
(4150 / A36 / Cast Iron / etc.)
Required Finish: _____ RMS _____ in/mm Hardness: _____
(BHN / Rc)
State: _____
(Casting / Hot rolled / Forging)

Machine Information

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

Coolant Information

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

Requested Tooling

QTY	Item Number

QTY	Item Number



**ALLIED MACHINE
& ENGINEERING**

Allied Machine & Engineering
120 Deeds Drive
Dover, OH 44622

Telephone: (330) 343-4283
Toll Free USA & Canada: (800) 321-5537
Fax: (330) 602-3400

Warranty Information

Allied Machine & Engineering warrants to original equipment manufacturers, distributors, industrial and commercial users of its products that each new product manufactured or supplied by Allied Machine shall be free from defects in material and workmanship.

Allied Machine's obligation under this warranty is limited to furnishing without additional charge a replacement or, at its option repairing or issuing credit for any product which shall within one year from the date of sale be returned freight prepaid to the plant designated by an Allied Machine representative and which upon inspection is determined by Allied Machine to be defective in materials or workmanship.

Complete information as to operating conditions, machine, set-up, and application of cutting fluid should accompany any product returned for inspection. The provisions of this warranty shall not apply to any Allied Machine products which have been subjected to misuse, improper operating conditions, machine set-up or application of cutting fluid or which have been repaired or altered if such repair or alteration in the judgment of Allied Machine would adversely affect performance of the product.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Allied Machine shall have no liability or responsibility on any claim of any kind, whether in contract, tort or otherwise, for any loss or damage arising out of, connected with, or resulting from the manufacture, sale, delivery or use of any product sold hereunder, in excess of the cost of replacement or repair as provided herein.

ALL PRICES, DELIVERIES, DESIGNS, AND MATERIALS ARE SUBJECT TO CHANGE WITHOUT NOTICE.



Allied Machine & Engineering
Registered to ISO 9001
10001329

United States

Allied Machine & Engineering

120 Deeds Drive
Dover OH 44622
United States

Phone:

330.343.4283

Fax:

330.602.3400

Toll Free USA and Canada:

800.321.5537

Toll Free USA and Canada:

800.223.5140

Allied Machine & Engineering

485 W Third Street
Dover OH 44622
United States

Phone:

330.343.4283

Fax:

330.364.7666
(Engineering Dept.)

Toll Free USA and Canada:

800.321.5537

Europe

Allied Machine & Engineering Co. (Europe) Ltd.

93 Vantage Point
Pensnett Estate
Kingswinford
West Midlands
DY6 7FR England

Phone:

+44 (0) 1384 400900

Wohlhaupter GmbH

Maybachstrasse 4
Postfach 1264
72636 Frickenhausen
Germany

Phone:

011-49-7022-408-0

Fax:

011-49-7022-408-212

Asia

Wohlhaupter India Pvt. Ltd.

B-23, 2nd Floor
B Block Community Centre
Janakpuri, New Delhi - 110058
India

Phone:

+91-11-41827044

Your local Allied Machine representative:



www.alliedmachine.com

Allied Machine & Engineering is registered by DQS to ISO 9001 10001329

© 2017 Allied Machine & Engineering
Available Online Only: A50-APX
Publish Date: May 2017