ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

Technical Guide | Product Nomenclature

Drilling

Boring

Reaming

Burnishing

Threading

Specials

www.alliedmachine.com

North America

Allied Machine
120 Deeds Drive
Dover, OH 44622
United States

Allied Machine
485 West 3rd Street
Dover, OH 44622
United States

ThreadMills USA™
4185 Crosstowne Ct #B
Evans, GA 30809
United States

Superion®
1285 S Patton St.
Xenia, OH 45385
United States

Europe

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

Wohlhaupter® GmbH
Maybachstrasse 4
Postfach 1264
72636 Frickenhausen
Germany

Asia

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

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

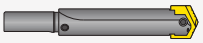
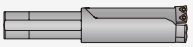
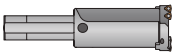
We continue to expand our product offering in order to provide new and different solutions. With Field Sales Engineers located around the world, we position ourselves to provide technical support on site, right at your spindle.

ALLIED MACHINE & ENGINEERING®

www.alliedmachine.com

Nomenclature Technical Guide Contents

Product Selection Guide | Drilling

Product	Diameter Range (inch / mm)											
	0 - 0.5 0 - 12.7	0.5 - 1 12.7 - 25.4	1 - 1.5 25.4 - 38.1	1.5 - 2 38.1 - 50.8	2 - 2.5 50.8 - 63.5	2.5 - 3 63.5 - 76.2	3 - 3.5 76.2 - 88.9	3.5 - 4 88.9 - 101.6	4 - 4.5 101.6 - 114.3	4.5 - 5 114.3 - 127	5 - 5.5 127 - 139.7	5.5 - 6 + 139.7 - 152.4 +
GEN3SYS® XT Pro 		0.4331" - 1.3780" (11.00 mm - 35.00 mm)										
GEN3SYS® XT 		0.4331" - 1.3780" (11.00 mm - 35.00 mm)										
T-A Pro® 		0.3739" - 1.8820" (9.50 mm - 47.80 mm)										
GEN2 T-A® 		0.3739" - 4.5070" (9.50 mm - 114.48 mm)										
T-A® 		0.3739" - 4.5070" (9.50 mm - 114.48 mm)										
High Performance 			0.9688" - 5.0000" (24.60 mm - 127.00 mm)									
Universal 			0.9688" - 8.5000" (24.60 mm - 215.90 mm)									
APX™ Drill 				1.2992" - 4.0000" (33.00 mm - 101.60 mm)								
4TEX® Drill 		0.4720" - 1.8500" (12.00 mm - 47.00 mm)										
Revolution Drill® 				1.8750" - 4.0000" (47.60 mm - 101.60 mm)								
Opening Drill® 					2.0000" - 5.6200" (50.80 mm - 142.80 mm)							
Structural Steel: GEN3SYS® XT Pro 		0.4331" - 1.3780" (11.00 mm - 35.00 mm)										
Structural Steel: T-A® 			0.5110" - 1.8820" (12.98 mm - 47.80 mm)									
AccuPort 432® 		0.3860" - 2.4210" (9.80 mm - 61.50 mm)										
BT-A Drill 			0.5100" - 1.8829" (12.95 mm - 47.82 mm)									

▶ Any product line with a black arrow indicates that larger non-standard diameters can be ordered by contacting Application Engineering:
1.330.343.4283 ext. 7611 1.800.321.5537 (toll free United States and Canada) appeng@alliedmachine.com

Length-to-Diameter Ratio	Machining Application					Material						Catalog Section
	General Purpose	High Penetration	Deep Hole	Large Diameter	Industry Specific	P	S	M	H	K	N	
3xD, 5xD, 7xD, 10xD, 12xD	●	●	●			●		●		●	●	A20
Stub, 3xD, 5xD, 7xD	●	●				●	◐	●	○	●	●	A20
Stub, 3xD, 5xD, 7xD, 10xD, 12xD, 15xD	○	●	●	○		●	●	●		●	●	A25
1xD to 28xD	●	○	●	●		◐	◐	◐		◐	◐	A30
1xD to 28xD	●	○	●	●		◐	◐	◐	◐	◐	◐	A30
	●		◐	●		◐	○	◐		○	◐	A40
	●		◐	●		○	○	○		○	○	A40
3xD, 5xD, 8xD, 10xD	◐		●	●		●	○	◐		●	◐	A50
2xD, 3xD, 4xD	●	◐				●	●	●	◐	●	◐	A55
1xD, 2.2xD, 2.5xD, 3.5xD, 4.5xD,	○	◐		●		●		●	○	●	◐	A60
	○	◐		●		●		●	○	●	◐	A70
1.5xD, 3xD, 5xD, 7xD		○	◐		●	●						A91
2xD, 4xD, 5xD, 6xD	○				●	●						A91
					●	●		○		●	◐	A92
		◐	●		●	●	○	○		●	◐	A93

● Best ◐ Better ○ Good

GEN3SYS® XT and XT Pro

PRODUCT NOMENCLATURE

GEN3SYS XT Pro Drill Inserts

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

*Available in 12-32 series only.

GEN3SYS XT Drill Inserts

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

GEN3SYS XT and XT Pro Drill Holders

HXT	03	2	S	–	20	FM
Holder	**Drill Length**	**Series**	**Flute**		**Shank Diameter**	**Shank Style**
6 = XT standard **HXT** = XT Pro	**01** = Stub (XT standard only.) **03** = 3xD **05** = 5xD **07** = 7xD **10** = 10xD ⚠ (XT Pro only.) **12** = 12xD ⚠ (11-26 series - XT Pro only.)	**11** **22** **12** **24** **13** **26** **14** **29** **15** **32** **16** **17** **18** **20**	**S** = Straight **H** = Helical **C45** = Drill/Chamfer* (Both helical and drill/chamfer options available for XT standard only.) *Drill/chamfer is available in stub length only.		**Imperial (in)**: **063** = 0.625", **075** = 0.750", **100** = 1.000", **125** = 1.250", **150** = 1.500" **Metric (mm)**: **16** = 16 mm, **20** = 20 mm, **25** = 25 mm, **32** = 32 mm, **40** = 40 mm	**F** = Flanged (with flat) **FM** = Flanged metric (with flat) **C** = Cylindrical (no flat) **CM** = Cylindrical metric (no flat)

SERIES DETAILS

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

Series		18 Series	20 Series	22 Series	24 Series	26 Series	29 Series	32 Series
								
Insert Ø	inch	0.7087 - 0.7873	0.7874 - 0.8660	0.8661 - 0.9448	0.9449 - 1.0235	1.0236 - 1.1416	1.1417 - 1.2597	1.2598 - 1.3780
	mm	18.00 - 19.99	20.00 - 21.99	22.00 - 23.99	24.00 - 25.99	26.00 - 28.99	29.00 - 31.99	32.00 - 35.00
Holder								
Shank Ø	inch	1.000	1.000	1.000	1.000	1.250	1.250	1.500
	mm	25.00	25.00	25.00	25.00	32.00	32.00	**XT:** 40.00 **XT Pro:** 32.00

⚠ **WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in the Allied Master Product 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.

GEN3SYS® XT and XT Pro

XT PRO INSERT GEOMETRIES

STEELS

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

CAST IRONS

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

NONFERROUS

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

Available in 12- 32 series only

STAINLESS STEEL

- Designed for stainless steels and other hard-to-machine materials in the ISO M group.
- Geometry optimized for improved chip formation while drilling at high penetration rates.
- Allied's AM460 coating provides industry-leading tool life in stainless steels.

XT INSERT GEOMETRIES

STANDARD

- 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.

CAST IRON

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

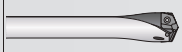
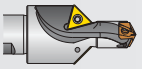
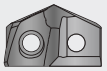
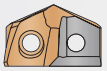
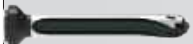
LOW RAKE

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

STAINLESS STEEL

- 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.

HOLDER COMPARISON

	Recommended for Increased Productivity	Straight Flute	Helical Flute	Drill/Chamfer Option	Max LxD	XT Pro Insert Connectivity	XT Insert Connectivity
					LXD		
 XT Pro Holders	✓	✓			12xD	✓	✓
 GEN3SYS Holders		✓	✓	✓	7xD	✓	✓

T-A Pro® Drilling System

PRODUCT NOMENCLATURE

T-A Pro Drill Inserts

TA	P	0	–	15.00
	ISO Material / Geometry	Series		Diameter (mm)
	P = Steel	Y		For complete list of ranges by series, see table below.
	K = Cast iron	Z		
	N = Nonferrous	0		
	M = Stainless steel*	1		
	X = High-speed steel	2		
		3		

*Available in Z -3 series only.

T-A Pro Drill Holders

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

SERIES & BODY DIAMETERS

Series		Y Series	Z Series	0 Series	1 Series	2 Series	3 Series
Insert							
Insert Ø	inch	0.3739 - 0.4368	0.4369 - 0.4998	0.4999 - 0.6946	0.6947 - 0.9596	0.9597 - 1.3797	1.3798 - 1.8820
	mm	9.50 - 11.09	11.10 - 12.69	12.70 - 17.64	17.65 - 24.37	24.38 - 35.04	35.05 - 47.80
Holder							
Insert Ø min	A Body	0.3739" (9.50 mm)	0.4369" (11.10 mm)	0.4999" (12.70 mm)	0.6947" (17.65 mm)	0.9597" (24.38 mm)	1.3798" (35.05 mm)
	B Body	0.4062" (10.32 mm)	0.4802" (12.20 mm)	0.5510" (14.00 mm)	0.7499" (19.05 mm)	0.9999" (25.40 mm)	1.4880" (37.80 mm)
	C Body	–	–	0.5936" (15.08 mm)	0.8109" (20.60 mm)	1.1219" (28.50 mm)	1.6140" (41.00 mm)
	D Body	–	–	0.6495" (16.50 mm)	0.9014" (22.90 mm)	1.2479" (31.70 mm)	1.7479" (44.40 mm)
Shank Ø	inch	0.750	0.750	0.750	1.000	1.250	1.500
	mm	20.00	20.00	20.00	25.00	32.00	40.00

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

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

A Series Insert + A Series Holder

C Series Insert + A Series Holder

C Series Insert + C Series Holder

A Series Insert + C Series Holder

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 58 for deep hole drilling guidelines in the Allied Master Product 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.

INSERT GEOMETRIES

STEELS

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

CAST IRONS

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

NONFERROUS

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

Available in Z- 3 series only

STAINLESS STEEL

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

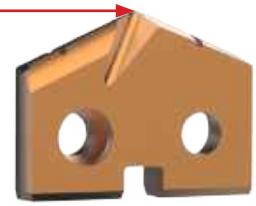
SUBSTRATE FROM
HIGH-SPEED STEEL

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

T-A Pro®

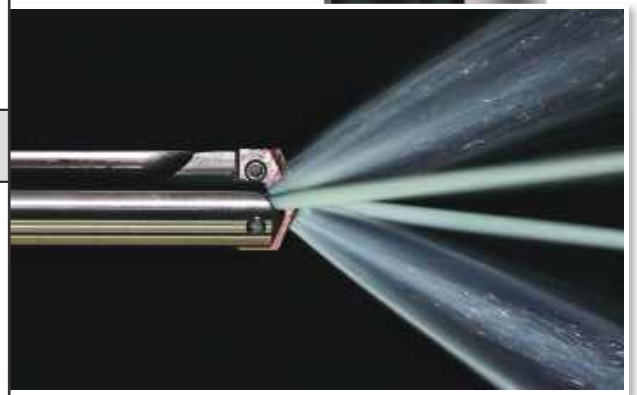
The **best** just got **BETTER.**

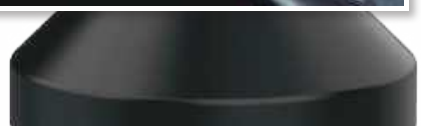
INSERT DESIGN
ISO-specific geometries with a new point design to simplify your insert choices.



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

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





T-A® Drilling System

PRODUCT NOMENCLATURE

T-A Drill Inserts

4	5		3		H	–	0115	-TC
Insert	**Material**		**Series**		**Coating**		**Diameter**	**Geometry**
1 = T-A	**3** = HSS	**C1** = C1 (K35) carbide	**Y**	**4**	**P** = AM300®		**0017** = Fractional (in)	**Blank** = Standard
4 = GEN2 T-A®	**5** = Super cobalt	**C2** = C2 (K20) carbide	**Z**	**5**	**H** = AM200®		**.515** = Decimal (in)	**-TC** = Tiny Chip
	8 = Premium cobalt	**C3** = C3 (K10) carbide	**0**	**6**	**A** = TiAlN		**13** = Metric (mm)	
		C5 = C5 (P40) carbide	**1**	**7**	**N** = TiCN			See pg. **11** for a complete list of geometries.
			2	**8**	**T** = TiN			
			3					

T-A Drill Holders

2	30	20	S	–	004			I
	Drill Length	**Series**	**Flute**		**Shank Designator**			**Shank Code**
					Morse Taper	**Imperial**	**Metric**	
	10 = Stub	**Y0** = Y series	**S** = Straight		**002** = 2MT	**063** = 0.625"	**16** = 16 mm	**I** = Imperial Morse taper
	20 = Short	**Z0** = Z series	**H** = Helical		**003** = 3MT	**075** = 0.750"	**20** = 20 mm	**M** = Metric Morse taper
	30 = Intermediate	**00** = 0 series			**004** = 4MT	**100** = 1.000"	**25** = 25 mm	**L** = Lathe shank
	40 = Standard	**05** = 0.5 series			**005** = 5MT	**125** = 1.250"	**32** = 32 mm	**F** = Flanged shank
	45 = Standard Plus ⚠	**10** = 1 series				**150** = 1.500"	**40** = 40 mm	**FM** = Flanged metric shank
	50 = Extended ⚠	**15** = 1.5 series				**175** = 1.750"	**50** = 50 mm	**ER** = ER collet (Y - 0)
	60 = Long ⚠	**20** = 2 series				**200** = 2.000"		
	65 = Long Plus ⚠	**25** = 2.5 series				**300** = 3.000"		
	70 = XL ⚠	**30** = 3 series						
	90 = 3XL ⚠	**40** = 4 series						
		50 = 5/6 series						
		70 = 7/8 series						

Series Details

Series		Y Series		Z Series		0 Series		1 Series		2 Series		3 Series	
T-A®													
Insert Ø	inch	0.3740 - 0.4369		0.4370 - 0.5109		0.5110 - 0.6959		0.6900 - 0.9609		0.9610 - 1.3809		1.3530 - 1.8829	
	mm	9.50 - 11.09		11.10 - 12.97		12.98 - 17.67		17.53 - 24.40		24.41 - 35.06		34.37 - 47.82	
Half Series Insert Ø min		✖		✖		0.6094" (15.48 mm)		0.8594" (21.83 mm)		1.1875" (30.16 mm)		✖	
Series		**T-A**	**GEN2 T-A**	**T-A**	**GEN2 T-A**	**T-A**	**GEN2 T-A**	**T-A**	**GEN2 T-A**	**T-A**	**GEN2 T-A**	**T-A**	**GEN2 T-A**
HSS Substrates		SC PC	SC	SC PC	SC	SC PC	SC	HSS SC PC	SC	HSS SC PC	SC	SC	HSS SC PC
Carbide Substrates		C2 (K20) C3 (K10) C5 (P40) N2	C1 (K35) C2 (K20)	C2 (K20) C3 (K10) C5 (P40) N2	C1 (K35) C2 (K20)	C2 (K20) C3 (K10) C5 (P40) N2	C1 (K35) C2 (K20)	C2 (K20) C3 (K10) C5 (P40) N2	C1 (K35) C2 (K20)	C2 (K20) C3 (K10) C5 (P40) N2	C1 (K35) C2 (K20)	C2 (K20) C5 (P40)	–
Coatings		TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN TiAlN TiCN	AM200® AM300®	TiN	AM200® TiN

SC = Super Cobalt **PC = Premium Cobalt**

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in the Allied Master Product 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.

T-A® Drilling System

COATINGS & SUBSTRATES

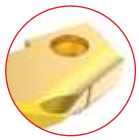
Coatings				
				
AM300®	**AM200®**	**TiN**	**TiAlN**	**TiCN**
• Increased heat resistance over AM200 coating. • Up to 20% increased tool life over AM200 coating. • Provides superior tool life at high penetration rates. • Color: copper/orange.	• Increased heat resistance over TiN, TiCN, and TiALN with improved wear capabilities. • Over 20% increase in tool life compared to TiAlN coating. • Color: copper/bronze.	• General purpose coating. • Improved tool life over noncoated inserts. • Excellent choice for aluminum. • Color: gold/yellow.	• Excellent choice for wear resistance over high surface speeds. • Excellent oxidation resistance. • Maximum working temperature 800°C. • Color: violet/grey.	• Excellent choice for wear resistance over low surface speeds. • High hardness/wear resistance. • Maximum working temperature 400°C. • Color: blue/grey.

Substrate Grades			
HSS (T-A / GEN2 T-A®) First choice for general purpose use. Suited for difficult machining applications with low rigidity, as well as deep hole drilling. Recommended for drilling most steels, cast irons, and aluminum alloys up to 275 BHN.	**HSS Super Cobalt** (T-A / GEN2 T-A) Suited for good-to-rigid machining applications, used for drilling exotic and high-alloy materials, or general use when surface speed needs to be increased. For use in material hardness up to 350 BHN.	**HSS Premium Cobalt** (T-A / GEN2 T-A) Suited for rigid machining applications, used for drilling exotic and high-alloy materials, or general use when surface speed needs to be increased. For material hardness up to 400 BHN.	**Carbide C5 (P40)** (T-A) Excellent for drilling free-machining steel, low/medium-carbon steels, alloy steels, high-strength steels, tool steels, and hardened steels.
Carbide C3 (K10) (T-A) Designed for drilling grey/white cast irons. The special geometry offers substantial increase in penetration rates and provides exceptional edge strength and tool life.	**Carbide C2 (K20)** (T-A / GEN2 T-A) Excellent for drilling high-temperature alloys, titanium alloys, cast aluminum, SG/nodular cast iron, grey/white iron, aluminum bronze, brass, copper, and certain stainless steels.	**Carbide C1 (K35)** (T-A / GEN2 T-A) Excellent for drilling free-machining steels, low/medium-carbon steels, alloy steels, high-strength steels, tool steels, and hardened steels.	**Carbide N2** (T-A) Allied's N2 carbide is used with CVD diamond coating. This improves the insert's hardness, durability, and performance, which extends tool life between 30 - 50x over uncoated carbide.

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

INSERT GEOMETRIES

T-A®



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

Corner Radius (-CR)
- Improves exit burrs.
- Excellent surface finish in most applications.
- Improves heat dispersion and tool life.
- Can be used in addition to other geometries (as a special).

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

High Impact (-HI)
- Designed for materials with hardness > 200 BHN (700 N/mm^2).
- Enhances chip formation in materials with high elasticity/ductility and poor chip forming characteristics.
- SK corner clip improves tool life.
- Target materials: structural/cast and forged steels (not suitable for stainless steel).

High Impact Notch Point® (-IN)
- Combination of high impact and Notch Point geometries.
- Increases stability in deep hole applications.
- Enhances chip formation in materials with high elasticity/ductility and poor chip forming characteristics.

Cast Iron (-CI)
- Specifically designed for use in grey and white cast irons.
- Exceptional edge strength.
- SK2 corner preparation for improved tool life.
- Standard geometry on C3 (K10) carbide inserts.

Aluminum (-AN)
- First choice for machining aluminum.
- Enhanced geometry improves chip formation and hole quality.
- TiN coating improves heat resistance and extends tool life.

90° Spot and Chamfer (-SP)
- Center cutting web design improves stability and strength.
- Eliminates the need for a secondary chamfering operation.
- Available with chipbreakers (see -SW).

Flat Bottom (-FB)
- Ideal for flattening or squaring the bottom of preexisting holes with high rigidity.
- Includes small 10° point on the nose of the insert.
- Available without chipbreakers (see -FN).

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.

Special Corner Preparation (-SK)
- Ideal for machining cast iron materials.
- Larger than a standard corner clip.
- Improves heat resistance.
- Standard feature on CI, HI, and HR geometries.

Notch Point® (-NP)
- Reduces bellmouth and leadoff.
- Increases stability in deep hole applications.
- Reduces thrust.
- Can be used in addition to other geometries like cast iron, high rake, and high impact.

High Rake (-HR)
- Designed for materials with hardness < 200 BHN (700 N/mm^2).
- Improves chip formation in materials with very high elasticity/ductility, extremely poor chip forming characteristics, and low material hardness.
- SK corner clip improves tool life.
- Target materials: soft steels, steel castings and forgings (not suitable for stainless steel).

High Rake Notch Point® (-RN)
- Combination of high rake and Notch Point geometries.
- Reduces bellmouth and leadoff.
- Improves chip formation in materials with very high elasticity/ductility, extremely poor chip forming characteristics, and low material hardness.

Cast Iron Notch Point® (-CN)
- Combination of cast iron and Notch Point geometries.
- Increases stability in deep hole applications.
- Specifically designed for use in grey and white cast irons.

Brass (-BR)
- Improves tool life due to the specialized geometry and edge preparation.
- Reduces self-feed tendency.

90° Spot and Chamfer (-SW)
- Center cutting web design improves stability and strength.
- Eliminates the need for a secondary chamfering operation.
- With added chipbreakers.

Flat Bottom (-FN)
- Ideal for flattening or squaring the bottom of preexisting holes with high rigidity.
- Includes small 10° point on the nose of the insert.
- Available with chipbreakers (see -FB).

GEN2 T-A®

Standard
- Offers substantial increases in penetration rates and tool life.
- Improves centering, drill stability, chip formation, and lowers drill forces.
- Provides smoother breakout on through hole applications.

High Efficiency (-HE)
- Excellent chip formation in materials with very high elasticity/ductility and poor chip forming conditions.
- Effective in lower-powered machines.
- Material example: low-carbon steel (not suitable for stainless steel).

T-A® Drilling System

STANDARD GEOMETRIES

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

If you need a geometry on your insert but it is not listed as available, please call the Application Engineering department to discuss quoting your insert as a special to include the desired geometry. Additional lead time and process fees may apply.

HOLDERS

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

Shank Options

ER Collet Shank
Series: Y, Z, 0

Straight Shank
Series: ALL

Morse Taper Shank
Series: ALL

Flanged Shank
Series: ALL

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

Half Series Holders (0.5, 1.5, 2.5)

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

Standard Series Insert + Standard Series Holder

Half Series Insert + Standard Series Holder

Half Series Insert + Half Series Holder

Standard Series Insert + Half Series Holder

⚠ **WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A30: 146 for deep hole drilling guidelines in the Allied Master Product 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.

High Performance & Universal

PRODUCT NOMENCLATURE

High Performance Spade Drill Inserts

1	02	8	T	–	0406
	Material	**Series**	**Coating**		**Diameter (by 1/32")**
	02 = High-speed steel	**1** = A series **2** = B series **3** = C series **4** = D series **5** = E series **6** = F series **7** = G series **8** = H series	**T** = TiN **A** = TiAlN **N** = TiCN		**0406** = Inch **4.3593** = Decimal

Universal Spade Drill Inserts

1	02	8	4	–	0406	T
	Insert Style	**Series**	**Material**		**Diameter (by 1/32")**	**Coating**
	02 = 130° Spade **04** = Flat Bottom **12** = 90° Spot & Chamfer	**1** = A series **2** = B series **3** = C series **4** = D series **5** = E series **6** = F series **7** = G series **8** = H1 - H2 series **9** = H3 - H9 series **J** = J series	**2** = M-2 (J series only) **4** = High-speed steel (SPM-M4 HSS) **5** = High-speed steel (CPM-T15 HSS)* *Discontinued.		**0406** = Fractional (in) **4.3593** = Decimal (in)	**Blank** = Uncoated **T** = TiN **A** = TiAlN **N** = TiCN

High Performance / Universal Spade Drill Insert Holders

2	22			8	1	–	004		
	Classification			**Series**			**Shank Designator**		
	Straight Shank	**Taper Shank**	**50 NMTB Shank**				**Straight Shank**	**Taper Shank**	**NMTB Shank**
	02 = Stub #125 (NC) **04** = Short #150 (NC) **06** = Short #100 (C) **08** = Standard #200 (C) **10** = Long #250 (C) ⚠	**14** = Short #300 (NC) **15** = Short #300 (TSC) **16** = Short #400 SR (RCA) **18** = Standard #500 SR (RCA) **20** = Long #600 SR (RCA) **22** = XL #700 SR SR (RCA)	**24** = Short #300 (NC) **26** = Short #400 (C) **28** = Standard #500 (C)	**1** = A **2** = B **3** = C **4** = D **5** = E **6** = F **7** = G **8** = H			**0750** = 0.750" **1000** = 1.000" **1250** = 1.250" **1500** = 1.500" **2000** = 2.000" **3000** = 3.000"	**0002** = #2 MT **0003** = #3 MT **0004** = #4 MT **0005** = #5 MT **0006** = #6 MT	**0050** = 50 NMTB

***C** = Coolant **NC** = No Coolant **TSC** = Through-Shank Coolant **RCA** = Rotary Coolant Adapter*

SERIES DIAMETERS & AVAILABILITY

Series	A	B	C	D	E	F	G	H1 - H2	H3 - H9
									
$D_{1\ Max}$	0.9688"	1.2500"	1.5000"	2.0000"	2.5000"	3.0000"	3.5000"	4.0000"	5.1250"
$D_{1\ Min}$	1.2500"	1.7500"	2.3750"	2.8750"	3.3750"	3.8750"	4.5000"	5.0000"	8.5000"

	Series	A	B	C	D	E	F	G	H1 - H2	H3 - H9
	High Performance	●	●	●	●	●	●	●	●	●
Universal	130° Spade	●	●	●	●	●	●	●	●	●
Universal	Flat Bottom	●	●	●	●	●	●	●	●	●
Universal	90° Spot & Chamfer	●	●	●	●	●	●	●	●	●

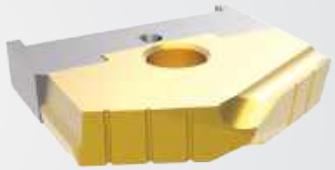
● - standard available product.
● - discontinued item - available (subject to prior sale) at list prices until stock is depleted.

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A40: 48 for deep hole drilling guidelines in the Allied Master Product 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.

High Performance & Universal

High Performance Inserts

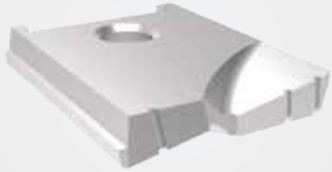
A - C Series



D - H Series
(adapter required)

Universal Inserts

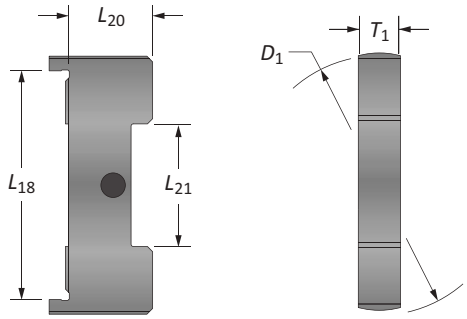
130° CPM-M4



Flat Bottom

90° Spot and Chamfer

HP ADAPTERS



Series	D_1	Adapter L_{18}	Adapter L_{20}	Adapter L_{21}	Adapter T_1	Part No.
D	1.995	1-3/4	43/64	15/16	3/8	**1024U-Adapter**
E	2.495	2-1/16	21/32	1-3/16	7/16	**1025U-Adapter**
F	2.995	2-5/8	23/32	1-1/4	1/2	**1026U-Adapter**
G	3.495	3-1/16	25/32	1-13/16	5/8	**1027U-Adapter**
H	3.995	3-1/2	29/32	2-1/4	11/16	**1028U-Adapter**

HOLDER AVAILABILITY

Straight Shank Holders

- Stub (#125)
- Short (#150)
- Short (#100)
- Standard (#200)
- Long (#250)

Taper Shank Holders

- Short (#300)
- Short (#300 TSC)
- Short (#400 SR)
- Standard (#500 SR)
- Long (#600 SR)
- XL (#700 SR)

APX™ Drill

PRODUCT NOMENCLATURE

APX Drill Heads

V	38		15			D	–	0116
	Series		Pilot Series			Effective Cutting		Major Diameter
	33	70	T-A® Pilot Insert	GEN3SYS® XT Pro Pilot Insert		D = Double effective		0116 = Fractional (in)
	38	76	00 = 0 series	15 = 15 series	24 = 24 series	S = Single effective		1.5153 = Decimal (in)
	44	83	01 = 1 series	17 = 17 series	26 = 26 series			68 = Metric (mm)
	51	89	02 = 2 series	18 = 18 series	29 = 29 series			
	57	95		20 = 20 series	32 = 32 series			
	63			22 = 22 series				

APX Drill Holders

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

GEN3SYS® XT Pro / T-A Pro® Pilot Insert

XT	P	15	–	15.88
Pilot Style	ISO Material	Series		Diameter (mm)
XT = GEN3SYS XT Pro	P = Steel	See Pilot Series in table on next page.		See Pilot Ø in table on next page.
TA = T-A Pro	K = Cast iron			
	N = Nonferrous			
	M = Stainless steel			
	X = HSS (T-A Pro only)			

T-A® / GEN2 T-A® Pilot Insert

1	C1		0	H	–	0020	-TC
Insert	Material		Series	Coating		Diameter Code	Geometry
1 = T-A®	3 = HSS	C1 = C1 (K35) carbide	See Pilot Series in table on next page.	P = AM300®		See T-A Pilot Ø Code in table on next page.	Blank = Standard
4 = GEN2 T-A®	5 = Super cobalt	C2 = C2 (K20) carbide		H = AM200®			-TC = Tiny Chip
	8 = Premium cobalt	C3 = C3 (K10) carbide		A = TiAlN			See pg. 11 for a complete list of geometries.
		C5 = C5 (P40) carbide		N = TiCN			
				T = TiN			

IC Insert

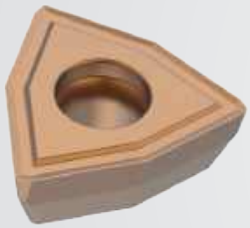
OP	–	060408	–	1	PW	HR
		Size		Grade		Geometry
		05T308 = 5/16" (7.94 mm)		Blank = C5 (P35)		Blank = Standard
		060408 = 3/8" (9.53 mm)		1 = C1 (K35)		HR = High Rake
		080508 = 1/2" (12.70 mm)		2 = C2 (K25)		
		090608 = 9/16" (14.29 mm)				

⚠ 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 the Allied Master Product 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.

APX™ Drill

SERIES DETAILS

Drill Head												Drill Body	
Series		Drill Head Ø		Pilot Ø	T-A Pilot Ø Code	Pilot Series		Wear Pad	IC Insert Size		Shanks	
		inch	mm	mm		T-A Pro/ T-A	GEN3SYS XT Pro		inch	mm	Flanged	Integrated
33		1.299 - 1.338	33.00 - 33.99	16.00	16	0	-	No	5/16	7.94	100F 40FM	CV40 CV50
		1.339 - 1.416	34.00 - 35.99	18.00	18	1						
		1.417 - 1.495	36.00 - 37.99	20.00	20							
38		1.496 - 1.574	38.00 - 39.99	15.88	0020	0	15	No	3/8	9.53	150F 40FM 200F 50FM	CV40 CV50
		1.575 - 1.653	40.00 - 41.99	17.46	0022		17					
		1.654 - 1.692	42.00 - 42.99	19.05	0024	1	18					
		1.693 - 1.731	43.00 - 43.99	20.64	0026		20					
44		1.732 - 1.810	44.00 - 45.99	22.23	0028	1	22	No	3/8	9.53	150F 40FM 200F 50FM	CV40 CV50
		1.811 - 1.889	46.00 - 47.99	23.81	0030							
		1.890 - 1.968	48.00 - 49.99	17.86	.703		17		1/2	12.70		
		1.969 - 2.007	50.00 - 50.99	18.65	.734		18					
51		2.008 - 2.086	51.00 - 52.99	19.84	0025	1	18	No	1/2	12.70	200F 50FM	CV50
		2.087 - 2.125	53.00 - 53.99	21.43	0027		20					
		2.126 - 2.218	54.00 - 56.35	23.81	0030		22					
		2.219 - 2.243	56.36 - 56.99	20.64	0026		20		9/16	14.29		
57		2.244 - 2.322	57.00 - 58.99	23.02	0029	1	22	No	9/16	14.29	200F 50FM	CV50
		2.323 - 2.401	59.00 - 60.99	23.81	0030							
		2.402 - 2.440	61.00 - 61.99	25.40	0100	2	24					
		2.441 - 2.479	62.00 - 62.99	26.99	0102		26					
63		2.480 - 2.562	63.00 - 65.08	28.58	0104	2	26	No	9/16	14.29	200F 50FM	CV50
		2.563 - 2.637	65.09 - 66.99	30.16	0106		29					
		2.638 - 2.716	67.00 - 68.99	31.75	0108							
		2.717 - 2.755	69.00 - 69.99	33.34	0110		32					
70		2.756 - 2.991	70.00 - 75.99	30.96	0107	2	29	Yes	3/8	9.53	200F 50FM	CV50
76		2.992 - 3.267	76.00 - 82.99	30.96	0107	2	29	Yes	1/2	12.70	200F 50FM	CV50
83		3.268 - 3.503	83.00 - 88.99	34.93	0112	2	32	Yes	1/2	12.70	200F 50FM	CV50
89		3.504 - 3.739	89.00 - 94.99	31.75	0108	2	29	Yes	9/16	14.29	200F 50FM	CV50
95		3.740 - 4.000	95.00 - 101.60	34.93	0112	2	32	Yes	9/16	14.29	200F 50FM	CV50



Insert Application Recommendations

Carbide Grade Options	
C5 (P35)	General purpose carbide grade suitable for most applications.
C1 (K35)	Toughest carbide grade. Best combination of edge strength and tool life.
C2 (K25)	Higher wear-resistant carbide suitable for abrasive material applications.
Additional Geometry Option	
High Rake	Superior chip control and tool life in long chipping carbon and alloy steels (<200 BHN).

4TEX® Drill

PRODUCT NOMENCLATURE

4TEX Drill Holders

D4	03		1200	M	–	075		F
Drill Length	Series		Diameter*	Diameter Style		Shank Diameter		Shank Style
						Imperial	Metric	
D2 = 2xD	**03**	**09**	**0750** = 0.075"	**I** = Imperial		**075** = 0.075"	**20** = 20 mm	**F** = Imperial flanged shank
D3 = 3xD	**04**	**11**	**1200** = 12 mm	**M** = Metric		**100** = 1.000"	**25** = 25 mm	**FM** = Metric flanged shank
D4 = 4xD	**05**	**14**				**125** = 1.250"	**32** = 32 mm	
	06					**150** = 1.500"	**40** = 40 mm	
	07							

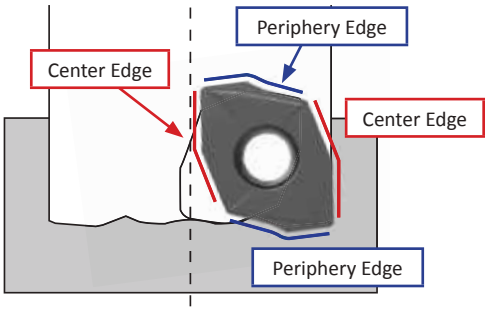
***Ordering nonstocked diameters:** Nonstocked diameters are available upon request. Please refer to price list for applicable process fees.

Series Details

Series		3 Series	4 Series	5 Series	6 Series	7 Series	9 Series	11 Series	14 Series
Cutter Ø	inch	0.472 - 0.531	0.532 - 0.610	0.611 - 0.728	0.728 - 0.866	0.867 - 1.043	1.044 - 1.259	1.260 - 1.535	1.536 - 1.850
	mm	12.00 - 13.49	13.50 - 15.49	15.50 - 18.49	18.50 - 21.99	22.00 - 26.49	26.50 - 31.99	32.00 - 38.99	39.00 - 47.00
Shank Ø	inch	0.750	0.750	1.000	1.000	1.000	1.250	1.500	1.500
	mm	20.00	20.00	25.00	25.00	25.00	32.00	40.00	40.00
Insert Prefix		4T-030203C-x 4T-030203P-x	4T-040203-x	4T-05T203-x	4T-06T204-x	4T-070305-x	4T-09T306-x	4T-11T306-x	4T-140408-x
# of Inserts		2	2	2	2	2	2	2	2

4 CUTTING EDGES

- Each insert has two inner cutting edges and two outer cutting edges.
- Economical solution that increases tool life because of the rotation ability of the inserts.
- Available in ISO material-specific geometry/coating combinations.



ISO Material	Part No. Suffix	Geometry	Coating	Description
P	P	General Rake	AM480	A general purpose geometry that provides excellent chip formation in most steels including free-machining, medium- and high-carbon steels. A P30 carbide substrate for improved toughness and AM480 coating, a proprietary wear-resistant multilayer PVD coating to improve tool life.
S M	M	High Rake	AM485	A higher rake geometry that provides excellent chip formation in both stainless steels and high-temperature alloys. A tough M25 carbide substrate coated with AM485, a high heat-resistance proprietary multilayer PVD coating.
H	H	Low Rake	AM480	A lower rake geometry to improve edge strength in both hardened tool steels and high-strength alloys. With a P30 carbide substrate for improved toughness and coated with AM480, a proprietary multilayer PVD coating to improve resistance against tool wear.
K	K	General Rake	AM480	With a general purpose geometry, the K inserts can be used in grey cast irons as well as ductile irons. A high wear-resistant K10 carbide substrate to improve tool life and coated with AM480, a proprietary multilayer PVD coating to improve resistance against tool wear.
N	N	High Rake	TiCN	A higher rake cutting geometry provides excellent chip formation in nonferrous materials. An M15/K15 carbide substrate paired with TiCN coating for improved lubricity to resist built-up material, increasing tool life and maintaining chip formation.

Revolution Drill® & Opening Drill®

PRODUCT NOMENCLATURE

Revolution Drill Holders

R	34	X	22	–	150L
Drill Style	Series		Drill Length		Shank Style
R = Standard **SP** = Stacked Plate	**34** **48** **36** **52** **38** **54** **42** **56** **44** **58** **46**		**10** = 1.0xD **22** = 2.2xD **25** = 2.5xD **35** = 3.5xD **45** = 4.5xD		**150L** = 1.500 Ø straight **200L** = 2.000 Ø straight **40M** = 40 mm ISO 9766 **50M** = 50 mm ISO 9766 **CV40** = CAT40 **CV50** = CAT50

Opening Drill Holders

OP1	–	1S	–	SS1.5	
Series		Drill Length		Shank Style	
OP1 **OP2** **OP3** **OP4**		**1S** = Short **1L** = Long		**SS1.5** = 1.500 Ø straight **SS2.0** = 2.000 Ø straight **40M** = 40 mm straight **50M** = 50 mm straight **HSK63** = HSK 63A/C **HSK100** = HSK 100A/C	**BT40** = BT40 **BT50** = BT50 **CV40** = CAT40 **CV50** = CAT50 **ABS63** = ABS63 **DV50** = DIN50

Revolution Drill & Opening Drill Inserts

OP	–	05	T3	08	–	1	H		HR
		IC Type	Thickness	Radius		Carbide Grade	Shank Style		Geometry
		05 = 5/16"	**T3** = 5/32"	**08** = 1/32"		**Blank** = C5 (P35) **1** = C1 (K35) **2** = C2 (K25)	**P** = AM300® **H** = AM200® **T** = TiN	**A** = TiAlN **N** = TiCN **U** = Uncoated	**Blank** = General Purpose **HR** = High Rake

SERIES DETAILS

Revolution Drill

Series	Diameter Range		Length-to-Diameter Ratio					Shank Options			Inserts per Cartridge
	Imperial (in)	Metric (mm)	1.0xD	2.2xD	2.5xD	3.5xD	4.5xD	Straight	CAT40	CAT50	
34	1.875 - 2.000	47.63 - 50.80		●		●	●	●	●	●	2
36	2.000 - 2.200	50.80 - 55.88		●		●	●	●	●	●	2
38	2.200 - 2.400	55.88 - 60.96		●		●	●	●	●	●	2
42	2.400 - 2.600	60.96 - 66.04		●		●	●	●	●	●	2
44	2.600 - 2.800	66.04 - 71.12		●		●		●		●	3
46	2.800 - 3.000	71.12 - 76.20		●		●		●		●	3
48	3.000 - 3.200	76.20 - 81.28	●		●			●		●	3
52	3.200 - 3.400	81.28 - 86.36	●		●			●		●	3
54	3.400 - 3.600	86.36 - 91.44	●		●			●		●	3
56	3.600 - 3.800	91.44 - 96.52	●		●			●		●	4
58	3.800 - 4.000	96.52 - 101.60	●		●			●		●	4

Opening Drill

Series	Diameter Range		Shank Options										Inserts per Cartridge
	Imperial (in)	Metric (mm)	Straight (in)	Straight (mm)	HSK63*	HSK100	BT40*	BT50	CAT40*	CAT50	ABS63*	DIN50	
OP1	2.000 - 2.500	50.80 - 63.50	1.500	40	●	●	●	●	●	●	●	●	2
OP2	2.500 - 3.000	63.50 - 76.20	1.500	40	●	●	●	●	●	●	●	●	2
OP3	3.000 - 4.120	76.20 - 104.65	1.500	40	●	●	●	●	●	●	●	●	2
OP4	4.120 - 5.620	104.65 - 142.75	2.000	50	●	●	●	●	●	●	●	●	3

*Long length not available for OP4 series.

Insert Application Recommendations

Carbide Grade Options	
C5 (P35)	General purpose carbide grade suitable for most applications.
C1 (K35)	Toughest carbide grade. Best combination of edge strength and tool life.
C2 (K25)	Higher wear-resistant carbide suitable for abrasive material applications.
Additional Geometry Option	
High Rake	Superior chip control and tool life in long chipping carbon and alloy steels (<200 BHN).

Straight Shanks

Can be cut off for use in end mill holders. Cut and deburr at the score mark (circled) for improved rigidity when the body sits against the face of an end mill holder.

T-A® Structural Steel Drilling System

PRODUCT NOMENCLATURE

T-A® / GEN2 T-A® Insert

4	5	3	H	–	0115	–	HE
Insert	**Material**	**Series**	**Coating**		**Diameter**		**Geometry**
1 = T-A **4** = GEN2 T-A	**5** = Super cobalt **C1** = C1 (K35) carbide*	**0** **1** **2** **3**	**P** = AM300® **H** = AM200® **A** = TiAlN		**0017** = Fractional (in) **.515** = Decimal (in) **13** = Metric (mm)		**TW** = Thin Wall **NP** = Notch Point® **SS** = Structural Steel **HE** = High Efficiency

* C1 carbide is for AM300 High Efficiency inserts.

T-A Drill Holders

2	30	20	S	–	004	IS	060
	Drill Length	**Series**	**Flute**		**Shank Designator**		**Minimum Insert Diameter Code**
	20 = Short **40** = Standard **50** = Extended ⚠ **60** = Long ⚠	**00** = 0 series **05** = 0.5 series **10** = 1 series **15** = 1.5 series **20** = 2 series **25** = 2.5 series **30** = 3 series	**S** = Straight (Short only) **H** = Helical (Standard - Long only)		**003** = 3MT **004** = 4MT		**XXX** = X-XX/64" (ex. 060 = 60/64")

SYSTEM DETAILS

Series Details

Series		0 Series	1 Series	2 Series	3 Series
T-A®					
Insert Ø	inch	0.5512 - 0.6959	0.6900 - 0.9609	0.9610 - 1.3809	1.3530 - 1.8829
	mm	14.00 - 17.67	17.53 - 24.40	24.41 - 35.06	34.37 - 47.82
Half Series Insert Ø min		0.6250" (15.88 mm)	0.8750" (22.23 mm)	1.1875" (30.16 mm)	✖

Holder Details

Series	Minimum Insert Ø		Short	Standard	Extended	Long
0	0.5625"	14.29 mm	●	●	●	
	0.6250"	15.88 mm	●	●		
	0.6875"	17.46 mm	●	●	●	
1	0.7031"	17.86 mm	●●	●●	●	
	0.8125"	20.64 mm	●●	●●	●●	●
	0.8750"	22.23 mm	●●	●●		
	0.9375"	23.81 mm	●●	●●	●●	●
2	1.0000"	25.40 mm	●	●	●●	●
	1.1875"	30.16 mm	●	●		
3	1.4063"	-	●	●		

● = 3MT ● = 4MT

Geometry Details

Geometries		Thin Wall	Notch Point	Structural Steel	High Efficiency
T-A®					
T-A System		T-A	T-A	T-A	GEN2 T-A
Coatings	TiALN	●	●	●	
	AM200	●	●	●	●
	AM300				●
Substrate	Super Cobalt	●	●	●	●
	C1 (K35)				●
Descriptions		• For material up to 7/16" (11.11 mm) thick. • Increases hole diameter tolerance and improves hole roundness.	• For material over 7/16" (11.11 mm) thick. • Reduces bellmouth, tool leadoff, and reduces axial thrust requirements.	• For material over 7/16" (11.11 mm) thick and for reduced exit burr. • Increases stability and lowers drilling forces.	• Improves performance. • Improves tool life. • Improves chip formation in structural steel materials.

⚠ **WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A91: 21 for deep hole drilling guidelines in Allied Master Product 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. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

GEN3SYS® XT Pro Structural Steel Drilling System

PRODUCT NOMENCLATURE

GEN3SYS XT Pro Drill Inserts

XTST	20	–	20.00
	Series		Diameter (mm)
	12 17 26 13 18 29 14 20 32 15 22 16 24		For complete list of available diameters by series, see the table below.

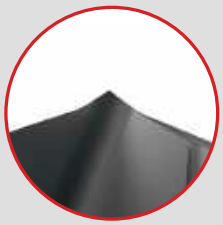
GEN3SYS XT Structural Steel Drill Holders

ST	03	20	0	–	25	FM
	Drill Length	Series	Body Diameter		Shank Diameter	Shank Style
	01 = 1.5xD **03** = 3xD **05** = 5xD **07** = 7xD	12 20 13 22 14 24 15 26 16 29 17 32 18	**0** = Standard **5** = Oversized*		Imperial (in) / Metric (mm) **063** = 0.625" / **16** = 16 mm **075** = 0.750" / **20** = 20 mm **100** = 1.000" / **25** = 25 mm **125** = 1.250" / **32** = 32 mm **150** = 1.500" / **40** = 40 mm	**F** = Flanged **FM** = Flanged metric

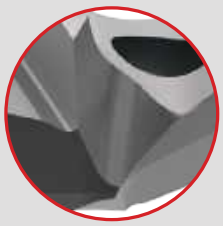
* Available in 22 Series for 3xD - 7xD only. Minimum drill diameter is 23.00 mm.

SYSTEM DETAILS

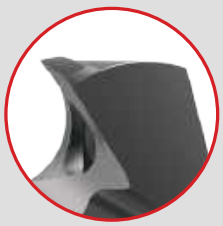
Series	Drill Ø Imperial (in)		Drill Ø Metric (mm)	Shank Diameter Imperial (in)	Shank Diameter Metric (mm)
12	–	0.4724	12.00	0.750"	20.00 mm
13	–	0.5118	13.00	0.750"	20.00 mm
14	–	0.5512	14.00	0.750"	20.00 mm
	9/16	0.5626	14.29		
15		0.5906	15.00	0.750"	20.00 mm
	5/8	0.6252	15.88		
16	–	0.6299	16.00	0.750"	20.00 mm
17	–	0.6693	17.00	0.750"	20.00 mm
	11/16	0.6876	17.46		
18	–	0.7087	18.00	1.000"	25.00 mm
	–	0.7480	19.00		
20	–	0.7874	20.00	1.000"	25.00 mm
	13/16	0.8126	20.64		
	–	0.8268	21.00		
	–	0.8591	21.82		
22	–	0.8661	22.00	1.000"	25.00 mm
	7/8	0.8752	22.23		
	–	0.9055	23.00		
	15/16	0.9374	23.81		
24	–	0.9449	24.00	1.000"	25.00 mm
	–	0.9685	24.60		
	1	1.0000	25.40		
	–	1.0150	25.78		
26	–	1.0236	26.00	1.250"	32.00 mm
	1-1/16	1.0626	26.99		
	–	1.0630	27.00		
	–	1.1024	28.00		
	1-1/8	1.1252	28.58		
29	–	1.1417	29.00	1.250"	32.00 mm
	–	1.1811	30.00		
	1-3/16	1.1874	30.16		
	–	1.2205	31.00		
	1-1/4	1.2500	31.75		
32	–	1.2598	32.00	1.500"	32.00 mm 40.00 mm
	–	1.2992	33.00		
	1-5/16	1.3126	33.34		
	–	1.3386	34.00		
	1-3/8	1.3752	34.93		



New Point Design
Increases stability without hindering penetration



Redesigned Insert
Provides consistent performance and adds durability



Improved Geometry
Extends tool life and increases insert strength without increasing horsepower consumption

AM420 Coating
Increases heat threshold and extends tool life

AccuPort 432®

PRODUCT NOMENCLATURE

AccuPort 432 Holders

J1926	–	04	Y	–	063F
Port Specifications		Port Tube Dash No.	T-A® Insert Series		Shank Configuration

Port Specifications
- **J1926** = Imperial - J1926-1
- **X1926** = Imperial - J1926-1 (extended minor length)
- **I6149** = Metric (ISO) - 6149-1
- **G1731** = John Deere® - G173.1
- **AS5202** = Military - AS5202

Port Tube Dash No.

04	14
05	16
06	18
08	20
10	24
12	32

T-A® Insert Series

See **T-A Series** in table below.

Shank Configuration

Imperial	Metric
063F = 0.625" flanged	**16FM** = 16 mm flanged
075F = 0.750" flanged	**20FM** = 20 mm flanged
100F = 1.000" flanged	**25FM** = 25 mm flanged
125F = 1.250" flanged	**32FM** = 32 mm flanged
150F = 1.500" flanged	

AccuPort 432 Port Form Inserts

J1926	–	02	R	–	C5	A
Port Specifications		Insert Size	Port Specifications		Substrate	Coating

Port Specifications
- **J1926** = Imperial
- **I6149** = Metric (ISO
- **G1731** = John Deere®
- **AS5202** = Military

Insert Size

See **Port Insert Size** in table below.

Port Specifications
- **Blank** = No ID ridge
- **R** = ID ridge (I6149 only)

Substrate
- **C5** = C5 (P40) carbide
- **C3** = C3 (K10) carbide

Coating
- **A** = TiAlN
- **H** = AM200®

T-A® / GEN2 T-A® Pilot Insert

4	5	Y	H	–	.386	
Insert	Material	Series	Coating		Diameter Code	Geometry

Insert
- **1** = T-A®
- **4** = GEN2 T-A®

Material

3 = HSS	**C1** = C1 (K35) carbide
5 = Super cobalt	**C2** = C2 (K20) carbide
8 = Premium cobalt	**C3** = C3 (K10) carbide
	C5 = C5 (P40) carbide

Series

See **T-A Series** in table below.

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

Diameter Code

See **T-A Insert Code** in table below.

Geometry
- **Blank** = Standard
- **-HE** = High Efficiency

See pg. **11** for a complete list of geometries.

PORT SPEC DETAILS

			-4	-5	-6	-8	-10	-12	-14	-16	-18	-20	-24	-32	C**
J1926/X1926	Shank	Imperial	0.625"	0.625"	0.750"	0.750"	1.000"	1.250"	1.250"	1.250"	-	1.500"	1.500"	1.500"	-
		Metric	16 mm	16 mm	20 mm	20 mm	25 mm	32 mm	32 mm	32 mm	-	32 mm*	32 mm*	32 mm*	-
	T-A Series		Y	Z	0	0	1	2	2	2	-	3	3	4	-
	T-A Insert Code		.386	11.5	13	0022	20.5	25	28	1.231	-	39	45.5	61.5	-
	Port Insert Size		02	03	03	07	04	08	08	09	-	10	11	12	-
I6149	Shank (Metric)		16 mm	16 mm	20 mm	20 mm	25 mm	32 mm	32 mm	32 mm	-	32 mm*	32 mm*	32 mm*	-
	T-A Series		Y	Z	0	0	1	2	2	2	-	3	3	4	-
	T-A Insert Code		10.5	12.5	14.5	16.5	20.5	25	28	31	-	40	46	58	-
	Port Insert Size		04	04	06	06	04	12	14	16	-	20	24	32	-
Military	Shank (Imperial)		0.625"	0.625"	0.750"	0.750"	1.000"	1.250"	1.250"	1.250"	-	1.500"	1.500"	1.500"	-
	T-A Series		Y	Z	Z	0	1	2	2	2	-	3	3	4	-
	T-A Insert Code	AS5202	.390	11.5	.510	17.5	20.5	25	1.109	1.234	-	1.547	1.797	2.421	-
		AND10050	.386	.451	.506	0022	.801	.976	28	1.226	-	39	45.5	2.413	-
	Port Insert Size		04	05	06	08	10	12	14	16	-	20	24	32	-
John Deere	Shank (Metric)		16 mm	16 mm	20 mm	20 mm	25 mm	32 mm	32 mm	32 mm	32 mm*	32 mm*	32 mm*	32 mm*	25 mm
	T-A Series		Y	Z	0	0	1	2	2	2	3	3	3	4	1
	T-A Insert Code		10.5	12.5	14.5	16.5	20.5	25	28	31	36	40	46	58	18.5
	Port Insert Size		01	01	02	02	02	03	03	04	04	05	05	06	02

* **NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.
**Cartridge cavity.

BT-A Drill

PRODUCT NOMENCLATURE

BT-A Head

BTA	2	804	–	1.1299
	Series	Tube Size		Diameter
	0	794 798 802 806 810		0.7344 = Inch
	1	795 799 803 807 811		25.00 = Metric
	2	796 800 804 808		
	3	797 801 805 809		

BT-A Tube

BTAT	–	804	–	63
		Tube Size		Length
		794 798 802 806 810		63 = Standard
		795 799 803 807 811		102 = Long
		796 800 804 808		
		797 801 805 809		

T-A® / GEN2 T-A® Insert

4	5		Y	H	–	.386	
Insert	Material		Series	Coating		Diameter	Geometry
1 = T-A®	3 = HSS	C1 = C1 (K35) carbide	0	P = AM300®		0017 = Fractional (in)	Blank = Standard
4 = GEN2 T-A®	5 = Super cobalt	C2 = C2 (K20) carbide	1	H = AM200®		.515 = Decimal (in)	-BT = BT-A
	8 = Premium cobalt	C3 = C3 (K10) carbide	2	A = TiAlN		13 = Metric (mm)	See pg. 11 for a complete list of geometries.
		C5 = C5 (P40) carbide	3	N = TiCN			
				T = TiN			

Series Details

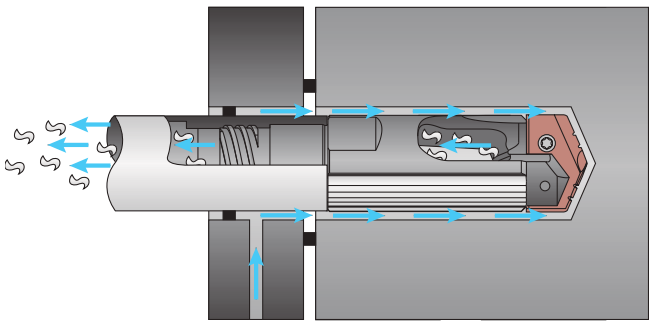
Series	Ø Range Imperial (in)	Ø Range Metric (mm)	Tube Size
0	0.5110 - 0.5359	12.98 - 13.61	794
	0.5360 - 0.5759	13.62 - 14.63	795
	0.5760 - 0.6149	14.64 - 15.62	796
	0.6150 - 0.6579	15.63 - 16.71	797
	0.6580 - 0.6959	16.72 - 17.67	798
1	0.6900 - 0.6969	17.53 - 17.70	798
	0.6970 - 0.7449	17.71 - 18.92	799
	0.7450 - 0.7879	18.93 - 20.01	800
	0.7880 - 0.8589	20.02 - 21.82	801
	0.8590 - 0.9489	21.83 - 24.10	802
	0.9490 - 0.9609	24.11 - 24.40	803
2	0.9610 - 1.0399	24.41 - 26.41	803
	1.0400 - 1.1299	26.42 - 28.70	804
	1.1300 - 1.2209	28.71 - 31.01	805
	1.2210 - 1.3119	31.02 - 33.32	806
	1.3120 - 1.3809	33.33 - 35.06	807
3	1.3530 - 1.4259	34.37 - 36.22	807
	1.4260 - 1.5599	36.23 - 39.62	808
	1.5600 - 1.6929	39.63 - 43.00	809
	1.6930 - 1.8509	43.01 - 47.01	810
	1.8510 - 1.8829	47.02 - 47.82	811

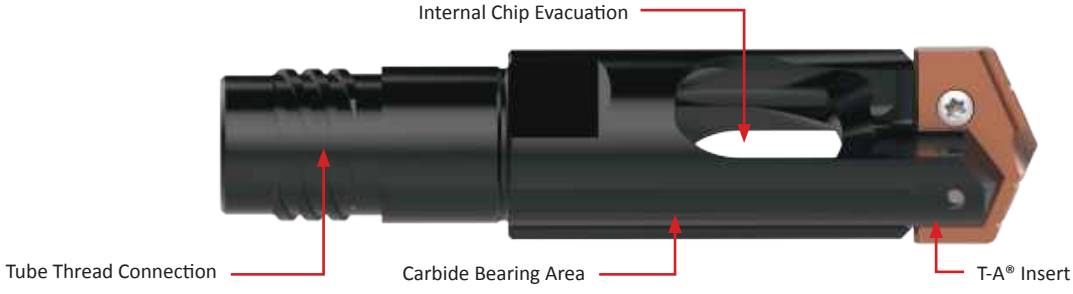
DRILL DETAILS

- Low thrust web geometry reduces Z-axis requirements.
- Lip geometry identical to the Tiny Chip (-TC) for improved chip formation.
- Polished cutting surface eliminates material buildup.

T-A Insert: BT-A Geometry (-BT)

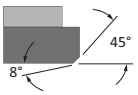
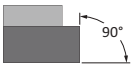
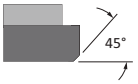
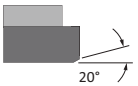
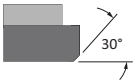
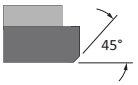
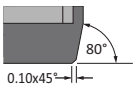
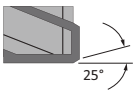
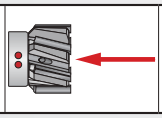
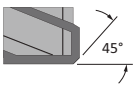
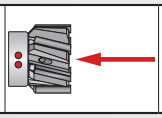
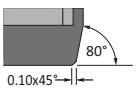
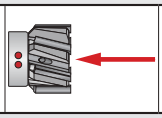
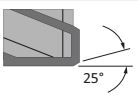
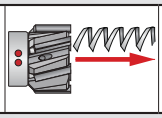
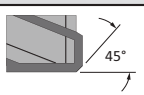
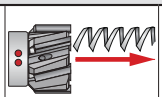
BT-A Single Tube System





ALVAN® Reamer Overview

REAMER LEAD-INS

Lead-In	Angle	Chip Evacuation	Description
Straight Flute - Through and Blind Holes			
A			Lead-in can be used to improve finish.
F			Can be used for stock removal at the bottom of the hole. Reduce the feed by 40% of the values on the recommended cutting data pages.
G			Standard and suitable for most materials.
L			May provide improved straightness. Reduce the feed by 40% of the values on the recommended cutting data pages.
N			Ideal for through holes. It is possible to increase the feed up to 100% of the values on the recommended cutting data pages.
T			Suitable for titanium based alloys.
V			Suitable for most materials and increases tool life.
K			Excellent at breaking small chips that are easy to evacuate in blind hole applications. Requires 50% increased feed rate, which will result in reduced tool life.
Helical Flute (Right-Hand) - Blind Hole Applications Only			
E			Standard and suitable for most materials.
M			May provide better penetration rates in steels over 200 BHN.
K			Excellent at breaking small chips that are easy to evacuate in blind hole applications. Requires 50% increased feed rate, which will result in reduced tool life.
Helical Flute (Left-Hand) - Through Hole Applications Only			
E			Standard and suitable for most materials.
M			May provide better penetration rates in steels over 200 BHN.

COATINGS

Uncoated

- Ideal for nonferrous applications.

TiN

- Ideal for general purpose applications.

TiCN

- Provides improved surface finish.

TiAlN

- Provides higher heat resistance to improve tool life.

Alcrona

- Provides excellent wear resistance and can help increase cutting speeds.

Hardcut

- Ideal for cast iron and hardened steel applications.

R Coating

- Improved tool life in cast iron materials.

T Coating

- Optimized tool life in titanium and very hard materials.

CUTTER MATERIAL

Material	Details
Carbide	A fine-grain carbide suitable for all conventional reaming applications. Recommended where rigidity is not excellent and speeds must be reduced.
Cermet	Cermet provides high wear resistance and is recommended for abrasive and increased speed applications. Not recommended for poor rigidity or interrupted cuts.

ALVAN® Reamers: Monobloc Style

PRODUCT NOMENCLATURE

Monobloc Style Reamers

I	9	3627	–	K	L	E	–	006250	+	0000	–	0005
Diameter Unit	**Shank Measure**	**Series**		**Substrate**	**Coating**	**Lead-in**		**Diameter**		**Tolerance***		
Blank = Metric (mm) **I** = Imperial (in)	**Blank** = Metric (mm) **9** = Imperial (in)	**2441** **3620** **3627** **2431** **3610** **3617**		**K** = Carbide **S** = Cermet	**L** = Uncoated *(carbide)* **V** = Uncoated *(cermet)* **N** = TiN **C** = TiCN **A** = TiAlN **K** = Alcrona **H** = Hardcut **R** = R coating **T** = T coating	**E** **M** **A** **F** **G** **L** **N** **T** **V** **K**		**XXXXX** = X.XXXX" **XXXXX** = XX.XXX mm		**4 decimal places** = inch tolerance **3 decimal places** = mm tolerance		

*The total tolerance capable is 0.0002" (0.005 mm).

NOTE: If diameter and tolerance are specified in inch units, put an "**I**" at the beginning of the item number.

PRODUCT DETAILS

Series Details

Series		2441	3620	3627	2431	3610	3617
Flute	Straight	●	●		●	●	
	Left-hand helical			●			●
Length	Short	●	●	●			
	Long				●	●	●
Coolant	Radial		●	●		●	●
	Central	●			●		

Reamer Lead-In

	Straight Flute								Left-hand helical	
	T	F	N	G	L	A	V	K	E	M
P			●	●		◐	○	◐	●	
S	●			◐					●	◐
M			◐	●				◐	●	
H			◐	●					◐	●
K				◐			●	◐	◐	●
N				●			◐		●	◐

● Best ◐ Better ○ Good

Coatings

Uncoated	TiN	TiCN	TiAlN	Alcrona	Hardcut	R coating	T coating
							

NOTE: For more detailed descriptions of cutting material, lead-ins and coatings, please see pg. **23**.

ALVAN® Reamers: Replaceable Head

PRODUCT NOMENCLATURE

7000 Series Replaceable Reamer Heads

I	9700	–	K	N	G	–	10000
Diameter Unit	**Series**		**Substrate**	**Coating**	**Lead-in**		**Diameter**
Blank = mm **I** = inch	**7400** **7405** **7600** **7605** **7700** **7705**		**K** = Carbide **S** = Cermet	**L** = Uncoated carbide, **C** = TiCN, **H** = Hardcut **V** = Uncoated cermet, **A** = TiAlN, **R** = R coating **N** = TiN, **K** = Alcrona, **T** = T coating	**E** **G** **T** **M** **L** **V** **A** **N** **K**		**XXXXX** = X.XXXX" **XXXXX** = XX.XXX mm

NOTE: For reconditions, put an "**R**" at the beginning of the item number (7000 series only), and contact Application engineering about optional add-on features.

9000/5000 Series Replaceable Reamer Heads

I	9700	–	K	N	G	H	–	10000	+	0002	–	0002
Diameter Unit	**Series**		**Substrate**	**Coating**	**Lead-in**	**Optional add-on**		**Diameter**		**Tolerance***		
Blank = mm **I** = inch	**9400** **9600** **9700** **5400** **5401** **5600** **5700**		**K** = Carbide **S** = Cermet	**A** = TiAlN, **N** = TiN **C** = TiCN, **R** = R coating **H** = Hardcut, **T** = T coating **K** = Alcrona, **V** = Uncoated (cermet) **L** = Uncoated (carbide)	**E** **L** **M** **N** **A** **T** **F** **V** **G** **K**	**Blank** = No add-on **H** = Half circular face **Z** = Double back taper **HZ** = Half circular face and double back taper		**XXXXX** = X.XXXX" **XXXXX** = XX.XXX mm		**4 decimal places** = inch tolerance **3 decimal places** = mm tolerance		

*The total tolerance capable for 5000 series reamers is 0.0002" (0.005 mm) and H7 for 9000 series reamers.

Replaceable Head Style Mandrels

9000	–	MM	–	004
Series		**Shank**		**Mandrel Diameter Code**
7000 = 7000 series with radial coolant **7001** = 7000 series with no radial coolant **9000** = 9000 series **5000** = 5000 series		**MC** = Short cylindrical **ML** = Long cylindrical **MM** = Modular		See **Mandrel Ø Code** on pg. 27.

Replaceable Head Style Screws*

900	1	–	VI	–	004
Series	**Coolant**				**Screw Diameter Code**
700 = 7000 series **900** = 9000 series	**0** = without central coolant *(through holes)* **1** = with cental coolant *(blind holes)*				See **Screw Ø Code** on pg. 27.

***NOTE:** 5000 series heads do not need screws.

PRODUCT DETAILS

Series Details

Series		7000 Series						5000 Series				9000 Series		
		7400	7600	7700	7405	7605	7705	5400	5401	5600	5700	9400	9600	9700
Flute	Straight	●			●			●	●			●		
	Right-hand helical		●			●				●			●	
	Left-hand helical			●			●				●			●
Head	Fixed	●	●	●								●	●	●
	Expandable				●	●	●	●	●	●	●			
Coolant	Radial *(through hole)*	–	–	–	–	–	–	●			●	–	–	–
	Central *(blind hole)*	–	–	–	–	–	–		●	●		–	–	–

ALVAN® Reamers: Replaceable Head

Expandable Heads

5000 Series	7000 Series
	
• 0.3780" - 1.2835" (9.600 mm - 32.600 mm) • Heads arrive set to finish diameter and specified tolerance. • Twist-lock heads for precision locating of the head to the mandrel. • Best TIR repeatability from head to head providing consistent tool wear and maximized tool life.	• 0.4646" - 2.3862" (11.800 mm - 60.609 mm) • Multiple diameters within the same arbor reduce inventory requirements. • Coolant configurations for blind and through hole applications. • Reamer head reconditions are available upon request. • Expands up to 1% on diameter to accommodate for wear. • ± 0.0002" (0.005 mm) tolerance capability.

Fixed Heads

7000 Series	9000 Series
	
• 0.4646" - 2.3862" (11.800 mm - 60.609 mm) • 2.3863" - 3.1732" (60.610 mm - 80.600 mm) diameters available as specials by contacting Application Engineering. • Multiple diameters within the same arbor reduce inventory requirements. • Coolant configurations for blind and through hole applications. • Reamer head reconditions are available upon request. • Nonexpanding diameter for simple on-machine replacement. • H7 tolerance capability.	• 0.4646" - 1.5984" (11.800 mm - 40.600 mm) • Heads are precision ground to finish diameter. • Quick-change heads require minimal downtime for replacement. • Sintered carbide or cermet design provides improved rigidity in difficult applications. • H7 tolerance capability.

Reamer Lead-In

	Straight Flute								Right-hand helical			Left-hand helical	
	T	F	N	G	L	A	V	K	E	M	K	E	M
P			●	●		◐	○	◐	●		◐	●	
S	●			◐					●	◐		●	◐
M			◐	●				◐	●		◐	●	
H			◐	●					◐	●		◐	●
K				◐			●	◐	◐	●	◐	◐	●
N				●			◐		●	◐		●	◐

● Best ◐ Better ○ Good

Coatings

Uncoated	TiN	TiCN	TiAlN	Alcrona	Hardcut	R coating	T coating
							

NOTE: For more detailed descriptions of cutting material, lead-ins and coatings, please see pg. **23**.

Reamer Head Tolerance

Ø Range		Tolerance (min/max)			
		Expandable Heads		Fixed Heads	
inch	mm	inch	mm	inch	mm
0.3780 - 0.4645	9.600 - 11.799	-0.0002 / +0.0002	-0.005 / +0.005	–	–
0.4646 - 0.7086	11.800 - 18.000			+0 / +0.0007	+0 / +0.018
0.7087 - 1.1811	18.001 - 30.000			+0 / +0.0008	+0 / +0.021
1.1812 - 1.9685	30.001 - 50.000			+0 / +0.0010	+0 / +0.025
1.9686 - 2.3858	50.001 - 60.600			+0 / +0.0012	+0 / +0.030

ALVAN® Reamers: Replaceable Head

Diameter Codes: Mandrels and Screws

Ø Range		Screw Ø Code						Mandrel Ø Code		
		7000 Series				9000 Series		7000 Series	5000 Series	9000 Series
inch	mm	Expandable	Hex key	Fixed	Hex key	Fixed	Hex key			
0.3780 - 0.4570	9.600 - 11.609	-	-	-	-	-	-	-	001	-
0.4571 - 0.4645	11.609 - 11.799	-	-	-	-	-	-	-	002	-
0.4646 - 0.4964	11.800 - 12.609	012								
0.4965 - 0.5357	12.610 - 13.609	013	3.5	001	2.5	001	2.5	001	002	001
0.5358 - 0.5751	13.610 - 14.609	014								
0.5752 - 0.6145	14.610 - 15.609	015								
0.6146 - 0.6538	15.610 - 16.609	016	4	002	3	002	3.5	002	003	002
0.6539 - 0.6932	16.610 - 17.609	017								
0.6933 - 0.7326	17.610 - 18.609	018								
0.7327 - 0.7719	18.610 - 19.609	019	5	003	4	003	4.5	003	004	003
0.7720 - 0.8113	19.610 - 20.609	020								
0.8114 - 0.8507	20.610 - 21.609	021								
0.8508 - 0.8901	21.610 - 22.609	022								
0.8902 - 0.9294	22.610 - 23.609	023								
0.9295 - 0.9688	23.610 - 24.609	024	6	004	5	004	6	004	005	004
0.9689 - 1.0082	24.610 - 25.609	025								
1.0083 - 1.0475	25.610 - 26.609	026								
1.0476 - 1.0869	26.610 - 27.609	027								
1.0870 - 1.1263	27.610 - 28.609	028								
1.1264 - 1.1656	28.610 - 29.609	029	8	005	6	005	10	005	006	005
1.1657 - 1.2050	29.610 - 30.609	030								
1.2051 - 1.2444	30.610 - 31.609	031								
1.2445 - 1.2838	31.610 - 32.609	032								
1.2839 - 1.3231	32.610 - 33.609	033								006
1.3232 - 1.3625	33.610 - 34.609	034								
1.3626 - 1.4019	34.610 - 35.609	035								
1.4020 - 1.4412	35.610 - 36.609	036	10	006	6	006	12	006	-	
1.4413 - 1.4806	36.610 - 37.609	037								007
1.4807 - 1.5200	37.610 - 38.609	038								
1.5201 - 1.5593	38.610 - 39.609	039								
1.5594 - 1.5987	39.610 - 40.609	040								
1.5988 - 1.6381	40.610 - 41.609	041								
1.6382 - 1.6775	41.610 - 42.609	042								
1.6776 - 1.7168	42.610 - 43.609	043						007	-	-
1.7169 - 1.7562	43.610 - 44.609	044								
1.7563 - 1.7956	44.610 - 45.609	045	12	007	8	-	-			
1.7957 - 1.8349	45.610 - 46.609	046								
1.8350 - 1.8743	46.610 - 47.609	047								
1.8744 - 1.9137	47.610 - 48.609	048						075	-	-
1.9138 - 1.9530	48.610 - 49.609	049								
1.9531 - 1.9924	49.610 - 50.609	050								
1.9925 - 2.0318	50.610 - 51.609	051								
2.0319 - 2.0712	51.610 - 52.609	052								
2.0713 - 2.1105	52.610 - 53.609	053								
2.1106 - 2.1499	53.610 - 54.609	054								
2.1500 - 2.1893	54.610 - 55.609	055	12	008	10	-	-	008	-	-
2.1894 - 2.2286	55.610 - 56.609	056								
2.2287 - 2.2680	56.610 - 57.609	057								
2.2681 - 2.3074	57.610 - 58.609	058								
2.3075 - 2.3468	58.610 - 59.609	059								
2.3469 - 2.3862	59.610 - 60.609	060								
2.3863 - 3.1732	60.610 - 80.600	-	-	009*	12	-	-	009*	-	-

*2.3863" - 3.1732" (60.610 mm - 80.600 mm) diameter heads are available as specials by contacting Application Engineering.

Notes

ALVAN® Reamers: Cutting Ring

PRODUCT NOMENCLATURE

Cutting Rings

I	2	ANC-ST	F	–	006250	+	0000	–	0005
Diameter Unit		Coating and Substrate	Lead-in		Diameter		Tolerance*		

Blank = mm
I = inch

	Carbide	Cermet
Uncoated	**000-KT**	**AVC-ST**
TiN	**TIN-KT**	**ANC-ST**
TiCN	**TIC-KT**	**ACC-ST**
TiAlN	**TIA-KT**	**AAC-ST**
Alcrona	**TLK-KT**	**ALK-ST**
Hardcut	**TLH-KT**	**ALH-ST**
R coated	**TLR-KT**	**ALR-ST**
T coated	**TLT-KT**	**ALT-ST**

E	L
M	N
A	T
F	V
G	K

XXXXX = X.XXXX"
XXXXX = XX.XXX mm

4 decimal places = inch tolerance
3 decimal places = mm tolerance

*The total tolerance capable is 0.0002" 0.005 mm).

Cutting Ring Style Mandrels

9	4505	A	–	MC	–	050
Shank Measure	Series	Shank Flat				Mandrel Diameter Code

Blank = Metric cylindrical shank or modular shank
A = Imperial cylindrical shank

4350	**4335**
4355	**4500**
4300	**4505**
4305	**4550**
4330	**4555**

Blank = Cylindrical shank with flat or modular shank
A = Cylindrical shank without flat

See **Mandrel Ø Code** in table below.

PRODUCT DETAILS

Diameter Codes: Mandrels and Screws

Ø Range		Teeth	Cylindrical Shank		Mandrel Ø Code	
Imperial (in)	Metric (mm)				Through	Blind
0.6929 - 0.8503	17.60 - 21.59	6	0.750"	20 mm	010	010
0.8504 - 1.0078	21.60 - 25.59				020	020
1.0079 - 1.1653	25.60 - 29.59				030	030
1.1654 - 1.2834	29.60 - 32.59					035
1.2835 - 1.4408	32.60 - 36.59		1.000"	25 mm	040	040
1.4409 - 1.5983	36.60 - 40.59					045
1.5984 - 1.7952	40.60 - 45.59				050	050
1.7953 - 1.9527	45.60 - 49.59		1.250"	32 mm	060	060
1.9528 - 2.1889	49.60 - 55.59				070	070
2.1890 - 2.3857	55.60 - 60.59					075
2.3858 - 2.5826	60.60 - 65.59				080	080
2.5827 - 2.7794	65.60 - 70.59					085
2.7795 - 3.1338	70.60 - 79.59				090	090
3.1339 - 3.5668	79.60 - 90.59	8	1.500"	40 mm	100	100
3.5669 - 3.9602	90.60 - 100.59				110	110
3.9603 - 4.3539	100.60 - 110.59	10	–		120	120
4.3540 - 4.5508	110.60 - 115.59	12	–		130	130
4.5509 - 4.7476	115.60 - 120.59				140	140
4.7477 - 4.9445	120.60 - 125.59				150	150
4.9446 - 5.2201	125.60 - 132.59				160	160
5.2202 - 5.4957	132.60 - 139.59				170	170
5.4958 - 5.7319	139.60 - 145.59				180	180
5.7320 - 6.1256	145.60 - 155.59				190	190
6.1257 - 6.5193	155.60 - 165.59				200	200
6.5194 - 6.9130	165.60 - 175.59				210	210
6.9131 - 7.3067	175.60 - 185.59				220	220
7.3068 - 7.7004	185.60 - 195.59				230	230
7.7005 - 7.8972	195.60 - 200.59				240	240

Series Details

Series	Maximum Ø	Shank Type	Length	Hole Type
4350	7.8972" (200.59 mm)	Modular	Standard	Through
4355				Blind
4300	3.9602" (100.59 mm)	Modular	Long	Through
4305				Blind
4330			Short	Through
4335				Blind
4500	3.9602" (100.59 mm)	Cylindrical	Long	Through
4505				Blind
4550			Short	Through
4555				Blind

Reamer Lead-In

	Straight Flute								Left-hand helical	
	T	F	N	G	L	A	V	K	E	M
P			●	●		◐	○	◐	●	
S	●			◐					●	◐
M			◐	●				◐	●	
H			◐	●					◐	●
K				◐			●	◐	◐	●
N				●			◐		●	◐

● Best ◐ Better ○ Good

Coatings

Uncoated	TiN	TiCN	TiAlN
			
Alcrona	**Hardcut**	**R coating**	**T coating**
			

NOTE: For more detailed descriptions of cutting material, lead-ins and coatings, please see pg. **23**.

S.C.A.M.I.® Roller Burnishers

PRODUCT NOMENCLATURE

Roller Burnisher

RDK	H	–	2	1	0	–	00470
Type of Burnisher	**Series**		**Shank Type**	**Length**	**Cage Style**		**Diameter***
RDK = Through hole **RSK** = Blind hole	H F P T I M Q U K N R L O S		**0** = Straight (mini) **1** = Straight **2** = Morse Taper	**0** = Unlimited **1** = Short **2** = Standard **3** = Long	**0** = Standard **2** = Mini		**XXXXX** = X.XXXX" **XXXXX** = XX.XXX mm *For through holes use minimum diameter of burnishing range and for blind holes use the diameter to burnish.

Through Hole Style
0.1555" - 6.5315" (3.95 mm - 165.90 mm)

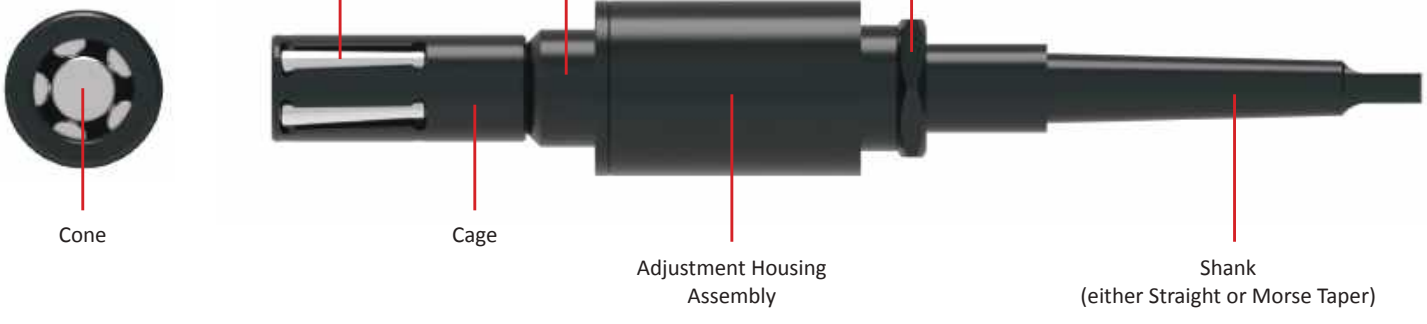
Blind Hole Style
0.2319" - 6.5315" (5.89 mm - 165.90 mm)

SERIES DETAILS

Series		H Series*	I Series	K Series	L Series	F Series	M Series	N Series
D_1	inch	0.1555 - 0.5028	0.4976 - 0.6634	0.6535 - 0.9740	0.9661 - 1.2268	0.9661 - 1.2268	1.2146 - 1.4118	1.4020 - 1.8492
	mm	3.95 - 12.77	12.64 - 16.85	16.60 - 24.74	24.54 - 31.16	24.54 - 31.16	30.85 - 35.86	35.61 - 46.97
Series		**O Series**	**P Series**	**Q Series**	**R Series**	**S Series**	**T Series**	**U Series**
D_1	inch	1.8390 - 2.2240	2.2138 - 2.7240	2.7138 - 3.3492	3.3390 - 4.0992	4.0890 - 5.0370	5.0354 - 5.9016	5.9016 - 6.5315
	mm	46.71 - 56.49	56.23 - 69.19	68.93 - 85.07	84.81 - 104.12	103.86 - 127.94	127.90 - 149.90	149.90 - 165.90

*For H series: Through hole tools start at 0.1555" (3.95 mm) and blind hole tools start at 0.2319" (5.89 mm).

Series		H mini	H	I	K	L	F	M	N	O	P	Q	R	S	T	U
Length	Short	●	●	●	●	●										
	Standard	●	●	●	●	●										
	Long		●	●	●	●										
	Unlimited						●	●	●	●	●	●	●	●	●	●



Solid Carbide Thread Mills

PRODUCT NOMENCLATURE

AccuThread® 856 Solid Carbide Thread Mills

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

ThreadMills USA™ Solid Carbide Thread Mills

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

AccuThread® T3 Solid Carbide Thread Mills

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

Product Lines

PRODUCT DETAILS

AccuThread® 856

- Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products.
- Standard cutting lengths allow for multiple applications without the need for special thread mills.
- Helical flute offers increased strength and rigidity when cutting forces are applied.

ThreadMills USA™

- Helical flute offers increased strength and rigidity when cutting forces are applied.
- High quality for consistent, predictable production.
- Coolant-through options available.
- TiAlN coating improves tool life versus uncoated tools.

AccuThread® T3

- Allied Machine's proprietary AM210® coating yields a 25-50% increase in tool life over competitor products.
- Standard cutting lengths allow for multiple applications without the need for special thread mills.
- Helical flute offers increased strength and rigidity when cutting forces are applied.

Thread Class

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

Indexable Thread Mills

PRODUCT NOMENCLATURE

AccuThread® 856 Indexable Inserts

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

AccuThread® 856 Indexable Holders

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

PRODUCT DETAILS

Pin Style Holders

Minimum Ø		Insert Length	Rake	Holder Style	Flutes
Standard	Oversize^				
0.932	1.063	1.500	Positive	Weldon	1
0.969	–	1.000	Positive	Weldon	2
0.969	1.100	1.500	Positive	Weldon	2
1.116	1.247	1.500	Positive	Weldon	3
1.116	1.247	1.500	Neutral	Weldon	3
1.755	–	1.000	Positive	Weldon	5
1.755	1.887	1.500	Positive	Weldon	5
1.755	1.887	1.500	Neutral	Weldon	5
2.217	2.349	1.500	Neutral	Shell Mill	6
2.714	2.845	1.500	Positive	Shell Mill	7
3.208	3.340	1.500	Positive	Shell Mill	8

Bolt-In Holders

Minimum Cutter Ø	Insert Length	Holder Style	Flutes
0.394	0.750	Straight	1
0.400	0.750	Tapered	1
0.611*	1.000	Straight	1
0.625	1.000	Straight	1
0.659	1.000	Tapered	1

*NOTE: Only UN/UNJ 10 TPI inserts can be used in this holder.

^Oversized cutter diameter

Oversized cutter diameter occurs when assembled with the following inserts:

NPT 8 NPTF 11.5 NPTF 8	API 8	Metric 6.0 Metric 5.0 Metric 4.5	ACME 5 ACME 6

Indexable Inserts

Pitch (TPI)	Insert Length	Thread Class								
		API	ACME	BSPP	BSPT	ISO	NPT	NPTF	UN	UNJ
0.5	0.750					◐				
1.0	0.750					◐				
	1.000					●				
1.25	0.750					◐				
1.5	0.750					◐				
	1.000					●				
	1.500					◐				
2.0	1.000					●				
	1.500					●				
2.5	1.500					◐				
3.0	1.500					◐				
3.5	1.500					◐				
4.0	1.500					●				
4.5	1.500					●				
5	1.500		●			●				
6	1.500		●			●			●	
7	1.000								◐	
	1.500								◐	
8	1.000		●						●	
	1.500	●	●				●	●	●	●
10*	1.000		●						●●	
	1.500	●	●						●	

Pitch (TPI)	Insert Length	Thread Class								
		API	ACME	BSPP	BSPT	ISO	NPT	NPTF	UN	UNJ
11	1.500			●	●					
11.5	1.500						●	●		
12	1.000		●						●●	●●
	1.500		●						●	●
13	1.000								●	
14	1.000			●	●		●	●	●	◐
	1.500								◐	
16	0.750								●	●
	1.000								●●	●●
	1.500								●	●
18	0.750						●	●	●	●
	1.000								●●	●●
	1.500								●	●
19	0.750			●	●					
	1.000			●	●					
20	0.750								●	●
	1.000								●●	●●
	1.500								●	●
24	0.750								●	●
	1.000								●●	●●
	1.500								◐	●
32	0.750								●	●
	1.000								●●	●●

*1.000" UN Bolt-in is only used with THN-0611-1F100.

● = Bolt-in ◐ = Bolt-in (internal only) ● = Pin style ◐ = Pin style (internal only)

Accessories

ROTARY COOLANT ADAPTER

For use with T-A® Morse Taper shanks.

2T	-	4	SR	M

Series

2	5
3	6
4	

Unit

Blank = Imperial

M = Metric

Series Details

T-A Holder Series	Driving Rod Thread		Pipe Tap	Series	Max Recommended RPM
	Imperial	Metric			
Y, Z, 0	5/16 - 18	M8 x 1.25	1/8	⚠2	3500
1, 2	5/16 - 18	M8 x 1.25	1/8	⚠3	2500
2, 3, 4	3/8 - 16	M10 x 1.50	1/4	⚠4	2000
3, 4	3/8 - 16	M10 x 1.50	1/4	⚠5	1500
5, 7	1/2 - 13	M12 x 1.75	1/2	⚠6	1100

Metric pipe tap thread to BSP and ISO 7-1.

NOTE: Max recommended pressure is 600 PSI (42 bar).

NOTE: Recommendations above are based on water and oil based coolants.

⚠ **WARNING** RCA rotation during drilling can cause hose and/or hose fitting failure, machinery damage, and/or serious injury. To prevent, use RCA and positive stop studs when drilling. Factory technical assistance is also available for your specific applications.

T-A® CHAMFER RINGS

For use with T-A® straight flute shanks.

T-ACR-45	-	1

T-A Series

0
1
1.5
2

Series Details

T-A Series	Ø Range		Insert Part No.
0	0.5110" - 0.6959"	12.98 mm - 17.67 mm	T-ACRI-45-B-C5A
1	0.6900" - 0.9609"	17.53 mm - 24.40 mm	T-ACRI-45-B-C5A
1.5	0.8594" - 0.9609"	21.83 mm - 24.40 mm	T-ACRI-45-B-C5A
2	0.9610" - 1.3809"	24.41 mm - 35.06 mm	T-ACRI-45-B-C5A

Highlights and Other Information

- Produces a 45° chamfer only.
- Clamping screw allows for setting at any length along the flute.
- Double effective cutting with face mounted inserts provides increased feed rates and greater insert strength.
- The ring is balanced to match the holder center of gravity to ensure stability.
- Inserts only available in C5 carbide and TiAlN coating.
- Ideal for short-run or time-sensitive jobs that require quick delivery.

IMPORTANT: T-A chamfer rings can only be used with straight flute T-A holders.

Accessories

ECCENTRIC SLEEVES

For use with the 4TEX® drill.

SLEEVE	-	32FM

4TEX Holder Shank Ø

Imperial		Metric	
075F = 0.750"	**125F** = 1.250"	**25FM** = 25.00 mm	**40FM** = 40.00 mm
100F = 1.000"	**150F** = 1.500"	**32FM** = 32.00 mm	

SLEEVES

SLV	PT	-	100	I	-	200	I
	Type		Inner Diameter	System		Outer Diameter	System
	PT = Threaded lathe sleeve **HY** = Hydraulic reducing sleeve		**XXX** = Imperial (X.XX") **XX** = Metric (XX mm)	**I** = Imperial **M** = Metric		**XXX** = Imperial (X.XX") **XX** = Metric (XX mm)	**I** = Imperial **M** = Metric

Threaded Lathe Sleeve Details

Inner Ø	Outer Ø	
	1/2 NPT Pipe Tap	1/2 BSP Pipe Tap
0.625"	1.500"	40.00 mm
0.750"		
1.000"		
16.00 mm		
20.00 mm		
25.00 mm		
1.000"	2.000"	50.00 mm
1.250"		
1.500"		
25.00 mm		
32.00 mm		
40.00 mm		

Hydraulic Reducing Sleeve Details

Imperial		Metric	
Inner Ø	Outer Ø	Inner Ø	Outer Ø
0.2500"	0.7500"	4.00 mm	20.00 mm
0.3125"		6.00 mm	
0.3750"		8.00 mm	
0.5000"		10.00 mm	
0.6250"	1.2500"	12.00 mm	
0.7500"		14.00 mm	32.00 mm
1.0000"		16.00 mm	
		18.00 mm	
		20.00 mm	
		25.00 mm	

HYDRAULIC TOOL HOLDERS

For use with the 4TEX® drill.

HYD	-	CV40	I	1250
		Shank Type	System	Clamping Diameter
		CV40 = CAT 40 (DIN 69871) **CV50** = CAT 50 (DIN 69871) **BT30** = BT 30 (JIS B 6339) **HSKA63** = HSK-A 63 (DIN 69893)	**I** = Imperial **M** = Metric	**XXXX** = Imperial (X.XXX") **XX** = Metric (XX mm)

Hydraulic Tool Holder Details

Clamping Diameter	Shank Type			
	CAT 40	CAT 50	BT30	HSK-A 63
0.750"	●	●	●	●
1.000"	●	●		
1.250"	●	●		
20.00 mm	●	●	●	●
25.00 mm	●	●		
32.00 mm	●	●		

Guaranteed Test / Demo Application Form

Distributor PO #

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

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

Distributor Information

Company Name: _____

Contact: _____

Account Number: _____

Phone: _____

Email: _____

End User Information

Company Name: _____

Contact: _____

Industry: _____

Phone: _____

Email: _____

Current Process

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

_____

_____

Test Objective

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

_____

_____

Application Information

Hole Diameter: _____ in/mm

Tolerance: _____

Material: _____ (4150, A36, cast iron, etc.)

Preexisting Diameter: _____ in/mm

Depth of Cut: _____ in/mm

Hardness: _____ (BHN, Rc)

Required Finish: _____ RMS

State: _____ (Casting, hot rolled, forging)

Machine Information

Machine Type: _____ (Lathe, screw machine, machine center, etc.)

Builder: _____ (Haas, Mori Seiki, etc.)

Model #: _____

Shank Required: _____ (CAT50, Morse taper, etc.)

Power: _____ HP/KW

Thrust: _____ lbs/N

Rigidity:
- ☐ Excellent
- ☐ Good
- ☐ Poor

Orientation:
- ☐ Vertical
- ☐ Horizontal

Tool Rotating:
- ☐ Yes
- ☐ No

Coolant Information

Coolant Delivery: _____ (Through tool, flood)

Coolant Pressure: _____ PSI / bar

Coolant Type: _____ (Air mist, oil, synthetic, water soluble, etc.)

Coolant Volume: _____ GPM / LPM

Requested Tooling

QTY	Item Number

QTY	Item Number

ALLIED MACHINE & ENGINEERING

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ALLIED MACHINE & ENGINEERING

Warranty Information

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

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

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

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Literature Order Number: TG-NOM
Publish Date: March 2025