

Holemaking Solutions for Today's Manufacturing





Reaming



Burnishing



Threading







**BT-A Drill** 

**▶** DRILLING

BTA-STS (Single Tube System) Machining



# 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, 2nd 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.



www.alliedmachine.com



Holemaking Solutions for Today's Manufacturing

# **BT-A Drill**

# The Foundation

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



# The Beginning

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



# The T-A®

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



# The Innovation

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

# The People

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

# The Future

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











# Replaceable Insert Drills

- Reduce costs by decreasing set-up time and utilizing a single holder for the lives of multiple inserts
- Provide flexibility to quickly switch between inserts with different geometries
- Products:
  - GEN3SYS® XT | GEN3SYS® XT Pro
  - Original T-A® | GEN2 T-A®
  - High Performance | Universal









# Indexable Insert Drills

- Protect your investment and reduce your inventory with replaceable cartridges that allow the same holder to be used repeatedly
- Indexable inserts increase productivity and tool life while reducing costs
- Products:
- 4TEX® Drill
- Revolution Drill®
- Opening Drill®



# Replaceable / Indexable Insert Drills

- Allow for higher spindle speeds and take advantage of the power curve on modern CNC machines
- Achieve maximum penetration rates in deep hole drilling applications
- Holders cover a range of sizes with the replaceable heads determining the cutting diameter
- Products:
  - APX™ Drill







# Solid Carbide Drills

- Offer greater strength and stability when drilling tougher materials
- Available in diameters from 3mm 20mm
- Can be made-to-order specifically for your application (Superion™ quoted specials)
  - ASC 320®
  - Superion™



# Structural Steel Solutions

- Deliver outstanding performance and durability in structural steel applications
- Designed to produce optimal results in difficult-tomachine materials
- · Available in multiple lengths and diameters
- T-A® style drills have different insert geometry options to improve performance depending on material
- Products:
  - Original T-A® | GEN2 T-A®
  - GEN3SYS® XT Pro

# BTA (STS) Machining Solutions

- The internal ejection system flushes chips and debris from the hole with no interference to the cutting process
- Utilizes the advantages of the T-A® drill insert
- Designed to significantly increase penetration rates over brazed heads and traditional gun drills
- Products:
  - BT-A Drill









# **Hydraulic Port Contour Cutters**

- Save significant time and money by performing four processes in one step
- Replaceable insert design reduces costs, inventory, and set-up times
- Available in 4 industry specifications:

Imperial: SAE J-1926Metric: ISO 6149-1:2006

Military: SAE AS5202John Deere: JDS-G173.1

Products:
 AccuPort 432®



# **Enhanced Special Drilling Capabilities**

- Allied Machine Engineers are available to meet with you to evaluate your application and recommend the best solution for you
- Special drilling solutions can incorporate advanced features such as adjustable diameter locations, multiple steps, additional coolant designs, special lengths and diameters, and more
- Special drills can drastically reduce your cost-per-hole and increase your overall productivity by eliminating multiple processes and increasing tool life







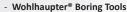




# **WOHLHAUPTER**

# **High Precision Boring Systems**

- Designs available for high volume applications that increase rigidity to improve performance
- Versatile boring heads that are flexible with changing applications while maintaining excellent performance
- Provides high precision with absolute repeatability to ensure every part is held to tolerance
- Offers an industry leading modular shank connection that maintains rigidity and reduces inventory on your boring system
- · Available with both digital and analog settings
- Products:







# CRITERION

# **Modular Boring Systems**

- The modular capabilities are ideal for use across multiple different projects
- Offers versatile boring heads suitable for all job shops and tooling rooms
- Provides an economical solution for low volume and/ or short-term production applications
- Offers both rough and finish boring solutions
- Products:
- Criterion® Boring Tools



# **Expandable Reaming Solutions**

- Expandable cutting diameters accommodate for wear, which extends tool life
- Replaceable cutting heads and rings reduce waste and improve production time versus solid high speed steel and carbide reamers
- Hold tight tolerances to ensure processes are performed to accurate specifications
- Reduce tooling costs because many items are available for recondition
- Products:
  - ALVAN® Reamers







# S.C.A.M.I.®

# **Roller Burnishing Solutions**

- Produce excellent surface finishes
- Provide accurate size control
- Increase surface hardness
- Solutions for both through hole and blind hole applications
- Products:
  - S.C.A.M.I.® Roller Burnishing Tools



# Solid Carbide Thread Mills

- · Available with coolant through options
- Cover a wide range of thread forms
- Provide optimal solutions for both high production projects and short-run applications
- Products
  - AccuThread™ 856
  - AccuThread™ T3
  - ThreadMills USA™



# Replaceable Insert Thread Mills

- 3 insert lengths are available that cover a wide range of thread forms
- Holders can utilize inserts with different pitches and thread forms
- Repeatability is achieved by both the bolt-in style and the pin style locking systems
- Increase tool life by 25 50% with Allied Machine's AM210® coating
- Products
  - AccuThread™ 856: Bolt-in Style
  - AccuThread™ 856: Pin Style







# **SPECIAL** CAPABILITIES

When it comes to designing and developing special solutions for customers, Allied Machine is the top choice. If your application requires special tooling, give us a call. Our engineered specials are developed by the brightest engineers in the industry. Most of our standard tooling can be altered as specials, or we can create entirely new concepts for particularly unique applications.

One special tooling solution is Insta-Quote®, the online system that allows you to design your own special tooling 24/7. Receive a quote and drawings within minutes just by following the steps.

And with the addition of Superion™ technology and capabilities, we can customize made-to-order solid carbide tools to achieve optimal results for your applications.

Whatever your application, Allied Machine has the answer.





# TooMD

# Increase the production and success of your applications today.

- Offers direct access to 2D drawings and 3D models
- Assemble and view tool images in your browser
- Download drawings for use in most machining software programs
- Browse products, search item numbers, and save assemblies for future use

toolmd.com

# **WOHLHAUPTER**

**Tool-Architect** 

Find the right Wohlhaupter® solution for your application.

- · Configure your complete tool assembly
- Compile an order list to be quoted
- Search and quickly find components using various criteria
- · Adjust your language and measurement preferences



tool-architect.com



# Insta-Quote •

# Design your custom tooling and receive a drawing and quote...all within minutes.

- Design and quote your own tooling
- Guides you through steps to generate the solution you need
- Features the following products
  - T-A® Inserts
  - T-A® Holders
  - GEN3SYS® XT Holders
- ALVAN® Reamers



# Eliminate the wait. Get your program now.

- Choose the best thread mill for your application
- Create program code for your machine
- Available as a PC download app (that can be used offline)
- Website app available 24/7





alliedmachine.com/InstaCode



# **WOHLHAUPTER®**

**Boring Insert Selector** 

# Find the best insert for your application.

- Generate the correct boring insert for your job in just six easy steps
- Choose type, shape, substrate, insert form, nose radius, and material
- Easily order by adding the item to your cart

www.alliedmachine.com/bis

# **Product Selector**

# Use the product selector to find the right tool for your application.

- Guides you through steps to generate the right tool for your application
- Learn about your recommended tool and how to maximize its performance



# **Machinist Tool App**

# Quickly convert cutting tool parameters for the machine inputs you need.

- Input data to calculate the RPM and speed and feed rates
- Also features the Boring Insert Selector
- Access product literature right at your fingertips



www.alliedmachine.com/productselector

# **BT-A Drill**

# BTA (STS) Deep Hole Machining System

▶ Diameter Range: 0.5100" - 1.8820" (12.95mm - 47.80mm)



# **Material Ejection with Efficiency**

The BT-A Drill (using the single tube system, or STS) conquers deep hole applications in ways other drills simply cannot. The internal ejection system flushes chips and debris from the hole with no interference to the cutting process.

By utilizing the countless advantages of the T-A® drill insert, the BT-A design significantly increases penetration rates over brazed heads and traditional gun drills. A specific BT geometry has also been developed to increase productivity in these types of drilling applications.

Excellent hole size and finish

Optimizes chip evacuation

Up to 2x the penetration rate of traditional BTA heads

# **Applicable Industries**





Agriculture



Automotive



Equipment







Oil & Gas

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.



# T-A® Inserts

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



# **Recommended Cutting Data**

Speed and feed recommendations for optimum and safe drilling

	Diameter Range						
Series	Imperial (inch)	Metric (mm)					
0	0.5100 - 0.6959	12.95 - 17.68					
1	0.6960 - 0.9600	17.69 - 24.38					
2	0.9601 - 1.3800	24.39 - 35.05					
3	1.3801 - 1.8820	35.06 - 47.80					

# **BT-A Drilling System Contents**

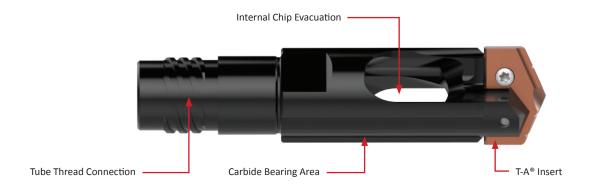
# **Introduction Information**

System Overview										-
Product Nomenclature	•	 •	•						•	
T-A Drill Series										
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1 Series										
2 Series										(
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# **System Overview**

### **BTA Machining**

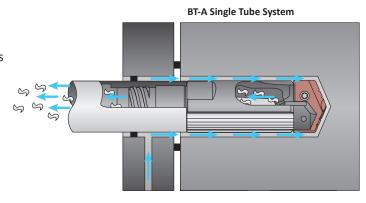
BTA machining is the reverse of typical gun drilling systems. The BT-A Drill is a drill head consisting of a holder body and a replaceable tip T-A® insert. The drill head threads into an STS (single tube system) cylindrical tube with a diameter smaller than the drill head. The difference in diameter forms an annular area between the hole and the tube OD. This allows high volume coolant to be directed to the cutting edge.

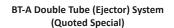


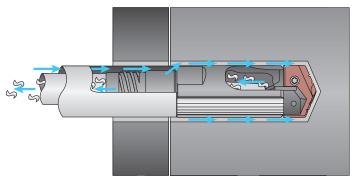
- Improve hole straightness with the laser clad bearing area
- Eliminate the need for re-sharpening with replaceable cutting edges
- Reduce your inventory
  with the replaceable T-A® feature
- Compatibility heads are compatible with standard BTA-STS systems
- **☑** Balanced cutting forces
- Patent-pending design



# Original T-A Insert: BT-A Geometry (-BT) Low thrust web geometry reduces Z-axis requirements Tiny chip (-TC) lip geometry improves chip formation Polished cutting surface eliminates material build-up







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# **Product Nomenclature**

# **BT-A Drill Holders**



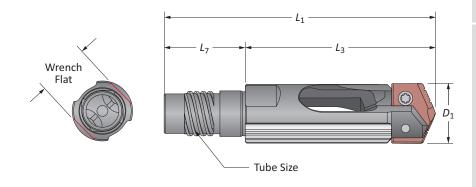
1. BT-A Drill T-A Insert Series						
BTA0 = 0 series T-A insert						
BTA1 = 1 series T-A insert						
BTA2 = 2 series T-A insert						
BTA3 = 3 series T-A insert						

2. Tube Size		
794	800	806
795	801	807
796	802	808
797	803	809
798	804	810
799	805	811

3. Diameter	
<b>0.7344</b> = Inch	
<b>25.00</b> = Metric	

# Reference Key

Symbol	Attribute
$D_1$	Drill insert range
<i>L</i> <sub>1</sub>	Overall length
L <sub>3</sub>	Holder reference length
L <sub>7</sub>	Shank length



# **BT-A Drill Tubes**

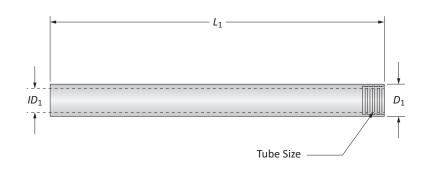
1. BT-A Drill T-A Insert Series						
<b>BTAT</b> = BT-A Tube						

2. Tube Size			
794	800	806	
795	801	807	
796	802	808	
797	803	809	
798	804	810	
799	805	811	

3. Length	
<b>63</b> = Standard	
<b>102</b> = Long	

# Reference Key

Symbol	Attribute
$D_1$	Body diameter
ID <sub>1</sub>	Internal diameter
<i>L</i> <sub>1</sub>	Overall length



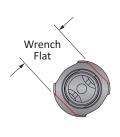
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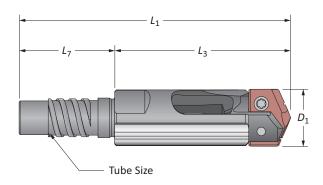


# **BT-A Drill Holders**

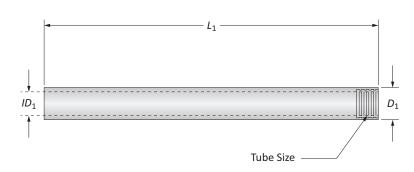
0 Series | Diameter Range: 0.5100" - 0.6959" (12.95mm - 17.68mm)







	Tube			Holder				Wrench Flat
	Size	$D_1$	L <sub>3</sub>	<i>L</i> <sub>1</sub>	L <sub>7</sub>	Part No.	T-A® Insert	(mm)
	794	0.5100 - 0.5359	1-45/64	2-39/64	29/32	BTA0-794-X.XXXX	1C10H-XXXX-BT	11
	795	0.5360 - 0.5759	1-3/4	2-21/32	29/32	BTA0-795-X.XXXX	1C10H-XXXX-BT	12
0	796	0.5760 - 0.6149	1-13/16	2-3/4	61/64	BTA0-796-X.XXXX	1C10H-XXXX-BT	13
	797	0.6150 - 0.6579	1-13/16	2-3/4	61/64	BTA0-797-X.XXXX	1C10H-XXXX-BT	14
	798	0.6580 - 0.6959	1-25/32	2-47/64	61/64	BTA0-798-X.XXXX	1C10H-XXXX-BT	15
			1					
	794	12.95 - 13.61	43.4	66.4	23	BTA0-794-XX.XX	1C10H-XXXX-BT	11
	795	13.62 - 14.63	44.6	67.6	23	BTA0-795-XX.XX	1C10H-XXXX-BT	12
<b>(1)</b>	796	14.64 - 15.62	45.9	69.9	24	BTA0-796-XX.XX	1C10H-XXXX-BT	13
	797	15.63 - 16.71	45.9	69.9	24	BTA0-797-XX.XX	1C10H-XXXX-BT	14
	798	16.72 - 17.68	45.3	69.3	24	BTA0-798-XX.XX	1C10H-XXXX-BT	15



	Tube Size	$D_1$	ID <sub>1</sub>	L <sub>1</sub>	Part No.
	794	0.433	0.276	63	BTAT794-63
	794	0.433	0.276	102	BTAT794-102
	795	0.472	0.315	63	BTAT795-63
	795	0.472	0.315	102	BTAT795-102
0	796	0.512	0.335	63	BTAT796-63
U	796	0.512	0.335	102	BTAT796-102
	797	0.551	0.354	63	BTAT797-63
	797	0.551	0.354	102	BTAT797-102
	798	0.591	0.394	63	BTAT798-63
	798	0.591	0.394	102	BTAT798-102



1 = Imperial (in)

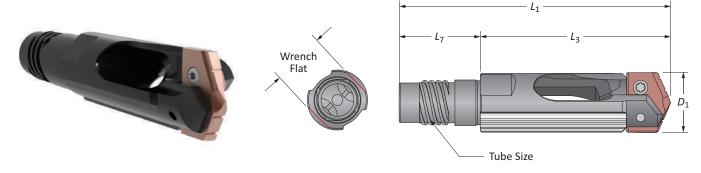
m = Metric (mm)

В

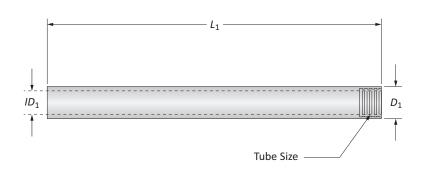
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# **BT-A Drill Holders**

1 Series | Diameter Range: 0.6960" - 0.9600" (17.69mm - 24.38mm)



	Tube Size	<b>D</b> <sub>1</sub>	I.	Holder	,	Part No.	T-A® Insert	Wrench Flat (mm)
	799	0.6960 - 0.7449	2-15/64	L <sub>1</sub> 3-9/32	63/64	BTA1-799-X.XXXX	1C11H-XXXX-BT	16
	800	0.7450 - 0.7879	2-5/16	3-27/64	1-7/64	BTA1-800-X.XXXX	1C11H-XXXX-BT	17
0	801	0.7880 - 0.8589	2-11/32	3-35/64	1-13/64	BTA1-801-X.XXXX	1C11H-XXXX-BT	18
	802	0.8590 - 0.9489	2-25/64	3-11/16	1-19/64	BTA1-802-X.XXXX	1C11H-XXXX-BT	19
	803	0.9490 - 0.9600	2-33/64	3-13/16	1-19/64	BTA1-803-X.XXXX	1C11H-XXXX-BT	21
					I	ĭ		
	799	17.69 - 18.92	58.2	83.2	25	BTA1-799-XX.XX	1C11H-XXXX-BT	16
	800	18.93 - 20.01	58.8	86.8	28	BTA1-800-XX.XX	1C11H-XXXX-BT	17
<b>(1)</b>	801	20.02 - 21.81	59.4	89.9	30.5	BTA1-801-XX.XX	1C11H-XXXX-BT	18
	802	21.82 - 24.10	60.7	93.7	33	BTA1-802-XX.XX	1C11H-XXXX-BT	19
	803	24.11 - 24.38	63.9	96.9	33	BTA1-803-XX.XX	1C11H-XXXX-BT	21



	Tube Size	$D_1$	$\mathit{ID}_1$	L <sub>1</sub>	Part No.
	799	0.630	0.413	63	BTAT799-63
	799	0.630	0.413	102	BTAT799-102
	800	0.669	0.453	63	BTAT800-63
	800	0.669	0.453	102	BTAT800-102
0	801	0.709	0.472	63	BTAT801-63
U	801	0.709	0.472	102	BTAT801-102
	802	0.787	0.512	63	BTAT802-63
	802	0.787	0.512	102	BTAT802-102
	803	0.866	0.551	63	BTAT803-63
	803	0.866	0.551	102	BTAT803-102



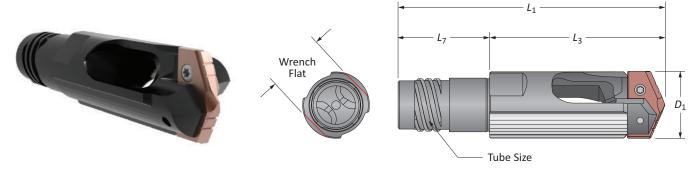
1 = Imperial (in)

BORING

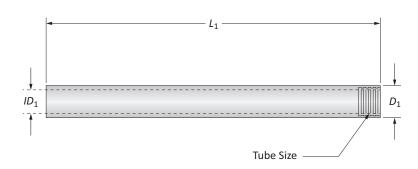


# **BT-A Drill Holders**

2 Series | Diameter Range: 0.9601" - 1.3800" (24.39mm - 35.05mm)



	Tube			Holder				Wrench Flat
	Size	$D_1$	L <sub>3</sub>	L <sub>1</sub>	L <sub>7</sub>	Part No.	T-A® Insert	(mm)
	803	0.9601 - 1.0399	3-3/32	4-25/64	1-19/64	BTA2-803-X.XXXX	1C12H-XXXX-BT	21
	804	1.0400 - 1.1299	3	4-3/32	1-7/64	BTA2-804-X.XXXX	1C12H-XXXX-BT	22
0	805	1.1300 - 1.2209	2-31/32	4-25/64	1-27/64	BTA2-805-X.XXXX	1C12H-XXXX-BT	25
	806	1.2210 - 1.3119	3-1/16	4-31/64	1-27/64	BTA2-806-X.XXXX	1C12H-XXXX-BT	27
	807	1.3120 - 1.3800	3-1/16	4-31/64	1-27/64	BTA2-807-X.XXXX	1C12H-XXXX-BT	30
				ı				
	803	24.39 - 26.41	78.5	111.5	33	BTA2-803-XX.XX	1C12H-XXXX-BT	21
	804	26.42 - 28.70	75.9	103.9	28	BTA2-804-XX.XX	1C12H-XXXX-BT	22
<b>(1)</b>	805	28.71 - 31.01	75.4	111.4	36	BTA2-805-XX.XX	1C12H-XXXX-BT	25
	806	31.02 - 33.32	77.9	113.8	36	BTA2-806-XX.XX	1C12H-XXXX-BT	27
	807	33.33 - 35.05	77.9	113.8	36	BTA2-807-XX.XX	1C12H-XXXX-BT	30



			Tube							
	Tube Size	$D_1$	ID <sub>1</sub>	L <sub>1</sub>	Part No.					
	803	0.866	0.551	63	BTAT803-63					
	803	0.866	0.551	102	BTAT803-102					
	804	0.945	0.610	63	BTAT804-63					
8	804	0.945	0.610	102	BTAT804-102					
U	805	1.024	0.669	63	BTAT805-63					
	805	1.024	0.669	102	BTAT805-102					
	806	1.102	0.728	102	BTAT806-102					
	807	1.181	0.787	102	BTAT807-102					



1 = Imperial (in)

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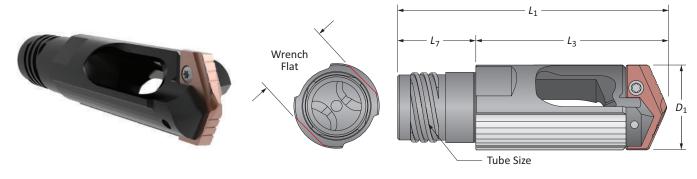
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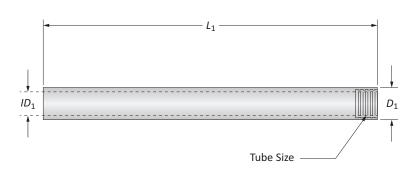


# **BT-A Drill Holders**

3 Series | Diameter Range: 1.3801" - 1.8820" (35.06mm - 47.80mm)



	Tube Size	$D_1$	L <sub>3</sub>	Holder	L <sub>7</sub>	Part No.	T-A® Insert	Wrench Flat (mm)
	807	1.3801 - 1.4259	3-13/16	5-15/64	1-27/64	BTA3-807-X.XXXX	1C13H-XXXX-BT	30
	808	1.4260 - 1.5599	3-15/16	5-11/16	1-3/4	BTA3-808-X.XXXX	1C13H-XXXX-BT	32
0	809	1.5600 - 1.6929	4-1/16	5-3/4	1-11/16	BTA3-809-X.XXXX	1C13H-XXXX-BT	36
	810	1.6930 - 1.8509	4-1/64	5-45/64	1-11/16	BTA3-810-X.XXXX	1C13H-XXXX-BT	41
	811	1.8510 - 1.8820	4-1/16	5-3/4	1-11/16	BTA3-811-X.XXXX	1C13H-XXXX-BT	41
	807	35.06 - 36.22	96.8	132.8	36	BTA3-807-XX.XX	1C13H-XXXX-BT	30
	808	36.23 - 39.62	100.0	144.4	44.5	BTA3-808-XX.XX	1C13H-XXXX-BT	32
<b>(ii)</b>	809	39.63 - 43.00	103.1	146.2	43	BTA3-809-XX.XX	1C13H-XXXX-BT	36
	810	43.01 - 47.01	101.9	144.9	43	BTA3-810-XX.XX	1C13H-XXXX-BT	41
	811	47.02 - 47.80	103.2	146.2	43	BTA3-811-XX.XX	1C13H-XXXX-BT	41



			Tube		
	Tube Size	$D_1$	ID <sub>1</sub>	$\mathcal{L}_1$	Part No.
	807	1.181	0.787	102	BTAT807-102
	808	1.299	0.906	102	BTAT808-102
0	809	1.417	0.984	102	BTAT809-102
	810	1.535	1.102	102	BTAT810-102
	811	1.693	1.220	102	BTAT811-102



1 = Imperial (in)

Not	es														

# Notes

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BURNISHING

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THREADING

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# **Guaranteed Test / Demo Application Form**

Distributor PO #

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

Phone: _	rmation  List all tooling, coati			Com Cont Indu Phor	stry: _ ne: _ l: _		iencing	
Test Objective	List what would mal	ke this a succe	ssful test (i.e. pe	netration rate,	finish, tool life,	hole size, etc.)		
Application Info	rmation							
Hole Diameter:		in/mm	Tolerance:			Material:		
							(4150 / A	36 / Cast Iron / etc.)
Pre-existing Diame	eter:	in/mm	Depth of Cut:		in/mm	Hardness:		(BHN / Rc)
Required Finish:		RMS				State:		
							(Casting /	Hot rolled / Forging)
Machine Inform	ation							
Machine Type:			Bui	lder:			Model #:	
	(Lathe / Screw machine /	Machine center			Haas, Mori Seiki, e	etc.)		
Shank Required:							Power:	HP/KW
	(CAT50 / Mors	e taper, etc.)						
Rigidity:	Orientation:	Tool R	otating:				Thrust:	lbs/N
Excellent	☐ Vertical	☐ Ye	es					
Good	☐ Horizontal	□ N	0					
Poor								
Coolant Informa	ation							
Coolant Delivery:					Coolant Pressure	,.		PSI / bar
Coolaine Delivery.		Through tool / Fl	ood)		Coolaint Flessule	•		1 31 / Da1
Coolant Type:					Coolant Volume:			GPM / LPM
	(Air mist, oi	l, synthetic, wate	er soluble, etc.)					

# **Requested Tooling**

QTY	,	Item Number

QTY	Item Number



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

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

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

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

Allied Machine shall not be liable in contract or in tort (including, without limitation, negligence, strict liability or otherwise) for economic losses of any kind or for any special, incidental, indirect, consequential, punitive or exemplary damages arising in any way out of the performance of, or failure to perform this agreement.

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



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