

holemaking & finishing **SOLUTIONS**

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DRILLING



BORING



REAMING



BURNISHING



THREADING



SPECIALS



**DECREASE YOUR
COST PER HOLE**



**ALLIED MACHINE
& ENGINEERING**

Allied Machine offers a wide range of drilling, boring, reaming, burnishing, and threading tools to lower your **cost per hole**.



REPLACEABLE INSERT DRILLS

- Reduces cost and decreases setup and downtime by utilizing a single holder for multiple insert use.
- Proves efficient tool changeover by replacing inserts rather than entire tools.



T-A Pro®

- Ø: 0.3739" - 1.8820" (9.50 mm - 47.80 mm).
- Depth: 1xD, 3xD, 5xD, 7xD, 10xD, 12xD, 15xD.
- The proprietary coolant outlet configuration provides superior performance even in low-coolant applications.
- ISO-specific geometries with a new point design simplify your insert choices.
- **Why would I use this?** The T-A Pro drill combines material-specific insert geometries, a redesigned drill body and a proprietary coolant-through system to allow penetration rates that run at speeds up to 30% faster than other high performance drills on the market.



GEN2 T-A®

- Ø: 0.3739" - 4.5070" (9.50 mm - 114.48 mm).
- Depth: 1xD - 28xD.
- Inserts are designed with Notch Point® geometry that improves stability and hole straightness and also reduces thrust.
- The advanced cutting geometry improves chip evacuation.
- **Why would I use this?** The GEN2 T-A allows you to increase your penetration rates and improve your chip evacuation, which can help increase your throughput.



T-A®

- Ø: 0.3739" - 4.5070" (9.50 mm - 114.48 mm).
- Depth: 1xD - 28xD.
- Large variety of geometries and coatings optimizes chip formation in various materials.
- The replaceable insert increases productivity by reducing setup and downtime.
- **Why would I use this?** The large assortment of geometries available with the T-A drilling system allows for a consistent drilling process you can rely on, regardless of material.

T-A Pro®

The **best** just got **better**.





GEN3SYS® XT Pro

- Ø: 0.4331" - 1.3780" (11.00 mm - 35.00 mm).
- Depth: 3xD, 5xD, 7xD, 10xD, 12xD.
- Inserts are designed with specific geometry/coating combinations for different ISO materials.
- The holder design increases coolant flow to the cutting zone and improves chip evacuation.
- **Why would I use this?** With increased coolant at the cutting zone, the GEN3SYS XT Pro inserts stay cool and achieve longer tool life. The increased coolant flow allows the tool to achieve maximum penetration rates, which can help increase your throughput.



GEN3SYS® XT

- Ø: 0.4331" - 1.3780" (11.00 mm - 35.00 mm).
- Depth: Stub, 3xD, 5xD, 7xD.
- Available in different geometries to meet your application needs.
- The ability to replace the inserts on the spindle provides cost benefits by reducing machine downtime and setups.
- **Why would I use this?** The GEN3SYS XT increases penetration rates and allows you to increase your throughput. The AM300® coating increases tool life, which improves your overall cost per hole over competing tooling.

SOLID CARBIDE DRILLS

- Achieves greater strength and stability when drilling tougher materials.
- Provides diameter sizes much smaller than replaceable insert drills can offer.



Superion® Solid Carbide Tooling

- Coolant-through solid carbide tooling drives high penetration rates and long tool life.
- Multiple coatings are available to extend tool life and increase penetration rates.
- **Why would I use this?** Superion solid carbide tooling offers tight tolerances, multiple steps, detailed profiles, high desired penetration rates, and application-specific solutions.

Superion® PCD Tooling

- Provides superior tolerancing and increased penetration rates.
- The cutting edge hardness extends tool life 10-fold over carbide tooling.
- **Why would I use this?** Superion PCD tooling is ideal for CFRP and other unique and/or challenging materials. Regrinds and PCD remanufactures are available to fit your tooling budgets.



INDEXABLE CARBIDE INSERT DRILLS

- Indexable carbide (IC) inserts increase productivity and tool life while reducing costs.
- By simply rotating the inserts when one edge begins to wear, you can reduce machine downtime and tooling setups, which increases production time and throughput.



4TEX® Drill

- Ø: 0.472" - 1.850" (12.00 mm - 47.00 mm).
- Depth: 2xD, 3xD, 4xD.
- The drill holder has an increased and stronger core that improves rigidity and increases reliability.
- Provides single effective cutting on light duty machines that increases penetration rates.
- **Why would I use this?** The 4TEX produces holes efficiently in a variety of machine operations even in the toughest interrupted cuts.



Revolution Drill®

- Ø: 1.875" - 4.000" (47.63 mm - 101.60 mm).
- Depth: 1xD, 2.2xD, 2.5xD, 3.5xD, 4.5xD.
- Shanks: Straight, CAT40, CAT50.
- The replaceable cartridges allow the tool to be rebuilt and also make the diameter adjustable.
- Drills from solid, which eliminates the need for a pilot hole.
- **Why would I use this?** The Revolution Drill quickly produces large diameter holes on low horsepower machines in a single operation.



Opening Drill®

- Ø: 2.000" - 5.620" (50.80 mm - 142.75 mm).
- Depth: Short, Long.
- Shanks: Straight, CAT40, CAT50, BT40, BT50, HSK63, HSK100, ABS63, DIN50.
- Opens an existing hole in a single operation.
- Eliminates multiple boring passes to improve cost per hole and decrease cycle time.
- **Why would I use this?** The Opening Drill reduces cycle times and tooling costs by removing up to roughly 2 inches of material on diameter at a time.

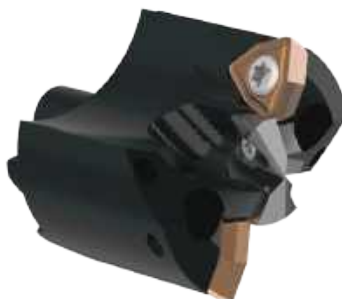
REPLACEABLE/INDEXABLE INSERT DRILLS

- Holders cover a range of sizes with the replaceable heads determining the cutting diameter.
- The replaceable heads and inserts help reduce tooling costs and setup times.



APX™ Drill

- Ø: 1.299" - 4.000" (33.00 mm - 101.60 mm).
- Depth: 3xD, 5xD, 8xD, 10xD.
- Shanks: Straight, CAT40, CAT50.
- Maximizes penetration rates even on low horsepower machines.
- Ideal for large diameter and deep hole applications.
- **Why would I use this?** The flexibility to use one body for multiple head sizes minimizes tooling investments while still providing optimal performance in many of your large diameter drilling operations.



APX heads are available in both T-A Pro® and GEN3SYS® XT Pro pilot styles.



T-A Pro Style



GEN3SYS
XT Pro Style

- Reduces costs and decreases setup and downtime by utilizing a single holder for multiple insert changes.
- Achieves consistent high production in structural applications.



Structural Steel GEN3SYS® XT Pro

- Ø: 0.4724" - 1.3780" (12.00 mm - 35.00 mm).
- Depth: 1.5xD, 3xD, 5xD, 7xD.
- The GEN3SYS XT Pro Structural Steel (XTST) geometry will optimize your structural applications.
- Insert features an enhanced spur point, improved radial rake, and improved Notch Point®.
- **Why would I use this?** The GEN3SYS XT Pro increases penetration rates and allows you to increase your throughput. The AM420 coating increases tool life, which improves your overall cost per hole.



Structural Steel T-A® and GEN2 T-A®

- Ø: 0.5512" - 1.8829" (14.00 mm - 47.82 mm).
- Depth: Short, Standard, Extended, Long.
- The GEN2 T-A inserts come standard with High Efficiency (-HE) geometry.
- The T-A inserts come standard in thin wall (-TW), Notch Point® (-NP), and structural steel (-SS) geometries.
- **Why would I use this?** The T-A structural steel products maximize the advantages of the T-A drilling system in structural applications. A single holder can utilize a range of insert diameter sizes and multiple different geometry options that are specifically for improved chip formation in elastic structural steel materials.

HYDRAULIC PORT CONTOUR CUTTERS

- The replaceable insert design reduces costs, inventory, and setup times.
- Save significant time and money by performing four operations in one step.



AccuPort 432®

- Port Size: 4 to 32.
- Drills and finishes port forms in one operation.
- Available in port and thread finishing kits.
- Specials include MS-33651 specification or special gauge length.
- **Why would I use this?** The AccuPort 432 allows for increased performance and shorter cycle times by combining multiple operations into one tool with repeatability and consistency. These tools are available in four industry specifications: (1) imperial SAE J-1926, (2) metric ISO 6149-1:2006, (3) military SAE AS5202, and (4) John Deere JDS-G173.1.

BTA (STS) MACHINING SOLUTIONS

- Designed to significantly increase penetration rates over brazed heads and traditional gun drills.
- Utilized specifically on BTA (STS) machine equipment.



BT-A Drill

- Ø: 0.5110" - 1.8829" (12.98 mm - 47.82 mm).
- 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.
- **Why would I use this?** The versatility of available T-A geometries and substrates allows for increased penetration rates and excellent chip control in any application.

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 buildup.





- Eliminates scrap and stress.
- Provides straighter holes that are on size, in tolerance, and under budget.

WOHLHAUPTER®



THE COMPLETE RANGE
Ø 0.016" - 128.150" (Ø 0.40 mm - 3255.00 mm)



High-Precision Boring Systems

Why would I use this?

- Rigid design to improve performance in high-precision or high-production roughing and finishing applications.
- Versatile boring heads 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 of your boring systems.
- Available with both digital and vernier adjustment.



WE HAVE A
KIT
FOR THAT

DO YOU BORE DIFFERENT SIZES DAILY?

Kits aren't for everyone, but if you work on different projects from day to day, you need to **be prepared for the work tomorrow will bring.**

CRITERION®

Modular Boring Systems

Why would I use this?

- Criterion modular boring systems bring speed, tolerance, toughness, and versatility to your boring applications.
- Offers versatile boring heads suitable for production facilities, job shops, and tool rooms.
- Flexible modular system provides an economical solution for low-volume and/or short-term production applications so they can be applied in the future.
- Available with analog adjustment.



- Improves tool life over standard reamers by accommodating for wear with these expandable reamers.
- Lowers cycle time with carbide and cermet reamers that have a specific geometry for your application.



Replaceable Head Style

- **5000 Series** – Ø: 0.3780" - 1.2835" (9.600 mm - 32.600 mm).
 - Features expandable diameter heads.
 - Best TIR repeatability from head to head providing consistent tool wear and maximized tool life.
- **7000 Series** – Ø: 0.4646" - 2.3862" (11.800 mm - 60.609 mm).
 - Features both expandable and fixed diameter heads.
 - Reamer head reconditions are available upon request.
- **9000 Series** – Ø: 0.4646" - 1.5984" (11.800 mm - 40.600 mm).
 - Features fixed diameter heads.
 - Sintered carbide or cermet design provides improved rigidity in difficult applications.
- **Why would I use this?** The replaceable head functionality allows for multiple diameters within the same arbor reducing inventory requirements. Expandable or fixed diameter options let you accommodate for wear or quickly replace the reamer head with a preset diameter.

Monobloc Style

- Ø: 0.2283" - 1.2638" (5.800 mm - 32.100 mm).
 - Tools are expandable to accommodate for wear and increase tool life.
 - High penetration rates yield lower cost per hole.
- **Why would I use this?** The monobloc reamer can be repaired to new condition, which extends the life of your investment. It's also an excellent replacement for solid carbide reamers because it allows for diameter expansion to accommodate for cutting edge wear.

Cutting Ring Style

- Ø: 1.2835" - 7.8976" (32.600 mm - 200.600 mm).
 - Asymmetrical cutting edges provide excellent hole roundness.
 - Diameter expansion provides tight tolerance capabilities and wear accommodation.
- **Why would I use this?** The cutting ring can be expanded to increase the diameter and keep you within tolerance, even when the cutting teeth begin to wear. The ring can also be reconditioned, which makes it an excellent solution for reaming large diameters.

THREAD MILLS

- Produce quality threads by precisely controlling the thread's programmed diameter.
- Cut large diameter threads with a stocked carbide thread mill.

AccuThread®

- All AccuThread items are coated with AM210® coating that yields a 25-50% increase in tool life over competitor products.
- AccuThread 856 items are available in solid carbide and indexable styles (bolt-in or pin style replaceable insert).
- AccuThread T3 provides optimal results in hard-to-machine materials and is available in small diameters.
- **Why would I use this?** Thread mills drastically reduce the occurrences of scrap when compared to taps, and this advantage makes them desirable when manufacturing large and/or costly components.

ThreadMills USA™

- All ThreadMills USA items are coated with TiAlN coating that improves tool life over uncoated thread mills.
- Available in both noncoolant and coolant-through options.
- Provides an economical solution for achieving high-quality, consistent, and predictable production.
- **Why would I use this?** ThreadMills USA drastically reduces the occurrence of scrap when compared to taps at an economical price for all production jobs.





S.C.A.M.I.® ROLLER BURNISHERS

- Provides a more effective method of sizing, finishing, and work-hardening of your parts to exact specifications.
- Eliminates costly secondary operations such as grinding, honing, or lapping.



Blind Hole Style

Ø: 0.2319" - 6.5315" (5.89 mm - 165.90 mm).



Through Hole Style

Ø: 0.1555" - 6.5315" (3.95 mm - 165.90 mm).

S.C.A.M.I.® Roller Burnishers

- Provides versatility and allows the operation to be performed on any rotating spindle.
- Provides accurate size control for tolerances within 0.0005" or better (depending on variables such as material).
- Achieves fine surface finishes between 1 - 10 μ in Ra and increases surface hardness by 5 - 10%.
- **Why would I use this?** Add consistency and superior quality to your finished parts with little addition to cycle time.

ONLINE TOOLS

DESIGN ANYTIME FROM ANYWHERE



ToolMD®

Download 2D and 3D models of your tooling.



Boring Insert Selector

Find the best insert for your application.



Allied's Interactive Experience

Visit Allied Machine's global facilities virtually and meet team members.



Insta-Code®

Eliminate the wait. Get your thread mill program now.



Allied Tool Academy
Training on your schedule.

www.alliedtoolacademy.com



Allied Machine offers expert engineering support. Whether you need a quote, a test, or an application solution, a highly skilled and trained engineer is standing by, ready to help.
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Holemaking Solutions for Today's Manufacturing