



# ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing



Boring



Reaming



Burnishing



Threading



Specials



## GEN3SYS<sup>®</sup> XT & XT Pro

► **DRILLING**

Replaceable Insert Drilling System

## 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 holmaking 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](http://www.alliedmachine.com)

## 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.



**Steve Stokey**  
Executive Vice President

**William H. Stokey**  
President and CEO

**Mike Stokey**  
Executive Vice President



## Replaceable Insert Drills

- Reduce costs by decreasing setup 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
  - T-A® | T-A® GEN2 | T-A Pro®
  - 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

- Drill large diameter holes and maximize penetration rates even on low horsepower machines
- Delivers strength and versatility needed for any deep hole drilling application
- 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-to-machine materials
- Available in multiple lengths and diameters
- T-A® style drills have different insert geometry options to improve performance, depending on material
- Products:
  - T-A® | T-A® GEN2
  - 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 setup times
- Available in four industry specifications:
  - Imperial: SAE J-1926
  - Metric: ISO 6149-1:2006
  - Military: SAE AS5202
  - John 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:
  - Wohlhaupter™ Boring Tools



**NOTE:** Adjustment accuracy of 0.0001" or 0.002mm on diameter

## CRITERION®

### Modular Boring Systems

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



## S.C.A.M.I.®

### 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
- Holds tight tolerances to ensure processes are performed to accurate specifications
- Reduces tooling costs because many items are available for reconditioning
- 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
- Covers a wide range of thread forms
- Provides optimal solutions for both high production projects and short-run applications
- Products
  - AccuThread™ 856
  - AccuThread™ T3
  - ThreadMills USA™



## Replaceable Insert Thread Mills

- Three 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
- Increases 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 Superior® 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.



Insta-Quote® 



 **SUPERIOR**



# ToolMD™

**Increase the production and success of your applications today.**

- 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

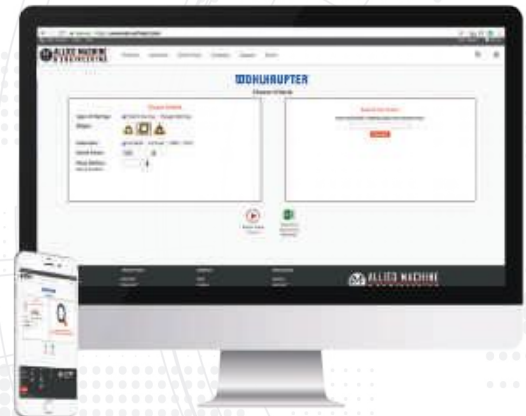


[toolmd.com](http://toolmd.com)

## 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
- Order easily by adding the item to your cart



[alliedmachine.com/bis](http://alliedmachine.com/bis)

## Product Selector

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

- Follow guided steps to generate the right tool for your application
- Learn about your recommended tool and how to maximize its performance



[alliedmachine.com/productselector](http://alliedmachine.com/productselector)

# Insta-Code®

**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



Insta-Code also has a  
**Cycle Time Calculator**

[alliedmachine.com/InstaCode](http://alliedmachine.com/InstaCode)

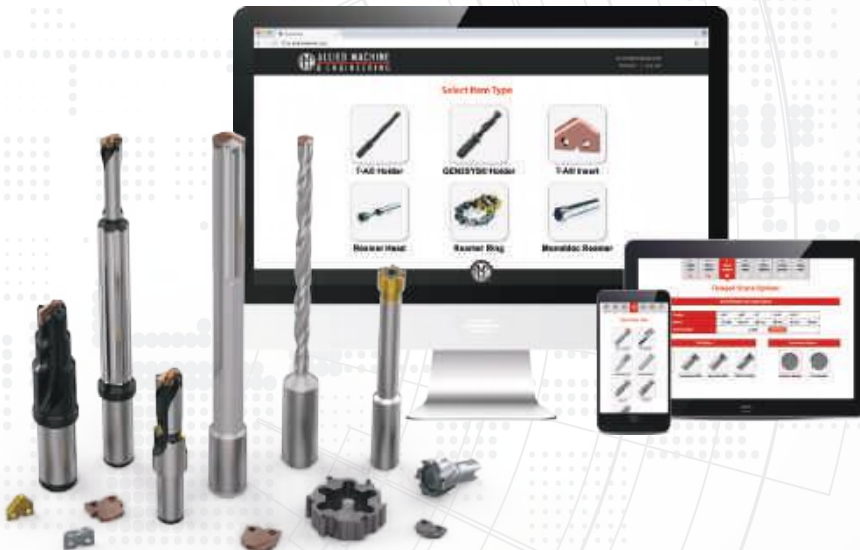


# Insta-Quote®

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

- Design and quote your own tooling
- Generate the solution you need in just a few steps
- Features the following products

- T-A® Inserts
- T-A® Holders
- GEN3SYS® XT Holders
- ALVAN® Reamers



[iq.alliedmachine.com](http://iq.alliedmachine.com)

## Solution Hub App

**All Allied all the time.**

- Quickly look up product information
- Links to our free online tools
- Locate distributors
- Stay up to date on news and events



## 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



# Customer Support

## Support You Can Count On

Allied Machine has many lines of support to ensure we're available to assist you at all times. It's important to establish relationships with new customers, but we also know it's equally important to strengthen and support relationships with existing customers. Whether you need help with an order or you need someone to come assist you at the spindle, we have the right people to get you what you need.



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### Inside Sales Support

Our inside sales team is trained to handle your account information and general inquiries. We are happy to assist you and find the answers to your questions.

☎ 1.330.343.4283 ext. 8610

☎ 1.800.321.5537 (toll free United States and Canada)

✉ [insidesales@alliedmachine.com](mailto:insidesales@alliedmachine.com)



2

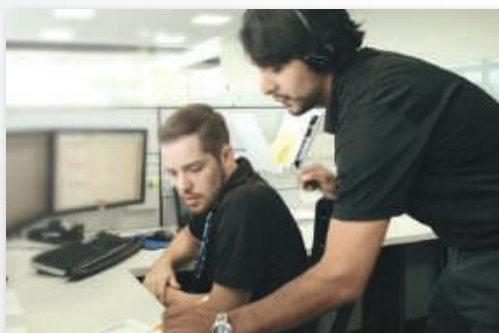
### Engineering Support

Our highly trained and skilled Application Engineers are here to assist you. If you are experiencing technical difficulties, our engineers will recommend the best solutions to the problem. Speeds and feeds, coolant pressure, and other machining components all affect the performance of our tooling. Our AEs are experienced in working with difficult materials in many different environments. Give us a call and put our knowledge to the test.

☎ 1.330.343.4283 ext. 7611

☎ 1.800.321.5537 (toll free United States and Canada)

✉ [appeng@alliedmachine.com](mailto:appeng@alliedmachine.com)



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### Field Support

Allied Machine provides local engineering support all over the world. Our Field Sales Engineers (FSEs) spend months training in-house before going to the field. This support line allows us to provide assistance to our customers right at the spindle. They are available to visit your facility, run demos and tests, and work hand-in-hand with machine operators and engineers to find the best possible tooling solutions.

NOTE: If you do not know your local FSE, please contact us

☎ 1.330.343.4283

☎ 1.800.321.5537 (toll free United States and Canada)

✉ [info@alliedmachine.com](mailto:info@alliedmachine.com)





# Allied Tool Academy

Online | On-site Technical Education Seminar (TES) | LIVE (Broadcasting)

## Online Training

Get **all** the tooling training of our 3-day in-person Technical Education Seminar (TES) through the online **Allied Tool Academy** training platform. Level up your tooling IQ through a series of product overviews, demos, and short quizzes.

- Online TES Certification as well as other training modules
- On demand
- On YOUR schedule



Register online today:  
[www.alliedtoolacademy.com](http://www.alliedtoolacademy.com)



Register online today:  
[www.alliedmachine.com/live](http://www.alliedmachine.com/live)

## Allied LIVE (Broadcasting)

Join us for **LIVE broadcast** training events where you will have the ability to learn about our tooling, watch live demos, and ask our trainers questions.

- Online
- Quick brief presentation provides basic knowledge of our products
- Watch live demos of tools at the spindle at different speeds and feeds

## On-site Technical Education Seminar (TES)

Allied Machine's **Technical Education Seminar (TES)** puts the attendees in front of the machines. When you attend our three day TES program, you'll gain first-hand experience in **real-life** application situations. Test and experiment with different speeds and feeds, observe the results, and discover the best solution.

- Training Lab: In-depth training at the spindle allows you to choose speeds and feeds
- Learning Lab: Quick, brief sessions provide basic knowledge of our products
- Facility Tours: Take guided tours of our two manufacturing facilities located in Dover, Ohio



Register online today:  
[www.alliedmachine.com/TES](http://www.alliedmachine.com/TES)



Allied Machine  
Training Facility  
485 West 3rd Street  
Dover, OH 44622



## Find what you need. Now.

Flipbooks give you the ability to search for specific item numbers, download PDFs, print pages, and share with others. Save time searching the catalog by hand by using the easy search function. View our flipbooks now at [alliedmachine.com/support/literature](http://alliedmachine.com/support/literature).

The diagram illustrates the features and navigation of the Allied Machine Engineering flipbook interface. The main interface is shown on a tablet, displaying a technical drawing of a drill bit. A search bar is located in the top right corner, and a search results panel is shown on the right side of the tablet. The search results panel displays the search term "D2031200M-075F" and the results "1 page found." Below the search results, a table of data is shown, including item numbers and dimensions.

Key features and navigation options are highlighted:

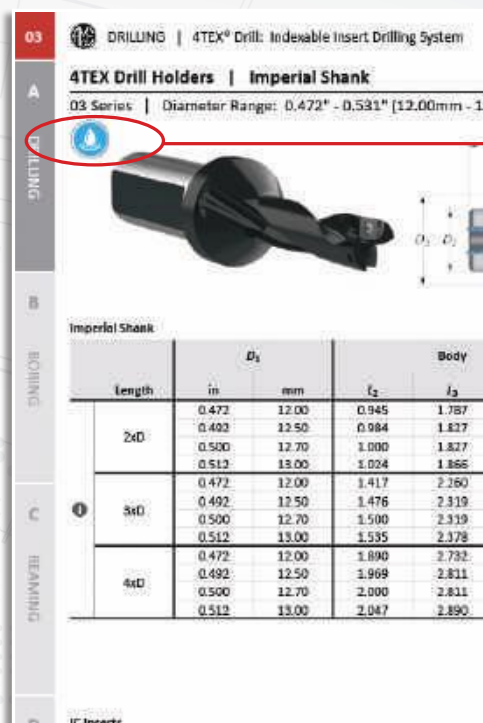
- Search:** A search bar in the top right corner of the flipbook interface.
- Search Results:** A panel on the right side of the flipbook showing the search term "D2031200M-075F" and the results "1 page found." Below the search results, a table of data is shown, including item numbers and dimensions.
- Table of Contents:** A sidebar on the left side of the flipbook showing a list of sections: Product Overview, Drill Series, Accessories, Technical Information, Recommended Cutting Data, Troubleshooting, Guarantee Test / Demo Application, and Remanufacture.
- Navigation:** A set of icons at the bottom of the flipbook interface for navigating through the pages, including a back arrow, a home icon, a forward arrow, a search icon, a zoom in icon, a zoom out icon, a full screen icon, and a share icon.
- Share:** A "Share" dialog box at the bottom left showing a QR code and a link to the flipbook: <https://alliedmachine.cld.bz/ATEX-Drill>. It also includes a "Copy" button and social media sharing options for Facebook, Twitter, LinkedIn, and Email.
- Print:** A "Print" dialog box at the bottom right showing a "Please, choose what you want to print:" dropdown menu with "Current Left Page (0.21 MB)" selected. It includes a "Click print button, wait for the file to download and send it to printing." instruction and a "Print" button.

Additional navigation options are shown below the tablet:

- View the table of contents:** A button with a list icon.
- Add notes:** A button with a notepad icon.
- Scroll through the pages in thumbnail view:** A button with a thumbnail grid icon.
- Mute the sound:** A button with a speaker icon and a mute symbol.
- Zoom in for a closer look:** A button with a magnifying glass icon.
- View in full screen mode:** A button with a full screen icon.
- Share the Flipbook with others:** A button with a share icon.
- Download the catalog PDF:** A button with a download icon.
- Print the full catalog or specific pages:** A button with a print icon.

Share the link to each Flipbook via email and social media.

# Icon Reference Guide



## Navigate with ease.

The following icons will appear throughout the catalog to help you navigate between products and find the best solution quickly.

### Coating Options

AM200

AM200 Coating

AM300

AM300 Coating

AM210

AM210 Coating

AM420

AM420 Coating

TiCN

TiCN Coating

TiN

TiN Coating

TiAlN

TiAlN Coating

### Tool Options

Straight  
Shank

Straight Shank

Morse  
Taper

Morse Taper Shank



Coolant Through

# GEN3SYS® XT and XT Pro

High Penetration Replaceable Insert Drilling System | GEN3SYS XT | GEN3SYS XT Pro

► **Diameter Range:** 0.4331" - 1.3780" (11.00mm - 35.00mm)



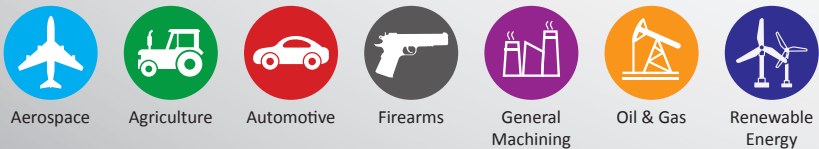
## The Next Generation of Drilling

The GEN3SYS XT and XT Pro replaceable insert high penetration drilling system has been designed to provide high speed production machining beyond the capabilities of the T-A® drilling system. The product offering consists of various grades, geometries, and coatings available to suit the most demanding applications.

Conceived from the outset as the ultimate high performance drilling solution, the GEN3SYS XT drill range is incredibly versatile. Incorporating both straight and helical fluted tool holder options across the range, as well as through coolant for maximum material removal, GEN3SYS XT not only gives outstanding performance from day one, but it can also be reground for extended life and economy.

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

## Applicable Industries



Your safety and the safety of others is very important. This catalog contains important safety messages. Always read and follow all safety precautions.

This triangle is a safety hazard symbol. It alerts you to potential safety hazards that can cause tool failure and serious injury.

When you see this symbol in the catalog, look for a related safety message that may be near this triangle or referred to in the nearby text.

There are safety signal words also used in the catalog. Safety messages follow these words.

**WARNING**

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

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

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

Visit [www.alliedmachine.com](http://www.alliedmachine.com) for the most up-to-date information and procedures.

## GEN3SYS® XT and XT Pro Drilling System Contents

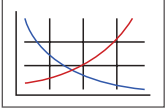
### Reference Icons

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



#### Setup / Assembly Information

Detailed instructions and information regarding the corresponding part(s)



#### Recommended Cutting Data

Speed and feed recommendations for optimum and safe boring

### Introduction Information

|                                        |         |
|----------------------------------------|---------|
| Why You Should Use the Pro             | 2 - 3   |
| Test Results and Case Study            | 4 - 5   |
| GEN3SYS XT Pro Inserts                 | 6       |
| GEN3SYS XT Inserts                     | 7       |
| Insert Comparison and Assembly Details | 8       |
| Holder Comparison and Overview         | 9       |
| Product Nomenclature                   | 10 - 11 |

| Series | Diameter Range  |               |
|--------|-----------------|---------------|
|        | Imperial (inch) | Metric (mm)   |
| 11     | 0.4331 - 0.4723 | 11.00 - 11.99 |
| 12     | 0.4724 - 0.5117 | 12.00 - 12.99 |
| 13     | 0.5118 - 0.5511 | 13.00 - 13.99 |
| 14     | 0.5512 - 0.5905 | 14.00 - 14.99 |
| 15     | 0.5906 - 0.6298 | 15.00 - 15.99 |
| 16     | 0.6299 - 0.6692 | 16.00 - 16.99 |
| 17     | 0.6693 - 0.7086 | 17.00 - 17.99 |
| 18     | 0.7087 - 0.7873 | 18.00 - 19.99 |
| 20     | 0.7874 - 0.8660 | 20.00 - 21.99 |
| 22     | 0.8661 - 0.9448 | 22.00 - 23.99 |
| 24     | 0.9449 - 1.0235 | 24.00 - 25.99 |
| 26     | 1.0236 - 1.1416 | 26.00 - 28.99 |
| 29     | 1.1417 - 1.2597 | 29.00 - 31.99 |
| 32     | 1.2598 - 1.3780 | 32.00 - 35.00 |

### Drill Series

|           |         |
|-----------|---------|
| 11 Series | 12 - 15 |
| 12 Series | 16 - 19 |
| 13 Series | 20 - 23 |
| 14 Series | 24 - 27 |
| 15 Series | 28 - 31 |
| 16 Series | 32 - 35 |
| 17 Series | 36 - 39 |
| 18 Series | 40 - 43 |
| 20 Series | 44 - 47 |
| 22 Series | 48 - 51 |
| 24 Series | 52 - 55 |
| 26 Series | 56 - 59 |
| 29 Series | 60 - 63 |
| 32 Series | 64 - 67 |

### Recommended Cutting Data

|                    |                |         |
|--------------------|----------------|---------|
| Imperial<br>(inch) | GEN3SYS XT Pro | 68 - 71 |
|                    | GEN3SYS XT     | 72 - 75 |
| Metric<br>(mm)     | GEN3SYS XT Pro | 76 - 79 |
|                    | GEN3SYS XT     | 80 - 83 |

|                               |         |
|-------------------------------|---------|
| Tap Drill Conversions         | 84 - 85 |
| Deep Hole Drilling Guidelines | 86      |
| Troubleshooting Guide         | 87      |



A  
DRILLING  
  
B  
BORING  
  
C  
REAMING  
  
D  
BURNISHING  
  
E  
THREADING  
  
X  
SPECIALS

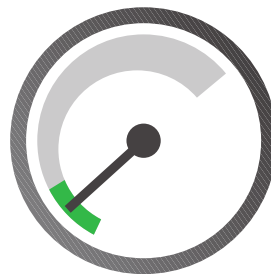
# Why should you GO WITH THE PRO?

## GEN3SYS® XT Pro

- ✓ **Up to 40% more tool life**  
with the new design for steel applications
- ✓ **Increase your penetration rates**  
with the new insert technology
- ✓ **Simplify your tooling selection**  
with new specific geometry and coating combinations
- ✓ **Increased heat resistance**  
with new AM420 coating on steel inserts
- ✓ **Increased abrasion resistance**  
with new AM440 coating on cast iron inserts
- ✓ **Improved chip evacuation**  
with enhanced flute design on new XT Pro holders
- ✓ **Increased coolant flow to the cutting zone**  
with new coolant configuration on XT Pro holders



**INCREASED**  
penetration rate by  
**67%**



Competitor Insert Penetration Rate



XT Pro Insert Penetration Rate

**Project Profile:** 7075 Aluminum

**Tooling Solution:** GEN3SYS XT Pro: N (Non-Ferrous) Geometry

### The Problem:

Previously, the customer was using a competitor drill running at the following parameters:

- 30 IPM (762 mm/min)
- Tool life = 15,000" (381 m)

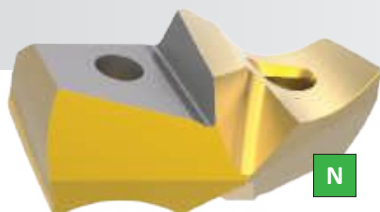
### The Solution:

Allied Machine recommended the GEN3SYS XT Pro with N (Non-Ferrous) geometry.

- **Insert** = XTN24-25.00

The tool ran at the following parameters:

- 50 IPM (1270 mm/min)
- Tool life = 26,000" (660.4 m)



### The Advantage:

The GEN3SYS XT Pro increased the penetration rate from 30 IPM to 50 IPM, while drastically increasing the tool life.

**Bottom Line:** 67% increase in penetration rate | 73% increase in tool life

**Project Profile:** Forged 8640  
**Tooling Solution:** GEN3SYS XT Pro: P (Steel) Geometry

#### The Problem:

Previously, the customer was using a competitor drill running at the following parameters:

- 415 SFM (127 M/min)
- 0.009 IPR (0.23 mm/rev)
- The tool drilled a 17.25mm diameter hole to a 20mm depth
- Tool life = **1,000 holes**

#### The Solution:

Allied Machine recommended the GEN3SYS XT Pro with P (Steel) geometry.

- Insert = XTP17-17.25

The tool ran at the following parameters:

- 415 SFM (127 M/min)
- 0.009 IPR (0.23 mm/rev)
- The tool drilled a 17.25mm diameter hole to a 20mm depth
- Tool life = **2,100 holes**

#### The Advantage:

The GEN3SYS XT Pro increased the tool life from 1,000 holes to 2,100 holes.

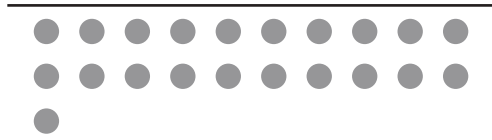
**Bottom Line:** *Doubled the tool life*

## The PROOF is in the NUMBERS

**Competitor Insert Tool Life**  
(number of holes = 1,000)



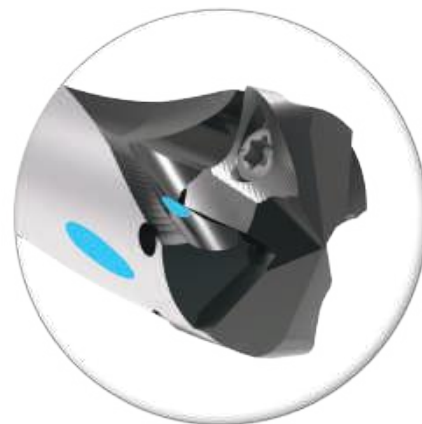
**XT Pro Insert Tool Life**  
(number of holes = 2,100)



**2x** INCREASE in tool life



## NEW HOLDER DESIGN



### Drill deeper holes

The new XT Pro holders are now available in 10xD.

- ▶ *This lets you take advantage of the XT Pro insert benefits in deep hole applications.*

### Increase your tool life

The new coolant configuration increases coolant flow and directs additional coolant to the cutting zone.

- ▶ *This increases tool life with all XT Pro inserts.*

That's why you should  
**GO WITH THE PRO**



## Competitive Test Results

# TEST RESULTS

**Project Profile:** Competitive Testing in 4150 Steel  
**Tooling Solution:** GEN3SYS XT Pro:  
Steel (P) Geometry with XT Pro Holder

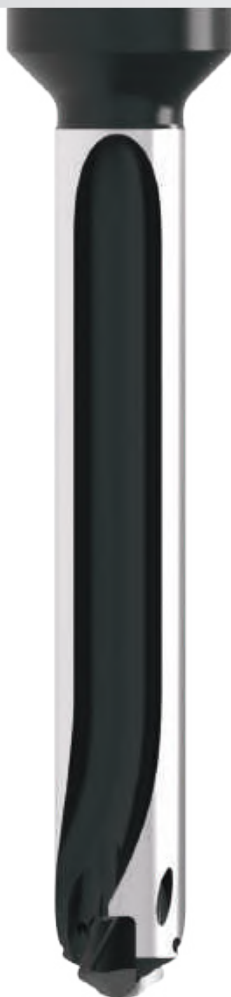
### The Parameters:

- Hole Diameter = 0.748" (19mm)
- Depth of Cut = 1-1/2" (38.1mm)
- Coolant = 300 PSI
- Speed = 1583 RPM
- Feed = 22.16 inch/min (563 mm/min)

### The Results:

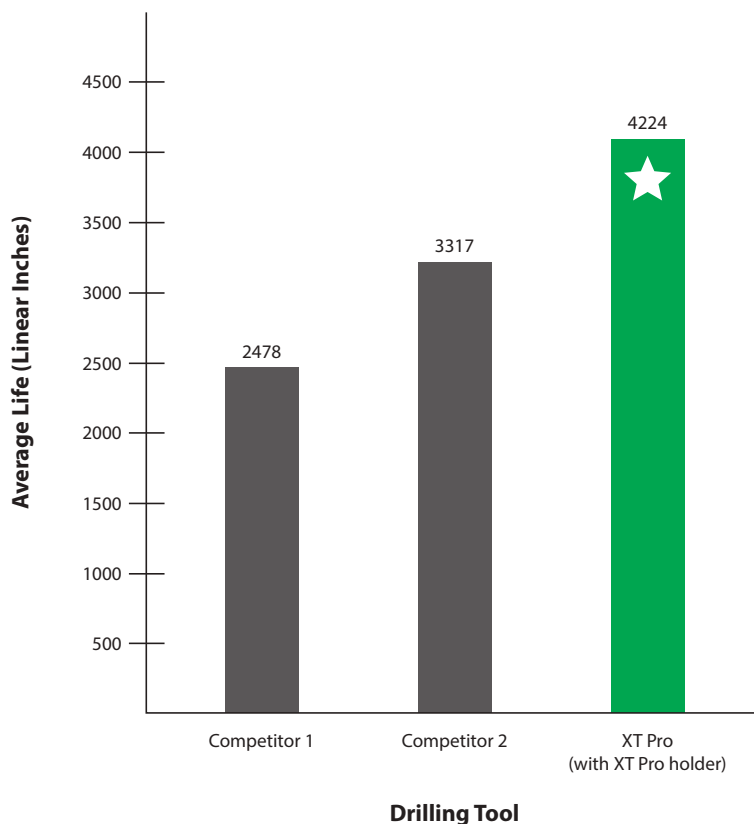
When run at the listed parameters, here is how the 3 different tooling solutions performed:

**Competitor 1** = 2478 total linear inches  
**Competitor 2** = 3317 total linear inches  
**GEN3SYS XT Pro** = 4224 total linear inches



### Average Tool Life

Test Results Drilling in 4150 Steel



## Case Study Example

# CASE STUDY

**Project Profile:** Ductile/Nodular Iron  
**Tooling Solution:** GEN3SYS XT Pro: K (Cast Iron) Geometry

### The Problem:

Previously, the customer was using a competitor drill:

- Solid carbide drill
- Tool life = **65 holes**

### The Solution:

Allied Machine recommended the GEN3SYS XT Pro with K (Cast Iron) geometry. The tool ran at the following parameters:

- Hole Diameter = 9/16"
- Coolant = None
- Speed = 390 SFM (117 M/min)
- Feed = 0.008 IPR (0.20 mm/rev)
- Tool life = **390 holes**

### The Advantage:

The GEN3SYS XT Pro increased the tool life from 65 holes to 390 holes.

**Bottom Line:** *6x the tool life*

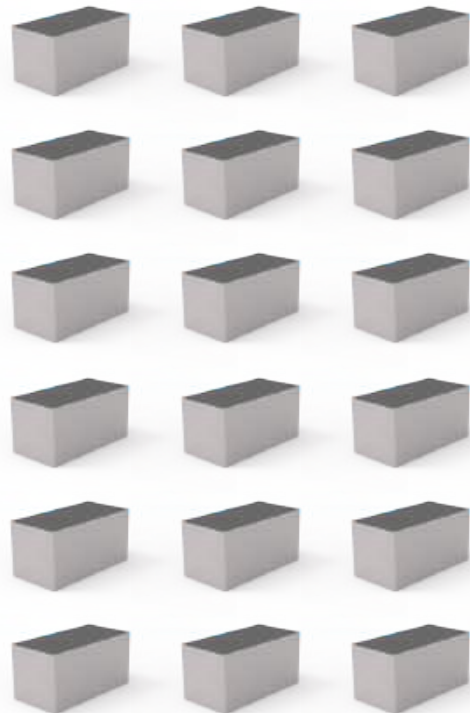


## The **PROOF** is in the **NUMBERS**

**Competitor Tool Life**  
(number of holes = 65)



**XT Pro Tool Life**  
(number of holes = 390)



## There's More to the **Advantage** than Tool Life

The XT Pro replaceable tip system provides other benefits in addition to the increase in tool life over the solid carbide drill:

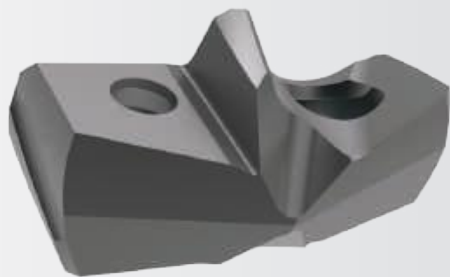
- Because only the insert needs changed when it reaches the end of its life, the XT Pro eliminates the need to re-establish tool lengths, which reduces set-up times.
- Further benefit in set-up is also seen as the tool only needs changed one time for every six of the customer's current method.
- Without the need for regrinds, the customer's stock of tooling is reduced by eliminating the need for float inventory to cover regrind lead time.

**INCREASE** in  
**6x** tool life



## GEN3SYS XT Pro Drilling System Information

## GEN3SYS XT Pro Drill Inserts



## Advanced Design Capabilities

The advanced XT Pro insert combines a coating and geometry specifically designed to achieve optimal results in ISO material drilling applications. With quick connectivity to existing GEN3SYS drill insert holders, the XT Pro insert can be interchanged with previous XT inserts with ease, resulting in minimal set-up times so you can immediately increase your productivity.

## XT Pro Inserts Connect with:



XT Pro holders



GEN3SYS holders

## P - Steels

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



## N - Non-ferrous Materials

- 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 build up



## K - Cast Irons

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

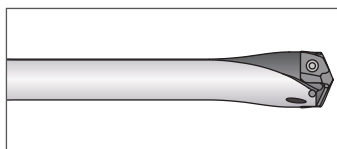


Increased Flute Area

Additional Coolant to the Cutting Zone



## XT Pro Drill Holders



Straight flutes



Enhanced coolant inlets improve the coolant flow



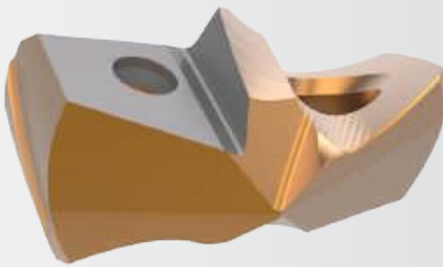
Provides increased insert life

3xD, 5xD, 7xD, 10xD

Available in 3xD, 5xD, 7xD, and 10xD

## GEN3SYS XT Drilling System Information

### GEN3SYS XT Drill Inserts



### High Penetration Drilling Solutions

The unique geometry of the XT inserts provides excellent chip control. They are designed to increase hole quality, surface finish, and true position when compared to other competitive products. The helical margin design provides maximum durability and stability.

### XT Inserts Connect with:



XT Pro holders



GEN3SYS holders

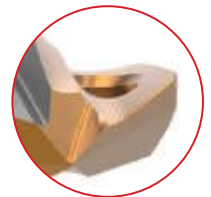
### Standard Geometry

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



### LR - Low Rake Geometry

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



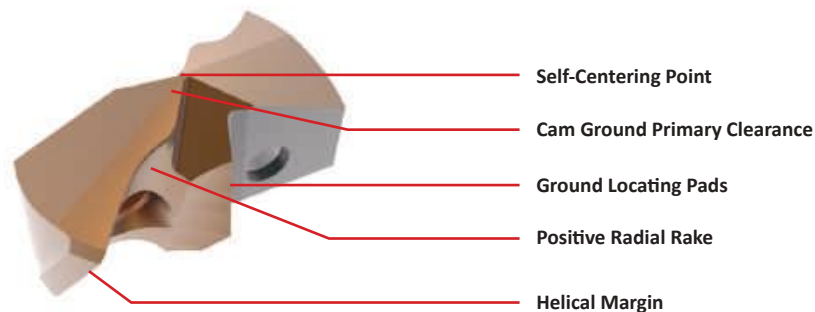
### CI - Cast Iron Geometry

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



### AS - Stainless Steel Geometry

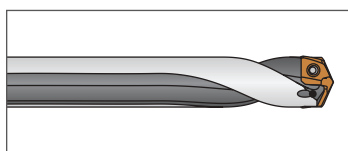
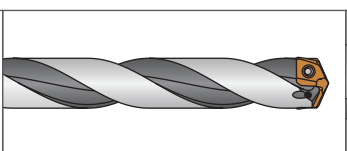
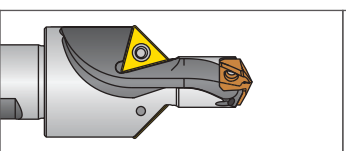
- Designed with a specific geometry to provide unmatched chip control and tool life in austenitic and PH stainless steels, as well as high temperature alloys such as Inconel, Hastelloy, and Titanium alloys
- Available in C2 carbide



| Coating | Features / Benefits                                                                                                                                                                                                      |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AM300®  | <ul style="list-style-type: none"> <li>Increased heat resistance over AM200® coating</li> <li>Up to 20% increased tool life over AM200 coating</li> <li>Provides superior tool life at high penetration rates</li> </ul> |

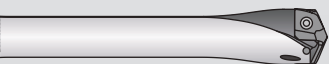


### GEN3SYS Holders

|                                                                                     |                                                                                     |                                                                                      |                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------|
|  |  |  | Stub, 3xD, 5xD, 7xD |
| Straight flutes                                                                     | Helical flutes                                                                      | Drill / chamfer style                                                                |                     |

Available in Stub, 3xD, 5xD, and 7xD

## Insert Comparison and Assembly Information

|                                           |                                                                                   | <br>XT Pro Inserts | <br>XT Inserts |
|-------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Recommended for increased productivity    |  | <input checked="" type="checkbox"/>                                                                  |                                                                                                   |
| ISO specific geometry/coating combination | <div> <div>P</div> <div>N</div> <div>K</div> </div>                               | <input checked="" type="checkbox"/>                                                                  |                                                                                                   |
| Connects with XT Pro holders              |  | <input checked="" type="checkbox"/>                                                                  | <input checked="" type="checkbox"/>                                                               |
| Connects with GEN3SYS holders             |  | <input checked="" type="checkbox"/>                                                                  | <input checked="" type="checkbox"/>                                                               |



**Step 1:**  
Align the flats on the GEN3SYS XT insert with the flats on the ears of the holder.



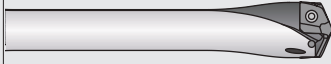
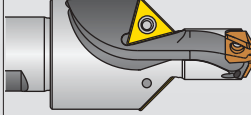
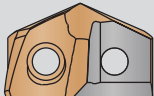
**Step 2:**  
Slide the insert into the precision ground locating pocket on the holder. The insert should not be turned, rotated, or twisted for locking purposes. The holder pocket and locating pads on the insert assure optimum fit and repeatability.



**Step 3:**  
Apply a generous amount of E-Z Break® (provided in the packaging) onto the supplied TORX® Plus screws.

Tighten the TORX Plus screws to the recommended torque value specified in the catalog by series. A preset torx driver is available to assure that the proper torque is applied.

## Holder Comparison and Overview

|                                        |                                                                                     | <br>XT Pro Holders | <br>GEN3SYS Holders |
|----------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Recommended for increased productivity |    | <input checked="" type="checkbox"/>                                                                  |                                                                                                        |
| Straight flute                         |    | <input checked="" type="checkbox"/>                                                                  | <input checked="" type="checkbox"/>                                                                    |
| Helical flute                          |    |                                                                                                      | <input checked="" type="checkbox"/>                                                                    |
| Drill/chamfer option                   |    |                                                                                                      | <input checked="" type="checkbox"/>                                                                    |
| Available in 10xD length               | <b>10XD</b>                                                                         | <input checked="" type="checkbox"/>                                                                  |                                                                                                        |
| Connects with XT Pro inserts           |  | <input checked="" type="checkbox"/>                                                                  | <input checked="" type="checkbox"/>                                                                    |
| Connects with XT inserts               |  | <input checked="" type="checkbox"/>                                                                  | <input checked="" type="checkbox"/>                                                                    |

### XT Pro Holders



Straight Flute

### GEN3SYS Holders



Straight Flute



Helical Flute

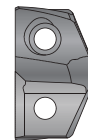


Drill/Chamfer

## Product Nomenclature

### GEN3SYS XT Pro Drill Inserts

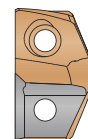
|           |          |           |   |              |
|-----------|----------|-----------|---|--------------|
| <b>XT</b> | <b>P</b> | <b>11</b> | – | <b>11.00</b> |
| 1         | 2        | 3         |   | 4            |



| 1. XT Pro Drill Insert | 2. ISO Material / Geometry                                                        | 3. Series                                                                                                                                                                                                                                                                                                                                                                                               | 4. Diameter (mm)                                                   |
|------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| XT = XT Pro insert     | <p><b>P</b> = Steel</p> <p><b>K</b> = Cast iron</p> <p><b>N</b> = Non-ferrous</p> | <p><b>11</b> = 11 series      <b>18</b> = 18 series</p> <p><b>12</b> = 12 series      <b>20</b> = 20 series</p> <p><b>13</b> = 13 series      <b>22</b> = 22 series</p> <p><b>14</b> = 14 series      <b>24</b> = 24 series</p> <p><b>15</b> = 15 series      <b>26</b> = 26 series</p> <p><b>16</b> = 16 series      <b>29</b> = 29 series</p> <p><b>17</b> = 17 series      <b>32</b> = 32 series</p> | For complete list of diameter ranges by series, see contents page. |

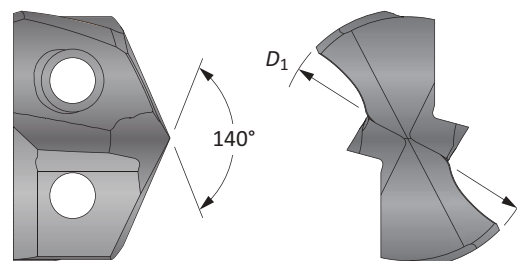
### GEN3SYS XT Drill Inserts

|          |           |           |          |   |             |           |
|----------|-----------|-----------|----------|---|-------------|-----------|
| <b>7</b> | <b>C2</b> | <b>12</b> | <b>P</b> | – | <b>.484</b> | <b>CI</b> |
| 1        | 2         | 3         | 4        |   | 5           | 6         |



| 1. XT Drill Insert | 2. Insert Material                                                      | 3. Series                                                                                                                                                                                                                                                                                                                                                                                               | 4. Coating               |
|--------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| 7 = XT insert      | <p><b>C1</b> = C1 (K35) carbide</p> <p><b>C2</b> = C2 (K20) carbide</p> | <p><b>11</b> = 11 series      <b>18</b> = 18 series</p> <p><b>12</b> = 12 series      <b>20</b> = 20 series</p> <p><b>13</b> = 13 series      <b>22</b> = 22 series</p> <p><b>14</b> = 14 series      <b>24</b> = 24 series</p> <p><b>15</b> = 15 series      <b>26</b> = 26 series</p> <p><b>16</b> = 16 series      <b>29</b> = 29 series</p> <p><b>17</b> = 17 series      <b>32</b> = 32 series</p> | <p><b>P</b> = AM300®</p> |

| 5. Diameter                                                                      | 6. Geometry                                                                                 |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <p><b>0017</b> = Inch</p> <p><b>.515</b> = Decimal</p> <p><b>13</b> = Metric</p> | <p><b>CI</b> = Cast iron</p> <p><b>LR</b> = Low rake</p> <p><b>AS</b> = Stainless steel</p> |



### Regrinding and Recoating

The GEN3SYS XT and XT Pro drilling system is so cost efficient that it eliminates the need for regrinding and recoating. However, if you choose to have your drill inserts reground, it is critical that it be done by Allied Machine. Any slight deviation in performance due to an improperly reground drill insert will more than offset any benefit from regrinding. Using our service ensures that the best tool performance is maintained in your production process. When returning tools for regrinding, please package tools carefully to avoid damage during shipment. Returning drill inserts for regrinding in their original packaging will help avoid damage during shipment. Drill inserts reground by Allied Machine are repackaged and clearly identified as “Allied Regrind” to avoid any confusion with new tools.

### Reference Key

| Symbol               | Attribute       |
|----------------------|-----------------|
| <b>D<sub>1</sub></b> | Insert diameter |

## Product Nomenclature

### GEN3SYS and XT Pro Drill Holders

|            |           |           |          |   |           |           |
|------------|-----------|-----------|----------|---|-----------|-----------|
| <b>HXT</b> | <b>03</b> | <b>12</b> | <b>S</b> | – | <b>20</b> | <b>FM</b> |
| 1          | 2         | 3         | 4        |   | 5         | 6         |



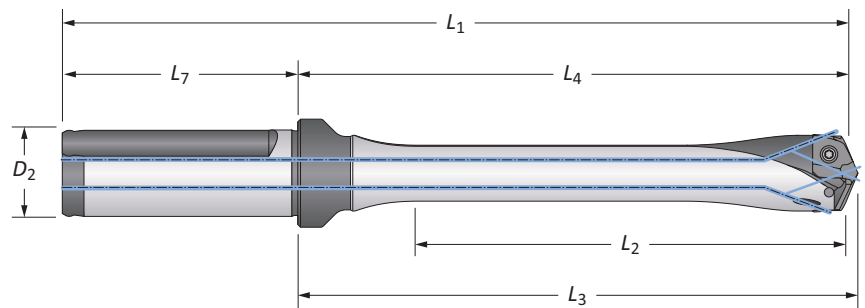
| <b>1. Holder</b><br><br>6 = GEN3SYS holder<br><br>HXT = XT Pro holder                                                                                                                                                                                                                                                                        | <b>2. Length</b><br><br>01 = Stub Length (standard only)<br><br>03 = 3x Diameter<br><br>05 = 5x Diameter<br><br>07 = 7x Diameter<br><br>10 = 10x Diameter (Pro only) | <b>3. Series</b><br><br>11 = 11 series      18 = 18 series<br>12 = 12 series      20 = 20 series<br>13 = 13 series      22 = 22 series<br>14 = 14 series      24 = 24 series<br>15 = 15 series      26 = 26 series<br>16 = 16 series      29 = 29 series<br>17 = 17 series      32 = 32 series | <b>4. Flute</b><br><br>S = Straight<br><br>H = Helical<br><br>C45 = Drill/Chamfer<br>(both helical and<br>drill/chamfer options<br>available for GEN3SYS<br>only) |            |           |            |           |          |           |              |           |              |           |                                                                                                                                                                   |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|------------|-----------|----------|-----------|--------------|-----------|--------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>5. Shank Diameter</b><br><br><table><tr><th>Imperial (inch)</th><th>Metric (mm)</th></tr><tr><td>063 = 5/8"</td><td>16 = 16mm</td></tr><tr><td>075 = 3/4"</td><td>20 = 20mm</td></tr><tr><td>100 = 1"</td><td>25 = 25mm</td></tr><tr><td>125 = 1-1/4"</td><td>32 = 32mm</td></tr><tr><td>150 = 1-1/2"</td><td>40 = 40mm</td></tr></table> |                                                                                                                                                                      | Imperial (inch)                                                                                                                                                                                                                                                                                | Metric (mm)                                                                                                                                                       | 063 = 5/8" | 16 = 16mm | 075 = 3/4" | 20 = 20mm | 100 = 1" | 25 = 25mm | 125 = 1-1/4" | 32 = 32mm | 150 = 1-1/2" | 40 = 40mm | <b>6. Shank Style</b><br><br>F = Flanged with flat<br><br>FM = Flanged metric with flat<br><br>C = Cylindrical (no flat)<br><br>CM = Cylindrical metric (no flat) |  |
| Imperial (inch)                                                                                                                                                                                                                                                                                                                              | Metric (mm)                                                                                                                                                          |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                   |            |           |            |           |          |           |              |           |              |           |                                                                                                                                                                   |  |
| 063 = 5/8"                                                                                                                                                                                                                                                                                                                                   | 16 = 16mm                                                                                                                                                            |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                   |            |           |            |           |          |           |              |           |              |           |                                                                                                                                                                   |  |
| 075 = 3/4"                                                                                                                                                                                                                                                                                                                                   | 20 = 20mm                                                                                                                                                            |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                   |            |           |            |           |          |           |              |           |              |           |                                                                                                                                                                   |  |
| 100 = 1"                                                                                                                                                                                                                                                                                                                                     | 25 = 25mm                                                                                                                                                            |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                   |            |           |            |           |          |           |              |           |              |           |                                                                                                                                                                   |  |
| 125 = 1-1/4"                                                                                                                                                                                                                                                                                                                                 | 32 = 32mm                                                                                                                                                            |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                   |            |           |            |           |          |           |              |           |              |           |                                                                                                                                                                   |  |
| 150 = 1-1/2"                                                                                                                                                                                                                                                                                                                                 | 40 = 40mm                                                                                                                                                            |                                                                                                                                                                                                                                                                                                |                                                                                                                                                                   |            |           |            |           |          |           |              |           |              |           |                                                                                                                                                                   |  |

#### Holder Ordering Information

The series designator (11 series, 12 series, etc.) in the top corner of each page is for your reference when ordering. Please refer to these series designators when placing an order. For example, a 12 series drill insert only fits into a 12 series holder.

#### Reference Key

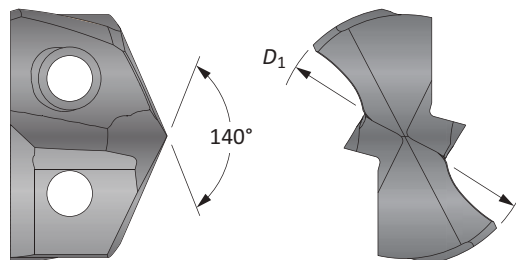
| Symbol | Attribute                     |
|--------|-------------------------------|
| $D_2$  | Shank diameter                |
| $D_5$  | Step diameter (drill/chamfer) |
| $L_1$  | Overall length                |
| $L_2$  | Drill depth                   |
| $L_3$  | Holder reference length       |
| $L_4$  | Holder body length            |
| $L_5$  | Step length (drill/chamfer)   |
| $L_7$  | Shank length                  |
| $P_1$  | Rear pipe tap (GEN3SYS)       |





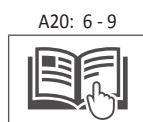
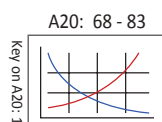
## GEN3SYS XT Pro Drill Inserts

11 Series | Diameter Range: 0.4331" - 0.4723" (11.00mm - 11.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.4331     | 11.00    | XTP11-11.00                                                                       | XTK11-11.00                                                                         | XTN11-11.00                                                                         |
| 7/16                  | 0.4375     | 11.11    | XTP11-11.11                                                                       | XTK11-11.11                                                                         | XTN11-11.11                                                                         |
| –                     | 0.4409     | 11.20    | XTP11-11.20                                                                       | XTK11-11.20                                                                         | XTN11-11.20                                                                         |
| –                     | 0.4449     | 11.30    | XTP11-11.30                                                                       | XTK11-11.30                                                                         | XTN11-11.30                                                                         |
| –                     | 0.4488     | 11.40    | XTP11-11.40                                                                       | XTK11-11.40                                                                         | XTN11-11.40                                                                         |
| –                     | 0.4528     | 11.50    | XTP11-11.50                                                                       | XTK11-11.50                                                                         | XTN11-11.50                                                                         |
| 29/64                 | 0.4531     | 11.51    | XTP11-11.51                                                                       | XTK11-11.51                                                                         | XTN11-11.51                                                                         |
| –                     | 0.4567     | 11.60    | XTP11-11.60                                                                       | XTK11-11.60                                                                         | XTN11-11.60                                                                         |
| –                     | 0.4606     | 11.70    | XTP11-11.70                                                                       | XTK11-11.70                                                                         | XTN11-11.70                                                                         |
| –                     | 0.4646     | 11.80    | XTP11-11.80                                                                       | XTK11-11.80                                                                         | XTN11-11.80                                                                         |
| 15/32                 | 0.4688     | 11.91    | XTP11-11.91                                                                       | XTK11-11.91                                                                         | XTN11-11.91                                                                         |

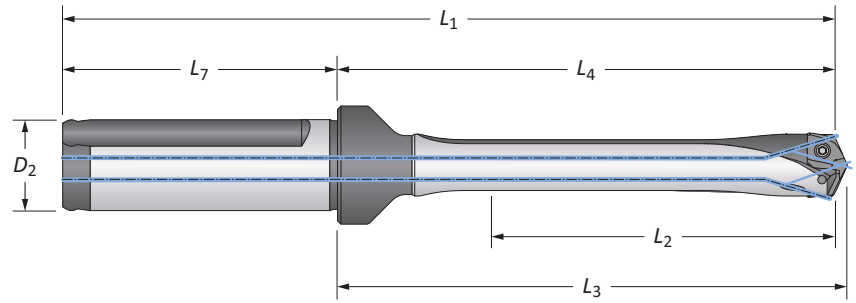
Inserts sold in multiples of 1



|                                                                                                |                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                                                               | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                                                                 | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

11 Series | Diameter Range: 0.4331" - 0.4723" (11.00mm - 11.99mm)



|          |  | Body   |                |                |                |                | Shank          |                |      | Part No.        |
|----------|--|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------|
| Flute    |  | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                 |
| <b>i</b> |  | 3xD    | 1-27/64        | 2-29/64        | 2-17/32        | 4-21/64        | 1-7/8          | 5/8            | YES  | HXT0311S-063F   |
|          |  | 3xD    | 1-27/64        | 2-29/64        | 2-17/32        | 4-21/64        | 1-7/8          | 5/8            | NO   | HXT0311S-063C   |
|          |  | 5xD    | 2-23/64        | 3-13/32        | 3-31/64        | 5-9/32         | 1-7/8          | 5/8            | YES  | HXT0511S-063F   |
|          |  | 5xD    | 2-23/64        | 3-13/32        | 3-31/64        | 5-9/32         | 1-7/8          | 5/8            | NO   | HXT0511S-063C   |
|          |  | 7xD    | 3-19/64        | 4-11/32        | 4-27/64        | 6-7/32         | 1-7/8          | 5/8            | YES  | HXT0711S-063F   |
|          |  | 7xD    | 3-19/64        | 4-11/32        | 4-27/64        | 6-7/32         | 1-7/8          | 5/8            | NO   | HXT0711S-063C   |
|          |  | 10xD   | 4-23/32        | 5-49/64        | 5-27/32        | 7-41/64        | 1-7/8          | 5/8            | YES  | ⚠ HXT1011S-063F |
|          |  | 10xD   | 4-23/32        | 5-49/64        | 5-27/32        | 7-41/64        | 1-7/8          | 5/8            | NO   | ⚠ HXT1011S-063C |
| <b>m</b> |  | 3xD    | 36.0           | 62.6           | 64.4           | 110.6          | 48.0           | 16.0           | YES  | HXT0311S-16FM   |
|          |  | 3xD    | 36.0           | 62.6           | 64.4           | 110.6          | 48.0           | 16.0           | NO   | HXT0311S-16CM   |
|          |  | 5xD    | 60.0           | 86.6           | 88.4           | 134.6          | 48.0           | 16.0           | YES  | HXT0511S-16FM   |
|          |  | 5xD    | 60.0           | 86.6           | 88.4           | 134.6          | 48.0           | 16.0           | NO   | HXT0511S-16CM   |
|          |  | 7xD    | 83.7           | 110.6          | 112.4          | 158.6          | 48.0           | 16.0           | YES  | HXT0711S-16FM   |
|          |  | 7xD    | 83.7           | 110.6          | 112.4          | 158.6          | 48.0           | 16.0           | NO   | HXT0711S-16CM   |
|          |  | 10xD   | 119.9          | 146.6          | 148.4          | 194.6          | 48.0           | 16.0           | YES  | ⚠ HXT1011S-16FM |
|          |  | 10xD   | 119.9          | 146.6          | 148.4          | 194.6          | 48.0           | 16.0           | NO   | ⚠ HXT1011S-16CM |

## Connection Accessories

|               |               |                           |                  |                               |
|---------------|---------------|---------------------------|------------------|-------------------------------|
|               |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 71843-IP6-1   | 8IP-6         | 8IP-6TL                   | 8IP-6B           | 4.4 in-lbs (50 N-cm)          |

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

**⚠ WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

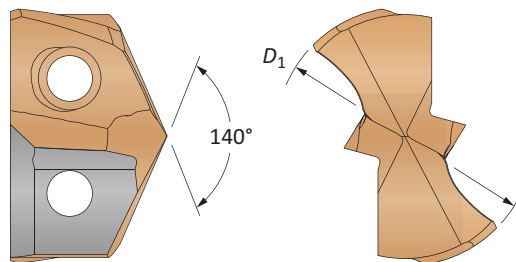
**i** = Imperial (in)  
**m** = Metric (mm)

Screws sold in multiples of 10



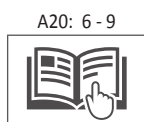
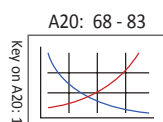
## GEN3SYS XT Drill Inserts

11 Series | Diameter Range: 0.4331" - 0.4723" (11.00mm - 11.99mm)



| Carbide Substrate | Insert                |                     |                   |  |  |  |  |
|-------------------|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| C1<br>(K35)       | —                     | 0.4331              | 11.00             | <b>7C111P-11</b>                                                                  | <b>7C111P-11LR</b>                                                                 | —                                                                                   | —                                                                                   |
|                   | 7/16                  | 0.4375              | 11.11             | <b>7C111P-0014</b>                                                                | <b>7C111P-0014LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | —                     | 0.4528              | 11.50             | <b>7C111P-11.5</b>                                                                | <b>7C111P-11.5LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | 29/64                 | 0.4531              | 11.51             | <b>7C111P-.453</b>                                                                | <b>7C111P-.453LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | 15/32                 | 0.4688              | 11.91             | <b>7C111P-0015</b>                                                                | <b>7C111P-0015LR</b>                                                               | —                                                                                   | —                                                                                   |
| C2<br>(K20)       | —                     | 0.4331              | 11.00             | <b>7C211P-11</b>                                                                  | <b>7C211P-11LR</b>                                                                 | <b>7C211P-11CI</b>                                                                  | <b>7C211P-11AS</b>                                                                  |
|                   | 7/16                  | 0.4375              | 11.11             | <b>7C211P-0014</b>                                                                | <b>7C211P-0014LR</b>                                                               | <b>7C211P-0014CI</b>                                                                | <b>7C211P-0014AS</b>                                                                |
|                   | —                     | 0.4528              | 11.50             | <b>7C211P-11.5</b>                                                                | <b>7C211P-11.5LR</b>                                                               | <b>7C211P-11.5CI</b>                                                                | <b>7C211P-11.5AS</b>                                                                |
|                   | 29/64                 | 0.4531              | 11.51             | <b>7C211P-.453</b>                                                                | <b>7C211P-.453LR</b>                                                               | <b>7C211P-.453CI</b>                                                                | <b>7C211P-.453AS</b>                                                                |
|                   | 15/32                 | 0.4688              | 11.91             | <b>7C211P-0015</b>                                                                | <b>7C211P-0015LR</b>                                                               | <b>7C211P-0015CI</b>                                                                | <b>7C211P-0015AS</b>                                                                |

Inserts sold in multiples of 1

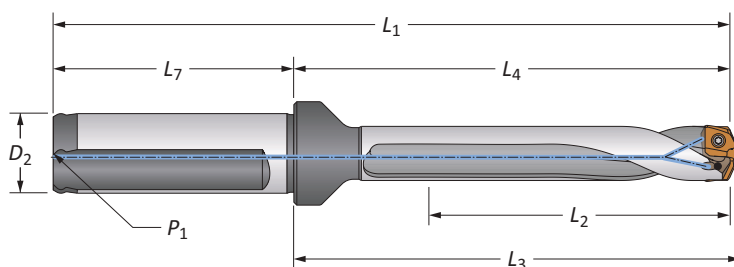


Sizes not shown are available upon request.  
When ordering, please follow the example below:

|                  |                                                           |
|------------------|-----------------------------------------------------------|
| <b>Imperial:</b> | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>   | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

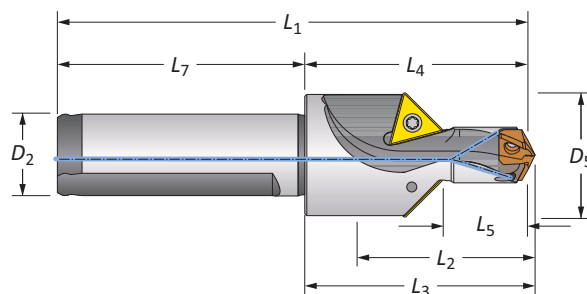
11 Series | Diameter Range: 0.4331" - 0.4723" (11.00mm - 11.99mm)



### Straight and Helical

|   | Flute    | Length | Body           |                |                |                | Shank          |                |                |      | Part No.    |
|---|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-------------|
|   |          |        | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | P <sub>1</sub> | Flat |             |
| i | Straight | 3xD    | 1-27/64        | 2-29/64        | 2-17/32        | 4-21/64        | 1-7/8          | 5/8            | 1/16           | YES  | 60311S-063F |
|   |          | 5xD    | 2-23/64        | 3-13/32        | 3-31/64        | 5-9/32         | 1-7/8          | 5/8            | 1/16           | YES  | 60511S-063F |
|   |          | 7xD    | 3-19/64        | 4-11/32        | 4-27/64        | 6-7/32         | 1-7/8          | 5/8            | 1/16           | YES  | 60711S-063F |
|   | Helical  | Stub   | 5/8            | 1-43/64        | 1-3/4          | 3-35/64        | 1-7/8          | 5/8            | 1/16           | YES  | 60111H-063F |
|   |          | 3xD    | 1-27/64        | 2-29/64        | 2-17/32        | 4-21/64        | 1-7/8          | 5/8            | 1/16           | YES  | 60311H-063F |
|   |          | 3xD    | 1-27/64        | 2-29/64        | 2-17/32        | 4-21/64        | 1-7/8          | 5/8            | 1/16           | NO   | 60311H-063C |
|   |          | 5xD    | 2-23/64        | 3-13/32        | 3-31/64        | 5-9/32         | 1-7/8          | 5/8            | 1/16           | YES  | 60511H-063F |
|   |          | 5xD    | 2-23/64        | 3-13/32        | 3-31/64        | 5-9/32         | 1-7/8          | 5/8            | 1/16           | NO   | 60511H-063C |
|   |          | 7xD    | 3-19/64        | 4-11/32        | 4-27/64        | 6-7/32         | 1-7/8          | 5/8            | 1/16           | YES  | 60711H-063F |
|   |          | 7xD    | 3-19/64        | 4-11/32        | 4-27/64        | 6-7/32         | 1-7/8          | 5/8            | 1/16           | NO   | 60711H-063C |
|   | Straight | 3xD    | 36.0           | 62.6           | 64.4           | 110.6          | 48.0           | 16.0           | 1/16*          | YES  | 60311S-16FM |
|   |          | 5xD    | 60.0           | 86.6           | 88.4           | 134.6          | 48.0           | 16.0           | 1/16*          | YES  | 60511S-16FM |
|   |          | 7xD    | 83.7           | 110.6          | 112.4          | 158.6          | 48.0           | 16.0           | 1/16*          | YES  | 60711S-16FM |
|   |          | Stub   | 16.0           | 42.6           | 44.7           | 90.6           | 48.0           | 16.0           | 1/16*          | YES  | 60111H-16FM |
|   |          | 3xD    | 36.0           | 62.6           | 64.4           | 110.6          | 48.0           | 16.0           | 1/16*          | YES  | 60311H-16FM |
|   |          | 3xD    | 36.0           | 62.6           | 64.4           | 110.6          | 48.0           | 16.0           | 1/16*          | NO   | 60311H-16CM |
|   |          | 5xD    | 60.0           | 86.6           | 88.4           | 134.6          | 48.0           | 16.0           | 1/16*          | YES  | 60511H-16FM |
| m | Helical  | 5xD    | 60.0           | 86.6           | 88.4           | 134.6          | 48.0           | 16.0           | 1/16*          | NO   | 60511H-16CM |
|   |          | 7xD    | 83.7           | 110.6          | 112.4          | 158.6          | 48.0           | 16.0           | 1/16*          | YES  | 60711H-16FM |
|   |          | 7xD    | 83.7           | 110.6          | 112.4          | 158.6          | 48.0           | 16.0           | 1/16*          | NO   | 60711H-16CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

|   | Step           |                | Body           |                |                |                | Shank          |                | Part No.      | Chamfer Insert |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|----------------|
|   | D <sub>5</sub> | L <sub>5</sub> | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> |               |                |
| i | 61/64          | 21/32          | 15/16          | 1-43/64        | 1-3/4          | 3-35/64        | 1-7/8          | 5/8            | 60111C45-063F | TCMT-110204    |
| m | 24.1           | 16.5           | 23.8           | 42.2           | 44.3           | 90.2           | 48.0           | 16.0           | 60111C45-16FM | TCMT-110204    |

### Connection Accessories

| Insert Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|---------------|---------------------------|------------------|-------------------------------|
| 71843-IP6-1   | 8IP-6         | 8IP-6TL                   | 8IP-6B           | 4.4 in-lbs (50 N-cm)          |

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

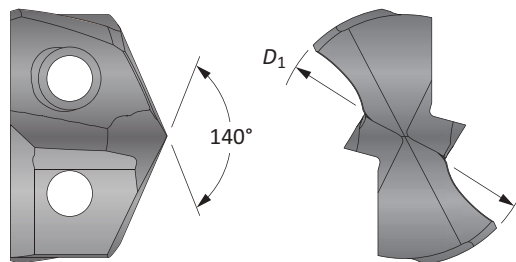
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



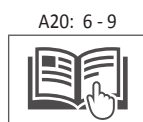
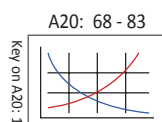
## GEN3SYS XT Pro Drill Inserts

12 Series | Diameter Range: 0.4724" - 0.5117" (12.00mm - 12.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.4724     | 12.00    | XTP12-12.00                                                                       | XTK12-12.00                                                                         | XTN12-12.00                                                                         |
| –                     | 0.4764     | 12.10    | XTP12-12.10                                                                       | XTK12-12.10                                                                         | XTN12-12.10                                                                         |
| –                     | 0.4803     | 12.20    | XTP12-12.20                                                                       | XTK12-12.20                                                                         | XTN12-12.20                                                                         |
| 31/64                 | 0.4844     | 12.30    | XTP12-12.30                                                                       | XTK12-12.30                                                                         | XTN12-12.30                                                                         |
| –                     | 0.4882     | 12.40    | XTP12-12.40                                                                       | XTK12-12.40                                                                         | XTN12-12.40                                                                         |
| –                     | 0.4921     | 12.50    | XTP12-12.50                                                                       | XTK12-12.50                                                                         | XTN12-12.50                                                                         |
| –                     | 0.4961     | 12.60    | XTP12-12.60                                                                       | XTK12-12.60                                                                         | XTN12-12.60                                                                         |
| 1/2                   | 0.5000     | 12.70    | XTP12-12.70                                                                       | XTK12-12.70                                                                         | XTN12-12.70                                                                         |
| –                     | 0.5039     | 12.80    | XTP12-12.80                                                                       | XTK12-12.80                                                                         | XTN12-12.80                                                                         |
| –                     | 0.5079     | 12.90    | XTP12-12.90                                                                       | XTK12-12.90                                                                         | XTN12-12.90                                                                         |

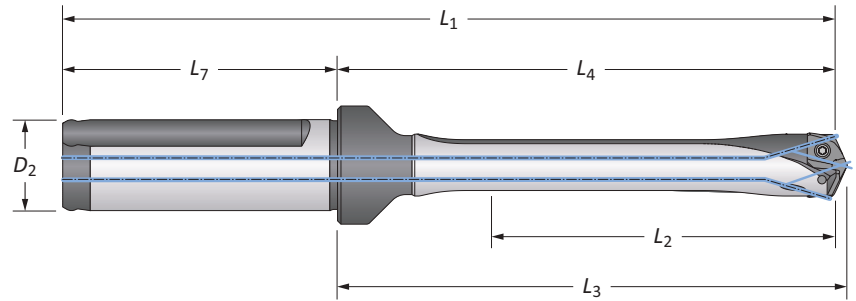
Inserts sold in multiples of 1



|                                                                                                |                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                                                               | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                                                                 | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

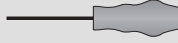
## GEN3SYS XT Pro Drill Insert Holders

12 Series | Diameter Range: 0.4724" - 0.5117" (12.00mm - 12.99mm)



| Flute                                                                                                     |          | Body   |                |                |                |                | Shank          |                |      | Part No.                                                                                            |
|-----------------------------------------------------------------------------------------------------------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------------------------------------------------------------------------------------------|
|                                                                                                           |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                                                                                                     |
| <div>i</div> <div></div> | Straight | 3xD    | 1-17/32        | 2-5/8          | 2-45/64        | 4-21/32        | 2-1/32         | 3/4            | YES  | HXT0312S-075F                                                                                       |
|                                                                                                           |          | 3xD    | 1-17/32        | 2-5/8          | 2-45/64        | 4-21/32        | 2-1/32         | 3/4            | NO   | HXT0312S-075C                                                                                       |
|                                                                                                           |          | 5xD    | 2-9/16         | 3-41/64        | 3-47/64        | 5-43/64        | 2-1/32         | 3/4            | YES  | HXT0512S-075F                                                                                       |
|                                                                                                           |          | 5xD    | 2-9/16         | 3-41/64        | 3-47/64        | 5-43/64        | 2-1/32         | 3/4            | NO   | HXT0512S-075C                                                                                       |
|                                                                                                           |          | 7xD    | 3-37/64        | 4-21/32        | 4-3/4          | 6-11/16        | 2-1/32         | 3/4            | YES  | HXT0712S-075F                                                                                       |
|                                                                                                           |          | 7xD    | 3-37/64        | 4-21/32        | 4-3/4          | 6-11/16        | 2-1/32         | 3/4            | NO   | HXT0712S-075C                                                                                       |
|                                                                                                           |          | 10xD   | 5-7/64         | 6-13/64        | 6-9/32         | 8-15/64        | 2-1/32         | 3/4            | YES  |  HXT1012S-075F   |
|                                                                                                           |          | 10xD   | 5-7/64         | 6-13/64        | 6-9/32         | 8-15/64        | 2-1/32         | 3/4            | NO   |  HXT1012S-075C   |
| <div>m</div> <div></div> | Straight | 3xD    | 39.0           | 66.6           | 68.7           | 116.6          | 50.0           | 20.0           | YES  | HXT0312S-20FM                                                                                       |
|                                                                                                           |          | 3xD    | 39.0           | 66.6           | 68.7           | 116.6          | 50.0           | 20.0           | NO   | HXT0312S-20CM                                                                                       |
|                                                                                                           |          | 5xD    | 65.0           | 92.5           | 94.7           | 142.5          | 50.0           | 20.0           | YES  | HXT0512S-20FM                                                                                       |
|                                                                                                           |          | 5xD    | 65.0           | 92.5           | 94.7           | 142.5          | 50.0           | 20.0           | NO   | HXT0512S-20CM                                                                                       |
|                                                                                                           |          | 7xD    | 90.9           | 118.3          | 120.7          | 168.3          | 50.0           | 20.0           | YES  | HXT0712S-20FM                                                                                       |
|                                                                                                           |          | 7xD    | 90.9           | 118.3          | 120.7          | 168.3          | 50.0           | 20.0           | NO   | HXT0712S-20CM                                                                                       |
|                                                                                                           |          | 10xD   | 129.9          | 157.5          | 159.7          | 207.5          | 50.0           | 20.0           | YES  |  HXT1012S-20FM  |
|                                                                                                           |          | 10xD   | 129.9          | 157.5          | 159.7          | 207.5          | 50.0           | 20.0           | NO   |  HXT1012S-20CM |

### Connection Accessories

|                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                               |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------|
|  |  |  |  |  | Admissible Tightening Torque* |
| Insert Screws                                                                       | Nylon Locking Screws                                                                | Insert Driver                                                                       | Preset Torque Hand Driver                                                            | Replacement Tips                                                                      |                               |
| 7247-IP7-1                                                                          | 7247N-IP7-1                                                                         | 8IP-7                                                                               | 8IP-7TL                                                                              | 8IP-7B                                                                                | 7.4 in-lbs (84 N-cm)          |

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

**WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

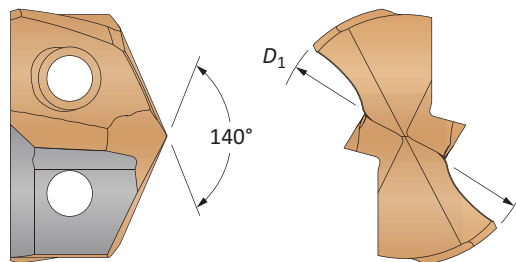
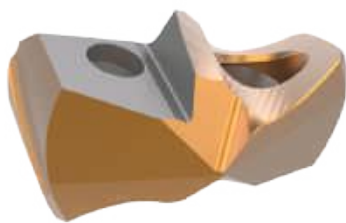
**i** = Imperial (in)  
**m** = Metric (mm)

Screws sold in multiples of 10



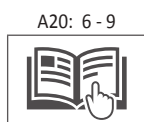
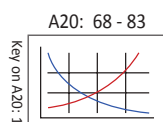
## GEN3SYS XT Drill Inserts

12 Series | Diameter Range: 0.4724" - 0.5117" (12.00mm - 12.99mm)



| Carbide Substrate | Insert                |                     |                   | Standard Part No. | Low Rake Part No. | Cast Iron Part No. | Stainless Part No. |
|-------------------|-----------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                   |                   |                    |                    |
| C1<br>(K35)       | –                     | 0.4724              | 12.00             | 7C112P-12         | 7C112P-12LR       | –                  | –                  |
|                   | 31/64                 | 0.4844              | 12.30             | 7C112P-.484       | 7C112P-.484LR     | –                  | –                  |
|                   | –                     | 0.4921              | 12.50             | 7C112P-12.5       | 7C112P-12.5LR     | –                  | –                  |
|                   | 1/2                   | 0.5000              | 12.70             | 7C112P-0016       | 7C112P-0016LR     | –                  | –                  |
| C2<br>(K20)       | –                     | 0.4724              | 12.00             | 7C212P-12         | 7C212P-12LR       | 7C212P-12CI        | 7C212P-12AS        |
|                   | 31/64                 | 0.4844              | 12.30             | 7C212P-.484       | 7C212P-.484LR     | 7C212P-.484CI      | 7C212P-.484AS      |
|                   | –                     | 0.4921              | 12.50             | 7C212P-12.5       | 7C212P-12.5LR     | 7C212P-12.5CI      | 7C212P-12.5AS      |
|                   | 1/2                   | 0.5000              | 12.70             | 7C212P-0016       | 7C212P-0016LR     | 7C212P-0016CI      | 7C212P-0016AS      |

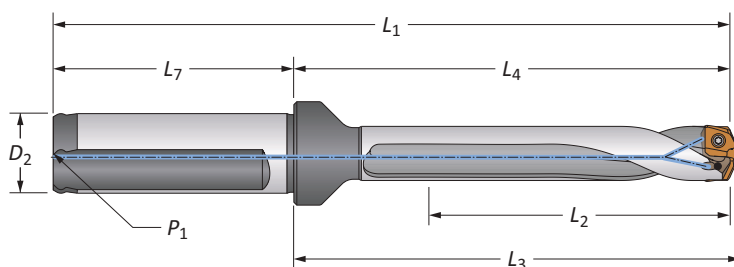
Inserts sold in multiples of 1



|                                                                                                |                                                           |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                           |
| <b>Imperial:</b>                                                                               | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                 | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

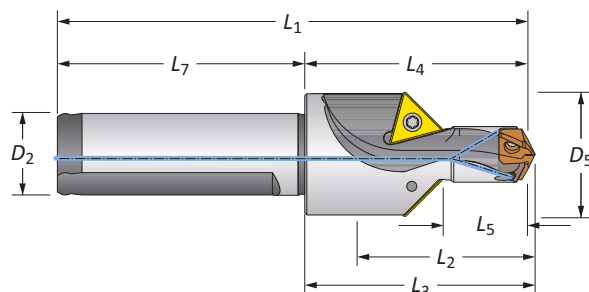
12 Series | Diameter Range: 0.4724" - 0.5117" (12.00mm - 12.99mm)



### Straight and Helical

|   | Flute    | Length | Body    |         |         |         | Shank  |       |       |      | Part No.    |
|---|----------|--------|---------|---------|---------|---------|--------|-------|-------|------|-------------|
|   |          |        | $L_2$   | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ | $P_1$ | Flat |             |
| i | Straight | 3xD    | 1-17/32 | 2-5/8   | 2-45/64 | 4-21/32 | 2-1/32 | 3/4   | 1/8   | YES  | 60312S-075F |
|   |          | 5xD    | 2-9/16  | 3-41/64 | 3-47/64 | 5-43/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60512S-075F |
|   |          | 7xD    | 3-37/64 | 4-21/32 | 4-3/4   | 6-11/16 | 2-1/32 | 3/4   | 1/8   | YES  | 60712S-075F |
|   | Helical  | Stub   | 5/8     | 1-45/64 | 1-25/32 | 3-47/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60112H-075F |
|   |          | 3xD    | 1-17/32 | 2-5/8   | 2-45/64 | 4-21/32 | 2-1/32 | 3/4   | 1/8   | YES  | 60312H-075F |
|   |          | 3xD    | 1-17/32 | 2-5/8   | 2-45/64 | 4-21/32 | 2-1/32 | 3/4   | 1/8   | NO   | 60312H-075C |
|   |          | 5xD    | 2-9/16  | 3-41/64 | 3-47/64 | 5-43/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60512H-075F |
|   |          | 5xD    | 2-9/16  | 3-41/64 | 3-47/64 | 5-43/64 | 2-1/32 | 3/4   | 1/8   | NO   | 60512H-075C |
|   |          | 7xD    | 3-37/64 | 4-21/32 | 4-3/4   | 6-11/16 | 2-1/32 | 3/4   | 1/8   | YES  | 60712H-075F |
|   |          | 7xD    | 3-37/64 | 4-21/32 | 4-3/4   | 6-11/16 | 2-1/32 | 3/4   | 1/8   | NO   | 60712H-075C |
|   | Straight | 3xD    | 39.0    | 66.6    | 68.7    | 116.6   | 50.0   | 20.0  | 1/8*  | YES  | 60312S-20FM |
|   |          | 5xD    | 65.0    | 92.5    | 94.7    | 142.5   | 50.0   | 20.0  | 1/8*  | YES  | 60512S-20FM |
|   |          | 7xD    | 90.9    | 118.3   | 120.7   | 168.3   | 50.0   | 20.0  | 1/8*  | YES  | 60712S-20FM |
|   |          | Stub   | 16.0    | 43.2    | 45.4    | 93.2    | 50.0   | 20.0  | 1/8*  | YES  | 60112H-20FM |
|   |          | 3xD    | 39.0    | 66.6    | 68.7    | 116.6   | 50.0   | 20.0  | 1/8*  | YES  | 60312H-20FM |
|   |          | 3xD    | 39.0    | 66.6    | 68.7    | 116.6   | 50.0   | 20.0  | 1/8*  | NO   | 60312H-20CM |
|   |          | 5xD    | 65.0    | 92.5    | 94.7    | 142.5   | 50.0   | 20.0  | 1/8*  | YES  | 60512H-20FM |
| m | Helical  | 5xD    | 65.0    | 92.5    | 94.7    | 142.5   | 50.0   | 20.0  | 1/8*  | NO   | 60512H-20CM |
|   |          | 7xD    | 90.9    | 118.3   | 120.7   | 168.3   | 50.0   | 20.0  | 1/8*  | YES  | 60712H-20FM |
|   |          | 7xD    | 90.9    | 118.3   | 120.7   | 168.3   | 50.0   | 20.0  | 1/8*  | NO   | 60712H-20CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

|   | Step  |       | Body  |         |         |         | Shank  |       | Part No.      | Chamfer Insert |
|---|-------|-------|-------|---------|---------|---------|--------|-------|---------------|----------------|
|   | $D_5$ | $L_5$ | $L_2$ | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ |               |                |
| i | 31/32 | 45/64 | 63/64 | 1-45/64 | 1-25/32 | 3-47/64 | 2-1/32 | 3/4   | 60112C45-075F | TCMT-110204    |
| m | 24.8  | 18.0  | 35.2  | 43.2    | 45.4    | 93.2    | 50.0   | 20.0  | 60112C45-20FM | TCMT-110204    |

### Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7247-IP7-1    | 7247N-IP7-1          | 8IP-7         | 8IP-7TL                   | 8IP-7B           | 7.4 in-lbs (84 N-cm)          |

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

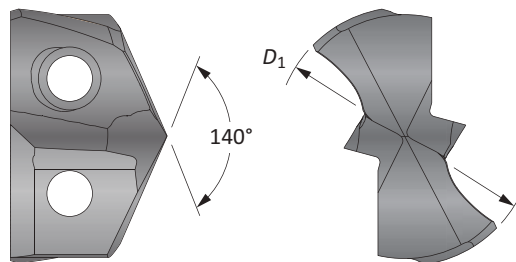
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



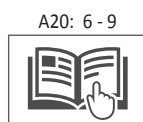
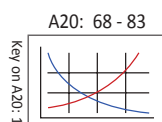
## GEN3SYS XT Pro Drill Inserts

13 Series | Diameter Range: 0.5118" - 0.5511" (13.00mm - 13.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.5118     | 13.00    | XTP13-13.00                                                                       | XTK13-13.00                                                                         | XTN13-13.00                                                                         |
| 33/64                 | 0.5156     | 13.10    | XTP13-13.10                                                                       | XTK13-13.10                                                                         | XTN13-13.10                                                                         |
| –                     | 0.5197     | 13.20    | XTP13-13.20                                                                       | XTK13-13.20                                                                         | XTN13-13.20                                                                         |
| –                     | 0.5236     | 13.30    | XTP13-13.30                                                                       | XTK13-13.30                                                                         | XTN13-13.30                                                                         |
| –                     | 0.5276     | 13.40    | XTP13-13.40                                                                       | XTK13-13.40                                                                         | XTN13-13.40                                                                         |
| 17/32                 | 0.5313     | 13.49    | XTP13-13.49                                                                       | XTK13-13.49                                                                         | XTN13-13.49                                                                         |
| –                     | 0.5315     | 13.50    | XTP13-13.50                                                                       | XTK13-13.50                                                                         | XTN13-13.50                                                                         |
| –                     | 0.5354     | 13.60    | XTP13-13.60                                                                       | XTK13-13.60                                                                         | XTN13-13.60                                                                         |
| –                     | 0.5394     | 13.70    | XTP13-13.70                                                                       | XTK13-13.70                                                                         | XTN13-13.70                                                                         |
| –                     | 0.5433     | 13.80    | XTP13-13.80                                                                       | XTK13-13.80                                                                         | XTN13-13.80                                                                         |
| 35/64                 | 0.5469     | 13.89    | XTP13-13.89                                                                       | XTK13-13.89                                                                         | XTN13-13.89                                                                         |

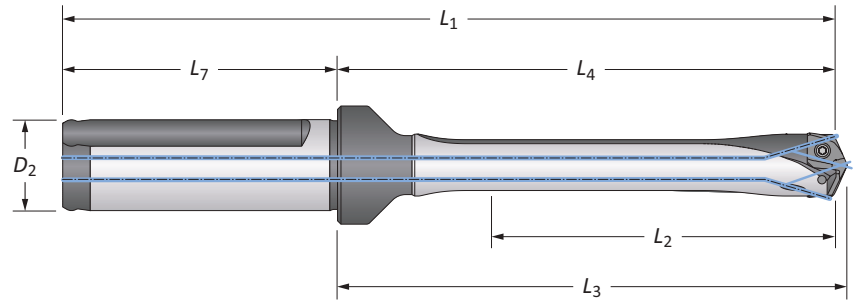
Inserts sold in multiples of 1



|                                                                                                |                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                                                               | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                                                                 | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

13 Series | Diameter Range: 0.5118" - 0.5511" (13.00mm - 13.99mm)



| Flute |          | Body   |                |                |                |                | Shank          |                |      | Part No.        |
|-------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------|
|       |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                 |
| i     | Straight | 3xD    | 1-21/32        | 2-23/32        | 2-13/16        | 4-3/4          | 2-1/32         | 3/4            | YES  | HXT0313S-075F   |
|       |          | 3xD    | 1-21/32        | 2-23/32        | 2-13/16        | 4-3/4          | 2-1/32         | 3/4            | NO   | HXT0313S-075C   |
|       |          | 5xD    | 2-3/4          | 3-13/16        | 3-29/32        | 5-27/32        | 2-1/32         | 3/4            | YES  | HXT0513S-075F   |
|       |          | 5xD    | 2-3/4          | 3-13/16        | 3-29/32        | 5-27/32        | 2-1/32         | 3/4            | NO   | HXT0513S-075C   |
|       |          | 7xD    | 3-55/64        | 4-59/64        | 5-1/64         | 6-61/64        | 2-1/32         | 3/4            | YES  | HXT0713S-075F   |
|       |          | 7xD    | 3-55/64        | 4-59/64        | 5-1/64         | 6-61/64        | 2-1/32         | 3/4            | NO   | HXT0713S-075C   |
|       |          | 10xD   | 5-33/64        | 6-37/64        | 6-43/64        | 8-39/64        | 2-1/32         | 3/4            | YES  | ⚠ HXT1013S-075F |
|       |          | 10xD   | 5-33/64        | 6-37/64        | 6-43/64        | 8-39/64        | 2-1/32         | 3/4            | NO   | ⚠ HXT1013S-075C |
| m     | Straight | 3xD    | 42.0           | 69.0           | 71.4           | 119.0          | 50.0           | 20.0           | YES  | HXT0313S-20FM   |
|       |          | 3xD    | 42.0           | 69.0           | 71.4           | 119.0          | 50.0           | 20.0           | NO   | HXT0313S-20CM   |
|       |          | 5xD    | 69.9           | 96.8           | 99.2           | 146.8          | 50.0           | 20.0           | YES  | HXT0513S-20FM   |
|       |          | 5xD    | 69.9           | 96.8           | 99.2           | 146.8          | 50.0           | 20.0           | NO   | HXT0513S-20CM   |
|       |          | 7xD    | 98.0           | 125.0          | 127.4          | 175.0          | 50.0           | 20.0           | YES  | HXT0713S-20FM   |
|       |          | 7xD    | 98.0           | 125.0          | 127.4          | 175.0          | 50.0           | 20.0           | NO   | HXT0713S-20CM   |
|       |          | 10xD   | 140.0          | 167.0          | 169.4          | 217.0          | 50.0           | 20.0           | YES  | ⚠ HXT1013S-20FM |
|       |          | 10xD   | 140.0          | 167.0          | 169.4          | 217.0          | 50.0           | 20.0           | NO   | ⚠ HXT1013S-20CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 7247-IP7-1    | 7247N-IP7-1          | 8IP-7         | 8IP-7TL                   | 8IP-7B           | 7.4 in-lbs (84 N-cm)          |

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

**⚠ WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

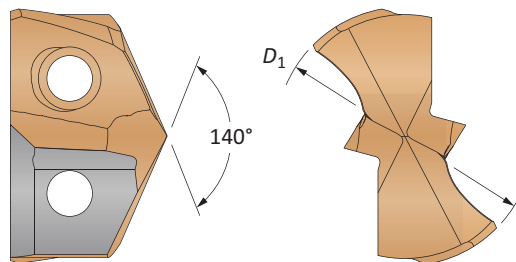
i = Imperial (in)  
m = Metric (mm)

Screws sold in multiples of 10



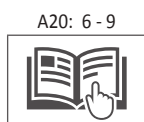
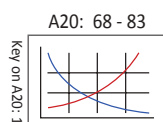
## GEN3SYS XT Drill Inserts

13 Series | Diameter Range: 0.5118" - 0.5511" (13.00mm - 13.99mm)



| Carbide Substrate | Insert                |                     |                   |  |  |  |  |
|-------------------|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| C1<br>(K35)       | —                     | 0.5118              | 13.00             | <b>7C113P-13</b>                                                                  | <b>7C113P-13LR</b>                                                                 | —                                                                                   | —                                                                                   |
|                   | 33/64                 | 0.5156              | 13.08             | <b>7C113P-.515</b>                                                                | <b>7C113P-.515LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | 17/32                 | 0.5313              | 13.49             | <b>7C113P-0017</b>                                                                | <b>7C113P-0017LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | —                     | 0.5315              | 13.50             | <b>7C113P-13.5</b>                                                                | <b>7C113P-13.5LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | 35/64                 | 0.5469              | 13.89             | <b>7C113P-.546</b>                                                                | <b>7C113P-.546LR</b>                                                               | —                                                                                   | —                                                                                   |
| C2<br>(K20)       | —                     | 0.5118              | 13.00             | <b>7C213P-13</b>                                                                  | <b>7C213P-13LR</b>                                                                 | <b>7C213P-13CI</b>                                                                  | <b>7C213P-13AS</b>                                                                  |
|                   | 33/64                 | 0.5156              | 13.08             | <b>7C213P-.515</b>                                                                | <b>7C213P-.515LR</b>                                                               | <b>7C213P-.515CI</b>                                                                | <b>7C213P-.515AS</b>                                                                |
|                   | 17/32                 | 0.5312              | 13.49             | <b>7C213P-0017</b>                                                                | <b>7C213P-0017LR</b>                                                               | <b>7C213P-0017CI</b>                                                                | <b>7C213P-0017AS</b>                                                                |
|                   | —                     | 0.5315              | 13.50             | <b>7C213P-13.5</b>                                                                | <b>7C213P-13.5LR</b>                                                               | <b>7C213P-13.5CI</b>                                                                | <b>7C213P-13.5AS</b>                                                                |
|                   | 35/64                 | 0.5469              | 13.89             | <b>7C213P-.546</b>                                                                | <b>7C213P-.546LR</b>                                                               | <b>7C213P-.546CI</b>                                                                | <b>7C213P-.546AS</b>                                                                |

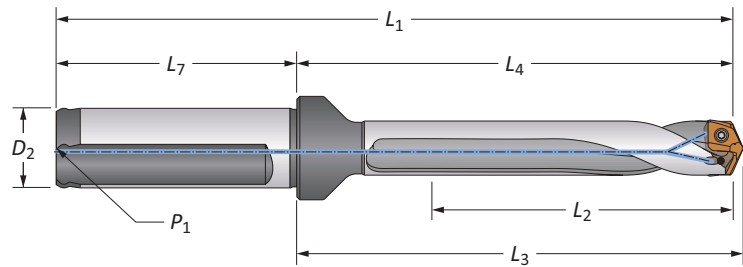
Inserts sold in multiples of 1



|                                                                                                |                                                           |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                           |
| <b>Imperial:</b>                                                                               | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                 | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

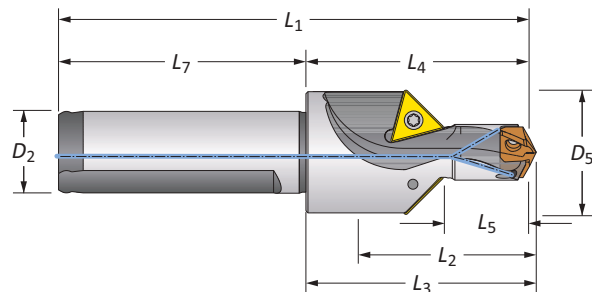
13 Series | Diameter Range: 0.5118" - 0.5511" (13.00mm - 13.99mm)



## Straight and Helical

|   | Flute    | Length | Body    |         |         |         | Shank  |       |       |      | Part No.    |
|---|----------|--------|---------|---------|---------|---------|--------|-------|-------|------|-------------|
|   |          |        | $L_2$   | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ | $P_1$ | Flat |             |
| i | Straight | 3xD    | 1-21/32 | 2-23/32 | 2-13/16 | 4-3/4   | 2-1/32 | 3/4   | 1/8   | YES  | 60313S-075F |
|   |          | 5xD    | 2-3/4   | 3-13/16 | 3-29/32 | 5-27/32 | 2-1/32 | 3/4   | 1/8   | YES  | 60513S-075F |
|   |          | 7xD    | 3-55/64 | 4-59/64 | 5-1/64  | 6-61/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60713S-075F |
|   | Helical  | Stub   | 5/8     | 1-11/16 | 1-25/32 | 3-23/32 | 2-1/32 | 3/4   | 1/8   | YES  | 60113H-075F |
|   |          | 3xD    | 1-21/32 | 2-23/32 | 2-13/16 | 4-3/4   | 2-1/32 | 3/4   | 1/8   | YES  | 60313H-075F |
|   |          | 3xD    | 1-21/32 | 2-23/32 | 2-13/16 | 4-3/4   | 2-1/32 | 3/4   | 1/8   | NO   | 60313H-075C |
|   |          | 5xD    | 2-3/4   | 3-13/16 | 3-29/32 | 5-27/32 | 2-1/32 | 3/4   | 1/8   | YES  | 60513H-075F |
|   |          | 5xD    | 2-3/4   | 3-13/16 | 3-29/32 | 5-27/32 | 2-1/32 | 3/4   | 1/8   | NO   | 60513H-075C |
|   |          | 7xD    | 3-55/64 | 4-59/64 | 5-1/64  | 6-61/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60713H-075F |
|   |          | 7xD    | 3-55/64 | 4-59/64 | 5-1/64  | 6-61/64 | 2-1/32 | 3/4   | 1/8   | NO   | 60713H-075C |
|   | Straight | 3xD    | 42.0    | 69.0    | 71.4    | 119.0   | 50.0   | 20.0  | 1/8*  | YES  | 60313S-20FM |
|   |          | 5xD    | 69.9    | 96.8    | 99.2    | 146.8   | 50.0   | 20.0  | 1/8*  | YES  | 60513S-20FM |
|   |          | 7xD    | 98.0    | 125.0   | 127.4   | 175.0   | 50.0   | 20.0  | 1/8*  | YES  | 60713S-20FM |
|   |          | Stub   | 16.0    | 43.0    | 45.2    | 93.0    | 50.0   | 20.0  | 1/8*  | YES  | 60113H-20FM |
|   |          | 3xD    | 42.0    | 69.0    | 71.4    | 119.0   | 50.0   | 20.0  | 1/8*  | YES  | 60313H-20FM |
|   |          | 3xD    | 42.0    | 69.0    | 71.4    | 119.0   | 50.0   | 20.0  | 1/8*  | NO   | 60313H-20CM |
|   |          | 5xD    | 69.9    | 96.8    | 99.2    | 146.8   | 50.0   | 20.0  | 1/8*  | YES  | 60513H-20FM |
|   | Helical  | 5xD    | 69.9    | 96.8    | 99.2    | 146.8   | 50.0   | 20.0  | 1/8*  | NO   | 60513H-20CM |
|   |          | 7xD    | 98.0    | 125.0   | 127.4   | 175.0   | 50.0   | 20.0  | 1/8*  | YES  | 60713H-20FM |
|   |          | 7xD    | 98.0    | 125.0   | 127.4   | 175.0   | 50.0   | 20.0  | 1/8*  | NO   | 60713H-20CM |

\*Thread to BSP and ISO 7-1



## Drill / Chamfer

|   | Step   |       | Body  |         |         |         | Shank  |       | Part No.      | Chamfer Insert |
|---|--------|-------|-------|---------|---------|---------|--------|-------|---------------|----------------|
|   | $D_5$  | $L_5$ | $L_2$ | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ |               |                |
| i | 1-1/64 | 49/64 | 1     | 1-11/16 | 1-25/32 | 3-23/32 | 2-1/32 | 3/4   | 60113C45-075F | TCMT-110204    |
| m | 25.8   | 19.5  | 25.4  | 43.0    | 45.2    | 93.0    | 50.0   | 20.0  | 60113C45-20FM | TCMT-110204    |

## Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7247-IP7-1    | 7247N-IP7-1          | 8IP-7         | 8IP-7TL                   | 8IP-7B           | 7.4 in-lbs (84 N-cm)          |

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

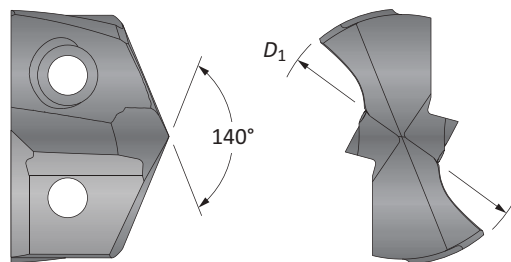
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



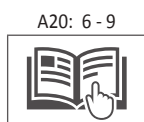
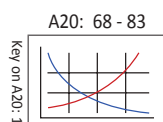
## GEN3SYS XT Pro Drill Inserts

14 Series | Diameter Range: 0.5512" - 0.5905" (14.00mm - 14.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.5512     | 14.00    | XTP14-14.00                                                                       | XTK14-14.00                                                                         | XTN14-14.00                                                                         |
| –                     | 0.5551     | 14.10    | XTP14-14.10                                                                       | XTK14-14.10                                                                         | XTN14-14.10                                                                         |
| –                     | 0.5591     | 14.20    | XTP14-14.20                                                                       | XTK14-14.20                                                                         | XTN14-14.20                                                                         |
| 9/16                  | 0.5625     | 14.29    | XTP14-14.29                                                                       | XTK14-14.29                                                                         | XTN14-14.29                                                                         |
| –                     | 0.5669     | 14.40    | XTP14-14.40                                                                       | XTK14-14.40                                                                         | XTN14-14.40                                                                         |
| –                     | 0.5709     | 14.50    | XTP14-14.50                                                                       | XTK14-14.50                                                                         | XTN14-14.50                                                                         |
| –                     | 0.5748     | 14.60    | XTP14-14.60                                                                       | XTK14-14.60                                                                         | XTN14-14.60                                                                         |
| 37/64                 | 0.5781     | 14.68    | XTP14-14.68                                                                       | XTK14-14.68                                                                         | XTN14-14.68                                                                         |
| –                     | 0.5827     | 14.80    | XTP14-14.80                                                                       | XTK14-14.80                                                                         | XTN14-14.80                                                                         |
| –                     | 0.5866     | 14.90    | XTP14-14.90                                                                       | XTK14-14.90                                                                         | XTN14-14.90                                                                         |

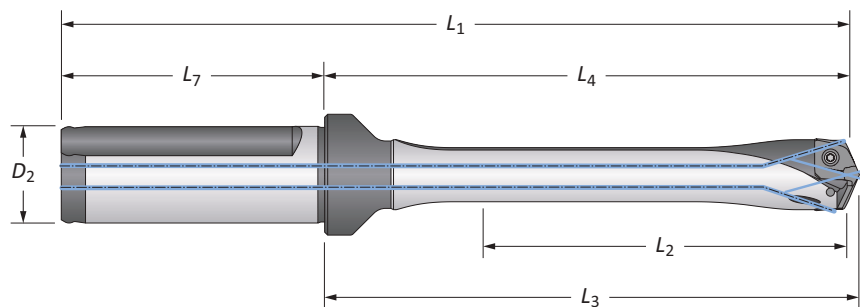
Inserts sold in multiples of 1



|                                                 |                                                             |
|-------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.     |                                                             |
| When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                  | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

14 Series | Diameter Range: 0.5512" - 0.5905" (14.00mm - 14.99mm)



|       |          | Body   |                |                |                |                | Shank          |                |      | Part No.        |
|-------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------|
| Flute |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                 |
| i     | Straight | 3xD    | 1-49/64        | 2-27/32        | 2-61/64        | 4-7/8          | 2-1/32         | 3/4            | YES  | HXT0314S-075F   |
|       |          | 3xD    | 1-49/64        | 2-27/32        | 2-61/64        | 4-7/8          | 2-1/32         | 3/4            | NO   | HXT0314S-075C   |
|       |          | 5xD    | 2-61/64        | 4-1/32         | 4-1/8          | 6-1/16         | 2-1/32         | 3/4            | YES  | HXT0514S-075F   |
|       |          | 5xD    | 2-61/64        | 4-1/32         | 4-1/8          | 6-1/16         | 2-1/32         | 3/4            | NO   | HXT0514S-075C   |
|       |          | 7xD    | 4-1/8          | 5-13/64        | 5-5/16         | 7-15/64        | 2-1/32         | 3/4            | YES  | HXT0714S-075F   |
|       |          | 7xD    | 4-1/8          | 5-13/64        | 5-5/16         | 7-15/64        | 2-1/32         | 3/4            | NO   | HXT0714S-075C   |
|       |          | 10xD   | 5-29/32        | 6-63/64        | 7-5/64         | 9-1/64         | 2-1/32         | 3/4            | YES  | ⚠ HXT1014S-075F |
|       |          | 10xD   | 5-29/32        | 6-63/64        | 7-5/64         | 9-1/64         | 2-1/32         | 3/4            | NO   | ⚠ HXT1014S-075C |
| m     | Straight | 3xD    | 44.8           | 72.2           | 74.9           | 122.2          | 50.0           | 20.0           | YES  | HXT0314S-20FM   |
|       |          | 3xD    | 44.8           | 72.2           | 74.9           | 122.2          | 50.0           | 20.0           | NO   | HXT0314S-20CM   |
|       |          | 5xD    | 75.0           | 102.4          | 104.9          | 152.4          | 50.0           | 20.0           | YES  | HXT0514S-20FM   |
|       |          | 5xD    | 75.0           | 102.4          | 104.9          | 152.4          | 50.0           | 20.0           | NO   | HXT0514S-20CM   |
|       |          | 7xD    | 104.8          | 132.2          | 134.8          | 182.2          | 50.0           | 20.0           | YES  | HXT0714S-20FM   |
|       |          | 7xD    | 104.8          | 132.2          | 134.8          | 182.2          | 50.0           | 20.0           | NO   | HXT0714S-20CM   |
|       |          | 10xD   | 149.9          | 177.4          | 179.8          | 227.4          | 50.0           | 20.0           | YES  | ⚠ HXT1014S-20FM |
|       |          | 10xD   | 149.9          | 177.4          | 179.8          | 227.4          | 50.0           | 20.0           | NO   | ⚠ HXT1014S-20CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 7247-IP7-1    | 7247N-IP7-1          | 8IP-7         | 8IP-7TL                   | 8IP-7B           | 7.4 in-lbs (84 N-cm)          |

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

**⚠ WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

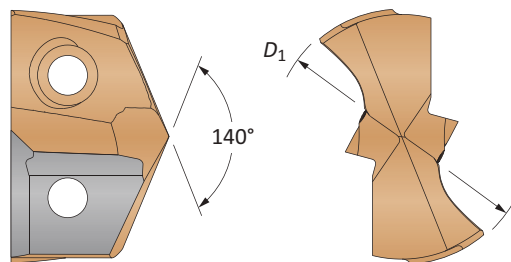
ⓘ = Imperial (in)  
 ⓘ = Metric (mm)

Screws sold in multiples of 10



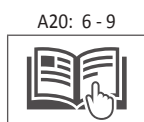
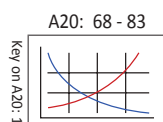
## GEN3SYS XT Drill Inserts

14 Series | Diameter Range: 0.5512" - 0.5905" (14.00mm - 14.99mm)



| Carbide Substrate | Insert                |                     |                   | Standard Part No. | Low Rake Part No. | Cast Iron Part No. | Stainless Part No. |
|-------------------|-----------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                   |                   |                    |                    |
| C1<br>(K35)       | –                     | 0.5512              | 14.00             | 7C114P-14         | 7C114P-14LR       | –                  | –                  |
|                   | 9/16                  | 0.5625              | 14.29             | 7C114P-0018       | 7C114P-0018LR     | –                  | –                  |
|                   | –                     | 0.5709              | 14.50             | 7C114P-14.5       | 7C114P-14.5LR     | –                  | –                  |
|                   | 37/64                 | 0.5781              | 14.68             | 7C114P-.578       | 7C114P-.578LR     | –                  | –                  |
|                   | –                     | 0.5827              | 14.80             | 7C114P-14.8       | 7C114P-14.8LR     | –                  | –                  |
| C2<br>(K20)       | –                     | 0.5512              | 14.00             | 7C214P-14         | 7C214P-14LR       | 7C214P-14CI        | 7C214P-14AS        |
|                   | 9/16                  | 0.5625              | 14.29             | 7C214P-0018       | 7C214P-0018LR     | 7C214P-0018CI      | 7C214P-0018AS      |
|                   | –                     | 0.5709              | 14.50             | 7C214P-14.5       | 7C214P-14.5LR     | 7C214P-14.5CI      | 7C214P-14.5AS      |
|                   | 37/64                 | 0.5781              | 14.68             | 7C214P-.578       | 7C214P-.578LR     | 7C214P-.578CI      | 7C214P-.578AS      |
|                   | –                     | 0.5827              | 14.80             | 7C214P-14.8       | 7C214P-14.8LR     | 7C214P-14.8CI      | 7C214P-14.8AS      |

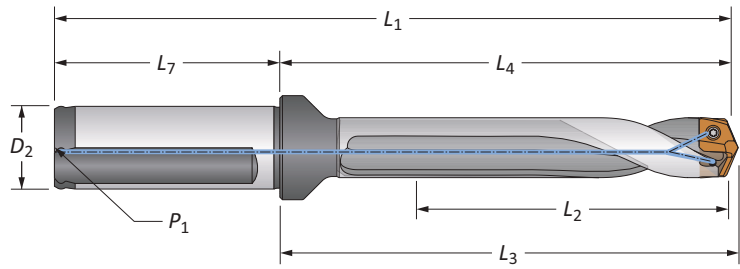
Inserts sold in multiples of 1



|                                                                                                |                                                           |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                           |
| <b>Imperial:</b>                                                                               | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                 | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

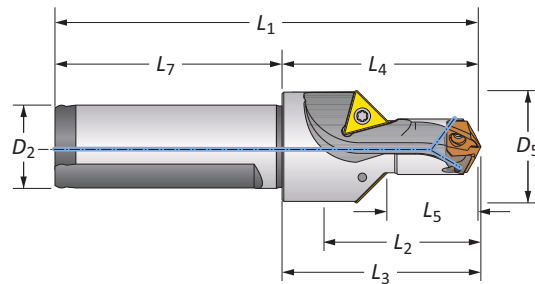
**GEN3SYS Drill Insert Holders**

14 Series | Diameter Range: 0.5512" - 0.5905" (14.00mm - 14.99mm)

**Straight and Helical**

|          | Flute | Length | Body    |         |         |         | Shank  |       |       |      | Part No.    |
|----------|-------|--------|---------|---------|---------|---------|--------|-------|-------|------|-------------|
|          |       |        | $L_2$   | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ | $P_1$ | Flat |             |
| <b>i</b> |       | 3xD    | 1-49/64 | 2-27/32 | 2-61/64 | 4-7/8   | 2-1/32 | 3/4   | 1/8   | YES  | 60314S-075F |
|          |       | 5xD    | 2-61/64 | 4-1/32  | 4-1/8   | 6-1/16  | 2-1/32 | 3/4   | 1/8   | YES  | 60514S-075F |
|          |       | 7xD    | 4-1/8   | 5-13/64 | 5-5/16  | 7-15/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60714S-075F |
|          |       | Stub   | 11/16   | 1-3/4   | 1-55/64 | 3-25/32 | 2-1/32 | 3/4   | 1/8   | YES  | 60114H-075F |
|          |       | 3xD    | 1-49/64 | 2-27/32 | 2-61/64 | 4-7/8   | 2-1/32 | 3/4   | 1/8   | YES  | 60314H-075F |
|          |       | 3xD    | 1-49/64 | 2-27/32 | 2-61/64 | 4-7/8   | 2-1/32 | 3/4   | 1/8   | NO   | 60314H-075C |
|          |       | 5xD    | 2-61/64 | 4-1/32  | 4-1/8   | 6-1/16  | 2-1/32 | 3/4   | 1/8   | YES  | 60514H-075F |
|          |       | 5xD    | 2-61/64 | 4-1/32  | 4-1/8   | 6-1/16  | 2-1/32 | 3/4   | 1/8   | NO   | 60514H-075C |
|          |       | 7xD    | 4-1/8   | 5-13/64 | 5-5/16  | 7-15/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60714H-075F |
|          |       | 7xD    | 4-1/8   | 5-13/64 | 5-5/16  | 7-15/64 | 2-1/32 | 3/4   | 1/8   | NO   | 60714H-075C |
|          |       | 3xD    | 44.8    | 72.2    | 74.9    | 122.2   | 50.0   | 20.0  | 1/8*  | YES  | 60314S-20FM |
|          |       | 5xD    | 75.0    | 102.4   | 104.9   | 152.4   | 50.0   | 20.0  | 1/8*  | YES  | 60514S-20FM |
|          |       | 7xD    | 104.8   | 132.2   | 134.8   | 182.2   | 50.0   | 20.0  | 1/8*  | YES  | 60714S-20FM |
|          |       | Stub   | 17.5    | 44.5    | 47.2    | 94.5    | 50.0   | 20.0  | 1/8*  | YES  | 60114H-20FM |
|          |       | 3xD    | 44.8    | 72.2    | 74.9    | 122.2   | 50.0   | 20.0  | 1/8*  | YES  | 60314H-20FM |
|          |       | 3xD    | 44.8    | 72.2    | 74.9    | 122.2   | 50.0   | 20.0  | 1/8*  | NO   | 60314H-20CM |
|          |       | 5xD    | 75.0    | 102.4   | 104.9   | 152.4   | 50.0   | 20.0  | 1/8*  | YES  | 60514H-20FM |

\*Thread to BSP and ISO 7-1

**Drill / Chamfer**

|          | Step   |       | Body   |       |         |         | Shank  |       | Part No.      | Chamfer Insert |
|----------|--------|-------|--------|-------|---------|---------|--------|-------|---------------|----------------|
|          | $D_5$  | $L_5$ | $L_2$  | $L_4$ | $L_3$   | $L_1$   | $L_7$  | $D_2$ |               |                |
| <b>i</b> | 1-3/64 | 53/64 | 1-3/64 | 1-3/4 | 1-55/64 | 3-25/32 | 2-1/32 | 3/4   | 60114C45-075F | TCMT-110204    |
| <b>m</b> | 26.7   | 21.0  | 26.8   | 44.6  | 47.2    | 94.6    | 50.0   | 20.0  | 60114C45-20FM | TCMT-110204    |

**Connection Accessories**

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7247-IP7-1    | 7247N-IP7-1          | 8IP-7         | 8IP-7TL                   | 8IP-7B           | 7.4 in-lbs (84 N-cm)          |

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

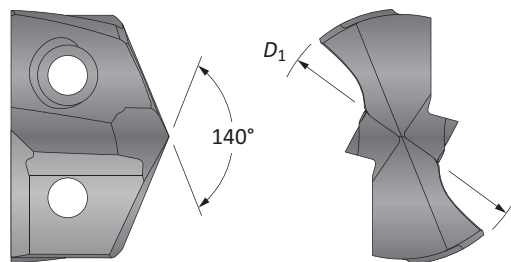
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



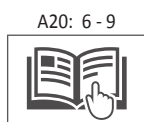
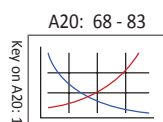
## GEN3SYS XT Pro Drill Inserts

15 Series | Diameter Range: 0.5906" - 0.6298" (15.00mm - 15.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.5906     | 15.00    | XTP15-15.00                                                                       | XTK15-15.00                                                                         | XTN15-15.00                                                                         |
| 19/32                 | 0.5938     | 15.08    | XTP15-15.08                                                                       | XTK15-15.08                                                                         | XTN15-15.08                                                                         |
| –                     | 0.5984     | 15.20    | XTP15-15.20                                                                       | XTK15-15.20                                                                         | XTN15-15.20                                                                         |
| –                     | 0.6024     | 15.30    | XTP15-15.30                                                                       | XTK15-15.30                                                                         | XTN15-15.30                                                                         |
| –                     | 0.6063     | 15.40    | XTP15-15.40                                                                       | XTK15-15.40                                                                         | XTN15-15.40                                                                         |
| 39/64                 | 0.6094     | 15.48    | XTP15-15.48                                                                       | XTK15-15.48                                                                         | XTN15-15.48                                                                         |
| –                     | 0.6102     | 15.50    | XTP15-15.50                                                                       | XTK15-15.50                                                                         | XTN15-15.50                                                                         |
| –                     | 0.6142     | 15.60    | XTP15-15.60                                                                       | XTK15-15.60                                                                         | XTN15-15.60                                                                         |
| –                     | 0.6181     | 15.70    | XTP15-15.70                                                                       | XTK15-15.70                                                                         | XTN15-15.70                                                                         |
| –                     | 0.6220     | 15.80    | XTP15-15.80                                                                       | XTK15-15.80                                                                         | XTN15-15.80                                                                         |
| 5/8                   | 0.6250     | 15.88    | XTP15-15.88                                                                       | XTK15-15.88                                                                         | XTN15-15.88                                                                         |

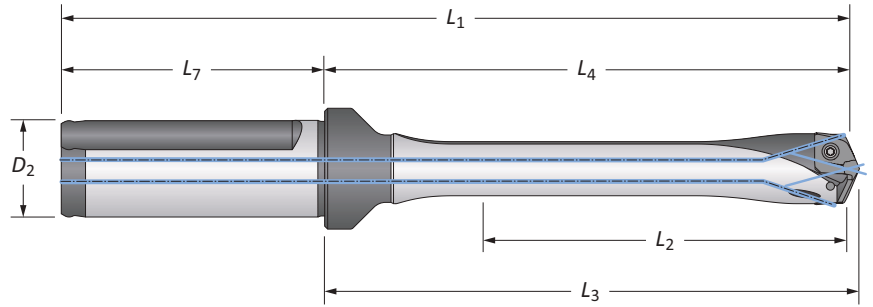
Inserts sold in multiples of 1



|                                                 |                                                             |
|-------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.     |                                                             |
| When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                  | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

15 Series | Diameter Range: 0.5906" - 0.6298" (15.00mm - 15.99mm)



| Flute |                                                                                    | Body   |                |                |                |                | Shank          |                |      | Part No.                                                                                            |
|-------|------------------------------------------------------------------------------------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------------------------------------------------------------------------------------------|
|       |                                                                                    | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                                                                                                     |
| i     |   | 3xD    | 1-57/64        | 2-61/64        | 3-3/64         | 4-63/64        | 2-1/32         | 3/4            | YES  | HXT0315S-075F                                                                                       |
|       |                                                                                    | 3xD    | 1-57/64        | 2-61/64        | 3-3/64         | 4-63/64        | 2-1/32         | 3/4            | NO   | HXT0315S-075C                                                                                       |
|       |                                                                                    | 5xD    | 3-9/64         | 4-13/64        | 4-5/16         | 6-15/64        | 2-1/32         | 3/4            | YES  | HXT0515S-075F                                                                                       |
|       |                                                                                    | 5xD    | 3-9/64         | 4-13/64        | 4-5/16         | 6-15/64        | 2-1/32         | 3/4            | NO   | HXT0515S-075C                                                                                       |
|       |                                                                                    | 7xD    | 4-13/32        | 5-15/32        | 5-37/64        | 7-1/2          | 2-1/32         | 3/4            | YES  | HXT0715S-075F                                                                                       |
|       |                                                                                    | 7xD    | 4-13/32        | 5-15/32        | 5-37/64        | 7-1/2          | 2-1/32         | 3/4            | NO   | HXT0715S-075C                                                                                       |
|       |                                                                                    | 10xD   | 6-19/64        | 7-23/64        | 7-29/64        | 9-25/64        | 2-1/32         | 3/4            | YES  |  HXT1015S-075F   |
|       |                                                                                    | 10xD   | 6-19/64        | 7-23/64        | 7-29/64        | 9-25/64        | 2-1/32         | 3/4            | NO   |  HXT1015S-075C   |
| m     |  | 3xD    | 48.0           | 75.0           | 77.5           | 125.0          | 50.0           | 20.0           | YES  | HXT0315S-20FM                                                                                       |
|       |                                                                                    | 3xD    | 48.0           | 75.0           | 77.5           | 125.0          | 50.0           | 20.0           | NO   | HXT0315S-20CM                                                                                       |
|       |                                                                                    | 5xD    | 79.8           | 106.8          | 109.5          | 156.8          | 50.0           | 20.0           | YES  | HXT0515S-20FM                                                                                       |
|       |                                                                                    | 5xD    | 79.8           | 106.8          | 109.5          | 156.8          | 50.0           | 20.0           | NO   | HXT0515S-20CM                                                                                       |
|       |                                                                                    | 7xD    | 111.9          | 138.9          | 141.5          | 188.9          | 50.0           | 20.0           | YES  | HXT0715S-20FM                                                                                       |
|       |                                                                                    | 7xD    | 111.9          | 138.9          | 141.5          | 188.9          | 50.0           | 20.0           | NO   | HXT0715S-20CM                                                                                       |
|       |                                                                                    | 10xD   | 159.9          | 186.9          | 189.5          | 236.9          | 50.0           | 20.0           | YES  |  HXT1015S-20FM  |
|       |                                                                                    | 10xD   | 159.9          | 186.9          | 189.5          | 236.9          | 50.0           | 20.0           | NO   |  HXT1015S-20CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 7247-IP7-1    | 7247N-IP7-1          | 8IP-7         | 8IP-7TL                   | 8IP-7B           | 7.4 in-lbs (84 N-cm)          |

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

**WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

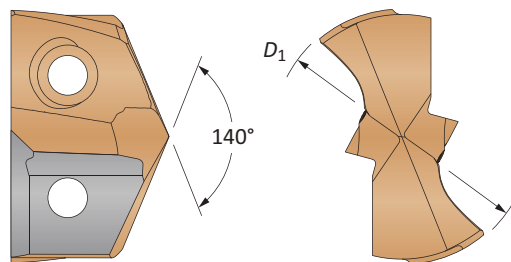
i = Imperial (in)  
m = Metric (mm)

Screws sold in multiples of 10



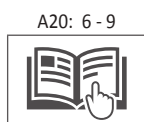
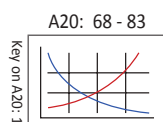
## GEN3SYS XT Drill Inserts

15 Series | Diameter Range: 0.5906" - 0.6298" (15.00mm - 15.99mm)



| Carbide Substrate | Insert                |                     |                   | Standard Part No. | Low Rake Part No. | Cast Iron Part No. | Stainless Part No. |
|-------------------|-----------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                   |                   |                    |                    |
| C1<br>(K35)       | –                     | 0.5906              | 15.00             | 7C115P-15         | 7C115P-15LR       | –                  | –                  |
|                   | 19/32                 | 0.5938              | 15.08             | 7C115P-0019       | 7C115P-0019LR     | –                  | –                  |
|                   | –                     | 0.6004              | 15.25             | 7C115P-15.25      | 7C115P-15.25LR    | –                  | –                  |
|                   | 39/64                 | 0.6094              | 15.48             | 7C115P-.609       | 7C115P-.609LR     | –                  | –                  |
|                   | –                     | 0.6103              | 15.50             | 7C115P-15.5       | 7C115P-15.5LR     | –                  | –                  |
|                   | –                     | 0.6181              | 15.70             | 7C115P-.618       | 7C115P-.618LR     | –                  | –                  |
|                   | 5/8                   | 0.6250              | 15.88             | 7C115P-0020       | 7C115P-0020LR     | –                  | –                  |
| C2<br>(K20)       | –                     | 0.5906              | 15.00             | 7C215P-15         | 7C215P-15LR       | 7C215P-15CI        | 7C215P-15AS        |
|                   | 19/32                 | 0.5938              | 15.08             | 7C215P-0019       | 7C215P-0019LR     | 7C215P-0019CI      | 7C215P-0019AS      |
|                   | –                     | 0.6004              | 15.25             | 7C215P-15.25      | 7C215P-15.25LR    | 7C215P-15.25CI     | 7C215P-15.25AS     |
|                   | 39/64                 | 0.6094              | 15.48             | 7C215P-.609       | 7C215P-.609LR     | 7C215P-.609CI      | 7C215P-.609AS      |
|                   | –                     | 0.6103              | 15.50             | 7C215P-15.5       | 7C215P-15.5LR     | 7C215P-15.5CI      | 7C215P-15.5AS      |
|                   | –                     | 0.6181              | 15.70             | 7C215P-.618       | 7C215P-.618LR     | 7C215P-.618CI      | 7C215P-.618AS      |
|                   | 5/8                   | 0.6250              | 15.88             | 7C215P-0020       | 7C215P-0020LR     | 7C215P-0020CI      | 7C215P-0020AS      |

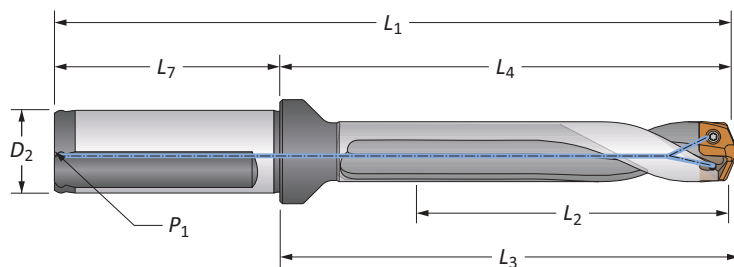
Inserts sold in multiples of 1



|                                                                                                |                                                           |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                           |
| <b>Imperial:</b>                                                                               | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                 | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

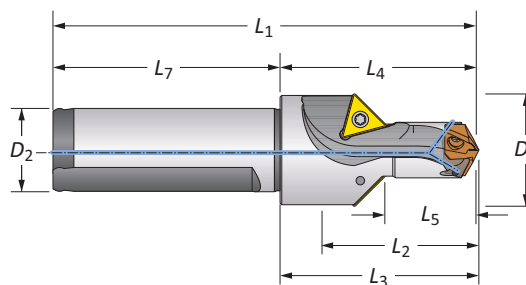
15 Series | Diameter Range: 0.5906" - 0.6298" (15.00mm - 15.99mm)



### Straight and Helical

|   | Flute    | Length | Body    |         |         |         | Shank  |       |       |      | Part No.    |
|---|----------|--------|---------|---------|---------|---------|--------|-------|-------|------|-------------|
|   |          |        | $L_2$   | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ | $P_1$ | Flat |             |
| i | Straight | 3xD    | 1-57/64 | 2-61/64 | 3-3/64  | 4-63/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60315S-075F |
|   |          | 5xD    | 3-9/64  | 4-13/64 | 4-5/16  | 6-15/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60515S-075F |
|   |          | 7xD    | 4-13/32 | 5-15/32 | 5-37/64 | 7-1/2   | 2-1/32 | 3/4   | 1/8   | YES  | 60715S-075F |
|   | Helical  | Stub   | 11/16   | 1-3/4   | 1-27/32 | 3-25/32 | 2-1/32 | 3/4   | 1/8   | YES  | 60115H-075F |
|   |          | 3xD    | 1-57/64 | 2-61/64 | 3-3/64  | 4-63/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60315H-075F |
|   |          | 3xD    | 1-57/64 | 2-61/64 | 3-3/64  | 4-63/64 | 2-1/32 | 3/4   | 1/8   | NO   | 60315H-075C |
|   |          | 5xD    | 3-9/64  | 4-13/64 | 4-5/16  | 6-15/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60515H-075F |
|   |          | 5xD    | 3-9/64  | 4-13/64 | 4-5/16  | 6-15/64 | 2-1/32 | 3/4   | 1/8   | NO   | 60515H-075C |
|   |          | 7xD    | 4-13/32 | 5-15/32 | 5-37/64 | 7-1/2   | 2-1/32 | 3/4   | 1/8   | YES  | 60715H-075F |
|   |          | 7xD    | 4-13/32 | 5-15/32 | 5-37/64 | 7-1/2   | 2-1/32 | 3/4   | 1/8   | NO   | 60715H-075C |
|   |          | 3xD    | 48.0    | 75.0    | 77.5    | 125.0   | 50.0   | 20.0  | 1/8*  | YES  | 60315S-20FM |
|   |          | 5xD    | 79.8    | 106.8   | 109.5   | 156.8   | 50.0   | 20.0  | 1/8*  | YES  | 60515S-20FM |
|   |          | 7xD    | 111.9   | 138.9   | 141.5   | 188.9   | 50.0   | 20.0  | 1/8*  | YES  | 60715S-20FM |
|   |          | Stub   | 17.5    | 44.5    | 46.8    | 94.5    | 50.0   | 20.0  | 1/8*  | YES  | 60115H-20FM |
|   |          | 3xD    | 48.0    | 75.0    | 77.5    | 125.0   | 50.0   | 20.0  | 1/8*  | YES  | 60315H-20FM |
|   |          | 3xD    | 48.0    | 75.0    | 77.5    | 125.0   | 50.0   | 20.0  | 1/8*  | NO   | 60315H-20CM |
|   |          | 5xD    | 79.8    | 106.8   | 109.5   | 156.8   | 50.0   | 20.0  | 1/8*  | YES  | 60515H-20FM |
|   |          | 5xD    | 79.8    | 106.8   | 109.5   | 156.8   | 50.0   | 20.0  | 1/8*  | NO   | 60515H-20CM |
|   |          | 7xD    | 111.9   | 138.9   | 141.5   | 188.9   | 50.0   | 20.0  | 1/8*  | YES  | 60715H-20FM |
|   |          | 7xD    | 111.9   | 138.9   | 141.5   | 188.9   | 50.0   | 20.0  | 1/8*  | NO   | 60715H-20CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

|   | Step   |       | Body   |         |         |         | Shank  |       | Part No.      | Chamfer Insert |
|---|--------|-------|--------|---------|---------|---------|--------|-------|---------------|----------------|
|   | $D_5$  | $L_5$ | $L_2$  | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ |               |                |
| i | 1-1/16 | 57/64 | 1-1/16 | 1-47/64 | 1-27/32 | 3-49/64 | 2-1/32 | 3/4   | 60115C45-075F | TCMT-110204    |
| m | 27.0   | 22.5  | 26.9   | 44.3    | 46.8    | 94.3    | 50.0   | 20.0  | 60115C45-20FM | TCMT-110204    |

### Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7247-IP7-1    | 7247N-IP7-1          | 8IP-7         | 8IP-7TL                   | 8IP-7B           | 7.4 in-lbs (84 N-cm)          |

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

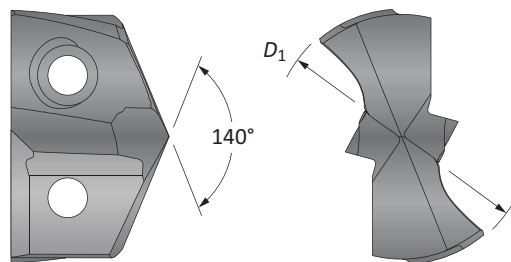
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



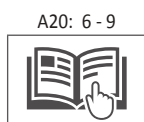
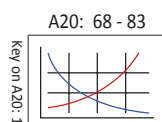
## GEN3SYS XT Pro Drill Inserts

16 Series | Diameter Range: 0.6299" - 0.6692" (16.00mm - 16.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.6299     | 16.00    | XTP16-16.00                                                                       | XTK16-16.00                                                                         | XTN16-16.00                                                                         |
| –                     | 0.6331     | 16.08    | XTP16-16.08                                                                       | XTK16-16.08                                                                         | XTN16-16.08                                                                         |
| –                     | 0.6378     | 16.20    | XTP16-16.20                                                                       | XTK16-16.20                                                                         | XTN16-16.20                                                                         |
| 41/64                 | 0.6406     | 16.27    | XTP16-16.27                                                                       | XTK16-16.27                                                                         | XTN16-16.27                                                                         |
| –                     | 0.6457     | 16.40    | XTP16-16.40                                                                       | XTK16-16.40                                                                         | XTN16-16.40                                                                         |
| –                     | 0.6496     | 16.50    | XTP16-16.50                                                                       | XTK16-16.50                                                                         | XTN16-16.50                                                                         |
| –                     | 0.6535     | 16.60    | XTP16-16.60                                                                       | XTK16-16.60                                                                         | XTN16-16.60                                                                         |
| 21/32                 | 0.6563     | 16.67    | XTP16-16.67                                                                       | XTK16-16.67                                                                         | XTN16-16.67                                                                         |
| –                     | 0.6614     | 16.80    | XTP16-16.80                                                                       | XTK16-16.80                                                                         | XTN16-16.80                                                                         |
| –                     | 0.6654     | 16.90    | XTP16-16.90                                                                       | XTK16-16.90                                                                         | XTN16-16.90                                                                         |

Inserts sold in multiples of 1

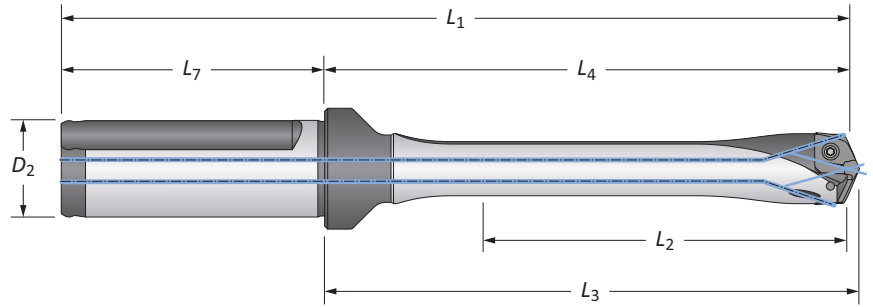


Sizes not shown are available upon request.  
When ordering, please follow the example below:

|                  |                                                             |
|------------------|-------------------------------------------------------------|
| <b>Imperial:</b> | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>   | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

16 Series | Diameter Range: 0.6299" - 0.6692" (16.00mm - 16.99mm)



| Flute |          | Body   |                |                |                |                | Shank          |                |      | Part No.        |
|-------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------|
|       |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                 |
| i     | Straight | 3xD    | 2              | 3-13/64        | 3-5/16         | 5-15/64        | 2-1/32         | 3/4            | YES  | HXT0316S-075F   |
|       |          | 3xD    | 2              | 3-13/64        | 3-5/16         | 5-15/64        | 2-1/32         | 3/4            | NO   | HXT0316S-075C   |
|       |          | 5xD    | 3-11/32        | 4-17/32        | 4-21/32        | 6-9/16         | 2-1/32         | 3/4            | YES  | HXT0516S-075F   |
|       |          | 5xD    | 3-11/32        | 4-17/32        | 4-21/32        | 6-9/16         | 2-1/32         | 3/4            | NO   | HXT0516S-075C   |
|       |          | 7xD    | 4-11/16        | 5-7/8          | 5-63/64        | 7-29/32        | 2-1/32         | 3/4            | YES  | HXT0716S-075F   |
|       |          | 7xD    | 4-11/16        | 5-7/8          | 5-63/64        | 7-29/32        | 2-1/32         | 3/4            | NO   | HXT0716S-075C   |
|       |          | 10xD   | 6-11/16        | 7-7/8          | 8              | 9-29/32        | 2-1/32         | 3/4            | YES  | ⚠ HXT1016S-075F |
|       |          | 10xD   | 6-11/16        | 7-7/8          | 8              | 9-29/32        | 2-1/32         | 3/4            | NO   | ⚠ HXT1016S-075C |
| m     | Straight | 3xD    | 50.8           | 81.3           | 84.2           | 131.3          | 50.0           | 20.0           | YES  | HXT0316S-20FM   |
|       |          | 3xD    | 50.8           | 81.3           | 84.2           | 131.3          | 50.0           | 20.0           | NO   | HXT0316S-20CM   |
|       |          | 5xD    | 85.0           | 115.1          | 118.2          | 165.1          | 50.0           | 20.0           | YES  | HXT0516S-20FM   |
|       |          | 5xD    | 85.0           | 115.1          | 118.2          | 165.1          | 50.0           | 20.0           | NO   | HXT0516S-20CM   |
|       |          | 7xD    | 119.0          | 149.2          | 152.0          | 199.2          | 50.0           | 20.0           | YES  | HXT0716S-20FM   |
|       |          | 7xD    | 119.0          | 149.2          | 152.0          | 199.2          | 50.0           | 20.0           | NO   | HXT0716S-20CM   |
|       |          | 10xD   | 169.9          | 200.0          | 203.2          | 250.0          | 50.0           | 20.0           | YES  | ⚠ HXT1016S-20FM |
|       |          | 10xD   | 169.9          | 200.0          | 203.2          | 250.0          | 50.0           | 20.0           | NO   | ⚠ HXT1016S-20CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 72556-IP8-1   | 72556N-IP8-1         | 8IP-8         | 8IP-8TL                   | 8IP-8B           | 15.5 in-lbs (175 N-cm)        |

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

**⚠ WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

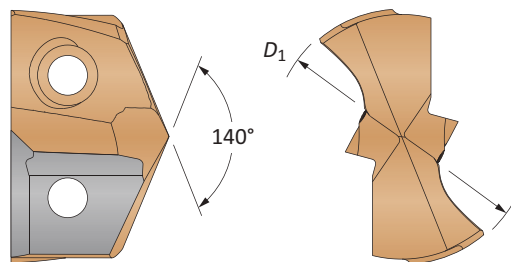
ⓘ = Imperial (in)  
 ⓘ = Metric (mm)

Screws sold in multiples of 10



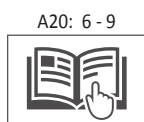
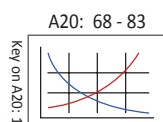
## GEN3SYS XT Drill Inserts

16 Series | Diameter Range: 0.6299" - 0.6692" (16.00mm - 16.99mm)



| Carbide Substrate | Insert                |                     |                   | Standard Part No. | Low Rake Part No. | Cast Iron Part No. | Stainless Part No. |
|-------------------|-----------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                   |                   |                    |                    |
| C1<br>(K35)       | —                     | 0.6299              | 16.00             | 7C116P-16         | 7C116P-16LR       | —                  | —                  |
|                   | —                     | 0.6331              | 16.08             | 7C116P-16.08      | 7C116P-16.08LR    | —                  | —                  |
|                   | 41/64                 | 0.6406              | 16.27             | 7C116P-.640       | 7C116P-.640LR     | —                  | —                  |
|                   | —                     | 0.6496              | 16.50             | 7C116P-16.5       | 7C116P-16.5LR     | —                  | —                  |
|                   | 21/32                 | 0.6563              | 16.67             | 7C116P-0021       | 7C116P-0021LR     | —                  | —                  |
| C2<br>(K20)       | —                     | 0.6299              | 16.00             | 7C216P-16         | 7C216P-16LR       | 7C216P-16CI        | 7C216P-16AS        |
|                   | —                     | 0.6331              | 16.08             | 7C216P-16.08      | 7C216P-16.08LR    | 7C216P-16.08CI     | 7C216P-16.08AS     |
|                   | 41/64                 | 0.6406              | 16.27             | 7C216P-.640       | 7C216P-.640LR     | 7C216P-.640CI      | 7C216P-.640AS      |
|                   | —                     | 0.6496              | 16.50             | 7C216P-16.5       | 7C216P-16.5LR     | 7C216P-16.5CI      | 7C216P-16.5AS      |
|                   | 21/32                 | 0.6563              | 16.67             | 7C216P-0021       | 7C216P-0021LR     | 7C216P-0021CI      | 7C216P-0021AS      |

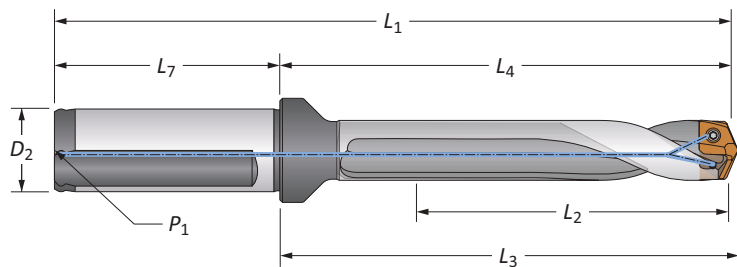
Inserts sold in multiples of 1



|                                                                                                |                                                           |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                           |
| <b>Imperial:</b>                                                                               | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                 | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

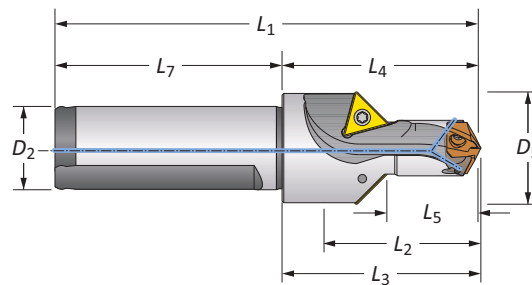
16 Series | Diameter Range: 0.6299" - 0.6692" (16.00mm - 16.99mm)



## Straight and Helical

|   | Flute    | Body   |                |                |                |                | Shank          |                |                |      | Part No.    |
|---|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-------------|
|   |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | P <sub>1</sub> | Flat |             |
| i | Straight | 3xD    | 2              | 3-13/64        | 3-5/16         | 5-15/64        | 2-1/32         | 3/4            | 1/8            | YES  | 60316S-075F |
|   |          | 5xD    | 3-11/32        | 4-17/32        | 4-21/32        | 6-9/16         | 2-1/32         | 3/4            | 1/8            | YES  | 60516S-075F |
|   |          | 7xD    | 4-11/16        | 5-7/8          | 5-63/64        | 7-29/32        | 2-1/32         | 3/4            | 1/8            | YES  | 60716S-075F |
|   | Helical  | Stub   | 13/16          | 2              | 2-7/64         | 4-1/32         | 2-1/32         | 3/4            | 1/8            | YES  | 60116H-075F |
|   |          | 3xD    | 2              | 3-13/64        | 3-5/16         | 5-15/64        | 2-1/32         | 3/4            | 1/8            | YES  | 60316H-075F |
|   |          | 3xD    | 2              | 3-13/64        | 3-5/16         | 5-15/64        | 2-1/32         | 3/4            | 1/8            | NO   | 60316H-075C |
|   |          | 5xD    | 3-11/32        | 4-17/32        | 4-21/32        | 6-9/16         | 2-1/32         | 3/4            | 1/8            | YES  | 60516H-075F |
|   |          | 5xD    | 3-11/32        | 4-17/32        | 4-21/32        | 6-9/16         | 2-1/32         | 3/4            | 1/8            | NO   | 60516H-075C |
|   |          | 7xD    | 4-11/16        | 5-7/8          | 5-63/64        | 7-29/32        | 2-1/32         | 3/4            | 1/8            | YES  | 60716H-075F |
|   |          | 7xD    | 4-11/16        | 5-7/8          | 5-63/64        | 7-29/32        | 2-1/32         | 3/4            | 1/8            | NO   | 60716H-075C |
|   | Straight | 3xD    | 50.8           | 81.3           | 84.2           | 131.3          | 50.0           | 20.0           | 1/8*           | YES  | 60316S-20FM |
|   |          | 5xD    | 85.0           | 115.1          | 118.2          | 165.1          | 50.0           | 20.0           | 1/8*           | YES  | 60516S-20FM |
|   |          | 7xD    | 119.0          | 149.2          | 152.0          | 199.2          | 50.0           | 20.0           | 1/8*           | YES  | 60716S-20FM |
|   | Helical  | Stub   | 21.0           | 50.8           | 53.7           | 100.8          | 50.0           | 20.0           | 1/8*           | YES  | 60116H-20FM |
|   |          | 3xD    | 50.8           | 81.3           | 84.2           | 131.3          | 50.0           | 20.0           | 1/8*           | YES  | 60316H-20FM |
|   |          | 3xD    | 50.8           | 81.3           | 84.2           | 131.3          | 50.0           | 20.0           | 1/8*           | NO   | 60316H-20CM |
|   |          | 5xD    | 85.0           | 115.1          | 118.2          | 165.1          | 50.0           | 20.0           | 1/8*           | YES  | 60516H-20FM |
|   |          | 5xD    | 85.0           | 115.1          | 118.2          | 165.1          | 50.0           | 20.0           | 1/8*           | NO   | 60516H-20CM |
|   |          | 7xD    | 119.0          | 149.2          | 152.0          | 199.2          | 50.0           | 20.0           | 1/8*           | YES  | 60716H-20FM |
|   |          | 7xD    | 119.0          | 149.2          | 152.0          | 199.2          | 50.0           | 20.0           | 1/8*           | NO   | 60716H-20CM |

\*Thread to BSP and ISO 7-1



## Drill / Chamfer

| Step  |        | Body  |         |       |        | Shank  |        | Part No. | <br>Chamfer Insert |             |
|-------|--------|-------|---------|-------|--------|--------|--------|----------|---------------------------------------------------------------------------------------------------------|-------------|
| $D_5$ | $L_5$  | $L_2$ | $L_4$   | $L_3$ | $L_1$  | $L_7$  | $D_2$  |          |                                                                                                         |             |
| i     | 1-1/16 | 61/64 | 1-19/64 | 2     | 2-7/64 | 4-1/32 | 2-1/32 | 3/4      | 60116C45-075F                                                                                           | TCMT-110204 |
| m     | 27.0   | 24.0  | 33.1    | 50.8  | 53.7   | 100.8  | 50.0   | 20.0     | 60116C45-20FM                                                                                           | TCMT-110204 |

## Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 72556-IP8-1   | 72556N-IP8-1         | 8IP-8         | 8IP-8TL                   | 8IP-8B           | 15.5 in-lbs (175 N-cm)        |

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

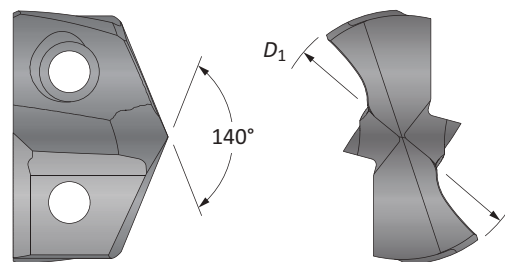
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



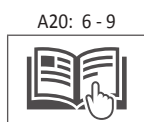
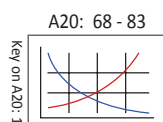
## GEN3SYS XT Pro Drill Inserts

17 Series | Diameter Range: 0.6693" - 0.7086" (17.00mm - 17.99mm)



| Insert                |            |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Fractional Equivalent | $D_1$ inch | $D_1$ mm | Part No.                                                                          | Part No.                                                                            | Part No.                                                                            |
| –                     | 0.6693     | 17.00    | <b>P</b>                                                                          | <b>K</b>                                                                            | <b>N</b>                                                                            |
| 43/64                 | 0.6719     | 17.07    | XTP17-17.00                                                                       | XTK17-17.00                                                                         | XTN17-17.00                                                                         |
| –                     | 0.6732     | 17.10    | XTP17-17.07                                                                       | XTK17-17.07                                                                         | XTN17-17.07                                                                         |
| –                     | 0.6772     | 17.20    | XTP17-17.10                                                                       | XTK17-17.10                                                                         | XTN17-17.10                                                                         |
| –                     | 0.6811     | 17.30    | XTP17-17.20                                                                       | XTK17-17.20                                                                         | XTN17-17.20                                                                         |
| –                     | 0.6850     | 17.40    | XTP17-17.30                                                                       | XTK17-17.30                                                                         | XTN17-17.30                                                                         |
| 11/16                 | 0.6875     | 17.46    | XTP17-17.40                                                                       | XTK17-17.40                                                                         | XTN17-17.40                                                                         |
| –                     | 0.6890     | 17.50    | XTP17-17.46                                                                       | XTK17-17.46                                                                         | XTN17-17.46                                                                         |
| –                     | 0.6929     | 17.60    | XTP17-17.50                                                                       | XTK17-17.50                                                                         | XTN17-17.50                                                                         |
| –                     | 0.6969     | 17.70    | XTP17-17.60                                                                       | XTK17-17.60                                                                         | XTN17-17.60                                                                         |
| –                     | 0.7008     | 17.80    | XTP17-17.70                                                                       | XTK17-17.70                                                                         | XTN17-17.70                                                                         |
| 45/64                 | 0.7031     | 17.86    | XTP17-17.80                                                                       | XTK17-17.80                                                                         | XTN17-17.80                                                                         |
| –                     | 0.7047     | 17.90    | XTP17-17.86                                                                       | XTK17-17.86                                                                         | XTN17-17.86                                                                         |
| –                     | 0.7047     | 17.90    | XTP17-17.90                                                                       | XTK17-17.90                                                                         | XTN17-17.90                                                                         |

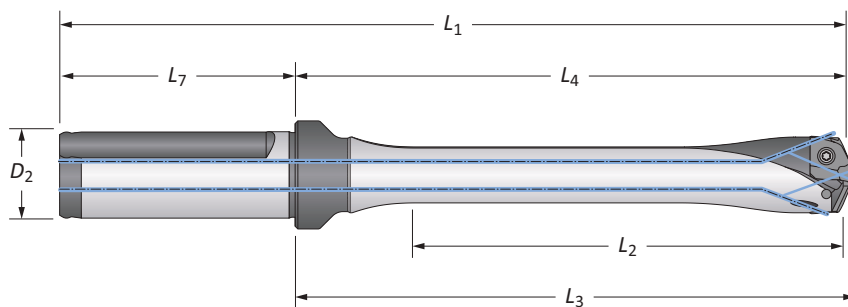
Inserts sold in multiples of 1



|                                                 |                                                             |
|-------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.     |                                                             |
| When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                  | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

17 Series | Diameter Range: 0.6693" - 0.7086" (17.00mm - 17.99mm)



| Flute    |          | Body   |                |                |                |                | Shank          |                |      | Part No.        |
|----------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------|
|          |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                 |
| <b>i</b> | Straight | 3xD    | 2-1/8          | 3-19/64        | 3-27/64        | 5-21/64        | 2-1/32         | 3/4            | YES  | HXT0317S-075F   |
|          |          | 3xD    | 2-1/8          | 3-19/64        | 3-27/64        | 5-21/64        | 2-1/32         | 3/4            | NO   | HXT0317S-075C   |
|          |          | 5xD    | 3-35/64        | 4-23/32        | 4-27/32        | 6-3/4          | 2-1/32         | 3/4            | YES  | HXT0517S-075F   |
|          |          | 5xD    | 3-35/64        | 4-23/32        | 4-27/32        | 6-3/4          | 2-1/32         | 3/4            | NO   | HXT0517S-075C   |
|          |          | 7xD    | 4-61/64        | 6-9/64         | 6-1/4          | 8-11/64        | 2-1/32         | 3/4            | YES  | HXT0717S-075F   |
|          |          | 7xD    | 4-61/64        | 6-9/64         | 6-1/4          | 8-11/64        | 2-1/32         | 3/4            | NO   | HXT0717S-075C   |
|          |          | 10xD   | 7-5/64         | 8-17/64        | 8-3/8          | 10-19/64       | 2-1/32         | 3/4            | YES  | ⚠ HXT1017S-075F |
|          |          | 10xD   | 7-5/64         | 8-17/64        | 8-3/8          | 10-19/64       | 2-1/32         | 3/4            | NO   | ⚠ HXT1017S-075C |
| <b>m</b> | Straight | 3xD    | 54.0           | 83.8           | 86.9           | 133.8          | 50.0           | 20.0           | YES  | HXT0317S-20FM   |
|          |          | 3xD    | 54.0           | 83.8           | 86.9           | 133.8          | 50.0           | 20.0           | NO   | HXT0317S-20CM   |
|          |          | 5xD    | 90.0           | 119.8          | 122.9          | 169.8          | 50.0           | 20.0           | YES  | HXT0517S-20FM   |
|          |          | 5xD    | 90.0           | 119.8          | 122.9          | 169.8          | 50.0           | 20.0           | NO   | HXT0517S-20CM   |
|          |          | 7xD    | 125.8          | 156.0          | 158.9          | 206.0          | 50.0           | 20.0           | YES  | HXT0717S-20FM   |
|          |          | 7xD    | 125.8          | 156.0          | 158.9          | 206.0          | 50.0           | 20.0           | NO   | HXT0717S-20CM   |
|          |          | 10xD   | 179.8          | 209.9          | 212.8          | 259.9          | 50.0           | 20.0           | YES  | ⚠ HXT1017S-20FM |
|          |          | 10xD   | 179.8          | 209.9          | 212.8          | 259.9          | 50.0           | 20.0           | NO   | ⚠ HXT1017S-20CM |

### Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 72567-IP8-1   | 72567N-IP8-1         | 8IP-8         | 8IP-8TL                   | 8IP-8B           | 15.5 in-lbs (175 N-cm)        |

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

**⚠ WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

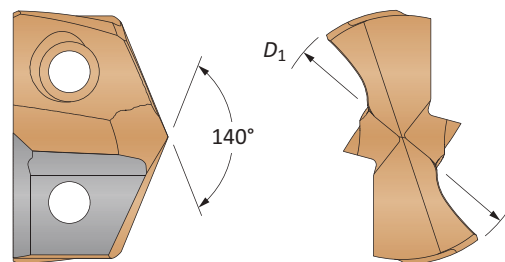
**i** = Imperial (in)  
**m** = Metric (mm)

Screws sold in multiples of 10



## GEN3SYS XT Drill Inserts

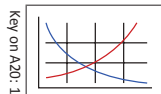
17 Series | Diameter Range: 0.6693" - 0.7086" (17.00mm - 17.99mm)



| Insert            |                       |                     |                   |  |  |  |  |
|-------------------|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Carbide Substrate | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm | Standard Part No.                                                                 | Low Rake Part No.                                                                  | Cast Iron Part No.                                                                  | Stainless Part No.                                                                  |
| C1<br>(K35)       |                       | 0.6693              | 17.00             | <b>7C117P-17</b>                                                                  | <b>7C117P-17LR</b>                                                                 | —                                                                                   | —                                                                                   |
|                   | 43/64                 | 0.6719              | 17.07             | <b>7C117P-.671</b>                                                                | <b>7C117P-.671LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   |                       | 0.6732              | 17.10             | <b>7C117P-17.1</b>                                                                | <b>7C117P-17.1LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   |                       | 0.6772              | 17.20             | <b>7C117P-17.2</b>                                                                | <b>7C117P-17.2LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | 11/16                 | 0.6875              | 17.46             | <b>7C117P-0022</b>                                                                | <b>7C117P-0022LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   |                       | 0.6890              | 17.50             | <b>7C117P-17.5</b>                                                                | <b>7C117P-17.5LR</b>                                                               | —                                                                                   | —                                                                                   |
| C2<br>(K20)       | 45/64                 | 0.7031              | 17.86             | <b>7C117P-.703</b>                                                                | <b>7C117P-.703LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   |                       | 0.6693              | 17.00             | <b>7C217P-17</b>                                                                  | <b>7C217P-17LR</b>                                                                 | <b>7C217P-17CI</b>                                                                  | <b>7C217P-17AS</b>                                                                  |
|                   | 43/64                 | 0.6719              | 17.07             | <b>7C217P-.671</b>                                                                | <b>7C217P-.671LR</b>                                                               | <b>7C217P-.671CI</b>                                                                | <b>7C217P-.671AS</b>                                                                |
|                   |                       | 0.6732              | 17.10             | <b>7C217P-17.1</b>                                                                | <b>7C217P-17.1LR</b>                                                               | <b>7C217P-17.1CI</b>                                                                | <b>7C217P-17.1AS</b>                                                                |
|                   |                       | 0.6772              | 17.20             | <b>7C217P-17.2</b>                                                                | <b>7C217P-17.2LR</b>                                                               | <b>7C217P-17.2CI</b>                                                                | <b>7C217P-17.2AS</b>                                                                |
|                   | 11/16                 | 0.6875              | 17.46             | <b>7C217P-0022</b>                                                                | <b>7C217P-0022LR</b>                                                               | <b>7C217P-0022CI</b>                                                                | <b>7C217P-0022AS</b>                                                                |
|                   |                       | 0.6890              | 17.50             | <b>7C217P-17.5</b>                                                                | <b>7C217P-17.5LR</b>                                                               | <b>7C217P-17.5CI</b>                                                                | <b>7C217P-17.5AS</b>                                                                |
|                   | 45/64                 | 0.7031              | 17.86             | <b>7C217P-.703</b>                                                                | <b>7C217P-.703LR</b>                                                               | <b>7C217P-.703CI</b>                                                                | <b>7C217P-.703AS</b>                                                                |

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9



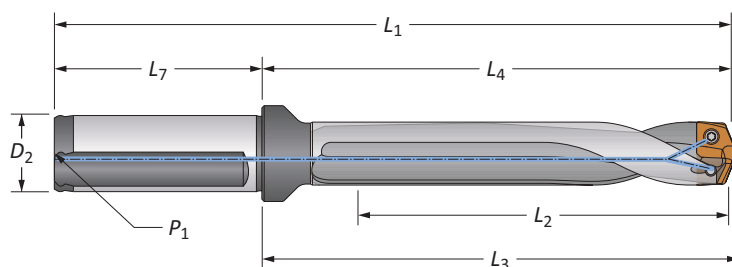
Key on A20: 1

Sizes not shown are available upon request.  
When ordering, please follow the example below:

|                  |                                                           |
|------------------|-----------------------------------------------------------|
| <b>Imperial:</b> | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>   | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

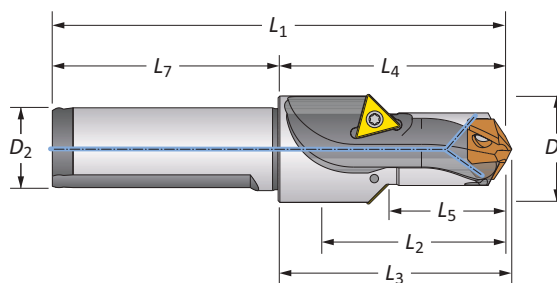
17 Series | Diameter Range: 0.6693" - 0.7086" (17.00mm - 17.99mm)



### Straight and Helical

|   | Flute    | Length | Body    |         |         |         | Shank  |       |       |      | Part No.    |
|---|----------|--------|---------|---------|---------|---------|--------|-------|-------|------|-------------|
|   |          |        | $L_2$   | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ | $P_1$ | Flat |             |
| i | Straight | 3xD    | 2-1/8   | 3-19/64 | 3-27/64 | 5-21/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60317S-075F |
|   |          | 5xD    | 3-35/64 | 4-23/32 | 4-27/32 | 6-3/4   | 2-1/32 | 3/4   | 1/8   | YES  | 60517S-075F |
|   |          | 7xD    | 4-61/64 | 6-9/64  | 6-1/4   | 8-11/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60717S-075F |
|   | Helical  | Stub   | 13/16   | 1-63/64 | 2-7/64  | 4-1/64  | 2-1/32 | 3/4   | 1/8   | YES  | 60117H-075F |
|   |          | 3xD    | 2-1/8   | 3-19/64 | 3-27/64 | 5-21/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60317H-075F |
|   |          | 3xD    | 2-1/8   | 3-19/64 | 3-27/64 | 5-21/64 | 2-1/32 | 3/4   | 1/8   | NO   | 60317H-075C |
|   |          | 5xD    | 3-35/64 | 4-23/32 | 4-27/32 | 6-3/4   | 2-1/32 | 3/4   | 1/8   | YES  | 60517H-075F |
|   |          | 5xD    | 3-35/64 | 4-23/32 | 4-27/32 | 6-3/4   | 2-1/32 | 3/4   | 1/8   | NO   | 60517H-075C |
|   |          | 7xD    | 4-61/64 | 6-9/64  | 6-1/4   | 8-11/64 | 2-1/32 | 3/4   | 1/8   | YES  | 60717H-075F |
|   |          | 7xD    | 4-61/64 | 6-9/64  | 6-1/4   | 8-11/64 | 2-1/32 | 3/4   | 1/8   | NO   | 60717H-075C |
|   | Straight | 3xD    | 54.0    | 83.8    | 86.9    | 133.8   | 50.0   | 20.0  | 1/8*  | YES  | 60317S-20FM |
|   |          | 5xD    | 90.0    | 119.8   | 122.9   | 169.8   | 50.0   | 20.0  | 1/8*  | YES  | 60517S-20FM |
|   |          | 7xD    | 125.8   | 156.0   | 158.9   | 206.0   | 50.0   | 20.0  | 1/8*  | YES  | 60717S-20FM |
|   |          | Stub   | 20.6    | 50.5    | 53.5    | 100.5   | 50.0   | 20.0  | 1/8*  | YES  | 60117H-20FM |
|   |          | 3xD    | 54.0    | 83.8    | 86.9    | 133.8   | 50.0   | 20.0  | 1/8*  | YES  | 60317H-20FM |
|   |          | 3xD    | 54.0    | 83.8    | 86.9    | 133.8   | 50.0   | 20.0  | 1/8*  | NO   | 60317H-20CM |
|   |          | 5xD    | 90.0    | 119.8   | 122.9   | 169.8   | 50.0   | 20.0  | 1/8*  | YES  | 60517H-20FM |
| m | Helical  | 5xD    | 90.0    | 119.8   | 122.9   | 169.8   | 50.0   | 20.0  | 1/8*  | NO   | 60517H-20CM |
|   |          | 7xD    | 125.8   | 156.0   | 158.9   | 206.0   | 50.0   | 20.0  | 1/8*  | YES  | 60717H-20FM |
|   |          | 7xD    | 125.8   | 156.0   | 158.9   | 206.0   | 50.0   | 20.0  | 1/8*  | NO   | 60717H-20CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

|   | Step  |       | Body   |         |        |        | Shank  |       | Part No.      | Chamfer Insert |
|---|-------|-------|--------|---------|--------|--------|--------|-------|---------------|----------------|
|   | $D_5$ | $L_5$ | $L_2$  | $L_4$   | $L_3$  | $L_1$  | $L_7$  | $D_2$ |               |                |
| i | 1     | 1     | 1-5/16 | 1-63/64 | 2-7/64 | 4-1/64 | 2-1/32 | 3/4   | 60117C45-075F | TCMT-110204    |
| m | 25.4  | 25.5  | 33.3   | 50.5    | 53.4   | 100.5  | 50.0   | 20.0  | 60117C45-20FM | TCMT-110204    |

### Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 72567-IP8-1   | 72567N-IP8-1         | 8IP-8         | 8IP-8TL                   | 8IP-8B           | 15.5 in-lbs (175 N-cm)        |

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

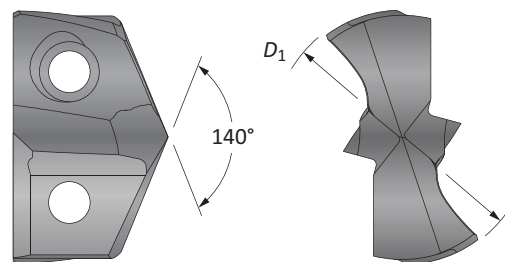
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



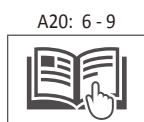
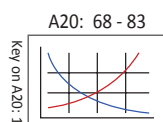
## GEN3SYS XT Pro Drill Inserts

18 Series | Diameter Range: 0.7087" - 0.7873" (18.00mm - 19.99mm)



| Fractional Equivalent | Insert              |                   |  |  |  |
|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | D <sub>1</sub> inch | D <sub>1</sub> mm | Part No.                                                                          | Part No.                                                                            | Part No.                                                                            |
|                       |                     |                   | P                                                                                 | K                                                                                   | N                                                                                   |
| –                     | 0.7087              | 18.00             | XTP18-18.00                                                                       | XTK18-18.00                                                                         | XTN18-18.00                                                                         |
| –                     | 0.7126              | 18.10             | XTP18-18.10                                                                       | XTK18-18.10                                                                         | XTN18-18.10                                                                         |
| –                     | 0.7165              | 18.20             | XTP18-18.20                                                                       | XTK18-18.20                                                                         | XTN18-18.20                                                                         |
| 23/32                 | 0.7188              | 18.26             | XTP18-18.26                                                                       | XTK18-18.26                                                                         | XTN18-18.26                                                                         |
| –                     | 0.7205              | 18.30             | XTP18-18.30                                                                       | XTK18-18.30                                                                         | XTN18-18.30                                                                         |
| –                     | 0.7244              | 18.40             | XTP18-18.40                                                                       | XTK18-18.40                                                                         | XTN18-18.40                                                                         |
| –                     | 0.7283              | 18.50             | XTP18-18.50                                                                       | XTK18-18.50                                                                         | XTN18-18.50                                                                         |
| –                     | 0.7323              | 18.60             | XTP18-18.60                                                                       | XTK18-18.60                                                                         | XTN18-18.60                                                                         |
| 47/64                 | 0.7344              | 18.65             | XTP18-18.65                                                                       | XTK18-18.65                                                                         | XTN18-18.65                                                                         |
| –                     | 0.7362              | 18.70             | XTP18-18.70                                                                       | XTK18-18.70                                                                         | XTN18-18.70                                                                         |
| –                     | 0.7402              | 18.80             | XTP18-18.80                                                                       | XTK18-18.80                                                                         | XTN18-18.80                                                                         |
| –                     | 0.7441              | 18.90             | XTP18-18.90                                                                       | XTK18-18.90                                                                         | XTN18-18.90                                                                         |
| –                     | 0.7480              | 19.00             | XTP18-19.00                                                                       | XTK18-19.00                                                                         | XTN18-19.00                                                                         |
| 3/4                   | 0.7500              | 19.05             | XTP18-19.05                                                                       | XTK18-19.05                                                                         | XTN18-19.05                                                                         |
| –                     | 0.7520              | 19.10             | XTP18-19.10                                                                       | XTK18-19.10                                                                         | XTN18-19.10                                                                         |
| –                     | 0.7559              | 19.20             | XTP18-19.20                                                                       | XTK18-19.20                                                                         | XTN18-19.20                                                                         |
| –                     | 0.7580              | 19.25             | XTP18-19.25                                                                       | XTK18-19.25                                                                         | XTN18-19.25                                                                         |
| –                     | 0.7598              | 19.30             | XTP18-19.30                                                                       | XTK18-19.30                                                                         | XTN18-19.30                                                                         |
| –                     | 0.7638              | 19.40             | XTP18-19.40                                                                       | XTK18-19.40                                                                         | XTN18-19.40                                                                         |
| 49/64                 | 0.7656              | 19.45             | XTP18-19.45                                                                       | XTK18-19.45                                                                         | XTN18-19.45                                                                         |
| –                     | 0.7677              | 19.50             | XTP18-19.50                                                                       | XTK18-19.50                                                                         | XTN18-19.50                                                                         |
| –                     | 0.7717              | 19.60             | XTP18-19.60                                                                       | XTK18-19.60                                                                         | XTN18-19.60                                                                         |
| –                     | 0.7756              | 19.70             | XTP18-19.70                                                                       | XTK18-19.70                                                                         | XTN18-19.70                                                                         |
| –                     | 0.7795              | 19.80             | XTP18-19.80                                                                       | XTK18-19.80                                                                         | XTN18-19.80                                                                         |
| 25/32                 | 0.7813              | 19.84             | XTP18-19.84                                                                       | XTK18-19.84                                                                         | XTN18-19.84                                                                         |
| –                     | 0.7835              | 19.90             | XTP18-19.90                                                                       | XTK18-19.90                                                                         | XTN18-19.90                                                                         |

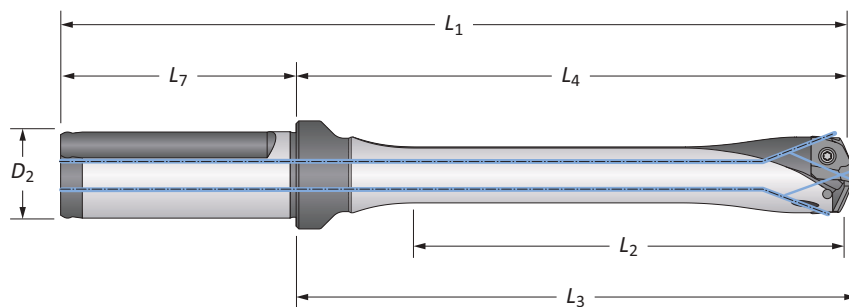
Inserts sold in multiples of 1



|                                                                                                |                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                                                               | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                                                                 | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

18 Series | Diameter Range: 0.7087" - 0.7873" (18.00mm - 19.99mm)



|          |  | Body   |                |                |                |                | Shank          |                |      | Part No.      |
|----------|--|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|---------------|
| Flute    |  | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |               |
| <b>i</b> |  | 3xD    | 2-23/64        | 3-45/64        | 3-13/16        | 5-63/64        | 2-9/32         | 1              | YES  | HXT0318S-100F |
|          |  | 3xD    | 2-23/64        | 3-45/64        | 3-13/16        | 5-63/64        | 2-9/32         | 1              | NO   | HXT0318S-100C |
|          |  | 5xD    | 3-15/16        | 5-17/64        | 5-25/64        | 7-35/64        | 2-9/32         | 1              | YES  | HXT0518S-100F |
|          |  | 5xD    | 3-15/16        | 5-17/64        | 5-25/64        | 7-35/64        | 2-9/32         | 1              | NO   | HXT0518S-100C |
|          |  | 7xD    | 5-33/64        | 6-27/32        | 6-61/64        | 9-1/8          | 2-9/32         | 1              | YES  | HXT0718S-100F |
|          |  | 7xD    | 5-33/64        | 6-27/32        | 6-61/64        | 9-1/8          | 2-9/32         | 1              | NO   | HXT0718S-100C |
|          |  | 10xD   | 7-7/8          | 9-7/32         | 9-5/16         | 11-31/64       | 2-9/32         | 1              | YES  | HXT1018S-100F |
|          |  | 10xD   | 7-7/8          | 9-7/32         | 9-5/16         | 11-31/64       | 2-9/32         | 1              | NO   | HXT1018S-100C |
| <b>m</b> |  | 3xD    | 60.0           | 94.0           | 96.8           | 150.0          | 56.0           | 25.0           | YES  | HXT0318S-25FM |
|          |  | 3xD    | 60.0           | 94.0           | 96.8           | 150.0          | 56.0           | 25.0           | NO   | HXT0318S-25CM |
|          |  | 5xD    | 100.0          | 133.7          | 136.8          | 189.7          | 56.0           | 25.0           | YES  | HXT0518S-25FM |
|          |  | 5xD    | 100.0          | 133.7          | 136.8          | 189.7          | 56.0           | 25.0           | NO   | HXT0518S-25CM |
|          |  | 7xD    | 140.0          | 173.4          | 176.8          | 229.4          | 56.0           | 25.0           | YES  | HXT0718S-25FM |
|          |  | 7xD    | 140.0          | 173.4          | 176.8          | 229.4          | 56.0           | 25.0           | NO   | HXT0718S-25CM |
|          |  | 10xD   | 199.9          | 234.1          | 236.7          | 290.1          | 56.0           | 25.0           | YES  | HXT1018S-25FM |
|          |  | 10xD   | 199.9          | 234.1          | 236.7          | 290.1          | 56.0           | 25.0           | NO   | HXT1018S-25CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 7375-IP9-1    | 7375N-IP9-1          | 8IP-9         | 8IP-9TL                   | 8IP-9B           | 27.0 in-lbs (305 N-cm)        |

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

**WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

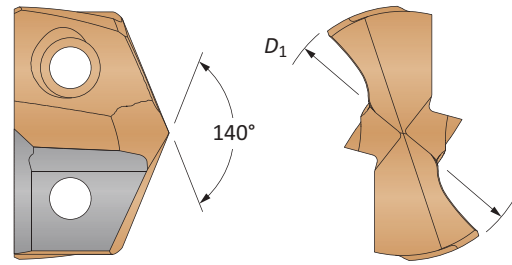
**i** = Imperial (in)  
**m** = Metric (mm)

Screws sold in multiples of 10



## GEN3SYS XT Drill Inserts

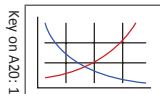
18 Series | Diameter Range: 0.7087" - 0.7873" (18.00mm - 19.99mm)



| Insert            |                       |                     |                   |  |  |  |  |
|-------------------|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Carbide Substrate | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm | Standard Part No.                                                                 | Low Rake Part No.                                                                  | Cast Iron Part No.                                                                  | Stainless Part No.                                                                  |
| C1<br>(K35)       | —                     | 0.7087              | 18.00             | 7C118P-18                                                                         | 7C118P-18LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 23/32                 | 0.7188              | 18.26             | 7C118P-0023                                                                       | 7C118P-0023LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 0.7283              | 18.50             | 7C118P-18.5                                                                       | 7C118P-18.5LR                                                                      | —                                                                                   | —                                                                                   |
|                   | 47/64                 | 0.7344              | 18.65             | 7C118P-.734                                                                       | 7C118P-.734LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 0.7480              | 19.00             | 7C118P-19                                                                         | 7C118P-19LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 3/4                   | 0.7500              | 19.05             | 7C118P-0024                                                                       | 7C118P-0024LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 0.7580              | 19.25             | 7C118P-.758                                                                       | 7C118P-.758LR                                                                      | —                                                                                   | —                                                                                   |
|                   | 49/64                 | 0.7656              | 19.45             | 7C118P-.765                                                                       | 7C118P-.765LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 0.7677              | 19.50             | 7C118P-19.5                                                                       | 7C118P-19.5LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 0.7795              | 19.80             | 7C118P-19.8                                                                       | 7C118P-19.8LR                                                                      | —                                                                                   | —                                                                                   |
| C2<br>(K20)       | 25/32                 | 0.7813              | 19.85             | 7C118P-0025                                                                       | 7C118P-0025LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 0.7087              | 18.00             | 7C218P-18                                                                         | 7C218P-18LR                                                                        | 7C218P-18CI                                                                         | 7C218P-18AS                                                                         |
|                   | 23/32                 | 0.7188              | 18.26             | 7C218P-0023                                                                       | 7C218P-0023LR                                                                      | 7C218P-0023CI                                                                       | 7C218P-0023AS                                                                       |
|                   | —                     | 0.7283              | 18.50             | 7C218P-18.5                                                                       | 7C218P-18.5LR                                                                      | 7C218P-18.5CI                                                                       | 7C218P-18.5AS                                                                       |
|                   | 47/64                 | 0.7344              | 18.65             | 7C218P-.734                                                                       | 7C218P-.734LR                                                                      | 7C218P-.734CI                                                                       | 7C218P-.734AS                                                                       |
|                   | —                     | 0.7480              | 19.00             | 7C218P-19                                                                         | 7C218P-19LR                                                                        | 7C218P-19CI                                                                         | 7C218P-19AS                                                                         |
|                   | 3/4                   | 0.7500              | 19.05             | 7C218P-0024                                                                       | 7C218P-0024LR                                                                      | 7C218P-0024CI                                                                       | 7C218P-0024AS                                                                       |
|                   | —                     | 0.7580              | 19.25             | 7C218P-.758                                                                       | 7C218P-.758LR                                                                      | 7C218P-.758CI                                                                       | 7C218P-.758AS                                                                       |
|                   | 49/64                 | 0.7656              | 19.45             | 7C218P-.765                                                                       | 7C218P-.765LR                                                                      | 7C218P-.765CI                                                                       | 7C218P-.765AS                                                                       |
|                   | —                     | 0.7677              | 19.50             | 7C218P-19.5                                                                       | 7C218P-19.5LR                                                                      | 7C218P-19.5CI                                                                       | 7C218P-19.5AS                                                                       |
|                   | —                     | 0.7795              | 19.80             | 7C218P-19.8                                                                       | 7C218P-19.8LR                                                                      | 7C218P-19.8CI                                                                       | 7C218P-19.8AS                                                                       |
|                   | 25/32                 | 0.7813              | 19.85             | 7C218P-0025                                                                       | 7C218P-0025LR                                                                      | 7C218P-0025CI                                                                       | 7C218P-0025AS                                                                       |

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9

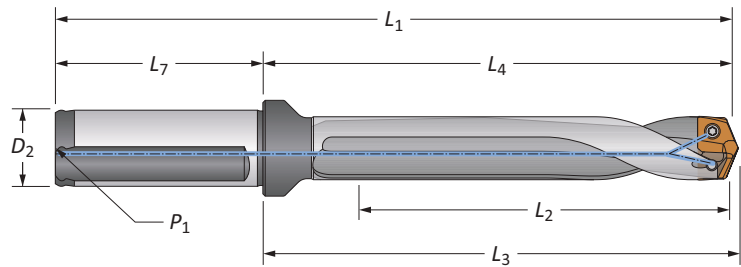


Sizes not shown are available upon request.  
When ordering, please follow the example below:

|           |                                                           |
|-----------|-----------------------------------------------------------|
| Imperial: | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| Metric:   | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

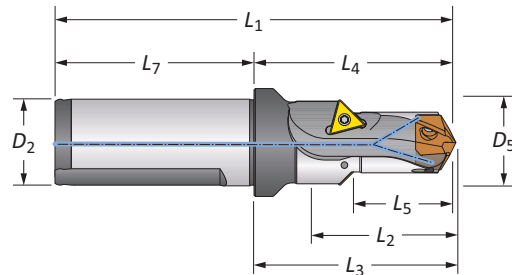
18 Series | Diameter Range: 0.7087" - 0.7873" (18.00mm - 19.99mm)



## Straight and Helical

|          | Flute | Length | Body    |         |         |         | Shank  |       |       |      | Part No.    |
|----------|-------|--------|---------|---------|---------|---------|--------|-------|-------|------|-------------|
|          |       |        | $L_2$   | $L_4$   | $L_3$   | $L_1$   | $L_7$  | $D_2$ | $P_1$ | Flat |             |
| <b>i</b> |       | 3xD    | 2-23/64 | 3-45/64 | 3-13/16 | 5-63/64 | 2-9/32 | 1     | 1/8   | YES  | 60318S-100F |
|          |       | 5xD    | 3-15/16 | 5-17/64 | 5-25/64 | 7-35/64 | 2-9/32 | 1     | 1/8   | YES  | 60518S-100F |
|          |       | 7xD    | 5-33/64 | 6-27/32 | 6-61/64 | 9-1/8   | 2-9/32 | 1     | 1/8   | YES  | 60718S-100F |
|          |       | Stub   | 7/8     | 2-13/64 | 2-5/16  | 4-31/64 | 2-9/32 | 1     | 1/8   | YES  | 60118H-100F |
|          |       | 3xD    | 2-23/64 | 3-45/64 | 3-13/16 | 5-63/64 | 2-9/32 | 1     | 1/8   | YES  | 60318H-100F |
|          |       | 3xD    | 2-23/64 | 3-45/64 | 3-13/16 | 5-63/64 | 2-9/32 | 1     | 1/8   | NO   | 60318H-100C |
|          |       | 5xD    | 3-15/16 | 5-17/64 | 5-25/64 | 7-35/64 | 2-9/32 | 1     | 1/8   | YES  | 60518H-100F |
|          |       | 5xD    | 3-15/16 | 5-17/64 | 5-25/64 | 7-35/64 | 2-9/32 | 1     | 1/8   | NO   | 60518H-100C |
|          |       | 7xD    | 5-33/64 | 6-27/32 | 6-61/64 | 9-1/8   | 2-9/32 | 1     | 1/8   | YES  | 60718H-100F |
|          |       | 7xD    | 5-33/64 | 6-27/32 | 6-61/64 | 9-1/8   | 2-9/32 | 1     | 1/8   | NO   | 60718H-100C |
|          |       | 3xD    | 60.0    | 94.0    | 96.8    | 150.0   | 56.0   | 25.0  | 1/8*  | YES  | 60318S-25FM |
|          |       | 5xD    | 100.0   | 133.7   | 136.8   | 189.7   | 56.0   | 25.0  | 1/8*  | YES  | 60518S-25FM |
|          |       | 7xD    | 140.0   | 173.4   | 176.8   | 229.4   | 56.0   | 25.0  | 1/8*  | YES  | 60718S-25FM |
|          |       | Stub   | 22.0    | 56.0    | 58.8    | 112.0   | 56.0   | 25.0  | 1/8*  | YES  | 60118H-25FM |
|          |       | 3xD    | 60.0    | 94.0    | 96.8    | 150.0   | 56.0   | 25.0  | 1/8*  | YES  | 60318H-25FM |
|          |       | 3xD    | 60.0    | 94.0    | 96.8    | 150.0   | 56.0   | 25.0  | 1/8*  | NO   | 60318H-25CM |
|          |       | 5xD    | 100.0   | 133.7   | 136.8   | 189.7   | 56.0   | 25.0  | 1/8*  | YES  | 60518H-25FM |

\*Thread to BSP and ISO 7-1



## Drill / Chamfer

|          | Step  |        | Body    |         |        |         | Shank  |       | Part No.      |             |
|----------|-------|--------|---------|---------|--------|---------|--------|-------|---------------|-------------|
|          | $D_5$ | $L_5$  | $L_2$   | $L_4$   | $L_3$  | $L_1$   | $L_7$  | $D_2$ |               |             |
| <b>i</b> | 63/64 | 1-1/16 | 1-25/64 | 2-13/64 | 2-5/16 | 4-31/64 | 2-9/32 | 1     | 60118C45-100F | TCMT-110204 |
| <b>m</b> | 25.1  | 27     | 35.2    | 56.0    | 58.8   | 112.0   | 56.0   | 25.0  | 60118C45-25FM | TCMT-110204 |

## Connection Accessories

|               |                      |               |                           |                  |                                      |
|---------------|----------------------|---------------|---------------------------|------------------|--------------------------------------|
|               |                      |               |                           |                  | <b>Admissible Tightening Torque*</b> |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                                      |
| 7375-IP9-1    | 7375N-IP9-1          | 8IP-9         | 8IP-9TL                   | 8IP-9B           | 27.0 in-lbs (305 N-cm)               |

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

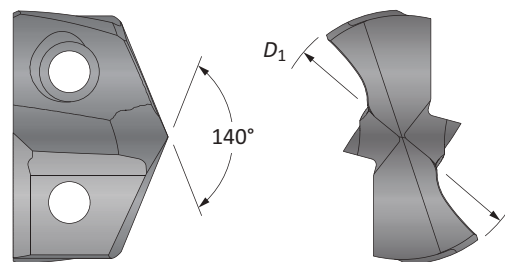
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



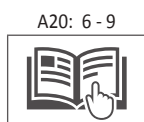
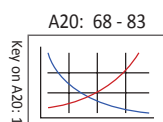
## GEN3SYS XT Pro Drill Inserts

20 Series | Diameter Range: 0.7874" - 0.8660" (20.00mm - 21.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.                                                                          | Part No.                                                                            | Part No.                                                                            |
|                       |            |          | P                                                                                 | K                                                                                   | N                                                                                   |
| –                     | 0.7874     | 20.00    | XTP20-20.00                                                                       | XTK20-20.00                                                                         | XTN20-20.00                                                                         |
| –                     | 0.7913     | 20.10    | XTP20-20.10                                                                       | XTK20-20.10                                                                         | XTN20-20.10                                                                         |
| –                     | 0.7953     | 20.20    | XTP20-20.20                                                                       | XTK20-20.20                                                                         | XTN20-20.20                                                                         |
| 51/64                 | 0.7969     | 20.24    | XTP20-20.24                                                                       | XTK20-20.24                                                                         | XTN20-20.24                                                                         |
| –                     | 0.7992     | 20.30    | XTP20-20.30                                                                       | XTK20-20.30                                                                         | XTN20-20.30                                                                         |
| –                     | 0.8031     | 20.40    | XTP20-20.40                                                                       | XTK20-20.40                                                                         | XTN20-20.40                                                                         |
| –                     | 0.8071     | 20.50    | XTP20-20.50                                                                       | XTK20-20.50                                                                         | XTN20-20.50                                                                         |
| –                     | 0.8110     | 20.60    | XTP20-20.60                                                                       | XTK20-20.60                                                                         | XTN20-20.60                                                                         |
| 13/16                 | 0.8125     | 20.64    | XTP20-20.64                                                                       | XTK20-20.64                                                                         | XTN20-20.64                                                                         |
| –                     | 0.8150     | 20.70    | XTP20-20.70                                                                       | XTK20-20.70                                                                         | XTN20-20.70                                                                         |
| –                     | 0.8189     | 20.80    | XTP20-20.80                                                                       | XTK20-20.80                                                                         | XTN20-20.80                                                                         |
| –                     | 0.8228     | 20.90    | XTP20-20.90                                                                       | XTK20-20.90                                                                         | XTN20-20.90                                                                         |
| –                     | 0.8268     | 21.00    | XTP20-21.00                                                                       | XTK20-21.00                                                                         | XTN20-21.00                                                                         |
| –                     | 0.8307     | 21.10    | XTP20-21.10                                                                       | XTK20-21.10                                                                         | XTN20-21.10                                                                         |
| –                     | 0.8346     | 21.20    | XTP20-21.20                                                                       | XTK20-21.20                                                                         | XTN20-21.20                                                                         |
| –                     | 0.8386     | 21.30    | XTP20-21.30                                                                       | XTK20-21.30                                                                         | XTN20-21.30                                                                         |
| –                     | 0.8425     | 21.40    | XTP20-21.40                                                                       | XTK20-21.40                                                                         | XTN20-21.40                                                                         |
| 27/32                 | 0.8438     | 21.43    | XTP20-21.43                                                                       | XTK20-21.43                                                                         | XTN20-21.43                                                                         |
| –                     | 0.8465     | 21.50    | XTP20-21.50                                                                       | XTK20-21.50                                                                         | XTN20-21.50                                                                         |
| –                     | 0.8504     | 21.60    | XTP20-21.60                                                                       | XTK20-21.60                                                                         | XTN20-21.60                                                                         |
| –                     | 0.8543     | 21.70    | XTP20-21.70                                                                       | XTK20-21.70                                                                         | XTN20-21.70                                                                         |
| –                     | 0.8583     | 21.80    | XTP20-21.80                                                                       | XTK20-21.80                                                                         | XTN20-21.80                                                                         |
| 55/64                 | 0.8594     | 21.83    | XTP20-21.83                                                                       | XTK20-21.83                                                                         | XTN20-21.83                                                                         |
| –                     | 0.8622     | 21.90    | XTP20-21.90                                                                       | XTK20-21.90                                                                         | XTN20-21.90                                                                         |

Inserts sold in multiples of 1

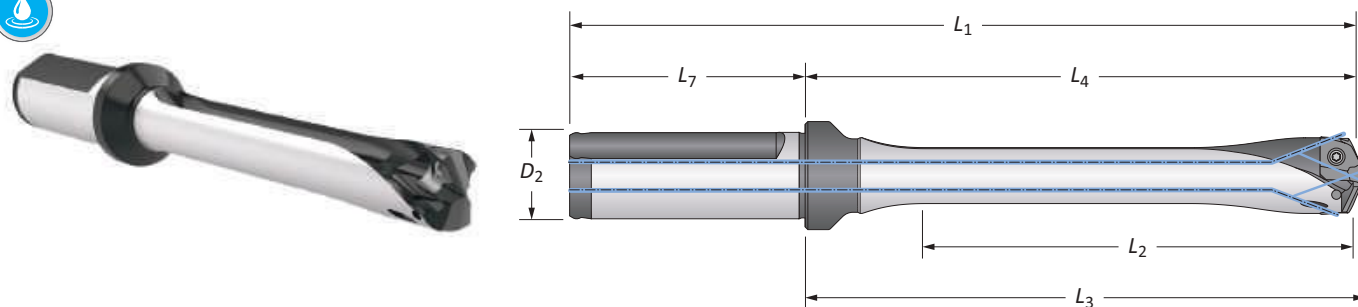


Sizes not shown are available upon request.  
When ordering, please follow the example below:

|                  |                                                             |
|------------------|-------------------------------------------------------------|
| <b>Imperial:</b> | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>   | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

20 Series | Diameter Range: 0.7874" - 0.8660" (20.00mm - 21.99mm)



| Flute                                                                                                      |          | Body   |                |                |                |                | Shank          |                |      | Part No.                                                                                            |
|------------------------------------------------------------------------------------------------------------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------------------------------------------------------------------------------------------|
|                                                                                                            |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                                                                                                     |
| <div>i</div> <div></div>  | Straight | 3xD    | 2-19/32        | 3-15/16        | 4-3/64         | 6-7/32         | 2-9/32         | 1              | YES  | HXT0320S-100F                                                                                       |
|                                                                                                            |          | 3xD    | 2-19/32        | 3-15/16        | 4-3/64         | 6-7/32         | 2-9/32         | 1              | NO   | HXT0320S-100C                                                                                       |
|                                                                                                            |          | 5xD    | 4-21/64        | 5-43/64        | 5-25/32        | 7-61/64        | 2-9/32         | 1              | YES  | HXT0520S-100F                                                                                       |
|                                                                                                            |          | 5xD    | 4-21/64        | 5-43/64        | 5-25/32        | 7-61/64        | 2-9/32         | 1              | NO   | HXT0520S-100C                                                                                       |
|                                                                                                            |          | 7xD    | 6-1/16         | 7-13/32        | 7-33/64        | 9-11/16        | 2-9/32         | 1              | YES  | HXT0720S-100F                                                                                       |
|                                                                                                            |          | 7xD    | 6-1/16         | 7-13/32        | 7-33/64        | 9-11/16        | 2-9/32         | 1              | NO   | HXT0720S-100C                                                                                       |
|                                                                                                            |          | 10xD   | 8-21/32        | 10             | 10-7/64        | 12-9/32        | 2-9/32         | 1              | YES  |  HXT1020S-100F   |
|                                                                                                            |          | 10xD   | 8-21/32        | 10             | 10-7/64        | 12-9/32        | 2-9/32         | 1              | NO   |  HXT1020S-100C   |
| <div>m</div> <div></div> | Straight | 3xD    | 66.0           | 100.0          | 102.9          | 156.0          | 56.0           | 25.0           | YES  | HXT0320S-25FM                                                                                       |
|                                                                                                            |          | 3xD    | 66.0           | 100.0          | 102.9          | 156.0          | 56.0           | 25.0           | NO   | HXT0320S-25CM                                                                                       |
|                                                                                                            |          | 5xD    | 110.0          | 144.0          | 146.9          | 200.0          | 56.0           | 25.0           | YES  | HXT0520S-25FM                                                                                       |
|                                                                                                            |          | 5xD    | 110.0          | 144.0          | 146.9          | 200.0          | 56.0           | 25.0           | NO   | HXT0520S-25CM                                                                                       |
|                                                                                                            |          | 7xD    | 153.9          | 187.0          | 190.9          | 243.0          | 56.0           | 25.0           | YES  | HXT0720S-25FM                                                                                       |
|                                                                                                            |          | 7xD    | 153.9          | 187.0          | 190.9          | 243.0          | 56.0           | 25.0           | NO   | HXT0720S-25CM                                                                                       |
|                                                                                                            |          | 10xD   | 219.9          | 254.0          | 256.8          | 310.0          | 56.0           | 25.0           | YES  |  HXT1020S-25FM |
|                                                                                                            |          | 10xD   | 219.9          | 254.0          | 256.8          | 310.0          | 56.0           | 25.0           | NO   |  HXT1020S-25CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 7375-IP9-1    | 7375N-IP9-1          | 8IP-9         | 8IP-9TL                   | 8IP-9B           | 27.0 in-lbs (305 N-cm)        |

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

**⚠ WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

i = Imperial (in)

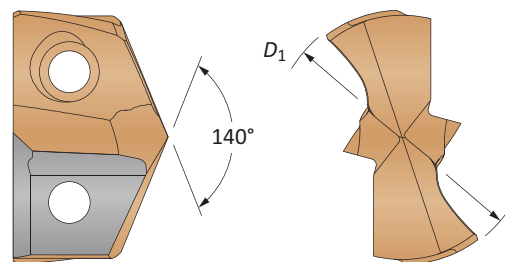
m = Metric (mm)

Screws sold in multiples of 10



## GEN3SYS XT Drill Inserts

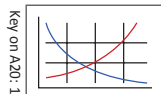
20 Series | Diameter Range: 0.7874" - 0.8660" (20.00mm - 21.99mm)



| Insert            |                       |                     |                   |  |  |  |  |
|-------------------|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Carbide Substrate | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| C1<br>(K35)       | —                     | 0.7874              | 20.00             | <b>7C120P-20</b>                                                                  | <b>7C120P-20LR</b>                                                                 | —                                                                                   | —                                                                                   |
|                   | 51/64                 | 0.7969              | 20.24             | <b>7C120P-.796</b>                                                                | <b>7C120P-.796LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | —                     | 0.8071              | 20.50             | <b>7C120P-20.5</b>                                                                | <b>7C120P-20.5LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | 13/16                 | 0.8125              | 20.64             | <b>7C120P-0026</b>                                                                | <b>7C120P-0026LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | —                     | 0.8268              | 21.00             | <b>7C120P-21</b>                                                                  | <b>7C120P-21LR</b>                                                                 | —                                                                                   | —                                                                                   |
|                   | 27/32                 | 0.8438              | 21.43             | <b>7C120P-0027</b>                                                                | <b>7C120P-0027LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | —                     | 0.8465              | 21.50             | <b>7C120P-21.5</b>                                                                | <b>7C120P-21.5LR</b>                                                               | —                                                                                   | —                                                                                   |
|                   | 55/64                 | 0.8594              | 21.83             | <b>7C120P-.859</b>                                                                | <b>7C120P-.859LR</b>                                                               | —                                                                                   | —                                                                                   |
| C2<br>(K20)       | —                     | 0.7874              | 20.00             | <b>7C220P-20</b>                                                                  | <b>7C220P-20LR</b>                                                                 | <b>7C220P-20CI</b>                                                                  | <b>7C220P-20AS</b>                                                                  |
|                   | 51/64                 | 0.7969              | 20.24             | <b>7C220P-.796</b>                                                                | <b>7C220P-.796LR</b>                                                               | <b>7C220P-.796CI</b>                                                                | <b>7C220P-.796AS</b>                                                                |
|                   | —                     | 0.8071              | 20.50             | <b>7C220P-20.5</b>                                                                | <b>7C220P-20.5LR</b>                                                               | <b>7C220P-20.5CI</b>                                                                | <b>7C220P-20.5AS</b>                                                                |
|                   | 13/16                 | 0.8125              | 20.64             | <b>7C220P-0026</b>                                                                | <b>7C220P-0026LR</b>                                                               | <b>7C220P-0026CI</b>                                                                | <b>7C220P-0026AS</b>                                                                |
|                   | —                     | 0.8268              | 21.00             | <b>7C220P-21</b>                                                                  | <b>7C220P-21LR</b>                                                                 | <b>7C220P-21CI</b>                                                                  | <b>7C220P-21AS</b>                                                                  |
|                   | 27/32                 | 0.8438              | 21.43             | <b>7C220P-0027</b>                                                                | <b>7C220P-0027LR</b>                                                               | <b>7C220P-0027CI</b>                                                                | <b>7C220P-0027AS</b>                                                                |
|                   | —                     | 0.8465              | 21.50             | <b>7C220P-21.5</b>                                                                | <b>7C220P-21.5LR</b>                                                               | <b>7C220P-21.5CI</b>                                                                | <b>7C220P-21.5AS</b>                                                                |
|                   | 55/64                 | 0.8594              | 21.83             | <b>7C220P-.859</b>                                                                | <b>7C220P-.859LR</b>                                                               | <b>7C220P-.859CI</b>                                                                | <b>7C220P-.859AS</b>                                                                |

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9

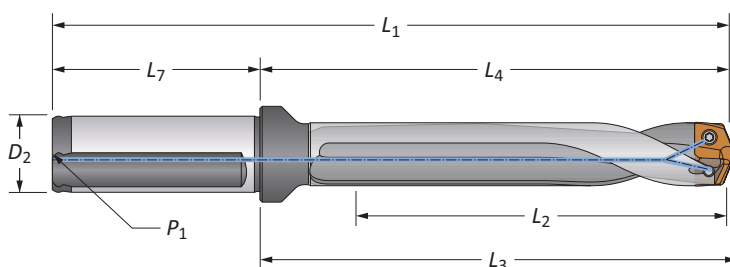


Sizes not shown are available upon request.  
When ordering, please follow the example below:

|                  |                                                           |
|------------------|-----------------------------------------------------------|
| <b>Imperial:</b> | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>   | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

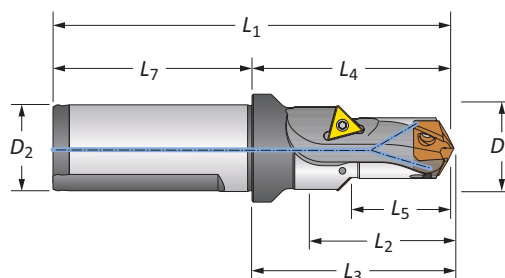
20 Series | Diameter Range: 0.7874" - 0.8660" (20.00mm - 21.99mm)



### Straight and Helical

|   | Flute    | Body   |                |                |                |                | Shank          |                |                |      | Part No.    |
|---|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-------------|
|   |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | P <sub>1</sub> | Flat |             |
| i | Straight | 3xD    | 2-19/32        | 3-15/16        | 4-3/64         | 6-7/32         | 2-9/32         | 1              | 1/8            | YES  | 60320S-100F |
|   |          | 5xD    | 4-21/64        | 5-43/64        | 5-25/32        | 7-61/64        | 2-9/32         | 1              | 1/8            | YES  | 60520S-100F |
|   |          | 7xD    | 6-1/16         | 7-13/32        | 7-33/64        | 9-11/16        | 2-9/32         | 1              | 1/8            | YES  | 60720S-100F |
|   | Helical  | Stub   | 15/16          | 2-17/64        | 2-3/8          | 4-35/64        | 2-9/32         | 1              | 1/8            | YES  | 60120H-100F |
|   |          | 3xD    | 2-19/32        | 3-15/16        | 4-3/64         | 6-7/32         | 2-9/32         | 1              | 1/8            | YES  | 60320H-100F |
|   |          | 3xD    | 2-19/32        | 3-15/16        | 4-3/64         | 6-7/32         | 2-9/32         | 1              | 1/8            | NO   | 60320H-100C |
|   |          | 5xD    | 4-21/64        | 5-43/64        | 5-25/32        | 7-61/64        | 2-9/32         | 1              | 1/8            | YES  | 60520H-100F |
|   |          | 5xD    | 4-21/64        | 5-43/64        | 5-25/32        | 7-61/64        | 2-9/32         | 1              | 1/8            | NO   | 60520H-100C |
|   |          | 7xD    | 6-1/16         | 7-13/32        | 7-33/64        | 9-11/16        | 2-9/32         | 1              | 1/8            | YES  | 60720H-100F |
|   |          | 7xD    | 6-1/16         | 7-13/32        | 7-33/64        | 9-11/16        | 2-9/32         | 1              | 1/8            | NO   | 60720H-100C |
|   | Straight | 3xD    | 66.0           | 100.0          | 102.9          | 156.0          | 56.0           | 25.0           | 1/8*           | YES  | 60320S-25FM |
|   |          | 5xD    | 110.0          | 144.0          | 146.9          | 200.0          | 56.0           | 25.0           | 1/8*           | YES  | 60520S-25FM |
|   |          | 7xD    | 153.9          | 187.0          | 190.9          | 243.0          | 56.0           | 25.0           | 1/8*           | YES  | 60720S-25FM |
|   |          | Stub   | 24.0           | 57.6           | 60.4           | 113.6          | 56.0           | 25.0           | 1/8*           | YES  | 60120H-25FM |
|   |          | 3xD    | 66.0           | 100.0          | 102.9          | 156.0          | 56.0           | 25.0           | 1/8*           | YES  | 60320H-25FM |
|   |          | 3xD    | 66.0           | 100.0          | 102.9          | 156.0          | 56.0           | 25.0           | 1/8*           | NO   | 60320H-25CM |
|   |          | 5xD    | 110.0          | 144.0          | 146.9          | 200.0          | 56.0           | 25.0           | 1/8*           | YES  | 60520H-25FM |
| m | Helical  | 5xD    | 110.0          | 144.0          | 146.9          | 200.0          | 56.0           | 25.0           | 1/8*           | NO   | 60520H-25CM |
|   |          | 7xD    | 153.9          | 187.0          | 190.9          | 243.0          | 56.0           | 25.0           | 1/8*           | YES  | 60720H-25FM |
|   |          | 7xD    | 153.9          | 187.0          | 190.9          | 243.0          | 56.0           | 25.0           | 1/8*           | NO   | 60720H-25CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

| Step                  |                       | Body                  |                       |                       |                       | Shank                 |                       | Part No. |  |             |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|---------------------------------------------------------------------------------------|-------------|
| <i>D</i> <sub>5</sub> | <i>L</i> <sub>5</sub> | <i>L</i> <sub>2</sub> | <i>L</i> <sub>4</sub> | <i>L</i> <sub>3</sub> | <i>L</i> <sub>1</sub> | <i>L</i> <sub>7</sub> | <i>D</i> <sub>2</sub> |          |                                                                                       |             |
| <b>i</b>              | 1-5/64                | 1-3/16                | 1-29/64               | 2-17/64               | 2-3/8                 | 4-35/64               | 2-9/32                | 1        | <b>60120C45-100F</b>                                                                  | TCMT-110204 |
| <b>m</b>              | 27.2                  | 30.0                  | 37.1                  | 57.6                  | 60.4                  | 113.6                 | 56.0                  | 25.0     | <b>60120C45-25FM</b>                                                                  | TCMT-110204 |

### Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7375-IP9-1    | 7375N-IP9-1          | 8IP-9         | 8IP-9TL                   | 8IP-9B           | 27.0 in-lbs (305 N-cm)        |

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

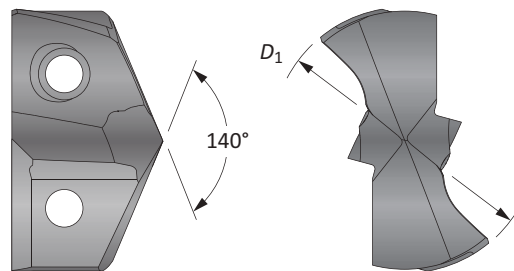
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



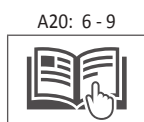
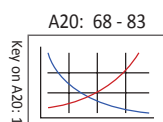
## GEN3SYS XT Pro Drill Inserts

22 Series | Diameter Range: 0.8661" - 0.9448" (22.00mm - 23.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.8661     | 22.00    | XTP22-22.00                                                                       | XTK22-22.00                                                                         | XTN22-22.00                                                                         |
| –                     | 0.8701     | 22.10    | XTP22-22.10                                                                       | XTK22-22.10                                                                         | XTN22-22.10                                                                         |
| –                     | 0.8740     | 22.20    | XTP22-22.20                                                                       | XTK22-22.20                                                                         | XTN22-22.20                                                                         |
| 7/8                   | 0.8750     | 22.23    | XTP22-22.23                                                                       | XTK22-22.23                                                                         | XTN22-22.23                                                                         |
| –                     | 0.8780     | 22.30    | XTP22-22.30                                                                       | XTK22-22.30                                                                         | XTN22-22.30                                                                         |
| –                     | 0.8819     | 22.40    | XTP22-22.40                                                                       | XTK22-22.40                                                                         | XTN22-22.40                                                                         |
| –                     | 0.8858     | 22.50    | XTP22-22.50                                                                       | XTK22-22.50                                                                         | XTN22-22.50                                                                         |
| 57/64                 | 0.8906     | 22.62    | XTP22-22.62                                                                       | XTK22-22.62                                                                         | XTN22-22.62                                                                         |
| –                     | 0.8937     | 22.70    | XTP22-22.70                                                                       | XTK22-22.70                                                                         | XTN22-22.70                                                                         |
| –                     | 0.8976     | 22.80    | XTP22-22.80                                                                       | XTK22-22.80                                                                         | XTN22-22.80                                                                         |
| –                     | 0.9016     | 22.90    | XTP22-22.90                                                                       | XTK22-22.90                                                                         | XTN22-22.90                                                                         |
| –                     | 0.9055     | 23.00    | XTP22-23.00                                                                       | XTK22-23.00                                                                         | XTN22-23.00                                                                         |
| 29/32                 | 0.9063     | 23.02    | XTP22-23.02                                                                       | XTK22-23.02                                                                         | XTN22-23.02                                                                         |
| –                     | 0.9094     | 23.10    | XTP22-23.10                                                                       | XTK22-23.10                                                                         | XTN22-23.10                                                                         |
| –                     | 0.9134     | 23.20    | XTP22-23.20                                                                       | XTK22-23.20                                                                         | XTN22-23.20                                                                         |
| –                     | 0.9173     | 23.30    | XTP22-23.30                                                                       | XTK22-23.30                                                                         | XTN22-23.30                                                                         |
| 59/64                 | 0.9219     | 23.42    | XTP22-23.42                                                                       | XTK22-23.42                                                                         | XTN22-23.42                                                                         |
| –                     | 0.9252     | 23.50    | XTP22-23.50                                                                       | XTK22-23.50                                                                         | XTN22-23.50                                                                         |
| –                     | 0.9291     | 23.60    | XTP22-23.60                                                                       | XTK22-23.60                                                                         | XTN22-23.60                                                                         |
| –                     | 0.9331     | 23.70    | XTP22-23.70                                                                       | XTK22-23.70                                                                         | XTN22-23.70                                                                         |
| 15/16                 | 0.9375     | 23.81    | XTP22-23.81                                                                       | XTK22-23.81                                                                         | XTN22-23.81                                                                         |
| –                     | 0.9409     | 23.90    | XTP22-23.90                                                                       | XTK22-23.90                                                                         | XTN22-23.90                                                                         |

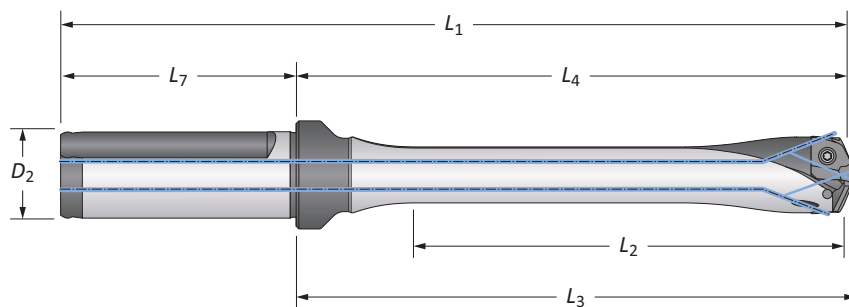
Inserts sold in multiples of 1



|                                                                                                |                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                                                               | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                                                                 | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

22 Series | Diameter Range: 0.8661" - 0.9448" (22.00mm - 23.99mm)



| Flute    |  | Body   |                |                |                |                | Shank          |                |      | Part No.      |
|----------|--|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|---------------|
|          |  | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |               |
| <b>i</b> |  | 3xD    | 2-53/64        | 4-9/64         | 4-17/64        | 6-27/64        | 2-9/32         | 1              | YES  | HXT0322S-100F |
|          |  | 3xD    | 2-53/64        | 4-9/64         | 4-17/64        | 6-27/64        | 2-9/32         | 1              | NO   | HXT0322S-100C |
|          |  | 5xD    | 4-23/32        | 6-1/32         | 6-5/32         | 8-5/16         | 2-9/32         | 1              | YES  | HXT0522S-100F |
|          |  | 5xD    | 4-23/32        | 6-1/32         | 6-5/32         | 8-5/16         | 2-9/32         | 1              | NO   | HXT0522S-100C |
|          |  | 7xD    | 6-39/64        | 7-59/64        | 8-3/64         | 10-13/64       | 2-9/32         | 1              | YES  | HXT0722S-100F |
|          |  | 7xD    | 6-39/64        | 7-59/64        | 8-3/64         | 10-13/64       | 2-9/32         | 1              | NO   | HXT0722S-100C |
|          |  | 10xD   | 9-7/16         | 10-3/4         | 10-7/8         | 13-1/32        | 2-9/32         | 1              | YES  | HXT1022S-100F |
|          |  | 10xD   | 9-7/16         | 10-3/4         | 10-7/8         | 13-1/32        | 2-9/32         | 1              | NO   | HXT1022S-100C |
| <b>m</b> |  | 3xD    | 72.0           | 105.1          | 108.3          | 161.1          | 56.0           | 25.0           | YES  | HXT0322S-25FM |
|          |  | 3xD    | 72.0           | 105.1          | 108.3          | 161.1          | 56.0           | 25.0           | NO   | HXT0322S-25CM |
|          |  | 5xD    | 120.0          | 153.2          | 156.2          | 209.2          | 56.0           | 25.0           | YES  | HXT0522S-25FM |
|          |  | 5xD    | 120.0          | 153.2          | 156.2          | 209.2          | 56.0           | 25.0           | NO   | HXT0522S-25CM |
|          |  | 7xD    | 167.9          | 201.2          | 204.2          | 257.2          | 56.0           | 25.0           | YES  | HXT0722S-25FM |
|          |  | 7xD    | 167.9          | 201.2          | 204.2          | 257.2          | 56.0           | 25.0           | NO   | HXT0722S-25CM |
|          |  | 10xD   | 239.9          | 273.0          | 276.2          | 329.0          | 56.0           | 25.0           | YES  | HXT1022S-25FM |
|          |  | 10xD   | 239.9          | 273.0          | 276.2          | 329.0          | 56.0           | 25.0           | NO   | HXT1022S-25CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 739-IP9-1     | 739N-IP9-1           | 8IP-9         | 8IP-9TL                   | 8IP-9B           | 27.0 in-lbs (305 N-cm)        |

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

**WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

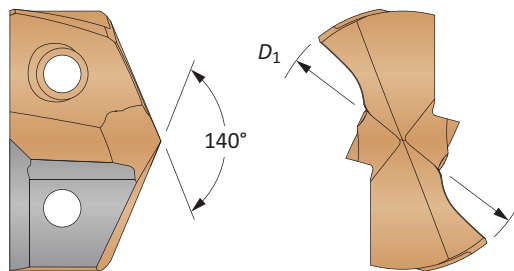
**i** = Imperial (in)  
**m** = Metric (mm)

Screws sold in multiples of 10



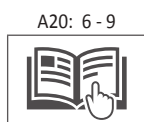
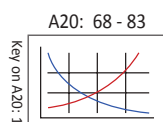
## GEN3SYS XT Drill Inserts

22 Series | Diameter Range: 0.8661" - 0.9448" (22.00mm - 23.99mm)



| Carbide Substrate | Insert                |                     |                   | Standard Part No. | Low Rake Part No. | Cast Iron Part No. | Stainless Part No. |
|-------------------|-----------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                   |                   |                    |                    |
| C1<br>(K35)       |                       | 0.8661              | 22.00             | 7C122P-22         | 7C122P-22LR       | —                  | —                  |
|                   | 7/8                   | 0.8750              | 22.23             | 7C122P-0028       | 7C122P-0028LR     | —                  | —                  |
|                   | 57/64                 | 0.8906              | 22.61             | 7C122P-.890       | 7C122P-.890LR     | —                  | —                  |
|                   |                       | 0.9055              | 23.00             | 7C122P-23         | 7C122P-23LR       | —                  | —                  |
|                   | 29/32                 | 0.9063              | 23.02             | 7C122P-0029       | 7C122P-0029LR     | —                  | —                  |
|                   | 59/64                 | 0.9219              | 23.42             | 7C122P-.921       | 7C122P-.921LR     | —                  | —                  |
|                   | 15/16                 | 0.9375              | 23.81             | 7C122P-0030       | 7C122P-0030LR     | —                  | —                  |
| C2<br>(K20)       |                       | 0.8661              | 22.00             | 7C222P-22         | 7C222P-22LR       | 7C222P-22CI        | 7C222P-22AS        |
|                   | 7/8                   | 0.8750              | 22.23             | 7C222P-0028       | 7C222P-0028LR     | 7C222P-0028CI      | 7C222P-0028AS      |
|                   | 57/64                 | 0.8906              | 22.61             | 7C222P-.890       | 7C222P-.890LR     | 7C222P-.890CI      | 7C222P-.890AS      |
|                   |                       | 0.9055              | 23.00             | 7C222P-23         | 7C222P-23LR       | 7C222P-23CI        | 7C222P-23AS        |
|                   | 29/32                 | 0.9063              | 23.02             | 7C222P-0029       | 7C222P-0029LR     | 7C222P-0029CI      | 7C222P-0029AS      |
|                   | 59/64                 | 0.9219              | 23.42             | 7C222P-.921       | 7C222P-.921LR     | 7C222P-.921CI      | 7C222P-.921AS      |
|                   | 15/16                 | 0.9375              | 23.81             | 7C222P-0030       | 7C222P-0030LR     | 7C222P-0030CI      | 7C222P-0030AS      |

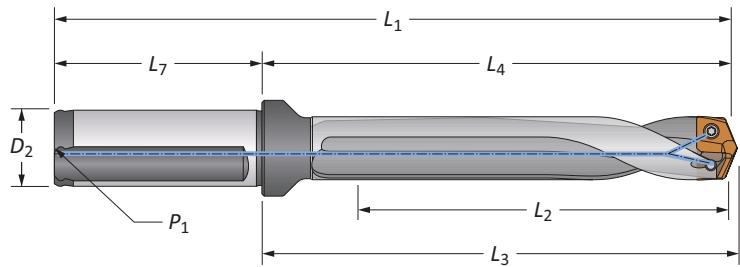
Inserts sold in multiples of 1



|                                                                                                |                                                           |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                           |
| <b>Imperial:</b>                                                                               | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                 | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

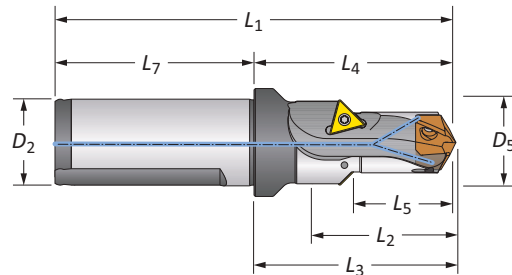
22 Series | Diameter Range: 0.8661" - 0.9448" (22.00mm - 23.99mm)



## Straight and Helical

|   | Flute | Body   |                |                |                |                | Shank          |                |                |      | Part No.    |
|---|-------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-------------|
|   |       | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | P <sub>1</sub> | Flat |             |
| i |       | 3xD    | 2-53/64        | 4-9/64         | 4-17/64        | 6-27/64        | 2-9/32         | 1              | 1/8            | YES  | 60322S-100F |
|   |       | 5xD    | 4-23/32        | 6-1/32         | 6-5/32         | 8-5/16         | 2-9/32         | 1              | 1/8            | YES  | 60522S-100F |
|   |       | 7xD    | 6-39/64        | 7-59/64        | 8-3/64         | 10-13/64       | 2-9/32         | 1              | 1/8            | YES  | 60722S-100F |
|   |       | Stub   | 1-1/16         | 2-23/64        | 2-31/64        | 4-41/64        | 2-9/32         | 1              | 1/8            | YES  | 60122H-100F |
|   |       | 3xD    | 2-53/64        | 4-9/64         | 4-17/64        | 6-27/64        | 2-9/32         | 1              | 1/8            | YES  | 60322H-100F |
|   |       | 3xD    | 2-53/64        | 4-9/64         | 4-17/64        | 6-27/64        | 2-9/32         | 1              | 1/8            | NO   | 60322H-100C |
|   |       | 5xD    | 4-23/32        | 6-1/32         | 6-5/32         | 8-5/16         | 2-9/32         | 1              | 1/8            | YES  | 60522H-100F |
|   |       | 5xD    | 4-23/32        | 6-1/32         | 6-5/32         | 8-5/16         | 2-9/32         | 1              | 1/8            | NO   | 60522H-100C |
|   |       | 7xD    | 6-39/64        | 7-59/64        | 8-3/64         | 10-13/64       | 2-9/32         | 1              | 1/8            | YES  | 60722H-100F |
|   |       | 7xD    | 6-39/64        | 7-59/64        | 8-3/64         | 10-13/64       | 2-9/32         | 1              | 1/8            | NO   | 60722H-100C |
|   |       | 3xD    | 72.0           | 105.1          | 108.3          | 161.1          | 56.0           | 25.0           | 1/8*           | YES  | 60322S-25FM |
|   |       | 5xD    | 120.0          | 153.2          | 156.2          | 209.2          | 56.0           | 25.0           | 1/8*           | YES  | 60522S-25FM |
|   |       | 7xD    | 167.9          | 201.2          | 204.2          | 257.2          | 56.0           | 25.0           | 1/8*           | YES  | 60722S-25FM |
|   |       | Stub   | 27.0           | 60.1           | 63.0           | 116.1          | 56.0           | 25.0           | 1/8*           | YES  | 60122H-25FM |
|   |       | 3xD    | 72.0           | 105.1          | 108.3          | 161.1          | 56.0           | 25.0           | 1/8*           | YES  | 60322H-25FM |
|   |       | 3xD    | 72.0           | 105.1          | 108.3          | 161.1          | 56.0           | 25.0           | 1/8*           | NO   | 60322H-25CM |
|   |       | 5xD    | 120.0          | 153.2          | 156.2          | 209.2          | 56.0           | 25.0           | 1/8*           | YES  | 60522H-25FM |
|   |       | 5xD    | 120.0          | 153.2          | 156.2          | 209.2          | 56.0           | 25.0           | 1/8*           | NO   | 60522H-25CM |
|   |       | 7xD    | 167.9          | 201.2          | 204.2          | 257.2          | 56.0           | 25.0           | 1/8*           | YES  | 60722H-25FM |
|   |       | 7xD    | 167.9          | 201.2          | 204.2          | 257.2          | 56.0           | 25.0           | 1/8*           | NO   | 60722H-25CM |

\*Thread to BSP and ISO 7-1



## Drill / Chamfer

| Step |                | Body           |                |                |                | Shank          |                |                |  |                |
|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------------------------------------------------------------|----------------|
|      | D <sub>5</sub> | L <sub>5</sub> | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Part No.                                                                              | Chamfer Insert |
| i    | 1-9/64         | 1-19/64        | 1-19/32        | 2-23/64        | 2-31/64        | 4-41/64        | 2-9/32         | 1              | 60122C45-100F                                                                         | TCMT-110204    |
| m    | 29.0           | 33.0           | 40.5           | 60.0           | 63.0           | 116.0          | 56.0           | 25.0           | 60122C45-25FM                                                                         | TCMT-110204    |

## Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 739-IP9-1     | 739N-IP9-1           | 8IP-9         | 8IP-9TL                   | 8IP-9B           | 27.0 in-lbs (305 N-cm)        |

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

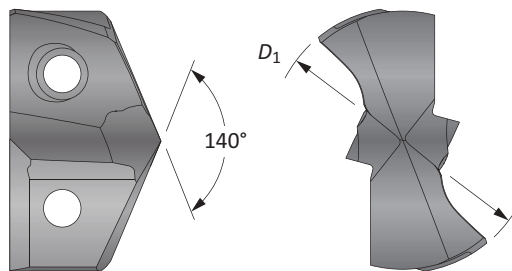
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



## GEN3SYS XT Pro Drill Inserts

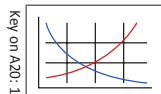
24 Series | Diameter Range: 0.9449" - 1.0235" (24.00mm - 25.99mm)



| Fractional Equivalent | Insert     |          |  |  |  |
|-----------------------|------------|----------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                       | $D_1$ inch | $D_1$ mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 0.9449     | 24.00    | XTP24-24.00                                                                       | XTK24-24.00                                                                         | XTN24-24.00                                                                         |
| –                     | 0.9488     | 24.10    | XTP24-24.10                                                                       | XTK24-24.10                                                                         | XTN24-24.10                                                                         |
| –                     | 0.9528     | 24.20    | XTP24-24.20                                                                       | XTK24-24.20                                                                         | XTN24-24.20                                                                         |
| –                     | 0.9567     | 24.30    | XTP24-24.30                                                                       | XTK24-24.30                                                                         | XTN24-24.30                                                                         |
| –                     | 0.9606     | 24.40    | XTP24-24.40                                                                       | XTK24-24.40                                                                         | XTN24-24.40                                                                         |
| –                     | 0.9646     | 24.50    | XTP24-24.50                                                                       | XTK24-24.50                                                                         | XTN24-24.50                                                                         |
| 31/32                 | 0.9688     | 24.61    | XTP24-24.61                                                                       | XTK24-24.61                                                                         | XTN24-24.61                                                                         |
| –                     | 0.9724     | 24.70    | XTP24-24.70                                                                       | XTK24-24.70                                                                         | XTN24-24.70                                                                         |
| –                     | 0.9764     | 24.80    | XTP24-24.80                                                                       | XTK24-24.80                                                                         | XTN24-24.80                                                                         |
| –                     | 0.9803     | 24.90    | XTP24-24.90                                                                       | XTK24-24.90                                                                         | XTN24-24.90                                                                         |
| 63/64                 | 0.9843     | 25.00    | XTP24-25.00                                                                       | XTK24-25.00                                                                         | XTN24-25.00                                                                         |
| –                     | 0.9882     | 25.10    | XTP24-25.10                                                                       | XTK24-25.10                                                                         | XTN24-25.10                                                                         |
| –                     | 0.9921     | 25.20    | XTP24-25.20                                                                       | XTK24-25.20                                                                         | XTN24-25.20                                                                         |
| –                     | 0.9961     | 25.30    | XTP24-25.30                                                                       | XTK24-25.30                                                                         | XTN24-25.30                                                                         |
| 1                     | 1.0000     | 25.40    | XTP24-25.40                                                                       | XTK24-25.40                                                                         | XTN24-25.40                                                                         |
| –                     | 1.0039     | 25.50    | XTP24-25.50                                                                       | XTK24-25.50                                                                         | XTN24-25.50                                                                         |
| –                     | 1.0080     | 25.60    | XTP24-25.60                                                                       | XTK24-25.60                                                                         | XTN24-25.60                                                                         |
| –                     | 1.0118     | 25.70    | XTP24-25.70                                                                       | XTK24-25.70                                                                         | XTN24-25.70                                                                         |
| 1-1/64                | 1.0150     | 25.78    | XTP24-25.78                                                                       | XTK24-25.78                                                                         | XTN24-25.78                                                                         |
| –                     | 1.0197     | 25.90    | XTP24-25.90                                                                       | XTK24-25.90                                                                         | XTN24-25.90                                                                         |

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9



Key on A20: 1

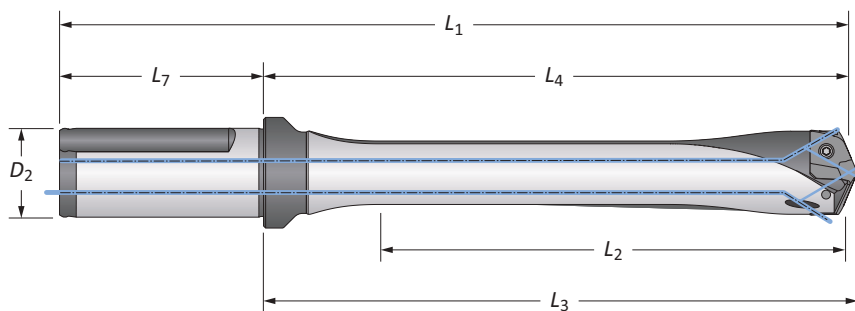
Sizes not shown are available upon request.

When ordering, please follow the example below:

|           |                                                             |
|-----------|-------------------------------------------------------------|
| Imperial: | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| Metric:   | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

24 Series | Diameter Range: 0.9449" - 1.0235" (24.00mm - 25.99mm)



| Flute                                                                                                      |          | Body   |                |                |                |                | Shank          |                |      | Part No.                                                                                            |
|------------------------------------------------------------------------------------------------------------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------------------------------------------------------------------------------------------|
|                                                                                                            |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                                                                                                     |
| <div>i</div> <div></div>  | Straight | 3xD    | 3-1/16         | 4-31/64        | 4-19/32        | 6-49/64        | 2-9/32         | 1              | YES  | HXT0324S-100F                                                                                       |
|                                                                                                            |          | 3xD    | 3-1/16         | 4-31/64        | 4-19/32        | 6-49/64        | 2-9/32         | 1              | NO   | HXT0324S-100C                                                                                       |
|                                                                                                            |          | 5xD    | 5-7/64         | 6-17/32        | 6-41/64        | 8-13/16        | 2-9/32         | 1              | YES  | HXT0524S-100F                                                                                       |
|                                                                                                            |          | 5xD    | 5-7/64         | 6-17/32        | 6-41/64        | 8-13/16        | 2-9/32         | 1              | NO   | HXT0524S-100C                                                                                       |
|                                                                                                            |          | 7xD    | 7-5/32         | 8-37/64        | 8-11/16        | 10-55/64       | 2-9/32         | 1              | YES  | HXT0724S-100F                                                                                       |
|                                                                                                            |          | 7xD    | 7-5/32         | 8-37/64        | 8-11/16        | 10-55/64       | 2-9/32         | 1              | NO   | HXT0724S-100C                                                                                       |
|                                                                                                            |          | 10xD   | 10-15/64       | 11-41/64       | 11-49/64       | 13-59/64       | 2-9/32         | 1              | YES  |  HXT1024S-100F   |
|                                                                                                            |          | 10xD   | 10-15/64       | 11-41/64       | 11-49/64       | 13-59/64       | 2-9/32         | 1              | NO   |  HXT1024S-100C   |
| <div>m</div> <div></div> | Straight | 3xD    | 78.0           | 113.9          | 116.8          | 169.9          | 56.0           | 25.0           | YES  | HXT0324S-25FM                                                                                       |
|                                                                                                            |          | 3xD    | 78.0           | 113.9          | 116.8          | 169.9          | 56.0           | 25.0           | NO   | HXT0324S-25CM                                                                                       |
|                                                                                                            |          | 5xD    | 130.0          | 165.9          | 168.7          | 221.9          | 56.0           | 25.0           | YES  | HXT0524S-25FM                                                                                       |
|                                                                                                            |          | 5xD    | 130.0          | 165.9          | 168.7          | 221.9          | 56.0           | 25.0           | NO   | HXT0524S-25CM                                                                                       |
|                                                                                                            |          | 7xD    | 181.9          | 217.9          | 220.7          | 273.9          | 56.0           | 25.0           | YES  | HXT0724S-25FM                                                                                       |
|                                                                                                            |          | 7xD    | 181.9          | 217.9          | 220.7          | 273.9          | 56.0           | 25.0           | NO   | HXT0724S-25CM                                                                                       |
|                                                                                                            |          | 10xD   | 259.9          | 295.7          | 298.7          | 351.7          | 56.0           | 25.0           | YES  |  HXT1024S-25FM |
|                                                                                                            |          | 10xD   | 259.9          | 295.7          | 298.7          | 351.7          | 56.0           | 25.0           | NO   |  HXT1024S-25CM |

## Connection Accessories

|           |            |       |         |        |                               |
|-----------|------------|-------|---------|--------|-------------------------------|
|           |            |       |         |        | Admissible Tightening Torque* |
| 739-IP9-1 | 739N-IP9-1 | 8IP-9 | 8IP-9TL | 8IP-9B | 27.0 in-lbs (305 N-cm)        |

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

**WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

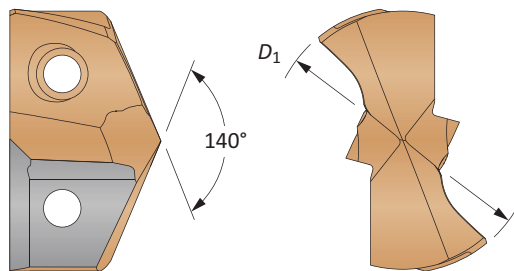
ⓘ = Imperial (in)  
 ⓘ = Metric (mm)

Screws sold in multiples of 10



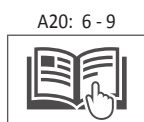
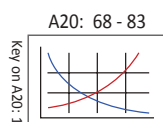
## GEN3SYS XT Drill Inserts

24 Series | Diameter Range: 0.9449" - 1.0235" (24.00mm - 25.99mm)



| Carbide Substrate | Insert                |                     |                   | Standard Part No. | Low Rake Part No. | Cast Iron Part No. | Stainless Part No. |
|-------------------|-----------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                   |                   |                    |                    |
| C1<br>(K35)       | —                     | 0.9449              | 24.00             | 7C124P-24         | 7C124P-24LR       | —                  | —                  |
|                   | 31/32                 | 0.9688              | 24.61             | 7C124P-0031       | 7C124P-0031LR     | —                  | —                  |
|                   | 63/64                 | 0.9843              | 25.00             | 7C124P-25         | 7C124P-25LR       | —                  | —                  |
|                   | 1                     | 1.0000              | 25.40             | 7C124P-0100       | 7C124P-0100LR     | —                  | —                  |
|                   | —                     | 1.0080              | 25.60             | 7C124P-1.008      | 7C124P-1.008LR    | —                  | —                  |
|                   | 1-1/64                | 1.0156              | 25.78             | 7C124P-1.015      | 7C124P-1.015LR    | —                  | —                  |
| C2<br>(K20)       | —                     | 0.9449              | 24.00             | 7C224P-24         | 7C224P-24LR       | 7C224P-24CI        | 7C224P-24AS        |
|                   | 31/32                 | 0.9688              | 24.61             | 7C224P-0031       | 7C224P-0031LR     | 7C224P-0031CI      | 7C224P-0031AS      |
|                   | 63/64                 | 0.9843              | 25.00             | 7C224P-25         | 7C224P-25LR       | 7C224P-25CI        | 7C224P-25AS        |
|                   | 1                     | 1.0000              | 25.40             | 7C224P-0100       | 7C224P-0100LR     | 7C224P-0100CI      | 7C224P-0100AS      |
|                   | —                     | 1.0080              | 25.60             | 7C224P-1.008      | 7C224P-1.008LR    | 7C224P-1.008CI     | 7C224P-1.008AS     |
|                   | 1-1/64                | 1.0156              | 25.78             | 7C224P-1.015      | 7C224P-1.015LR    | 7C224P-1.015CI     | 7C224P-1.015AS     |

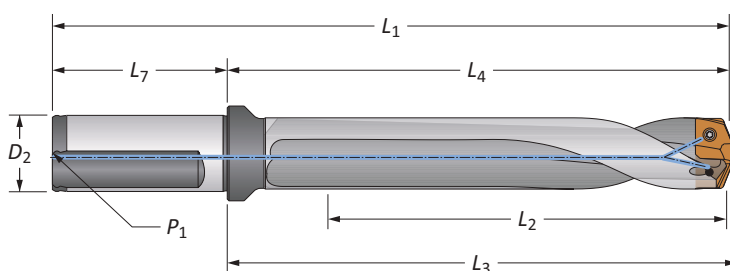
Inserts sold in multiples of 1



|                                                                                                        |                                                           |
|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <p>Sizes not shown are available upon request.<br/>When ordering, please follow the example below:</p> |                                                           |
| <b>Imperial:</b>                                                                                       | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                         | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

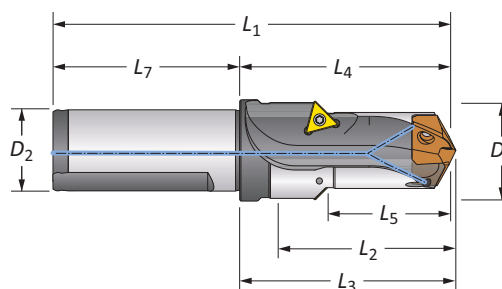
24 Series | Diameter Range: 0.9449" - 1.0235" (24.00mm - 25.99mm)



### Straight and Helical

|   | Flute    | Length | Body   |         |         |          | Shank  |       |       |      | Part No.    |
|---|----------|--------|--------|---------|---------|----------|--------|-------|-------|------|-------------|
|   |          |        | $L_2$  | $L_4$   | $L_3$   | $L_1$    | $L_7$  | $D_2$ | $P_1$ | Flat |             |
| i | Straight | 3xD    | 3-1/16 | 4-31/64 | 4-19/32 | 6-49/64  | 2-9/32 | 1     | 1/8   | YES  | 60324S-100F |
|   |          | 5xD    | 5-7/64 | 6-17/32 | 6-41/64 | 8-13/16  | 2-9/32 | 1     | 1/8   | YES  | 60524S-100F |
|   |          | 7xD    | 7-5/32 | 8-37/64 | 8-11/16 | 10-55/64 | 2-9/32 | 1     | 1/8   | YES  | 60724S-100F |
|   | Helical  | Stub   | 1-1/8  | 2-17/32 | 2-41/64 | 4-13/16  | 2-9/32 | 1     | 1/8   | YES  | 60124H-100F |
|   |          | 3xD    | 3-1/16 | 4-31/64 | 4-19/32 | 6-49/64  | 2-9/32 | 1     | 1/8   | YES  | 60324H-100F |
|   |          | 3xD    | 3-1/16 | 4-31/64 | 4-19/32 | 6-49/64  | 2-9/32 | 1     | 1/8   | NO   | 60324H-100C |
|   |          | 5xD    | 5-7/64 | 6-17/32 | 6-41/64 | 8-13/16  | 2-9/32 | 1     | 1/8   | YES  | 60524H-100F |
|   |          | 5xD    | 5-7/64 | 6-17/32 | 6-41/64 | 8-13/16  | 2-9/32 | 1     | 1/8   | NO   | 60524H-100C |
|   |          | 7xD    | 7-5/32 | 8-37/64 | 8-11/16 | 10-55/64 | 2-9/32 | 1     | 1/8   | YES  | 60724H-100F |
|   |          | 7xD    | 7-5/32 | 8-37/64 | 8-11/16 | 10-55/64 | 2-9/32 | 1     | 1/8   | NO   | 60724H-100C |
|   |          | 3xD    | 78.0   | 113.9   | 116.8   | 169.9    | 56.0   | 25.0  | 1/8*  | YES  | 60324S-25FM |
|   |          | 5xD    | 130.0  | 165.9   | 168.7   | 221.9    | 56.0   | 25.0  | 1/8*  | YES  | 60524S-25FM |
|   |          | 7xD    | 181.9  | 217.9   | 220.7   | 273.9    | 56.0   | 25.0  | 1/8*  | YES  | 60724S-25FM |
|   |          | Stub   | 28.5   | 64.2    | 67.1    | 120.1    | 56.0   | 25.0  | 1/8*  | YES  | 60124H-25FM |
|   |          | 3xD    | 78.0   | 113.9   | 116.8   | 169.9    | 56.0   | 25.0  | 1/8*  | YES  | 60324H-25FM |
|   |          | 3xD    | 78.0   | 113.9   | 116.8   | 169.9    | 56.0   | 25.0  | 1/8*  | NO   | 60324H-25CM |
|   |          | 5xD    | 130.0  | 165.9   | 168.7   | 221.9    | 56.0   | 25.0  | 1/8*  | YES  | 60524H-25FM |
|   |          | 5xD    | 130.0  | 165.9   | 168.7   | 221.9    | 56.0   | 25.0  | 1/8*  | NO   | 60524H-25CM |
|   |          | 7xD    | 181.9  | 217.9   | 220.7   | 273.9    | 56.0   | 25.0  | 1/8*  | YES  | 60724H-25FM |
|   |          | 7xD    | 181.9  | 217.9   | 220.7   | 273.9    | 56.0   | 25.0  | 1/8*  | NO   | 60724H-25CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

| Step  |        | Body    |         |         |         | Shank   |        | Part No. | <br>Chamfer Insert |             |
|-------|--------|---------|---------|---------|---------|---------|--------|----------|---------------------------------------------------------------------------------------------------------|-------------|
| $D_5$ | $L_5$  | $L_2$   | $L_4$   | $L_3$   | $L_1$   | $L_7$   | $D_2$  |          |                                                                                                         |             |
| i     | 1-7/32 | 1-27/64 | 1-51/64 | 2-17/32 | 2-41/64 | 4-13/16 | 2-9/32 | 1        | 60124C45-100F                                                                                           | TCMT-110204 |
| m     | 31.0   | 36.0    | 45.5    | 64.2    | 67.1    | 120.2   | 56.0   | 25.0     | 60124C45-25FM                                                                                           | TCMT-110204 |

### Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 739-IP9-1     | 739N-IP9-1           | 8IP-9         | 8IP-9TL                   | 8IP-9B           | 27.0 in-lbs (305 N-cm)        |

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

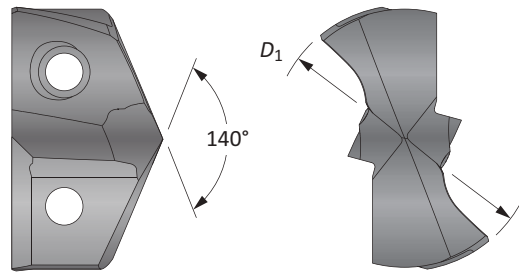
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



## GEN3SYS XT Pro Drill Inserts

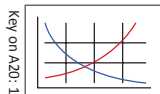
26 Series | Diameter Range: 1.0236" - 1.1416" (26.00mm - 28.99mm)



| Insert                |                     |                   |  |  |  |
|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 1.0236              | 26.00             | XTP26-26.00                                                                       | XTK26-26.00                                                                         | XTN26-26.00                                                                         |
| –                     | 1.0276              | 26.10             | XTP26-26.10                                                                       | XTK26-26.10                                                                         | XTN26-26.10                                                                         |
| 1-1/32                | 1.0313              | 26.20             | XTP26-26.20                                                                       | XTK26-26.20                                                                         | XTN26-26.20                                                                         |
| –                     | 1.0354              | 26.30             | XTP26-26.30                                                                       | XTK26-26.30                                                                         | XTN26-26.30                                                                         |
| –                     | 1.0394              | 26.40             | XTP26-26.40                                                                       | XTK26-26.40                                                                         | XTN26-26.40                                                                         |
| –                     | 1.0433              | 26.50             | XTP26-26.50                                                                       | XTK26-26.50                                                                         | XTN26-26.50                                                                         |
| 1-3/64                | 1.0469              | 26.59             | XTP26-26.59                                                                       | XTK26-26.59                                                                         | XTN26-26.59                                                                         |
| –                     | 1.0472              | 26.60             | XTP26-26.60                                                                       | XTK26-26.60                                                                         | XTN26-26.60                                                                         |
| –                     | 1.0512              | 26.70             | XTP26-26.70                                                                       | XTK26-26.70                                                                         | XTN26-26.70                                                                         |
| –                     | 1.0551              | 26.80             | XTP26-26.80                                                                       | XTK26-26.80                                                                         | XTN26-26.80                                                                         |
| –                     | 1.0591              | 26.90             | XTP26-26.90                                                                       | XTK26-26.90                                                                         | XTN26-26.90                                                                         |
| 1-1/16                | 1.0625              | 26.99             | XTP26-26.99                                                                       | XTK26-26.99                                                                         | XTN26-26.99                                                                         |
| –                     | 1.0630              | 27.00             | XTP26-27.00                                                                       | XTK26-27.00                                                                         | XTN26-27.00                                                                         |
| –                     | 1.0669              | 27.10             | XTP26-27.10                                                                       | XTK26-27.10                                                                         | XTN26-27.10                                                                         |
| –                     | 1.0709              | 27.20             | XTP26-27.20                                                                       | XTK26-27.20                                                                         | XTN26-27.20                                                                         |
| –                     | 1.0748              | 27.30             | XTP26-27.30                                                                       | XTK26-27.30                                                                         | XTN26-27.30                                                                         |
| –                     | 1.0787              | 27.40             | XTP26-27.40                                                                       | XTK26-27.40                                                                         | XTN26-27.40                                                                         |
| –                     | 1.0827              | 27.50             | XTP26-27.50                                                                       | XTK26-27.50                                                                         | XTN26-27.50                                                                         |
| –                     | 1.0866              | 27.60             | XTP26-27.60                                                                       | XTK26-27.60                                                                         | XTN26-27.60                                                                         |
| –                     | 1.0906              | 27.70             | XTP26-27.70                                                                       | XTK26-27.70                                                                         | XTN26-27.70                                                                         |
| 1-3/32                | 1.0938              | 27.78             | XTP26-27.78                                                                       | XTK26-27.78                                                                         | XTN26-27.78                                                                         |
| –                     | 1.0984              | 27.90             | XTP26-27.90                                                                       | XTK26-27.90                                                                         | XTN26-27.90                                                                         |
| –                     | 1.1024              | 28.00             | XTP26-28.00                                                                       | XTK26-28.00                                                                         | XTN26-28.00                                                                         |
| –                     | 1.1063              | 28.10             | XTP26-28.10                                                                       | XTK26-28.10                                                                         | XTN26-28.10                                                                         |
| 1-7/64                | 1.1090              | 28.17             | XTP26-28.17                                                                       | XTK26-28.17                                                                         | XTN26-28.17                                                                         |
| –                     | 1.1102              | 28.20             | XTP26-28.20                                                                       | XTK26-28.20                                                                         | XTN26-28.20                                                                         |
| –                     | 1.1142              | 28.30             | XTP26-28.30                                                                       | XTK26-28.30                                                                         | XTN26-28.30                                                                         |
| –                     | 1.1181              | 28.40             | XTP26-28.40                                                                       | XTK26-28.40                                                                         | XTN26-28.40                                                                         |
| –                     | 1.1220              | 28.50             | XTP26-28.50                                                                       | XTK26-28.50                                                                         | XTN26-28.50                                                                         |
| 1-1/8                 | 1.1250              | 28.58             | XTP26-28.58                                                                       | XTK26-28.58                                                                         | XTN26-28.58                                                                         |
| –                     | 1.1299              | 28.70             | XTP26-28.70                                                                       | XTK26-28.70                                                                         | XTN26-28.70                                                                         |
| –                     | 1.1339              | 28.80             | XTP26-28.80                                                                       | XTK26-28.80                                                                         | XTN26-28.80                                                                         |
| –                     | 1.1378              | 28.90             | XTP26-28.90                                                                       | XTK26-28.90                                                                         | XTN26-28.90                                                                         |

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9



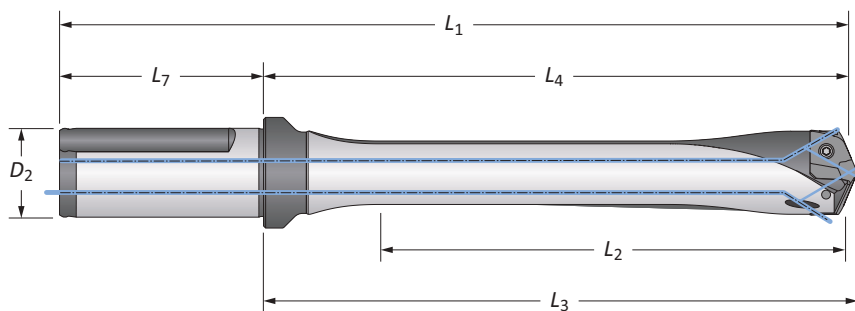
key on A20: 1

Sizes not shown are available upon request.  
When ordering, please follow the example below:

|                  |                                                             |
|------------------|-------------------------------------------------------------|
| <b>Imperial:</b> | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>   | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

26 Series | Diameter Range: 1.0236" - 1.1416" (26.00mm - 28.99mm)



| Flute                                                                                                       |          | Body   |                |                |                |                | Shank          |                |      | Part No.                                                                                            |
|-------------------------------------------------------------------------------------------------------------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------------------------------------------------------------------------------------------------|
|                                                                                                             |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |                                                                                                     |
| <div>i</div> <div></div>   | Straight | 3xD    | 3-27/64        | 5-1/16         | 5-11/64        | 7-11/32        | 2-9/32         | 1-1/4          | YES  | HXT0326S-125F                                                                                       |
|                                                                                                             |          | 3xD    | 3-27/64        | 5-1/16         | 5-11/64        | 7-11/32        | 2-9/32         | 1-1/4          | NO   | HXT0326S-125C                                                                                       |
|                                                                                                             |          | 5xD    | 5-45/64        | 7-11/32        | 7-29/64        | 9-5/8          | 2-9/32         | 1-1/4          | YES  | HXT0526S-125F                                                                                       |
|                                                                                                             |          | 5xD    | 5-45/64        | 7-11/32        | 7-29/64        | 9-5/8          | 2-9/32         | 1-1/4          | NO   | HXT0526S-125C                                                                                       |
|                                                                                                             |          | 7xD    | 7-63/64        | 9-5/8          | 9-47/64        | 11-29/32       | 2-9/32         | 1-1/4          | YES  | HXT0726S-125F                                                                                       |
|                                                                                                             |          | 7xD    | 7-63/64        | 9-5/8          | 9-47/64        | 11-29/32       | 2-9/32         | 1-1/4          | NO   | HXT0726S-125C                                                                                       |
|                                                                                                             |          | 10xD   | 11-13/32       | 13-3/64        | 13-11/64       | 15-21/64       | 2-9/32         | 1-1/4          | YES  |  HXT1026S-125F   |
|                                                                                                             |          | 10xD   | 11-13/32       | 13-3/64        | 13-11/64       | 15-21/64       | 2-9/32         | 1-1/4          | NO   |  HXT1026S-125C   |
| <div>m</div> <div></div> | Straight | 3xD    | 87.0           | 128.6          | 131.4          | 188.6          | 60.0           | 32.0           | YES  | HXT0326S-32FM                                                                                       |
|                                                                                                             |          | 3xD    | 87.0           | 128.6          | 131.4          | 188.6          | 60.0           | 32.0           | NO   | HXT0326S-32CM                                                                                       |
|                                                                                                             |          | 5xD    | 145.0          | 186.5          | 189.4          | 246.5          | 60.0           | 32.0           | YES  | HXT0526S-32FM                                                                                       |
|                                                                                                             |          | 5xD    | 145.0          | 186.5          | 189.4          | 246.5          | 60.0           | 32.0           | NO   | HXT0526S-32CM                                                                                       |
|                                                                                                             |          | 7xD    | 202.9          | 244.5          | 247.4          | 304.5          | 60.0           | 32.0           | YES  | HXT0726S-32FM                                                                                       |
|                                                                                                             |          | 7xD    | 202.9          | 244.5          | 247.4          | 304.5          | 60.0           | 32.0           | NO   | HXT0726S-32CM                                                                                       |
|                                                                                                             |          | 10xD   | 289.9          | 331.4          | 334.4          | 391.4          | 60.0           | 32.0           | YES  |  HXT1026S-32FM |
|                                                                                                             |          | 10xD   | 289.9          | 331.4          | 334.4          | 391.4          | 60.0           | 32.0           | NO   |  HXT1026S-32CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 7495-IP15-1   | 7495N-IP15-1         | 8IP-15        | 8IP-15TL                  | 8IP-15B          | 61.0 in-lbs (690 N-cm)        |

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

**⚠ WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

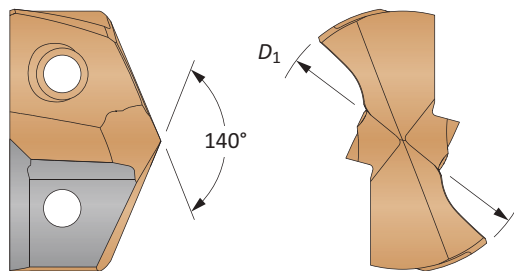
**i** = Imperial (in)  
**m** = Metric (mm)

Screws sold in multiples of 10



## GEN3SYS XT Drill Inserts

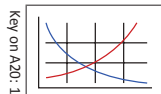
26 Series | Diameter Range: 1.0236" - 1.1416" (26.00mm - 28.99mm)



| Insert            |                       |                     |                   |  |  |  |  |
|-------------------|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Carbide Substrate | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| C1<br>(K35)       |                       | 1.0236              | 26.00             | 7C126P-26                                                                         | 7C126P-26LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 1-1/32                | 1.0313              | 26.20             | 7C126P-0101                                                                       | 7C126P-0101LR                                                                      | —                                                                                   | —                                                                                   |
|                   | 1-3/64                | 1.0469              | 26.59             | 7C126P-1.046                                                                      | 7C126P-1.046LR                                                                     | —                                                                                   | —                                                                                   |
|                   | 1-1/16                | 1.0625              | 26.99             | 7C126P-0102                                                                       | 7C126P-0102LR                                                                      | —                                                                                   | —                                                                                   |
|                   |                       | 1.0630              | 27.00             | 7C126P-27                                                                         | 7C126P-27LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 1-3/32                | 1.0938              | 27.78             | 7C126P-0103                                                                       | 7C126P-0103LR                                                                      | —                                                                                   | —                                                                                   |
|                   |                       | 1.1024              | 28.00             | 7C126P-28                                                                         | 7C126P-28LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 1-7/64                | 1.1094              | 28.17             | 7C126P-1.109                                                                      | 7C126P-1.109LR                                                                     | —                                                                                   | —                                                                                   |
| C2<br>(K20)       | 1-1/8                 | 1.1250              | 28.58             | 7C126P-0104                                                                       | 7C126P-0104LR                                                                      | —                                                                                   | —                                                                                   |
|                   |                       | 1.0236              | 26.00             | 7C226P-26                                                                         | 7C226P-26LR                                                                        | 7C226P-26CI                                                                         | 7C226P-26AS                                                                         |
|                   | 1-1/32                | 1.0313              | 26.20             | 7C226P-0101                                                                       | 7C226P-0101LR                                                                      | 7C226P-0101CI                                                                       | 7C226P-0101AS                                                                       |
|                   | 1-3/64                | 1.0469              | 26.59             | 7C226P-1.046                                                                      | 7C226P-1.046LR                                                                     | 7C226P-1.046CI                                                                      | 7C226P-1.046AS                                                                      |
|                   | 1-1/16                | 1.0625              | 26.99             | 7C226P-0102                                                                       | 7C226P-0102LR                                                                      | 7C226P-0102CI                                                                       | 7C226P-0102AS                                                                       |
|                   |                       | 1.0630              | 27.00             | 7C226P-27                                                                         | 7C226P-27LR                                                                        | 7C226P-27CI                                                                         | 7C226P-27AS                                                                         |
|                   | 1-3/32                | 1.0938              | 27.78             | 7C226P-0103                                                                       | 7C226P-0103LR                                                                      | 7C226P-0103CI                                                                       | 7C226P-0103AS                                                                       |
|                   |                       | 1.1024              | 28.00             | 7C226P-28                                                                         | 7C226P-28LR                                                                        | 7C226P-28CI                                                                         | 7C226P-28AS                                                                         |
|                   | 1-7/64                | 1.1094              | 28.17             | 7C226P-1.109                                                                      | 7C226P-1.109LR                                                                     | 7C226P-1.109CI                                                                      | 7C226P-1.109AS                                                                      |
|                   | 1-1/8                 | 1.1250              | 28.58             | 7C226P-0104                                                                       | 7C226P-0104LR                                                                      | 7C226P-0104CI                                                                       | 7C226P-0104AS                                                                       |

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9



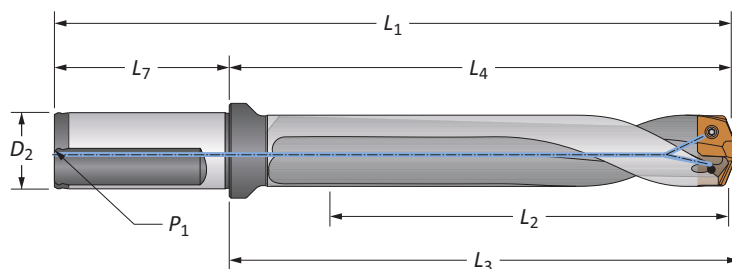
Key on A20: 1

Sizes not shown are available upon request.  
When ordering, please follow the example below:

|           |                                                           |
|-----------|-----------------------------------------------------------|
| Imperial: | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| Metric:   | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

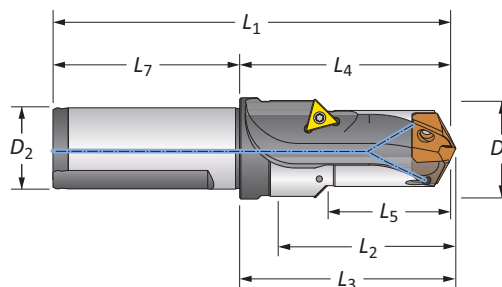
26 Series | Diameter Range: 1.0236" - 1.1416" (26.00mm - 28.99mm)



### Straight and Helical

|   | Flute    | Body   |                |                |                |                | Shank          |                |                |      | Part No.    |
|---|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-------------|
|   |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | P <sub>1</sub> | Flat |             |
| i | Straight | 3xD    | 3-27/64        | 5-1/16         | 5-11/64        | 7-11/32        | 2-9/32         | 1-1/4          | 1/8            | YES  | 60326S-125F |
|   |          | 5xD    | 5-45/64        | 7-11/32        | 7-29/64        | 9-5/8          | 2-9/32         | 1-1/4          | 1/8            | YES  | 60526S-125F |
|   |          | 7xD    | 7-63/64        | 9-5/8          | 9-47/64        | 11-29/32       | 2-9/32         | 1-1/4          | 1/8            | YES  | 60726S-125F |
|   | Helical  | Stub   | 1-1/4          | 2-7/8          | 2-63/64        | 5-5/32         | 2-9/32         | 1-1/4          | 1/8            | YES  | 60126H-125F |
|   |          | 3xD    | 3-27/64        | 5-1/16         | 5-11/64        | 7-11/32        | 2-9/32         | 1-1/4          | 1/8            | YES  | 60326H-125F |
|   |          | 3xD    | 3-27/64        | 5-1/16         | 5-11/64        | 7-11/32        | 2-9/32         | 1-1/4          | 1/8            | NO   | 60326H-125C |
|   |          | 5xD    | 5-45/64        | 7-11/32        | 7-29/64        | 9-5/8          | 2-9/32         | 1-1/4          | 1/8            | YES  | 60526H-125F |
|   |          | 5xD    | 5-45/64        | 7-11/32        | 7-29/64        | 9-5/8          | 2-9/32         | 1-1/4          | 1/8            | NO   | 60526H-125C |
|   |          | 7xD    | 7-63/64        | 9-5/8          | 9-47/64        | 11-29/32       | 2-9/32         | 1-1/4          | 1/8            | YES  | 60726H-125F |
|   |          | 7xD    | 7-63/64        | 9-5/8          | 9-47/64        | 11-29/32       | 2-9/32         | 1-1/4          | 1/8            | NO   | 60726H-125C |
|   |          | 3xD    | 87.0           | 128.6          | 131.4          | 188.6          | 60.0           | 32.0           | 1/8*           | YES  | 60326S-32FM |
|   |          | 5xD    | 145.0          | 186.5          | 189.4          | 246.5          | 60.0           | 32.0           | 1/8*           | YES  | 60526S-32FM |
|   |          | 7xD    | 202.9          | 244.5          | 247.4          | 304.5          | 60.0           | 32.0           | 1/8*           | YES  | 60726S-32FM |
|   |          | Stub   | 32.0           | 72.9           | 75.7           | 132.9          | 60.0           | 32.0           | 1/8*           | YES  | 60126H-32FM |
|   |          | 3xD    | 87.0           | 128.6          | 131.4          | 188.6          | 60.0           | 32.0           | 1/8*           | YES  | 60326H-32FM |
|   |          | 3xD    | 87.0           | 128.6          | 131.4          | 188.6          | 60.0           | 32.0           | 1/8*           | NO   | 60326H-32CM |
|   |          | 5xD    | 145.0          | 186.5          | 189.4          | 246.5          | 60.0           | 32.0           | 1/8*           | YES  | 60526H-32FM |
|   |          | 5xD    | 145.0          | 186.5          | 189.4          | 246.5          | 60.0           | 32.0           | 1/8*           | NO   | 60526H-32CM |
|   |          | 7xD    | 202.9          | 244.5          | 247.4          | 304.5          | 60.0           | 32.0           | 1/8*           | YES  | 60726H-32FM |
|   |          | 7xD    | 202.9          | 244.5          | 247.4          | 304.5          | 60.0           | 32.0           | 1/8*           | NO   | 60726H-32CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

| Step     |         | Body    |        |       |         | Shank  |        | Part No. | <br>Chamfer Insert |             |
|----------|---------|---------|--------|-------|---------|--------|--------|----------|---------------------------------------------------------------------------------------------------------|-------------|
| $D_5$    | $L_5$   | $L_2$   | $L_4$  | $L_3$ | $L_1$   | $L_7$  | $D_2$  |          |                                                                                                         |             |
| <b>i</b> | 1-11/32 | 1-17/32 | 2-3/64 | 2-7/8 | 2-63/64 | 5-5/32 | 2-9/32 | 1-1/4    | <b>60126C45-125F</b>                                                                                    | TCMT-110204 |
| <b>m</b> | 34.0    | 39.0    | 52.1   | 72.9  | 75.7    | 132.9  | 60.0   | 32.0     | <b>60126C45-32FM</b>                                                                                    | TCMT-110204 |

### Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7495-IP15-1   | 7495N-IP15-1         | 8IP-15        | 8IP-15TL                  | 8IP-15B          | 61.0 in-lbs (690 N-cm)        |

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

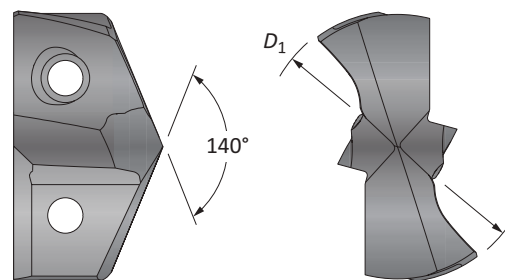
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



## GEN3SYS XT Pro Drill Inserts

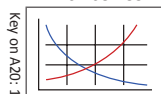
29 Series | Diameter Range: 1.1417" - 1.2597" (29.00mm - 31.99mm)



| Insert                |                     |                   |  |  |  |
|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 1.1417              | 29.00             | XTP29-29.00                                                                       | XTK29-29.00                                                                         | XTN29-29.00                                                                         |
| –                     | 1.1457              | 29.10             | XTP29-29.10                                                                       | XTK29-29.10                                                                         | XTN29-29.10                                                                         |
| –                     | 1.1496              | 29.20             | XTP29-29.20                                                                       | XTK29-29.20                                                                         | XTN29-29.20                                                                         |
| –                     | 1.1535              | 29.30             | XTP29-29.30                                                                       | XTK29-29.30                                                                         | XTN29-29.30                                                                         |
| 1-5/32                | 1.1563              | 29.37             | XTP29-29.37                                                                       | XTK29-29.37                                                                         | XTN29-29.37                                                                         |
| –                     | 1.1575              | 29.40             | XTP29-29.40                                                                       | XTK29-29.40                                                                         | XTN29-29.40                                                                         |
| –                     | 1.1614              | 29.50             | XTP29-29.50                                                                       | XTK29-29.50                                                                         | XTN29-29.50                                                                         |
| –                     | 1.1654              | 29.60             | XTP29-29.60                                                                       | XTK29-29.60                                                                         | XTN29-29.60                                                                         |
| –                     | 1.1693              | 29.70             | XTP29-29.70                                                                       | XTK29-29.70                                                                         | XTN29-29.70                                                                         |
| –                     | 1.1732              | 29.80             | XTP29-29.80                                                                       | XTK29-29.80                                                                         | XTN29-29.80                                                                         |
| –                     | 1.1772              | 29.90             | XTP29-29.90                                                                       | XTK29-29.90                                                                         | XTN29-29.90                                                                         |
| –                     | 1.1811              | 30.00             | XTP29-30.00                                                                       | XTK29-30.00                                                                         | XTN29-30.00                                                                         |
| –                     | 1.1850              | 30.10             | XTP29-30.10                                                                       | XTK29-30.10                                                                         | XTN29-30.10                                                                         |
| 1-3/16                | 1.1875              | 30.16             | XTP29-30.16                                                                       | XTK29-30.16                                                                         | XTN29-30.16                                                                         |
| –                     | 1.1890              | 30.20             | XTP29-30.20                                                                       | XTK29-30.20                                                                         | XTN29-30.20                                                                         |
| –                     | 1.1929              | 30.30             | XTP29-30.30                                                                       | XTK29-30.30                                                                         | XTN29-30.30                                                                         |
| –                     | 1.1969              | 30.40             | XTP29-30.40                                                                       | XTK29-30.40                                                                         | XTN29-30.40                                                                         |
| –                     | 1.2008              | 30.50             | XTP29-30.50                                                                       | XTK29-30.50                                                                         | XTN29-30.50                                                                         |
| –                     | 1.2047              | 30.60             | XTP29-30.60                                                                       | XTK29-30.60                                                                         | XTN29-30.60                                                                         |
| –                     | 1.2087              | 30.70             | XTP29-30.70                                                                       | XTK29-30.70                                                                         | XTN29-30.70                                                                         |
| –                     | 1.2126              | 30.80             | XTP29-30.80                                                                       | XTK29-30.80                                                                         | XTN29-30.80                                                                         |
| –                     | 1.2165              | 30.90             | XTP29-30.90                                                                       | XTK29-30.90                                                                         | XTN29-30.90                                                                         |
| 1-7/32                | 1.2188              | 30.96             | XTP29-30.96                                                                       | XTK29-30.96                                                                         | XTN29-30.96                                                                         |
| –                     | 1.2205              | 31.00             | XTP29-31.00                                                                       | XTK29-31.00                                                                         | XTN29-31.00                                                                         |
| –                     | 1.2244              | 31.10             | XTP29-31.10                                                                       | XTK29-31.10                                                                         | XTN29-31.10                                                                         |
| –                     | 1.2283              | 31.20             | XTP29-31.20                                                                       | XTK29-31.20                                                                         | XTN29-31.20                                                                         |
| –                     | 1.2323              | 31.30             | XTP29-31.30                                                                       | XTK29-31.30                                                                         | XTN29-31.30                                                                         |
| –                     | 1.2362              | 31.40             | XTP29-31.40                                                                       | XTK29-31.40                                                                         | XTN29-31.40                                                                         |
| –                     | 1.2402              | 31.50             | XTP29-31.50                                                                       | XTK29-31.50                                                                         | XTN29-31.50                                                                         |
| –                     | 1.2441              | 31.60             | XTP29-31.60                                                                       | XTK29-31.60                                                                         | XTN29-31.60                                                                         |
| –                     | 1.2480              | 31.70             | XTP29-31.70                                                                       | XTK29-31.70                                                                         | XTN29-31.70                                                                         |
| 1-1/4                 | 1.2500              | 31.75             | XTP29-31.75                                                                       | XTK29-31.75                                                                         | XTN29-31.75                                                                         |
| –                     | 1.2520              | 31.80             | XTP29-31.80                                                                       | XTK29-31.80                                                                         | XTN29-31.80                                                                         |
| –                     | 1.2559              | 31.90             | XTP29-31.90                                                                       | XTK29-31.90                                                                         | XTN29-31.90                                                                         |

Inserts sold in multiples of 1

A20: 68 - 83



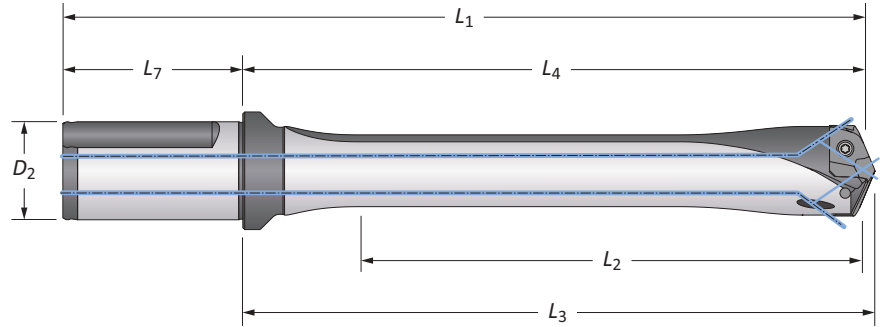
A20: 6 - 9



|                                                                                                |                                                             |
|------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                             |
| <b>Imperial:</b>                                                                               | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| <b>Metric:</b>                                                                                 | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

29 Series | Diameter Range: 1.1417" - 1.2597" (29.00mm - 31.99mm)



|       |  | Body   |                |                |                |                | Shank          |                |      | Part No.      |
|-------|--|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|---------------|
| Flute |  | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |               |
| i     |  | 3xD    | 3-25/32        | 5-3/8          | 5-1/2          | 7-21/32        | 2-9/32         | 1-1/4          | YES  | HXT0329S-125F |
|       |  | 3xD    | 3-25/32        | 5-3/8          | 5-1/2          | 7-21/32        | 2-9/32         | 1-1/4          | NO   | HXT0329S-125C |
|       |  | 5xD    | 6-19/64        | 7-29/32        | 8-1/64         | 10-3/16        | 2-9/32         | 1-1/4          | YES  | HXT0529S-125F |
|       |  | 5xD    | 6-19/64        | 7-29/32        | 8-1/64         | 10-3/16        | 2-9/32         | 1-1/4          | NO   | HXT0529S-125C |
|       |  | 7xD    | 8-13/16        | 10-27/64       | 10-17/64       | 12-45/64       | 2-9/32         | 1-1/4          | YES  | HXT0729S-125F |
|       |  | 7xD    | 8-13/16        | 10-27/64       | 10-17/64       | 12-45/64       | 2-9/32         | 1-1/4          | NO   | HXT0729S-125C |
|       |  | 10xD   | 12-19/32       | 14-3/16        | 14-5/16        | 16-15/32       | 2-9/32         | 1-1/4          | YES  | HXT1029S-125F |
|       |  | 10xD   | 12-19/32       | 14-3/16        | 14-5/16        | 16-15/32       | 2-9/32         | 1-1/4          | NO   | HXT1029S-125C |
| m     |  | 3xD    | 96.0           | 136.5          | 139.7          | 196.5          | 60.0           | 32.0           | YES  | HXT0329S-32FM |
|       |  | 3xD    | 96.0           | 136.5          | 139.7          | 196.5          | 60.0           | 32.0           | NO   | HXT0329S-32CM |
|       |  | 5xD    | 160.0          | 200.8          | 203.7          | 260.8          | 60.0           | 32.0           | YES  | HXT0529S-32FM |
|       |  | 5xD    | 160.0          | 200.8          | 203.7          | 260.8          | 60.0           | 32.0           | NO   | HXT0529S-32CM |
|       |  | 7xD    | 223.9          | 264.7          | 267.6          | 324.7          | 60.0           | 32.0           | YES  | HXT0729S-32FM |
|       |  | 7xD    | 223.9          | 264.7          | 267.6          | 324.7          | 60.0           | 32.0           | NO   | HXT0729S-32CM |
|       |  | 10xD   | 319.9          | 360.4          | 363.6          | 420.4          | 60.0           | 32.0           | YES  | HXT1029S-32FM |
|       |  | 10xD   | 319.9          | 360.4          | 363.6          | 420.4          | 60.0           | 32.0           | NO   | HXT1029S-32CM |

### Connection Accessories

|             |              |        |          |         | Admissible Tightening Torque* |
|-------------|--------------|--------|----------|---------|-------------------------------|
| 7495-IP15-1 | 7495N-IP15-1 | 8IP-15 | 8IP-15TL | 8IP-15B | 61.0 in-lbs (690 N-cm)        |

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

**WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

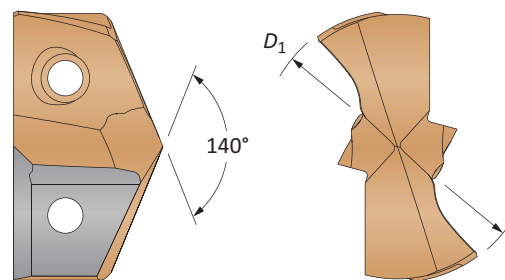
i = Imperial (in)  
m = Metric (mm)

Screws sold in multiples of 10



## GEN3SYS XT Drill Inserts

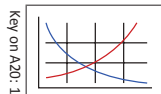
29 Series | Diameter Range: 1.1417" - 1.2597" (29.00mm - 31.99mm)



| Insert            |                       |                     |                   |  |  |  |  |
|-------------------|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Carbide Substrate | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| C1<br>(K35)       | —                     | 1.1417              | 29.00             | 7C129P-29                                                                         | 7C129P-29LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 1-5/32                | 1.1563              | 29.37             | 7C129P-0105                                                                       | 7C129P-0105LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 1.1811              | 30.00             | 7C129P-30                                                                         | 7C129P-30LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 1-3/16                | 1.1875              | 30.16             | 7C129P-0106                                                                       | 7C129P-0106LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 1.2008              | 30.50             | 7C129P-30.5                                                                       | 7C129P-30.5LR                                                                      | —                                                                                   | —                                                                                   |
|                   | 1-7/32                | 1.2188              | 30.96             | 7C129P-0107                                                                       | 7C129P-0107LR                                                                      | —                                                                                   | —                                                                                   |
|                   | —                     | 1.2205              | 31.00             | 7C129P-31                                                                         | 7C129P-31LR                                                                        | —                                                                                   | —                                                                                   |
|                   | 1-1/4                 | 1.2500              | 31.75             | 7C129P-0108                                                                       | 7C129P-0108LR                                                                      | —                                                                                   | —                                                                                   |
| C2<br>(K20)       | —                     | 1.1417              | 29.00             | 7C229P-29                                                                         | 7C229P-29LR                                                                        | 7C229P-29CI                                                                         | 7C229P-29AS                                                                         |
|                   | 1-5/32                | 1.1563              | 29.37             | 7C229P-0105                                                                       | 7C229P-0105LR                                                                      | 7C229P-0105CI                                                                       | 7C229P-0105AS                                                                       |
|                   | —                     | 1.1811              | 30.00             | 7C229P-30                                                                         | 7C229P-30LR                                                                        | 7C229P-30CI                                                                         | 7C229P-30AS                                                                         |
|                   | 1-3/16                | 1.1875              | 30.16             | 7C229P-0106                                                                       | 7C229P-0106LR                                                                      | 7C229P-0106CI                                                                       | 7C229P-0106AS                                                                       |
|                   | —                     | 1.2008              | 30.50             | 7C229P-30.5                                                                       | 7C229P-30.5LR                                                                      | 7C229P-30.5CI                                                                       | 7C229P-30.5AS                                                                       |
|                   | 1-7/32                | 1.2188              | 30.96             | 7C229P-0107                                                                       | 7C229P-0107LR                                                                      | 7C229P-0107CI                                                                       | 7C229P-0107AS                                                                       |
|                   | —                     | 1.2205              | 31.00             | 7C229P-31                                                                         | 7C229P-31LR                                                                        | 7C229P-31CI                                                                         | 7C229P-31AS                                                                         |
|                   | 1-1/4                 | 1.2500              | 31.75             | 7C229P-0108                                                                       | 7C229P-0108LR                                                                      | 7C229P-0108CI                                                                       | 7C229P-0108AS                                                                       |

Inserts sold in multiples of 1

A20: 68 - 83



A20: 6 - 9

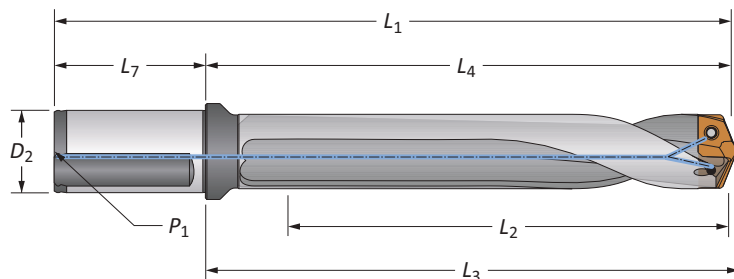


Sizes not shown are available upon request.  
When ordering, please follow the example below:

|           |                                                           |
|-----------|-----------------------------------------------------------|
| Imperial: | 0.5200", 13 series, C2 = use Part No. <b>7C213P-5200</b>  |
| Metric:   | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

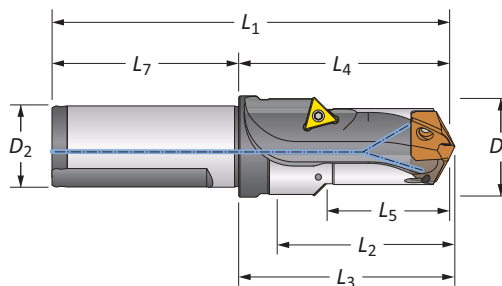
29 Series | Diameter Range: 1.1417" - 1.2597" (29.00mm - 31.99mm)



### Straight and Helical

|   | Flute    | Body   |                |                |                |                | Shank          |                |                |      | Part No.    |
|---|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-------------|
|   |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | P <sub>1</sub> | Flat |             |
| i | Straight | 3xD    | 3-25/32        | 5-3/8          | 5-1/2          | 7-21/32        | 2-9/32         | 1-1/4          | 1/4            | YES  | 60329S-125F |
|   |          | 5xD    | 6-19/64        | 7-29/32        | 8-1/64         | 10-3/16        | 2-9/32         | 1-1/4          | 1/4            | YES  | 60529S-125F |
|   |          | 7xD    | 8-13/16        | 10-27/64       | 10-17/64       | 12-45/64       | 2-9/32         | 1-1/4          | 1/4            | YES  | 60729S-125F |
|   | Helical  | Stub   | 1-3/8          | 2-31/32        | 3-5/64         | 5-1/4          | 2-9/32         | 1-1/4          | 1/4            | YES  | 60129H-125F |
|   |          | 3xD    | 3-25/32        | 5-3/8          | 5-1/2          | 7-21/32        | 2-9/32         | 1-1/4          | 1/4            | YES  | 60329H-125F |
|   |          | 3xD    | 3-25/32        | 5-3/8          | 5-1/2          | 7-21/32        | 2-9/32         | 1-1/4          | 1/4            | NO   | 60329H-125C |
|   |          | 5xD    | 6-19/64        | 7-29/32        | 8-1/64         | 10-3/16        | 2-9/32         | 1-1/4          | 1/4            | YES  | 60529H-125F |
|   |          | 5xD    | 6-19/64        | 7-29/32        | 8-1/64         | 10-3/16        | 2-9/32         | 1-1/4          | 1/4            | NO   | 60529H-125C |
|   |          | 7xD    | 8-13/16        | 10-27/64       | 10-17/64       | 12-45/64       | 2-9/32         | 1-1/4          | 1/4            | YES  | 60729H-125F |
|   |          | 7xD    | 8-13/16        | 10-27/64       | 10-17/64       | 12-45/64       | 2-9/32         | 1-1/4          | 1/4            | NO   | 60729H-125C |
|   | Straight | 3xD    | 96.0           | 136.5          | 139.7          | 196.5          | 60.0           | 32.0           | 1/4*           | YES  | 60329S-32FM |
|   |          | 5xD    | 160.0          | 200.8          | 203.7          | 260.8          | 60.0           | 32.0           | 1/4*           | YES  | 60529S-32FM |
|   |          | 7xD    | 223.9          | 264.7          | 267.6          | 324.7          | 60.0           | 32.0           | 1/4*           | YES  | 60729S-32FM |
|   | Helical  | Stub   | 35.0           | 75.2           | 78.2           | 135.2          | 60.0           | 32.0           | 1/4*           | YES  | 60129H-32FM |
|   |          | 3xD    | 96.0           | 136.5          | 139.7          | 196.5          | 60.0           | 32.0           | 1/4*           | YES  | 60329H-32FM |
|   |          | 3xD    | 96.0           | 136.5          | 139.7          | 196.5          | 60.0           | 32.0           | 1/4*           | NO   | 60329H-32CM |
|   |          | 5xD    | 160.0          | 200.8          | 203.7          | 260.8          | 60.0           | 32.0           | 1/4*           | YES  | 60529H-32FM |
|   |          | 5xD    | 160.0          | 200.8          | 203.7          | 260.8          | 60.0           | 32.0           | 1/4*           | NO   | 60529H-32CM |
|   |          | 7xD    | 223.9          | 264.7          | 267.6          | 324.7          | 60.0           | 32.0           | 1/4*           | YES  | 60729H-32FM |
|   |          | 7xD    | 223.9          | 264.7          | 267.6          | 324.7          | 60.0           | 32.0           | 1/4*           | NO   | 60729H-32CM |

\*Thread to BSP and ISO 7-1



### Drill / Chamfer

| Step                  |                       | Body                  |                       |                       |                       | Shank                 |                       | Part No. | <br>Chamfer Insert |             |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------|---------------------------------------------------------------------------------------------------------|-------------|
| <i>D</i> <sub>5</sub> | <i>L</i> <sub>5</sub> | <i>L</i> <sub>2</sub> | <i>L</i> <sub>4</sub> | <i>L</i> <sub>3</sub> | <i>L</i> <sub>1</sub> | <i>L</i> <sub>7</sub> | <i>D</i> <sub>2</sub> |          |                                                                                                         |             |
| <b>i</b>              | 1-29/64               | 1-23/32               | 2-13/64               | 2-31/32               | 3-5/64                | 5-1/4                 | 2-9/32                | 1-1/4    | <b>60129C45-125F</b>                                                                                    | TCMT-16T304 |
| <b>m</b>              | 37.1                  | 43.5                  | 55.9                  | 75.2                  | 78.2                  | 135.2                 | 60.0                  | 32.0     | <b>60129C45-32FM</b>                                                                                    | TCMT-16T304 |

### Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7495-IP15-1   | 7495N-IP15-1         | 8IP-15        | 8IP-15TL                  | 8IP-15B          | 61.0 in-lbs (690 N-cm)        |

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

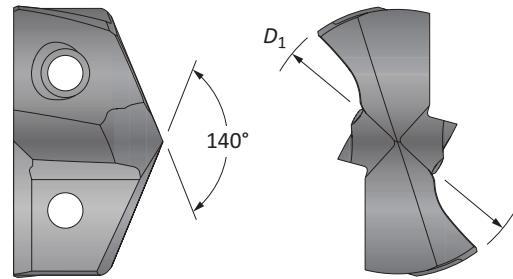
Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

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



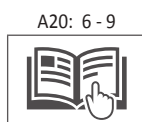
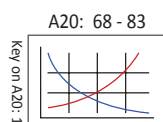
## GEN3SYS XT Pro Drill Inserts

32 Series | Diameter Range: 1.2598" - 1.3780" (32.00mm - 35.00mm)



| Insert                |                     |                   |  |  |  |
|-----------------------|---------------------|-------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm | Part No.<br>P                                                                     | Part No.<br>K                                                                       | Part No.<br>N                                                                       |
| –                     | 1.2598              | 32.00             | XTP32-32.00                                                                       | XTK32-32.00                                                                         | XTN32-32.00                                                                         |
| –                     | 1.2638              | 32.10             | XTP32-32.10                                                                       | XTK32-32.10                                                                         | XTN32-32.10                                                                         |
| 1-17/64               | 1.2657              | 32.15             | XTP32-32.15                                                                       | XTK32-32.15                                                                         | XTN32-32.15                                                                         |
| –                     | 1.2677              | 32.20             | XTP32-32.20                                                                       | XTK32-32.20                                                                         | XTN32-32.20                                                                         |
| –                     | 1.2717              | 32.30             | XTP32-32.30                                                                       | XTK32-32.30                                                                         | XTN32-32.30                                                                         |
| –                     | 1.2756              | 32.40             | XTP32-32.40                                                                       | XTK32-32.40                                                                         | XTN32-32.40                                                                         |
| –                     | 1.2795              | 32.50             | XTP32-32.50                                                                       | XTK32-32.50                                                                         | XTN32-32.50                                                                         |
| 1-9/32                | 1.2813              | 32.55             | XTP32-32.55                                                                       | XTK32-32.55                                                                         | XTN32-32.55                                                                         |
| –                     | 1.2835              | 32.60             | XTP32-32.60                                                                       | XTK32-32.60                                                                         | XTN32-32.60                                                                         |
| –                     | 1.2874              | 32.70             | XTP32-32.70                                                                       | XTK32-32.70                                                                         | XTN32-32.70                                                                         |
| –                     | 1.2913              | 32.80             | XTP32-32.80                                                                       | XTK32-32.80                                                                         | XTN32-32.80                                                                         |
| –                     | 1.2953              | 32.90             | XTP32-32.90                                                                       | XTK32-32.90                                                                         | XTN32-32.90                                                                         |
| –                     | 1.2992              | 33.00             | XTP32-33.00                                                                       | XTK32-33.00                                                                         | XTN32-33.00                                                                         |
| –                     | 1.3031              | 33.10             | XTP32-33.10                                                                       | XTK32-33.10                                                                         | XTN32-33.10                                                                         |
| –                     | 1.3071              | 33.20             | XTP32-33.20                                                                       | XTK32-33.20                                                                         | XTN32-33.20                                                                         |
| –                     | 1.3110              | 33.30             | XTP32-33.30                                                                       | XTK32-33.30                                                                         | XTN32-33.30                                                                         |
| 1-5/16                | 1.3125              | 33.34             | XTP32-33.34                                                                       | XTK32-33.34                                                                         | XTN32-33.34                                                                         |
| –                     | 1.3150              | 33.40             | XTP32-33.40                                                                       | XTK32-33.40                                                                         | XTN32-33.40                                                                         |
| –                     | 1.3189              | 33.50             | XTP32-33.50                                                                       | XTK32-33.50                                                                         | XTN32-33.50                                                                         |
| –                     | 1.3228              | 33.60             | XTP32-33.60                                                                       | XTK32-33.60                                                                         | XTN32-33.60                                                                         |
| –                     | 1.3268              | 33.70             | XTP32-33.70                                                                       | XTK32-33.70                                                                         | XTN32-33.70                                                                         |
| –                     | 1.3307              | 33.80             | XTP32-33.80                                                                       | XTK32-33.80                                                                         | XTN32-33.80                                                                         |
| –                     | 1.3346              | 33.90             | XTP32-33.90                                                                       | XTK32-33.90                                                                         | XTN32-33.90                                                                         |
| –                     | 1.3386              | 34.00             | XTP32-34.00                                                                       | XTK32-34.00                                                                         | XTN32-34.00                                                                         |
| –                     | 1.3425              | 34.10             | XTP32-34.10                                                                       | XTK32-34.10                                                                         | XTN32-34.10                                                                         |
| 1-11/32               | 1.3438              | 34.13             | XTP32-34.13                                                                       | XTK32-34.13                                                                         | XTN32-34.13                                                                         |
| –                     | 1.3465              | 34.20             | XTP32-34.20                                                                       | XTK32-34.20                                                                         | XTN32-34.20                                                                         |
| –                     | 1.3504              | 34.30             | XTP32-34.30                                                                       | XTK32-34.30                                                                         | XTN32-34.30                                                                         |
| –                     | 1.3543              | 34.40             | XTP32-34.40                                                                       | XTK32-34.40                                                                         | XTN32-34.40                                                                         |
| –                     | 1.3583              | 34.50             | XTP32-34.50                                                                       | XTK32-34.50                                                                         | XTN32-34.50                                                                         |
| –                     | 1.3622              | 34.60             | XTP32-34.60                                                                       | XTK32-34.60                                                                         | XTN32-34.60                                                                         |
| –                     | 1.3661              | 34.70             | XTP32-34.70                                                                       | XTK32-34.70                                                                         | XTN32-34.70                                                                         |
| –                     | 1.3701              | 34.80             | XTP32-34.80                                                                       | XTK32-34.80                                                                         | XTN32-34.80                                                                         |
| –                     | 1.3740              | 34.90             | XTP32-34.90                                                                       | XTK32-34.90                                                                         | XTN32-34.90                                                                         |
| 1-3/8                 | 1.3750              | 34.93             | XTP32-34.93                                                                       | XTK32-34.93                                                                         | XTN32-34.93                                                                         |
| –                     | 1.3780              | 35.00             | XTP32-35.00                                                                       | XTK32-35.00                                                                         | XTN32-35.00                                                                         |

Inserts sold in multiples of 1

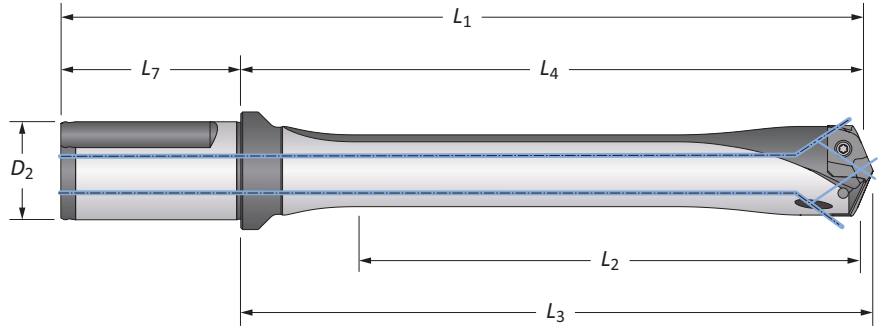


Sizes not shown are available upon request.  
When ordering, please follow the example below:

|           |                                                             |
|-----------|-------------------------------------------------------------|
| Imperial: | 0.5180", Steel, 13 series = use Part No. <b>XTP13-13.16</b> |
| Metric:   | 13.16mm, Steel, 13 series = use Part No. <b>XTP13-13.16</b> |

## GEN3SYS XT Pro Drill Insert Holders

32 Series | Diameter Range: 1.2598" - 1.3780" (32.00mm - 35.00mm)



|          |          | Body   |                |                |                |                | Shank          |                |      | Part No.      |
|----------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|---------------|
| Flute    |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Flat |               |
| <b>i</b> | Straight | 3xD    | 4-9/64         | 6-7/32         | 6-23/64        | 8-29/32        | 2-11/16        | 1-1/2          | YES  | HXT0332S-150F |
|          |          | 3xD    | 4-9/64         | 6-7/32         | 6-23/64        | 8-29/32        | 2-11/16        | 1-1/2          | NO   | HXT0332S-150C |
|          |          | 5xD    | 6-57/64        | 8-31/32        | 9-7/64         | 11-21/32       | 2-11/16        | 1-1/2          | YES  | HXT0532S-150F |
|          |          | 5xD    | 6-57/64        | 8-31/32        | 9-7/64         | 11-21/32       | 2-11/16        | 1-1/2          | NO   | HXT0532S-150C |
|          |          | 7xD    | 9-41/64        | 11-23/32       | 11-55/64       | 14-13/32       | 2-11/16        | 1-1/2          | YES  | HXT0732S-150F |
|          |          | 7xD    | 9-41/64        | 11-23/32       | 11-55/64       | 14-13/32       | 2-11/16        | 1-1/2          | NO   | HXT0732S-150C |
|          |          | 10xD   | 13-25/32       | 15-55/64       | 16             | 18-35/64       | 2-11/16        | 1-1/2          | YES  | HXT1032S-150F |
|          |          | 10xD   | 13-25/32       | 15-55/64       | 16             | 18-35/64       | 2-11/16        | 1-1/2          | NO   | HXT1032S-150C |
| <b>m</b> | Straight | 3xD    | 105.0          | 150.7          | 154.3          | 210.7          | 60.0           | 32.0           | YES  | HXT0332S-32FM |
|          |          | 3xD    | 105.0          | 150.7          | 154.3          | 210.7          | 60.0           | 32.0           | NO   | HXT0332S-32CM |
|          |          | 5xD    | 175.0          | 220.7          | 224.3          | 280.7          | 60.0           | 32.0           | YES  | HXT0532S-32FM |
|          |          | 5xD    | 175.0          | 220.7          | 224.3          | 280.7          | 60.0           | 32.0           | NO   | HXT0532S-32CM |
|          |          | 7xD    | 245.0          | 290.7          | 294.3          | 350.7          | 60.0           | 32.0           | YES  | HXT0732S-32FM |
|          |          | 7xD    | 245.0          | 290.7          | 294.3          | 350.7          | 60.0           | 32.0           | NO   | HXT0732S-32CM |
|          |          | 10xD   | 350.0          | 395.7          | 399.3          | 455.7          | 60.0           | 32.0           | YES  | HXT1032S-32FM |
|          |          | 10xD   | 350.0          | 395.7          | 399.3          | 455.7          | 60.0           | 32.0           | NO   | HXT1032S-32CM |

## Connection Accessories

|               |                      |               |                           |                  |                               |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
|               |                      |               |                           |                  | Admissible Tightening Torque* |
| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips |                               |
| 7495-IP15-1   | 7495N-IP15-1         | 8IP-15        | 8IP-15TL                  | 8IP-15B          | 61.0 in-lbs (690 N-cm)        |

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

**WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A20: 86 for deep hole drilling guidelines in this section of the catalog. Visit [www.alliedmachine.com/DeepHoleGuidelines](http://www.alliedmachine.com/DeepHoleGuidelines) for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team.

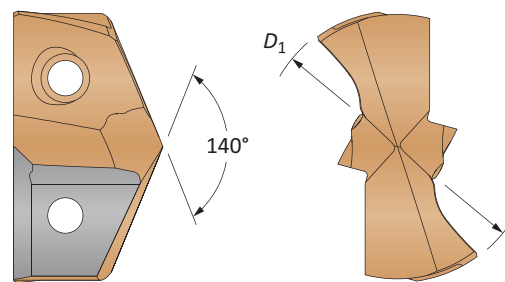
**i** = Imperial (in)  
**m** = Metric (mm)

Screws sold in multiples of 10



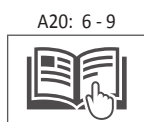
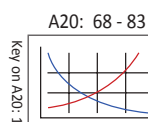
## GEN3SYS XT Drill Inserts

32 Series | Diameter Range: 1.2598" - 1.3780" (32.00mm - 35.00mm)



| Carbide Substrate | Insert                |                     |                   | Standard Part No. | Low Rake Part No. | Cast Iron Part No. | Stainless Part No. |
|-------------------|-----------------------|---------------------|-------------------|-------------------|-------------------|--------------------|--------------------|
|                   | Fractional Equivalent | D <sub>1</sub> inch | D <sub>1</sub> mm |                   |                   |                    |                    |
| C1<br>(K35)       | —                     | 1.2598              | 32.00             | 7C132P-32         | 7C132P-32LR       | —                  | —                  |
|                   | 1-17/64               | 1.2658              | 32.15             | 7C132P-32.15      | 7C132P-32.15LR    | —                  | —                  |
|                   | —                     | 1.2795              | 32.50             | 7C132P-32.5       | 7C132P-32.5LR     | —                  | —                  |
|                   | 1-9/32                | 1.2813              | 32.55             | 7C132P-0109       | 7C132P-0109LR     | —                  | —                  |
|                   | —                     | 1.2992              | 33.00             | 7C132P-33         | 7C132P-33LR       | —                  | —                  |
|                   | 1-5/16                | 1.3125              | 33.34             | 7C132P-0110       | 7C132P-0110LR     | —                  | —                  |
|                   | —                     | 1.3189              | 33.50             | 7C132P-33.5       | 7C132P-33.5LR     | —                  | —                  |
|                   | —                     | 1.3386              | 34.00             | 7C132P-34         | 7C132P-34LR       | —                  | —                  |
|                   | 1-11/32               | 1.3438              | 34.13             | 7C132P-0111       | 7C132P-0111LR     | —                  | —                  |
|                   | —                     | 1.3583              | 34.50             | 7C132P-34.5       | 7C132P-34.5LR     | —                  | —                  |
| C2<br>(K20)       | 1-3/8                 | 1.3750              | 34.93             | 7C132P-0112       | 7C132P-0112LR     | —                  | —                  |
|                   | —                     | 1.3780              | 35.00             | 7C132P-35         | 7C132P-35LR       | —                  | —                  |
|                   | —                     | 1.2598              | 32.00             | 7C232P-32         | 7C232P-32LR       | 7C232P-32CI        | 7C232P-32AS        |
|                   | 1-17/64               | 1.2658              | 32.15             | 7C232P-32.15      | 7C232P-32.15LR    | 7C232P-32.15CI     | 7C232P-32.15AS     |
|                   | —                     | 1.2795              | 32.50             | 7C232P-32.5       | 7C232P-32.5LR     | 7C232P-32.5CI      | 7C232P-32.5AS      |
|                   | 1-9/32                | 1.2813              | 32.55             | 7C232P-0109       | 7C232P-0109LR     | 7C232P-0109CI      | 7C232P-0109AS      |
|                   | —                     | 1.2992              | 33.00             | 7C232P-33         | 7C232P-33LR       | 7C232P-33CI        | 7C232P-33AS        |
|                   | 1-5/16                | 1.3125              | 33.34             | 7C232P-0110       | 7C232P-0110LR     | 7C232P-0110CI      | 7C232P-0110AS      |
|                   | —                     | 1.3189              | 33.50             | 7C232P-33.5       | 7C232P-33.5LR     | 7C232P-33.5CI      | 7C232P-33.5AS      |
|                   | —                     | 1.3386              | 34.00             | 7C232P-34         | 7C232P-34LR       | 7C232P-34CI        | 7C232P-34AS        |
|                   | 1-11/32               | 1.3438              | 34.13             | 7C232P-0111       | 7C232P-0111LR     | 7C232P-0111CI      | 7C232P-0111AS      |
|                   | —                     | 1.3583              | 34.50             | 7C232P-34.5       | 7C232P-34.5LR     | 7C232P-34.5CI      | 7C232P-34.5AS      |
|                   | 1-3/8                 | 1.3750              | 34.93             | 7C232P-0112       | 7C232P-0112LR     | 7C232P-0112CI      | 7C232P-0112AS      |
|                   | —                     | 1.3780              | 35.00             | 7C232P-35         | 7C232P-35LR       | 7C232P-35CI        | 7C232P-35AS        |

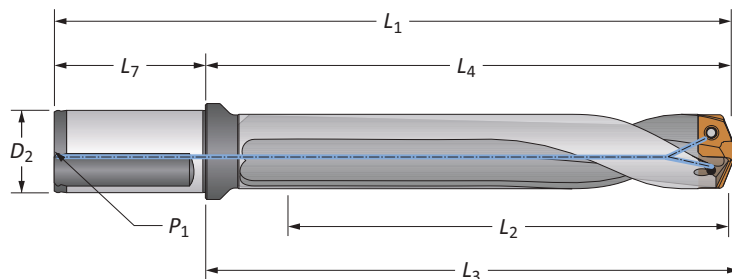
Inserts sold in multiples of 1



|                                                                                                |                                                           |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Sizes not shown are available upon request.<br>When ordering, please follow the example below: |                                                           |
| <b>Imperial:</b>                                                                               | 0.5200", 13 series, C2 = use Part No. <b>7C213P-.5200</b> |
| <b>Metric:</b>                                                                                 | 13.20mm, 13 series, C2 = use Part No. <b>7C213P-13.20</b> |

## GEN3SYS Drill Insert Holders

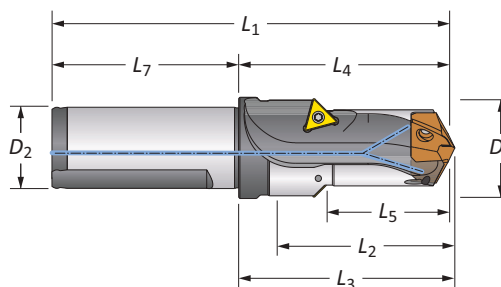
32 Series | Diameter Range: 1.2598" - 1.3780" (32.00mm - 35.00mm)



## Straight and Helical

|                                                                                                                      |          | Body   |                |                |                |                |                | Shank          |                |      |             | Part No. |
|----------------------------------------------------------------------------------------------------------------------|----------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-------------|----------|
|                                                                                                                      |          | Length | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | P <sub>1</sub> | Flat |             |          |
| <div><div>i</div><div></div></div>  | Straight | 3xD    | 4-9/64         | 6-7/32         | 6-23/64        | 8-29/32        | 2-11/16        | 1-1/2          | 1/4            | YES  | 60332S-150F |          |
|                                                                                                                      |          | 5xD    | 6-57/64        | 8-31/32        | 9-7/64         | 11-21/32       | 2-11/16        | 1-1/2          | 1/4            | YES  | 60532S-150F |          |
|                                                                                                                      |          | 7xD    | 9-41/64        | 11-23/32       | 11-55/64       | 14-13/32       | 2-11/16        | 1-1/2          | 1/4            | YES  | 60732S-150F |          |
|                                                                                                                      | Helical  | Stub   | 1-1/2          | 3-37/64        | 3-45/64        | 6-1/4          | 2-11/16        | 1-1/2          | 1/4            | YES  | 60132H-150F |          |
|                                                                                                                      |          | 3xD    | 4-9/64         | 6-7/32         | 6-23/64        | 8-29/32        | 2-11/16        | 1-1/2          | 1/4            | YES  | 60332H-150F |          |
|                                                                                                                      |          | 3xD    | 4-9/64         | 6-7/32         | 6-23/64        | 8-29/32        | 2-11/16        | 1-1/2          | 1/4            | NO   | 60332H-150C |          |
|                                                                                                                      |          | 5xD    | 6-57/64        | 8-31/32        | 9-7/64         | 11-21/32       | 2-11/16        | 1-1/2          | 1/4            | YES  | 60532H-150F |          |
|                                                                                                                      |          | 5xD    | 6-57/64        | 8-31/32        | 9-7/64         | 11-21/32       | 2-11/16        | 1-1/2          | 1/4            | NO   | 60532H-150C |          |
|                                                                                                                      |          | 7xD    | 9-41/64        | 11-23/32       | 11-55/64       | 14-13/32       | 2-11/16        | 1-1/2          | 1/4            | YES  | 60732H-150F |          |
|                                                                                                                      |          | 7xD    | 9-41/64        | 11-23/32       | 11-55/64       | 14-13/32       | 2-11/16        | 1-1/2          | 1/4            | NO   | 60732H-150C |          |
|                                                                                                                      |          |        |                |                |                |                |                |                |                |      |             |          |
| <div><div>m</div><div></div></div> | Straight | 3xD    | 105.0          | 150.7          | 154.3          | 220.7          | 70.0           | 40.0           | 1/4*           | YES  | 60332S-40FM |          |
|                                                                                                                      |          | 5xD    | 175.0          | 220.7          | 224.3          | 290.7          | 70.0           | 40.0           | 1/4*           | YES  | 60532S-40FM |          |
|                                                                                                                      |          | 7xD    | 245.0          | 290.7          | 294.3          | 360.7          | 70.0           | 40.0           | 1/4*           | YES  | 60732S-40FM |          |
|                                                                                                                      | Helical  | Stub   | 38.0           | 90.7           | 94.2           | 160.7          | 70.0           | 40.0           | 1/4*           | YES  | 60132H-40FM |          |
|                                                                                                                      |          | 3xD    | 105.0          | 150.7          | 154.3          | 220.7          | 70.0           | 40.0           | 1/4*           | YES  | 60332H-40FM |          |
|                                                                                                                      |          | 3xD    | 105.0          | 150.7          | 154.3          | 220.7          | 70.0           | 40.0           | 1/4*           | NO   | 60332H-40CM |          |
|                                                                                                                      |          | 5xD    | 175.0          | 220.7          | 224.3          | 290.7          | 70.0           | 40.0           | 1/4*           | YES  | 60532H-40FM |          |
|                                                                                                                      |          | 5xD    | 175.0          | 220.7          | 224.3          | 290.7          | 70.0           | 40.0           | 1/4*           | NO   | 60532H-40CM |          |
|                                                                                                                      |          | 7xD    | 245.0          | 290.7          | 294.3          | 360.7          | 70.0           | 40.0           | 1/4*           | YES  | 60732H-40FM |          |
|                                                                                                                      |          | 7xD    | 245.0          | 290.7          | 294.3          | 360.7          | 70.0           | 40.0           | 1/4*           | NO   | 60732H-40CM |          |

\*Thread to BSP and ISO 7-1



## Drill / Chamfer

| Step                                                                                |                | Body           |                |                |                | Shank          |                |                |  |                |
|-------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------------------------------------------------------------------------|----------------|
|                                                                                     | D <sub>5</sub> | L <sub>5</sub> | L <sub>2</sub> | L <sub>4</sub> | L <sub>3</sub> | L <sub>1</sub> | L <sub>7</sub> | D <sub>2</sub> | Part No.                                                                              | Chamfer Insert |
|  | 1-37/64        | 1-57/64        | 2-29/64        | 3-37/64        | 3-23/32        | 6-1/4          | 2-11/16        | 1-1/2          | 60132C45-150F                                                                         | TCMT-16T304    |
|  | 40.1           | 48.0           | 62.4           | 90.7           | 94.2           | 160.7          | 70.0           | 40.0           | 60132C45-40FM                                                                         | TCMT-16T304    |

## Connection Accessories

| Insert Screws | Nylon Locking Screws | Insert Driver | Preset Torque Hand Driver | Replacement Tips | Admissible Tightening Torque* |
|---------------|----------------------|---------------|---------------------------|------------------|-------------------------------|
| 7495-IP15-1   | 7495N-IP15-1         | 8IP-15        | 8IP-15TL                  | 8IP-15B          | 61.0 in-lbs (690 N-cm)        |

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

Chamfer inserts sold separately in multiples of 10 | Screws sold in multiples of 10

 = Imperial (in)  
 = Metric (mm)



## Recommended Drilling Data | Imperial (inch)

## GEN3SYS XT Pro

| ISO | Material                                                        | Hardness<br>(BHN) | Speed<br>(SFM) | Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |
|-----|-----------------------------------------------------------------|-------------------|----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|     |                                                                 |                   |                | 11 series<br>0.4331 -<br>0.4723 | 12 series<br>0.4724 -<br>0.5117 | 13 series<br>0.5118 -<br>0.5511 | 14 series<br>0.5512 -<br>0.5905 |
| P   | Free Machining Steel<br>1118, 1215, 12L14, etc.                 | 100 - 150         | 550            | 0.011                           | 0.012                           | 0.013                           | 0.014                           |
|     |                                                                 | 150 - 200         | 475            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                                                 | 200 - 250         | 425            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     | Low Carbon Steel<br>1010, 1020, 1025, 1522, 1144, etc.          | 85 - 125          | 520            | 0.011                           | 0.012                           | 0.013                           | 0.014                           |
|     |                                                                 | 125 - 175         | 450            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                                                 | 175 - 225         | 410            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     | Medium Carbon Steel<br>1030, 1040, 1050, 1527, 1140, 1151, etc. | 225 - 275         | 350            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     |                                                                 | 125 - 175         | 450            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                                                 | 175 - 225         | 410            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                                                 | 225 - 275         | 350            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     | Alloy Steel<br>4140, 5140, 8640, etc.                           | 275 - 325         | 300            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     |                                                                 | 125 - 175         | 415            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                                                 | 175 - 225         | 380            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                                                 | 225 - 275         | 340            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                                                 | 275 - 325         | 310            | 0.006                           | 0.007                           | 0.008                           | 0.009                           |
|     | High Strength Alloy<br>4340, 4330V, 300M, etc.                  | 325 - 375         | 280            | 0.006                           | 0.006                           | 0.007                           | 0.008                           |
|     |                                                                 | 225 - 300         | 250            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                                                 | 300 - 350         | 225            | 0.006                           | 0.007                           | 0.008                           | 0.009                           |
|     |                                                                 | 350 - 400         | 200            | 0.005                           | 0.006                           | 0.007                           | 0.008                           |
|     | Structural Steel<br>A36, A285, A516, etc.                       | 100 - 150         | 410            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                                                 | 150 - 250         | 330            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                                                 | 250 - 350         | 305            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     | Tool Steel<br>H-13, H-21, A-4, O-2, S-3, etc.                   | 150 - 200         | 265            | 0.006                           | 0.007                           | 0.007                           | 0.008                           |
|     |                                                                 | 200 - 250         | 205            | 0.005                           | 0.006                           | 0.006                           | 0.007                           |
| S   | High Temp Alloy<br>Hastelloy B, Inconel 600, etc.               | 140 - 220         | 130            | 0.006                           | 0.007                           | 0.007                           | 0.008                           |
|     |                                                                 | 220 - 310         | 100            | 0.005                           | 0.006                           | 0.006                           | 0.007                           |
|     | Titanium Alloy                                                  | 140 - 220         | 140            | 0.005                           | 0.006                           | 0.007                           | 0.008                           |
|     |                                                                 | 220 - 310         | 110            | 0.004                           | 0.005                           | 0.006                           | 0.007                           |
|     | Aerospace Alloy<br>S82                                          | 185 - 275         | 165            | 0.004                           | 0.004                           | 0.005                           | 0.005                           |
| M   | Stainless Steel 400 Series<br>416, 420, etc.                    | 275 - 350         | 135            | 0.003                           | 0.003                           | 0.004                           | 0.005                           |
|     |                                                                 | 185 - 275         | 240            | 0.006                           | 0.007                           | 0.007                           | 0.008                           |
|     | Stainless Steel 300 Series<br>304, 316, 17-4PH, etc.            | 135 - 185         | 180            | 0.005                           | 0.006                           | 0.006                           | 0.007                           |
|     |                                                                 | 185 - 275         | 160            | 0.004                           | 0.005                           | 0.005                           | 0.006                           |
|     | Super Duplex Stainless Steel                                    | 135 - 185         | 125            | 0.003                           | 0.003                           | 0.003                           | 0.004                           |
|     |                                                                 | 185 - 275         | 100            | 0.002                           | 0.002                           | 0.003                           | 0.003                           |
|     |                                                                 |                   |                |                                 |                                 |                                 |                                 |
|     |                                                                 |                   |                |                                 |                                 |                                 |                                 |
|     |                                                                 |                   |                |                                 |                                 |                                 |                                 |
|     |                                                                 |                   |                |                                 |                                 |                                 |                                 |

## 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 200 SFM • 0.80          | = 160 SFM        |
| 0.008 IPR • 0.80        | = 0.0064 IPR     |

## 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 200 SFM • 0.70           | = 140 SFM         |
| 0.008 IPR • 0.70         | = 0.0056 IPR      |

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

**IMPORTANT:** The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD and 10xD holder lengths, see adjustment example above.



A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

| Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 15 series<br>0.5906 -<br>0.6298 | 16 series<br>0.6299 -<br>0.6692 | 17 series<br>0.6693 -<br>0.7086 | 18 series<br>0.7087 -<br>0.7873 | 20 series<br>0.7874 -<br>0.8660 | 22 series<br>0.8661 -<br>0.9448 | 24 series<br>0.9449 -<br>1.0235 | 26 series<br>1.0236 -<br>1.1416 | 29 series<br>1.1417 -<br>1.2597 | 32 series<br>1.2598 -<br>1.3780 |
| 0.015                           | 0.016                           | 0.017                           | 0.019                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           | 0.026                           |
| 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.015                           | 0.016                           | 0.017                           | 0.019                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           | 0.026                           |
| 0.014                           | 0.015                           | 0.016                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.011                           | 0.012                           | 0.013                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.014                           | 0.015                           | 0.016                           | 0.018                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           |
| 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.011                           | 0.012                           | 0.013                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.014                           | 0.015                           | 0.016                           | 0.018                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           |
| 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.010                           | 0.011                           | 0.012                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           |
| 0.009                           | 0.010                           | 0.011                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           |
| 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           |
| 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           |
| 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           |
| 0.013                           | 0.015                           | 0.015                           | 0.017                           | 0.019                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           |
| 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           |
| 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           |
| 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           |
| 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.012                           | 0.013                           | 0.014                           |
| 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.013                           |
| 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.012                           | 0.013                           | 0.014                           |
| 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.012                           |
| 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
| 0.005                           | 0.006                           | 0.006                           | 0.006                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
| 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           |
| 0.007                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           |
| 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           |
| 0.005                           | 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           |
| 0.004                           | 0.005                           | 0.005                           | 0.006                           | 0.006                           | 0.007                           | 0.008                           | 0.008                           | 0.008                           | 0.010                           |
| 0.004                           | 0.004                           | 0.005                           | 0.005                           | 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           |

#### Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM |
| 11     | 450             | 5                | 600             | 8                | 800             | 10               |
| 12     | 450             | 5                | 600             | 8                | 800             | 10               |
| 13     | 400             | 6                | 500             | 9.5              | 750             | 12               |
| 14     | 400             | 7                | 500             | 9.5              | 750             | 12               |
| 15     | 380             | 7                | 475             | 11               | 700             | 14               |
| 16     | 380             | 8                | 475             | 12               | 700             | 15               |
| 17     | 350             | 8                | 450             | 12.5             | 650             | 16.5             |
| 18     | 350             | 9                | 450             | 12.5             | 650             | 16.5             |
| 20     | 300             | 10               | 400             | 13               | 600             | 18               |
| 22     | 300             | 11               | 400             | 14               | 600             | 18               |
| 24     | 300             | 11               | 400             | 14               | 600             | 18               |
| 26     | 300             | 12               | 400             | 16               | 600             | 20               |
| 29     | 300             | 12               | 400             | 16               | 600             | 20               |
| 32     | 300             | 12               | 400             | 16               | 600             | 20               |



## Recommended Drilling Data | Imperial (inch)

## GEN3SYS XT Pro

| ISO | Material                               | Hardness<br>(BHN) | Speed<br>(SFM) | Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |
|-----|----------------------------------------|-------------------|----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|     |                                        |                   |                | 11 series<br>0.4331 -<br>0.4723 | 12 series<br>0.4724 -<br>0.5117 | 13 series<br>0.5118 -<br>0.5511 | 14 series<br>0.5512 -<br>0.5905 |
| H   | Wear Plate<br>Hardox, AR400, T-1, etc. | 400               | 160            | 0.005                           | 0.005                           | 0.006                           | 0.006                           |
|     |                                        | 500               | 130            | 0.004                           | 0.004                           | 0.005                           | 0.006                           |
|     |                                        | 600               | 90             | 0.004                           | 0.004                           | 0.004                           | 0.005                           |
|     | Hardened Steel                         | 300 - 400         | 170            | 0.005                           | 0.005                           | 0.006                           | 0.006                           |
|     |                                        | 400 - 500         | 130            | 0.004                           | 0.004                           | 0.005                           | 0.006                           |
| K   | SG / Nodular Cast Iron                 | 120 - 150         | 550            | 0.010                           | 0.012                           | 0.013                           | 0.014                           |
|     |                                        | 150 - 200         | 520            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                        | 200 - 220         | 465            | 0.008                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                        | 220 - 260         | 405            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                        | 260 - 320         | 365            | 0.008                           | 0.008                           | 0.009                           | 0.010                           |
|     | Grey / White Iron                      | 120 - 150         | 575            | 0.012                           | 0.013                           | 0.014                           | 0.015                           |
|     |                                        | 150 - 200         | 550            | 0.011                           | 0.012                           | 0.013                           | 0.014                           |
|     |                                        | 200 - 220         | 495            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                        | 220 - 260         | 425            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                        | 260 - 320         | 380            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
| N   | Cast Aluminum                          | 30                | 1150           | 0.012                           | 0.013                           | 0.014                           | 0.015                           |
|     |                                        | 180               | 860            | 0.011                           | 0.012                           | 0.013                           | 0.014                           |
|     | Wrought Aluminum                       | 30                | 1600           | 0.013                           | 0.015                           | 0.016                           | 0.017                           |
|     |                                        | 180               | 1150           | 0.012                           | 0.014                           | 0.015                           | 0.016                           |
|     | Aluminum Bronze                        | 100 - 200         | 415            | 0.010                           | 0.011                           | 0.012                           | 0.012                           |
|     |                                        | 200 - 250         | 335            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     | Brass                                  | 100               | 755            | 0.010                           | 0.012                           | 0.013                           | 0.014                           |
|     | Copper                                 | 60                | 490            | 0.003                           | 0.003                           | 0.003                           | 0.004                           |

## 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 200 SFM • 0.80          | = 160 SFM        |
| 0.008 IPR • 0.80        | = 0.0064 IPR     |

## 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 200 SFM • 0.70           | = 140 SFM         |
| 0.008 IPR • 0.70         | = 0.0056 IPR      |

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

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**IMPORTANT:** The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD and 10xD holder lengths, see adjustment example above.



A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

| Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 15 series<br>0.5906 -<br>0.6298 | 16 series<br>0.6299 -<br>0.6692 | 17 series<br>0.6693 -<br>0.7086 | 18 series<br>0.7087 -<br>0.7873 | 20 series<br>0.7874 -<br>0.8660 | 22 series<br>0.8661 -<br>0.9448 | 24 series<br>0.9449 -<br>1.0235 | 26 series<br>1.0236 -<br>1.1416 | 29 series<br>1.1417 -<br>1.2597 | 32 series<br>1.2598 -<br>1.3780 |
| 0.007                           | 0.008                           | 0.009                           | 0.010                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.012                           |
| 0.006                           | 0.007                           | 0.008                           | 0.009                           | 0.010                           | 0.010                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           |
| 0.006                           | 0.006                           | 0.007                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           | 0.010                           | 0.010                           |
| 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.010                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           |
| 0.006                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           | 0.010                           | 0.010                           |
| 0.015                           | 0.016                           | 0.018                           | 0.020                           | 0.020                           | 0.022                           | 0.022                           | 0.024                           | 0.025                           | 0.026                           |
| 0.014                           | 0.015                           | 0.017                           | 0.019                           | 0.020                           | 0.020                           | 0.022                           | 0.022                           | 0.024                           | 0.024                           |
| 0.013                           | 0.014                           | 0.016                           | 0.018                           | 0.019                           | 0.020                           | 0.020                           | 0.022                           | 0.022                           | 0.023                           |
| 0.012                           | 0.013                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.020                           | 0.022                           | 0.022                           |
| 0.011                           | 0.012                           | 0.014                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.020                           | 0.021                           |
| 0.016                           | 0.017                           | 0.019                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           | 0.026                           | 0.027                           |
| 0.015                           | 0.016                           | 0.018                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           | 0.026                           |
| 0.014                           | 0.015                           | 0.017                           | 0.020                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           |
| 0.013                           | 0.014                           | 0.016                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           |
| 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.023                           |
| 0.018                           | 0.019                           | 0.020                           | 0.022                           | 0.023                           | 0.024                           | 0.026                           | 0.027                           | 0.029                           | 0.030                           |
| 0.017                           | 0.018                           | 0.019                           | 0.021                           | 0.022                           | 0.023                           | 0.025                           | 0.026                           | 0.028                           | 0.029                           |
| 0.013                           | 0.014                           | 0.015                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.019                           | 0.019                           |
| 0.012                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.018                           | 0.019                           |
| 0.015                           | 0.016                           | 0.017                           | 0.019                           | 0.020                           | 0.022                           | 0.023                           | 0.024                           | 0.026                           | 0.026                           |
| 0.005                           | 0.006                           | 0.006                           | 0.007                           | 0.008                           | 0.008                           | 0.008                           | 0.010                           | 0.010                           | 0.011                           |

#### Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM |
| 11     | 450             | 5                | 600             | 8                | 800             | 10               |
| 12     | 450             | 5                | 600             | 8                | 800             | 10               |
| 13     | 400             | 6                | 500             | 9.5              | 750             | 12               |
| 14     | 400             | 7                | 500             | 9.5              | 750             | 12               |
| 15     | 380             | 7                | 475             | 11               | 700             | 14               |
| 16     | 380             | 8                | 475             | 12               | 700             | 15               |
| 17     | 350             | 8                | 450             | 12.5             | 650             | 16.5             |
| 18     | 350             | 9                | 450             | 12.5             | 650             | 16.5             |
| 20     | 300             | 10               | 400             | 13               | 600             | 18               |
| 22     | 300             | 11               | 400             | 14               | 600             | 18               |
| 24     | 300             | 11               | 400             | 14               | 600             | 18               |
| 26     | 300             | 12               | 400             | 16               | 600             | 20               |
| 29     | 300             | 12               | 400             | 16               | 600             | 20               |
| 32     | 300             | 12               | 400             | 16               | 600             | 20               |



## Recommended Drilling Data | Imperial (inch)

## GEN3SYS XT

| ISO | Material                                                        | Hardness<br>(BHN) | Speed<br>(SFM) | Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |
|-----|-----------------------------------------------------------------|-------------------|----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|     |                                                                 |                   |                | 11 series<br>0.4331 -<br>0.4723 | 12 series<br>0.4724 -<br>0.5117 | 13 series<br>0.5118 -<br>0.5511 | 14 series<br>0.5512 -<br>0.5905 |
| P   | Free Machining Steel<br>1118, 1215, 12L14, etc.                 | 100 - 150         | 480            | 0.009                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                                                 | 150 - 200         | 415            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                                                 | 200 - 250         | 390            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     | Low Carbon Steel<br>1010, 1020, 1025, 1522, 1144, etc.          | 85 - 125          | 450            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                                                 | 125 - 175         | 390            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                                                 | 175 - 225         | 355            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                                                 | 225 - 275         | 310            | 0.006                           | 0.007                           | 0.008                           | 0.009                           |
|     | Medium Carbon Steel<br>1030, 1040, 1050, 1527, 1140, 1151, etc. | 125 - 175         | 390            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                                                 | 175 - 225         | 355            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                                                 | 225 - 275         | 310            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     |                                                                 | 275 - 325         | 265            | 0.006                           | 0.007                           | 0.008                           | 0.009                           |
|     | Alloy Steel<br>4140, 5140, 8640, etc.                           | 125 - 175         | 375            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                                                 | 175 - 225         | 345            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                                                 | 225 - 275         | 310            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     |                                                                 | 275 - 325         | 285            | 0.006                           | 0.006                           | 0.007                           | 0.008                           |
|     |                                                                 | 325 - 375         | 255            | 0.006                           | 0.006                           | 0.006                           | 0.007                           |
|     | High Strength Alloy<br>4340, 4330V, 300M, etc.                  | 225 - 300         | 230            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     |                                                                 | 300 - 350         | 205            | 0.006                           | 0.006                           | 0.007                           | 0.008                           |
|     |                                                                 | 350 - 400         | 185            | 0.005                           | 0.006                           | 0.006                           | 0.007                           |
|     | Structural Steel<br>A36, A285, A516, etc.                       | 100 - 150         | 355            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                                                 | 150 - 250         | 285            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     |                                                                 | 250 - 350         | 265            | 0.006                           | 0.007                           | 0.008                           | 0.009                           |
|     | Tool Steel<br>H-13, H-21, A-4, O-2, S-3, etc.                   | 150 - 200         | 255            | 0.006                           | 0.006                           | 0.006                           | 0.007                           |
|     |                                                                 | 200 - 250         | 195            | 0.005                           | 0.006                           | 0.006                           | 0.006                           |
| S   | High Temp Alloy<br>Hastelloy B, Inconel 600, etc.               | 140 - 220         | 120            | 0.006                           | 0.006                           | 0.006                           | 0.007                           |
|     |                                                                 | 220 - 310         | 95             | 0.005                           | 0.006                           | 0.006                           | 0.006                           |
|     | Titanium Alloy                                                  | 140 - 220         | 140            | 0.005                           | 0.006                           | 0.006                           | 0.007                           |
|     |                                                                 | 220 - 310         | 110            | 0.004                           | 0.005                           | 0.006                           | 0.006                           |
|     | Aerospace Alloy<br>S82                                          | 185 - 275         | 145            | 0.004                           | 0.004                           | 0.005                           | 0.005                           |
|     |                                                                 | 275 - 350         | 120            | 0.003                           | 0.003                           | 0.004                           | 0.005                           |
| M   | Stainless Steel 400 Series<br>416, 420, etc.                    | 185 - 275         | 240            | 0.006                           | 0.007                           | 0.007                           | 0.008                           |
|     |                                                                 | 275 - 350         | 185            | 0.005                           | 0.006                           | 0.006                           | 0.007                           |
|     | Stainless Steel 300 Series<br>304, 316, 17-4PH, etc.            | 135 - 185         | 220            | 0.004                           | 0.005                           | 0.005                           | 0.006                           |
|     |                                                                 | 185 - 275         | 160            | 0.003                           | 0.004                           | 0.004                           | 0.005                           |
|     | Super Duplex Stainless Steel                                    | 135 - 185         | 125            | 0.003                           | 0.003                           | 0.003                           | 0.004                           |
|     |                                                                 | 185 - 275         | 100            | 0.002                           | 0.002                           | 0.003                           | 0.003                           |

## 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 200 SFM • 0.80          | = 160 SFM        |
| 0.008 IPR • 0.80        | = 0.0064 IPR     |

## 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 200 SFM • 0.70           | = 140 SFM         |
| 0.008 IPR • 0.70         | = 0.0056 IPR      |

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

**IMPORTANT:** The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD and 10xD holder lengths, see adjustment example above.

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

| Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 15 series<br>0.5906 -<br>0.6298 | 16 series<br>0.6299 -<br>0.6692 | 17 series<br>0.6693 -<br>0.7086 | 18 series<br>0.7087 -<br>0.7873 | 20 series<br>0.7874 -<br>0.8660 | 22 series<br>0.8661 -<br>0.9448 | 24 series<br>0.9449 -<br>1.0235 | 26 series<br>1.0236 -<br>1.1416 | 29 series<br>1.1417 -<br>1.2597 | 32 series<br>1.2598 -<br>1.3780 |
| 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           |
| 0.011                           | 0.012                           | 0.013                           | 0.015                           | 0.017                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           |
| 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.010                           | 0.011                           | 0.012                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.017                           | 0.018                           | 0.019                           |
| 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           |
| 0.011                           | 0.012                           | 0.013                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.010                           | 0.011                           | 0.012                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.017                           | 0.018                           | 0.019                           |
| 0.013                           | 0.014                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           |
| 0.011                           | 0.012                           | 0.013                           | 0.015                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.009                           | 0.010                           | 0.011                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.018                           |
| 0.008                           | 0.009                           | 0.010                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.017                           |
| 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.017                           | 0.018                           |
| 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           |
| 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           |
| 0.012                           | 0.014                           | 0.014                           | 0.016                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           |
| 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           |
| 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           |
| 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.013                           |
| 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.012                           |
| 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           | 0.012                           | 0.013                           |
| 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           |
| 0.006                           | 0.006                           | 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
| 0.005                           | 0.006                           | 0.006                           | 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
| 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           |
| 0.007                           | 0.008                           | 0.009                           | 0.010                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           |
| 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           |
| 0.005                           | 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.009                           | 0.010                           |
| 0.004                           | 0.005                           | 0.005                           | 0.006                           | 0.006                           | 0.007                           | 0.008                           | 0.008                           | 0.008                           | 0.010                           |
| 0.004                           | 0.004                           | 0.005                           | 0.005                           | 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           |

#### Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM |
| 11     | 450             | 5                | 600             | 8                | 800             | 10               |
| 12     | 450             | 5                | 600             | 8                | 800             | 10               |
| 13     | 400             | 6                | 500             | 9.5              | 750             | 12               |
| 14     | 400             | 7                | 500             | 9.5              | 750             | 12               |
| 15     | 380             | 7                | 475             | 11               | 700             | 14               |
| 16     | 380             | 8                | 475             | 12               | 700             | 15               |
| 17     | 350             | 8                | 450             | 12.5             | 650             | 16.5             |
| 18     | 350             | 9                | 450             | 12.5             | 650             | 16.5             |
| 20     | 300             | 10               | 400             | 13               | 600             | 18               |
| 22     | 300             | 11               | 400             | 14               | 600             | 18               |
| 24     | 300             | 11               | 400             | 14               | 600             | 18               |
| 26     | 300             | 12               | 400             | 16               | 600             | 20               |
| 29     | 300             | 12               | 400             | 16               | 600             | 20               |
| 32     | 300             | 12               | 400             | 16               | 600             | 20               |



## Recommended Drilling Data | Imperial (inch)

## GEN3SYS XT

| ISO | Material                               | Hardness<br>(BHN) | Speed<br>(SFM) | Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |
|-----|----------------------------------------|-------------------|----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
|     |                                        |                   |                | 11 series<br>0.4331 -<br>0.4723 | 12 series<br>0.4724 -<br>0.5117 | 13 series<br>0.5118 -<br>0.5511 | 14 series<br>0.5512 -<br>0.5905 |
| H   | Wear Plate<br>Hardox, AR400, T-1, etc. | 400               | 145            | 0.005                           | 0.005                           | 0.006                           | 0.006                           |
|     |                                        | 500               | 110            | 0.004                           | 0.004                           | 0.005                           | 0.006                           |
|     |                                        | 600               | 80             | 0.004                           | 0.004                           | 0.004                           | 0.005                           |
|     | Hardened Steel                         | 300 - 400         | 155            | 0.005                           | 0.005                           | 0.006                           | 0.006                           |
|     |                                        | 400 - 500         | 120            | 0.004                           | 0.004                           | 0.005                           | 0.006                           |
| K   | SG / Nodular Cast Iron                 | 120 - 150         | 480            | 0.009                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                        | 150 - 200         | 450            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                        | 200 - 220         | 400            | 0.007                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                        | 220 - 260         | 350            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     |                                        | 260 - 320         | 320            | 0.007                           | 0.007                           | 0.008                           | 0.009                           |
|     | Grey / White Iron                      | 120 - 150         | 500            | 0.011                           | 0.012                           | 0.013                           | 0.014                           |
|     |                                        | 150 - 200         | 480            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     |                                        | 200 - 220         | 430            | 0.009                           | 0.010                           | 0.011                           | 0.012                           |
|     |                                        | 220 - 260         | 370            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
|     |                                        | 260 - 320         | 335            | 0.008                           | 0.009                           | 0.010                           | 0.011                           |
| N   | Cast Aluminum                          | 30                | 1000           | 0.011                           | 0.012                           | 0.013                           | 0.014                           |
|     |                                        | 180               | 750            | 0.010                           | 0.011                           | 0.012                           | 0.013                           |
|     | Wrought Aluminum                       | 30                | 1400           | 0.012                           | 0.014                           | 0.015                           | 0.016                           |
|     |                                        | 180               | 1000           | 0.011                           | 0.013                           | 0.014                           | 0.015                           |
|     | Aluminum Bronze                        | 100 - 200         | 360            | 0.009                           | 0.010                           | 0.011                           | 0.011                           |
|     |                                        | 200 - 250         | 295            | 0.007                           | 0.008                           | 0.009                           | 0.010                           |
|     | Brass                                  | 100               | 660            | 0.009                           | 0.011                           | 0.012                           | 0.013                           |
|     | Copper                                 | 60                | 425            | 0.003                           | 0.003                           | 0.003                           | 0.004                           |

## 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 200 SFM • 0.80          | = 160 SFM        |
| 0.008 IPR • 0.80        | = 0.0064 IPR     |

## 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 200 SFM • 0.70           | = 140 SFM         |
| 0.008 IPR • 0.70         | = 0.0056 IPR      |

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

**IMPORTANT:** The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD and 10xD holder lengths, see adjustment example above.



A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

| Feed Rate (IPR) by Diameter     |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 15 series<br>0.5906 -<br>0.6298 | 16 series<br>0.6299 -<br>0.6692 | 17 series<br>0.6693 -<br>0.7086 | 18 series<br>0.7087 -<br>0.7873 | 20 series<br>0.7874 -<br>0.8660 | 22 series<br>0.8661 -<br>0.9448 | 24 series<br>0.9449 -<br>1.0235 | 26 series<br>1.0236 -<br>1.1416 | 29 series<br>1.1417 -<br>1.2597 | 32 series<br>1.2598 -<br>1.3780 |
| 0.006                           | 0.007                           | 0.008                           | 0.009                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           | 0.011                           | 0.011                           |
| 0.006                           | 0.006                           | 0.007                           | 0.008                           | 0.009                           | 0.009                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           |
| 0.006                           | 0.006                           | 0.006                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.009                           | 0.009                           | 0.009                           |
| 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.009                           | 0.009                           | 0.009                           | 0.009                           | 0.010                           | 0.010                           |
| 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.008                           | 0.008                           | 0.009                           | 0.009                           | 0.009                           | 0.009                           |
| 0.014                           | 0.015                           | 0.017                           | 0.018                           | 0.018                           | 0.020                           | 0.020                           | 0.022                           | 0.023                           | 0.024                           |
| 0.013                           | 0.014                           | 0.016                           | 0.017                           | 0.018                           | 0.018                           | 0.020                           | 0.020                           | 0.022                           | 0.022                           |
| 0.012                           | 0.013                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.018                           | 0.020                           | 0.020                           | 0.021                           |
| 0.011                           | 0.012                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.018                           | 0.020                           | 0.020                           |
| 0.010                           | 0.011                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.018                           | 0.019                           |
| 0.015                           | 0.016                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           | 0.025                           |
| 0.014                           | 0.015                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           | 0.024                           |
| 0.013                           | 0.014                           | 0.016                           | 0.018                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.012                           | 0.013                           | 0.015                           | 0.017                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           |
| 0.012                           | 0.013                           | 0.014                           | 0.016                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           |
| 0.015                           | 0.016                           | 0.017                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.022                           | 0.023                           |
| 0.014                           | 0.015                           | 0.016                           | 0.016                           | 0.017                           | 0.018                           | 0.019                           | 0.020                           | 0.021                           | 0.021                           |
| 0.017                           | 0.017                           | 0.018                           | 0.020                           | 0.021                           | 0.022                           | 0.024                           | 0.025                           | 0.027                           | 0.028                           |
| 0.016                           | 0.016                           | 0.017                           | 0.019                           | 0.020                           | 0.021                           | 0.023                           | 0.024                           | 0.026                           | 0.027                           |
| 0.012                           | 0.013                           | 0.014                           | 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.017                           | 0.017                           | 0.017                           |
| 0.011                           | 0.011                           | 0.012                           | 0.013                           | 0.014                           | 0.015                           | 0.016                           | 0.016                           | 0.016                           | 0.016                           |
| 0.014                           | 0.015                           | 0.016                           | 0.017                           | 0.018                           | 0.020                           | 0.021                           | 0.022                           | 0.024                           | 0.024                           |
| 0.005                           | 0.006                           | 0.006                           | 0.006                           | 0.007                           | 0.007                           | 0.007                           | 0.009                           | 0.009                           | 0.010                           |

#### Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM | Pressure<br>PSI | Flow Rate<br>GPM |
| 11     | 450             | 5                | 600             | 8                | 800             | 10               |
| 12     | 450             | 5                | 600             | 8                | 800             | 10               |
| 13     | 400             | 6                | 500             | 9.5              | 750             | 12               |
| 14     | 400             | 7                | 500             | 9.5              | 750             | 12               |
| 15     | 380             | 7                | 475             | 11               | 700             | 14               |
| 16     | 380             | 8                | 475             | 12               | 700             | 15               |
| 17     | 350             | 8                | 450             | 12.5             | 650             | 16.5             |
| 18     | 350             | 9                | 450             | 12.5             | 650             | 16.5             |
| 20     | 300             | 10               | 400             | 13               | 600             | 18               |
| 22     | 300             | 11               | 400             | 14               | 600             | 18               |
| 24     | 300             | 11               | 400             | 14               | 600             | 18               |
| 26     | 300             | 12               | 400             | 16               | 600             | 20               |
| 29     | 300             | 12               | 400             | 16               | 600             | 20               |
| 32     | 300             | 12               | 400             | 16               | 600             | 20               |



## Recommended Drilling Data | Metric (mm)

## GEN3SYS XT Pro

| ISO | Material                                                        | Hardness<br>(BHN)              | Speed<br>(M/mm) | Feed Rate (mm/rev) by Diameter |                               |                               |                               |
|-----|-----------------------------------------------------------------|--------------------------------|-----------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|
|     |                                                                 |                                |                 | 11 series<br>11.00 -<br>11.99  | 12 series<br>12.00 -<br>12.99 | 13 series<br>13.00 -<br>13.99 | 14 series<br>14.00 -<br>14.99 |
| P   | Free Machining Steel<br>1118, 1215, 12L14, etc.                 | 100 - 150                      | 168             | 0.28                           | 0.30                          | 0.33                          | 0.36                          |
|     |                                                                 | 150 - 200                      | 145             | 0.25                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                                                 | 200 - 250                      | 130             | 0.20                           | 0.23                          | 0.25                          | 0.28                          |
|     | Low Carbon Steel<br>1010, 1020, 1025, 1522, 1144, etc.          | 85 - 125                       | 158             | 0.28                           | 0.3                           | 0.33                          | 0.36                          |
|     |                                                                 | 125 - 175                      | 137             | 0.25                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                                                 | 175 - 225                      | 125             | 0.23                           | 0.25                          | 0.28                          | 0.30                          |
|     | Medium Carbon Steel<br>1030, 1040, 1050, 1527, 1140, 1151, etc. | 225 - 275                      | 107             | 0.18                           | 0.20                          | 0.23                          | 0.25                          |
|     |                                                                 | 125 - 175                      | 137             | 0.25                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                                                 | 175 - 225                      | 125             | 0.23                           | 0.25                          | 0.28                          | 0.30                          |
|     |                                                                 | 225 - 275                      | 107             | 0.20                           | 0.23                          | 0.25                          | 0.28                          |
|     | Alloy Steel<br>4140, 5140, 8640, etc.                           | 275 - 325                      | 91              | 0.18                           | 0.20                          | 0.23                          | 0.25                          |
|     |                                                                 | 125 - 175                      | 126             | 0.25                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                                                 | 175 - 225                      | 116             | 0.23                           | 0.25                          | 0.28                          | 0.30                          |
|     |                                                                 | 225 - 275                      | 104             | 0.20                           | 0.23                          | 0.25                          | 0.28                          |
|     |                                                                 | 275 - 325                      | 94              | 0.15                           | 0.18                          | 0.20                          | 0.23                          |
|     | High Strength Alloy<br>4340, 4330V, 300M, etc.                  | 325 - 375                      | 85              | 0.15                           | 0.15                          | 0.18                          | 0.20                          |
|     |                                                                 | 225 - 300                      | 76              | 0.20                           | 0.23                          | 0.25                          | 0.28                          |
|     |                                                                 | 300 - 350                      | 69              | 0.15                           | 0.18                          | 0.20                          | 0.23                          |
|     | Structural Steel<br>A36, A285, A516, etc.                       | 350 - 400                      | 61              | 0.13                           | 0.18                          | 0.18                          | 0.20                          |
|     |                                                                 | 100 - 150                      | 125             | 0.25                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                                                 | 150 - 250                      | 101             | 0.20                           | 0.23                          | 0.25                          | 0.28                          |
|     | Tool Steel<br>H-13, H-21, A-4, O-2, S-3, etc.                   | 250 - 350                      | 93              | 0.18                           | 0.20                          | 0.23                          | 0.25                          |
|     |                                                                 | 150 - 200                      | 81              | 0.15                           | 0.18                          | 0.18                          | 0.20                          |
|     | S                                                               | 200 - 250                      | 62              | 0.13                           | 0.15                          | 0.15                          | 0.18                          |
|     |                                                                 | 140 - 220                      | 40              | 0.15                           | 0.18                          | 0.18                          | 0.20                          |
|     |                                                                 | Hastelloy B, Inconel 600, etc. | 220 - 310       | 0.13                           | 0.15                          | 0.15                          | 0.18                          |
|     |                                                                 | Titanium Alloy                 | 140 - 220       | 0.13                           | 0.15                          | 0.18                          | 0.20                          |
|     |                                                                 | 220 - 310                      | 34              | 0.10                           | 0.13                          | 0.15                          | 0.18                          |
| M   | Aerospace Alloy<br>S82                                          | 185 - 275                      | 50              | 0.10                           | 0.10                          | 0.12                          | 0.14                          |
|     |                                                                 | 275 - 350                      | 41              | 0.09                           | 0.09                          | 0.10                          | 0.12                          |
|     | Stainless Steel 400 Series<br>416, 420, etc.                    | 185 - 275                      | 73              | 0.15                           | 0.18                          | 0.18                          | 0.20                          |
|     |                                                                 | 275 - 350                      | 56              | 0.13                           | 0.15                          | 0.15                          | 0.18                          |
|     | Stainless Steel 300 Series<br>304, 316, 17-4PH, etc.            | 135 - 185                      | 64              | 0.10                           | 0.13                          | 0.13                          | 0.15                          |
|     |                                                                 | 185 - 275                      | 47              | 0.08                           | 0.10                          | 0.10                          | 0.13                          |
|     | Super Duplex Stainless Steel                                    | 135 - 185                      | 38              | 0.08                           | 0.08                          | 0.08                          | 0.10                          |
|     |                                                                 | 185 - 275                      | 30              | 0.05                           | 0.05                          | 0.08                          | 0.08                          |

## 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 61 M/min • 0.80         | = 48.8 M/min     |
| 0.20 mm/rev • 0.80      | = 0.16 mm/rev    |

## 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 61 M/min • 0.70          | = 42.7 M/min      |
| 0.20 mm/rev • 0.70       | = 0.14 mm/rev     |

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

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A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

| Feed Rate (mm/rev) by Diameter |                               |                               |                               |                               |                               |                               |                               |                               |                               |
|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 15 series<br>15.00 -<br>15.99  | 16 series<br>16.00 -<br>16.99 | 17 series<br>17.00 -<br>17.99 | 18 series<br>18.00 -<br>19.99 | 20 series<br>20.00 -<br>21.99 | 22 series<br>22.00 -<br>23.99 | 24 series<br>24.00 -<br>25.99 | 26 series<br>26.00 -<br>28.99 | 29 series<br>29.00 -<br>31.99 | 32 series<br>32.00 -<br>35.00 |
| 0.38                           | 0.41                          | 0.43                          | 0.48                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          | 0.66                          |
| 0.36                           | 0.38                          | 0.41                          | 0.43                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          |
| 0.30                           | 0.33                          | 0.36                          | 0.41                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          |
| 0.38                           | 0.41                          | 0.43                          | 0.48                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          | 0.66                          |
| 0.36                           | 0.38                          | 0.41                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          |
| 0.33                           | 0.36                          | 0.38                          | 0.42                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          |
| 0.28                           | 0.30                          | 0.33                          | 0.38                          | 0.41                          | 0.42                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          |
| 0.36                           | 0.38                          | 0.41                          | 0.46                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          |
| 0.33                           | 0.36                          | 0.38                          | 0.43                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          |
| 0.30                           | 0.33                          | 0.36                          | 0.41                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          |
| 0.28                           | 0.30                          | 0.33                          | 0.38                          | 0.41                          | 0.43                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          |
| 0.36                           | 0.38                          | 0.41                          | 0.46                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          |
| 0.33                           | 0.36                          | 0.38                          | 0.43                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          |
| 0.30                           | 0.33                          | 0.36                          | 0.41                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          |
| 0.25                           | 0.28                          | 0.30                          | 0.36                          | 0.38                          | 0.41                          | 0.43                          | 0.46                          | 0.48                          | 0.51                          |
| 0.23                           | 0.25                          | 0.28                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          | 0.43                          | 0.46                          | 0.48                          |
| 0.28                           | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          | 0.43                          | 0.46                          | 0.48                          | 0.51                          |
| 0.25                           | 0.28                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          | 0.43                          | 0.46                          |
| 0.23                           | 0.25                          | 0.25                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          | 0.43                          |
| 0.33                           | 0.38                          | 0.38                          | 0.43                          | 0.48                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          |
| 0.30                           | 0.33                          | 0.36                          | 0.38                          | 0.43                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          |
| 0.28                           | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.43                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          |
| 0.20                           | 0.23                          | 0.23                          | 0.25                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          |
| 0.18                           | 0.20                          | 0.20                          | 0.23                          | 0.25                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          |
| 0.20                           | 0.23                          | 0.23                          | 0.25                          | 0.28                          | 0.28                          | 0.30                          | 0.30                          | 0.33                          | 0.36                          |
| 0.18                           | 0.20                          | 0.20                          | 0.23                          | 0.25                          | 0.25                          | 0.28                          | 0.28                          | 0.30                          | 0.33                          |
| 0.20                           | 0.23                          | 0.23                          | 0.25                          | 0.28                          | 0.28                          | 0.30                          | 0.30                          | 0.33                          | 0.33                          |
| 0.18                           | 0.20                          | 0.20                          | 0.23                          | 0.25                          | 0.25                          | 0.28                          | 0.28                          | 0.30                          | 0.30                          |
| 0.15                           | 0.16                          | 0.18                          | 0.18                          | 0.20                          | 0.22                          | 0.24                          | 0.26                          | 0.28                          | 0.31                          |
| 0.14                           | 0.15                          | 0.16                          | 0.16                          | 0.18                          | 0.20                          | 0.22                          | 0.24                          | 0.26                          | 0.29                          |
| 0.20                           | 0.23                          | 0.25                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          | 0.43                          |
| 0.18                           | 0.20                          | 0.23                          | 0.25                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          |
| 0.15                           | 0.18                          | 0.18                          | 0.20                          | 0.20                          | 0.23                          | 0.23                          | 0.25                          | 0.25                          | 0.28                          |
| 0.13                           | 0.15                          | 0.15                          | 0.18                          | 0.18                          | 0.20                          | 0.20                          | 0.23                          | 0.23                          | 0.25                          |
| 0.10                           | 0.13                          | 0.13                          | 0.15                          | 0.15                          | 0.18                          | 0.20                          | 0.20                          | 0.20                          | 0.25                          |
| 0.10                           | 0.10                          | 0.13                          | 0.13                          | 0.15                          | 0.15                          | 0.18                          | 0.18                          | 0.20                          | 0.20                          |

## Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM |
| 11     | 31              | 19               | 41              | 30               | 55              | 38               |
| 12     | 31              | 19               | 41              | 30               | 55              | 38               |
| 13     | 28              | 23               | 34              | 36               | 52              | 45               |
| 14     | 28              | 26               | 34              | 36               | 52              | 45               |
| 15     | 26              | 26               | 33              | 42               | 48              | 53               |
| 16     | 26              | 30               | 33              | 45               | 48              | 57               |
| 17     | 24              | 30               | 31              | 47               | 45              | 62               |
| 18     | 24              | 34               | 31              | 47               | 45              | 62               |
| 20     | 21              | 38               | 28              | 49               | 41              | 68               |
| 22     | 21              | 42               | 28              | 53               | 41              | 68               |
| 24     | 21              | 42               | 28              | 53               | 41              | 68               |
| 26     | 21              | 45               | 28              | 61               | 41              | 76               |
| 29     | 21              | 45               | 28              | 61               | 41              | 76               |
| 32     | 21              | 45               | 28              | 61               | 41              | 76               |



## Recommended Drilling Data | Metric (mm)

## GEN3SYS XT Pro

| ISO | Material                               | Hardness<br>(BHN) | Speed<br>(M/min) | Feed Rate (mm/rev) by Diameter |                               |                               |                               |
|-----|----------------------------------------|-------------------|------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|
|     |                                        |                   |                  | 11 series<br>11.00 -<br>11.99  | 12 series<br>12.00 -<br>12.99 | 13 series<br>13.00 -<br>13.99 | 14 series<br>14.00 -<br>14.99 |
| H   | Wear Plate<br>Hardox, AR400, T-1, etc. | 400               | 50               | 0.13                           | 0.13                          | 0.15                          | 0.17                          |
|     |                                        | 500               | 40               | 0.11                           | 0.11                          | 0.13                          | 0.15                          |
|     |                                        | 600               | 27               | 0.10                           | 0.10                          | 0.11                          | 0.13                          |
|     | Hardened Steel                         | 300 - 400         | 51               | 0.13                           | 0.13                          | 0.15                          | 0.17                          |
|     |                                        | 400 - 500         | 40               | 0.11                           | 0.11                          | 0.13                          | 0.15                          |
| K   | SG / Nodular Cast Iron                 | 120 - 150         | 168              | 0.27                           | 0.30                          | 0.33                          | 0.36                          |
|     |                                        | 150 - 200         | 159              | 0.25                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                        | 200 - 220         | 141              | 0.22                           | 0.25                          | 0.28                          | 0.30                          |
|     |                                        | 220 - 260         | 124              | 0.20                           | 0.23                          | 0.25                          | 0.28                          |
|     |                                        | 260 - 320         | 112              | 0.20                           | 0.21                          | 0.23                          | 0.25                          |
|     | Grey / White Iron                      | 120 - 150         | 175              | 0.30                           | 0.33                          | 0.36                          | 0.38                          |
|     |                                        | 150 - 200         | 168              | 0.28                           | 0.30                          | 0.33                          | 0.36                          |
|     |                                        | 200 - 220         | 151              | 0.25                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                        | 220 - 260         | 130              | 0.23                           | 0.25                          | 0.28                          | 0.30                          |
|     |                                        | 260 - 320         | 116              | 0.23                           | 0.25                          | 0.28                          | 0.30                          |
| N   | Cast Aluminum                          | 30                | 351              | 0.30                           | 0.33                          | 0.36                          | 0.38                          |
|     |                                        | 180               | 262              | 0.28                           | 0.30                          | 0.33                          | 0.36                          |
|     | Wrought Aluminum                       | 30                | 488              | 0.33                           | 0.38                          | 0.41                          | 0.43                          |
|     |                                        | 180               | 351              | 0.30                           | 0.36                          | 0.38                          | 0.41                          |
|     | Aluminum Bronze                        | 100 - 200         | 126              | 0.26                           | 0.28                          | 0.30                          | 0.32                          |
|     |                                        | 200 - 250         | 103              | 0.22                           | 0.24                          | 0.26                          | 0.28                          |
|     | Brass                                  | 100               | 230              | 0.29                           | 0.30                          | 0.33                          | 0.36                          |
|     | Copper                                 | 60                | 149              | 0.07                           | 0.08                          | 0.09                          | 0.11                          |

## 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 61 M/min • 0.80         | = 48.8 M/min     |
| 0.20 mm/rev • 0.80      | = 0.16 mm/rev    |

## 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 61 M/min • 0.70          | = 42.7 M/min      |
| 0.20 mm/rev • 0.70       | = 0.14 mm/rev     |

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

**IMPORTANT:** The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD and 10xD holder lengths, see adjustment example above.

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

| Feed Rate (mm/rev) by Diameter |                               |                               |                               |                               |                               |                               |                               |                               |                               |
|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 15 series<br>15.00 -<br>15.99  | 16 series<br>16.00 -<br>16.99 | 17 series<br>17.00 -<br>17.99 | 18 series<br>18.00 -<br>19.99 | 20 series<br>20.00 -<br>21.99 | 22 series<br>22.00 -<br>23.99 | 24 series<br>24.00 -<br>25.99 | 26 series<br>26.00 -<br>28.99 | 29 series<br>29.00 -<br>31.99 | 32 series<br>32.00 -<br>35.00 |
| 0.19                           | 0.21                          | 0.23                          | 0.25                          | 0.27                          | 0.27                          | 0.29                          | 0.29                          | 0.31                          | 0.31                          |
| 0.17                           | 0.19                          | 0.21                          | 0.23                          | 0.25                          | 0.25                          | 0.27                          | 0.27                          | 0.29                          | 0.29                          |
| 0.15                           | 0.17                          | 0.19                          | 0.21                          | 0.23                          | 0.23                          | 0.25                          | 0.25                          | 0.25                          | 0.27                          |
| 0.19                           | 0.21                          | 0.22                          | 0.23                          | 0.25                          | 0.25                          | 0.27                          | 0.27                          | 0.29                          | 0.29                          |
| 0.17                           | 0.19                          | 0.20                          | 0.21                          | 0.23                          | 0.23                          | 0.25                          | 0.25                          | 0.27                          | 0.27                          |
| 0.38                           | 0.41                          | 0.46                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          | 0.66                          |
| 0.36                           | 0.38                          | 0.43                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.63                          |
| 0.33                           | 0.36                          | 0.41                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.60                          |
| 0.30                           | 0.33                          | 0.38                          | 0.43                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          |
| 0.28                           | 0.30                          | 0.36                          | 0.38                          | 0.43                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.55                          |
| 0.41                           | 0.43                          | 0.48                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          | 0.66                          | 0.69                          |
| 0.38                           | 0.41                          | 0.46                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          | 0.66                          |
| 0.36                           | 0.38                          | 0.43                          | 0.51                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          |
| 0.33                           | 0.36                          | 0.41                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          |
| 0.33                           | 0.36                          | 0.38                          | 0.43                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          |
| 0.41                           | 0.43                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.61                          | 0.64                          |
| 0.38                           | 0.41                          | 0.43                          | 0.46                          | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.58                          | 0.58                          |
| 0.46                           | 0.48                          | 0.51                          | 0.53                          | 0.56                          | 0.61                          | 0.66                          | 0.69                          | 0.74                          | 0.76                          |
| 0.43                           | 0.46                          | 0.48                          | 0.53                          | 0.56                          | 0.58                          | 0.64                          | 0.66                          | 0.71                          | 0.74                          |
| 0.34                           | 0.36                          | 0.38                          | 0.40                          | 0.42                          | 0.44                          | 0.46                          | 0.48                          | 0.48                          | 0.50                          |
| 0.30                           | 0.32                          | 0.34                          | 0.36                          | 0.38                          | 0.42                          | 0.46                          | 0.46                          | 0.46                          | 0.48                          |
| 0.38                           | 0.41                          | 0.43                          | 0.48                          | 0.53                          | 0.56                          | 0.60                          | 0.63                          | 0.66                          | 0.66                          |
| 0.13                           | 0.15                          | 0.16                          | 0.18                          | 0.20                          | 0.20                          | 0.22                          | 0.25                          | 0.25                          | 0.28                          |

#### Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM |
| 11     | 31              | 19               | 41              | 30               | 55              | 38               |
| 12     | 31              | 19               | 41              | 30               | 55              | 38               |
| 13     | 28              | 23               | 34              | 36               | 52              | 45               |
| 14     | 28              | 26               | 34              | 36               | 52              | 45               |
| 15     | 26              | 26               | 33              | 42               | 48              | 53               |
| 16     | 26              | 30               | 33              | 45               | 48              | 57               |
| 17     | 24              | 30               | 31              | 47               | 45              | 62               |
| 18     | 24              | 34               | 31              | 47               | 45              | 62               |
| 20     | 21              | 38               | 28              | 49               | 41              | 68               |
| 22     | 21              | 42               | 28              | 53               | 41              | 68               |
| 24     | 21              | 42               | 28              | 53               | 41              | 68               |
| 26     | 21              | 45               | 28              | 61               | 41              | 76               |
| 29     | 21              | 45               | 28              | 61               | 41              | 76               |
| 32     | 21              | 45               | 28              | 61               | 41              | 76               |

## Recommended Drilling Data | Metric (mm)

### GEN3SYS XT

| ISO | Material                                                        | Hardness<br>(BHN)              | Speed<br>(M/mm) | Feed Rate (mm/rev) by Diameter |                               |                               |                               |
|-----|-----------------------------------------------------------------|--------------------------------|-----------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|
|     |                                                                 |                                |                 | 11 series<br>11.00 -<br>11.99  | 12 series<br>12.00 -<br>12.99 | 13 series<br>13.00 -<br>13.99 | 14 series<br>14.00 -<br>14.99 |
| P   | Free Machining Steel<br>1118, 1215, 12L14, etc.                 | 100 - 150                      | 146             | 0.23                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                                                 | 150 - 200                      | 126             | 0.23                           | 0.26                          | 0.28                          | 0.30                          |
|     |                                                                 | 200 - 250                      | 119             | 0.19                           | 0.21                          | 0.23                          | 0.26                          |
|     | Low Carbon Steel<br>1010, 1020, 1025, 1522, 1144, etc.          | 85 - 125                       | 137             | 0.26                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                                                 | 125 - 175                      | 119             | 0.23                           | 0.26                          | 0.28                          | 0.30                          |
|     |                                                                 | 175 - 225                      | 108             | 0.21                           | 0.23                          | 0.26                          | 0.28                          |
|     | Medium Carbon Steel<br>1030, 1040, 1050, 1527, 1140, 1151, etc. | 225 - 275                      | 95              | 0.16                           | 0.19                          | 0.21                          | 0.23                          |
|     |                                                                 | 125 - 175                      | 119             | 0.23                           | 0.26                          | 0.28                          | 0.30                          |
|     |                                                                 | 175 - 225                      | 108             | 0.21                           | 0.23                          | 0.26                          | 0.28                          |
|     |                                                                 | 225 - 275                      | 95              | 0.19                           | 0.21                          | 0.23                          | 0.26                          |
|     | Alloy Steel<br>4140, 5140, 8640, etc.                           | 275 - 325                      | 81              | 0.16                           | 0.19                          | 0.21                          | 0.23                          |
|     |                                                                 | 125 - 175                      | 114             | 0.23                           | 0.26                          | 0.28                          | 0.30                          |
|     |                                                                 | 175 - 225                      | 105             | 0.21                           | 0.23                          | 0.26                          | 0.28                          |
|     |                                                                 | 225 - 275                      | 95              | 0.19                           | 0.21                          | 0.23                          | 0.26                          |
|     |                                                                 | 275 - 325                      | 87              | 0.14                           | 0.16                          | 0.19                          | 0.21                          |
|     | High Strength Alloy<br>4340, 4330V, 300M, etc.                  | 325 - 375                      | 78              | 0.14                           | 0.14                          | 0.16                          | 0.19                          |
|     |                                                                 | 225 - 300                      | 70              | 0.19                           | 0.21                          | 0.23                          | 0.26                          |
|     |                                                                 | 300 - 350                      | 63              | 0.14                           | 0.16                          | 0.19                          | 0.21                          |
|     | Structural Steel<br>A36, A285, A516, etc.                       | 350 - 400                      | 56              | 0.12                           | 0.14                          | 0.16                          | 0.19                          |
|     |                                                                 | 100 - 150                      | 108             | 0.23                           | 0.26                          | 0.28                          | 0.30                          |
|     |                                                                 | 150 - 250                      | 87              | 0.19                           | 0.21                          | 0.23                          | 0.26                          |
|     | Tool Steel<br>H-13, H-21, A-4, O-2, S-3, etc.                   | 250 - 350                      | 81              | 0.16                           | 0.19                          | 0.21                          | 0.23                          |
|     |                                                                 | 150 - 200                      | 78              | 0.14                           | 0.16                          | 0.16                          | 0.19                          |
|     | S                                                               | 200 - 250                      | 59              | 0.12                           | 0.14                          | 0.14                          | 0.16                          |
|     |                                                                 | 140 - 220                      | 37              | 0.14                           | 0.16                          | 0.16                          | 0.19                          |
|     |                                                                 | Hastelloy B, Inconel 600, etc. | 29              | 0.12                           | 0.14                          | 0.14                          | 0.16                          |
|     |                                                                 | 220 - 310                      | 29              | 0.12                           | 0.14                          | 0.14                          | 0.16                          |
|     |                                                                 | 140 - 220                      | 42              | 0.12                           | 0.14                          | 0.16                          | 0.19                          |
| M   | Titanium Alloy                                                  | 220 - 310                      | 33              | 0.09                           | 0.12                          | 0.14                          | 0.16                          |
|     |                                                                 | 185 - 275                      | 45              | 0.09                           | 0.09                          | 0.12                          | 0.12                          |
|     | Aerospace Alloy<br>S82                                          | 275 - 350                      | 37              | 0.07                           | 0.07                          | 0.09                          | 0.12                          |
|     |                                                                 | 185 - 275                      | 73              | 0.15                           | 0.18                          | 0.18                          | 0.20                          |
|     | Stainless Steel 400 Series<br>416, 420, etc.                    | 275 - 350                      | 56              | 0.13                           | 0.15                          | 0.15                          | 0.18                          |
|     |                                                                 | 135 - 185                      | 64              | 0.10                           | 0.13                          | 0.13                          | 0.15                          |
|     | Stainless Steel 300 Series<br>304, 316, 17-4PH, etc.            | 185 - 275                      | 47              | 0.08                           | 0.10                          | 0.10                          | 0.13                          |
|     |                                                                 | 135 - 185                      | 38              | 0.08                           | 0.08                          | 0.08                          | 0.10                          |
|     | Super Duplex Stainless Steel                                    | 185 - 275                      | 30              | 0.05                           | 0.05                          | 0.08                          | 0.08                          |

#### 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 61 M/min • 0.80         | = 48.8 M/min     |
| 0.20 mm/rev • 0.80      | = 0.16 mm/rev    |

#### 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 61 M/min • 0.70          | = 42.7 M/min      |
| 0.20 mm/rev • 0.70       | = 0.14 mm/rev     |

#### WARNING Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

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**IMPORTANT:** The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD and 10xD holder lengths, see adjustment example above.



A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

| Feed Rate (mm/rev) by Diameter |                               |                               |                               |                               |                               |                               |                               |                               |                               |
|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 15 series<br>15.00 -<br>15.99  | 16 series<br>16.00 -<br>16.99 | 17 series<br>17.00 -<br>17.99 | 18 series<br>18.00 -<br>19.99 | 20 series<br>20.00 -<br>21.99 | 22 series<br>22.00 -<br>23.99 | 24 series<br>24.00 -<br>25.99 | 26 series<br>26.00 -<br>28.99 | 29 series<br>29.00 -<br>31.99 | 32 series<br>32.00 -<br>35.00 |
| 0.35                           | 0.37                          | 0.40                          | 0.44                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          | 0.61                          |
| 0.33                           | 0.35                          | 0.37                          | 0.40                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          |
| 0.28                           | 0.30                          | 0.33                          | 0.37                          | 0.42                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          |
| 0.35                           | 0.37                          | 0.40                          | 0.44                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          | 0.61                          |
| 0.33                           | 0.35                          | 0.37                          | 0.41                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          |
| 0.30                           | 0.33                          | 0.35                          | 0.38                          | 0.41                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          |
| 0.26                           | 0.28                          | 0.30                          | 0.35                          | 0.37                          | 0.40                          | 0.42                          | 0.44                          | 0.47                          | 0.49                          |
| 0.33                           | 0.35                          | 0.37                          | 0.42                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          |
| 0.30                           | 0.33                          | 0.35                          | 0.40                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          |
| 0.28                           | 0.30                          | 0.33                          | 0.37                          | 0.41                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          |
| 0.26                           | 0.28                          | 0.30                          | 0.35                          | 0.37                          | 0.40                          | 0.42                          | 0.44                          | 0.47                          | 0.49                          |
| 0.33                           | 0.35                          | 0.37                          | 0.42                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          |
| 0.30                           | 0.33                          | 0.35                          | 0.40                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          |
| 0.28                           | 0.30                          | 0.33                          | 0.37                          | 0.38                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          |
| 0.23                           | 0.26                          | 0.28                          | 0.33                          | 0.35                          | 0.37                          | 0.40                          | 0.42                          | 0.46                          | 0.47                          |
| 0.21                           | 0.23                          | 0.26                          | 0.30                          | 0.33                          | 0.35                          | 0.37                          | 0.40                          | 0.42                          | 0.44                          |
| 0.26                           | 0.28                          | 0.30                          | 0.33                          | 0.35                          | 0.37                          | 0.40                          | 0.42                          | 0.44                          | 0.47                          |
| 0.23                           | 0.26                          | 0.26                          | 0.28                          | 0.30                          | 0.33                          | 0.35                          | 0.37                          | 0.40                          | 0.42                          |
| 0.21                           | 0.23                          | 0.23                          | 0.26                          | 0.28                          | 0.30                          | 0.33                          | 0.35                          | 0.37                          | 0.40                          |
| 0.30                           | 0.35                          | 0.35                          | 0.40                          | 0.44                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          |
| 0.28                           | 0.30                          | 0.33                          | 0.35                          | 0.40                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          |
| 0.26                           | 0.28                          | 0.30                          | 0.33                          | 0.35                          | 0.40                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          |
| 0.19                           | 0.21                          | 0.21                          | 0.23                          | 0.26                          | 0.28                          | 0.30                          | 0.33                          | 0.35                          | 0.37                          |
| 0.16                           | 0.19                          | 0.19                          | 0.21                          | 0.23                          | 0.26                          | 0.28                          | 0.30                          | 0.33                          | 0.35                          |
| 0.19                           | 0.21                          | 0.21                          | 0.23                          | 0.26                          | 0.26                          | 0.28                          | 0.28                          | 0.30                          | 0.33                          |
| 0.16                           | 0.19                          | 0.19                          | 0.21                          | 0.23                          | 0.23                          | 0.26                          | 0.26                          | 0.28                          | 0.30                          |
| 0.19                           | 0.21                          | 0.21                          | 0.23                          | 0.26                          | 0.26                          | 0.28                          | 0.28                          | 0.30                          | 0.33                          |
| 0.16                           | 0.19                          | 0.19                          | 0.21                          | 0.23                          | 0.23                          | 0.26                          | 0.26                          | 0.28                          | 0.28                          |
| 0.14                           | 0.14                          | 0.16                          | 0.16                          | 0.19                          | 0.19                          | 0.21                          | 0.23                          | 0.26                          | 0.28                          |
| 0.12                           | 0.14                          | 0.14                          | 0.14                          | 0.16                          | 0.19                          | 0.19                          | 0.21                          | 0.23                          | 0.26                          |
| 0.20                           | 0.23                          | 0.25                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          | 0.43                          |
| 0.18                           | 0.20                          | 0.23                          | 0.25                          | 0.28                          | 0.30                          | 0.33                          | 0.36                          | 0.38                          | 0.41                          |
| 0.15                           | 0.18                          | 0.18                          | 0.20                          | 0.20                          | 0.23                          | 0.23                          | 0.25                          | 0.25                          | 0.28                          |
| 0.13                           | 0.15                          | 0.15                          | 0.18                          | 0.18                          | 0.20                          | 0.20                          | 0.23                          | 0.23                          | 0.25                          |
| 0.10                           | 0.13                          | 0.13                          | 0.15                          | 0.15                          | 0.18                          | 0.20                          | 0.20                          | 0.20                          | 0.25                          |
| 0.10                           | 0.10                          | 0.13                          | 0.13                          | 0.15                          | 0.15                          | 0.18                          | 0.18                          | 0.20                          | 0.20                          |

#### Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM |
| 11     | 31              | 19               | 41              | 30               | 55              | 38               |
| 12     | 31              | 19               | 41              | 30               | 55              | 38               |
| 13     | 28              | 23               | 34              | 36               | 52              | 45               |
| 14     | 28              | 26               | 34              | 36               | 52              | 45               |
| 15     | 26              | 26               | 33              | 42               | 48              | 53               |
| 16     | 26              | 30               | 33              | 45               | 48              | 57               |
| 17     | 24              | 30               | 31              | 47               | 45              | 62               |
| 18     | 24              | 34               | 31              | 47               | 45              | 62               |
| 20     | 21              | 38               | 28              | 49               | 41              | 68               |
| 22     | 21              | 42               | 28              | 53               | 41              | 68               |
| 24     | 21              | 42               | 28              | 53               | 41              | 68               |
| 26     | 21              | 45               | 28              | 61               | 41              | 76               |
| 29     | 21              | 45               | 28              | 61               | 41              | 76               |
| 32     | 21              | 45               | 28              | 61               | 41              | 76               |



## Recommended Drilling Data | Metric (mm)

## GEN3SYS XT

| ISO | Material                               | Hardness<br>(BHN) | Speed<br>(M/min) | Feed Rate (mm/rev) by Diameter |                               |                               |                               |
|-----|----------------------------------------|-------------------|------------------|--------------------------------|-------------------------------|-------------------------------|-------------------------------|
|     |                                        |                   |                  | 11 series<br>11.00 -<br>11.99  | 12 series<br>12.00 -<br>12.99 | 13 series<br>13.00 -<br>13.99 | 14 series<br>14.00 -<br>14.99 |
| H   | Wear Plate<br>Hardox, AR400, T-1, etc. | 400               | 45               | 0.12                           | 0.12                          | 0.14                          | 0.14                          |
|     |                                        | 500               | 37               | 0.09                           | 0.09                          | 0.12                          | 0.14                          |
|     |                                        | 600               | 25               | 0.09                           | 0.09                          | 0.09                          | 0.12                          |
|     | Hardened Steel                         | 300 - 400         | 47               | 0.12                           | 0.12                          | 0.14                          | 0.14                          |
|     |                                        | 400 - 500         | 37               | 0.09                           | 0.09                          | 0.12                          | 0.14                          |
| K   | SG / Nodular Cast Iron                 | 120 - 150         | 146              | 0.23                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                        | 150 - 200         | 138              | 0.23                           | 0.26                          | 0.28                          | 0.30                          |
|     |                                        | 200 - 220         | 123              | 0.19                           | 0.23                          | 0.26                          | 0.28                          |
|     |                                        | 220 - 260         | 108              | 0.19                           | 0.21                          | 0.23                          | 0.26                          |
|     |                                        | 260 - 320         | 97               | 0.19                           | 0.19                          | 0.21                          | 0.23                          |
|     | Grey / White Iron                      | 120 - 150         | 152              | 0.28                           | 0.30                          | 0.33                          | 0.35                          |
|     |                                        | 150 - 200         | 146              | 0.26                           | 0.28                          | 0.30                          | 0.33                          |
|     |                                        | 200 - 220         | 131              | 0.23                           | 0.26                          | 0.28                          | 0.30                          |
|     |                                        | 220 - 260         | 113              | 0.21                           | 0.23                          | 0.26                          | 0.28                          |
|     |                                        | 260 - 320         | 102              | 0.21                           | 0.23                          | 0.26                          | 0.28                          |
| N   | Cast Aluminum                          | 30                | 300              | 0.28                           | 0.30                          | 0.33                          | 0.35                          |
|     |                                        | 180               | 225              | 0.26                           | 0.28                          | 0.30                          | 0.33                          |
|     | Wrought Aluminum                       | 30                | 425              | 0.30                           | 0.35                          | 0.37                          | 0.40                          |
|     |                                        | 180               | 300              | 0.28                           | 0.33                          | 0.35                          | 0.37                          |
|     | Aluminum Bronze                        | 100 - 200         | 110              | 0.23                           | 0.26                          | 0.28                          | 0.28                          |
|     |                                        | 200 - 250         | 90               | 0.19                           | 0.21                          | 0.23                          | 0.26                          |
|     | Brass                                  | 100               | 200              | 0.23                           | 0.28                          | 0.30                          | 0.33                          |
|     | Copper                                 | 60                | 130              | 0.07                           | 0.07                          | 0.07                          | 0.09                          |

## 7xD Adjustment Example (0.80 Adjustment)

| Data • Adjustment Value | Speed/Feed (7xD) |
|-------------------------|------------------|
| 61 M/min • 0.80         | = 48.8 M/min     |
| 0.20 mm/rev • 0.80      | = 0.16 mm/rev    |

## 10xD Adjustment Example (0.70 Adjustment)

| Speed • Adjustment Value | Speed/Feed (10xD) |
|--------------------------|-------------------|
| 61 M/min • 0.70          | = 42.7 M/min      |
| 0.20 mm/rev • 0.70       | = 0.14 mm/rev     |

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.

**IMPORTANT:** The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD and 10xD holder lengths, see adjustment example above.

A

DRILLING

| Feed Rate (mm/rev) by Diameter |                               |                               |                               |                               |                               |                               |                               |                               |                               |
|--------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 15 series<br>15.00 -<br>15.99  | 16 series<br>16.00 -<br>16.99 | 17 series<br>17.00 -<br>17.99 | 18 series<br>18.00 -<br>19.99 | 20 series<br>20.00 -<br>21.99 | 22 series<br>22.00 -<br>23.99 | 24 series<br>24.00 -<br>25.99 | 26 series<br>26.00 -<br>28.99 | 29 series<br>29.00 -<br>31.99 | 32 series<br>32.00 -<br>35.00 |
| 0.16                           | 0.19                          | 0.21                          | 0.23                          | 0.23                          | 0.23                          | 0.26                          | 0.26                          | 0.28                          | 0.28                          |
| 0.14                           | 0.16                          | 0.19                          | 0.21                          | 0.23                          | 0.23                          | 0.23                          | 0.23                          | 0.26                          | 0.26                          |
| 0.14                           | 0.14                          | 0.16                          | 0.19                          | 0.21                          | 0.21                          | 0.23                          | 0.23                          | 0.23                          | 0.23                          |
| 0.16                           | 0.19                          | 0.19                          | 0.21                          | 0.23                          | 0.23                          | 0.23                          | 0.23                          | 0.26                          | 0.26                          |
| 0.14                           | 0.16                          | 0.19                          | 0.19                          | 0.21                          | 0.21                          | 0.23                          | 0.23                          | 0.23                          | 0.23                          |
| 0.35                           | 0.37                          | 0.42                          | 0.47                          | 0.47                          | 0.51                          | 0.51                          | 0.56                          | 0.58                          | 0.61                          |
| 0.33                           | 0.35                          | 0.40                          | 0.44                          | 0.47                          | 0.47                          | 0.51                          | 0.51                          | 0.56                          | 0.56                          |
| 0.30                           | 0.33                          | 0.37                          | 0.41                          | 0.44                          | 0.47                          | 0.47                          | 0.51                          | 0.51                          | 0.54                          |
| 0.28                           | 0.30                          | 0.35                          | 0.38                          | 0.41                          | 0.44                          | 0.47                          | 0.47                          | 0.51                          | 0.51                          |
| 0.26                           | 0.28                          | 0.33                          | 0.35                          | 0.38                          | 0.41                          | 0.44                          | 0.47                          | 0.47                          | 0.49                          |
| 0.37                           | 0.40                          | 0.46                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          | 0.61                          | 0.63                          |
| 0.35                           | 0.37                          | 0.42                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          | 0.61                          |
| 0.33                           | 0.35                          | 0.40                          | 0.47                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          |
| 0.30                           | 0.33                          | 0.37                          | 0.42                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          |
| 0.30                           | 0.33                          | 0.35                          | 0.40                          | 0.41                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          |
| 0.37                           | 0.40                          | 0.42                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.56                          | 0.58                          |
| 0.35                           | 0.37                          | 0.40                          | 0.41                          | 0.44                          | 0.47                          | 0.49                          | 0.51                          | 0.54                          | 0.54                          |
| 0.42                           | 0.44                          | 0.47                          | 0.51                          | 0.54                          | 0.56                          | 0.61                          | 0.63                          | 0.68                          | 0.70                          |
| 0.40                           | 0.41                          | 0.44                          | 0.49                          | 0.51                          | 0.54                          | 0.58                          | 0.61                          | 0.65                          | 0.68                          |
| 0.30                           | 0.33                          | 0.35                          | 0.35                          | 0.37                          | 0.40                          | 0.42                          | 0.44                          | 0.44                          | 0.44                          |
| 0.28                           | 0.28                          | 0.30                          | 0.33                          | 0.35                          | 0.37                          | 0.40                          | 0.41                          | 0.41                          | 0.41                          |
| 0.35                           | 0.37                          | 0.40                          | 0.44                          | 0.47                          | 0.51                          | 0.54                          | 0.56                          | 0.61                          | 0.61                          |
| 0.12                           | 0.14                          | 0.14                          | 0.16                          | 0.19                          | 0.19                          | 0.19                          | 0.23                          | 0.23                          | 0.26                          |

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS

#### Coolant Recommendations

| Series | Stub, 3xD, 5xD  |                  | 7xD             |                  | 10xD            |                  |
|--------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
|        | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM | Pressure<br>BAR | Flow Rate<br>LPM |
| 11     | 31              | 19               | 41              | 30               | 55              | 38               |
| 12     | 31              | 19               | 41              | 30               | 55              | 38               |
| 13     | 28              | 23               | 34              | 36               | 52              | 45               |
| 14     | 28              | 26               | 34              | 36               | 52              | 45               |
| 15     | 26              | 26               | 33              | 42               | 48              | 53               |
| 16     | 26              | 30               | 33              | 45               | 48              | 57               |
| 17     | 24              | 30               | 31              | 47               | 45              | 62               |
| 18     | 24              | 34               | 31              | 47               | 45              | 62               |
| 20     | 21              | 38               | 28              | 49               | 41              | 68               |
| 22     | 21              | 42               | 28              | 53               | 41              | 68               |
| 24     | 21              | 42               | 28              | 53               | 41              | 68               |
| 26     | 21              | 45               | 28              | 61               | 41              | 76               |
| 29     | 21              | 45               | 28              | 61               | 41              | 76               |
| 32     | 21              | 45               | 28              | 61               | 41              | 76               |



## Tap Drill Information and Formulas | Imperial (inch)

## American - Unified Inch Screw Thread

| Tap Size   | Tap Drill Size | Decimal Equivalent | * Theo % Thread | Probable Mean Oversize | Probable Hole Size | ** Probable % Thread |
|------------|----------------|--------------------|-----------------|------------------------|--------------------|----------------------|
| 1/2 - 20   | 29/64          | 0.4531             | 72%             | 0.003                  | 0.4561             | 68%                  |
| 9/16 - 12  | 12.0 mm        | 0.4724             | 72%             | 0.003                  | 0.4754             | 69%                  |
|            | 31/64          | 0.4844             | 83%             | 0.003                  | 0.4874             | 80%                  |
| 9/16 - 18  | 1/2            | 0.5000             | 87%             | 0.003                  | 0.5030             | 82%                  |
|            | 13.0 mm        | 0.5118             | 70%             | 0.003                  | 0.5148             | 66%                  |
|            | 31/64          | 0.5156             | 65%             | 0.003                  | 0.5186             | 61%                  |
| 5/8 - 11   | 17/32          | 0.5313             | 79%             | 0.003                  | 0.5343             | 77%                  |
| 5/8 - 12   | 35/64          | 0.5469             | 72%             | 0.003                  | 0.5499             | 69%                  |
| 5/8 - 18   | 9/16           | 0.5625             | 87%             | 0.003                  | 0.5655             | 82%                  |
|            | 14.5 mm        | 0.5709             | 75%             | 0.003                  | 0.5739             | 71%                  |
|            | 37/64          | 0.5781             | 65%             | 0.003                  | 0.5811             | 61%                  |
| 11/16 - 12 | 39/64          | 0.6094             | 72%             | 0.003                  | 0.6124             | 69%                  |
| 3/4 - 10   | 41/64          | 0.6406             | 84%             | 0.003                  | 0.6436             | 82%                  |
|            | 16.5 mm        | 0.6496             | 77%             | 0.003                  | 0.6526             | 75%                  |
|            | 21/32          | 0.6563             | 72%             | 0.003                  | 0.6593             | 70%                  |
| 3/4 - 12   | 43/64          | 0.6719             | 72%             | 0.003                  | 0.6749             | 69%                  |
| 3/4 - 16   | 11/16          | 0.6875             | 77%             | 0.003                  | 0.6905             | 73%                  |
|            | 17.5 mm        | 0.6890             | 75%             | 0.003                  | 0.6920             | 71%                  |
| 7/8 - 9    | 49/64          | 0.7656             | 76%             | 0.003                  | 0.7686             | 74%                  |
|            | 25/32          | 0.7813             | 65%             | 0.003                  | 0.7843             | 63%                  |
| 7/8 - 14   | 51/64          | 0.7969             | 84%             | 0.003                  | 0.7999             | 81%                  |
|            | 13/16          | 0.8125             | 67%             | 0.003                  | 0.8155             | 64%                  |
| 15/16 - 12 | 55/64          | 0.8594             | 72%             | 0.003                  | 0.8624             | 69%                  |
| 15/16 - 20 | 57/64          | 0.8906             | 72%             | 0.003                  | 0.8936             | 68%                  |
| 1 - 8      | 22.0 mm        | 0.8661             | 82%             | 0.003                  | 0.8691             | 81%                  |
|            | 7/8            | 0.8750             | 77%             | 0.003                  | 0.8780             | 75%                  |
|            | 57/64          | 0.8906             | 67%             | 0.003                  | 0.8936             | 65%                  |
| 1 - 12     | 29/32          | 0.9063             | 87%             | 0.003                  | 0.9093             | 84%                  |
|            | 59/64          | 0.9219             | 72%             | 0.003                  | 0.9249             | 69%                  |
| 1 - 14     | 15/16          | 0.9375             | 67%             | 0.003                  | 0.9405             | 64%                  |
| 1-1/8 - 12 | 1-1/32         | 1.0313             | 87%             | 0.003                  | 1.0343             | 84%                  |
|            | 1-3/64         | 1.0469             | 72%             | 0.003                  | 1.0499             | 69%                  |
| 1-1/4 - 7  | 1-7/64         | 1.1094             | 76%             | 0.003                  | 1.1124             | 74%                  |

## Taper Pipe Thread (NPT)

| Tap Size | Tap Drill Size | Decimal Equivalent | * Theo % Thread | Probable Mean Oversize | Probable Hole Size | ** Probable % Thread |
|----------|----------------|--------------------|-----------------|------------------------|--------------------|----------------------|
| 1/4 - 18 | 7/16           | 0.4375             | —               | 0.003                  | 0.4405             | —                    |
| 3/8 - 18 | 9/16           | 0.5625             | —               | 0.003                  | 0.5655             | —                    |
| 1/2 - 14 | 45/64          | 0.7031             | —               | 0.003                  | 0.7061             | —                    |
| 3/4 - 14 | 29/32          | 0.9063             | —               | 0.003                  | 0.9093             | —                    |

\* Based on nominal tap drill diameter

\*\* Based on .003" probable mean oversize

To calculate the percent of full thread for a given hole diameter:

$$\% \text{ Thread} = \# \text{ of threads per inch} \cdot \frac{(\text{Basic major diameter of thread} - \text{Drill hole size})}{.0130}$$

## Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirement.
- The .003 probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

## Formulas

$$1. \text{ RPM} = (3.82 \cdot \text{SFM}) / \text{DIA}$$

where:

RPM = revolutions per minute (rev/min)

SFM = speed (ft/min)

DIA = diameter of drill (inch)

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

where:

IPM = inches per minute (in/min)

RPM = revolutions per minute (rev/min)

IPR = feed rate (in/rev)

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

where:

SFM = speed (ft/min)

RPM = revolutions per minute (rev/min)

DIA = diameter of drill (inch)

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

where:

Thrust = axial thrust (lbs)

IPR = feed rate (in/rev)

DIA = diameter of drill (inch)

Km = specific cutting energy (lbs/in<sup>2</sup>)

$$5. \text{ Tool Power} = .6991 \cdot \text{IPR} \cdot \text{RPM} \cdot \text{Km} \cdot \text{DIA}^2$$

where:

Tool Power = tool power (HP)

IPR = feed rate (in/rev)

RPM = revolutions per minute (rev/min)

Km = specific cutting energy (lbs/in<sup>2</sup>)

DIA = diameter of drill (inch)

## Material Constants

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



## Tap Drill Information and Formulas | Metric (mm)

| Tap Size  | Tap Drill Size | Decimal Equivalent (inch) | * Theo % Thread | Probable Mean Oversize | Probable Hole Size | ** Probable % Thread |
|-----------|----------------|---------------------------|-----------------|------------------------|--------------------|----------------------|
| 12 X 1.25 | 27/64          | 0.4219                    | 79%             | 0.075 mm               | 10.79 mm           | 74%                  |
|           | 10.8 mm        | 0.4252                    | 74%             | 0.075 mm               | 10.88 mm           | 69%                  |
| 14 X 2.0  | 15/32          | 0.4688                    | 81%             | 0.075 mm               | 11.98 mm           | 78%                  |
|           | 12.0 mm        | 0.4724                    | 77%             | 0.075 mm               | 12.08 mm           | 74%                  |
| 14 X 1.5  | 12.5 mm        | 0.4921                    | 77%             | 0.075 mm               | 12.58 mm           | 73%                  |
| 16 X 2.0  | 14.0 mm        | 0.5512                    | 77%             | 0.075 mm               | 14.08 mm           | 74%                  |
| 16 X 1.5  | 14.5 mm        | 0.5709                    | 77%             | 0.075 mm               | 14.58 mm           | 73%                  |
|           | 37/64          | 0.5781                    | 68%             | 0.075 mm               | 14.76 mm           | 64%                  |
| 18 X 2.5  | 15.5 mm        | 0.6102                    | 77%             | 0.075 mm               | 15.58 mm           | 75%                  |
| 18 X 1.5  | 16.5 mm        | 0.6496                    | 77%             | 0.075 mm               | 16.58 mm           | 73%                  |
|           | 21/32          | 0.6563                    | 68%             | 0.075 mm               | 16.75 mm           | 64%                  |
| 20 X 2.5  | 11/16          | 0.6875                    | 78%             | 0.075 mm               | 17.54 mm           | 76%                  |
|           | 17.5 mm        | 0.6890                    | 77%             | 0.075 mm               | 17.58 mm           | 74%                  |
| 20 X 1.5  | 18.5 mm        | 0.7283                    | 77%             | 0.075 mm               | 18.58 mm           | 73%                  |
|           | 47/64          | 0.7344                    | 69%             | 0.075 mm               | 18.66 mm           | 65%                  |
| 22 X 2.5  | 49/64          | 0.7656                    | 79%             | 0.075 mm               | 19.52 mm           | 76%                  |
|           | 19.5 mm        | 0.7677                    | 77%             | 0.075 mm               | 19.58 mm           | 75%                  |
| 22 X 1.5  | 20.5 mm        | 0.8071                    | 77%             | 0.075 mm               | 20.58 mm           | 73%                  |
|           | 13/16          | 0.8125                    | 70%             | 0.075 mm               | 20.71 mm           | 66%                  |
| 24 X 3    | 13/16          | 0.8125                    | 86%             | 0.075 mm               | 20.71 mm           | 84%                  |
|           | 21.0 mm        | 0.8268                    | 76%             | 0.075 mm               | 21.08 mm           | 75%                  |
| 24 X 2    | 22.0 mm        | 0.8661                    | 77%             | 0.075 mm               | 22.08 mm           | 74%                  |
|           | 7/8            | 0.8750                    | 68%             | 0.075 mm               | 22.30 mm           | 65%                  |
| 27 X 3    | 24.0 mm        | 0.9449                    | 77%             | 0.075 mm               | 24.08 mm           | 75%                  |

### Formulas

|    |                   |                                                                        |
|----|-------------------|------------------------------------------------------------------------|
| 1. | <b>RPM</b>        | <b>= (318.47 • M/min) / DIA</b>                                        |
|    | where:            |                                                                        |
|    | RPM               | = revolutions per minute (rev/min)                                     |
|    | M/min             | = speed (M/min)                                                        |
|    | DIA               | = diameter of drill (mm)                                               |
| 2. | <b>mm/min</b>     | <b>= RPM • mm/rev</b>                                                  |
|    | where:            |                                                                        |
|    | mm/min            | = mm per minute (mm/min)                                               |
|    | RPM               | = revolutions per minute (rev/min)                                     |
|    | mm/rev            | = feed rate (mm/rev)                                                   |
| 3. | <b>M/min</b>      | <b>= RPM • 0.003 • DIA</b>                                             |
|    | where:            |                                                                        |
|    | M/min             | = speed (M/min)                                                        |
|    | RPM               | = revolutions per minute (rev/min)                                     |
|    | DIA               | = diameter of drill (mm)                                               |
| 4. | <b>Thrust</b>     | <b>= 154 • (mm/rev) • DIA • K<sub>m</sub></b>                          |
|    | where:            |                                                                        |
|    | Thrust            | = axial thrust (N)                                                     |
|    | mm/rev            | = feed rate (mm/rev)                                                   |
|    | DIA               | = diameter of drill (mm)                                               |
|    | K <sub>m</sub>    | = specific cutting energy (kPa)                                        |
| 5. | <b>Tool Power</b> | <b>= ((mm/rev) • RPM • K<sub>m</sub> • DIA<sup>2</sup>) / 218604.8</b> |
|    | where:            |                                                                        |
|    | Tool Power        | = tool power (HP)                                                      |
|    | mm/rev            | = feed rate (mm/rev)                                                   |
|    | RPM               | = revolutions per minute (rev/min)                                     |
|    | K <sub>m</sub>    | = specific cutting energy (kPa)                                        |
|    | DIA               | = diameter of drill (mm)                                               |

### BSP and ISO 7-1

| Tap Size | Tap Drill Size | Decimal Equivalent | * Theo % Thread | Probable Mean Oversize | Probable Hole Size | ** Probable % Thread |
|----------|----------------|--------------------|-----------------|------------------------|--------------------|----------------------|
| 1/4-19   | 7/16"          | 0.4375"            | —               | 0.075 mm               | 11.19 mm           | —                    |
| 3/8-19   | 37/64"         | 0.5781"            | —               | 0.075 mm               | 14.76 mm           | —                    |
| 1/2-14   | 23/32"         | 0.7188"            | —               | 0.075 mm               | 18.33 mm           | —                    |
| 3/4-14   | 15/16"         | 0.9375"            | —               | 0.075 mm               | 23.89 mm           | —                    |

\* Based on nominal tap drill diameter

\*\* Based on 0.075mm probable mean oversize

To calculate the percent of full thread for a given hole diameter:

$$\% \text{ Thread} = \frac{76.93}{\text{Pitch (mm)}} \cdot (\text{Basic major diameter} - \text{Drill hole size})$$

### Notes

- The above tap drill information represents probable thread percentages for the standard tap drills stocked at Allied Machine. Special insert diameters may be required in order to meet a user specific percentage of thread requirement.
- The .075mm probable mean oversize hole condition is based on optimum cutting conditions. Probable percent of full thread may vary based on less ideal cutting conditions.
- The table and equations on this page are found in the *Machinery's Handbook*. Permission to simplify and print the equations is granted by the Editor of the *Machinery's Handbook*.

### Material Constants

| Type of Material             | Hardness      | K <sub>m</sub> (kPa) |
|------------------------------|---------------|----------------------|
| Plain Carbon and Alloy Steel | 85 - 200 BHN  | 5.45                 |
|                              | 200 - 275 BHN | 6.48                 |
|                              | 275 - 375 BHN | 6.89                 |
|                              | 375 - 425 BHN | 7.93                 |
| High Temperature Alloys      | —             | 9.93                 |
| Titanium Alloy               | —             | 4.96                 |
| Stainless Steels             | 135 - 275 BHN | 6.48                 |
|                              | 30 - 45 RC    | 7.45                 |
| Cast Iron                    | 100 - 200 BHN | 3.45                 |
|                              | 200 - 300 BHN | 7.45                 |
| Copper Alloy                 | 20 - 80 RB    | 2.96                 |
|                              | 80 - 100 RB   | 4.96                 |
| Aluminum Alloy               | —             | 1.52                 |
| Magnesium Alloy              | —             | 1.10                 |

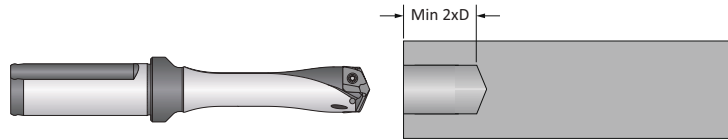
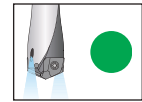


## Deep Hole Drilling Guidelines

GEN3SYS XT Pro | 10xD Holders

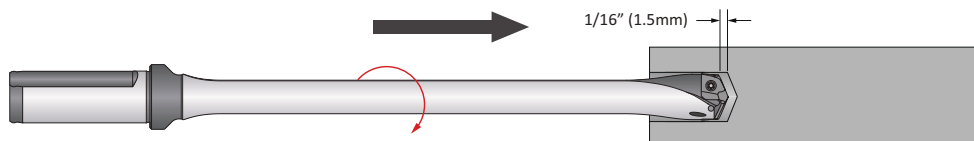
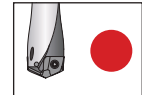
- 1. Pilot Hole**  
100 % RPM  
100% IPR (mm/rev)

Establish the pilot hole using the same diameter short drill to a depth of 2xD minimum. Utilize a pilot drill with the same or larger included point angle.

**Coolant ON**

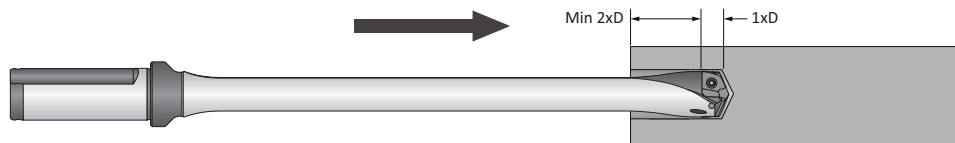
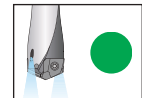
- 2. Feed-in**  
50 RPM max  
12 IPM (300 mm/min)

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

**Coolant OFF**

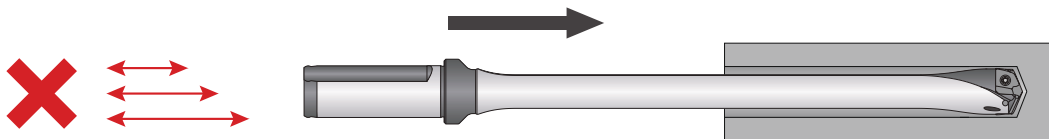
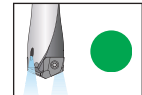
- 3. Deep Hole Transition Drilling**  
50 % RPM  
75% IPR (mm/rev)

Drill additional 1xD past the bottom of the pilot hole at 50% reduction of recommended speed and 25% reduction of recommended feed. Minimum of 1 second dwell is required to meet full speed before feeding.

**Coolant ON**

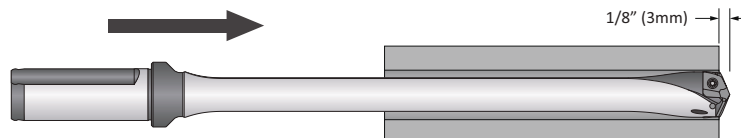
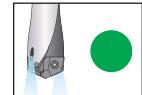
- 4. Deep Hole Drilling - Blind**  
100% RPM  
100% IPR (mm/rev)

Drill to full depth at recommended speed and feed for longer drill according to Allied speed and feed charts. **No peck cycle recommended.**

**Coolant ON**

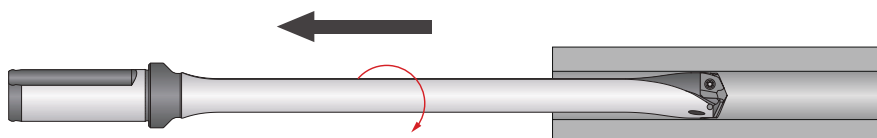
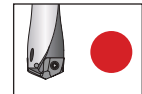
- 5. Deep Hole Drilling - at Breakout**  
50% RPM  
75% IPR (mm/rev)

**For through holes only:**  
Reduce speed by 50% and feed by 25% prior to breakout. Do not break out more than 1/8" (3mm) past the full diameter of the drill.

**Coolant ON**

- 6. Drill Retract**  
50 RPM max

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

**Coolant OFF**

**⚠ WARNING** Tool failure can cause serious injury. To prevent:

- When using holders without support bushing, use a short GEN3SYS holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

Visit [www.alliedmachine.com/DeepHoleGuidelines](http://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.



## Troubleshooting Guide

|                                                                                                                                                                                        | Potential Problem       |             |                 |                 |            |                     |         |              |                   |                         |                       |                 |               |                      |                   |                |                  |                |                           |                |                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------|-----------------|-----------------|------------|---------------------|---------|--------------|-------------------|-------------------------|-----------------------|-----------------|---------------|----------------------|-------------------|----------------|------------------|----------------|---------------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                        | Accelerated corner wear | Barber pole | Bell mouth hole | Insert chipping | Blue chips | Build Up Edge (BUE) | Chatter | Chip packing | Chipping of point | Damaged or broken tools | Excessive margin wear | High flank wear | Hole lead off | Hole out of position | Hole out of round | Over-size hole | Poor hole finish | Poor tool life | Power spikes - Load meter | Retract spiral |                                                                                                                                                                                                                                                                                                                                                                                             |
| Setup Condition                                                                                                                                                                        | 1                       | 2           | 3               | 4               | 5          | 6                   | 7       | 8            | 9                 | 10                      | 11                    | 12              | 13            | 14                   | 15                | 16             | 17               | 18             | 19                        | 20             | Possible Solutions                                                                                                                                                                                                                                                                                                                                                                          |
| Worn or misaligned spindle (lathe, screw machine, chucker)                                                                                                                             | 1                       |             | 3               |                 |            |                     | 7       |              | 9                 | 10                      | 11                    |                 | 13            |                      |                   | 16             | 17               |                |                           | 20             | <ul style="list-style-type: none"> <li>Align spindle and turret or tailstock.</li> <li>Repair spindle.</li> </ul>                                                                                                                                                                                                                                                                           |
| Use of low rigidity machine tools                                                                                                                                                      |                         | 2           | 3               | 4               |            |                     | 7       |              | 9                 | 10                      |                       |                 | 13            | 14                   |                   |                |                  |                |                           | 20             | <ul style="list-style-type: none"> <li>Reduce penetration rate to fall within the physical limits of the machine or setup (<b>NOTICE:</b> Do not reduce feed below threshold of good chip formation).</li> </ul>                                                                                                                                                                            |
| Poor work piece support                                                                                                                                                                |                         | 2           |                 | 4               |            |                     | 7       |              |                   | 10                      | 11                    |                 |               |                      | 15                |                | 17               |                |                           | 20             | <ul style="list-style-type: none"> <li>Provide additional support for the work piece.</li> <li>Reduce penetration rate to fall within the physical limits of the machine or setup (<b>NOTICE:</b> Do not reduce feed below threshold of good chip formation).</li> </ul>                                                                                                                    |
| Flood coolant, low coolant pressure, or low coolant volume                                                                                                                             | 1                       |             |                 |                 | 5          | 6                   |         | 8            |                   | 10                      |                       | 12              |               |                      |                   | 16             | 17               | 18             | 19                        |                | <ul style="list-style-type: none"> <li>Run coolant through tool holder when drilling greater than 1xD.</li> <li>Increase coolant pressure and volume through the tool holder.</li> <li>Reduce penetration rate to fall within the coolant limitations (<b>NOTICE:</b> Do not reduce feed below threshold of good chip formation).</li> <li>Add a peck cycle to help clear chips.</li> </ul> |
| Interrupted cuts. Entry or exit surfaces that are not perpendicular to the spindle (draft angles, parting lines, curved or stepped surfaces, cross holes, and cast or forged surfaces) |                         |             |                 | 4               |            |                     | 7       |              | 9                 | 10                      | 11                    |                 | 13            | 14                   | 15                | 16             | 17               | 18             |                           |                | <ul style="list-style-type: none"> <li>Pre-mill (spot face) entry or exit surface to remove interruption.</li> <li>Decrease feed as much as 50% through entry or exit interruption.</li> <li>Use short holders in low impact entry cuts.</li> </ul>                                                                                                                                         |
| Material harder than expected or running tools beyond recommended speed                                                                                                                | 1                       |             |                 |                 | 5          | 6                   |         |              |                   | 10                      |                       | 12              |               |                      |                   |                |                  | 18             |                           |                | <ul style="list-style-type: none"> <li>Reduce speed.</li> <li>Increase coolant pressure and volume.</li> <li>Improve coolant condition by use of quality products and regular maintenance.</li> </ul>                                                                                                                                                                                       |
| Poor material micro-structure or foreign particles (forgings and castings that have not been normalized or annealed, poorly prepared steel, flame cut parts, and sand casting)         |                         |             |                 | 4               |            | 6                   |         |              |                   | 10                      |                       | 12              | 13            |                      |                   |                |                  | 18             |                           |                | <ul style="list-style-type: none"> <li>Compare performance of other tools for similar wear problems, which may indicate poor micro-structure. Anneal or normalize parts to improve micro-structure for machining.</li> <li>Reduce feeds (<b>NOTICE:</b> Do not reduce feed below threshold of good chip formation).</li> </ul>                                                              |
| Poor chip control                                                                                                                                                                      |                         |             |                 |                 |            |                     |         | 8            |                   | 10                      | 11                    |                 | 13            |                      |                   | 16             | 17               | 18             | 19                        |                | <ul style="list-style-type: none"> <li>Increase feed to recommended levels. Contact Allied Application Engineering group for technical recommendations.</li> <li>Increase coolant pressure and volume.</li> <li>Improve coolant condition by use of quality products and regular maintenance.</li> </ul>                                                                                    |
| Spot drilled holes with included angle less than that matching GEN3SYS XT or cored holes                                                                                               | 1                       |             |                 | 4               |            |                     | 7       |              |                   |                         |                       |                 | 13            |                      |                   |                |                  | 18             |                           |                | <ul style="list-style-type: none"> <li>Spot hole with short tool of same or greater included angle as GEN3SYS XT drill insert.</li> <li>Reduce feed (<b>NOTICE:</b> Do not reduce feed below threshold of good chip formation). If possible, drill from solid.</li> </ul>                                                                                                                   |



## Notes

A

# DRILLING

B

BORING

C

## REAIMING

D

## BURNISHING

E

## THREADING

X

SPECIALS

## A

# DRILLING

B

BORING

C

## REAMING

D

## BURNISHING

E

## THREADING

X

SPECIALS



## Notes

A

# DRILLING

B

BORING

C

## REAMING

D

## BURNISHING

E

## THREADING

x

SPECIALS

## A

# DRILLING

B

BORING

C

## REAMING

D

BURNISHING

E

## THREADING

X

SPECIALS

# Guaranteed Test / Demo Application Form

Distributor PO #

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

## Distributor Information

Company Name: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Account Number: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

## End User Information

Company Name: \_\_\_\_\_  
Contact: \_\_\_\_\_  
Industry: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

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

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

## Application Information

|                                    |                           |                                                    |
|------------------------------------|---------------------------|----------------------------------------------------|
| Hole Diameter: _____ in/mm         | Tolerance: _____          | Material: _____<br>(4150 / A36 / Cast Iron / etc.) |
| Pre-existing Diameter: _____ in/mm | Depth of Cut: _____ in/mm | Hardness: _____<br>(BHN / Rc)                      |
| Required Finish: _____ RMS         |                           | State: _____<br>(Casting / Hot rolled / Forging)   |

## Machine Information

|                                                                                                                         |                                                                                                |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Machine Type: _____<br>(Lathe / Screw machine / Machine center / etc.)                                                  | Builder: _____<br>(Haas, Mori Seiki, etc.)                                                     | Model #: _____                                                                      |
| Shank Required: _____<br>(CAT50 / Morse taper, etc.)                                                                    |                                                                                                | Power: _____ HP/KW                                                                  |
| Rigidity: _____<br><input type="checkbox"/> Excellent<br><input type="checkbox"/> Good<br><input type="checkbox"/> Poor | Orientation: _____<br><input type="checkbox"/> Vertical<br><input type="checkbox"/> Horizontal | Tool Rotating: _____<br><input type="checkbox"/> Yes<br><input type="checkbox"/> No |
|                                                                                                                         |                                                                                                | Thrust: _____ lbs/N                                                                 |

## Coolant Information

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

## Requested Tooling

| QTY | Item Number |
|-----|-------------|
|     |             |
|     |             |
|     |             |
|     |             |
|     |             |

| QTY | Item Number |
|-----|-------------|
|     |             |
|     |             |
|     |             |
|     |             |
|     |             |



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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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