ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

Boring

Reaming

Burnishing

Threading

Specials

4TEX™ Drill

▶ *DRILLING*

Indexable 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 holemaking and finishing solutions. We are committed to providing practical and dependable solutions to our customers through innovative designs and superior customer and technical support.

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

ALLIED MACHINE & ENGINEERING®

www.alliedmachine.com

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

ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

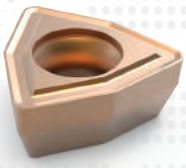
WOHLHAUPTER® ThreadMills USA™ SUPERION™ CRITERION™

Replaceable Insert Drills

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

Indexable Insert Drills

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



Replaceable / Indexable Insert Drills

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

Solid Carbide Drills

- Offer greater strength and stability when drilling tougher materials
- Available in diameters from 3mm - 50mm
- 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:
  - **Original T-A®** | **GEN2 T-A®**
  - **GEN3SYS® XT**

BTA (STS) Machining Solutions

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

Hydraulic Port Contour Cutters

- Save significant time and money by performing four processes in one step
- Replaceable insert design reduces costs, inventory, and set-up times
- Available in 4 industry specifications:
  - Imperial: SAE J-1926
  - Metric: ISO 6149-1:2006
  - Military: SAE AS5202
  - John Deere: JDS-G173.1
- Products:
  - **AccuPort 432®**

4 IN 1

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**

CRITERION™
Modular Boring Systems

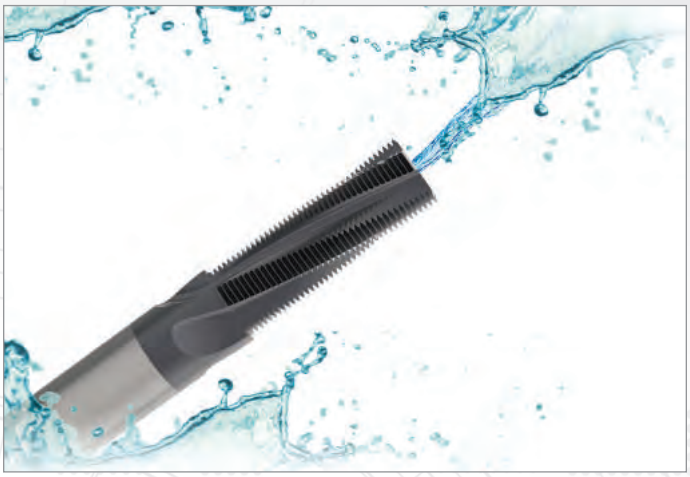
- The modular capabilities are ideal for use across multiple different projects
- Offers versatile boring heads suitable for all job shops and tooling rooms
- Provides an economical solution for low volume and/or short-term production applications
- Offers both rough and finish boring solutions
- Products: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

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
- Hold tight tolerances to ensure processes are performed to accurate specifications
- Reduce tooling costs because many items are available for recondition
- Products:
  - **ALVAN® Reamers**

S.C.A.M.I.®
Roller Burnishing Solutions

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



Solid Carbide Thread Mills

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

Replaceable Insert Thread Mills

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

SPECIAL CAPABILITIES

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

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

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

Whatever your application, Allied Machine has the answer.

Insta-Quote™

SUPERION™

4TEX™ Drill

Indexable Carbide Insert Drilling System

- **Diameter Range:** 0.472” - 1.850” (12.00mm - 47.00mm)

Don’t Let Your Machine Slow You Down

The 4TEX indexable carbide drill provides increased penetration rates on light duty machines due to the single effective design. With twisted coolant outlets and increased core strength, the design provides improved hole size and finish.

The 4 sided 4TEX inserts are designed to use 2 sides in the center pocket and 2 sides in the periphery pocket for an improved cost-per-hole. With insert geometries available for all ISO material classes and a robust body design, the 4TEX is suited for your difficult applications.

Improved hole size and finish	Superior chip evacuation	Increased penetration rates

Applicable Industries

Aerospace | Agriculture | Automotive | Firearms | General Machining | Oil & Gas | Renewable Energy

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

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

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

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

⚠ WARNING

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

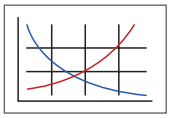
NOTICE means that failure to follow the precautions in this message could result in damage to the tool or machine but not result in personal injury.

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

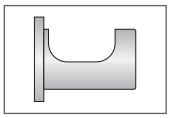
Visit www.alliedmachine.com for the most up-to-date information and procedures.

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

Setup / Assembly Information
Detailed instructions and information regarding the corresponding part(s)



Recommended Cutting Data
Speed and feed recommendations for optimum and safe drilling



Eccentric Sleeves
Refers to the corresponding eccentric sleeve for the holder

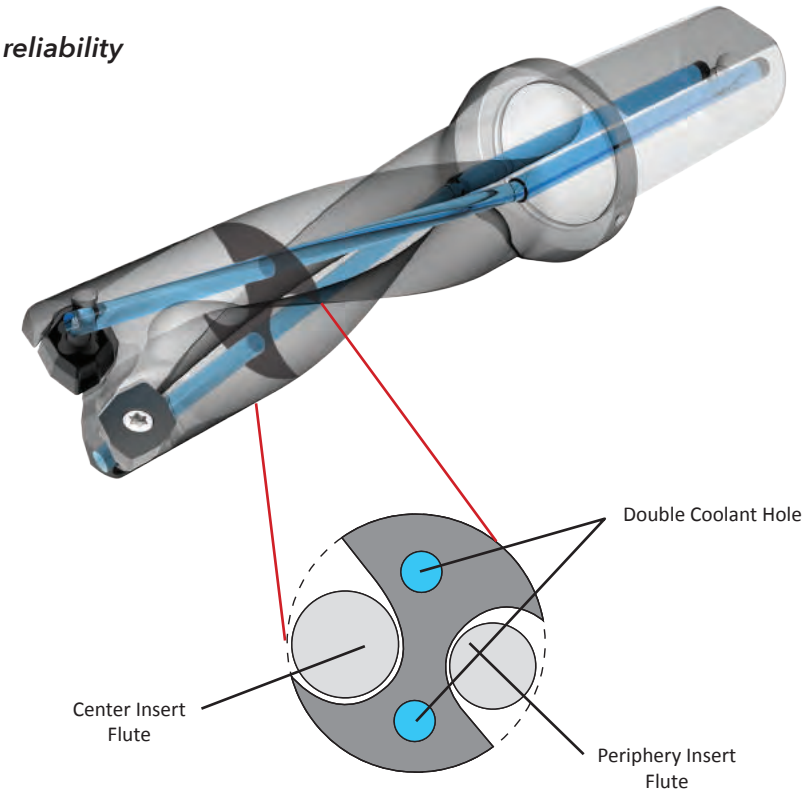
Series	Diameter Range	
	Imperial (inch)	Metric (mm)
03	0.472 - 0.531	12.00 - 13.49
04	0.532 - 0.610	13.50 - 15.49
05	0.611 - 0.728	15.50 - 18.49
06	0.729 - 0.866	18.50 - 21.99
07	0.867 - 1.043	22.00 - 26.49
09	1.044 - 1.259	26.50 - 31.99
11	1.260 - 1.535	32.00 - 38.99
14	1.536 - 1.850	39.00 - 47.00

4TEX Drill Contents

Product Overview

4TEX Drill ***Advantages***

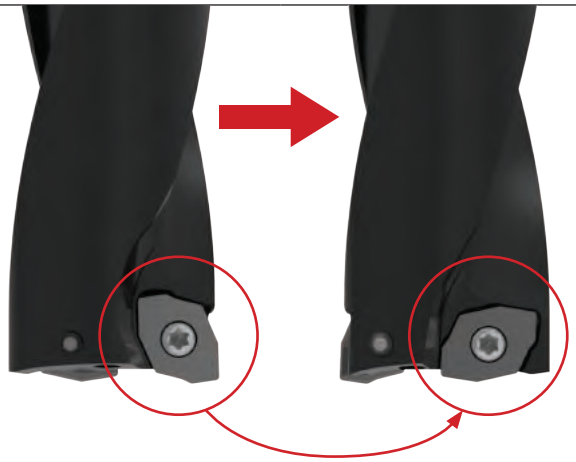
- ***Improved tool holder rigidity and increased reliability***
  provided by the stronger core
- ***Superior chip evacuation***
  provided by the 2 twisted coolant holes
- ***Improved hole size***
  from the stronger core and increased coolant volume
- ***Longer tool life***
  provided by the 4-sided insert design
- ***Simplified tooling selection***
  with ISO-specific insert geometry/coating combinations
- ***Increased penetration rates***
  due to single effective cutting on light duty machines



STABLE & EFFICIENT

- The 2 twisted coolant holes allow the core to remain intact, making the core thicker and stronger.
- The dual coolant outlets increase the coolant volume, which improves the chip evacuation and improves the hole size.
- The flute space of the internal cutting edge side (where chips get stuck most often) is 1.6x larger than typical IC drills.

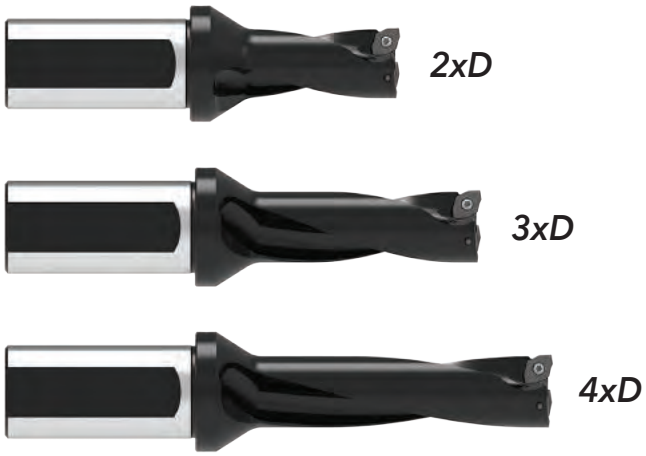
LONGER TOOL LIFE



The 4 Edge Advantage

When the cutting edge on the periphery insert wears down, it can be rotated and moved to the center insert position.

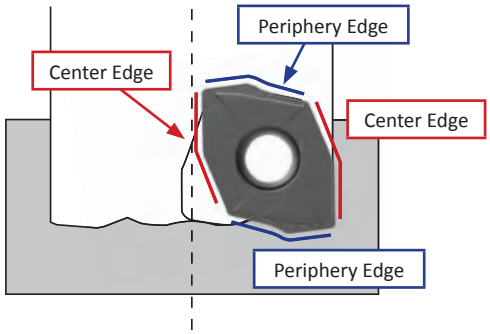
AVAILABLE *LENGTHS*



Insert Information

4 CUTTING EDGES

- Each insert has 2 inner cutting edges and 2 outer cutting edges
- Economical solution that increases tool life because of the rotation ability of the inserts
- Available in ISO material-specific geometry/coating combinations



Periphery Insert

180°

Center Insert

Periphery edge chip formation:

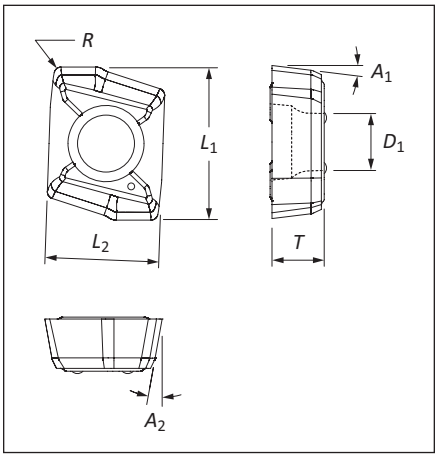
Center edge chip formation:

ISO Material	Geometry	Coating	Description
P	General Rake	AM480	A general purpose geometry that provides excellent chip formation in most steels including free machining, medium and high carbon steels. A P30 carbide substrate for improved toughness and AM480 coating, a proprietary wear resistant multi-layer PVD coating to improve tool life.
S M	High Rake	AM485	A higher rake geometry that provides excellent chip formation in both stainless steels and high temperature alloys. A tough M25 carbide substrate coated with AM485, a high heat resistance proprietary multi-layer PVD coating.
K	General Rake	AM480	With a general purpose geometry, the K inserts can be used in grey cast irons as well as ductile irons. A high wear resistant K10 carbide substrate to improve tool life and coated with AM480, a proprietary multi-layer PVD coating to improve resistance against tool wear.
H	Low Rake	AM480	A low rake geometry to improve edge strength in both hardened tool steels and high strength alloys. With a P30 carbide substrate for improved toughness and coated with AM480, a proprietary multi-layer PVD coating to improve resistance against tool wear.
N	High Rake	TiCN	A higher rake cutting geometry provides excellent chip formation in non-ferrous materials. An M15/K15 carbide substrate paired with TiCN coating for improved lubricity to resist build-up-material, increasing tool life and maintaining chip formation.

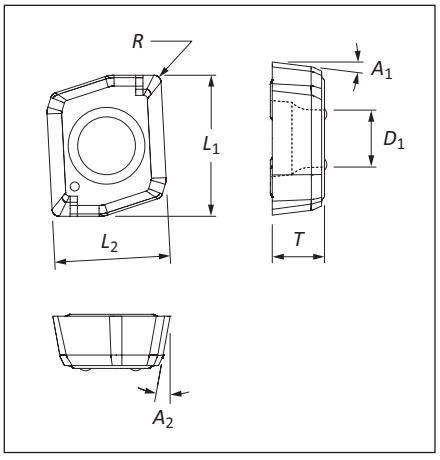
Insert Information

Series	Insert Prefix	Dimension (mm) L_1	L_2	T	D_1	R	Angle A_1	A_2	Shape
03	**4T-030203C-x**	5.9	4.8	2.30	2.4	0.3	7°	10°	 Style 1
	4T-030203P-x	6.5	4.8	2.30	2.4	0.3	7°	10°	 Style 2
04	**4T-040203-x**	6.2	5.1	2.60	2.4	0.3	13°	10°	 Style 3
05	**4T-05T203-x**	7.3	5.5	2.74	2.5	0.3	13°	7°	
06	**4T-06T204-x**	8.6	6.4	2.89	2.8	0.4	13°	7°	
07	**4T-070305-x**	10.2	8.0	3.24	3.0	0.5	13°	7°	
09	**4T-09T306-x**	12.2	9.6	4.03	3.6	0.6	13°	7°	
11	**4T-11T306-x**	14.5	11.6	4.06	4.6	0.6	13°	7°	
14	**4T-140408-x**	18.0	14.4	4.88	5.7	0.8	13°	7°	

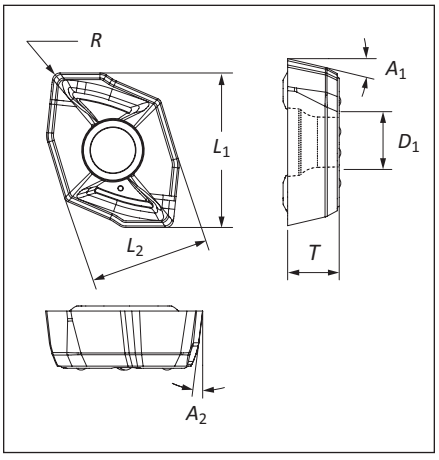
Style 1



Style 2



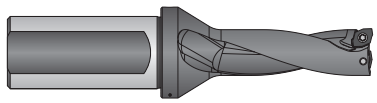
Style 3



Product Nomenclature

4TEX Drill Holders

D4	03	1200	M	–	075	F
1	2	3	4		5	6



1. Length to Diameter Ratio
D2 = 2xD
D3 = 3xD
D4 = 4xD

2. Series	
03 = 03 series	**07** = 07 series
04 = 04 series	**09** = 09 series
05 = 05 series	**11** = 11 series
06 = 06 series	**14** = 14 series

3. Diameter
0750 = .075"
1200 = 12mm

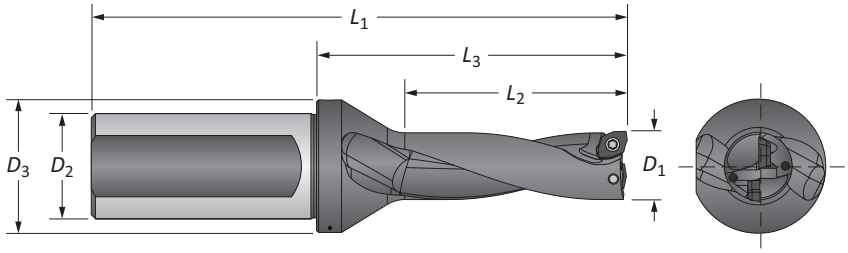
4. Diameter Style
I = Imperial
M = Metric

5. Shank Diameter	
Imperial	**Metric**
075 = .075"	**20** = 20mm
100 = 1.000"	**25** = 25mm
125 = 1.250"	**32** = 32mm
150 = 1.500"	**40** = 40mm

6. Shank Style
F = Imperial flanged shank
FM = Metric flanged shank

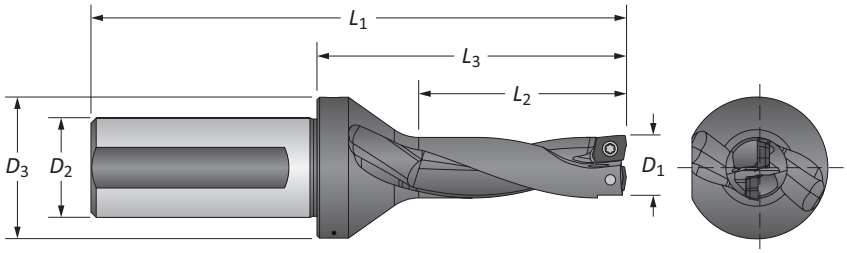
Reference Key

Symbol	Attribute
D_1	Drill diameter
D_2	Shank diameter
D_3	Flange diameter
L_1	Assembled overall length
L_2	Drill depth
L_3	Reference length



4TEX Drill Holders | Imperial Shank

03 Series | Diameter Range: 0.472” - 0.531” (12.00mm - 13.49mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	12.00mm	0.945	1.787	3.480	0.750	1.063	0.020	**D2031200M-075F**
		12.50mm	0.984	1.827	3.520	0.750	1.063	0.016	**D2031250M-075F**
		0.500”	1.000	1.827	3.520	0.750	1.063	0.014	**D2030500I-075F**
		13.00mm	1.024	1.866	3.559	0.750	1.063	0.012	**D2031300M-075F**
ⓘ	3xD	12.00mm	1.417	2.260	3.953	0.750	1.063	0.020	**D3031200M-075F**
		12.50mm	1.476	2.319	4.012	0.750	1.063	0.016	**D3031250M-075F**
		0.500”	1.500	2.319	4.012	0.750	1.063	0.014	**D3030500I-075F**
		13.00mm	1.535	2.378	4.071	0.750	1.063	0.012	**D3031300M-075F**
	4xD	12.00mm	1.890	2.732	4.425	0.750	1.063	0.020	**D4031200M-075F**
		12.50mm	1.969	2.811	4.504	0.750	1.063	0.016	**D4031250M-075F**
		0.500”	2.000	2.811	4.504	0.750	1.063	0.014	**D4030500I-075F**
		13.00mm	2.047	2.890	4.583	0.750	1.063	0.012	**D4031300M-075F**

IC Inserts

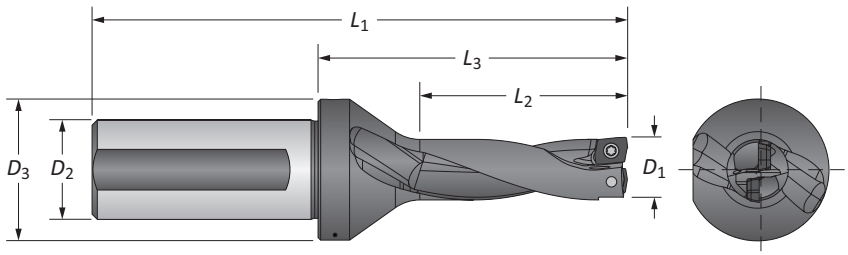
ISO Material	Style	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	Center	**4T-030203C-P**	7241-T6-1	8T-6	4.4 in-lbs (0.5 N-cm)
	Periphery	**4T-030203P-P**			
S M	Center	**4T-030203C-M**			
	Periphery	**4T-030203P-M**			
H	Center	**4T-030203C-H**			
	Periphery	**4T-030203P-H**			
K	Center	**4T-030203C-K**			
	Periphery	**4T-030203P-K**			
N	Center	**4T-030203C-N**			
	Periphery	**4T-030203P-N**			

A55: 26 - 27 (Key on A55: 1)
A55: 23 - 25
A55: 22

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

03 Series | Diameter Range: 0.472” - 0.531” (12.00mm - 13.49mm)



Metric Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓜ	2xD	12.00mm	24.00	45.40	88.40	20.00	27.00	0.50	**D2031200M-20FM**
		12.50mm	25.00	46.40	89.40	20.00	27.00	0.40	**D2031250M-20FM**
		0.500”	25.40	46.40	89.40	20.00	27.00	0.35	**D2030500I-20FM**
		13.00mm	26.00	47.40	90.40	20.00	27.00	0.30	**D2031300M-20FM**
	3xD	12.00mm	36.00	57.40	100.40	20.00	27.00	0.50	**D3031200M-20FM**
		12.50mm	37.50	58.90	101.90	20.00	27.00	0.40	**D3031250M-20FM**
		0.500”	38.10	58.90	101.90	20.00	27.00	0.35	**D3030500I-20FM**
		13.00mm	39.00	60.40	103.40	20.00	27.00	0.30	**D3031300M-20FM**
	4xD	12.00mm	48.00	69.40	112.40	20.00	27.00	0.50	**D4031200M-20FM**
		12.50mm	50.00	71.40	114.40	20.00	27.00	0.40	**D4031250M-20FM**
		0.500”	50.80	71.40	114.40	20.00	27.00	0.35	**D4030500I-20FM**
		13.00mm	52.00	73.40	116.40	20.00	27.00	0.30	**D4031300M-20FM**

IC Inserts

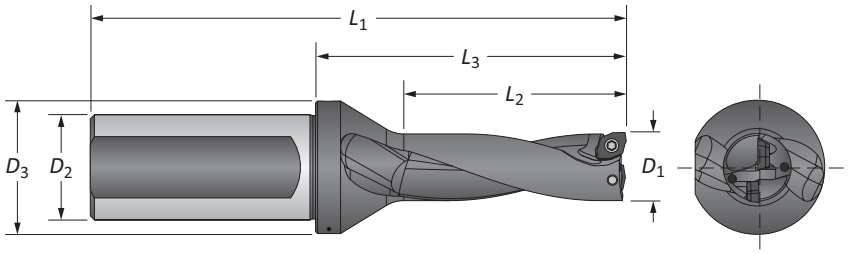
ISO Material	Style	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	Center	**4T-030203C-P**	7241-T6-1	8T-6	4.4 in-lbs (0.5 N-cm)
	Periphery	**4T-030203P-P**			
S M	Center	**4T-030203C-M**			
	Periphery	**4T-030203P-M**			
H	Center	**4T-030203C-H**			
	Periphery	**4T-030203P-H**			
K	Center	**4T-030203C-K**			
	Periphery	**4T-030203P-K**			
N	Center	**4T-030203C-N**			
	Periphery	**4T-030203P-N**			

A55: 26 - 27 A55: 23 - 25 A55: 22
Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

04 Series | Diameter Range: 0.532” - 0.610” (13.50mm - 15.49mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	13.50mm	1.063	1.906	3.598	0.750	1.063	0.020	**D2041350M-075F**
		14.00mm	1.102	1.945	3.638	0.750	1.063	0.016	**D2041400M-075F**
		0.562”	1.124	1.945	3.638	0.750	1.063	0.013	**D2040562I-075F**
		14.50mm	1.142	1.984	3.677	0.750	1.063	0.012	**D2041450M-075F**
		15.00mm	1.181	2.024	3.717	0.750	1.063	0.008	**D2041500M-075F**
	3xD	13.50mm	1.594	2.437	4.130	0.750	1.063	0.020	**D3041350M-075F**
		14.00mm	1.654	2.496	4.189	0.750	1.063	0.016	**D3041400M-075F**
ⓘ		0.562”	1.686	2.496	4.189	0.750	1.063	0.013	**D3040562I-075F**
		14.50mm	1.713	2.555	4.248	0.750	1.063	0.012	**D3041450M-075F**
		15.00mm	1.772	2.614	4.307	0.750	1.063	0.008	**D3041500M-075F**
	4xD	13.50mm	2.126	2.969	4.661	0.750	1.063	0.020	**D4041350M-075F**
		14.00mm	2.205	3.047	4.740	0.750	1.063	0.016	**D4041400M-075F**
		0.562”	2.248	3.047	4.740	0.750	1.063	0.013	**D4040562I-075F**
		14.50mm	2.283	3.126	4.819	0.750	1.063	0.012	**D4041450M-075F**
		15.00mm	2.362	3.205	4.898	0.750	1.063	0.008	**D4041500M-075F**

IC Inserts

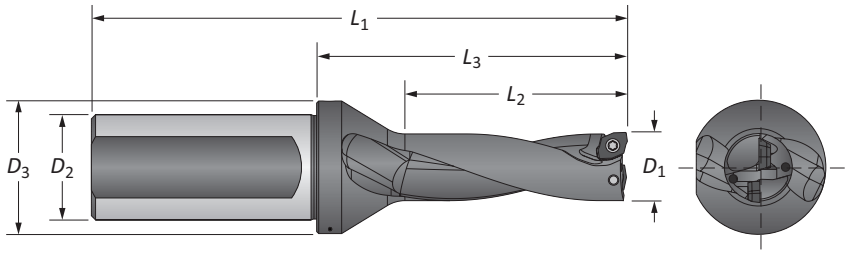
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-040203-P**	7241-T6-1	8T-6	4.4 in-lbs (0.5 N-cm)
S M	**4T-040203-M**			
H	**4T-040203-H**			
K	**4T-040203-K**			
N	**4T-040203-N**			

A55: 26 - 27 (Key on A55: 1) | A55: 23 - 25 | A55: 22

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

04 Series | Diameter Range: 0.532” - 0.610” (13.50mm - 15.49mm)



Metric Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	13.50mm	27.00	48.40	91.40	20.00	27.00	0.50	**D2041350M-20FM**
		14.00mm	28.00	49.40	92.40	20.00	27.00	0.40	**D2041400M-20FM**
		0.562”	28.55	49.40	92.40	20.00	27.00	0.30	**D2040562I-20FM**
		14.50mm	29.00	50.40	93.40	20.00	27.00	0.30	**D2041450M-20FM**
		15.00mm	30.00	51.40	94.40	20.00	27.00	0.20	**D2041500M-20FM**
	3xD	13.50mm	40.50	61.90	104.90	20.00	27.00	0.50	**D3041350M-20FM**
		14.00mm	42.00	63.40	106.40	20.00	27.00	0.40	**D3041400M-20FM**
ⓜ		0.562”	42.82	63.40	106.40	20.00	27.00	0.30	**D3040562I-20FM**
		14.50mm	43.50	64.90	107.90	20.00	27.00	0.30	**D3041450M-20FM**
		15.00mm	45.00	66.40	109.40	20.00	27.00	0.20	**D3041500M-20FM**
	4xD	13.50mm	54.00	75.40	118.40	20.00	27.00	0.50	**D3041350M-20FM**
		14.00mm	56.00	77.40	120.40	20.00	27.00	0.40	**D4041400M-20FM**
		0.562”	57.10	77.40	120.40	20.00	27.00	0.30	**D4040562I-20FM**
		14.50mm	58.00	79.40	122.40	20.00	27.00	0.30	**D4041450M-20FM**
		15.00mm	60.00	81.40	124.40	20.00	27.00	0.20	**D4041500M-20FM**

IC Inserts

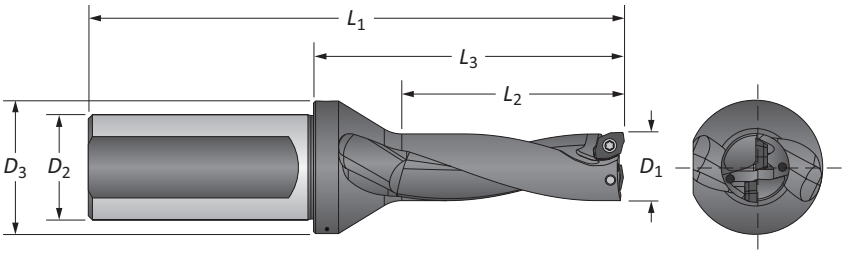
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-040203-P**	7241-T6-1	8T-6	4.4 in-lbs (0.5 N-cm)
S M	**4T-040203-M**			
H	**4T-040203-H**			
K	**4T-040203-K**			
N	**4T-040203-N**			

A55: 26 - 27 A55: 23 - 25 A55: 22
Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

05 Series | Diameter Range: 0.611” - 0.728” (15.50mm - 18.49mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	15.50mm	1.220	2.146	4.272	1.000	1.260	0.031	**D2051550M-100F**
		0.625”	1.250	2.146	4.272	1.000	1.260	0.029	**D2050625I-100F**
		16.00mm	1.260	2.185	4.311	1.000	1.260	0.028	**D2051600M-100F**
		16.50mm	1.299	2.224	4.350	1.000	1.260	0.020	**D2051650M-100F**
		17.00mm	1.339	2.264	4.390	1.000	1.260	0.016	**D2051700M-100F**
		0.687”	1.374	2.264	4.390	1.000	1.260	0.012	**D2050687I-100F**
		17.50mm	1.378	2.303	4.429	1.000	1.260	0.012	**D2051750M-100F**
		18.00mm	1.417	2.343	4.469	1.000	1.260	0.008	**D2051800M-100F**
ⓘ	3xD	15.50mm	1.831	2.756	4.882	1.000	1.260	0.031	**D3051550M-100F**
		0.625”	1.875	2.756	4.882	1.000	1.260	0.029	**D3050625I-100F**
		16.00mm	1.890	2.815	4.941	1.000	1.260	0.028	**D3051600M-100F**
		16.50mm	1.949	2.874	5.000	1.000	1.260	0.020	**D3051650M-100F**
		17.00mm	2.008	2.933	5.059	1.000	1.260	0.016	**D3051700M-100F**
		0.687”	2.061	2.933	5.059	1.000	1.260	0.012	**D3050687I-100F**
		17.50mm	2.067	2.992	5.118	1.000	1.260	0.012	**D3051750M-100F**
		18.00mm	2.126	3.051	5.177	1.000	1.260	0.008	**D3051800M-100F**
	4xD	15.50mm	2.441	3.366	5.492	1.000	1.260	0.031	**D4051550M-100F**
		0.625”	2.500	3.366	5.492	1.000	1.260	0.029	**D4050625I-100F**
		16.00mm	2.520	3.445	5.571	1.000	1.260	0.028	**D4051600M-100F**
		16.50mm	2.598	3.524	5.650	1.000	1.260	0.020	**D4051650M-100F**
		17.00mm	2.677	3.602	5.728	1.000	1.260	0.016	**D4051700M-100F**
		0.687”	2.748	3.602	5.728	1.000	1.260	0.012	**D4050687I-100F**
		17.50mm	2.756	3.681	5.807	1.000	1.260	0.012	**D4051750M-100F**
		18.00mm	2.835	3.760	5.886	1.000	1.260	0.008	**D4051800M-100F**

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-05T203-P**	7243-T6-1	8T-6	4.4 in-lbs (0.5 N-cm)
S M	**4T-05T203-M**			
H	**4T-05T203-H**			
K	**4T-05T203-K**			
N	**4T-05T203-N**			

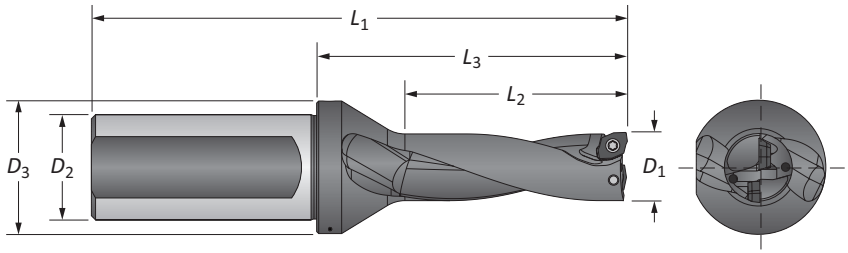
A55: 26 - 27 | A55: 23 - 25 | A55: 22

Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

05 Series | Diameter Range: 0.611” - 0.728” (15.50mm - 18.49mm)



Metric Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓜ	2xD	15.50mm	31.00	54.50	108.50	25.00	32.00	0.80	**D2051550M-25FM**
		0.625”	31.75	54.50	108.50	25.00	32.00	0.70	**D2050625I-25FM**
		16.00mm	32.00	55.50	109.50	25.00	32.00	0.70	**D2051600M-25FM**
		16.50mm	33.00	56.50	110.50	25.00	32.00	0.50	**D2051650M-25FM**
		17.00mm	34.00	57.50	111.50	25.00	32.00	0.40	**D2051700M-25FM**
		0.687”	34.90	57.50	111.50	25.00	32.00	0.30	**D2050687I-25FM**
		17.50mm	35.00	58.50	112.50	25.00	32.00	0.30	**D2051750M-25FM**
		18.00mm	36.00	59.50	113.50	25.00	32.00	0.20	**D2051800M-25FM**
	3xD	15.50mm	46.50	70.00	124.00	25.00	32.00	0.80	**D3051550M-25FM**
		0.625”	47.63	70.00	124.00	25.00	32.00	0.70	**D3050625I-25FM**
		16.00mm	48.00	71.50	125.50	25.00	32.00	0.70	**D3051600M-25FM**
		16.50mm	49.50	73.00	127.00	25.00	32.00	0.50	**D3051650M-25FM**
		17.00mm	51.00	74.50	128.50	25.00	32.00	0.40	**D3051700M-25FM**
		0.687”	52.35	74.50	128.50	25.00	32.00	0.30	**D3050687I-25FM**
		17.50mm	52.50	76.00	130.00	25.00	32.00	0.30	**D3051750M-25FM**
		18.00mm	54.00	77.50	131.50	25.00	32.00	0.20	**D3051800M-25FM**
	4xD	15.50mm	62.00	85.50	139.50	25.00	32.00	0.80	**D4051550M-25FM**
		0.625”	63.50	85.50	139.50	25.00	32.00	0.70	**D4050625I-25FM**
		16.00mm	64.00	87.50	141.50	25.00	32.00	0.70	**D4051600M-25FM**
		16.50mm	66.00	89.50	143.50	25.00	32.00	0.50	**D4051650M-25FM**
		17.00mm	68.00	91.50	145.50	25.00	32.00	0.40	**D4051700M-25FM**
		0.687”	69.80	91.50	145.50	25.00	32.00	0.30	**D4050687I-25FM**
		17.50mm	70.00	93.50	147.50	25.00	32.00	0.30	**D4051750M-25FM**
		18.00mm	72.00	95.50	149.50	25.00	32.00	0.20	**D4051800M-25FM**

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-05T203-P**	7243-T6-1	8T-6	4.4 in-lbs (0.5 N-cm)
S M	**4T-05T203-M**			
H	**4T-05T203-H**			
K	**4T-05T203-K**			
N	**4T-05T203-N**			

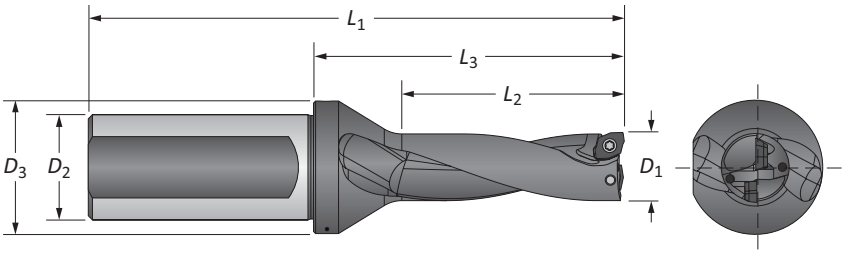
A55: 26 - 27 | A55: 23 - 25 | A55: 22

Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

06 Series | Diameter Range: 0.729” - 0.866” (18.50mm - 21.99mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	18.50mm	1.457	2.299	4.425	1.000	1.260	0.035	**D2061850M-100F**
		19.00mm	1.496	2.339	4.465	1.000	1.260	0.031	**D2061900M-100F**
		0.750”	1.500	2.339	4.465	1.000	1.260	0.031	**D2060750I-100F**
		19.50mm	1.535	2.378	4.504	1.000	1.260	0.028	**D2061950M-100F**
		20.00mm	1.575	2.417	4.543	1.000	1.260	0.020	**D2062000M-100F**
		20.50mm	1.614	2.457	4.583	1.000	1.260	0.016	**D2062050M-100F**
		0.812”	1.624	2.457	4.583	1.000	1.260	0.015	**D2060812I-100F**
		21.00mm	1.654	2.496	4.622	1.000	1.260	0.012	**D2062100M-100F**
		21.50mm	1.693	2.535	4.661	1.000	1.260	0.008	**D2062150M-100F**
	3xD	18.50mm	2.165	3.028	5.154	1.000	1.260	0.035	**D3061850M-100F**
		19.00mm	2.244	3.087	5.213	1.000	1.260	0.031	**D3061900M-100F**
		0.750”	2.250	3.087	5.213	1.000	1.260	0.031	**D3060750I-100F**
		19.50mm	2.303	3.146	5.272	1.000	1.260	0.028	**D3061950M-100F**
ⓘ		20.00mm	2.362	3.205	5.331	1.000	1.260	0.020	**D3062000M-100F**
		20.50mm	2.421	3.264	5.390	1.000	1.260	0.016	**D3062050M-100F**
		0.812”	2.436	3.264	5.390	1.000	1.260	0.015	**D3060812I-100F**
		21.00mm	2.480	3.323	5.449	1.000	1.260	0.012	**D3062100M-100F**
		21.50mm	2.539	3.382	5.508	1.000	1.260	0.008	**D3062150M-100F**
	4xD	18.50mm	2.913	3.756	5.882	1.000	1.260	0.035	**D4061850M-100F**
		19.00mm	2.992	3.835	5.961	1.000	1.260	0.031	**D4061900M-100F**
		0.750”	3.000	3.835	5.961	1.000	1.260	0.031	**D4060750I-100F**
		19.50mm	3.071	3.913	6.039	1.000	1.260	0.028	**D4061950M-100F**
		20.00mm	3.150	3.992	6.118	1.000	1.260	0.020	**D4062000M-100F**
		20.50mm	3.228	4.071	6.197	1.000	1.260	0.016	**D4062050M-100F**
		0.812”	3.248	4.071	6.197	1.000	1.260	0.015	**D4060812I-100F**
		21.00mm	3.307	4.150	6.276	1.000	1.260	0.012	**D4062100M-100F**
		21.50mm	3.386	4.228	6.354	1.000	1.260	0.008	**D4062150M-100F**

IC Inserts

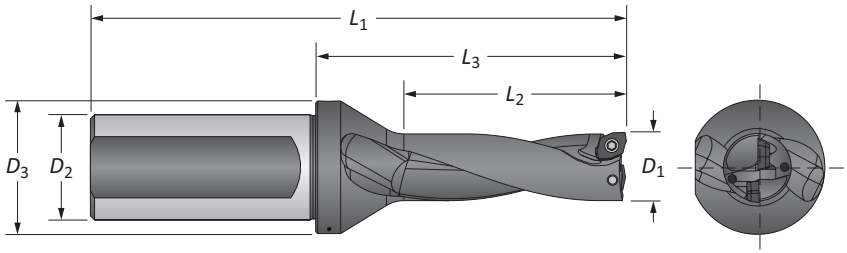
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-06T204-P**	72251-T7-1	8T-7	7.1 in-lbs (0.8 N-cm)
S M	**4T-06T204-M**			
H	**4T-06T204-H**			
K	**4T-06T204-K**			
N	**4T-06T204-N**			

A55: 26 - 27 (Key on A55: 1) | A55: 23 - 25 | A55: 22

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

06 Series | Diameter Range: 0.729” - 0.866” (18.50mm - 21.99mm)



Metric Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
m	2xD	18.50mm	37.00	58.40	112.40	25.00	32.00	0.90	**D2061850M-25FM**
		19.00mm	38.00	59.40	113.40	25.00	32.00	0.80	**D2061900M-25FM**
		0.750”	38.10	59.40	113.40	25.00	32.00	0.80	**D2060750I-25FM**
		19.50mm	39.00	60.40	114.40	25.00	32.00	0.70	**D2061950M-25FM**
		20.00mm	40.00	61.40	115.40	25.00	32.00	0.50	**D2062000M-25FM**
		20.50mm	41.00	62.40	116.40	25.00	32.00	0.40	**D2062050M-25FM**
		0.812”	41.25	62.40	116.40	25.00	32.00	0.40	**D2060812I-25FM**
		21.00mm	42.00	63.40	117.40	25.00	32.00	0.30	**D2062100M-25FM**
		21.50mm	43.00	64.40	118.40	25.00	32.00	0.20	**D2062150M-25FM**
	3xD	18.50mm	55.00	76.90	130.90	25.00	32.00	0.90	**D3061850M-25FM**
		19.00mm	57.00	78.40	132.40	25.00	32.00	0.80	**D3061900M-25FM**
		0.750”	57.15	78.40	132.40	25.00	32.00	0.80	**D3060750I-25FM**
		19.50mm	58.50	79.90	133.90	25.00	32.00	0.70	**D3061950M-25FM**
		20.00mm	60.00	81.40	135.40	25.00	32.00	0.50	**D3062000M-25FM**
		20.50mm	61.50	82.90	136.90	25.00	32.00	0.40	**D3062050M-25FM**
		0.812”	61.87	82.90	136.90	25.00	32.00	0.40	**D3060812I-25FM**
		21.00mm	63.00	84.40	138.40	25.00	32.00	0.30	**D3062100M-25FM**
		21.50mm	64.50	85.90	139.90	25.00	32.00	0.20	**D3062150M-25FM**
	4xD	18.50mm	74.00	95.40	149.40	25.00	32.00	0.90	**D4061850M-25FM**
		19.00mm	76.00	97.40	151.40	25.00	32.00	0.80	**D4061900M-25FM**
		0.750”	76.20	97.40	151.40	25.00	32.00	0.80	**D4060750I-25FM**
		19.50mm	78.00	99.40	153.40	25.00	32.00	0.70	**D4061950M-25FM**
		20.00mm	80.00	101.40	155.40	25.00	32.00	0.50	**D4062000M-25FM**
		20.50mm	82.00	103.40	157.40	25.00	32.00	0.40	**D4062050M-25FM**
		0.812”	82.49	103.40	157.40	25.00	32.00	0.40	**D4060812I-25FM**
		21.00mm	84.00	105.40	159.40	25.00	32.00	0.30	**D4062100M-25FM**
		21.50mm	86.00	107.40	161.40	25.00	32.00	0.20	**D4062150M-25FM**

IC Inserts

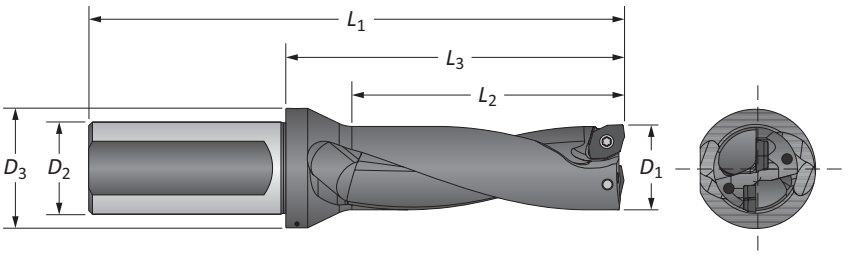
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-06T204-P**	72251-T7-1	8T-7	7.1 in-lbs (0.8 N-cm)
S M	**4T-06T204-M**			
H	**4T-06T204-H**			
K	**4T-06T204-K**			
N	**4T-06T204-N**			

A55: 26 - 27
A55: 23 - 25
A55: 22
Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

07 Series | Diameter Range: 0.867” - 1.043” (22.00mm - 26.49mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	22.00mm	1.732	2.555	4.681	1.000	1.299	0.047	**D2072200M-100F**
		0.875”	1.750	2.555	4.681	1.000	1.299	0.043	**D2070875I-100F**
		22.50mm	1.772	2.594	4.720	1.000	1.299	0.039	**D2072250M-100F**
		23.00mm	1.811	2.634	4.760	1.000	1.299	0.035	**D2072300M-100F**
		23.50mm	1.850	2.673	4.799	1.000	1.299	0.031	**D2072350M-100F**
		0.937”	1.874	2.673	4.799	1.000	1.299	0.292	**D2070937I-100F**
		24.00mm	1.890	2.713	4.839	1.000	1.299	0.028	**D2072400M-100F**
		24.50mm	1.929	2.752	4.878	1.000	1.299	0.020	**D2072450M-100F**
		25.00mm	1.969	2.791	4.917	1.000	1.299	0.016	**D2072500M-100F**
		1.000”	2.000	2.791	4.917	1.000	1.299	0.013	**D2071000I-100F**
		25.50mm	2.008	2.831	4.957	1.000	1.299	0.012	**D2072550M-100F**
		26.00mm	2.047	2.870	4.996	1.000	1.299	0.008	**D2072600M-100F**
ⓘ	3xD	22.00mm	2.598	3.421	5.547	1.000	1.299	0.047	**D3072200M-100F**
		0.875”	2.625	3.421	5.547	1.000	1.299	0.043	**D3070875I-100F**
		22.50mm	2.657	3.480	5.606	1.000	1.299	0.039	**D3072250M-100F**
		23.00mm	2.717	3.539	5.665	1.000	1.299	0.035	**D3072300M-100F**
		23.50mm	2.776	3.598	5.724	1.000	1.299	0.031	**D3072350M-100F**
		0.937”	2.811	3.598	5.724	1.000	1.299	0.292	**D3070937I-100F**
		24.00mm	2.835	3.657	5.783	1.000	1.299	0.028	**D3072400M-100F**
		24.50mm	2.894	3.717	5.843	1.000	1.299	0.020	**D3072450M-100F**
		25.00mm	2.953	3.776	5.902	1.000	1.299	0.016	**D3072500M-100F**
		1.000”	3.000	3.776	5.902	1.000	1.299	0.013	**D3071000I-100F**
		25.50mm	3.012	3.835	5.961	1.000	1.299	0.012	**D3072550M-100F**
		26.00mm	3.071	3.894	6.020	1.000	1.299	0.008	**D3072600M-100F**
	4xD	22.00mm	3.465	4.287	6.413	1.000	1.299	0.047	**D4072200M-100F**
		0.875”	3.500	4.287	6.413	1.000	1.299	0.043	**D4070875I-100F**
		22.50mm	3.543	4.366	6.492	1.000	1.299	0.039	**D4072250M-100F**
		23.00mm	3.622	4.445	6.571	1.000	1.299	0.035	**D4072300M-100F**
		23.50mm	3.701	4.524	6.650	1.000	1.299	0.031	**D4072350M-100F**
		0.937”	3.748	4.524	6.650	1.000	1.299	0.292	**D4070937I-100F**
		24.00mm	3.780	4.602	6.728	1.000	1.299	0.028	**D4072400M-100F**
		24.50mm	3.858	4.681	6.807	1.000	1.299	0.020	**D4072450M-100F**
		25.00mm	3.937	4.760	6.886	1.000	1.299	0.016	**D4072500M-100F**
		1.000”	4.000	4.760	6.886	1.000	1.299	0.013	**D4071000I-100F**
		25.50mm	4.016	4.839	6.965	1.000	1.299	0.012	**D4072550M-100F**
		26.00mm	4.094	4.917	7.043	1.000	1.299	0.008	**D4072600M-100F**

IC Inserts

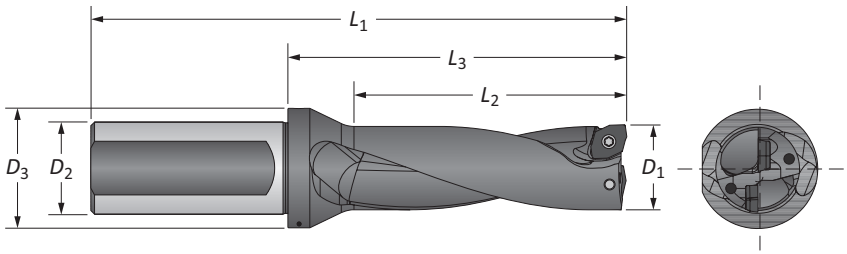
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-070305-P**	72568-T8-1	8T-8	10.6 in-lbs (1.2 N-cm)
S M	**4T-070305-M**			
H	**4T-070305-H**			
K	**4T-070305-K**			
N	**4T-070305-N**			

A55: 26 - 27 (Key on A55: 1) | A55: 23 - 25 | A55: 22

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

07 Series | Diameter Range: 0.867” - 1.043” (22.00mm - 26.49mm)

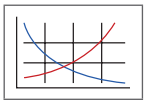


Metric Shank

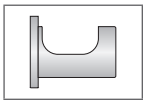
	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓜ	2xD	22.00mm	44.00	64.90	118.90	25.00	33.00	1.20	**D2072200M-25FM**
		0.875”	44.45	64.90	118.90	25.00	33.00	1.10	**D2070875I-25FM**
		22.50mm	45.00	65.90	119.90	25.00	33.00	1.00	**D2072250M-25FM**
		23.00mm	46.00	66.90	120.90	25.00	33.00	0.90	**D2072300M-25FM**
		23.50mm	47.00	67.90	121.90	25.00	33.00	0.80	**D2072350M-25FM**
		0.937”	47.60	67.90	121.90	25.00	33.00	7.40	**D2070937I-25FM**
		24.00mm	48.00	68.90	122.90	25.00	33.00	0.70	**D2072400M-25FM**
		24.50mm	49.00	69.90	123.90	25.00	33.00	0.50	**D2072450M-25FM**
		25.00mm	50.00	70.90	124.90	25.00	33.00	0.40	**D2072500M-25FM**
		1.000”	50.80	70.90	124.90	25.00	33.00	0.30	**D2071000I-25FM**
		25.50mm	51.00	71.90	125.90	25.00	33.00	0.30	**D2072550M-25FM**
		26.00mm	52.00	72.90	126.90	25.00	33.00	0.20	**D2072600M-25FM**
	3xD	22.00mm	66.00	86.90	140.90	25.00	33.00	1.20	**D3072200M-25FM**
		0.875”	66.68	86.90	140.90	25.00	33.00	1.10	**D3070875I-25FM**
		22.50mm	67.50	88.40	142.40	25.00	33.00	1.00	**D3072250M-25FM**
		23.00mm	69.00	89.90	143.90	25.00	33.00	0.90	**D3072300M-25FM**
		23.50mm	70.50	91.40	145.40	25.00	33.00	0.80	**D3072350M-25FM**
		0.937”	71.40	91.40	145.40	25.00	33.00	7.40	**D3070937I-25FM**
		24.00mm	72.00	92.90	146.90	25.00	33.00	0.70	**D3072400M-25FM**
		24.50mm	73.50	94.40	148.40	25.00	33.00	0.50	**D3072450M-25FM**
		25.00mm	75.00	95.90	149.90	25.00	33.00	0.40	**D3072500M-25FM**
		1.000”	76.20	95.90	149.90	25.00	33.00	0.30	**D3071000I-25FM**
		25.50mm	76.50	97.00	151.00	25.00	33.00	0.30	**D3072550M-25FM**
		26.00mm	78.00	99.00	153.00	25.00	33.00	0.20	**D3072600M-25FM**
	4xD	22.00mm	88.00	109.00	163.00	25.00	33.00	1.20	**D4072200M-25FM**
		0.875”	88.90	108.90	162.90	25.00	33.00	1.10	**D4070875I-25FM**
		22.50mm	90.00	111.00	165.00	25.00	33.00	1.00	**D4072250M-25FM**
		23.00mm	92.00	113.00	167.00	25.00	33.00	0.90	**D4072300M-25FM**
		23.50mm	94.00	115.00	169.00	25.00	33.00	0.80	**D4072350M-25FM**
		0.937”	95.20	114.90	168.90	25.00	33.00	7.40	**D4070937I-25FM**
		24.00mm	96.00	117.00	171.00	25.00	33.00	0.70	**D4072400M-25FM**
		24.50mm	98.00	119.00	173.00	25.00	33.00	0.50	**D4072450M-25FM**
		25.00mm	100.00	121.00	175.00	25.00	33.00	0.40	**D4072500M-25FM**
		1.000”	101.60	120.90	174.90	25.00	33.00	0.30	**D4071000I-25FM**
		25.50mm	102.00	123.00	177.00	25.00	33.00	0.30	**D4072550M-25FM**
		26.00mm	104.00	125.00	179.00	25.00	33.00	0.20	**D4072600M-25FM**

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-070305-P**	72568-T8-1	8T-8	10.6 in-lbs (1.2 N-cm)
S M	**4T-070305-M**			
H	**4T-070305-H**			
K	**4T-070305-K**			
N	**4T-070305-N**			

A55: 26 - 27 
Key on A55: 1

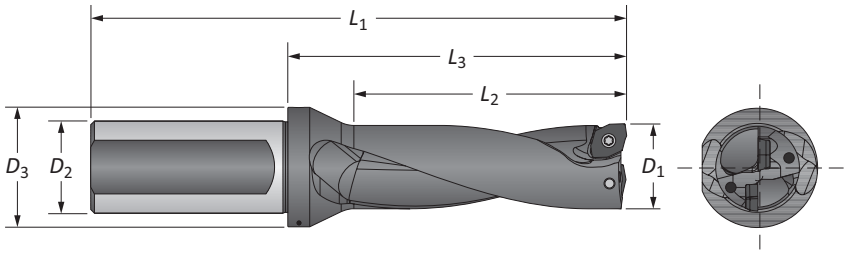
A55: 23 - 25 

A55: 22 

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

09 Series | Diameter Range: 1.044” - 1.259” (26.50mm - 31.99mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	27.00mm	2.126	3.020	5.343	1.250	1.614	0.063	**D2092700M-125F**
		28.00mm	2.205	3.098	5.421	1.250	1.614	0.051	**D2092800M-125F**
		1.125”	2.250	3.138	5.461	1.250	1.614	0.046	**D2091125I-125F**
		29.00mm	2.283	3.177	5.500	1.250	1.614	0.043	**D2092900M-125F**
		30.00mm	2.362	3.256	5.579	1.250	1.693	0.031	**D2093000M-125F**
		31.00mm	2.441	3.335	5.657	1.250	1.693	0.024	**D2093100M-125F**
		1.250”	2.500	3.374	5.697	1.250	1.693	0.019	**D2091250I-125F**
	3xD	27.00mm	3.189	4.083	6.406	1.250	1.614	0.063	**D3092700M-125F**
		28.00mm	3.307	4.201	6.524	1.250	1.614	0.051	**D3092800M-125F**
		1.125”	3.375	4.260	6.583	1.250	1.614	0.046	**D3091125I-125F**
ⓘ		29.00mm	3.425	4.319	6.642	1.250	1.614	0.043	**D3092900M-125F**
		30.00mm	3.543	4.437	6.760	1.250	1.693	0.031	**D3093000M-125F**
		31.00mm	3.661	4.555	6.878	1.250	1.693	0.024	**D3093100M-125F**
		1.250”	3.750	4.614	6.937	1.250	1.693	0.019	**D3091250I-125F**
	4xD	27.00mm	4.252	5.146	7.469	1.250	1.614	0.063	**D4092700M-125F**
		28.00mm	4.409	5.303	7.626	1.250	1.614	0.051	**D4092800M-125F**
		1.125”	4.500	5.382	7.705	1.250	1.614	0.046	**D4091125I-125F**
		29.00mm	4.567	5.461	7.783	1.250	1.614	0.043	**D4092900M-125F**
		30.00mm	4.724	5.618	7.941	1.250	1.693	0.031	**D4093000M-125F**
		31.00mm	4.882	5.776	8.098	1.250	1.693	0.024	**D4093100M-125F**
		1.250”	5.000	5.854	8.177	1.250	1.693	0.019	**D4091250I-125F**

IC Inserts

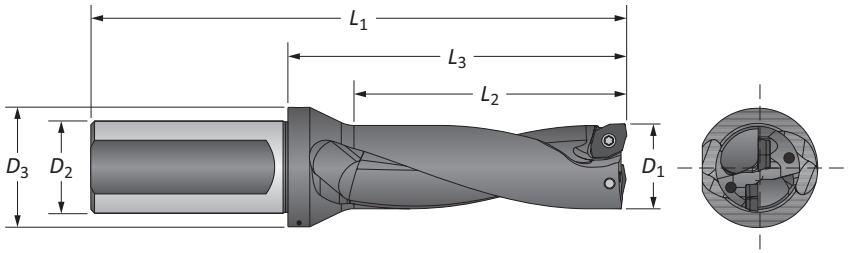
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-09T306-P**	738-T10-1	8T-10	17.7 in-lbs (2.0 N-cm)
S M	**4T-09T306-M**			
H	**4T-09T306-H**			
K	**4T-09T306-K**			
N	**4T-09T306-N**			

A55: 26 - 27 (Key on A55: 1) | A55: 23 - 25 | A55: 22

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

09 Series | Diameter Range: 1.044” - 1.259” (26.50mm - 31.99mm)



Metric Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓜ	2xD	27.00mm	54.00	76.70	135.70	32.00	41.00	1.60	**D2092700M-32FM**
		28.00mm	56.00	78.70	137.70	32.00	41.00	1.30	**D2092800M-32FM**
		1.125”	57.15	79.70	138.70	32.00	41.00	1.20	**D2091125I-32FM**
		29.00mm	58.00	80.70	139.70	32.00	41.00	1.10	**D2092900M-32FM**
		30.00mm	60.00	82.70	141.70	32.00	43.00	0.80	**D2093000M-32FM**
		31.00mm	62.00	84.70	143.70	32.00	43.00	0.60	**D2093100M-32FM**
		1.250”	63.50	85.70	144.70	32.00	43.00	0.50	**D2091250I-32FM**
	3xD	27.00mm	81.00	103.70	162.70	32.00	41.00	1.60	**D3092700M-32FM**
		28.00mm	84.00	106.70	165.70	32.00	41.00	1.30	**D3092800M-32FM**
		1.125”	85.73	108.20	167.20	32.00	41.00	1.20	**D3091125I-32FM**
		29.00mm	87.00	109.70	168.70	32.00	41.00	1.10	**D3092900M-32FM**
		30.00mm	90.00	112.70	171.70	32.00	43.00	0.80	**D3093000M-32FM**
		31.00mm	93.00	115.70	174.70	32.00	43.00	0.60	**D3093100M-32FM**
		1.250”	95.25	117.20	176.20	32.00	43.00	0.50	**D3091250I-32FM**
	4xD	27.00mm	108.00	130.70	189.70	32.00	41.00	1.60	**D4092700M-32FM**
		28.00mm	112.00	134.70	193.70	32.00	41.00	1.30	**D4092800M-32FM**
		1.125”	114.30	136.70	195.70	32.00	41.00	1.20	**D4091125I-32FM**
		29.00mm	116.00	138.70	197.70	32.00	41.00	1.10	**D4092900M-32FM**
		30.00mm	120.00	142.70	201.70	32.00	43.00	0.80	**D4093000M-32FM**
		31.00mm	124.00	146.70	205.70	32.00	43.00	0.60	**D4093100M-32FM**
		1.250”	127.00	148.70	207.70	32.00	43.00	0.50	**D4091250I-32FM**

IC Inserts

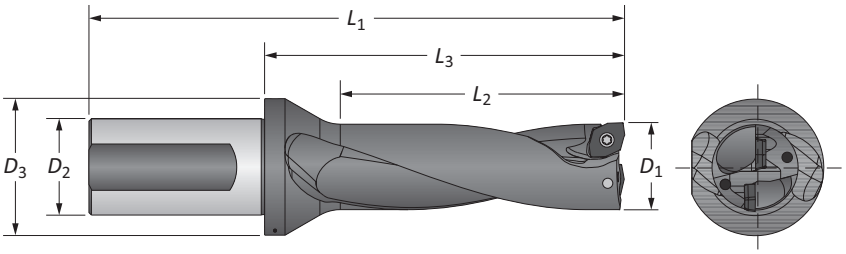
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-09T306-P**	738-T10-1	8T-10	17.7 in-lbs (2.0 N-cm)
S M	**4T-09T306-M**			
H	**4T-09T306-H**			
K	**4T-09T306-K**			
N	**4T-09T306-N**			

A55: 26 - 27 (Key on A55: 1)
A55: 23 - 25
A55: 22

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

11 Series | Diameter Range: 1.260" - 1.535" (32.00mm - 38.99mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	32.00mm	2.520	3.953	6.669	1.500	2.126	0.087	**D2113200M-150F**
		33.00mm	2.598	4.031	6.748	1.500	2.126	0.075	**D2113300M-150F**
		34.00mm	2.677	4.110	6.827	1.500	2.126	0.067	**D2113400M-150F**
		1.375"	2.750	4.110	6.827	1.500	2.126	0.056	**D2111375I-150F**
		35.00mm	2.756	4.189	6.906	1.500	2.126	0.055	**D2113500M-150F**
		36.00mm	2.835	4.268	6.984	1.500	2.126	0.047	**D2113600M-150F**
		37.00mm	2.913	4.346	7.063	1.500	2.126	0.035	**D2113700M-150F**
		38.00mm	2.992	4.425	7.142	1.500	2.126	0.028	**D2113800M-150F**
		1.500"	3.000	4.425	7.142	1.500	2.126	0.027	**D2111500I-150F**
	3xD	32.00mm	3.780	5.213	7.929	1.500	2.126	0.087	**D3113200M-150F**
		33.00mm	3.898	5.331	8.047	1.500	2.126	0.075	**D3113300M-150F**
		34.00mm	4.016	5.449	8.165	1.500	2.126	0.067	**D3113400M-150F**
		1.375"	4.125	5.449	8.165	1.500	2.126	0.056	**D3111375I-150F**
ⓘ		35.00mm	4.134	5.567	8.283	1.500	2.126	0.055	**D3113500M-150F**
		36.00mm	4.252	5.685	8.402	1.500	2.126	0.047	**D3113600M-150F**
		37.00mm	4.370	5.803	8.520	1.500	2.126	0.035	**D3113700M-150F**
		38.00mm	4.488	5.921	8.638	1.500	2.126	0.028	**D3113800M-150F**
		1.500"	4.500	5.921	8.638	1.500	2.126	0.027	**D3111500I-150F**
	4xD	32.00mm	5.039	6.079	8.795	1.500	2.126	0.087	**D4113200M-150F**
		33.00mm	5.197	6.236	8.953	1.500	2.126	0.075	**D4113300M-150F**
		34.00mm	5.354	6.394	9.110	1.500	2.126	0.067	**D4113400M-150F**
		1.375"	5.500	6.394	9.110	1.500	2.126	0.056	**D4111375I-150F**
		35.00mm	5.512	6.551	9.268	1.500	2.126	0.055	**D4113500M-150F**
		36.00mm	5.669	6.709	9.425	1.500	2.126	0.047	**D4113600M-150F**
		37.00mm	5.827	6.866	9.583	1.500	2.126	0.035	**D4113700M-150F**
		38.00mm	5.984	7.024	9.740	1.500	2.126	0.028	**D4113800M-150F**
		1.500"	6.000	7.024	9.740	1.500	2.126	0.027	**D4111500I-150F**

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-11T306-P**	7488-T15-1	8T-15	30.9 in-lbs (3.5 N-cm)
S M	**4T-11T306-M**			
H	**4T-11T306-H**			
K	**4T-11T306-K**			
N	**4T-11T306-N**			

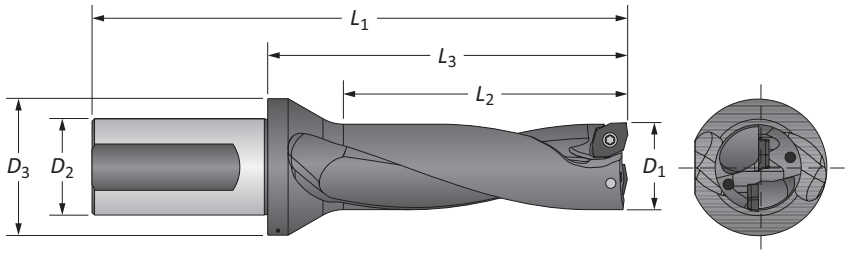
A55: 26 - 27 | A55: 23 - 25 | A55: 22

Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

11 Series | Diameter Range: 1.260” - 1.535” (32.00mm - 38.99mm)



Metric Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓜ	2xD	32.00mm	64.00	100.40	169.40	40.00	54.00	2.20	**D2113200M-40FM**
		33.00mm	66.00	102.40	171.40	40.00	54.00	1.90	**D2113300M-40FM**
		34.00mm	68.00	104.40	173.40	40.00	54.00	1.70	**D2113400M-40FM**
		1.375”	69.85	104.40	173.40	40.00	54.00	1.42	**D2111375I-40FM**
		35.00mm	70.00	106.40	175.40	40.00	54.00	1.40	**D2113500M-40FM**
		36.00mm	72.00	108.40	177.40	40.00	54.00	1.20	**D2113600M-40FM**
		37.00mm	74.00	110.40	179.40	40.00	54.00	0.90	**D2113700M-40FM**
		38.00mm	76.00	112.40	181.40	40.00	54.00	0.70	**D2113800M-40FM**
		1.500”	76.20	112.40	181.40	40.00	54.00	0.69	**D2111500I-40FM**
	3xD	32.00mm	96.00	132.40	201.40	40.00	54.00	2.20	**D3113200M-40FM**
		33.00mm	99.00	135.40	204.40	40.00	54.00	1.90	**D3113300M-40FM**
		34.00mm	102.00	138.40	207.40	40.00	54.00	1.70	**D3113400M-40FM**
		1.375”	104.78	138.40	207.40	40.00	54.00	1.42	**D3111375I-40FM**
		35.00mm	105.00	141.40	210.40	40.00	54.00	1.40	**D3113500M-40FM**
		36.00mm	108.00	144.40	213.40	40.00	54.00	1.20	**D3113600M-40FM**
		37.00mm	111.00	147.40	216.40	40.00	54.00	0.90	**D3113700M-40FM**
		38.00mm	114.00	150.40	219.40	40.00	54.00	0.70	**D3113800M-40FM**
		1.500”	114.30	150.40	219.40	40.00	54.00	0.69	**D3111500I-40FM**
	4xD	32.00mm	128.00	154.40	223.40	40.00	54.00	2.20	**D4113200M-40FM**
		33.00mm	132.00	158.40	227.40	40.00	54.00	1.90	**D4113300M-40FM**
		34.00mm	136.00	162.40	231.40	40.00	54.00	1.70	**D4113400M-40FM**
		1.375”	139.70	162.40	231.40	40.00	54.00	1.42	**D4111375I-40FM**
		35.00mm	140.00	166.40	235.40	40.00	54.00	1.40	**D4113500M-40FM**
		36.00mm	144.00	170.40	239.40	40.00	54.00	1.20	**D4113600M-40FM**
		37.00mm	148.00	174.40	243.40	40.00	54.00	0.90	**D4113700M-40FM**
		38.00mm	152.00	178.40	247.40	40.00	54.00	0.70	**D4113800M-40FM**
		1.500”	152.40	178.40	247.40	40.00	54.00	0.69	**D4111500I-40FM**

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-11T306-P**	7488-T15-1	8T-15	30.9 in-lbs (3.5 N-cm)
S M	**4T-11T306-M**			
H	**4T-11T306-H**			
K	**4T-11T306-K**			
N	**4T-11T306-N**			

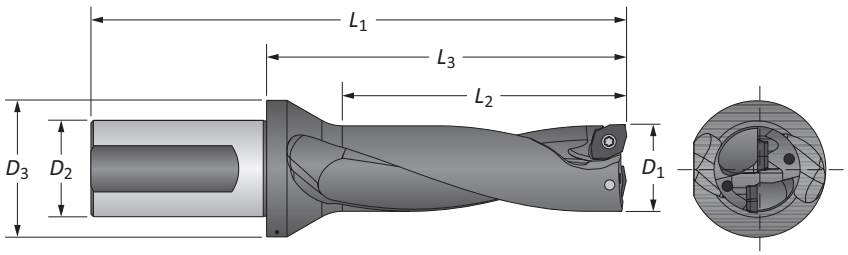
A55: 26 - 27 | A55: 23 - 25 | A55: 22

Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Imperial Shank

14 Series | Diameter Range: 1.536” - 1.850” (39.00mm - 47.00mm)



Imperial Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	39.00mm	3.071	4.346	7.063	1.500	2.126	0.110	**D2143900M-150F**
		40.00mm	3.150	4.425	7.142	1.500	2.126	0.098	**D2144000M-150F**
		41.00mm	3.228	4.504	7.220	1.500	2.126	0.091	**D2144100M-150F**
		1.625”	3.250	4.504	7.220	1.500	2.126	0.088	**D2141625I-150F**
		42.00mm	3.307	4.583	7.299	1.500	2.126	0.079	**D2144200M-150F**
		43.00mm	3.386	4.661	7.378	1.500	2.323	0.071	**D2144300M-150F**
		44.00mm	3.465	4.740	7.457	1.500	2.323	0.059	**D2144400M-150F**
		1.750”	3.500	4.740	7.457	1.500	2.323	0.055	**D2141750I-150F**
		45.00mm	3.543	4.819	7.535	1.500	2.323	0.051	**D2144500M-150F**
		46.00mm	3.622	4.898	7.614	1.500	2.323	0.039	**D2144600M-150F**
		47.00mm	3.701	4.976	7.693	1.500	2.323	0.031	**D2144700M-150F**
	3xD	39.00mm	4.606	5.882	8.598	1.500	2.126	0.110	**D3143900M-150F**
		40.00mm	4.724	6.000	8.717	1.500	2.126	0.098	**D3144000M-150F**
		41.00mm	4.843	6.118	8.835	1.500	2.126	0.091	**D3144100M-150F**
		1.625”	4.875	6.118	8.835	1.500	2.126	0.088	**D3141625I-150F**
		42.00mm	4.961	6.236	8.953	1.500	2.126	0.079	**D3144200M-150F**
ⓘ		43.00mm	5.079	6.354	9.071	1.500	2.323	0.071	**D3144300M-150F**
		44.00mm	5.197	6.472	9.189	1.500	2.323	0.059	**D3144400M-150F**
		1.750”	5.250	6.472	9.189	1.500	2.323	0.055	**D3141750I-150F**
		45.00mm	5.315	6.591	9.307	1.500	2.323	0.051	**D3144500M-150F**
		46.00mm	5.433	6.709	9.425	1.500	2.323	0.039	**D3144600M-150F**
		47.00mm	5.551	6.827	9.543	1.500	2.323	0.031	**D3144700M-150F**
	4xD	39.00mm	6.142	7.417	10.134	1.500	2.126	0.110	**D4143900M-150F**
		40.00mm	6.299	7.575	10.291	1.500	2.126	0.098	**D4144000M-150F**
		41.00mm	6.457	7.732	10.449	1.500	2.126	0.091	**D4144100M-150F**
		1.625”	6.500	7.732	10.449	1.500	2.126	0.088	**D4141625I-150F**
		42.00mm	6.614	7.890	10.606	1.500	2.126	0.079	**D4144200M-150F**
		43.00mm	6.772	8.047	10.764	1.500	2.323	0.071	**D4144300M-150F**
		44.00mm	6.929	8.205	10.921	1.500	2.323	0.059	**D4144400M-150F**
		1.750”	7.000	8.205	10.921	1.500	2.323	0.055	**D4141750I-150F**
		45.00mm	7.087	8.362	11.079	1.500	2.323	0.051	**D4144500M-150F**
		46.00mm	7.244	8.520	11.236	1.500	2.323	0.039	**D4144600M-150F**
		47.00mm	7.402	8.677	11.394	1.500	2.323	0.031	**D4144700M-150F**

IC Inserts

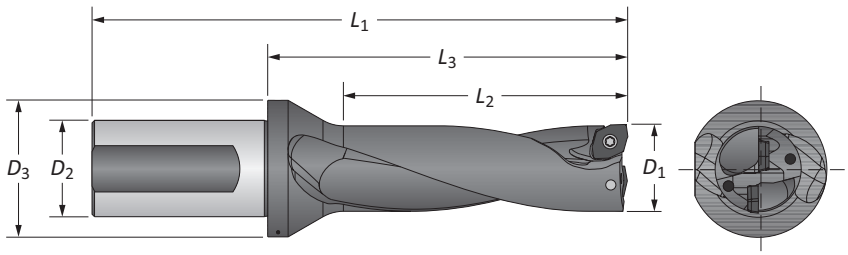
ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-140408-P**	7595-T20-1	8T-20	39.8 in-lbs (4.5 N-cm)
S M	**4T-140408-M**			
H	**4T-140408-H**			
K	**4T-140408-K**			
N	**4T-140408-N**			

A55: 26 - 27 (Key on A55: 1) | A55: 23 - 25 | A55: 22

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

4TEX Drill Holders | Metric Shank

14 Series | Diameter Range: 1.536” - 1.850” (39.00mm - 47.00mm)



Metric Shank

	Length	D_1	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓜ	2xD	39.00mm	78.00	110.40	179.40	40.00	54.00	2.80	**D2143900M-40FM**
		40.00mm	80.00	112.40	181.40	40.00	54.00	2.50	**D2144000M-40FM**
		41.00mm	82.00	114.40	183.40	40.00	54.00	2.30	**D2144100M-40FM**
		1.625”	82.55	114.40	183.40	40.00	54.00	2.23	**D2141625I-40FM**
		42.00mm	84.00	116.40	185.40	40.00	54.00	2.00	**D2144200M-40FM**
		43.00mm	86.00	118.40	187.40	40.00	59.00	1.80	**D2144300M-40FM**
		44.00mm	88.00	120.40	189.40	40.00	59.00	1.50	**D2144400M-40FM**
		1.750”	88.90	120.40	189.40	40.00	59.00	1.41	**D2141750I-40FM**
		45.00mm	90.00	122.40	191.40	40.00	59.00	1.30	**D2144500M-40FM**
		46.00mm	92.00	124.40	193.40	40.00	59.00	1.00	**D2144600M-40FM**
		47.00mm	94.00	126.40	195.40	40.00	59.00	0.80	**D2144700M-40FM**
	3xD	39.00mm	117.00	149.40	218.40	40.00	54.00	2.80	**D3143900M-40FM**
		40.00mm	120.00	152.40	221.40	40.00	54.00	2.50	**D3144000M-40FM**
		41.00mm	123.00	155.40	224.40	40.00	54.00	2.30	**D3144100M-40FM**
		1.625”	123.83	155.40	224.40	40.00	54.00	2.23	**D3141625I-40FM**
		42.00mm	126.00	158.40	227.40	40.00	54.00	2.00	**D3144200M-40FM**
		43.00mm	129.00	161.40	230.40	40.00	59.00	1.80	**D3144300M-40FM**
		44.00mm	132.00	164.40	233.40	40.00	59.00	1.50	**D3144400M-40FM**
		1.750”	133.35	164.40	233.40	40.00	59.00	1.41	**D3141750I-40FM**
		45.00mm	135.00	167.40	236.40	40.00	59.00	1.30	**D3144500M-40FM**
		46.00mm	138.00	170.40	239.40	40.00	59.00	1.00	**D3144600M-40FM**
		47.00mm	141.00	173.40	242.40	40.00	59.00	0.80	**D3144700M-40FM**
	4xD	39.00mm	156.00	188.40	257.40	40.00	54.00	2.80	**D4143900M-40FM**
		40.00mm	160.00	192.40	261.40	40.00	54.00	2.50	**D4144000M-40FM**
		41.00mm	164.00	196.40	265.40	40.00	54.00	2.30	**D4144100M-40FM**
		1.625”	165.10	196.40	265.40	40.00	54.00	2.23	**D4141625I-40FM**
		42.00mm	168.00	200.40	269.40	40.00	54.00	2.00	**D4144200M-40FM**
		43.00mm	172.00	204.40	273.40	40.00	59.00	1.80	**D4144300M-40FM**
		44.00mm	176.00	208.40	277.40	40.00	59.00	1.50	**D4144400M-40FM**
		1.750”	177.80	208.40	277.40	40.00	59.00	1.41	**D4141750I-40FM**
		45.00mm	180.00	212.40	281.40	40.00	59.00	1.30	**D4144500M-40FM**
		46.00mm	184.00	216.40	285.40	40.00	59.00	1.00	**D4144600M-40FM**
		47.00mm	188.00	220.40	289.40	40.00	59.00	0.80	**D4144700M-40FM**

IC Inserts

ISO Material	Part No.	Insert Screw	Torx® Driver	Admissible Tightening Torque
P	**4T-140408-P**	7595-T20-1	8T-20	39.8 in-lbs (4.5 N-cm)
S M	**4T-140408-M**			
H	**4T-140408-H**			
K	**4T-140408-K**			
N	**4T-140408-N**			

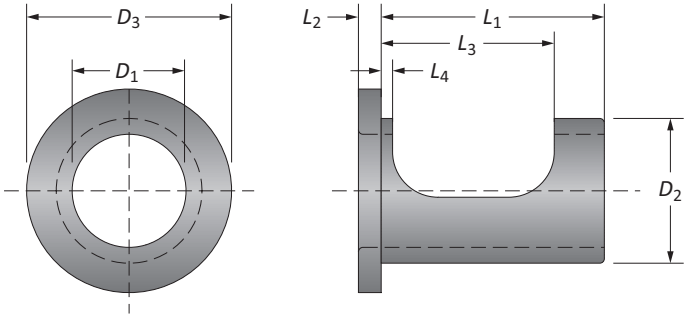
A55: 26 - 27 | A55: 23 - 25 | A55: 22

Key on A55: 1

ⓘ = Imperial (in)
ⓜ = Metric (mm)
IC inserts sold in quantities of 10
Insert screws sold in quantities of 10

Eccentric Sleeves

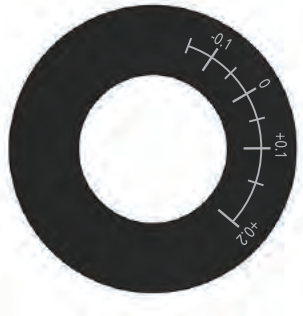
For Cutting Diameter / Center Height Adjustment



	Sleeve Dimensions								Adjustment Range	
	D_1	D_2	D_3	L_2	L_3	L_4	L_1	Part No.	Diameter*	Center Height
i	0.750	1.000	1.614	0.157	1.417	0.118	1.536	**SLEEVE-075F**	+0.0157 to -0.0079	+0.0079 to -0.0059
	1.000	1.250	1.929	0.236	1.496	0.098	1.890	**SLEEVE-100F**	+0.0157 to -0.0079	+0.0079 to -0.0059
	1.250	1.500	2.283	0.236	1.693	0.098	2.087	**SLEEVE-125F**	+0.0157 to -0.0079	+0.0079 to -0.0059
	1.500	2.000	2.913	0.236	1.929	0.118	2.481	**SLEEVE-150F**	+0.0236 to -0.0079	+0.0079 to -0.0079
m	20.00	25.00	41.00	4.00	36.00	3.00	43.00	**SLEEVE-20FM**	+0.40 to -0.20	+0.20 to -0.15
	25.00	32.00	49.00	6.00	38.00	2.50	48.00	**SLEEVE-25FM**	+0.40 to -0.20	+0.20 to -0.15
	32.00	40.00	58.00	6.00	43.00	2.50	53.00	**SLEEVE-32FM**	+0.40 to -0.20	+0.20 to -0.15
	40.00	50.00	74.00	6.00	49.00	3.00	63.00	**SLEEVE-40FM**	+0.40 to -0.20	+0.20 to -0.20

*Diameter adjustment range refers to the cutting diameter.

Milling Applications
Peripheral Adjustment Position

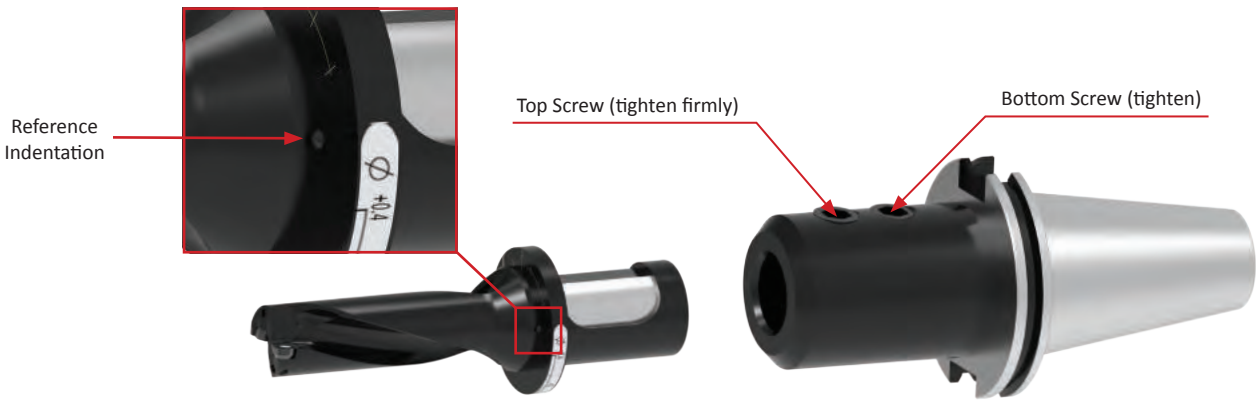


Lathe Applications
Front Adjustment Position

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

Eccentric Sleeves

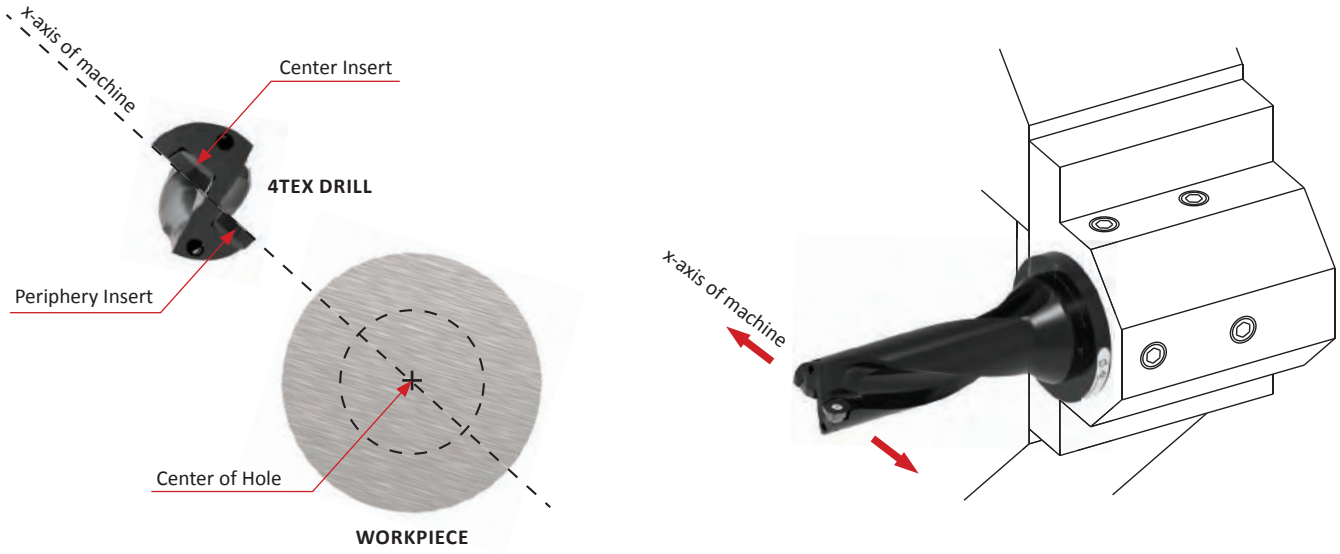
Diameter Adjustment



For Milling Applications

1. Assemble the 4TEX Drill, eccentric sleeve, and tool holder. Do not tighten the tool holder set screws.
2. Using the peripheral marks for milling machines, align the reference indentation on the holder with the 0 (zero) mark on the eccentric sleeve to have no offset.
3. Rotate the sleeve in the (+) or (-) direction to increase or decrease the nominal diameter.
4. Once the drill has arrived at the desired diameter, firmly tighten the top set screw first and then tighten the bottom set screw.

NOTICE: Eccentric sleeves are to be used with side-locking tool holders only. Damage may result with other styles of tool holders.

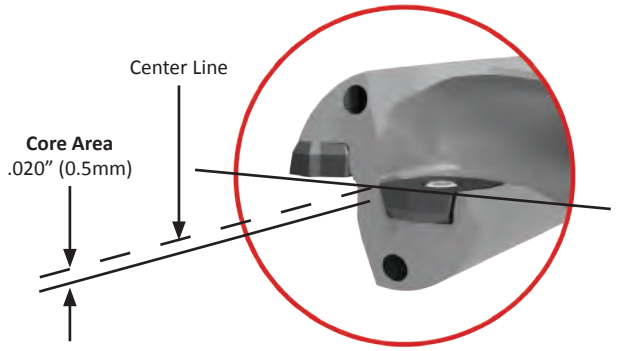


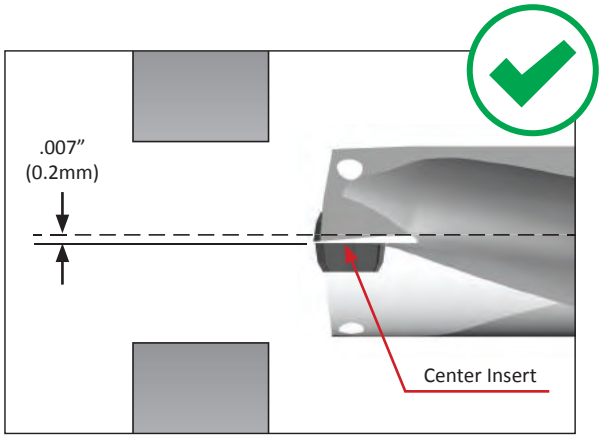
For Lathe Applications

1. Assemble the 4TEX Drill into the lathe turret with the top face of the inserts parallel to the x-axis of the machine. This will allow for the diameter offsets to be made using the lathe's x-axis.
2. To increase the nominal diameter, offset the x-axis so the periphery insert moves away from the center of the hole.
3. To decrease the nominal diameter, offset the x-axis so the periphery insert moves toward the center of the hole.

Center Height Alignment

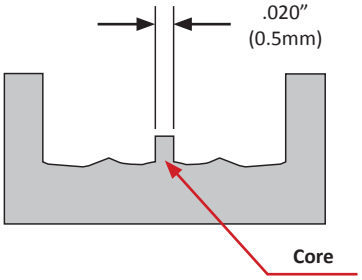
Proper Center Line Position

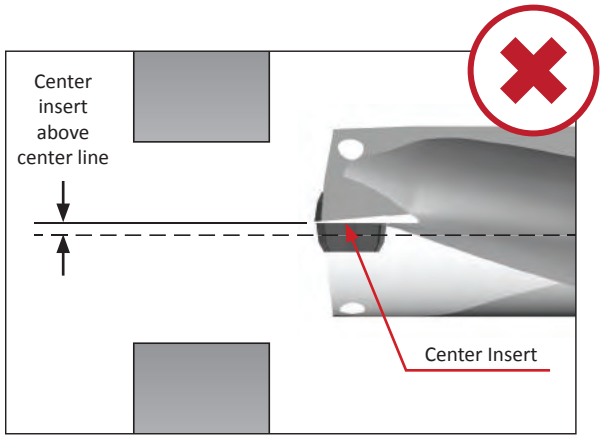




Proper Center Height Alignment

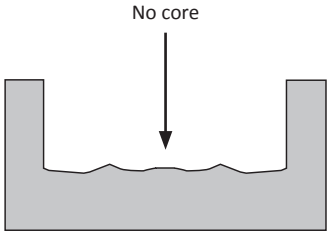
- The correct center height alignment will position the center insert .007" (0.2mm) below the center line.

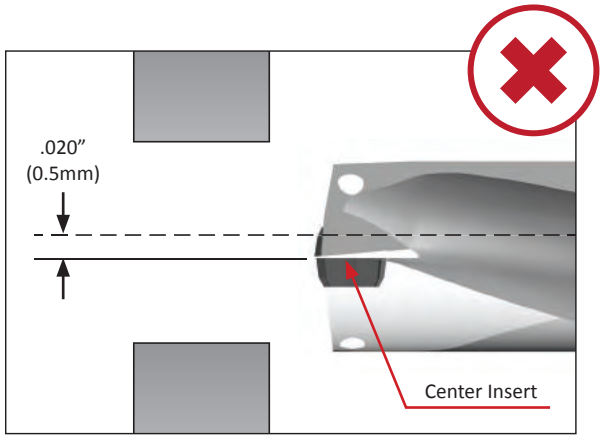




Center Insert Above the Center Line

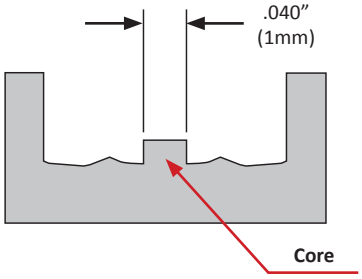
- This will cause fracturing of the center insert
- Requires center height adjustment





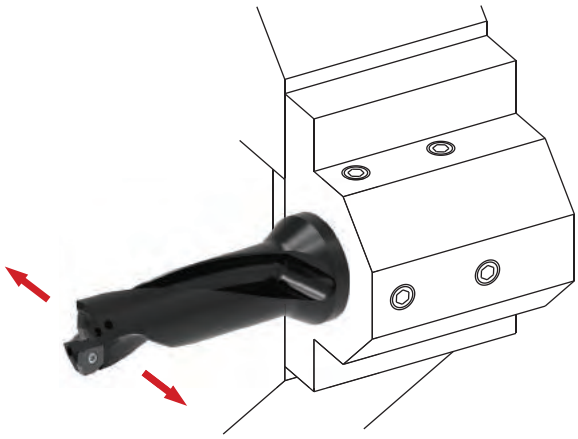
Center Insert Too Far Below Center Line

- This will cause the drill to interfere with the drilled hole
- This will impede chip evacuation on the periphery insert
- Requires center height adjustment



Center Height Alignment

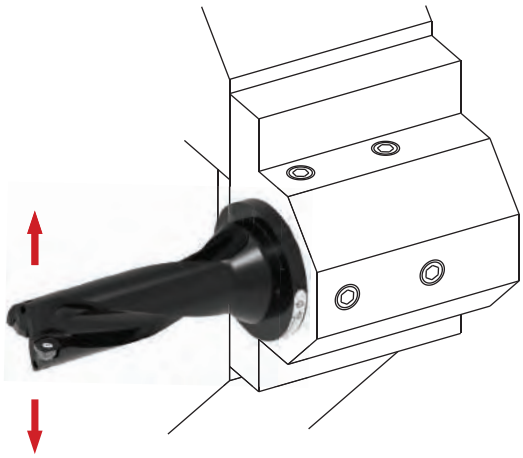
How to Correct Issues



Method 1: Adjustment with X-Axis

1. Rotate the drill body so the position of the center line of the inserts is perpendicular to the lathe's x-axis.
2. Use the x-axis to offset the position of the center line in a (+) or (-) direction to increase or decrease the center core diameter at the bottom of the hole.

NOTE: This method does not allow diameter adjustments using the x-axis.



Method 2: Adjustment with Eccentric Sleeve

1. Assemble the drill to the turret using the eccentric sleeve, positioning the center line of the inserts parallel to the x-axis.
2. Align the reference indentation on the drill to the "0" setting on the flange face.
2. Rotate the sleeve (+) or (-) to increase or decrease the center height of the inserts in order to increase or decrease the core diameter at the bottom of the hole.

NOTE: This method still allows diameter adjustments using the x-axis.

NOTE (applies to both methods): Adjusting the center line of the inserts may affect the hole diameter produced. Method 2 is preferred to make center height adjustments and compensate for hole diameter with the x-axis.

Recommended Drilling Data | Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM) P K H	Speed (SFM) M	Speed (SFM) N	Feed Rate (IPR) by Diameter - 2xD, 3xD** .432 - .591	.630 - .709	.748 - 1.024	1.063 - 1.850
			AM480	AM485	TiCN				
P	**Free Machining Steel** 1118, 1215, 12L14, etc.	100 - 150	–	400 - 1200	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		150 - 200	–	400 - 1000	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		200 - 250	400 - 800	400 - 800	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	–	400 - 1000	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		125 - 175	–	400 - 1000	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		175 - 225	–	400 - 800	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
		225 - 275	400 - 800	400 - 800	–	.0024 - .0039	.0024 - .0047	.0031 - .0055	.0031 - .0055
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	–	330 - 800	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		175 - 225	–	330 - 800	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		225 - 275	–	330 - 800	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		275 - 325	330 - 600	330 - 600	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		175 - 225	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		225 - 275	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		275 - 325	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		325 - 375	330 - 800	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	330 - 600	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		300 - 350	330 - 600	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
		350 - 400	330 - 600	–	–	.0016 - .0055	.0024 - .0063	.0031 - .0080	.0031 - .0080
	Structural Steel A36, A285, A516, etc.	100 - 150	330 - 600	–	–	.0016 - .0050	.0024 - .0050	.0031 - .0050	.0031 - .0050
		150 - 250	330 - 600	–	–	.0016 - .0050	.0024 - .0050	.0031 - .0050	.0031 - .0050
		250 - 350	330 - 600	–	–	.0016 - .0050	.0024 - .0050	.0031 - .0050	.0031 - .0050
	Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200	270 - 600	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
		200 - 250	270 - 600	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
S	**High Temp Alloy*** Hastelloy B, Inconel 600, etc.	140 - 220	–	100 - 250	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
		220 - 310	–	100 - 200	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
	Titanium Alloy*	140 - 220	–	140 - 500	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
		220 - 310	–	140 - 300	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
	Aerospace Alloy* S82	185 - 275	–	100 - 250	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
		275 - 350	–	100 - 200	–	.0020 - .0031	.0020 - .0031	.0024 - .0039	.0024 - .0039
M	**Stainless Steel 400 Series** 416, 420, etc.	185 - 275	240 - 600	240 - 700	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
		275 - 350	240 - 470	240 - 500	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	240 - 600	240 - 700	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
		185 - 275	240 - 470	240 - 500	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
	Super Duplex Stainless Steel		240 - 600	240 - 700	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
		135 - 275	240 - 470	240 - 500	–	.0016 - .0039	.0024 - .0047	.0024 - .0055	.0024 - .0055
H	**Wear Plate** Hardox, AR400, T-1, etc.	400	100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
		500	100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
		600	100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
	Hardened Steel	300 - 400	100 - 300	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
		400 - 500	100 - 200	–	–	.0016 - .0031	.0024 - .0047	.0031 - .0059	.0031 - .0059
K	**Nodular, Grey, Ductile Cast Iron**	120 - 150	300 - 800	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .0080
		150 - 200	300 - 800	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .0080
		200 - 220	300 - 500	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .0080
		220 - 260	270 - 400	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .0080
		260 - 320	270 - 400	–	–	.0031 - .0055	.0031 - .0071	.0031 - .0079	.0031 - .0080
N	**Cast Aluminum**	30	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080
		180	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080
	Wrought Aluminum	30	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080
		180	–	–	800 - 2000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080
	Aluminum Bronze	100 - 200	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080
		200 - 250	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080
	Brass	100	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080
	Copper	60	–	–	500 - 1000	.0024 - .0047	.0031 - .0055	.0031 - .0063	.0031 - .0080

*For high temp materials, 1000 PSI is recommended as well as a quality synthetic coolant at approximately 10% emulsion.
**For 4xD tools, begin at low end of feed recommendation.

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Factory technical assistance is also available through our Application Engineering Team.

Recommended Drilling Data | Metric (mm)

ISO	Material	Hardness (BHN)	Speed (M/min) P K H AM480	Speed (M/min) M AM485	Speed (M/min) N TiCN	Feed Rate (mm/rev) by Diameter - 2xD, 3xD** 12.00 - 15.00	15.50 - 18.00	18.50 - 26.00	26.00 - 47.00
P	**Free Machining Steel** 1118, 1215, 12L14, etc.	100 - 150	–	122 - 365	–	0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
		150 - 200	–	122 - 305	–	0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
		200 - 250	122 - 245	122 - 245	–	0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	–	122 - 305	–	0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
		125 - 175	–	122 - 305	–	0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
		175 - 225	–	122 - 245	–	0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
		225 - 275	122 - 245	122 - 245	–	0.07 - 0.10	0.07 - 0.12	0.08 - 0.14	0.08 - 0.14
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	–	100 - 245	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		175 - 225	–	100 - 245	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		225 - 275	–	100 - 245	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		275 - 325	100 - 245	100 - 183	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	100 - 245	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		175 - 225	100 - 245	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		225 - 275	100 - 245	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		275 - 325	100 - 245	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		325 - 375	100 - 245	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	100 - 163	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		300 - 350	101 - 183	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
		350 - 400	101 - 183	–	–	0.05 - 0.14	0.07 - 0.17	0.08 - 0.21	0.08 - 0.21
	Structural Steel A36, A285, A516, etc.	100 - 150	101 - 183	–	–	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
		150 - 250	101 - 183	–	–	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
		250 - 350	101 - 183	–	–	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
	Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200	83 - 183	–	–	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
		200 - 250	83 - 183	–	–	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
S	**High Temp Alloy*** Hastelloy B, Inconel 600, etc.	140 - 220	–	31 - 77	–	0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
		220 - 310	–	31 - 61	–	0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
	Titanium Alloy*	140 - 220	–	43 - 153	–	0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
		220 - 310	–	43 - 92	–	0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
	Aerospace Alloy* S82	185 - 275	–	31 - 77	–	0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
		275 - 350	–	31 - 61	–	0.06 - 0.08	0.06 - 0.08	0.07 - 0.10	0.07 - 0.10
M	**Stainless Steel 400 Series** 416, 420, etc.	185 - 275	74 - 183	74 - 214	–	0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
		275 - 350	74 - 144	74 - 153	–	0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	74 - 183	74 - 214	–	0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
		185 - 275	74 - 144	74 - 153	–	0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
	Super Duplex Stainless Steel		74 - 183	74 - 214	–	0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
		135 - 275	74 - 144	74 - 153	–	0.05 - 0.10	0.07 - 0.12	0.07 - 0.14	0.07 - 0.14
H	**Wear Plate** Hardox, AR400, T-1, etc.	400	31 - 61	–	–	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
		500	31 - 61	–	–	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
		600	31 - 61	–	–	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
	Hardened Steel	300 - 400	31 - 92	–	–	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
		400 - 500	31 - 61	–	–	0.05 - 0.08	0.07 - 0.12	0.08 - 0.15	0.08 - 0.15
K	**Nodular, Grey, Ductile Cast Iron**	120 - 150	92 - 244	–	–	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
		150 - 200	92 - 244	–	–	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
		200 - 220	92 - 153	–	–	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
		220 - 260	83 - 122	–	–	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
		260 - 320	83 - 122	–	–	0.08 - 0.14	0.08 - 0.19	0.08 - 0.21	0.08 - 0.21
N	**Cast Aluminum**	30	–	–	244 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
		180	–	–	244 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
	Wrought Aluminum	30	–	–	244 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
		180	–	–	244 - 610	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
	Aluminum Bronze	100 - 200	–	–	153 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
		200 - 250	–	–	153 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
	Brass	100	–	–	153 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21
	Copper	60	–	–	153 - 305	0.07 - 0.12	0.08 - 0.14	0.08 - 0.17	0.08 - 0.21

*For high temp materials, 68.95 bar is recommended as well as a quality synthetic coolant at approximately 10% emulsion.
**For 4xD tools, begin at low end of feed recommendation.

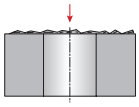
IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Factory technical assistance is also available through our Application Engineering Team.

Insert Geometry Recommendations

ISO	Material	Hardness (BHN)	Geometry P	M	K	N	H
P	**Free Machining Steel** 1118, 1215, 12L14, etc.	100 - 150	○	●			
		150 - 200	●	○			
		200 - 250	●	○			
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	○	●			
		125 - 175	○	●			
		175 - 225	○	●			
		225 - 275	●	○			
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	○	●			
		175 - 225	○	●			
		225 - 275	●	○			
		275 - 325	●				○
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	○	●			
		175 - 225	●	○			
		225 - 275	●				○
		275 - 325	●				○
		325 - 375	○				●
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	●				
		300 - 350	○				●
		350 - 400	○				●
	Structural Steel A36, A285, A516, etc.	100 - 150	○	●			
		150 - 250	○	●			
		250 - 350	●				○
	Tool Steel H-13, H-21, A-4, 0-2, S-3, etc.	150 - 200	●	○			
		200 - 250	●				○
S	**High Temp Alloy*** Hastelloy B, Inconel 600, etc.	140 - 220	○	●			
		220 - 310	○	●			
	Titanium Alloy*	140 - 220	○	●			
		220 - 310	○	●			
	Aerospace Alloy* S82	185 - 275	○	●			
		275 - 350	○	●			
M	**Stainless Steel 400 Series** 416, 420, etc.	185 - 275	○	●			
		275 - 350	○	●			
	Stainless Steel 300 Series 304, 316, 17-4PH, etc.	135 - 185	○	●			
		185 - 275	○	●			
	Super Duplex Stainless Steel		○	●			
		135 - 275	○	●			
H	**Wear Plate** Hardox, AR400, T-1, etc.	400	○				●
		500	○				●
		600	○				●
	Hardened Steel	300 - 400	○				●
		400 - 500	○				●
K	**Nodular, Ductile Cast Iron**	120 - 150	●	○			
		150 - 200	●	○			
		200 - 220	●	○			
		220 - 260			●		○
		260 - 320			●		○
	Grey / White Iron	120 - 150			●		○
		150 - 200			●		○
		200 - 220			●		
		220 - 260			●		
		260 - 320			●		
N	**Cast Aluminum**	30				●	
		180				●	
	Wrought Aluminum	30				●	
		180				●	
	Aluminum Bronze	100 - 200	○			●	
		200 - 250	○			●	
	Brass	100	○			●	
	Copper	60				●	

Troubleshooting

1.

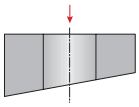


Starting on Uneven Surfaces
- Reduce entry feed by 50% if necessary

2.

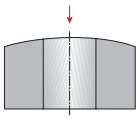
Starting on Angled Surfaces
- Reduce entry feed by 20 - 50%
- Use lower rake geometry if insert chipping occurs

3.



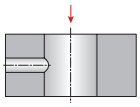
Angled Bore Exit
- Reduce entry feed by 50% on breakout
- Use tough insert and stable corner radius

4.



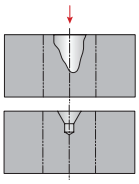
Starting on Convex Surfaces
- Reduce entry feed by 50%
- Use lower rake geometry if insert chipping occurs

5.



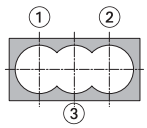
Drilling through a Cross Hole
- Reduce feed rate 50% if necessary
- Use good coolant flow and monitor chip packing
- Use lower rake geometry if insert chipping occurs

6.



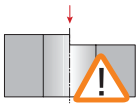
Drilling on a Groove or Large Centering Box
- Reduce entry feed
- Use lower rake geometry for center insert

7.



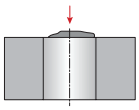
Chain Drilling
- Use good coolant flow
- Reduce feed rate by 50% for interrupted cut
- Use lower rake geometry if insert chipping occurs

8.



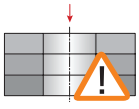
Starting on an Edge
- Reduce entry feed rate by 50%
- Use lower rake geometry if insert chipping occurs

9.



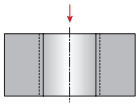
Starting on a Welded Seam
- Reduce entry feed rate by 50%
- Use lower rake geometry if insert chipping occurs

10.



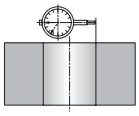
Drilling through Stacked Plates
- Not recommended

11.



Opening an Existing Hole
- Use flood coolant

12.



Adjustable
- For mills, use eccentric sleeve with end mill holder
- For lathes, use x-axis to adjust offset Ø

NOTE: Refer to maximum offset Ø in data tables

Guaranteed Test / Demo Application Form

Distributor PO #	

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

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

Distributor Information

Company Name: _____

Contact: _____

Account Number: _____

Phone: _____

Email: _____

End User Information

Company Name: _____

Contact: _____

Industry: _____

Phone: _____

Email: _____

Current Process

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

_____

_____

Test Objective

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

_____

_____

Application Information

Hole Diameter: _____ in/mm

Tolerance: _____

Material: _____ (4150 / A36 / Cast Iron / etc.)

Pre-existing Diameter: _____ in/mm

Depth of Cut: _____ in/mm

Hardness: _____ (BHN / Rc)

Required Finish: _____ RMS

State: _____ (Casting / Hot rolled / Forging)

Machine Information

Machine Type: _____ (Lathe / Screw machine / Machine center / etc.)

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

Model #: _____

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

Power: _____ HP/KW

Thrust: _____ lbs/N

Rigidity:
- ☐ Excellent
- ☐ Good
- ☐ Poor

Orientation:
- ☐ Vertical
- ☐ Horizontal

Tool Rotating:
- ☐ Yes
- ☐ No

Coolant Information

Coolant Delivery: _____ (Through tool / Flood)

Coolant Pressure: _____ PSI / bar

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

Coolant Volume: _____ GPM / LPM

Requested Tooling

QTY	Item Number

QTY	Item Number

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

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

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

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