ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

Boring

Reaming

Burnishing

Threading

Specials

Structural Steel Solutions

▶ *DRILLING*

Replaceable Insert & Indexable Drills

SECTION A91

Structural Steel Solutions

Structural Steel Drilling Solutions

T-A® and GEN2 T-A® | GEN3SYS® XT Pro | 4TEX® Drill

- **T-A® and GEN2 T-A® Diameter Range:** 0.5512" - 1.8829" (14.00 mm - 47.82 mm)
- **GEN3SYS® XT Pro Diameter Range:** 0.4724" - 1.3780" (12.00 mm - 35.00 mm)
- **4TEX® Drill Diameter Range:** 0.472" - 1.562" (12.00 mm - 39.67 mm)*

*See the 4TEX Drill catalog (A55-4TX) for all diameters available.

Take on Tough Drilling

Allied Machine's structural steel drilling system is designed for maximum performance in structural steel materials and applications. These solutions utilize the T-A, GEN2 T-A, GEN3SYS XT Pro, and 4TEX drill designs and capabilities.

With multiple geometries and coatings, you're sure to find the solution that is right for you. Tough drilling is tough no more.

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

Applicable Industries

Structural Steel

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

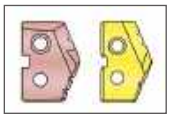
WARNING (shown above) means that failure to follow the precautions in this message could result in tool failure and serious injury.

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.

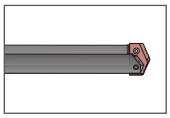
NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

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.

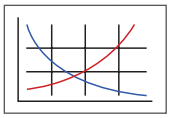


Corresponding T-A & GEN2 T-A Inserts
Refers to the corresponding T-A insert items that connect with each specific holder series

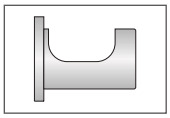


Corresponding T-A Holders
Refers to the corresponding T-A holder items that connect with each specific insert series

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

Coolant-Through Option
Indicates that the product is coolant through

Series	T-A® and GEN2 T-A® Diameter Range	
	Imperial (inch)	Metric (mm)
0	0.5512 - 0.6959	14.00 - 17.67
1	0.6900 - 0.9609	17.53 - 24.40
2	0.9610 - 1.3809	24.41 - 35.06
3	1.3530 - 1.8829	34.37 - 47.82

Series	GEN3SYS® XT Pro Diameter Range	
	Imperial (inch)	Metric (mm)
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

Series	4TEX® Drill Diameter Range*	
	Imperial (inch)	Metric (mm)
03	0.472 - 0.512	12.00 - 13.00
04	0.551 - 0.591	14.00 - 15.00
05	0.625 - 0.709	15.88 - 18.00
06	0.748 - 0.827	19.00 - 21.00
07	0.866 - 1.024	22.00 - 26.00
09	1.063 -1.250	27.00 - 31.75
11	1.260 - 1.500	32.00 - 38.10
14	1.535 - 1.562	39.00 - 39.67

*See the 4TEX drill catalog (A55-4TX) for all diameters available.

Structural Steel Drilling Solutions Contents

T-A® and GEN2 T-A® Drilling System

GEN3SYS® XT Pro System

4TEX® Drill System

Recommended Cutting Data

Structural Steel Drilling

Achieving Optimal Results in Structural Steel

Drilling in structural steel materials can be a difficult process, and achieving optimal results becomes a major issue. Allied Machine's structural steel drilling solutions have been specifically designed to produce the best results in the toughest materials. With solutions in both the T-A® and GEN3SYS® XT Pro product lines, you have multiple options to solve your application problems.

Insert Style Comparison

	 GEN3SYS® XT Pro Structural Steel	 T-A® Thin Wall	 T-A® Notch Point®	 T-A® 150° Structural Steel	 GEN2 T-A® High Efficiency
High penetration	✓				
Material less than 7/16" thick		✓			
Material over 7/16" thick	✓		✓	✓	✓
Reduced exit burr			✓	✓	
Includes Notch Point® geometry			✓	✓	✓
Available from carbide	✓				✓
Stocked in common sizes for the structural steel industry	✓	✓	✓	✓	✓

Case Study Example

CASE STUDY

Project Profile:	Structural Steel I-Beam Construction
Tooling Solution:	T-A® Structural Steel Drilling System

The Problem:

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

- 650 RPM
- 0.010 IPR (0.25 mm/rev)
- 6.5 IPM (165.1 mm/min)

The tool drilled a 0.875" (22.23 mm) diameter hole to a 0.4375" (11.11 mm) depth. The drill had a tool life of **only 20 holes**.

The poor tool performance was brought to the attention of the technician, who was familiar with Allied Machine products. The following day, Allied Machine tooling was brought in for testing. The customer needed improvement in the tool life of the inserts.

The Solution:

Allied Machine recommended the T-A structural steel drilling system.

- **Insert** = 151A-0028-TW (#1 series T-A insert with TiAlN coating and thin wall geometry)
- **Holder** = 25010H-004IS052 (#1 series T-A holder with #4 Morse Taper shank and helical flute)

The tool ran at the following parameters:

- 440 RPM
- 0.010 IPR (0.25 mm/rev)
- 4.4 IPM (111.7 mm/min)

The tool achieved the desired diameter and depth. But most of all, the tool produced **1,500 holes**.

Summary:

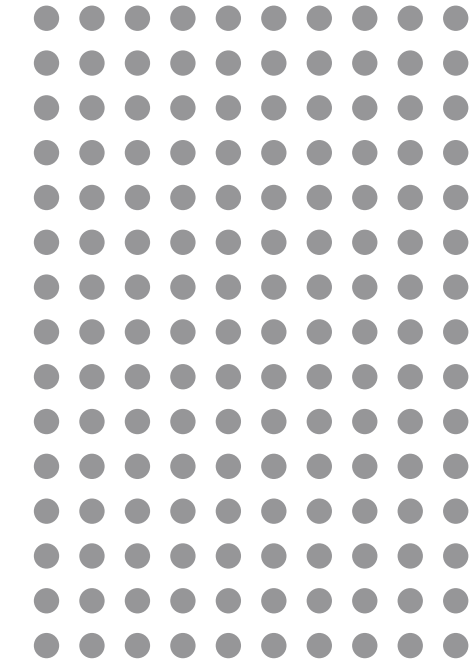
The customer was able to take advantage of Allied Machine's vast experience in the structural steel drilling niche. Allied's wide variety of stocked solutions for specific customer problems allows for a remarkable increase in tool life.

The T-A structural steel drilling system defeated the competition, resulting in a **cost per hole savings of 89%** for the customer.

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

Competitor Insert Tool Life
(number of holes = 20)

T-A Structural Steel Insert Tool Life
(number of holes = 1,500)



Overall ***SAVINGS*** of

89%

PREMIUM SOLUTION

T-A® and GEN2 T-A® Structural Steel Drilling System

STRUCTURAL STEEL **ENHANCEMENTS** T-A® & GEN2 T-A®

GEN2 T-A Insert

Available in AM300® and AM200® Coating

High Efficiency (-HE)

- Improves performance.
- Improves tool life.
- Improves chip formation in structural steel materials.

T-A Inserts

Available in AM200® and TiAlN Coatings

Thin Wall (-TW)

- Designed for drilling 7/16" thick or less I-beam or structural materials.
- Increases hole diameter tolerance.
- Improves hole roundness.
- Decreases material deflection.

Notch Point® (-NP)

- Provides excellent self-centering characteristics.
- Reduces bellmouth and tool lead-off.
- Reduces axial thrust requirements.

Structural Steel (-SS)

- Designed for drilling 7/16" thick or thicker I-beam or structural materials.
- Reduces exit burrs.
- Increases stability.
- Lowers drilling forces.
- Includes Notch Point® web geometry.

Holder Anatomy

1. Morse Taper Shank
2. Coolant Inlet
3. Flute (straight or helical)
4. Built-up Body Diameter
5. Coolant Outlets

Straight Flute

Helical Flute

T-A® and GEN2 T-A® Drill Nomenclature

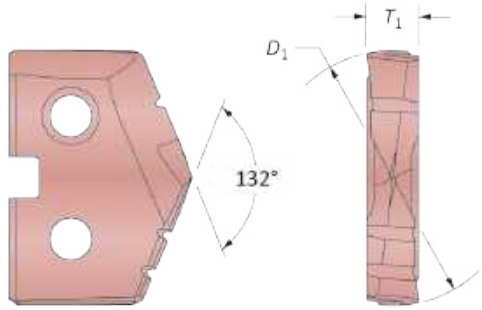
T-A and GEN2 T-A Drill Inserts

4	5	3	H	–	0115	–	HE
1	2	3	4		5		6

1. Insert	2. Material	3. Series	4. Coating	5. Diameter	6. Geometry
1 = T-A **4** = GEN2 T-A	**5** = Super cobalt **C1** = C1 (K35) carbide	**0** = 0 series **1** = 1 series **2** = 2 series **3** = 3 series	**P** = AM300® **H** = AM200® **A** = TiAlN	**0017** = Inch **0.515** = Decimal **13** = Metric	**TW** = Thin Wall **NP** = Notch Point® **SS** = Structural Steel **HE** = High Efficiency

Reference Key

Symbol	Attribute
D_1	Insert diameter
T_1	Insert thickness



T-A Drill Holders

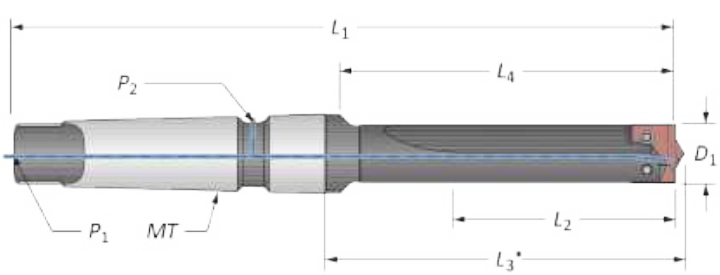
2	40	20	S	–	004	IS	060
1	2	3	4		5	6	7

1. Holder	2. Length	3. Series	4. Flute
2 = T-A holder	**20** = Short **40** = Standard **50** = Extended **60** = Long	**00** = 0 series **05** = 0.5 series **10** = 1 series **15** = 1.5 series **20** = 2 series **25** = 2.5 series **30** = 3 series	**S** = Straight **H** = Helical

5. Shank Designator	6. Shank Code	7. Minimum Insert Diameter
003 = 3MT **004** = 4MT	**IS** = Imperial Morse taper structural steel	In increments of 1/64 of an inch In increments of 0.0156"

Reference Key

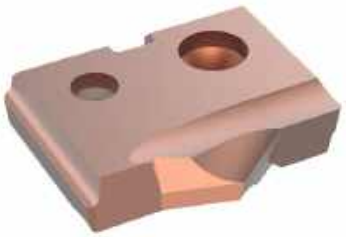
Symbol	Attribute	Symbol	Attribute
D_1	Drill insert range	L_4	Flute length
L_1	Overall length	P_1	Rear pipe tap
L_2	Drill depth	P_2	Side pipe tap
L_3*	Holder reference length	*MT*	Morse taper size



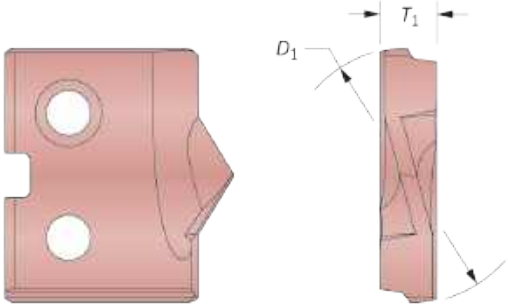
*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

T-A® Structural Steel Drill Inserts

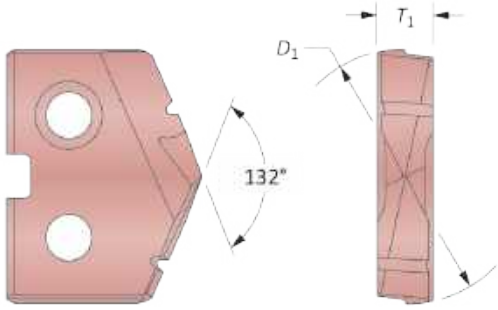
0 Series | Diameter Range: 0.5512" - 0.6959" (14.00 mm - 17.67 mm)



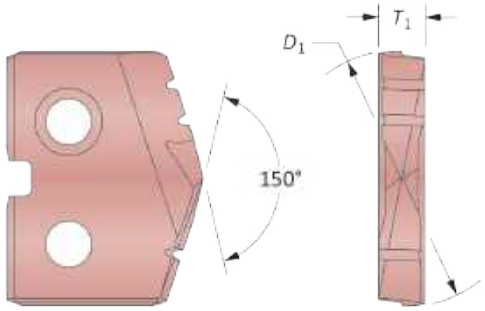
Thin Wall
For material up to 7/16" thick.



Notch Point®
For material over 7/16" thick.



150° Structural Steel
For material over 7/16" thick and for reduced exit burr.



HSS Inserts – Super Cobalt

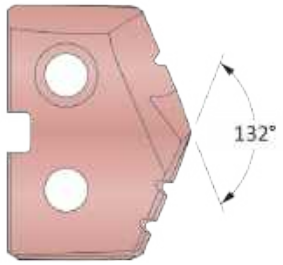
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Thin Wall: AM200® Part No.	Thin Wall: TiAlN Part No.	Notch Point®: AM200® Part No.	Notch Point®: TiAlN Part No.	150° Structural Steel: AM200® Part No.	150° Structural Steel: TiAlN Part No.
0	–	0.5512	14.00	1/8	**150H-14-TW**	**150A-14-TW**	**150H-14-NP**	**150A-14-NP**	**150H-14-SS**	**150A-14-SS**
	9/16	0.5625	14.29	1/8	**150H-0018-TW**	**150A-0018-TW**	**150H-0018-NP**	**150A-0018-NP**	**150H-0018-SS**	**150A-0018-SS**
0.5	5/8	0.6250	15.88	1/8	**150H-0020-TW**	**150A-0020-TW**	**150H-0020-NP**	**150A-0020-NP**	**150H-0020-SS**	**150A-0020-SS**
	–	0.6299	16.00	1/8	**150H-16-TW**	**150A-16-TW**	**150H-16-NP**	**150A-16-NP**	**150H-16-SS**	**150A-16-SS**
	11/16	0.6875	17.46	1/8	**150H-0022-TW**	**150A-0022-TW**	**150H-0022-NP**	**150A-0022-NP**	**150H-0022-SS**	**150A-0022-SS**

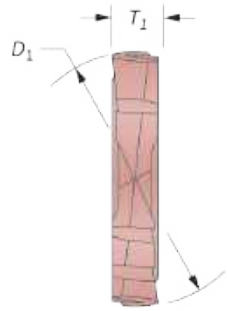
A91: 62 - 63
Key on A91: 1
A91: 5
A91: 8 - 9

Inserts sold in multiples of 2.

GEN2 T-A® Structural Steel Drill Inserts

0 Series | Diameter Range: 0.5512" - 0.6959" (14.00 mm - 17.67 mm)





HSS Inserts – Super Cobalt | Carbide Inserts – C1 (K35)

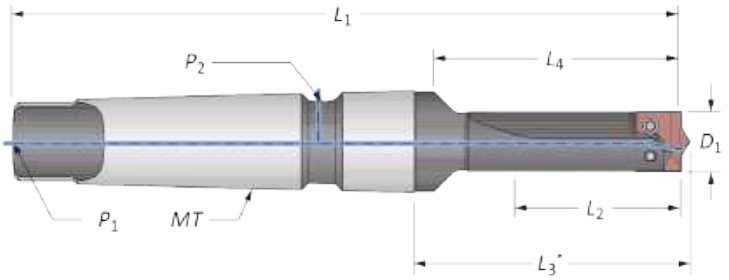
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Part No.: Super Cobalt	Part No.: C1 (K35)
0	–	0.5512	14.00	1/8	**450H-14-HE**	**4C10P-14-HE**
	9/16	0.5625	14.29	1/8	**450H-0018-HE**	**4C10P-0018-HE**
0.5	5/8	0.6250	15.88	1/8	**450H-0020-HE**	**4C10P-0020-HE**
	–	0.6299	16.00	1/8	**450H-16-HE**	**4C10P-16-HE**
	11/16	0.6875	17.46	1/8	**450H-0022-HE**	**4C10P-0022-HE**

A91: 62 - 63 A91: 5 A91: 8 - 9
Key on A91: 1

Inserts sold in multiples of 2.

T-A® Structural Steel Drill Insert Holders

0 Series | Taper Shank



Straight Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	0	Short	0.5625	1.201	2.281	2.358	6.156	#3	TTC	TSC	**22000S-003IS036**
i	0.5	Short	0.6250	1.215	2.281	2.358	6.156	#3	TTC	TSC	**22005S-003IS040**
i		Short	0.6875	1.204	2.281	2.358	6.156	#3	TTC	TSC	**22005S-003IS044**
m	0	Short	14.29	30.51	57.94	59.89	156.36	#3	TTC	TSC	**22000S-003IS036**
m	0.5	Short	15.88	30.86	57.94	59.89	156.36	#3	TTC	TSC	**22005S-003IS040**
m		Short	17.46	30.58	57.94	59.89	156.36	#3	TTC	TSC	**22005S-003IS044**

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
0	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in-lbs (175 N-cm)
0.5	72567-IP8-1	72567N-IP8-1	8IP-8	8IP-8TL	8IP-8B	15.5 in-lbs (175 N-cm)

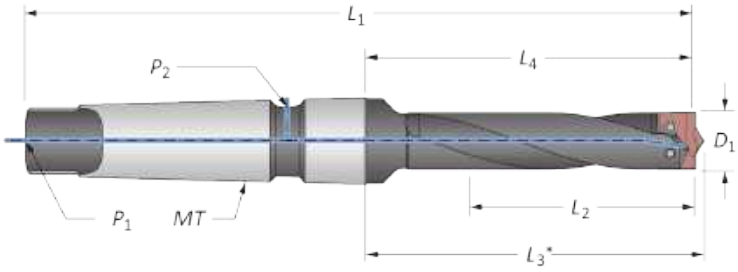
*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

A91: 5
Key on A91: 1
A91: 6 - 7

i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10.

T-A® Structural Steel Drill Insert Holders

0 Series | Taper Shank

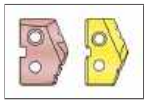


Helical Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank *MT*	Shank P_1	Shank P_2	Part No.
i	0	Standard	0.5625	3.001	3.406	3.483	7.281	#3	TTC	TSC	**24000H-003IS036**
		Extended	0.5625	7.101	9.536	9.613	13.411	#3	TTC	TSC	⚠ **25000H-003IS036**
	0.5	Standard	0.6250	3.015	3.406	3.483	7.281	#3	TTC	TSC	**24005H-003IS040**
		Standard	0.6875	3.029	3.406	3.483	7.281	#3	TTC	TSC	**24005H-003IS044**
		Extended	0.6875	7.129	9.536	9.613	13.411	#3	TTC	TSC	⚠ **25005H-003IS044**
m	0	Standard	14.29	76.23	86.51	88.47	184.94	#3	TTC	TSC	**24000H-003IS036**
		Extended	14.29	180.37	242.21	244.17	340.64	#3	TTC	TSC	⚠ **25000H-003IS036**
	0.5	Standard	15.88	76.58	86.51	88.47	184.94	#3	TTC	TSC	**24005H-003IS040**
		Standard	17.46	76.94	86.51	88.47	184.94	#3	TTC	TSC	**24005H-003IS044**
		Extended	17.46	181.08	242.21	244.17	340.64	#3	TTC	TSC	⚠ **25005H-003IS044**

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

A91: 5
Key on A91: 1
A91: 6 - 7



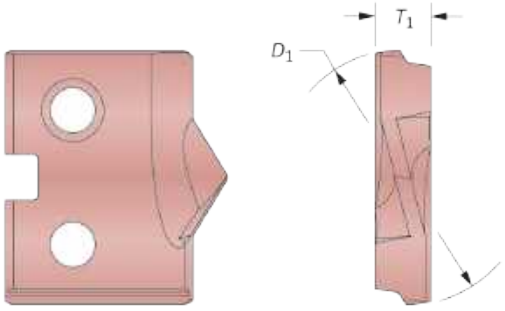
i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10.

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A91: 21 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

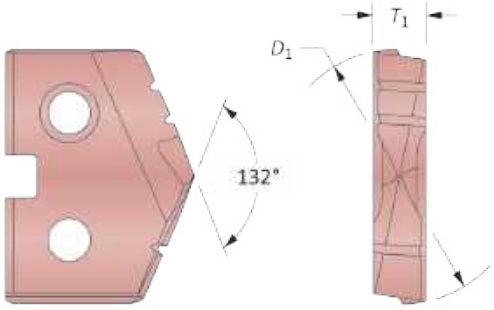
T-A® Structural Steel Drill Inserts

1 Series | Diameter Range: 0.6900" - 0.9609" (17.53 mm - 24.40 mm)

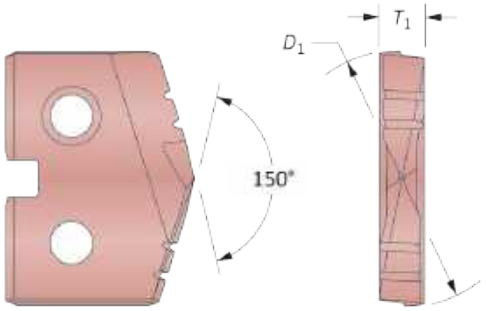
Thin Wall
For material up to 7/16" thick.



Notch Point®
For material over 7/16" thick.



150° Structural Steel
For material over 7/16" thick and for reduced exit burr.



HSS Inserts – Super Cobalt

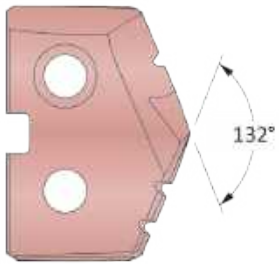
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Thin Wall: AM200® Part No.	Thin Wall: TiAlN Part No.	Notch Point®: AM200® Part No.	Notch Point®: TiAlN Part No.	150° Structural Steel: AM200® Part No.	150° Structural Steel: TiAlN Part No.
1	–	0.7087	18.00	5/32	151H-18-TW	151A-18-TW	151H-18-NP	151A-18-NP	151H-18-SS	151A-18-SS
	13/16	0.8125	20.64	5/32	151H-0026-TW	151A-0026-TW	151H-0026-NP	151A-0026-NP	151H-0026-SS	151A-0026-SS
	–	0.8268	21.00	5/32	151H-21-TW	151A-21-TW	151H-21-NP	151A-21-NP	151H-21-SS	151A-21-SS
	–	0.8661	22.00	5/32	151H-22-TW	151A-22-TW	151H-22-NP	151A-22-NP	151H-22-SS	151A-22-SS
1.5	7/8	0.8750	22.23	5/32	151H-0028-TW	151A-0028-TW	151H-0028-NP	151A-0028-NP	151H-0028-SS	151A-0028-SS
	15/16	0.9375	23.81	5/32	151H-0030-TW	151A-0030-TW	151H-0030-NP	151A-0030-NP	151H-0030-SS	151A-0030-SS
	–	0.9449	24.00	5/32	151H-24-TW	151A-24-TW	151H-24-NP	151A-24-NP	151H-24-SS	151A-24-SS

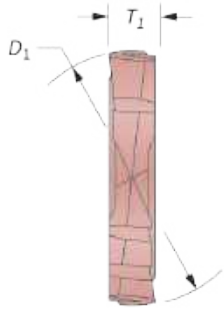
A91: 62 - 63
Key on A91: 1
A91: 5
A91: 12 - 13

Inserts sold in multiples of 2.

GEN2 T-A® Structural Steel Drill Inserts

1 Series | Diameter Range: 0.6900" - 0.9609" (17.53 mm - 24.40 mm)





HSS Inserts – Super Cobalt | Carbide Inserts – C1 (K35)

Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Part No.: Super Cobalt	Part No.: C1 (K35)
1	–	0.7087	18.00	5/32	**451H-18-HE**	**4C11P-18-HE**
	13/16	0.8125	20.64	5/32	**451H-0026-HE**	**4C11P-0026-HE**
	–	0.8268	21.00	5/32	**451H-21-HE**	**4C11P-21-HE**
	–	0.8661	22.00	5/32	**451H-22-HE**	**4C11P-22-HE**
1.5	7/8	0.8750	22.23	5/32	**451H-0028-HE**	**4C11P-0028-HE**
	15/16	0.9375	23.81	5/32	**451H-0030-HE**	**4C11P-0030-HE**
	–	0.9449	24.00	5/32	**451H-24-HE**	**4C11P-24-HE**

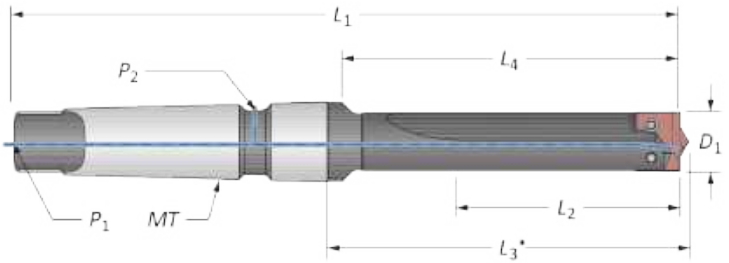
A91: 62 - 63 | A91: 5 | A91: 12 - 13

Key on A91: 1

Inserts sold in multiples of 2.

T-A® Structural Steel Drill Insert Holders

1 Series | Taper Shank



Straight Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	1	Short	0.7031	2.558	3.954	4.078	7.829	#3	TTC	TSC	**22010S-003IS045**
		Short	0.8125	2.558	3.954	4.078	7.829	#3	TTC	TSC	**22010S-003IS052**
	1.5	Short	0.8750	2.572	3.954	4.078	7.829	#3	TTC	TSC	**22015S-003IS056**
		Short	0.9375	2.586	3.954	4.078	7.829	#3	TTC	TSC	**22015S-003IS060**
m	1	Short	17.86	64.97	100.43	103.58	198.86	#3	TTC	TSC	**22010S-003IS045**
		Short	20.64	64.97	100.43	103.58	198.86	#3	TTC	TSC	**22010S-003IS052**
	1.5	Short	22.23	65.33	100.43	103.58	198.86	#3	TTC	TSC	**22015S-003IS056**
		Short	23.81	65.68	100.43	103.58	198.86	#3	TTC	TSC	**22015S-003IS060**

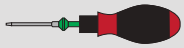
*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

Straight Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	1	Short	0.7031	2.558	3.954	4.078	8.829	#4	TTC	TSC	**22010S-004IS045**
		Short	0.8125	2.558	3.954	4.078	8.829	#4	TTC	TSC	**22010S-004IS052**
	1.5	Short	0.8750	2.572	3.954	4.078	8.829	#4	TTC	TSC	**22015S-004IS056**
		Short	0.9375	2.586	3.954	4.078	8.829	#4	TTC	TSC	**22015S-004IS060**
m	1	Short	17.86	64.97	100.43	103.58	224.26	#4	TTC	TSC	**22010S-004IS045**
		Short	20.64	64.97	100.43	103.58	224.26	#4	TTC	TSC	**22010S-004IS052**
	1.5	Short	22.23	65.33	100.43	103.58	224.26	#4	TTC	TSC	**22015S-004IS056**
		Short	23.81	65.68	100.43	103.58	224.26	#4	TTC	TSC	**22015S-004IS060**

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

Connection Accessories

Series	 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	 Replacement Tips	Admissible Tightening Torque*
1	7375-IP9-1	7375N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)
1.5	739-IP9-1	739N-IP9-1	8IP-9	8IP-9TL	8IP-9B	27.0 in-lbs (305 N-cm)

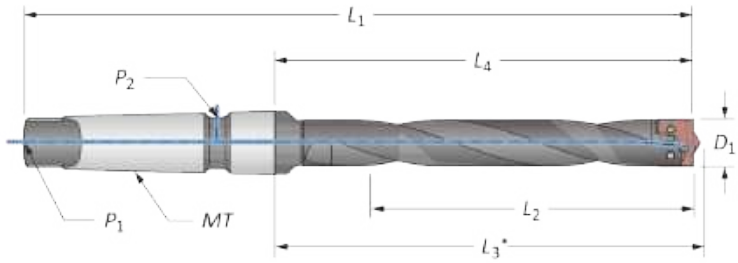
*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

A91: 5
Key on A91: 1
A91: 10 - 11

i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10.

T-A® Structural Steel Drill Insert Holders

1 Series | Taper Shank



Helical Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
ⓘ	1	Standard	0.7031	5.423	5.954	6.078	9.829	#3	TTC	TSC	24010H-003IS045
		Standard	0.8125	5.423	5.954	6.078	9.829	#3	TTC	TSC	24010H-003IS052
		Extended	0.7031	7.108	9.423	9.547	13.298	#3	TTC	TSC	⚠ 25010H-003IS045
		Extended	0.8125	7.108	9.423	9.547	13.298	#3	TTC	TSC	⚠ 25010H-003IS052
	1.5	Standard	0.8750	5.519	5.954	6.078	9.829	#3	TTC	TSC	24015H-003IS056
		Standard	0.9375	5.529	5.954	6.078	9.829	#3	TTC	TSC	24015H-003IS060
		Extended	0.9375	7.136	9.423	9.547	13.298	#3	TTC	TSC	⚠ 25015H-003IS060
ⓜ	1	Standard	17.86	137.74	151.23	154.38	249.66	#3	TTC	TSC	24010H-003IS045
		Standard	20.64	137.74	151.23	154.38	249.66	#3	TTC	TSC	24010H-003IS052
		Extended	17.86	180.54	239.34	242.49	337.77	#3	TTC	TSC	⚠ 25010H-003IS045
		Extended	20.64	180.54	239.34	242.49	337.77	#3	TTC	TSC	⚠ 25010H-003IS052
	1.5	Standard	22.23	140.18	151.23	154.38	249.66	#3	TTC	TSC	24015H-003IS056
		Standard	23.81	140.44	151.23	154.38	249.66	#3	TTC	TSC	24015H-003IS060
		Extended	23.81	181.25	239.34	242.49	337.77	#3	TTC	TSC	⚠ 25015H-003IS060

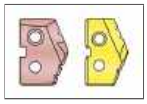
*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

Helical Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
ⓘ	1	Standard	0.7031	5.298	5.954	6.078	10.829	#4	TTC	TSC	24010H-004IS045
		Standard	0.8125	5.298	5.954	6.078	10.829	#4	TTC	TSC	24010H-004IS052
		Extended	0.8125	6.688	9.360	9.484	14.235	#4	TTC	TSC	⚠ 25010H-004IS052
		Long	0.8125	6.563	15.857	15.981	20.732	#4	TTC	TSC	⚠ 26010H-004IS052
	1.5	Standard	0.8750	5.371	5.954	6.078	10.829	#4	TTC	TSC	24015H-004IS056
		Standard	0.9375	5.411	5.954	6.078	10.829	#4	TTC	TSC	24015H-004IS060
		Extended	0.9375	6.816	9.360	9.484	14.235	#4	TTC	TSC	⚠ 25015H-004IS060
		Long	0.9375	6.816	15.889	16.013	20.764	#4	TTC	TSC	⚠ 26015H-004IS060
ⓜ	1	Standard	17.86	134.57	151.23	154.38	275.06	#4	TTC	TSC	24010H-004IS045
		Standard	20.64	134.57	151.23	154.38	275.06	#4	TTC	TSC	24010H-004IS052
		Extended	20.64	169.88	237.74	240.89	361.57	#4	TTC	TSC	⚠ 25010H-004IS052
		Long	20.64	166.7	402.77	405.92	526.59	#4	TTC	TSC	⚠ 26010H-004IS052
	1.5	Standard	22.23	136.42	151.23	154.38	275.06	#4	TTC	TSC	24015H-004IS056
		Standard	23.81	137.44	151.23	154.38	275.06	#4	TTC	TSC	24015H-004IS060
		Extended	23.81	173.13	237.74	240.89	361.57	#4	TTC	TSC	⚠ 25015H-004IS060
		Long	23.81	173.13	403.58	406.73	527.41	#4	TTC	TSC	⚠ 26015H-004IS060

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

A91: 5
Key on A91:1



A91: 10 - 11

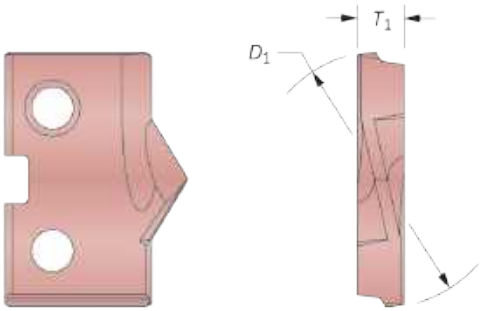
ⓘ = Imperial (in)
ⓜ = Metric (mm)
Screws sold in multiples of 10.

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A91: 21 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

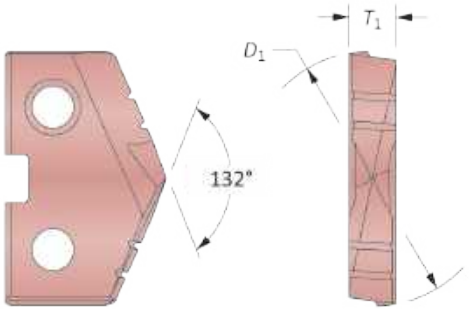
T-A® Structural Steel Drill Inserts

2 Series | Diameter Range: 0.9610" - 1.3809" (24.41 mm - 35.06 mm)

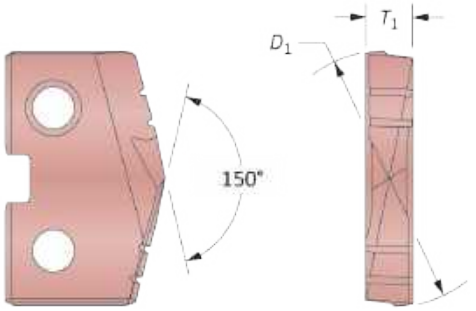
Thin Wall
For material up to 7/16" thick.



Notch Point®
For material over 7/16" thick.



150° Structural Steel
For material over 7/16" thick and for reduced exit burr.



HSS Inserts – Super Cobalt

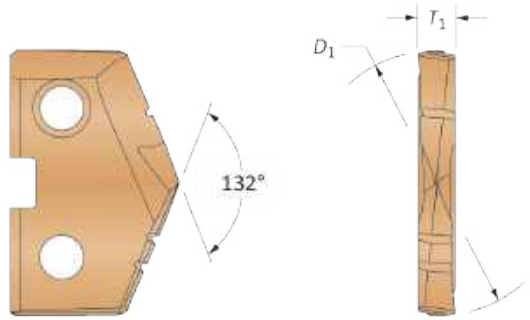
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Thin Wall: AM200® Part No.	Thin Wall: TiAlN Part No.	Notch Point®: AM200® Part No.	Notch Point®: TiAlN Part No.	150° Structural Steel: AM200® Part No.	150° Structural Steel: TiAlN Part No.
2	1	1.0000	25.40	3/16	152H-0100-TW	152A-0100-TW	152H-0100-NP	152A-0100-NP	152H-0100-SS	152A-0100-SS
	–	1.0236	26.00	3/16	152H-26-TW	152A-26-TW	152H-26-NP	152A-26-NP	152H-26-SS	152A-26-SS
	1-1/16	1.0625	26.99	3/16	152H-0102-TW	152A-0102-TW	152H-0102-NP	152A-0102-NP	152H-0102-SS	152A-0102-SS
	–	1.0630	27.00	3/16	152H-27-TW	152A-27-TW	152H-27-NP	152A-27-NP	152H-27-SS	152A-27-SS
	1-1/8	1.1250	28.58	3/16	152H-0104-TW	152A-0104-TW	152H-0104-NP	152A-0104-NP	152H-0104-SS	152A-0104-SS
2.5	1-3/16	1.1875	30.16	3/16	152H-0106-TW	152A-0106-TW	152H-0106-NP	152A-0106-NP	152H-0106-SS	152A-0106-SS
	–	1.2205	31.00	3/16	152H-31-TW	152A-31-TW	152H-31-NP	152A-31-NP	152H-31-SS	152A-31-SS
	1-1/4	1.2500	31.75	3/16	152H-0108-TW	152A-0108-TW	152H-0108-NP	152A-0108-NP	152H-0108-SS	152A-0108-SS
	–	1.2992	33.00	3/16	152H-33-TW	152A-33-TW	152H-33-NP	152A-33-NP	152H-33-SS	152A-33-SS
	1-5/16	1.3125	33.34	3/16	152H-0110-TW	152A-0110-TW	152H-0110-NP	152A-0110-NP	152H-0110-SS	152A-0110-SS
	1-3/8	1.3750	34.93	3/16	152H-0112-TW	152A-0112-TW	152H-0112-NP	152A-0112-NP	152H-0112-SS	152A-0112-SS

A91: 62 - 63
Key on A91: 1
A91: 5
A91: 16 - 17

Inserts sold in multiples of 2.

GEN2 T-A® Structural Steel Drill Inserts

2 Series | Diameter Range: 0.9610" - 1.3809" (24.41 mm - 35.06 mm)



HSS Inserts – Super Cobalt | Carbide Inserts – C1 (K35)

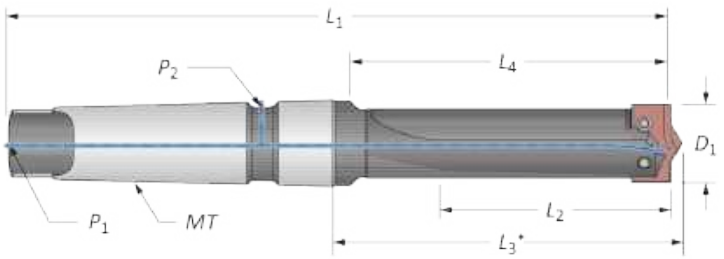
Series	Insert: Fractional Equivalent	Insert: D_1 inch	Insert: D_1 mm	Insert: T_1	Part No.: Super Cobalt	Part No.: C1 (K35)
2	1	1.0000	25.40	3/16	**452H-0100-HE**	**4C12P-0100-HE**
	–	1.0236	26.00	3/16	**452H-26-HE**	**4C12P-26-HE**
	1-1/16	1.0625	26.99	3/16	**452H-0102-HE**	**4C12P-0102-HE**
	–	1.0630	27.00	3/16	**452H-27-HE**	**4C12P-27-HE**
	1-1/8	1.1250	28.58	3/16	**452H-0104-HE**	**4C12P-0104-HE**
2.5	1-3/16	1.1875	30.16	3/16	**452H-0106-HE**	**4C12P-0106-HE**
	–	1.2205	31.00	3/16	**452H-31-HE**	**4C12P-31-HE**
	1-1/4	1.2500	31.75	3/16	**452H-0108-HE**	**4C12P-0108-HE**
	–	1.2992	33.00	3/16	**452H-33-HE**	**4C12P-33-HE**
	1-5/16	1.3125	33.34	3/16	**452H-0110-HE**	**4C12P-0110-HE**
	1-3/8	1.3750	34.93	3/16	**452H-0112-HE**	**4C12P-0112-HE**

A91: 62 - 63
Key on A91: 1
A91: 5
A91: 16 - 17

Inserts sold in multiples of 2.

T-A® Structural Steel Drill Insert Holders

2 Series | Taper Shank



Straight Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	2	Short	1.0000	3.211	4.574	4.725	9.449	#4	TTC	TSC	**22020S-004IS100**
	2.5	Short	1.1875	3.253	4.574	4.725	9.449	#4	TTC	TSC	**22025S-004IS112**
m	2	Short	25.40	81.56	116.18	120.02	240.00	#4	TTC	TSC	**22020S-004IS100**
	2.5	Short	30.16	82.63	116.18	120.02	240.00	#4	TTC	TSC	**22025S-004IS112**

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

Connection Accessories

Series	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
2	7495-IP15-1	7495N-IP15-1	8IP-15	8IP-15TL	8IP-15B	61.0 in-lbs (690 N-cm)
2.5	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 μ = 0.14 and develop 90% of ultimate yield strength.

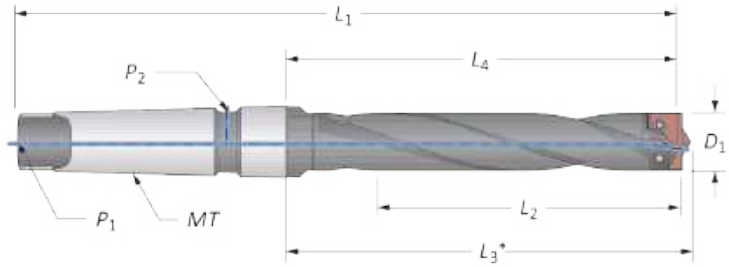
A91: 5 A91: 14 - 15

Key on A91: 1

i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10.

T-A® Structural Steel Drill Insert Holders

2 Series | Taper Shank



Helical Flute #3 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	2	Extended	1.0000	7.142	9.412	9.563	13.287	#3	TTC	TSC	⚠ 25020H-003IS100
m	2	Extended	25.4	181.41	239.06	242.9	337.49	#3	TTC	TSC	⚠ 25020H-003IS100

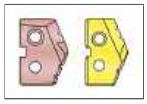
*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

Helical Flute #4 Morse Taper

	Series	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
i	2	Standard	1.0000	5.855	6.574	6.725	11.449	#4	TTC	TSC	24020H-004IS100
		Extended	1.0000	6.772	9.355	9.506	14.230	#4	TTC	TSC	⚠ 25020H-004IS100
		Long	1.0000	6.772	16.071	16.222	20.946	#4	TTC	TSC	⚠ 26020H-004IS100
	2.5	Standard	1.1875	5.855	6.574	6.725	11.449	#4	TTC	TSC	24025H-004IS112
m	2	Standard	25.40	148.72	166.98	170.82	290.80	#4	TTC	TSC	24020H-004IS100
		Extended	25.40	172.01	237.62	241.45	361.44	#4	TTC	TSC	⚠ 25020H-004IS100
		Long	25.40	172.01	408.20	412.04	532.03	#4	TTC	TSC	⚠ 26020H-004IS100
	2.5	Standard	30.16	148.72	166.98	170.82	290.80	#4	TTC	TSC	24025H-004IS112

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

A91: 5
Key on A91: 1
A91: 14 - 15



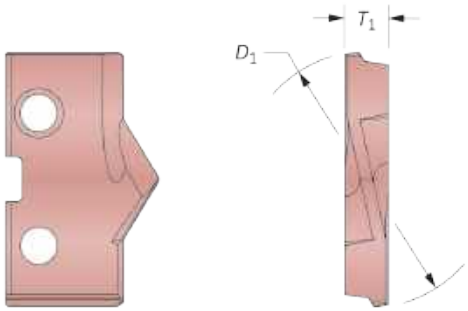
i = Imperial (in)
m = Metric (mm)
Screws sold in multiples of 10.

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A91: 21 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

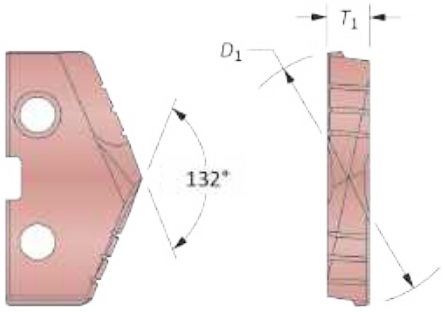
T-A® Structural Steel Drill Inserts

3 Series | Diameter Range: 1.3530" - 1.8829" (34.37 mm - 47.82 mm)

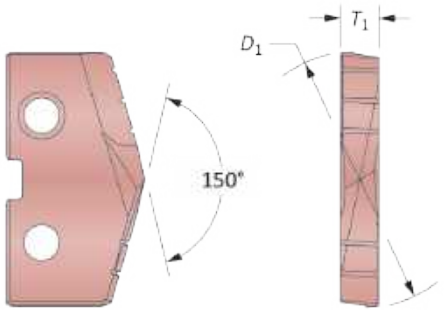
Thin Wall
For material up to 7/16" thick.



Notch Point®
For material over 7/16" thick.



150° Structural Steel
For material over 7/16" thick and for reduced exit burr.



HSS Inserts – Super Cobalt

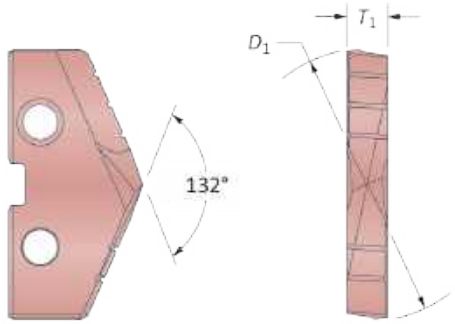
Insert				Thin Wall		Notch Point®		150° Structural Steel	
Fractional Equivalent	D_1 inch	D_1 mm	T_1	AM200® Part No.	TiAlN Part No.	AM200® Part No.	TiAlN Part No.	AM200® Part No.	TiAlN Part No.
1-7/16	1.4375	36.51	1/4	**153H-0114-TW**	**153A-0114-TW**	**153H-0114-NP**	**153A-0114-NP**	**153H-0114-SS**	**153A-0114-SS**
1-1/2	1.5000	38.10	1/4	**153H-0116-TW**	**153A-0116-TW**	**153H-0116-NP**	**153A-0116-NP**	**153H-0116-SS**	**153A-0116-SS**
–	1.5354	39.00	1/4	**153H-39-TW**	**153A-39-TW**	**153H-39-NP**	**153A-39-NP**	**153H-39-SS**	**153A-39-SS**
1-9/16	1.5625	39.69	1/4	**153H-0118-TW**	**153A-0118-TW**	**153H-0118-NP**	**153A-0118-NP**	**153H-0118-SS**	**153A-0118-SS**

A91: 62 - 63
Key on A91: 1
A91: 5
A91: 20

Inserts sold in multiples of 1.

GEN2 T-A® Structural Steel Drill Inserts

3 Series | Diameter Range: 1.3530" - 1.8829" (34.37 mm - 47.82 mm)



HSS Inserts – Super Cobalt

Insert				Part No.
Fractional Equivalent	D_1 inch	D_1 mm	T_1	Super Cobalt
1-7/16	1.4375	36.51	1/4	**453H-0114-HE**
1-1/2	1.5000	38.10	1/4	**453H-0116-HE**
–	1.5354	39.00	1/4	**453H-39-HE**
1-9/16	1.5625	39.69	1/4	**453H-0118-HE**

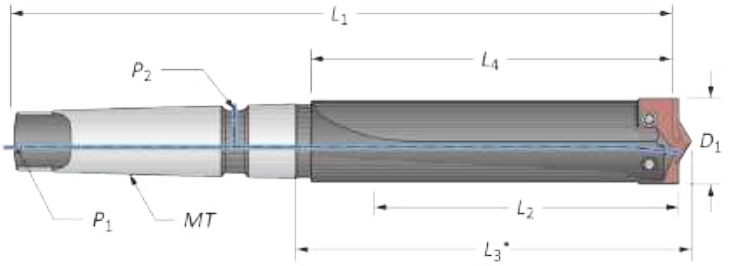
A91: 62 - 63 | A91: 5 | A91: 20

Key on A91: 1

Inserts sold in multiples of 1.

T-A® Structural Steel Drill Insert Holders

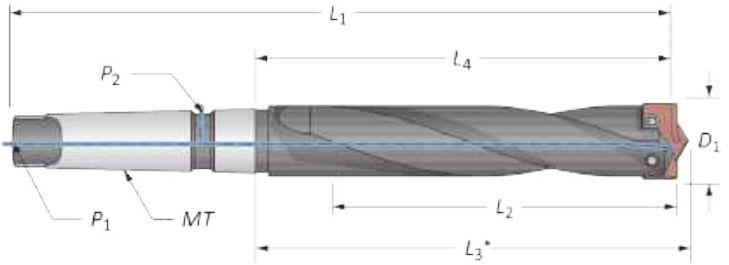
3 Series | Taper Shank



Straight Flute #4 Morse Taper

	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
ⓘ	Short	1.4063	4.441	6.037	6.250	10.912	#4	TTC	TSC	**22030S-004IS126**

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

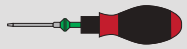


Helical Flute #4 Morse Taper

	Length	D_1	Body L_2	Body L_4	Body L_3*	Body L_1	Shank MT	Shank P_1	Shank P_2	Part No.
ⓘ	Standard	1.4063	7.118	7.787	8.000	12.662	#4	TTC	TSC	**24030H-004IS126**

*L_3 is 0.063" (1.60 mm) shorter if using a structural steel holder with Notch Point®, GEN2 T-A®, or 150° structural steel T-A® drill insert geometry.

Connection Accessories

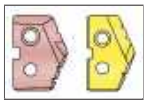
 Insert Screws	 Nylon Locking Screws	 Insert Driver	 Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	–	–	121.3 in-lbs (1370 N-cm)

*Tightening torques are calculated with a friction coefficient of μ = 0.14 and develop 90% of ultimate yield strength.

A91: 5

Key on A91: 1

A91: 18 - 19



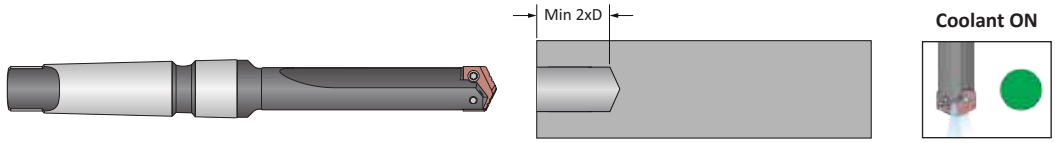
ⓘ = Imperial (in)
ⓜ = Metric (mm)
Screws sold in multiples of 10.

Deep Hole Drilling Guidelines

For Use with Drills Greater than 9xD (Extended, Long, XL, 3XL, and Special Length)

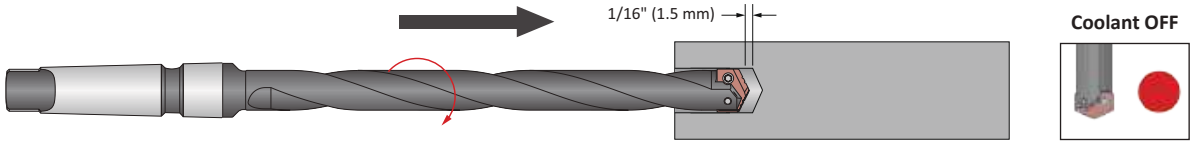
1. Pilot Hole
100 % RPM
100% IPR (mm/rev)

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.



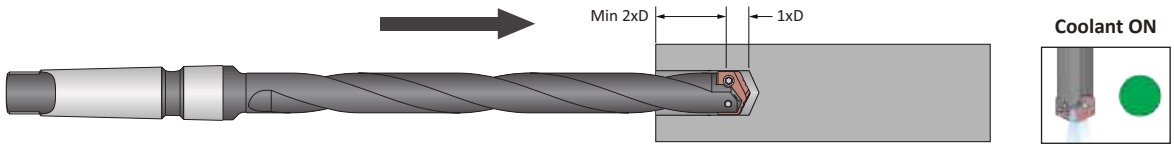
⚠ **2. Feed-in**
50 RPM max
12 IPM (300 mm/min)

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



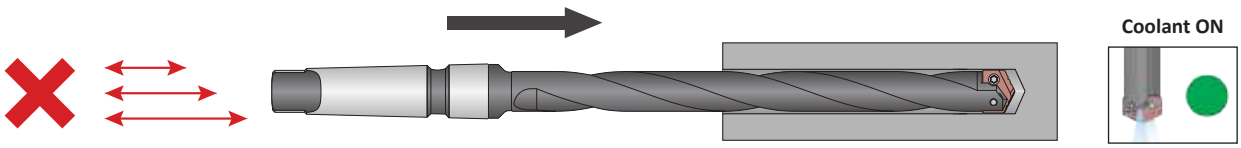
3. Deep Hole Transition Drilling
50 % RPM
75% IPR (mm/rev)

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.



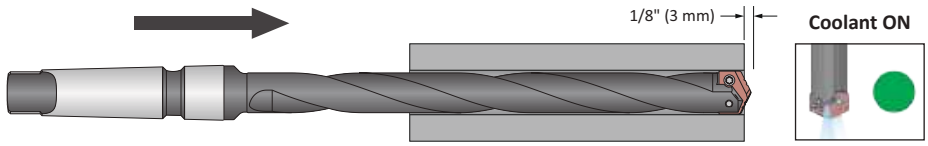
4. Deep Hole Drilling - Blind
100% RPM
100% IPR (mm/rev)

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



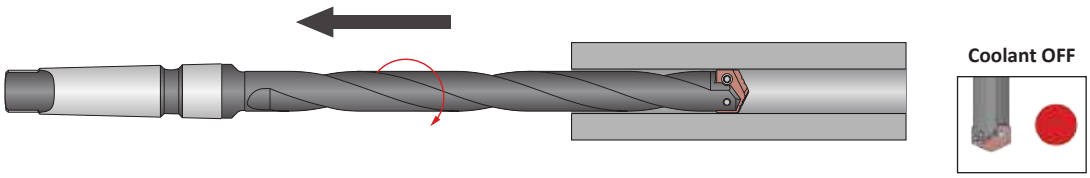
5. Deep Hole Drilling - at Breakout
50% RPM
75% IPR (mm/rev)

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



⚠ **6. Drill Retract**
50 RPM max

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



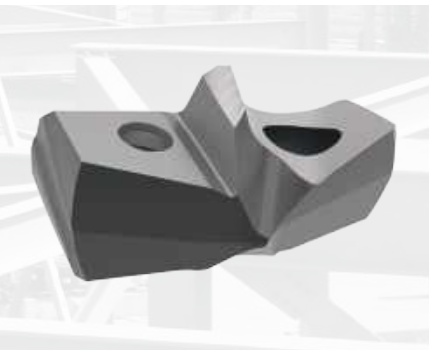
⚠ WARNING **Tool failure can cause serious injury. To prevent:**
- When using holders without support bushing, use a short T-A® holder to establish an initial hole that is a minimum of 2 diameters deep.
- Do not rotate tool holders more than 50 RPM unless it is engaged with the workpiece or fixture.

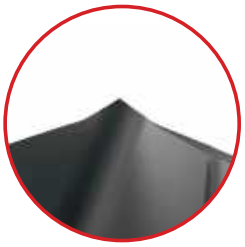
Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering Team. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

GEN3SYS® XT Pro Structural Steel Drilling System

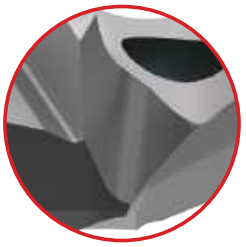
GEN3SYS® XT Pro *ST*

STRUCTURAL STEEL ENHANCEMENTS

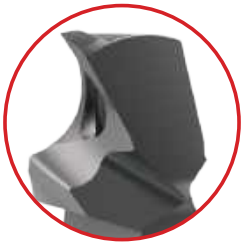




New Point Design
Increases stability without hindering penetration



Redesigned Insert
Provides consistent performance and adds durability



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

AM420

AM420 Coating
Increases heat threshold and extends tool life

1.5xD 3xD 5xD 7xD

Get the Consistency You Need

The challenge of drilling structural steel materials is about to get easier. Developed through a rigorous and thorough testing process, the modified and improved XTST insert is a product of innovation.

Achieve the ***consistent performance*** you need while matching or even exceeding your current parameters.

Tough Drilling is Tough No More

Structural steel applications can prove to be difficult to machine, so you need a drill that's been put through the fire to ensure it can conquer those challenging applications.

Rigorous testing and countless hours of design and programming make the XT Pro structural steel insert the optimal drill for structural steel applications.

- Diameter range: 0.4724" - 1.3780" (12.00 mm - 35.00 mm).
- Holders available in 1.5xD, 3xD, 5xD, and 7xD lengths.
- Flanged shank with flat.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

GEN3SYS® XT Pro Drill Nomenclature

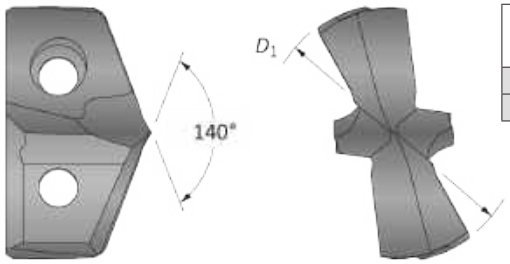
GEN3SYS XT Pro Drill Inserts

XT	ST	20	–	20.00
1	2	3		4

1. XT Pro Drill Insert	2. Geometry	3. Series	4. Diameter (mm)
XT = XT Pro insert	**ST** = Structural Steel	**12** = 12 series **13** = 13 series **14** = 14 series **15** = 15 series **16** = 16 series **17** = 17 series **18** = 18 series **20** = 20 series **22** = 22 series **24** = 24 series **26** = 26 series **29** = 29 series **32** = 32 series	For complete list of diameter ranges by series, see contents page.

Reference Key

Symbol	Attribute
D_1	Insert diameter



Sizes not shown are available upon request. When ordering, please follow the example below:	
Imperial:	0.7913", 20 series = use Part No. **XTST20-20.10**
Metric:	20.10 mm, 20 series = use Part No. **XTST20-20.10**

GEN3SYS XT Structural Steel Drill Holders

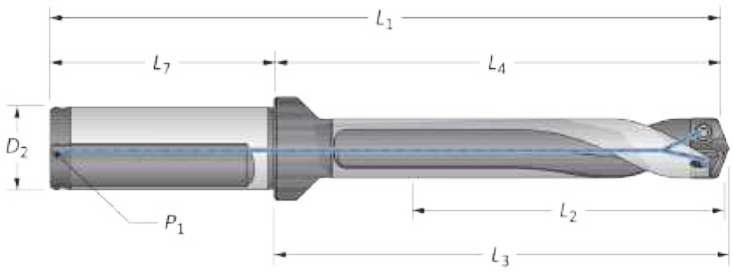
ST	03	12	0	–	20	FM
1	2	3	4		5	6

1. Holder	2. Length	3. Series	4. Body Diameter
ST = Structural steel holder	**01** = 1.5xD **03** = 3xD **05** = 5xD **07** = 7xD	**12** = 12 series **13** = 13 series **14** = 14 series **15** = 15 series **16** = 16 series **17** = 17 series **18** = 18 series **20** = 20 series **22** = 22 series **24** = 24 series **26** = 26 series **29** = 29 series **32** = 32 series	**0** = Standard **5** = Oversized

5. Shank Diameter				6. Shank Style
Imperial (in)		**Metric (mm)**		**F** = Flanged with flat
063 = 5/8"	**125** = 1-1/4"	**16** = 16 mm	**32** = 32 mm	**FM** = Flanged metric with flat
075 = 3/4"	**150** = 1-1/2"	**20** = 20 mm	**40** = 40 mm	**C** = Cylindrical (no flat)
100 = 1"		**25** = 25 mm		**CM** = Cylindrical metric (no flat)

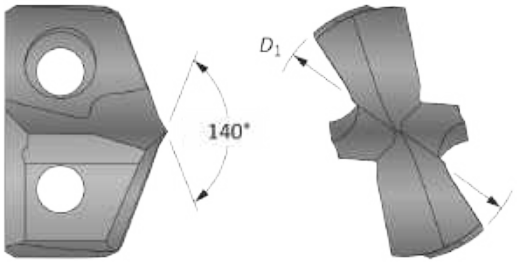
Reference Key

Symbol	Attribute
D_2	Shank diameter
L_1	Overall length
L_2	Drill depth
L_3	Holder reference length
L_4	Holder body length
L_7	Shank length
P_1	Rear pipe tap



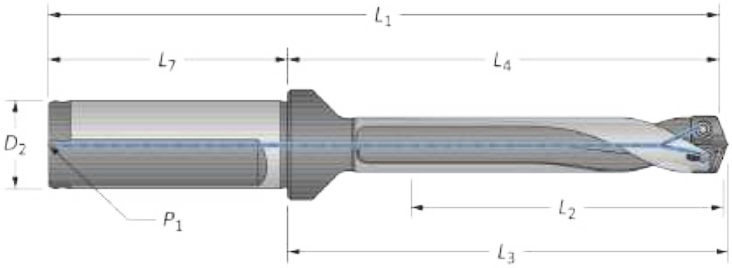
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

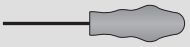
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.4724	12.00	**XTST12-12.00**



Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Shank Flat	Part No.
ⓘ	1.5xD	0.766	1.859	1.938	3.891	2.031	3/4	1/8 NPT	YES	**ST01120-075F**
ⓘ	3xD	1.531	2.625	2.703	4.656	2.031	3/4	1/8 NPT	YES	**ST03120-075F**
ⓘ	5xD	2.563	3.641	3.734	5.672	2.031	3/4	1/8 NPT	YES	**ST05120-075F**
ⓘ	7xD	3.578	4.672	4.750	6.688	2.031	3/4	1/8 NPT	YES	**ST07120-075F**
ⓜ	1.5xD	19.5	47.1	49.3	97.1	50.0	20	1/8 BSPT	YES	**ST01120-20FM**
ⓜ	3xD	39.0	66.6	68.8	116.6	50.0	20	1/8 BSPT	YES	**ST03120-20FM**
ⓜ	5xD	65.0	92.6	94.8	142.6	50.0	20	1/8 BSPT	YES	**ST05120-20FM**
ⓜ	7xD	90.9	118.5	120.8	168.6	50.0	20	1/8 BSPT	YES	**ST07120-20FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

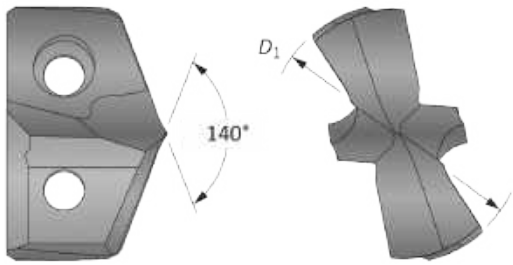
ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1 | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

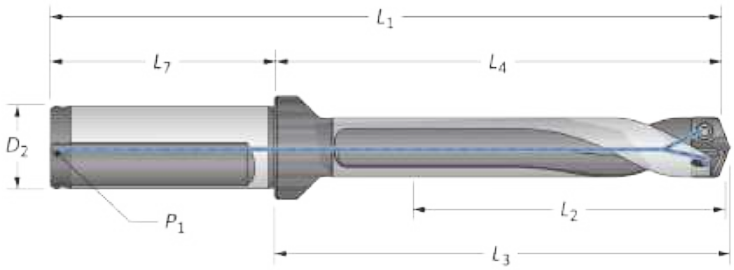
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

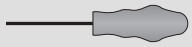
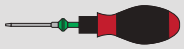
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.5118	13.00	**XTST13-13.00**



Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
ⓘ	1.5xD	0.828	1.891	1.984	3.922	2.031	3/4	1/8 NPT	YES	**ST01130-075F**
ⓘ	3xD	1.656	2.719	2.813	4.750	2.031	3/4	1/8 NPT	YES	**ST03130-075F**
ⓘ	5xD	2.750	3.828	3.906	5.859	2.031	3/4	1/8 NPT	YES	**ST05130-075F**
ⓘ	7xD	3.859	4.938	5.031	6.969	2.031	3/4	1/8 NPT	YES	**ST07130-075F**
ⓜ	1.5xD	21.1	48.1	50.3	99.7	50.0	20	1/8 BSPT	YES	**ST01130-20FM**
ⓜ	3xD	42.1	69.1	71.3	120.7	50.0	20	1/8 BSPT	YES	**ST03130-20FM**
ⓜ	5xD	69.9	97.2	99.4	148.8	50.0	20	1/8 BSPT	YES	**ST05130-20FM**
ⓜ	7xD	97.9	125.4	127.6	177.0	50.0	20	1/8 BSPT	YES	**ST07130-20FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91:1
A91: 23

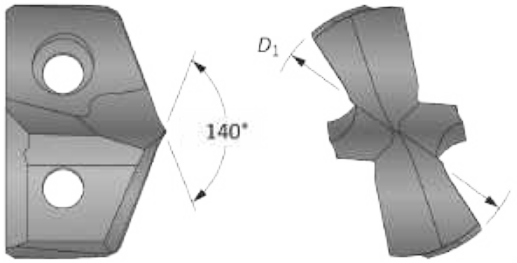
ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

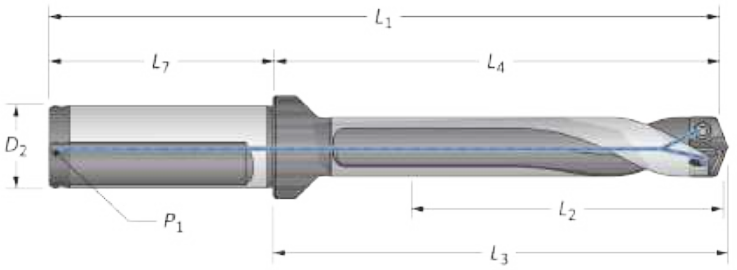
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

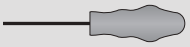
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.5512	14.00	**XTST14-14.00**
9/16	0.5626	14.29	**XTST14-14.29**



Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
i	1.5xD	0.906	1.953	2.063	3.984	2.031	3/4	1/8 NPT	YES	**ST01140-075F**
i	3xD	1.781	2.844	2.953	4.875	2.031	3/4	1/8 NPT	YES	**ST03140-075F**
i	5xD	2.953	4.031	4.125	6.063	2.031	3/4	1/8 NPT	YES	**ST05140-075F**
i	7xD	4.141	5.203	5.313	7.234	2.031	3/4	1/8 NPT	YES	**ST07140-075F**
m	1.5xD	22.5	49.9	52.5	99.9	50.0	20	1/8 BSPT	YES	**ST01140-20FM**
m	3xD	45.0	72.4	75.0	122.4	50.0	20	1/8 BSPT	YES	**ST03140-20FM**
m	5xD	75.0	102.4	104.9	152.4	50.0	20	1/8 BSPT	YES	**ST05140-20FM**
m	7xD	104.9	132.3	134.9	182.3	50.0	20	1/8 BSPT	YES	**ST07140-20FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
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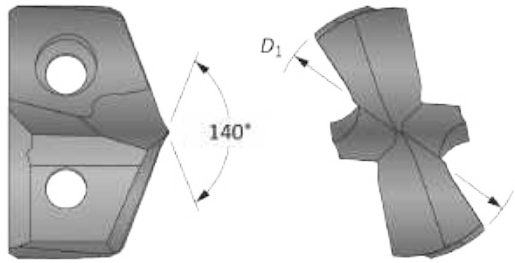
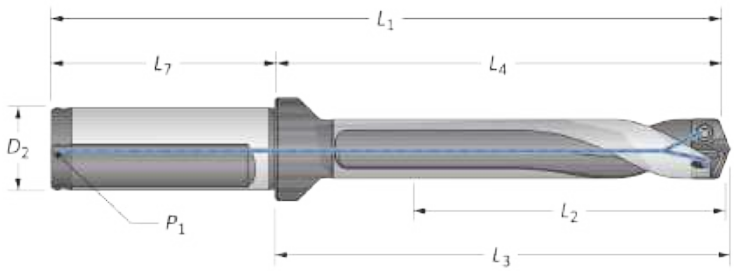
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

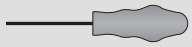
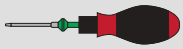
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
	0.5906	15.00	**XTST15-15.00**
5/8	0.6252	15.88	**XTST15-15.88**



Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
ⓘ	1.5xD	0.953	2.016	2.109	4.047	2.031	3/4	1/8 NPT	YES	**ST01150-075F**
ⓘ	3xD	1.891	2.953	3.047	4.984	2.031	3/4	1/8 NPT	YES	**ST03150-075F**
ⓘ	5xD	3.156	4.219	4.313	6.234	2.031	3/4	1/8 NPT	YES	**ST05150-075F**
ⓘ	7xD	4.422	5.469	5.578	7.500	2.031	3/4	1/8 NPT	YES	**ST07150-075F**
ⓜ	1.5xD	24.0	51.1	53.6	101.1	50.0	20	1/8 BSPT	YES	**ST01150-20FM**
ⓜ	3xD	48.0	75.1	77.6	125.1	50.0	20	1/8 BSPT	YES	**ST03150-20FM**
ⓜ	5xD	80.0	107.0	109.6	157.0	50.0	20	1/8 BSPT	YES	**ST05150-20FM**
ⓜ	7xD	111.9	139.0	141.6	189.0	50.0	20	1/8 BSPT	YES	**ST07150-20FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

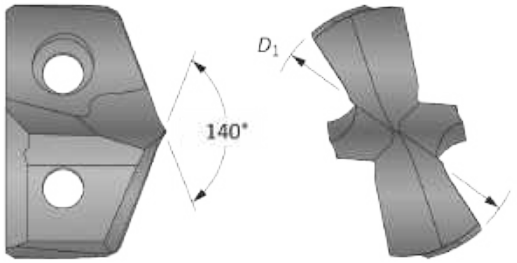
ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

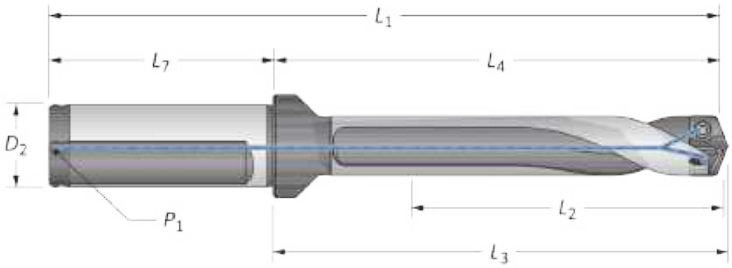
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

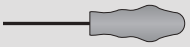
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.6299	16.00	**XTST16-16.00**



Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Shank Flat	Part No.
i	1.5xD	1.016	2.203	2.313	4.234	2.031	3/4	1/8 NPT	YES	**ST01160-075F**
i	3xD	3.016	3.203	3.313	5.234	2.031	3/4	1/8 NPT	YES	**ST03160-075F**
i	5xD	3.359	4.531	4.656	6.563	2.031	3/4	1/8 NPT	YES	**ST05160-075F**
i	7xD	4.688	5.875	5.984	7.906	2.031	3/4	1/8 NPT	YES	**ST07160-075F**
m	1.5xD	25.5	55.8	58.7	105.8	50.0	20	1/8 BSPT	YES	**ST01160-20FM**
m	3xD	51.0	81.3	84.2	131.3	50.0	20	1/8 BSPT	YES	**ST03160-20FM**
m	5xD	84.9	115.3	118.2	165.3	50.0	20	1/8 BSPT	YES	**ST05160-20FM**
m	7xD	118.9	149.3	152.2	199.3	50.0	20	1/8 BSPT	YES	**ST07160-20FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

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

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
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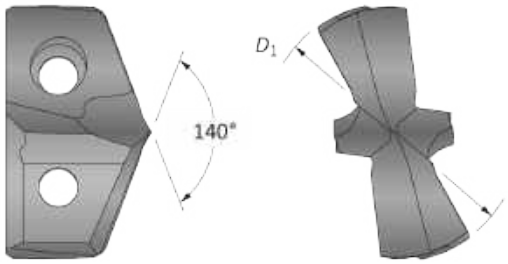
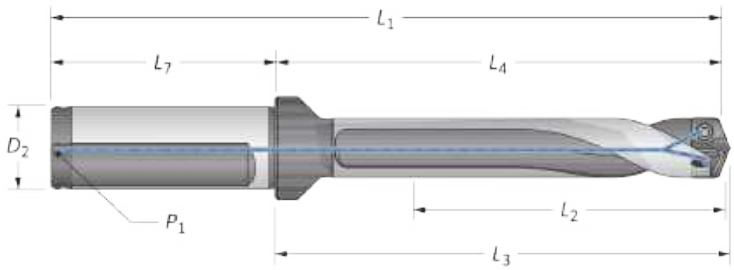
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

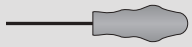
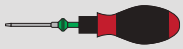
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.6693	17.00	**XTST17-17.00**
11/16	0.6876	17.46	**XTST17-17.46**



Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
i	1.5xD	1.063	2.250	2.359	4.281	2.031	3/4	1/8 NPT	YES	**ST01170-075F**
i	3xD	2.125	3.313	3.422	5.344	2.031	3/4	1/8 NPT	YES	**ST03170-075F**
i	5xD	3.547	4.719	4.844	6.750	2.031	3/4	1/8 NPT	YES	**ST05170-075F**
i	7xD	4.969	6.141	6.250	8.172	2.031	3/4	1/8 NPT	YES	**ST07170-075F**
m	1.5xD	27.0	57.1	60.0	107.1	50.0	20	1/8 BSPT	YES	**ST01170-20FM**
m	3xD	54.0	84.1	87.0	134.1	50.0	20	1/8 BSPT	YES	**ST03170-20FM**
m	5xD	89.9	120.0	122.9	170.0	50.0	20	1/8 BSPT	YES	**ST05170-20FM**
m	7xD	125.9	156.0	158.9	206.0	50.0	20	1/8 BSPT	YES	**ST07170-20FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91:1
A91: 23

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

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

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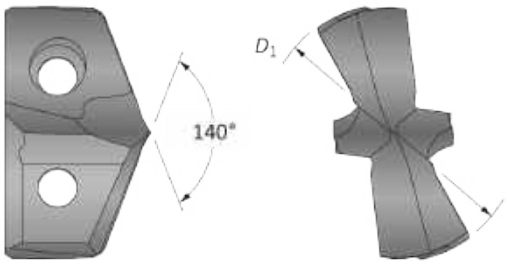
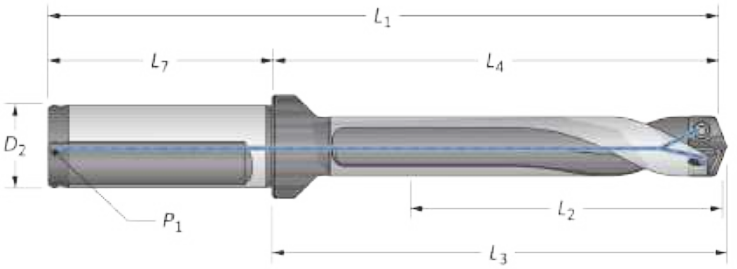
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

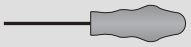
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.7087	18.00	**XTST18-18.00**
–	0.7480	19.00	**XTST18-19.00**



Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
ⓘ	1.5xD	1.188	2.531	2.641	4.797	2.281	1	1/8 NPT	YES	**ST01180-100F**
ⓘ	3xD	2.375	3.703	3.828	5.984	2.281	1	1/8 NPT	YES	**ST03180-100F**
ⓘ	5xD	3.938	5.281	5.391	7.563	2.281	1	1/8 NPT	YES	**ST05180-100F**
ⓘ	7xD	5.516	6.844	6.969	9.125	2.281	1	1/8 NPT	YES	**ST07180-100F**
ⓜ	1.5xD	30.0	64.0	67.1	114.0	50.0	20	1/8 BSPT	YES	**ST01180-20FM**
ⓜ	3xD	60.0	94.0	97.1	144.0	50.0	20	1/8 BSPT	YES	**ST03180-20FM**
ⓜ	5xD	99.9	134.0	137.1	184.0	50.0	20	1/8 BSPT	YES	**ST05180-20FM**
ⓜ	7xD	139.9	174.0	177.1	224.0	50.0	20	1/8 BSPT	YES	**ST07180-20FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

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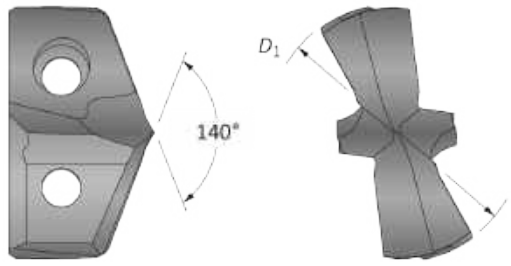
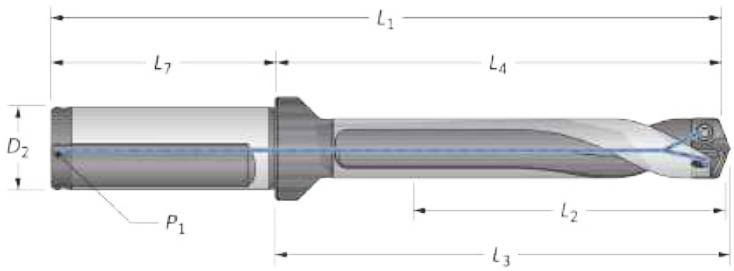
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

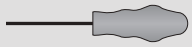
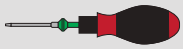
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.7874	20.00	**XTST20-20.00**
13/16	0.8126	20.64	**XTST20-20.64**
–	0.8268	21.00	**XTST20-21.00**
–	0.8591	21.82	**XTST20-21.82**



Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
i	1.5xD	1.234	2.641	2.766	4.922	2.281	1	1/8 NPT	YES	**ST01200-100F**
i	3xD	2.531	3.938	4.063	6.219	2.281	1	1/8 NPT	YES	**ST03200-100F**
i	5xD	4.344	5.672	5.797	7.953	2.281	1	1/8 NPT	YES	**ST05200-100F**
i	7xD	6.063	7.406	7.531	9.688	2.281	1	1/8 NPT	YES	**ST07200-100F**
m	1.5xD	33.0	67.1	70.3	123.1	56.0	25	1/8 BSPT	YES	**ST01200-25FM**
m	3xD	66.0	100.1	103.3	156.1	56.0	25	1/8 BSPT	YES	**ST03200-25FM**
m	5xD	110.0	144.1	147.2	200.1	56.0	25	1/8 BSPT	YES	**ST05200-25FM**
m	7xD	153.9	188.1	191.2	244.1	56.0	25	1/8 BSPT	YES	**ST07200-25FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91:1
A91: 23

ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
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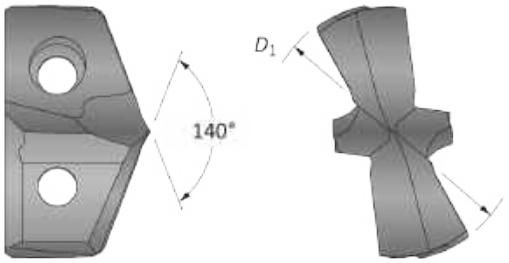
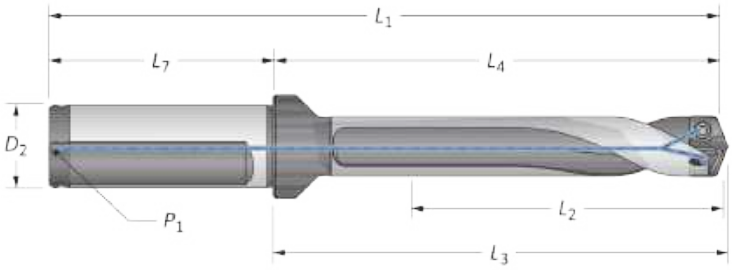
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

Fractional Equivalent	Insert D_1 inch	Insert D_1 mm	XTST Part No.
–	0.8661	22.00	**XTST22-22.00**
7/8	0.8752	22.23	**XTST22-22.23**
–	0.9055	23.00	**XTST22-23.00**
15/16	0.9374	23.81	**XTST22-23.81**

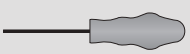
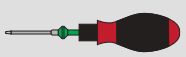


Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
	1.5xD	1.406	2.719	2.859	5.000	2.281	1	1/8 NPT	YES	**ST01220-100F**
	1.5xD	1.406	2.719	2.859	5.000	2.281	1	1/8 NPT	YES	**ST01225-100F**
	3xD	2.828	4.141	4.281	6.422	2.281	1	1/8 NPT	YES	**ST03220-100F**
ⓘ	3xD	2.828	4.141	4.281	6.422	2.281	1	1/8 NPT	YES	**ST03225-100F***
	5xD	4.719	6.031	6.172	8.313	2.281	1	1/8 NPT	YES	**ST05220-100F**
	5xD	4.719	6.031	6.172	8.313	2.281	1	1/8 NPT	YES	**ST05225-100F***
	7xD	6.609	7.922	8.063	10.203	2.281	1	1/8 NPT	YES	**ST07220-100F**
	7xD	6.609	7.922	8.063	10.203	2.281	1	1/8 NPT	YES	**ST07225-100F***
	1.5xD	36.0	69.3	72.7	125.3	56.0	25	1/8 BSPT	YES	**ST01220-25FM**
	1.5xD	36.0	69.3	72.7	125.3	56.0	25	1/8 BSPT	YES	**ST01225-25FM**
	3xD	72.0	105.3	108.7	161.3	56.0	25	1/8 BSPT	YES	**ST03220-25FM**
ⓜ	3xD	72.0	105.3	108.7	161.3	56.0	25	1/8 BSPT	YES	**ST03225-25FM***
	5xD	119.9	153.3	156.7	209.3	56.0	25	1/8 BSPT	YES	**ST05220-25FM**
	5xD	119.9	153.3	156.7	209.3	56.0	25	1/8 BSPT	YES	**ST05225-25FM***
	7xD	167.9	201.3	204.7	257.3	56.0	25	1/8 BSPT	YES	**ST07220-25FM**
	7xD	167.9	201.3	204.7	257.3	56.0	25	1/8 BSPT	YES	**ST07225-25FM***

*Oversized body holder (minimum drill diameter = 23 mm)

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

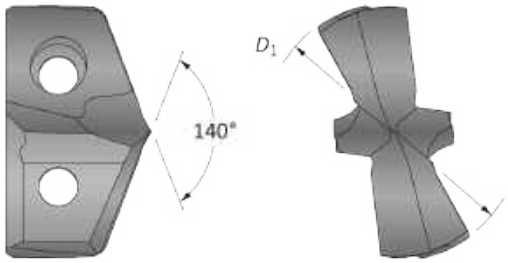
ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

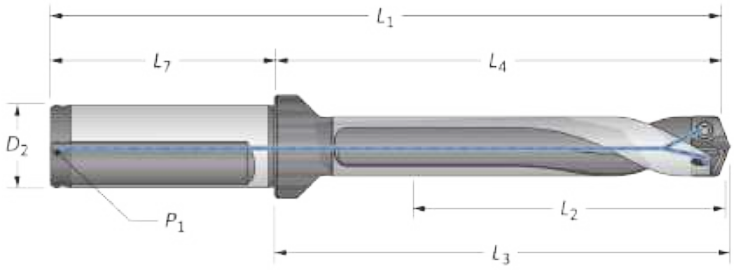
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

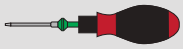
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	0.9449	24.00	**XTST24-24.00**
–	0.9685	24.60	**XTST24-24.60**
1	1.0000	25.40	**XTST24-25.40**
–	1.0150	25.78	**XTST24-25.78**



Holders

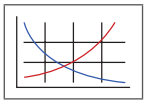
	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Flat	Part No.
ⓘ	1.5xD	1.547	2.953	3.094	5.234	2.281	1	1/8 NPT	YES	**ST01240-100F**
ⓘ	3xD	3.078	4.484	4.625	6.766	2.281	1	1/8 NPT	YES	**ST03240-100F**
ⓘ	5xD	5.125	6.531	6.656	8.813	2.281	1	1/8 NPT	YES	**ST05240-100F**
ⓘ	7xD	7.172	8.578	8.703	10.859	2.281	1	1/8 NPT	YES	**ST07240-100F**
ⓜ	1.5xD	39.0	74.8	78.3	130.8	56.0	25	1/8 BSPT	YES	**ST01240-25FM**
ⓜ	3xD	78.0	113.8	117.3	169.8	56.0	25	1/8 BSPT	YES	**ST03240-25FM**
ⓜ	5xD	129.9	165.8	169.2	221.8	56.0	25	1/8 BSPT	YES	**ST05240-25FM**
ⓜ	7xD	181.9	217.8	221.2	273.8	56.0	25	1/8 BSPT	YES	**ST07240-25FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91:1



A91: 23

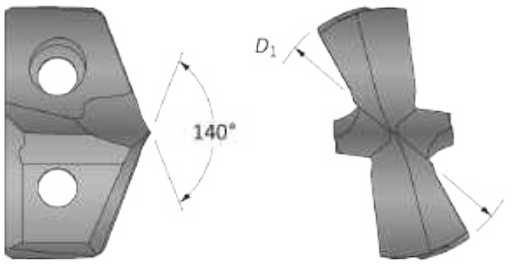
ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

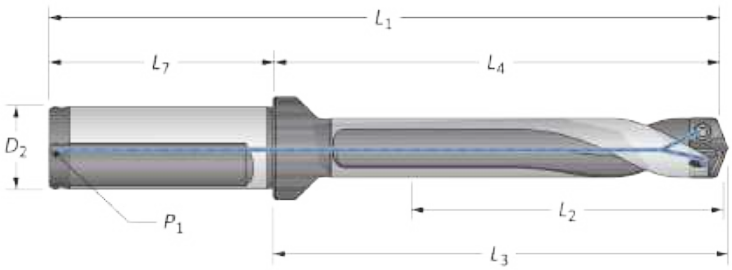
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	1.0236	26.00	**XTST26-26.00**
1-1/16	1.0626	26.99	**XTST26-26.99**
–	1.0630	27.00	**XTST26-27.00**
–	1.1024	28.00	**XTST26-28.00**
1-1/8	1.1252	28.58	**XTST26-28.58**



Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
i	1.5xD	1.703	3.344	3.469	5.625	2.281	1-1/4	1/4 NPT	YES	**ST01260-125F**
i	3xD	3.422	5.063	5.188	7.344	2.281	1-1/4	1/4 NPT	YES	**ST03260-125F**
i	5xD	5.719	7.344	7.484	9.625	2.281	1-1/4	1/4 NPT	YES	**ST05260-125F**
i	7xD	7.984	9.625	9.766	11.906	2.281	1-1/4	1/4 NPT	YES	**ST07260-125F**
m	1.5xD	43.5	84.6	87.9	144.6	60.0	32	1/4 BSPT	YES	**ST01260-32FM**
m	3xD	87.0	128.1	131.4	188.1	60.0	32	1/4 BSPT	YES	**ST03260-32FM**
m	5xD	145.0	186.1	189.4	246.1	60.0	32	1/4 BSPT	YES	**ST05260-32FM**
m	7xD	202.9	244.0	247.4	304.0	60.0	32	1/4 BSPT	YES	**ST07260-32FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
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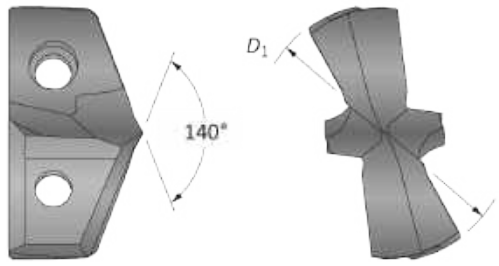
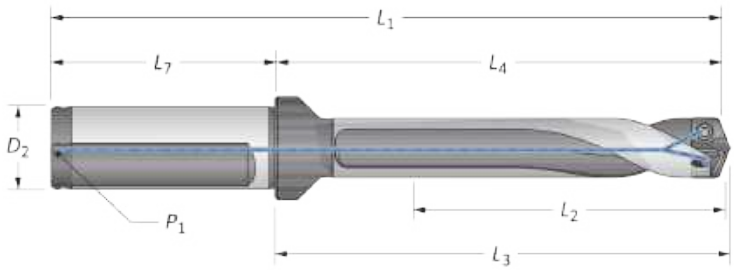
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

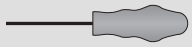
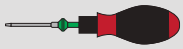
Insert			
Fractional Equivalent	D_1 inch	D_1 mm	XTST Part No.
–	1.1417	29.00	**XTST29-29.00**
–	1.1811	30.00	**XTST29-30.00**
1-3/16	1.1874	30.16	**XTST29-30.16**
–	1.2205	31.00	**XTST29-31.00**
1-1/4	1.2500	31.75	**XTST29-31.75**



Holders

		Body				Shank				
	Length	L_2	L_4	L_3	L_1	L_7	D_2	P_1	Flat	Part No.
i	1.5xD	1.891	3.328	3.625	5.766	2.281	1-1/4	1/4 NPT	YES	**ST01290-125F**
i	3xD	3.781	5.375	5.516	7.656	2.281	1-1/4	1/4 NPT	YES	**ST03290-125F**
i	5xD	6.297	7.906	8.047	10.188	2.281	1-1/4	1/4 NPT	YES	**ST05290-125F**
i	7xD	8.813	10.422	10.563	12.703	2.281	1-1/4	1/4 NPT	YES	**ST07290-125F**
m	1.5xD	48.0	88.2	91.7	148.2	60.0	32	1/4 BSPT	YES	**ST01290-32FM**
m	3xD	96.0	136.2	139.7	196.2	60.0	32	1/4 BSPT	YES	**ST03290-32FM**
m	5xD	159.9	200.1	203.7	260.1	60.0	32	1/4 BSPT	YES	**ST05290-32FM**
m	7xD	223.9	264.1	267.7	324.1	60.0	32	1/4 BSPT	YES	**ST07290-32FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

ⓘ = Imperial (in)
ⓜ = Metric (mm)
Inserts sold in multiples of 1. | Screws sold in multiples of 10.

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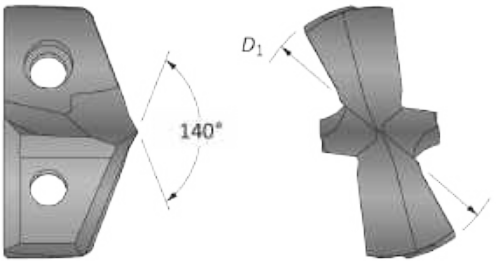
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

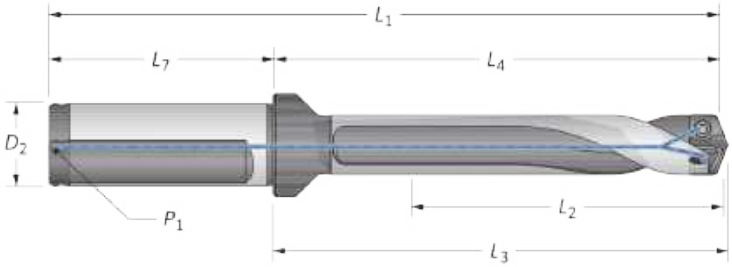
GEN3SYS® XT Pro Structural Steel Drilling System

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



Inserts

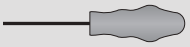
Fractional Equivalent	Insert D_1 inch	D_1 mm	XTST Part No.
–	1.2598	32.00	**XTST32-32.00**
–	1.2992	33.00	**XTST32-33.00**
1-5/16	1.3126	33.34	**XTST32-33.34**
–	1.3386	34.00	**XTST32-34.00**
1-3/8	1.3752	34.93	**XTST32-34.93**



Holders

	Length	Body L_2	Body L_4	Body L_3	Body L_1	Shank L_7	Shank D_2	Shank P_1	Shank Flat	Part No.
ⓘ	1.5xD	2.078	4.156	4.313	6.828	2.688	1-1/2	1/4 NPT	YES	**ST01320-150F**
ⓘ	3xD	4.141	6.219	6.375	8.891	2.688	1-1/2	1/4 NPT	YES	**ST03320-150F**
ⓘ	5xD	6.922	8.969	9.125	11.656	2.688	1-1/2	1/4 NPT	YES	**ST05320-150F**
ⓘ	7xD	9.641	11.719	11.891	14.406	2.688	1-1/2	1/4 NPT	YES	**ST07320-150F**
ⓜ	1.5xD	52.5	105.2	109.5	165.2	60.0	32	1/4 BSPT	YES	**ST01320-32FM**
ⓜ	1.5xD	52.5	105.2	109.5	173.5	70.0	40	1/4 BSPT	YES	**ST01320-40FM**
ⓜ	3xD	105.0	157.7	162.0	217.7	60.0	32	1/4 BSPT	YES	**ST03320-32FM**
ⓜ	3xD	105.0	157.7	162.0	227.7	70.0	40	1/4 BSPT	YES	**ST03320-40FM**
ⓜ	5xD	175.0	227.7	232.0	287.7	60.0	32	1/4 BSPT	YES	**ST05320-32FM**
ⓜ	5xD	175.0	227.7	232.0	297.7	70.0	40	1/4 BSPT	YES	**ST05320-40FM**
ⓜ	7xD	244.9	297.7	302.2	357.7	60.0	32	1/4 BSPT	YES	**ST07320-32FM**
ⓜ	7xD	244.9	297.7	302.0	367.7	70.0	40	1/4 BSPT	YES	**ST07320-40FM**

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 μ = 0.14 and develop 90% of ultimate yield strength.

A91: 64 - 65
Key on A91: 1
A91: 23

ⓘ = Imperial (in)
ⓜ = Metric (mm)

Inserts sold in multiples of 1. | Screws sold in multiples of 10.

NOTICE: Structural steel GEN3SYS holders are specifically designed to be used only with GEN3SYS XT Pro structural steel geometry inserts. Using other GEN3SYS XT or XT Pro insert geometries in these holders could lead to chip packing and tool failure.
Contact Application Engineering for questions regarding proper use of tools. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

Notes

4TEX® Drill Safety Information

Mechanical / Physical Hazards

Operating cutting tools may present both mechanical and physical hazards. These hazards can result in serious injury to workers or those near machines and damage to machines and the cutting tools. Cutting tools and/or assemblies may break or come loose when in operation causing projectile metal fragments. Metal chips produced by cutting tools have sharp edges and may be very hot. To minimize the risk of mechanical or physical hazards:

- Always secure all components of the cutting tool assembly before operating.
- Wear cut-resistant gloves when handling cutting tool components and assemblies.
- Do not touch metal chips produced by the cutting tools with your hands.
- Always wear appropriate personal protective equipment including safety goggles or glasses with side shields.
- Immediately discontinue use of damaged cutting tools.
- To avoid machine tool damage, make sure the machine has adequate power and torque for the cutting tool when operating. See catalog for power and torque requirements.
- Operating long cutting tools at high spindle speeds can result in a high risk of tool failure and serious injury.

Dust and Fume Hazards

Grinding, welding, cutting or burning hard metals such as high-speed steel, cobalt or carbides produces hazardous dust and/or fumes. Continued long-term exposure to hazardous dust and fumes can cause serious health issues. To minimize the risk of dust and fume hazards:

- Do not regrind or sharpen cutting tools without using adequate ventilation.
- Use appropriate personal protective equipment such as approved respirator to avoid inhalation, swallowing, or skin contact with the hazardous dust and/or fumes.
- Do not eat, drink, or smoke in the machine operation area. Always wash skin prior to eating, drinking, or smoking to avoid hazardous ingestion.

Sensitizing Hazards

Components of an assembled cutting tool are made from a variety of metal elements that may cause allergic skin reactions with prolonged skin contact. To minimize the risk of allergic skin reactions:

- Avoid skin contact with cutting tools.
- Wear appropriate gloves and protective clothing.
- Wash skin and launder clothing after handling cutting tools to reduce the risk of skin allergies.

Preventive Safety Measure Applicable to all Hazards

- Prior to using cutting tools, always read Allied Machine's Safety Data Sheets, product catalog, and product labels for additional warnings for the Allied Machine product being used.
- For machining safety, only operate equipment when all necessary guards, interlocks and other safety devices are in place and functional. Use all appropriate safety guards or machine encapsulations to securely collect particles such as chips or cutting elements that may become projectiles.

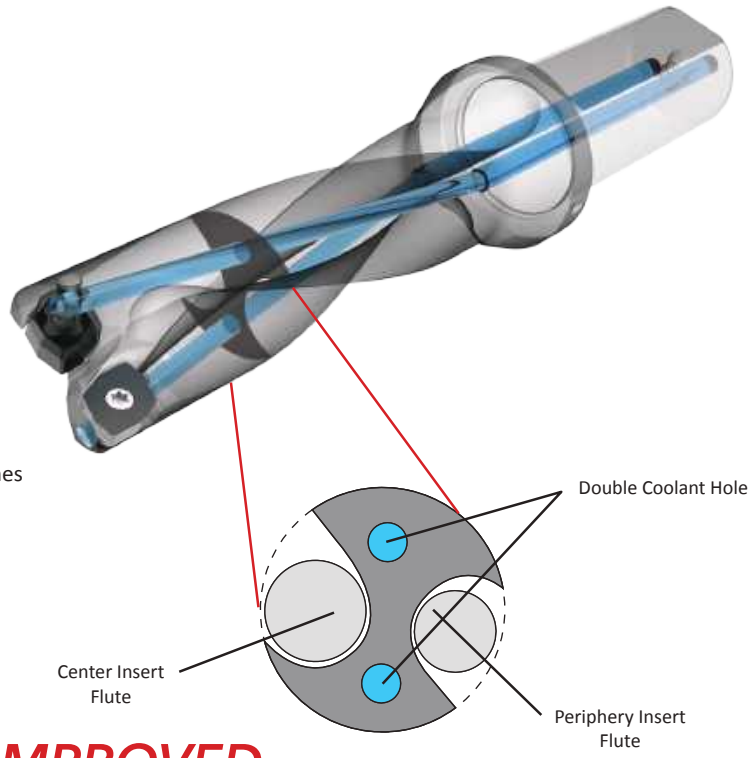
Through Hole

- With through holes, a **sharp-edged disk** is created as tool breakout occurs.

  ⚠ Proper personal protective equipment must be used to prevent injury (e.g. wear cut-resistant gloves).

4TEX Drill ***Advantages***

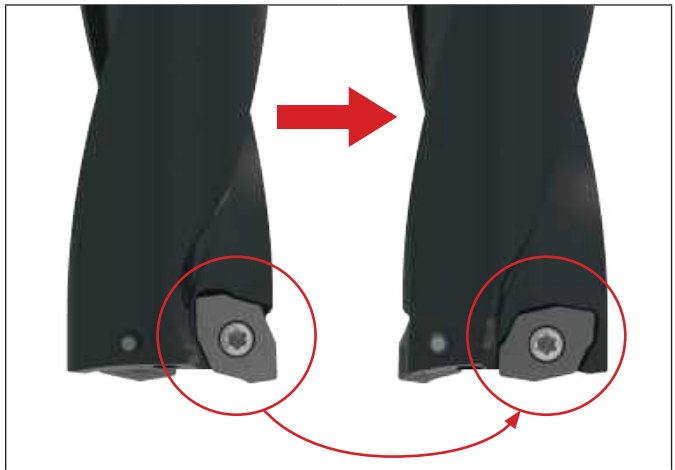
- ***Superior chip evacuation***
  provided by the two twisted coolant holes
- ***Improved hole size***
  from the increased holder rigidity
- ***Longer tool life***
  provided by the four-sided insert design
- ***Optimal chip formation***
  with ISO-specific insert geometry/coating combinations
- ***Competitive cycle times***
  due to single effective cutting when using light duty machines



DESIGNED TO GIVE YOU IMPROVED HOLE SIZE AND STRAIGHTNESS

- The two twisted coolant holes allow the core to remain intact, making the core thicker and stronger for improved hole straightness even in uneven surfaces.
- The enlarged dual coolant outlets increase the coolant volume, which improves the chip evacuation resulting in improved 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, helping to mitigate catastrophic failures and improves hole sizes.

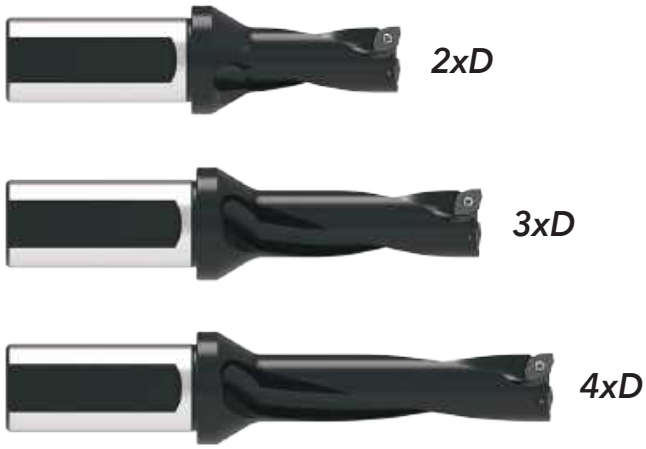
LONGER TOOL LIFE



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.

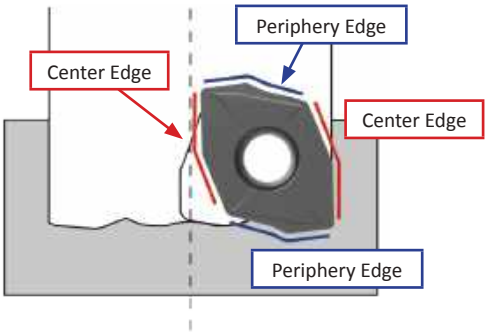
AVAILABLE *LENGTHS*



Insert Information

4 CUTTING EDGES

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



Periphery Insert

180°

Center Insert

Periphery edge chip formation:

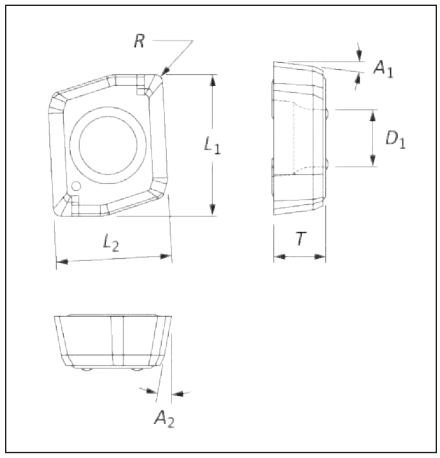
Center edge chip formation:

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 multilayer 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 multilayer PVD coating.
H	Low Rake	AM480	A lower rake geometry to improve edge strength in both hardened tool steels and high-strength alloys. With a P30 carbide substrate for improved toughness and coated with AM480, a proprietary multilayer PVD coating to improve resistance against tool wear.
K	General Rake	AM480	With a general purpose geometry, the K inserts can be used in grey cast irons as well as ductile irons. A high wear-resistant K10 carbide substrate to improve tool life and coated with AM480, a proprietary multilayer PVD coating to improve resistance against tool wear.
N	High Rake	TiCN	A higher rake cutting geometry provides excellent chip formation in nonferrous materials. An M15/K15 carbide substrate paired with TiCN coating for improved lubricity to resist built-up material, increasing tool life and maintaining chip formation.

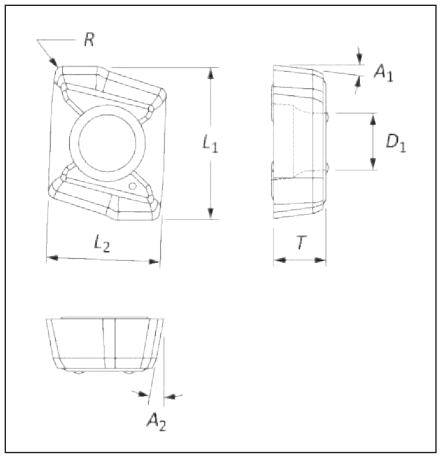
Insert Information

Series	Insert Prefix	Dimension (mm) L_1	L_2	T	D_1	R	Angle A_1	A_2	Shape
03	**4T-030203C-x**	5.60	4.80	2.30	2.40	0.30	7°	10°	 Style 1
	4T-030203P-x	6.38	4.77	2.30	2.40	0.30	7°	10°	 Style 2
04	**4T-040203-x**	6.21	5.06	2.60	2.45	0.30	13°	10°	 Style 3
05	**4T-05T203-x**	7.26	5.48	2.76	2.55	0.30	13°	7°	
06	**4T-06T204-x**	8.59	6.44	2.89	2.79	0.40	13°	7°	
07	**4T-070305-x**	10.21	8.02	3.24	3.00	0.50	13°	7°	
09	**4T-09T306-x**	12.18	9.55	4.03	3.64	0.60	13°	7°	
11	**4T-11T306-x**	14.50	11.61	4.06	4.62	0.60	13°	7°	
14	**4T-140408-x**	17.99	14.40	4.88	5.76	0.80	13°	7°	

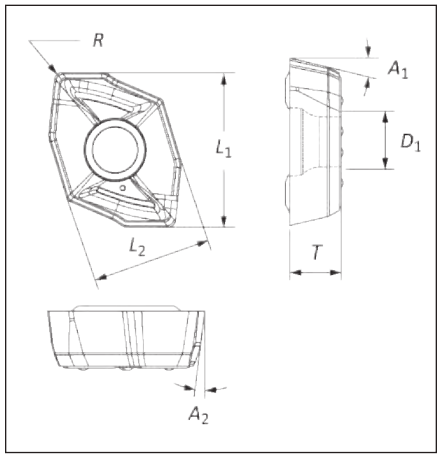
Style 1



Style 2



Style 3



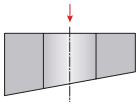
4TEX® Drill Interrupted Cuts

(*DON'T*) PARDON THE INTERRUPTION

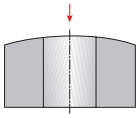
The 4TEX drill is the premium solution when the cut is interrupted. The indexable carbide insert design provides multiple points of stability, so the entire cutting edge does not require engagement while still providing the hole quality required.

QUICK TROUBLESHOOTING

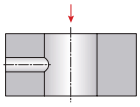
Starting on Angled Surfaces
- Reduce entry feed by 20 - 50%.
- Use lower rake geometry if insert chipping occurs.



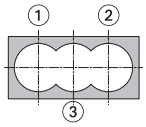
Angled Bore Exit
- Reduce entry feed by 50% on breakout.
- Use tough insert and stable corner radius.



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

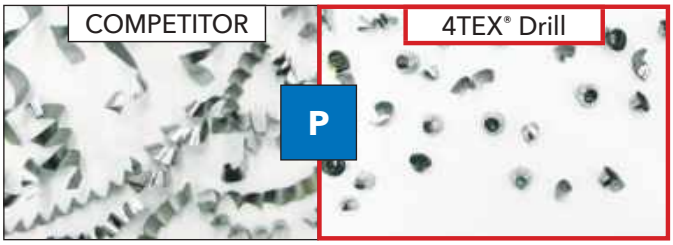


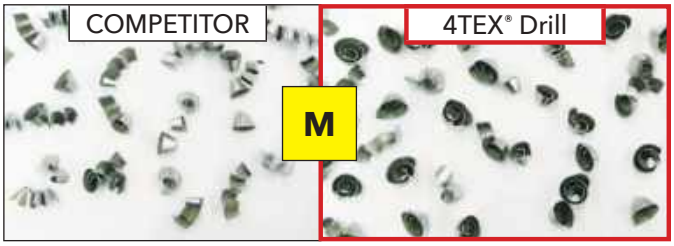
Drilling Through a Cross Hole
- Reduce feed rate by 50% if necessary.
- Use good coolant flow and monitor chip packing.
- Use lower rake geometry if insert chipping occurs.



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

THE PROOF IS IN THE **CHIPS**

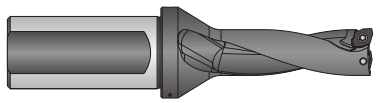




Product Nomenclature

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
- **04** = 04 series
- **05** = 05 series
- **06** = 06 series
- **07** = 07 series
- **09** = 09 series
- **11** = 11 series
- **14** = 14 series

3. Diameter*

- **0750** = 0.0750"
- **1200** = 12 mm

4. Diameter Style

- **I** = Imperial
- **M** = Metric

5. Shank Diameter

Imperial	Metric
075 = 0.750"	**20** = 20 mm
100 = 1.000"	**25** = 25 mm
125 = 1.250"	**32** = 32 mm
150 = 1.500"	**40** = 40 mm

6. Shank Style

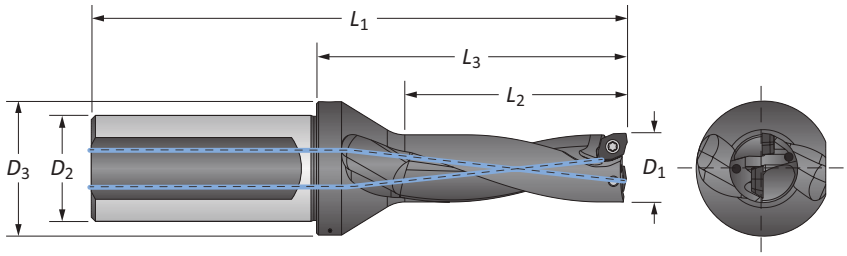
- **F** = Imperial flanged shank
- **FM** = Metric flanged shank

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

Ordering example:
Inch: 03 Series (Ø 0.480") = D2030480I-075F
Metric: 03 Series (12.65 mm) = D2031265M-20FM

Reference Key

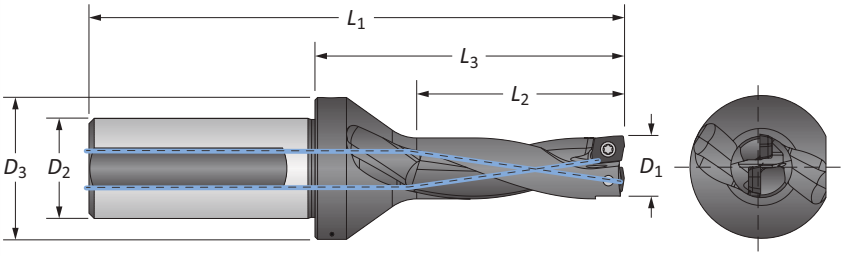
Symbol	Attribute
D_1	Drill diameter
D_2	Shank diameter
D_3	Flange diameter
L_1	Assembled overall length
L_2	Drill depth
L_3	Reference length



4TEX® Drill Holders | Imperial Shank | Metric Shank

03 Series | Diameter Range: 0.472" - 0.512" (12.00 mm - 13.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓘ	2xD	–	0.472	12.00	0.945	1.787	3.480	0.750	1.063	0.020	**D2031200M-075F**
		–	0.512	13.00	1.024	1.866	3.559	0.750	1.063	0.012	**D2031300M-075F**
	3xD	–	0.472	12.00	1.417	2.260	3.953	0.750	1.063	0.020	**D3031200M-075F**
		–	0.512	13.00	1.535	2.378	4.071	0.750	1.063	0.012	**D3031300M-075F**
	4xD	–	0.472	12.00	1.890	2.732	4.425	0.750	1.063	0.020	**D4031200M-075F**
		–	0.512	13.00	2.047	2.890	4.583	0.750	1.063	0.012	**D4031300M-075F**

Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
ⓜ	2xD	–	0.472	12.00	24.00	45.40	88.40	20.00	27.00	0.50	**D2031200M-20FM**
		–	0.512	13.00	26.00	47.40	90.40	20.00	27.00	0.30	**D2031300M-20FM**
	3xD	–	0.472	12.00	36.00	57.40	100.40	20.00	27.00	0.50	**D3031200M-20FM**
		–	0.512	13.00	39.00	60.40	103.40	20.00	27.00	0.30	**D3031300M-20FM**
	4xD	–	0.472	12.00	48.00	69.40	112.40	20.00	27.00	0.50	**D4031200M-20FM**
		–	0.512	13.00	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-m)
	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**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

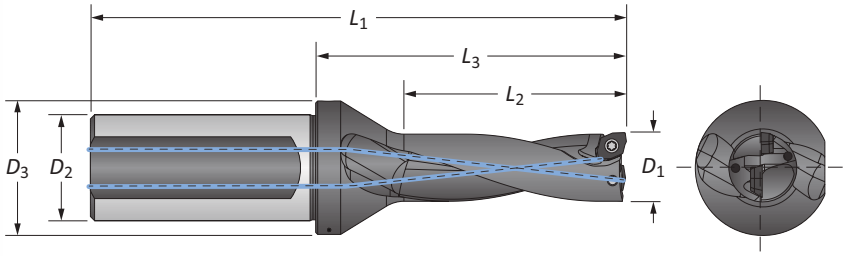
A91: 66
Key on A91: 1
A91: 59 - 61
A91: 58

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

4TEX® Drill Holders | Imperial Shank | Metric Shank

04 Series | Diameter Range: 0.551" - 0.591" (14.00 mm - 15.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	0.551	14.00	1.102	1.945	3.638	0.750	1.063	0.016	**D2041400M-075F**
		9/16	0.563	14.29	1.124	1.945	3.638	0.750	1.063	0.013	**D2040562I-075F**
		–	0.591	15.00	1.181	2.024	3.717	0.750	1.063	0.008	**D2041500M-075F**
	3xD	–	0.551	14.00	1.654	2.496	4.189	0.750	1.063	0.016	**D3041400M-075F**
ⓘ		9/16	0.563	14.29	1.686	2.496	4.189	0.750	1.063	0.013	**D3040562I-075F**
		–	0.591	15.00	1.772	2.614	4.307	0.750	1.063	0.008	**D3041500M-075F**
	4xD	–	0.551	14.00	2.205	3.047	4.740	0.750	1.063	0.016	**D4041400M-075F**
		9/16	0.563	14.29	2.248	3.047	4.740	0.750	1.063	0.013	**D4040562I-075F**
		–	0.591	15.00	2.362	3.205	4.898	0.750	1.063	0.008	**D4041500M-075F**

Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	0.551	14.00	28.00	49.40	92.40	20.00	27.00	0.40	**D2041400M-20FM**
		9/16	0.563	14.29	28.55	49.40	92.40	20.00	27.00	0.30	**D2040562I-20FM**
		–	0.591	15.00	30.00	51.40	94.40	20.00	27.00	0.20	**D2041500M-20FM**
	3xD	–	0.551	14.00	42.00	63.40	106.40	20.00	27.00	0.40	**D3041400M-20FM**
ⓜ		9/16	0.563	14.29	42.82	63.40	106.40	20.00	27.00	0.30	**D3040562I-20FM**
		–	0.591	15.00	45.00	66.40	109.40	20.00	27.00	0.20	**D3041500M-20FM**
	4xD	–	0.551	14.00	56.00	77.40	120.40	20.00	27.00	0.40	**D4041400M-20FM**
		9/16	0.563	14.29	57.10	77.40	120.40	20.00	27.00	0.30	**D4040562I-20FM**
		–	0.591	15.00	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-m)
S M	**4T-040203-M**			
H	**4T-040203-H**			
K	**4T-040203-K**			
N	**4T-040203-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

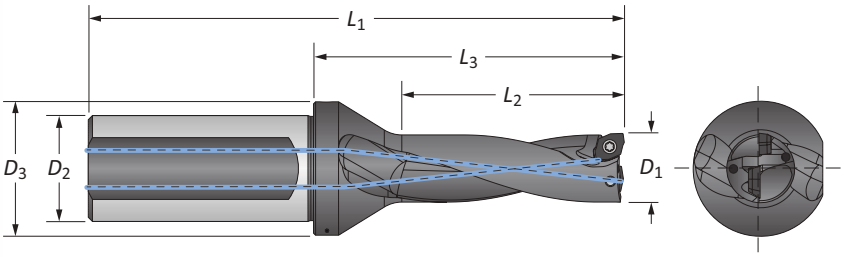
A91: 66 A91: 59 - 61 A91: 58
Key on A91: 1

ⓘ = 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: 0.625" - 0.709" (15.88 mm - 18.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	5/8	0.625	15.88	1.250	2.146	4.272	1.000	1.260	0.029	**D2050625I-100F**
		–	0.630	16.00	1.260	2.185	4.311	1.000	1.260	0.028	**D2051600M-100F**
		–	0.669	17.00	1.339	2.264	4.390	1.000	1.260	0.016	**D2051700M-100F**
		11/16	0.687	17.46	1.374	2.264	4.390	1.000	1.260	0.012	**D2050687I-100F**
		–	0.709	18.00	1.417	2.343	4.469	1.000	1.260	0.008	**D2051800M-100F**
	3xD	5/8	0.625	15.88	1.875	2.756	4.882	1.000	1.260	0.029	**D3050625I-100F**
		–	0.630	16.00	1.890	2.815	4.941	1.000	1.260	0.028	**D3051600M-100F**
ⓘ		–	0.669	17.00	2.008	2.933	5.059	1.000	1.260	0.016	**D3051700M-100F**
		11/16	0.687	17.46	2.061	2.933	5.059	1.000	1.260	0.012	**D3050687I-100F**
		–	0.709	18.00	2.126	3.051	5.177	1.000	1.260	0.008	**D3051800M-100F**
	4xD	5/8	0.625	15.88	2.500	3.366	5.492	1.000	1.260	0.029	**D4050625I-100F**
		–	0.630	16.00	2.520	3.445	5.571	1.000	1.260	0.028	**D4051600M-100F**
		–	0.669	17.00	2.677	3.602	5.728	1.000	1.260	0.016	**D4051700M-100F**
		11/16	0.687	17.46	2.748	3.602	5.728	1.000	1.260	0.012	**D4050687I-100F**
		–	0.709	18.00	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-m)
S M	**4T-05T203-M**			
H	**4T-05T203-H**			
K	**4T-05T203-K**			
N	**4T-05T203-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

A91: 66 | A91: 59 - 61 | A91: 58

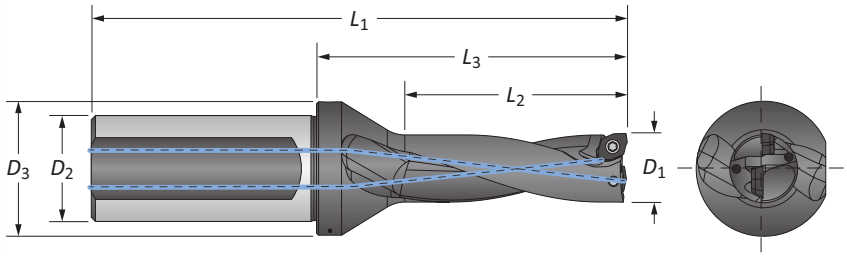
Key on A91: 1

ⓘ = 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: 0.625" - 0.709" (15.88 mm - 18.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	5/8	0.625	15.88	31.75	54.50	108.50	25.00	32.00	0.70	**D2050625I-25FM**
		–	0.630	16.00	32.00	55.50	109.50	25.00	32.00	0.70	**D2051600M-25FM**
		–	0.669	17.00	34.00	57.50	111.50	25.00	32.00	0.40	**D2051700M-25FM**
		11/16	0.687	17.46	34.90	57.50	111.50	25.00	32.00	0.30	**D2050687I-25FM**
		–	0.709	18.00	36.00	59.50	113.50	25.00	32.00	0.20	**D2051800M-25FM**
	3xD	5/8	0.625	15.88	47.63	70.00	124.00	25.00	32.00	0.70	**D3050625I-25FM**
		–	0.630	16.00	48.00	71.50	125.50	25.00	32.00	0.70	**D3051600M-25FM**
ⓜ		–	0.669	17.00	51.00	74.50	128.50	25.00	32.00	0.40	**D3051700M-25FM**
		11/16	0.687	17.46	52.35	74.50	128.50	25.00	32.00	0.30	**D3050687I-25FM**
		–	0.709	18.00	54.00	77.50	131.50	25.00	32.00	0.20	**D3051800M-25FM**
	4xD	5/8	0.625	15.88	63.50	85.50	139.50	25.00	32.00	0.70	**D4050625I-25FM**
		–	0.630	16.00	64.00	87.50	141.50	25.00	32.00	0.70	**D4051600M-25FM**
		–	0.669	17.00	68.00	91.50	145.50	25.00	32.00	0.40	**D4051700M-25FM**
		11/16	0.687	17.46	69.80	91.50	145.50	25.00	32.00	0.30	**D4050687I-25FM**
		–	0.709	18.00	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-m)
S M	**4T-05T203-M**			
H	**4T-05T203-H**			
K	**4T-05T203-K**			
N	**4T-05T203-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

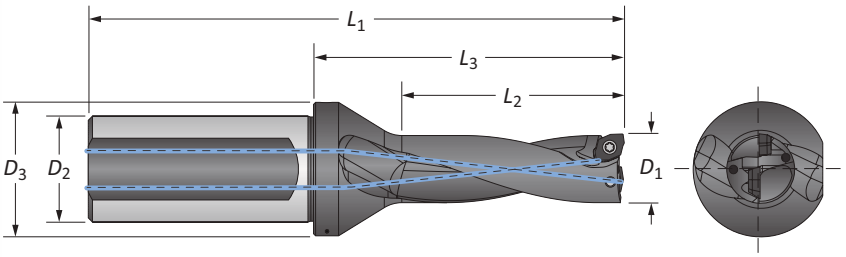
A91: 66 A91: 59 - 61 A91: 58
Key on A91: 1

ⓘ = 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: 0.748" - 0.827" (19.00 mm - 21.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	0.748	19.00	1.496	2.339	4.465	1.000	1.260	0.031	**D2061900M-100F**
		–	0.787	20.00	1.575	2.417	4.543	1.000	1.260	0.020	**D2062000M-100F**
		13/16	0.813	20.64	1.624	2.457	4.583	1.000	1.260	0.015	**D2060812I-100F**
		–	0.827	21.00	1.654	2.496	4.622	1.000	1.260	0.012	**D2062100M-100F**
	3xD	–	0.748	19.00	2.244	3.087	5.213	1.000	1.260	0.031	**D3061900M-100F**
ⓘ		–	0.787	20.00	2.362	3.205	5.331	1.000	1.260	0.020	**D3062000M-100F**
		13/16	0.813	20.64	2.436	3.264	5.390	1.000	1.260	0.015	**D3060812I-100F**
		–	0.827	21.00	2.480	3.323	5.449	1.000	1.260	0.012	**D3062100M-100F**
	4xD	–	0.748	19.00	2.992	3.835	5.961	1.000	1.260	0.031	**D4061900M-100F**
		–	0.787	20.00	3.150	3.992	6.118	1.000	1.260	0.020	**D4062000M-100F**
		13/16	0.813	20.64	3.248	4.071	6.197	1.000	1.260	0.015	**D4060812I-100F**
		–	0.827	21.00	3.307	4.150	6.276	1.000	1.260	0.012	**D4062100M-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-m)
S M	**4T-06T204-M**			
H	**4T-06T204-H**			
K	**4T-06T204-K**			
N	**4T-06T204-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

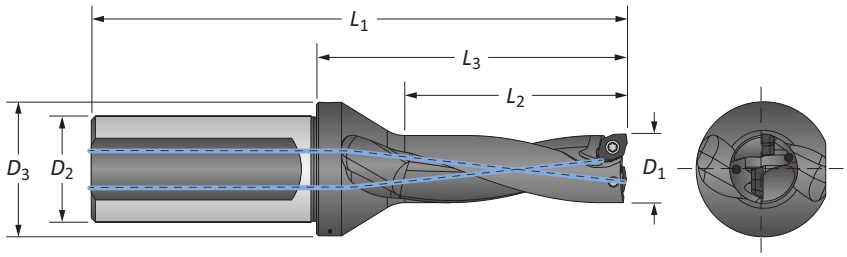
A91: 66 A91: 59 - 61 A91: 58
Key on A91: 1

ⓘ = 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: 0.748" - 0.827" (19.00 mm - 21.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	0.748	19.00	38.00	59.40	113.40	25.00	32.00	0.80	**D2061900M-25FM**
		–	0.787	20.00	40.00	61.40	115.40	25.00	32.00	0.50	**D2062000M-25FM**
		13/16	0.813	20.64	41.25	62.40	116.40	25.00	32.00	0.40	**D2060812I-25FM**
		–	0.827	21.00	42.00	63.40	117.40	25.00	32.00	0.30	**D2062100M-25FM**
ⓜ	3xD	–	0.748	19.00	57.00	78.40	132.40	25.00	32.00	0.80	**D3061900M-25FM**
		–	0.787	20.00	60.00	81.40	135.40	25.00	32.00	0.50	**D3062000M-25FM**
		13/16	0.813	20.64	61.87	82.90	136.90	25.00	32.00	0.40	**D3060812I-25FM**
		–	0.827	21.00	63.00	84.40	138.40	25.00	32.00	0.30	**D3062100M-25FM**
	4xD	–	0.748	19.00	76.00	97.40	151.40	25.00	32.00	0.80	**D4061900M-25FM**
		–	0.787	20.00	80.00	101.40	155.40	25.00	32.00	0.50	**D4062000M-25FM**
		13/16	0.813	20.64	82.49	103.40	157.40	25.00	32.00	0.40	**D4060812I-25FM**
		–	0.827	21.00	84.00	105.40	159.40	25.00	32.00	0.30	**D4062100M-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-m)
S M	**4T-06T204-M**			
H	**4T-06T204-H**			
K	**4T-06T204-K**			
N	**4T-06T204-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

A91: 66 | A91: 59 - 61 | A91: 58

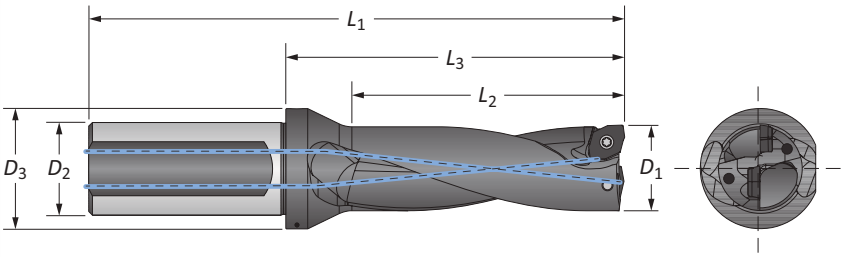
Key on A91: 1

ⓘ = 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: 0.866" - 1.024" (22.00 mm - 26.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	0.866	22.00	1.732	2.555	4.681	1.000	1.299	0.047	**D2072200M-100F**
		7/8	0.875	22.22	1.750	2.555	4.681	1.000	1.299	0.043	**D2070875I-100F**
		–	0.906	23.00	1.811	2.634	4.760	1.000	1.299	0.035	**D2072300M-100F**
		15/16	0.937	23.81	1.874	2.673	4.799	1.000	1.299	0.292	**D2070937I-100F**
		–	0.945	24.00	1.890	2.713	4.839	1.000	1.299	0.028	**D2072400M-100F**
		–	1.000	25.40	2.000	2.791	4.917	1.000	1.299	0.013	**D2071000I-100F**
		–	1.024	26.00	2.047	2.870	4.996	1.000	1.299	0.008	**D2072600M-100F**
	3xD	–	0.866	22.00	2.598	3.421	5.547	1.000	1.299	0.047	**D3072200M-100F**
		7/8	0.875	22.22	2.625	3.421	5.547	1.000	1.299	0.043	**D3070875I-100F**
		–	0.906	23.00	2.717	3.539	5.665	1.000	1.299	0.035	**D3072300M-100F**
ⓘ		15/16	0.937	23.81	2.811	3.598	5.724	1.000	1.299	0.292	**D3070937I-100F**
		–	0.945	24.00	2.835	3.657	5.783	1.000	1.299	0.028	**D3072400M-100F**
		–	1.000	25.40	3.000	3.776	5.902	1.000	1.299	0.013	**D3071000I-100F**
		–	1.024	26.00	3.071	3.894	6.020	1.000	1.299	0.008	**D3072600M-100F**
	4xD	–	0.866	22.00	3.465	4.287	6.413	1.000	1.299	0.047	**D4072200M-100F**
		7/8	0.875	22.22	3.500	4.287	6.413	1.000	1.299	0.043	**D4070875I-100F**
		–	0.906	23.00	3.622	4.445	6.571	1.000	1.299	0.035	**D4072300M-100F**
		15/16	0.937	23.81	3.748	4.524	6.650	1.000	1.299	0.292	**D4070937I-100F**
		–	0.945	24.00	3.780	4.602	6.728	1.000	1.299	0.028	**D4072400M-100F**
		–	1.000	25.40	4.000	4.760	6.886	1.000	1.299	0.013	**D4071000I-100F**
		–	1.024	26.00	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-m)
S M	4T-070305-M			
H	4T-070305-H			
K	4T-070305-K			
N	4T-070305-N			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

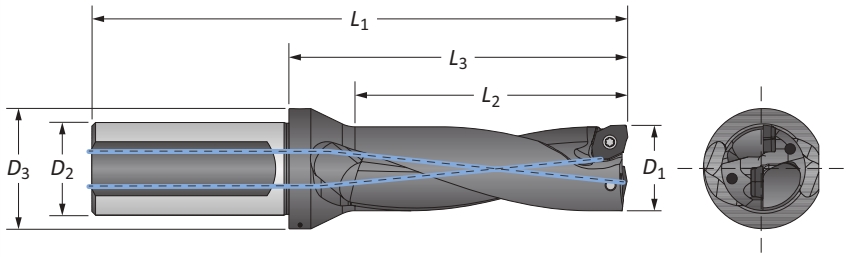
A91: 66 A91: 59 - 61 A91: 58
Key on A91: 1

ⓘ = 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: 0.866" - 1.024" (22.00 mm - 26.00 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	0.866	22.00	44.00	64.90	118.90	25.00	33.00	1.20	**D2072200M-25FM**
		7/8	0.875	22.22	44.45	64.90	118.90	25.00	33.00	1.10	**D2070875I-25FM**
		–	0.906	23.00	46.00	66.90	120.90	25.00	33.00	0.90	**D2072300M-25FM**
		15/16	0.937	23.81	47.60	67.90	121.90	25.00	33.00	7.40	**D2070937I-25FM**
		–	0.945	24.00	48.00	68.90	122.90	25.00	33.00	0.70	**D2072400M-25FM**
		–	1.000	25.40	50.80	70.90	124.90	25.00	33.00	0.30	**D2071000I-25FM**
		–	1.024	26.00	52.00	72.90	126.90	25.00	33.00	0.20	**D2072600M-25FM**
	3xD	–	0.866	22.00	66.00	86.90	140.90	25.00	33.00	1.20	**D3072200M-25FM**
		7/8	0.875	22.22	66.68	86.90	140.90	25.00	33.00	1.10	**D3070875I-25FM**
		–	0.906	23.00	69.00	89.90	143.90	25.00	33.00	0.90	**D3072300M-25FM**
ⓜ		15/16	0.937	23.81	71.40	91.40	145.40	25.00	33.00	7.40	**D3070937I-25FM**
		–	0.945	24.00	72.00	92.90	146.90	25.00	33.00	0.70	**D3072400M-25FM**
		–	1.000	25.40	76.20	95.90	149.90	25.00	33.00	0.30	**D3071000I-25FM**
		–	1.024	26.00	78.00	99.00	153.00	25.00	33.00	0.20	**D3072600M-25FM**
	4xD	–	0.866	22.00	88.00	109.00	163.00	25.00	33.00	1.20	**D4072200M-25FM**
		7/8	0.875	22.22	88.90	108.90	162.90	25.00	33.00	1.10	**D4070875I-25FM**
		–	0.906	23.00	92.00	113.00	167.00	25.00	33.00	0.90	**D4072300M-25FM**
		15/16	0.937	23.81	95.20	114.90	168.90	25.00	33.00	7.40	**D4070937I-25FM**
		–	0.945	24.00	96.00	117.00	171.00	25.00	33.00	0.70	**D4072400M-25FM**
		–	1.000	25.40	101.60	120.90	174.90	25.00	33.00	0.30	**D4071000I-25FM**
		–	1.024	26.00	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-m)
S M	**4T-070305-M**			
H	**4T-070305-H**			
K	**4T-070305-K**			
N	**4T-070305-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.004 / +0.008	-0.10 / +0.20
3xD	-0.004 / +0.008	-0.10 / +0.20
4xD	-0.004 / +0.010	-0.10 / +0.25

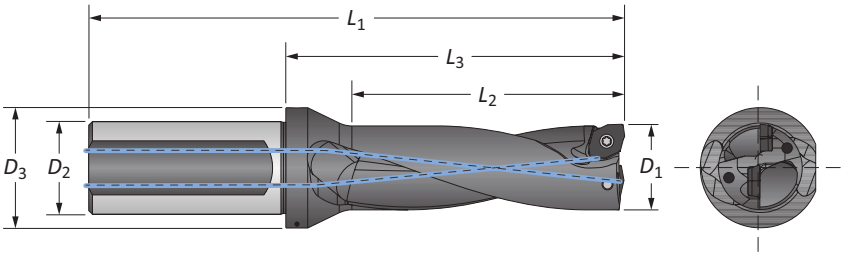
A91: 66 | A91: 59 - 61 | A91: 58

Key on A91: 1

ⓘ = 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: 1.063" - 1.250" (27.00 mm - 31.75 mm)*
*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	1.063	27.00	2.126	3.020	5.343	1.250	1.614	0.063	**D2092700M-125F**
		–	1.102	28.00	2.205	3.098	5.421	1.250	1.614	0.051	**D2092800M-125F**
		1-1/8	1.125	28.58	2.250	3.138	5.461	1.250	1.614	0.046	**D2091125I-125F**
		–	1.142	29.00	2.283	3.177	5.500	1.250	1.614	0.043	**D2092900M-125F**
		–	1.181	30.00	2.362	3.256	5.579	1.250	1.693	0.031	**D2093000M-125F**
		1-3/16	1.187	30.15	2.374	3.256	5.579	1.250	1.693	0.032	**D2091187I-125F**
		–	1.220	31.00	2.441	3.335	5.657	1.250	1.693	0.024	**D2093100M-125F**
		1-1/4	1.250	31.75	2.500	3.374	5.697	1.250	1.693	0.019	**D2091250I-125F**
	3xD	–	1.063	27.00	3.189	4.083	6.406	1.250	1.614	0.063	**D3092700M-125F**
		–	1.102	28.00	3.307	4.201	6.524	1.250	1.614	0.051	**D3092800M-125F**
		1-1/8	1.125	28.58	3.375	4.260	6.583	1.250	1.614	0.046	**D3091125I-125F**
ⓘ		–	1.142	29.00	3.425	4.319	6.642	1.250	1.614	0.043	**D3092900M-125F**
		–	1.181	30.00	3.543	4.437	6.760	1.250	1.693	0.031	**D3093000M-125F**
		1-3/16	1.187	30.15	3.561	4.437	6.760	1.250	1.693	0.032	**D3091187I-125F**
		–	1.220	31.00	3.661	4.555	6.878	1.250	1.693	0.024	**D3093100M-125F**
		1-1/4	1.250	31.75	3.750	4.614	6.937	1.250	1.693	0.019	**D3091250I-125F**
	4xD	–	1.063	27.00	4.252	5.146	7.469	1.250	1.614	0.063	**D4092700M-125F**
		–	1.102	28.00	4.409	5.303	7.626	1.250	1.614	0.051	**D4092800M-125F**
		1-1/8	1.125	28.58	4.500	5.382	7.705	1.250	1.614	0.046	**D4091125I-125F**
		–	1.142	29.00	4.567	5.461	7.783	1.250	1.614	0.043	**D4092900M-125F**
		–	1.181	30.00	4.724	5.618	7.941	1.250	1.693	0.031	**D4093000M-125F**
		1-3/16	1.187	30.15	4.748	5.618	7.941	1.250	1.693	0.032	**D4091187I-125F**
		–	1.220	31.00	4.882	5.776	8.098	1.250	1.693	0.024	**D4093100M-125F**
		1-1/4	1.250	31.75	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-m)
S M	**4T-09T306-M**			
H	**4T-09T306-H**			
K	**4T-09T306-K**			
N	**4T-09T306-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.006 / +0.010	-0.15 / +0.25
3xD	-0.006 / +0.010	-0.15 / +0.25
4xD	-0.006 / +0.012	-0.15 / +0.30

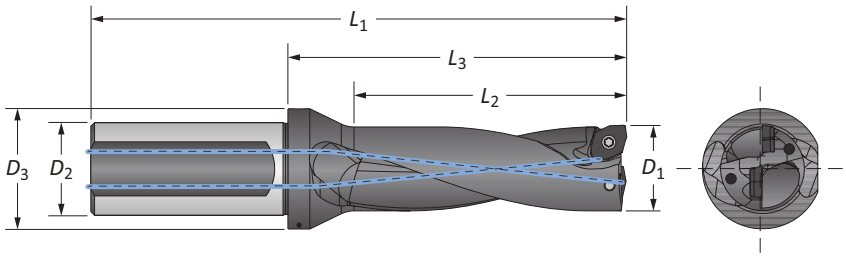
A91: 66 (Key on A91: 1)
A91: 59 - 61
A91: 58

ⓘ = 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: 1.063" - 1.250" (27.00 mm - 31.75 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	1.063	27.00	54.00	76.70	135.70	32.00	41.00	1.60	**D2092700M-32FM**
		–	1.102	28.00	56.00	78.70	137.70	32.00	41.00	1.30	**D2092800M-32FM**
		1-1/8	1.125	28.58	57.15	79.70	138.70	32.00	41.00	1.20	**D2091125I-32FM**
		–	1.142	29.00	58.00	80.70	139.70	32.00	41.00	1.10	**D2092900M-32FM**
		–	1.181	30.00	60.00	82.70	141.70	32.00	43.00	0.80	**D2093000M-32FM**
		1-3/16	1.187	30.15	60.30	82.70	141.70	32.00	43.00	0.82	**D2091187I-32FM**
		–	1.220	31.00	62.00	84.70	143.70	32.00	43.00	0.60	**D2093100M-32FM**
		1-1/4	1.250	31.75	63.50	85.70	144.70	32.00	43.00	0.50	**D2091250I-32FM**
ⓜ	3xD	–	1.063	27.00	81.00	103.70	162.70	32.00	41.00	1.60	**D3092700M-32FM**
		–	1.102	28.00	84.00	106.70	165.70	32.00	41.00	1.30	**D3092800M-32FM**
		1-1/8	1.125	28.58	85.73	108.20	167.20	32.00	41.00	1.20	**D3091125I-32FM**
		–	1.142	29.00	87.00	109.70	168.70	32.00	41.00	1.10	**D3092900M-32FM**
		–	1.181	30.00	90.00	112.70	171.70	32.00	43.00	0.80	**D3093000M-32FM**
		1-3/16	1.187	30.15	90.45	112.70	171.70	32.00	43.00	0.82	**D3091187I-32FM**
		–	1.220	31.00	93.00	115.70	174.70	32.00	43.00	0.60	**D3093100M-32FM**
		1-1/4	1.250	31.75	95.25	117.20	176.20	32.00	43.00	0.50	**D3091250I-32FM**
	4xD	–	1.063	27.00	108.00	130.70	189.70	32.00	41.00	1.60	**D4092700M-32FM**
		–	1.102	28.00	112.00	134.70	193.70	32.00	41.00	1.30	**D4092800M-32FM**
		1-1/8	1.125	28.58	114.30	136.70	195.70	32.00	41.00	1.20	**D4091125I-32FM**
		–	1.142	29.00	116.00	138.70	197.70	32.00	41.00	1.10	**D4092900M-32FM**
		–	1.181	30.00	120.00	142.70	201.70	32.00	43.00	0.80	**D4093000M-32FM**
		1-3/16	1.187	30.15	120.60	142.70	201.70	32.00	43.00	0.82	**D4091187I-32FM**
		–	1.220	31.00	124.00	146.70	205.70	32.00	43.00	0.60	**D4093100M-32FM**
		1-1/4	1.250	31.75	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-m)
S M	**4T-09T306-M**			
H	**4T-09T306-H**			
K	**4T-09T306-K**			
N	**4T-09T306-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.006 / +0.010	-0.15 / +0.25
3xD	-0.006 / +0.010	-0.15 / +0.25
4xD	-0.006 / +0.012	-0.15 / +0.30

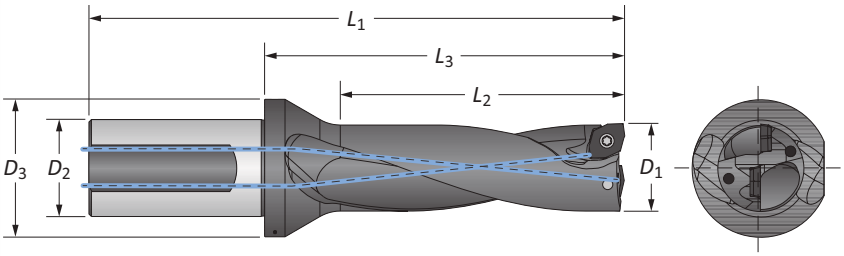
A91: 66 A91: 59 - 61 A91: 58
Key on A91: 1

ⓘ = 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" - 1.500" (32.00 mm - 38.10 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	1.260	32.00	2.520	3.953	6.669	1.500	2.126	0.087	**D2113200M-150F**
		–	1.299	33.00	2.598	4.031	6.748	1.500	2.126	0.075	**D2113300M-150F**
		1-5/16	1.312	33.32	2.624	4.031	6.748	1.500	2.126	0.073	**D2111312I-150F**
		–	1.339	34.00	2.677	4.110	6.827	1.500	2.126	0.067	**D2113400M-150F**
		1-3/8	1.375	34.92	2.750	4.110	6.827	1.500	2.126	0.056	**D2111375I-150F**
		1-1/2	1.500	38.10	3.000	4.425	7.142	1.500	2.126	0.027	**D2111500I-150F**
	3xD	–	1.260	32.00	3.780	5.213	7.929	1.500	2.126	0.087	**D3113200M-150F**
		–	1.299	33.00	3.898	5.331	8.047	1.500	2.126	0.075	**D3113300M-150F**
ⓘ		1-5/16	1.312	33.32	3.936	5.331	8.047	1.500	2.126	0.073	**D3111312I-150F**
		–	1.339	34.00	4.016	5.449	8.165	1.500	2.126	0.067	**D3113400M-150F**
		1-3/8	1.375	34.92	4.125	5.449	8.165	1.500	2.126	0.056	**D3111375I-150F**
		1-1/2	1.500	38.10	4.500	5.921	8.638	1.500	2.126	0.027	**D3111500I-150F**
	4xD	–	1.260	32.00	5.039	6.079	8.795	1.500	2.126	0.087	**D4113200M-150F**
		–	1.299	33.00	5.197	6.236	8.953	1.500	2.126	0.075	**D4113300M-150F**
		1-5/16	1.312	33.32	5.248	6.236	8.953	1.500	2.126	0.073	**D4111312I-150F**
		–	1.339	34.00	5.354	6.394	9.110	1.500	2.126	0.067	**D4113400M-150F**
		1-3/8	1.375	34.92	5.500	6.394	9.110	1.500	2.126	0.056	**D4111375I-150F**
		1-1/2	1.500	38.10	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-m)
S M	**4T-11T306-M**			
H	**4T-11T306-H**			
K	**4T-11T306-K**			
N	**4T-11T306-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.006 / +0.010	-0.15 / +0.25
3xD	-0.006 / +0.010	-0.15 / +0.25
4xD	-0.006 / +0.012	-0.15 / +0.30

A91: 66 A91: 59 - 61 A91: 58

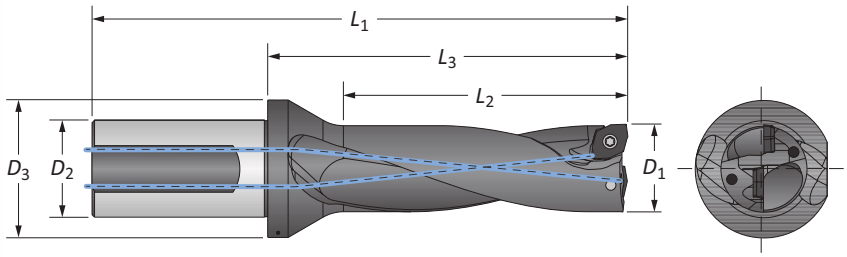
Key on A91: 1

ⓘ = 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" - 1.500" (32.00 mm - 38.10 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	1.260	32.00	64.00	100.40	169.40	40.00	54.00	2.20	**D2113200M-40FM**
		–	1.299	33.00	66.00	102.40	171.40	40.00	54.00	1.90	**D2113300M-40FM**
		1-5/16	1.312	33.32	66.65	102.40	171.40	40.00	54.00	1.84	**D2111312I-40FM**
		–	1.339	34.00	68.00	104.40	173.40	40.00	54.00	1.70	**D2113400M-40FM**
		1-3/8	1.375	34.92	69.85	104.40	173.40	40.00	54.00	1.42	**D2111375I-40FM**
		1-1/2	1.500	38.10	76.20	112.40	181.40	40.00	54.00	0.69	**D2111500I-40FM**
ⓜ	3xD	–	1.260	32.00	96.00	132.40	201.40	40.00	54.00	2.20	**D3113200M-40FM**
		–	1.299	33.00	99.00	135.40	204.40	40.00	54.00	1.90	**D3113300M-40FM**
		1-5/16	1.312	33.32	99.97	135.40	204.40	40.00	54.00	1.84	**D3111312I-40FM**
		–	1.339	34.00	102.00	138.40	207.40	40.00	54.00	1.70	**D3113400M-40FM**
		1-3/8	1.375	34.92	104.78	138.40	207.40	40.00	54.00	1.42	**D3111375I-40FM**
		1-1/2	1.500	38.10	114.30	150.40	219.40	40.00	54.00	0.69	**D3111500I-40FM**
	4xD	–	1.260	32.00	128.00	154.40	223.40	40.00	54.00	2.20	**D4113200M-40FM**
		–	1.299	33.00	132.00	158.40	227.40	40.00	54.00	1.90	**D4113300M-40FM**
		1-5/16	1.312	33.32	133.30	158.40	227.40	40.00	54.00	1.84	**D4111312I-40FM**
		–	1.339	34.00	136.00	162.40	231.40	40.00	54.00	1.70	**D4113400M-40FM**
		1-3/8	1.375	34.92	139.70	162.40	231.40	40.00	54.00	1.42	**D4111375I-40FM**
		1-1/2	1.500	38.10	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-m)
S M	**4T-11T306-M**			
H	**4T-11T306-H**			
K	**4T-11T306-K**			
N	**4T-11T306-N**			

Expected Hole Tolerances

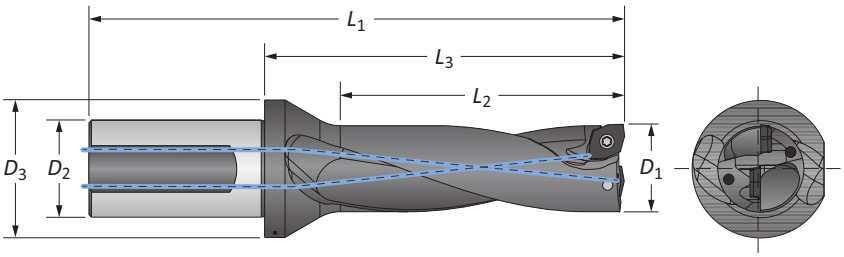
Length	in	mm
2xD	-0.006 / +0.010	-0.15 / +0.25
3xD	-0.006 / +0.010	-0.15 / +0.25
4xD	-0.006 / +0.012	-0.15 / +0.30

A91: 66 A91: 59 - 61 A91: 58
Key on A91: 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: 1.535" - 1.562" (39.00 mm - 39.67 mm)*
*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Imperial Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	1.535	39.00	3.071	4.346	7.063	1.500	2.126	0.110	**D2143900M-150F**
		1-9/16	1.562	39.67	3.124	4.346	7.063	1.500	2.126	0.103	**D2141562I-150F**
ⓘ	3xD	–	1.535	39.00	4.606	5.882	8.598	1.500	2.126	0.110	**D3143900M-150F**
		1-9/16	1.562	39.67	4.686	5.882	8.598	1.500	2.126	0.103	**D3141562I-150F**
	4xD	–	1.535	39.00	6.142	7.417	10.134	1.500	2.126	0.110	**D4143900M-150F**
		1-9/16	1.562	39.67	6.248	7.417	10.134	1.500	2.126	0.103	**D4141562I-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-m)
S M	**4T-140408-M**			
H	**4T-140408-H**			
K	**4T-140408-K**			
N	**4T-140408-N**			

Expected Hole Tolerances

Length	in	mm
2xD	-0.008 / +0.012	-0.20 / +0.30
3xD	-0.008 / +0.012	-0.20 / +0.30
4xD	-0.008 / +0.014	-0.20 / +0.35

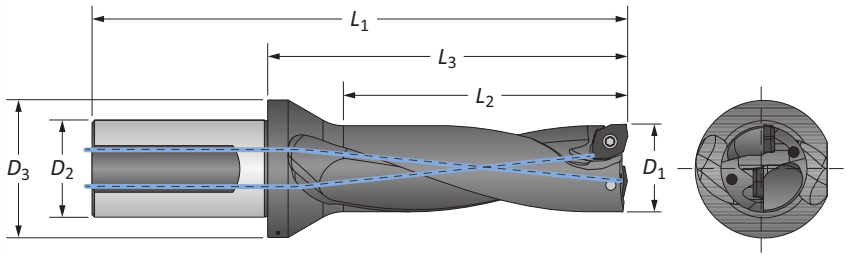
A91: 66 (Key on A91: 1)
A91: 59 - 61
A91: 58

ⓘ = 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: 1.535" - 1.562" (39.00 mm - 39.67 mm)*

*See the 4TEX drill catalog (A55-4TX) for all diameters available.



Metric Shank

	Length	Fractional Equivalent	D_1 in	D_1 mm	Body L_2	Body L_3	Body L_1	Shank D_2	Shank D_3	Max Offset	Part No.
	2xD	–	1.535	39.00	78.00	110.40	179.40	40.00	54.00	2.80	**D2143900M-40FM**
		1-9/16	1.562	39.67	79.40	110.40	179.40	40.00	54.00	2.61	**D2141562I-40FM**
ⓜ	3xD	–	1.535	39.00	117.00	149.40	218.40	40.00	54.00	2.80	**D3143900M-40FM**
		1-9/16	1.562	39.67	119.02	149.40	218.40	40.00	54.00	2.61	**D3141562I-40FM**
	4xD	–	1.535	39.00	156.00	188.40	257.40	40.00	54.00	2.80	**D4143900M-40FM**
		1-9/16	1.562	39.67	158.70	188.40	257.40	40.00	54.00	2.61	**D4141562I-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-m)
S M	**4T-140408-M**			
H	**4T-140408-H**			
K	**4T-140408-K**			
N	**4T-140408-N**			

Expected Hole Tolerances

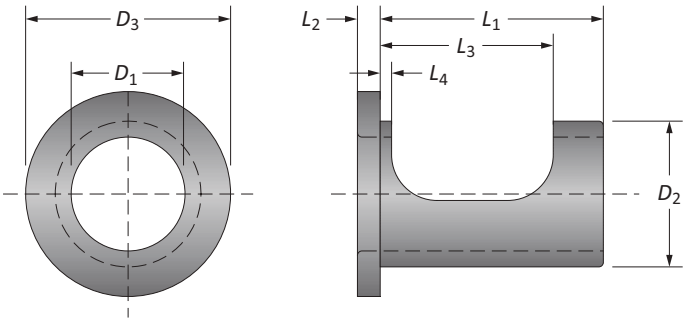
Length	in	mm
2xD	-0.008 / +0.012	-0.20 / +0.30
3xD	-0.008 / +0.012	-0.20 / +0.30
4xD	-0.008 / +0.014	-0.20 / +0.35

A91: 66 A91: 59 - 61 A91: 58
Key on A91: 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	1.593	0.118	1.837	**SLEEVE-075F**	-0.008 to +0.016	-0.006 to +0.008
	1.000	1.250	1.929	0.236	1.593	0.098	1.995	**SLEEVE-100F**	-0.008 to +0.016	-0.006 to +0.008
	1.250	1.500	2.283	0.236	1.693	0.098	2.087	**SLEEVE-125F**	-0.008 to +0.016	-0.006 to +0.008
	1.500	2.000	2.913	0.236	1.929	0.118	2.481	**SLEEVE-150F**	-0.008 to +0.024	-0.008 to +0.012
m	25.00	32.00	49.00	6.00	39.00	2.50	54.00	**SLEEVE-25FM**	-0.20 to +0.40	-0.15 to +0.20
	32.00	40.00	58.00	6.00	43.00	2.50	59.00	**SLEEVE-32FM**	-0.20 to +0.40	-0.15 to +0.20
	40.00	50.00	74.00	6.00	49.00	3.00	69.00	**SLEEVE-40FM**	-0.20 to +0.40	-0.20 to +0.30

*Diameter adjustment range refers to the cutting diameter.

Milling Applications
Peripheral Adjustment Position

Lathe Applications
Front Adjustment Position

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

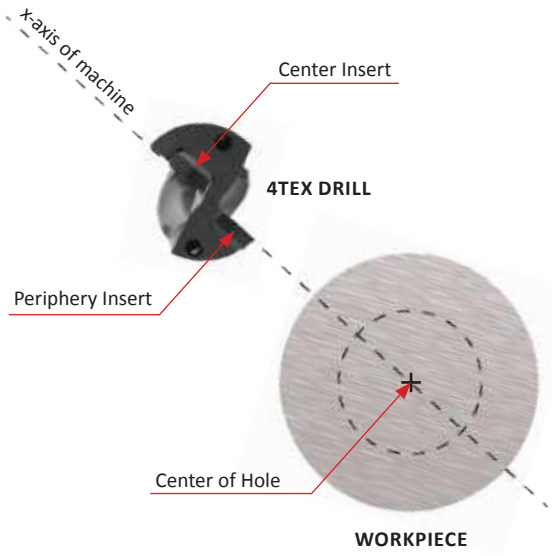
Diameter Adjustment

Milling and Lathe Applications

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.



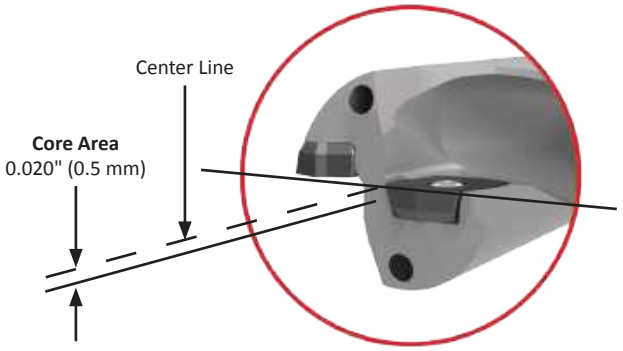
For Lathe Applications

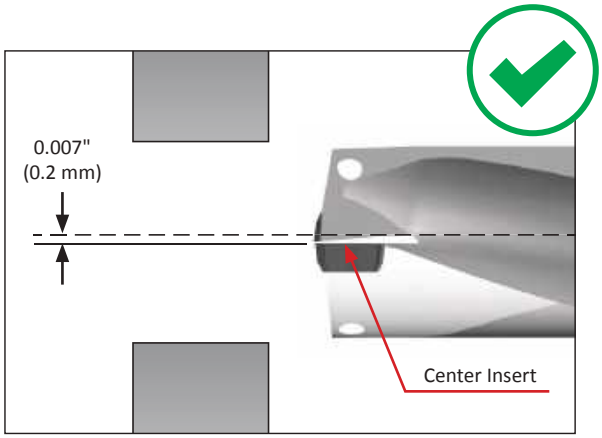
1. Assemble the 4TEX drill into the lathe turret with the top face of the inserts parallel to the x-axis of the machine. This will allow for the diameter offsets to be made using the lathe's x-axis.
2. To increase the nominal diameter, offset the x-axis so the periphery insert moves away from the center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

NOTE: Eccentric sleeve is not required when adjusting the diameter of the hole on a lathe.

Center Height Alignment

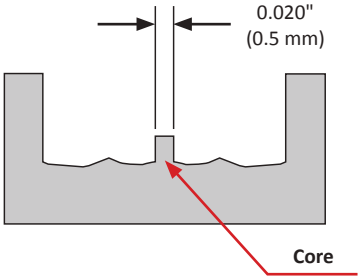
Proper Center Line Position

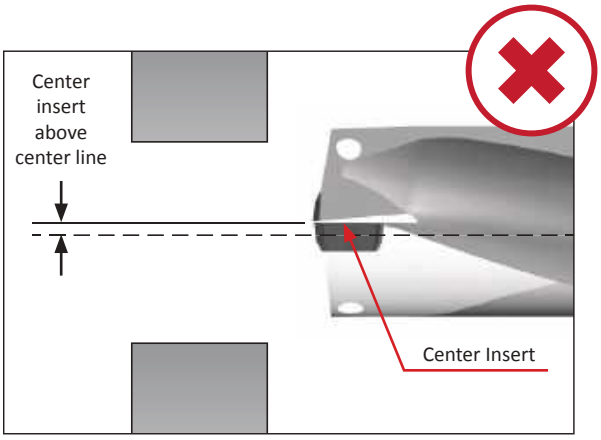




Proper Center Height Alignment

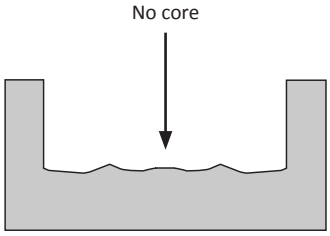
- The correct center height alignment will position the center insert 0.007" (0.2 mm) below the center line.

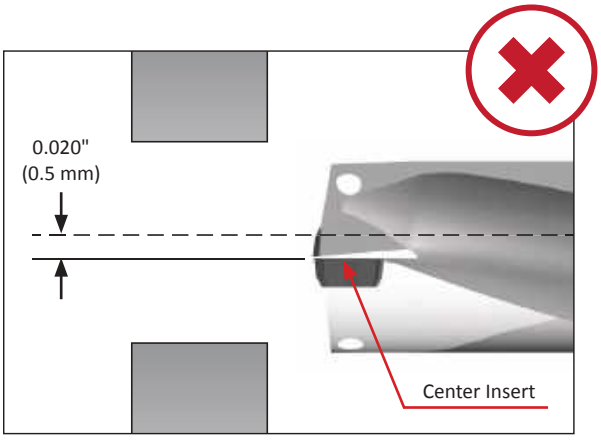




Center Insert Above the Center Line

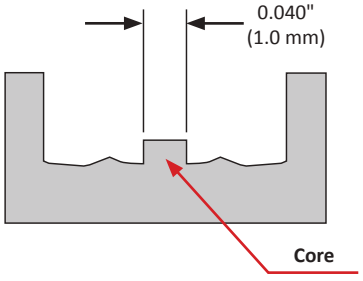
- This will cause fracturing of the center insert.
- Requires center height adjustment.





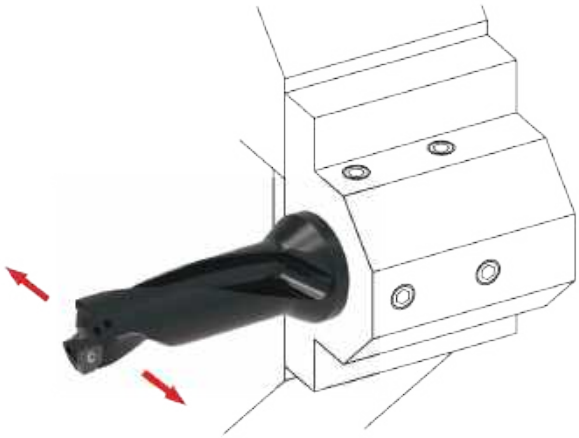
Center Insert Too Far Below Center Line

- 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

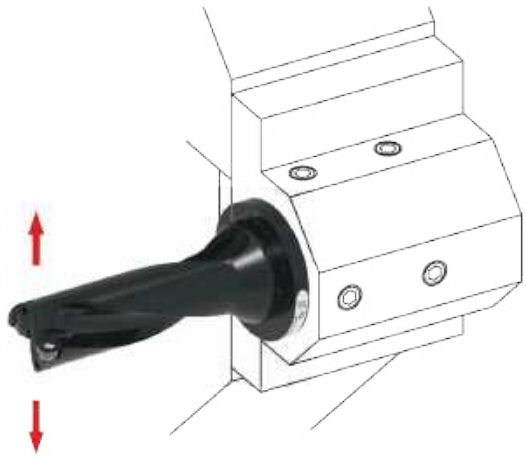
How to Correct Issues



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.
3. 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 two is preferred to make center height adjustments and compensate for hole diameter with the x-axis.

Recommended Cutting Data | Imperial (inch)

T-A® | GEN2 T-A®

Thin Wall Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant: AM200® Speed	Speed (SFM) - Mist Coolant: TiAlN Speed	Feed Rate (IPR) by Diameter: 0 series (0.5110" - 0.6959")	1 series (0.6900" - 0.9609")	2 series (0.9610" - 1.3809")	3 series (1.3530" - 1.8829")
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	110	0.012	0.018	0.019	0.020
		150 - 250	115	100	0.011	0.016	0.017	0.019
		250 - 350	105	90	0.010	0.014	0.016	0.018

Notch Point® and 150° Structural Steel Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant: AM200® Speed	Speed (SFM) - Mist Coolant: TiAlN Speed	Feed Rate (IPR) by Diameter: 0 series (0.5110" - 0.6959")	1 series (0.6900" - 0.9609")	2 series (0.9610" - 1.3809")	3 series (1.3530" - 1.8829")
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	110	0.010	0.012	0.014	0.018
		150 - 250	115	100	0.009	0.011	0.012	0.016
		250 - 350	105	90	0.008	0.010	0.011	0.014

GEN2 T-A Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant: AM200® Speed	Feed Rate (IPR) by Diameter: 0 series (0.5110" - 0.6959")	1 series (0.6900" - 0.9609")	2 series (0.9610" - 1.3809")	3 series (1.3530" - 1.8829")
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	0.010	0.012	0.014	0.018
		150 - 250	115	0.009	0.011	0.012	0.016
		250 - 350	105	0.008	0.010	0.011	0.014

GEN2 T-A Inserts
Carbide C1 (K35)

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant: AM300® Speed	Feed Rate (IPR) by Diameter: 0 series (0.5110" - 0.6959")	1 series (0.6900" - 0.9609")	2 series (0.9610" - 1.3809")	3 series (1.3530" - 1.8829")
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	165	0.008	0.011	0.015	0.017
		150 - 250	155	0.006	0.010	0.013	0.015
		250 - 350	140	0.005	0.009	0.012	0.013

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

Recommended Cutting Data | Metric (mm)

T-A® | GEN2 T-A®

Thin Wall Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/min) - Mist Coolant: AM200® Speed	Speed (M/min) - Mist Coolant: TiAlN Speed	Feed Rate (mm/rev) by Diameter: 0 series (12.98 mm - 17.67 mm)	1 series (17.53 mm - 24.40 mm)	2 series (24.41 mm - 35.06 mm)	3 series (34.37 mm - 47.82 mm)
P	Structural Steel A36, A285, A516, etc.	100 - 150	39	34	0.30	0.45	0.48	0.50
		150 - 250	35	31	0.28	0.40	0.43	0.48
		250 - 350	32	28	0.25	0.36	0.40	0.45

Notch Point® and 150° Structural Steel Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/min) - Mist Coolant: AM200® Speed	Speed (M/min) - Mist Coolant: TiAlN Speed	Feed Rate (mm/rev) by Diameter: 0 series (12.98 mm - 17.67 mm)	1 series (17.53 mm - 24.40 mm)	2 series (24.41 mm - 35.06 mm)	3 series (34.37 mm - 47.82 mm)
P	Structural Steel A36, A285, A516, etc.	100 - 150	39	34	0.25	0.30	0.36	0.45
		150 - 250	35	31	0.23	0.28	0.30	0.40
		250 - 350	35	28	0.20	0.25	0.28	0.36

GEN2 T-A Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/min) - Mist Coolant: AM200® Speed	Feed Rate (mm/rev) by Diameter: 0 series (12.98 mm - 17.67 mm)	1 series (17.53 mm - 24.40 mm)	2 series (24.41 mm - 35.06 mm)	3 series (34.37 mm - 47.82 mm)
P	Structural Steel A36, A285, A516, etc.	100 - 150	39	0.25	0.30	0.36	0.46
		150 - 250	35	0.23	0.28	0.30	0.40
		250 - 350	35	0.20	0.25	0.28	0.36

GEN2 T-A Inserts
Carbide C1 (K35)

ISO	Material	Hardness (BHN)	Speed (M/min) - Mist Coolant: AM300® Speed	Feed Rate (mm/rev) by Diameter: 0 series (12.98 mm - 17.67 mm)	1 series (17.53 mm - 24.40 mm)	2 series (24.41 mm - 35.06 mm)	3 series (34.37 mm - 47.82 mm)
P	Structural Steel A36, A285, A516, etc.	100 - 150	50	0.20	0.28	0.38	0.43
		150 - 250	47	0.15	0.25	0.33	0.38
		250 - 350	43	0.13	0.23	0.30	0.33

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance. *ext:* **7611** | *email:* **appeng@alliedmachine.com**

Recommended Cutting Data

GEN3SYS® XT Pro (XTST)

Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM) Mist Coolant AM420 Speed	Feed Rate (IPR) by Diameter 12 series (0.4724" - 0.5117")	13 series (0.5118" - 0.5511")	14 series (0.5512" - 0.5905")	15 series (0.5906" - 0.6298")	16 series (0.6299" - 0.6692")
P	Structural Steel A36, A285, A516, etc.	100 - 150	350	0.008	0.009	0.010	0.010	0.012
		150 - 250	300	0.007	0.008	0.009	0.009	0.010
		250 - 350	260	0.006	0.007	0.008	0.008	0.009

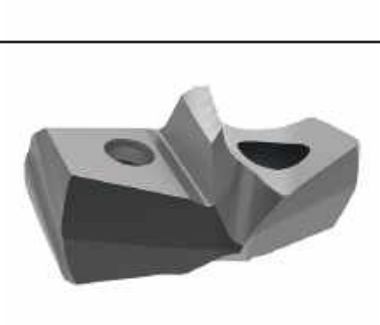
Metric (mm)

ISO	Material	Hardness (BHN)	Speed (M/min) Mist Coolant AM420 Speed	Feed Rate (mm/rev) by Diameter 12 series (12.00 mm - 12.99 mm)	13 series (13.00 mm - 13.99 mm)	14 series (14.00 mm - 14.99 mm)	15 series (15.00 mm - 15.99 mm)	16 series (16.00 mm - 16.99 mm)
P	Structural Steel A36, A285, A516, etc.	100 - 150	107	0.20	0.22	0.25	0.25	0.30
		150 - 250	91	0.18	0.20	0.23	0.23	0.25
		250 - 350	79	0.15	0.17	0.20	0.20	0.23

Speed and Feed Multiplier

	Depth of Cut <= 1.5xD	> 1.5xD
Speed	See above chart	0.75
Feed	See above chart	0.90

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance. *ext:* **7611** | *email:* **appeng@alliedmachine.com**
NOTE: If drilling material thickness of 0.500" (12.7 mm) or less, a minimum of 10% reduction in feed is required to minimize material deflection.



Feed Rate (IPR) by Diameter

17 series (0.6693" - 0.7086")	18 series (0.7087" - 0.7873")	20 series (0.7874" - 0.8660")	22 series (0.8661" - 0.9448")	24 series (0.9449" - 1.0235")	26 series (1.0236" - 1.1416")	29 series (1.1417" - 1.2597")	32 series (1.2598" - 1.3780")
0.012	0.014	0.015	0.016	0.017	0.018	0.019	0.019
0.010	0.012	0.014	0.015	0.016	0.017	0.018	0.018
0.009	0.011	0.012	0.013	0.014	0.015	0.016	0.016

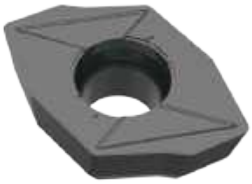
Feed Rate (mm/rev) by Diameter

17 series (17.00 mm - 17.99 mm)	18 series (18.00 mm - 19.99 mm)	20 series (20.00 mm - 21.99 mm)	22 series (22.00 mm - 23.99 mm)	24 series (24.00 mm - 25.99 mm)	26 series (26.00 mm - 28.99 mm)	29 series (29.00 mm - 31.99 mm)	32 series (32.00 mm - 35.00 mm)
0.30	0.36	0.38	0.41	0.43	0.46	0.48	0.48
0.25	0.30	0.36	0.38	0.41	0.43	0.46	0.46
0.23	0.28	0.30	0.33	0.36	0.38	0.41	0.41

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance. *ext:* **7611** | *email:* **appeng@alliedmachine.com**
NOTE: If drilling material thickness of 0.500" (12.7 mm) or less, a minimum of 10% reduction in feed is required to minimize material deflection.

Recommended Drilling Data | Imperial (inch) | Metric (mm)

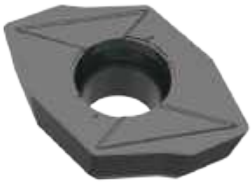
4TEX® Indexable Drill



Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM)	Feed Rate (IPR) by Diameter - 2xD, 3xD*			
				03, 04 Series (0.472" - 0.591")	05 Series (0.625" - 0.709")	06, 07 Series (0.748" - 1.024")	09, 11, 14 Series (1.063" - 1.562")
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	330 - 600	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008
		150 - 250	330 - 600	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008
		250 - 350	330 - 600	0.0015 - 0.0055	0.0025 - 0.0065	0.003 - 0.008	0.003 - 0.008

*For 4xD tools, begin at low end of feed recommendation.



Metric (mm)

ISO	Material	Hardness (BHN)	Speed (m/min)	Feed Rate (mm/rev) by Diameter - 2xD, 3xD*			
				03, 04 Series (12.00 mm - 15.00 mm)	05 Series (15.88 mm - 18.00 mm)	06, 07 Series (19.00 mm - 26.00 mm)	09, 11, 14 Series (27.00 mm - 39.67 mm)
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	100 - 185	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
		150 - 250	100 - 185	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13
		250 - 350	100 - 185	0.05 - 0.13	0.07 - 0.13	0.08 - 0.13	0.08 - 0.13

*For 4xD tools, begin at low end of feed recommendation.

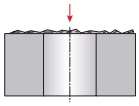
Insert Geometry Recommendations | Troubleshooting

4TEX® Indexable Drill

Insert Geometry Recommendations

ISO	Material	Hardness (BHN)	Geometry P	M	K	N	H
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	○	●			
		150 - 250	○	●			
		250 - 350	●				○

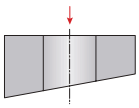
Troubleshooting

1. 

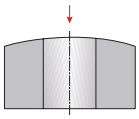
Starting on Uneven Surfaces
- Reduce entry feed by 50% if necessary.

2. 

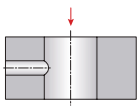
Starting on Angled Surfaces
- Reduce entry feed by 20 - 50%.
- Use lower rake geometry if insert chipping occurs.

3. 

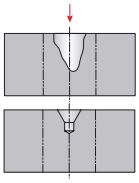
Angled Bore Exit
- Reduce entry feed by 50% on breakout.
- Use tough insert and stable corner radius.

4. 

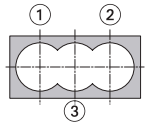
Starting on Convex Surfaces
- Reduce entry feed by 50%.
- Use lower rake geometry if insert chipping occurs.

5. 

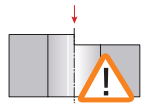
Drilling Through a Cross Hole
- Reduce feed rate 50% if necessary.
- Use good coolant flow and monitor chip packing.
- Use lower rake geometry if insert chipping occurs.

6. 

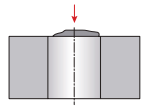
Drilling on a Groove or Large Centering Box
- Reduce entry feed
- Use lower rake geometry for center insert

7. 

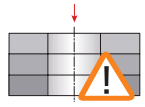
Chain Drilling
- Use good coolant flow.
- Reduce feed rate by 50% for interrupted cut.
- Use lower rake geometry if insert chipping occurs.

8. 

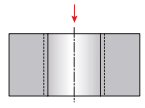
Starting on an Edge
- Reduce entry feed rate by 50%.
- Use lower rake geometry if insert chipping occurs.

9. 

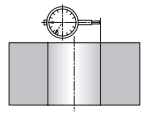
Starting on a Welded Seam
- Reduce entry feed rate by 50%.
- Use lower rake geometry if insert chipping occurs.

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.)

Preexisting Diameter: _____ in/mm

Depth of Cut: _____ in/mm

Hardness: _____ (BHN, Rc)

Required Finish: _____ RMS

State: _____ (Casting, hot rolled, forging)

Machine Information

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

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

Model #: _____

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

Power: _____ HP/KW

Thrust: _____ lbs/N

Rigidity:
- ☐ Excellent
- ☐ Good
- ☐ Poor

Orientation:
- ☐ Vertical
- ☐ Horizontal

Tool Rotating:
- ☐ Yes
- ☐ No

Coolant Information

Coolant Delivery: _____ (Through tool, flood)

Coolant Pressure: _____ PSI / bar

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

Coolant Volume: _____ GPM / LPM

Requested Tooling

QTY	Item Number

QTY	Item Number

ALLIED MACHINE & ENGINEERING

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ALLIED MACHINE & ENGINEERING

Warranty Information

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

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

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

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

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

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