ALLIED MACHINE & ENGINEERING | WOHLHAUPTER®

Holemaking Solutions for Today's Manufacturing

Boring

Reaming

Burnishing

Threading

Specials

T-A Pro™

▶ *DRILLING*

High Penetration Replaceable Insert Drilling System

T-A Pro™

High Penetration Replaceable Insert Drilling System

- **Diameter Range:** 11.10mm - 47.80mm

The best just got *better*.

After 35 years of spade drilling success with our iconic T-A (Throw Away) insert, the best just got better. Our team of engineers developed technology that takes THE "go-to" solution for general purpose holemaking to a performance level previously unachievable by a spade insert.

The T-A Pro combines material-specific insert geometries, a redesigned drill body, and a proprietary through coolant system to allow penetration rates which run at speeds faster than other high performance drills.

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

Applicable Industries

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

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

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

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

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

⚠ WARNING

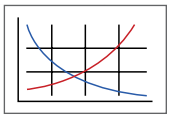
WARNING (shown above) means that failure to follow the precautions in this message could result in tool failure and serious injury.

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

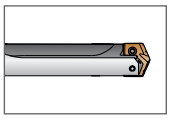
NOTE and **IMPORTANT** are also used. These are important that you read and follow but are not safety-related.

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

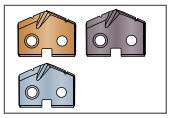
Reference Icons
The following icons will appear throughout the catalog to help you navigate between products.



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



T-A Pro Holders
Refers to the range of holders that connect with the corresponding inserts



T-A Pro Carbide Inserts
Refers to ISO coated carbide inserts that connect with the corresponding holders

Series	Diameter Range	
	Metric (mm)	Imperial (inch)
Z	11.10mm - 12.69mm	0.437" - 0.499"
0	12.70mm - 17.64mm	0.500" - 0.694"
1	17.65mm - 24.37mm	0.695" - 0.959"
2	24.38mm - 35.04mm	0.960" - 1.379"
3	35.05mm - 47.80mm	1.380" - 1.882"

T-A Pro Drilling System Contents

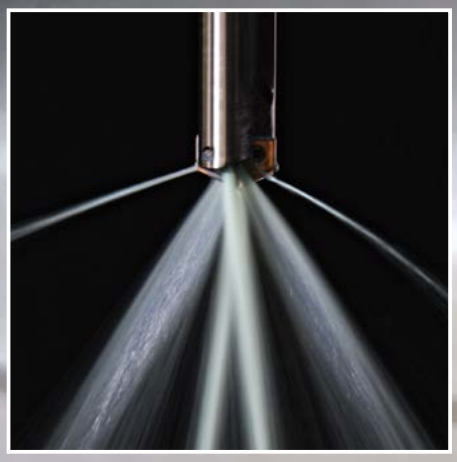
T-A Pro™

NEW HOLDER DESIGN

Optimised flute design for ***increased*** chip evacuation

NEW INSERT DESIGN

ISO specific geometries with a new point design to ***simplify*** your insert choices



NEW COOLANT DESIGN

Proprietary coolant outlet configuration provides ***superior*** performance **even in low coolant applications (200 PSI)**

www.alliedmachine.com | +44 (0) 1384 400 900 | enquiries.eu@alliedmachine.com

Drill Holders

Stub Length

3xD

5xD

7xD

⚠ **10xD**

⚠ **12xD**

⚠ **15xD**

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

A Series Insert +
A Series Holder

C Series Insert +
A Series Holder

C Series Insert +
C Series Holder

A Series Insert +
C Series Holder

Competitive Test Results

T-A Pro™ TEST RESULTS

Project Profile:	Competitive Testing in 4340 Steel
Tooling Solution:	T-A Pro™: Steel (P) Geometry with T-A Pro™ Holder

The Parameters:

- Hole Diameter = 14.30mm
- Depth of Cut = 50.80mm
- Coolant = 300 PSI
- Speed = 2546 RPM
- Feed = 420 mm/min

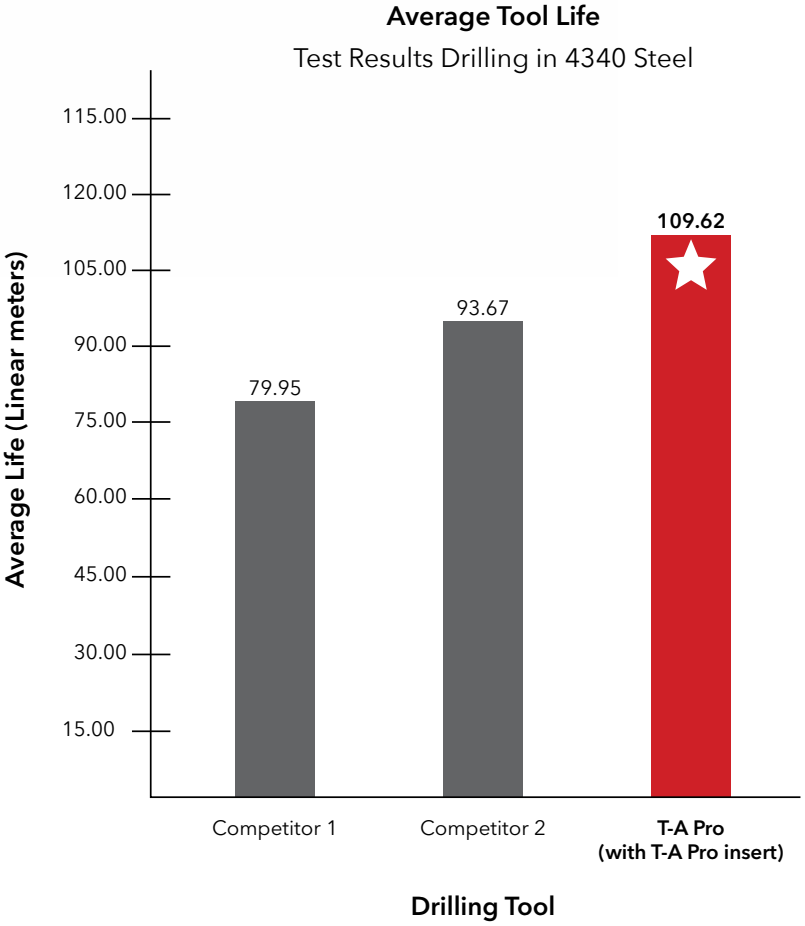
The Results:

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

Competitor G = 79.95 total linear meters

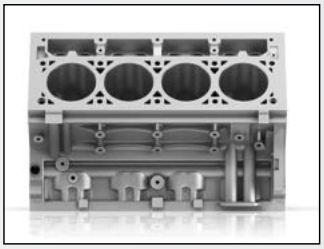
Competitor I = 93.67 total linear meters

T-A Pro = **109.62** total linear meters



Case Study

Need a solution with better tool life?



Our customer was machining engine block parts from ductile cast iron in a production cell. The replaceable tip drill they were using wasn't providing the results they needed, so they began searching for a tooling solution that would decrease machine down time and increase productivity.

The customer tested the **T-A Pro™ High Penetration Replaceable Insert Drill** using the "K" (cast iron) geometry insert with Allied's multi-layer TiAlN coating that provides increased abrasion resistance and tool life. The T-A Pro performed better than the customer had hoped.

Using the T-A Pro not only provided substantial tool life improvements, but it also improved the penetration rate. The previous tooling had a tool life of 1700 holes, but the T-A Pro increased that life to 3400 holes. The T-A Pro also increased penetration rates by 30%. This allowed the customer to increase their productivity.

The bottom line: our customer was able to save €50k in tool savings per year with massive improvements in throughput. The advantage of the T-A Pro allowed our customer to achieve their tooling goals.

Product: T-A Pro™
Objectives: (1) Decrease machine downtime (2) Increase productivity
Industry: Automotive
Part: Engine block
Material: Ductile Cast Iron
Hole Ø: 16.00mm
Hole Depth: 241.00mm

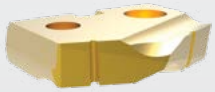
Measure	Competitor Replaceable Insert Drill	T-A Pro™ Drill
RPM	1819 RPM	**2092 RPM**
Speed	91 M/min	**105 M/min**
Feed Rate	0.20 mm/rev	**0.23 mm/rev**
Penetration Rate	36.96 mm/min	48.89 mm/min
Cycle Time	39 seconds	**29 seconds**
Tool Life	1700 holes	**3400 holes**

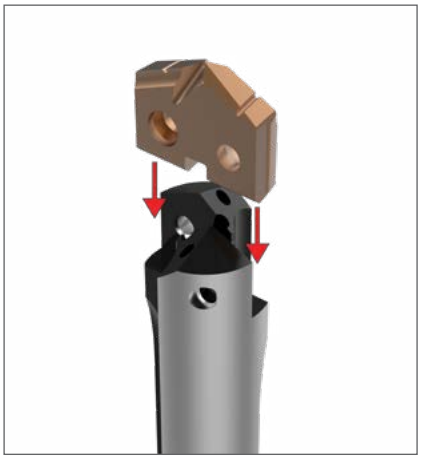
- T-A Pro Drill holder
  15xD length
  Item No. HTA0C15-20C
- T- A Pro Drill inserts
  K geometry
  (cast iron)
  Item No. TAK0-16.00

The cast iron TiAlN T-A Pro insert coating provided:

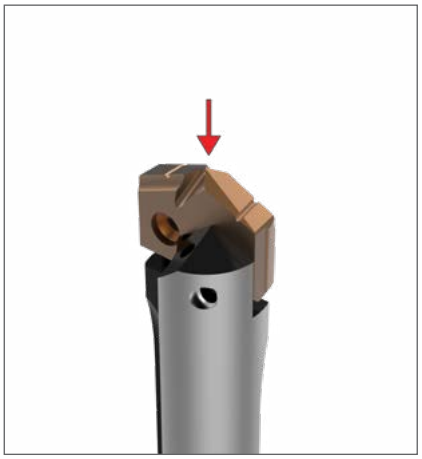
- Doubled tool life
- Decreased machine down time
- Increased productivity
- 30% increased penetration rate
- Increased tool savings per year

Insert Comparison and Assembly Information

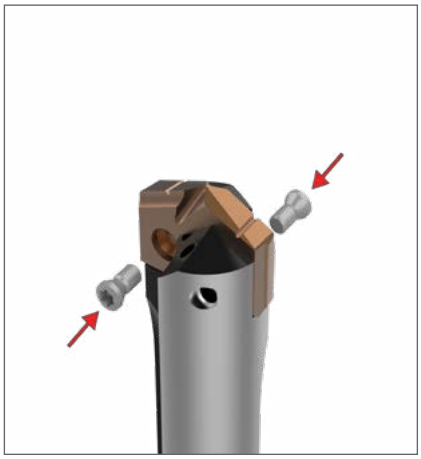
		 T-A Pro Inserts	 T-A GEN2 Inserts	 T-A Inserts
Recommended for increased productivity		✓		
ISO specific geometry/coating combination		✓		
Connects with T-A Pro holders		✓	✓	✓
Connects with T-A holders		✓	✓	✓



Step 1:
Align the flats on the T-A Pro insert with the flats on the ears of the holder.



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

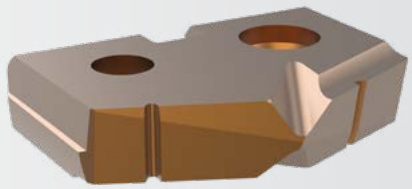


Step 3:
Apply a generous amount of E-Z Break® (provided in the packaging) onto the supplied TORX® Plus screws.

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

T-A Pro Drilling System Information

T-A Pro Drill Inserts



Advanced Design Capabilities

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

T-A Pro Inserts Connect with:

T-A Pro holders

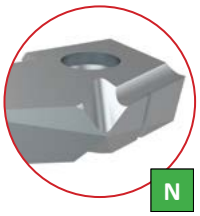
T-A holders

P - Steels

- Designed to provide increased penetration rates and tool life in steel applications
- Superior geometry and edge provides excellent chip control
- Allied's multilayer AM300 coating increases heat resistance and improves tool life

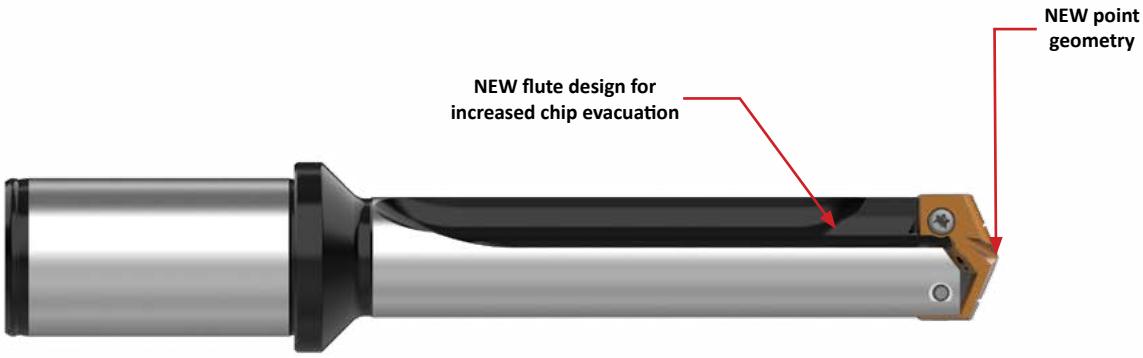
N - Non-ferrous Materials

- Designed for applications in aluminum, brass, and copper
- The geometry yields excellent chip control in these softer materials
- TiCN coating gives the versatility to run in a variety of materials while reducing buildup



K - Cast Irons

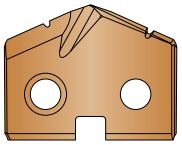
- Uniquely designed for cast/nodular iron applications
- Geometry developed for maximum tool life, reduced exit burr, and improved hole finish
- Allied's multilayer TiAlN coating provides increased abrasion resistance and tool life



T-A Pro Drill Holders

			STUB, 3xD, 5xD, 7xD, 10xD, 12xD, 15xD
Straight flutes	Proprietary coolant outlets improve coolant flow	Provides increased insert life	Available in STUB, 3xD, 5xD, 7xD, 10xD, 12xD, and 15xD

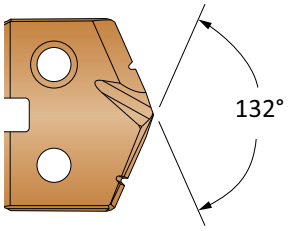
Product Nomenclature

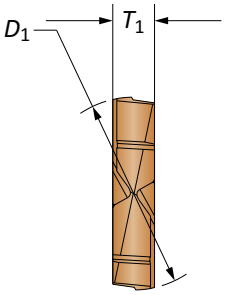


T-A Pro Drill Inserts

TA	P	0	–	15.00
1	2	3		4

1. T-A Pro Drill Insert	2. ISO Material / Geometry	3. Series	4. Diameter (mm)
TA = TA Pro insert	**P** = Steel **K** = Cast iron **N** = Non-ferrous **M** = Stainless Steel **X** = HSS	**Z** = Z series **0** = 0 series **1** = 1 series **2** = 2 series **3** = 3 series	For complete list of diameter ranges by series, see contents page.





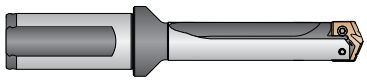
Reference Key

Symbol	Attribute
D_1	Insert diameter
T_1	Insert thickness

Product Nomenclature

T-A Pro Drill Holders

HTA	1	A	05	–	100	C
1	2	3	4		5	6

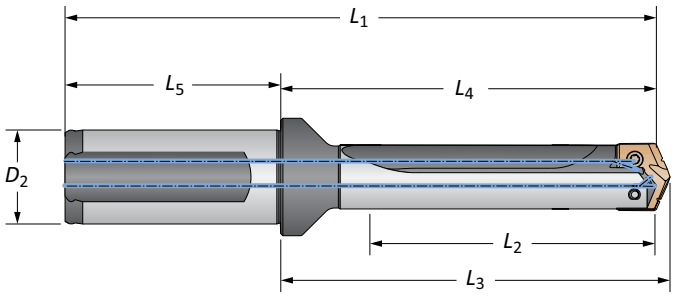


1. Holder	2. Series	3. Body Diameter	4. Length
HTA = TA Pro holder	**Z** = Z Series	**A** = A body diameter	**01** = Stub Length
	0 = 0 Series	**B** = B body diameter	**03** = 3x Diameter
	1 = 1 Series	**C** = C body diameter	**05** = 5x Diameter
	2 = 2 Series	**D** = D body diameter	**07** = 7x Diameter
	3 = 3 Series		**10** = 10x Diameter
			12 = 12x Diameter
			15 = 15x Diameter

5. Shank Diameter	
Metric (mm)	**Imperial (inch)**
20 = 20mm	**075** = 3/4”
25 = 25mm	**100** = 1”
32 = 32mm	**125** = 1-1/4”
40 = 40mm	**150** = 1-1/2”

6. Shank Style
F = Flanged with flat
FM = Flanged metric with flat
C = Cylindrical (no flat)
CM = Cylindrical metric (no flat)

Holder Ordering Information
The series designator (Z series, 0 series, etc.) in the top corner of each page is for your reference when ordering. Please refer to these series designators when placing an order. For example, a Z series drill insert only fits into a Z series holder.

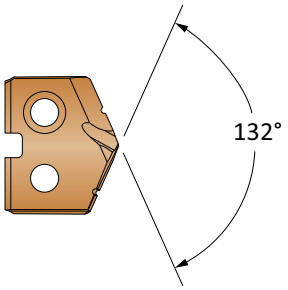


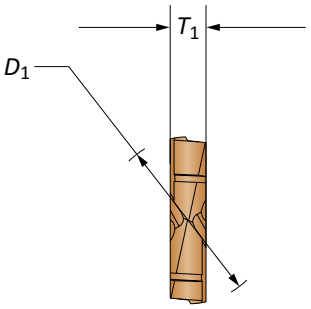
Reference Key

Symbol	Attribute
D_2	Shank diameter
L_1	Overall length
L_2	Max. Drill depth
L_3	Holder reference length
L_4	Holder body length
L_5	Shank length

T-A Pro Carbide Drill Inserts

Z Series | Diameter Range: 11.10mm - 12.69mm



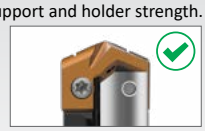


Insert					Part No.	Part No.	Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
Z-A	11.11	0.4374	7/16	2.38	**TAPZ-11.11**	**TAKZ-11.11**	**TANZ-11.11**
Z-A	11.20	0.4409		2.38	**TAPZ-11.20**	**TAKZ-11.20**	**TANZ-11.20**
Z-A	11.30	0.4449		2.38	**TAPZ-11.30**	**TAKZ-11.30**	**TANZ-11.30**
Z-A	11.40	0.4488		2.38	**TAPZ-11.40**	**TAKZ-11.40**	**TANZ-11.40**
Z-A	11.50	0.4528		2.38	**TAPZ-11.50**	**TAKZ-11.50**	**TANZ-11.50**
Z-A	11.51	0.4531	29/64	2.38	**TAPZ-11.51**	**TAKZ-11.51**	**TANZ-11.51**
Z-A	11.60	0.4567		2.38	**TAPZ-11.60**	**TAKZ-11.60**	**TANZ-11.60**
Z-A	11.70	0.4606		2.38	**TAPZ-11.70**	**TAKZ-11.70**	**TANZ-11.70**
Z-A	11.80	0.4646		2.38	**TAPZ-11.80**	**TAKZ-11.80**	**TANZ-11.80**
Z-B	11.91	0.4689	15/32	2.38	**TAPZ-11.91**	**TAKZ-11.91**	**TANZ-11.91**
Z-B	12.00	0.4724		2.38	**TAPZ-12.00**	**TAKZ-12.00**	**TANZ-12.00**
Z-B	12.10	0.4764		2.38	**TAPZ-12.10**	**TAKZ-12.10**	**TANZ-12.10**
Z-B	12.20	0.4803		2.38	**TAPZ-12.20**	**TAKZ-12.20**	**TANZ-12.20**
Z-B	12.30	0.4843	31/64	2.38	**TAPZ-12.30**	**TAKZ-12.30**	**TANZ-12.30**
Z-B	12.40	0.4882		2.38	**TAPZ-12.40**	**TAKZ-12.40**	**TANZ-12.40**
Z-B	12.50	0.4921		2.38	**TAPZ-12.50**	**TAKZ-12.50**	**TANZ-12.50**
Z-B	12.60	0.4961		2.38	**TAPZ-12.60**	**TAKZ-12.60**	**TANZ-12.60**

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.


A Series Insert + A Series Holder

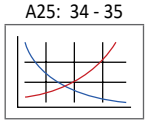

C Series Insert + A Series Holder


C Series Insert + C Series Holder

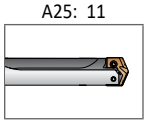

A Series Insert + C Series Holder

A25: 34 - 35

Key on A25: 1



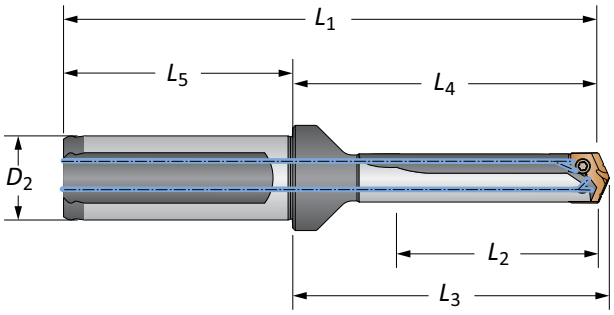
A25: 11



Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Drill Holders

Z Series Metric | Diameter Range: 11.11mm - 12.69mm



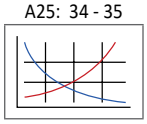
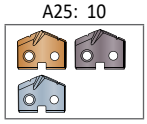
	Length	Sub Series	Series Diameter	Body L_2 mm	Body L_4 mm	Body L_3 mm	Body L_1 mm	Shank L_5 mm	Shank D_2 mm	Shank Flat	Part No
	STUB	A	11.11 - 11.80	12.8	40.7	43.4	90.7	50	20	Yes	**HTAZA01-20FM**
	STUB	A	11.11 - 11.80	12.8	40.7	43.4	90.7	50	20	No	**HTAZA01-20CM**
	STUB	B	11.91 - 12.60	12.8	40.7	43.4	90.7	50	20	Yes	**HTAZB01-20FM**
	STUB	B	11.91 - 12.60	12.8	40.7	43.4	90.7	50	20	No	**HTAZB01-20CM**
	3xD	A	11.11 - 11.80	36.9	68.4	71.2	118.4	50	20	Yes	**HTAZA03-20FM**
	3xD	A	11.11 - 11.80	36.9	68.4	71.2	118.4	50	20	No	**HTAZA03-20CM**
	3xD	B	11.91 - 12.60	36.9	68.4	71.2	118.4	50	20	Yes	**HTAZB03-20FM**
	3xD	B	11.91 - 12.60	36.9	68.4	71.2	118.4	50	20	No	**HTAZB03-20CM**
	5xD	A	11.11 - 11.80	61.0	92.5	95.3	142.5	50	20	Yes	**HTAZA05-20FM**
	5xD	A	11.11 - 11.80	61.0	92.5	95.3	142.5	50	20	No	**HTAZA05-20CM**
	5xD	B	11.91 - 12.60	61.0	92.5	95.3	142.5	50	20	Yes	**HTAZB05-20FM**
	5xD	B	11.91 - 12.60	61.0	92.5	95.3	142.5	50	20	No	**HTAZB05-20CM**
	7xD	A	11.11 - 11.80	85.0	116.5	119.3	166.6	50	20	Yes	**HTAZA07-20FM**
Ⓜ	7xD	A	11.11 - 11.80	85.0	116.5	119.3	166.6	50	20	No	**HTAZA07-20CM**
	7xD	B	11.91 - 12.60	85.0	116.5	119.3	166.6	50	20	Yes	**HTAZB07-20FM**
	7xD	B	11.91 - 12.60	85.0	116.5	119.3	166.6	50	20	No	**HTAZB07-20CM**
	10xD	A	11.11 - 11.80	121.2	152.7	155.5	202.7	50	20	Yes	**HTAZA10-20FM**
	10xD	A	11.11 - 11.80	121.2	152.7	155.5	202.7	50	20	No	**HTAZA10-20CM**
	10xD	B	11.91 - 12.60	121.2	152.7	155.5	202.7	50	20	Yes	**HTAZB10-20FM**
	10xD	B	11.91 - 12.60	121.2	152.7	155.5	202.7	50	20	No	**HTAZB10-20CM**
	12xD	A	11.11 - 11.80	145.2	176.7	179.5	226.8	50	20	Yes	**HTAZA12-20FM**
	12xD	A	11.11 - 11.80	145.2	176.7	179.5	226.8	50	20	No	**HTAZA12-20CM**
	12xD	B	11.91 - 12.60	145.2	176.7	179.5	226.8	50	20	Yes	**HTAZB12-20FM**
	12xD	B	11.91 - 12.60	145.2	176.7	179.5	226.8	50	20	No	**HTAZB12-20CM**
	15xD	A	11.11 - 11.80	181.4	212.9	215.7	262.9	50	20	Yes	**HTAZA15-20FM**
	15xD	A	11.11 - 11.80	181.4	212.9	215.7	262.9	50	20	No	**HTAZA15-20CM**
	15xD	B	11.91 - 12.60	181.4	212.9	215.7	262.9	50	20	Yes	**HTAZB15-20FM**
	15xD	B	11.91 - 12.60	181.4	212.9	215.7	262.9	50	20	No	**HTAZB15-20CM**

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	84 N-cm

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

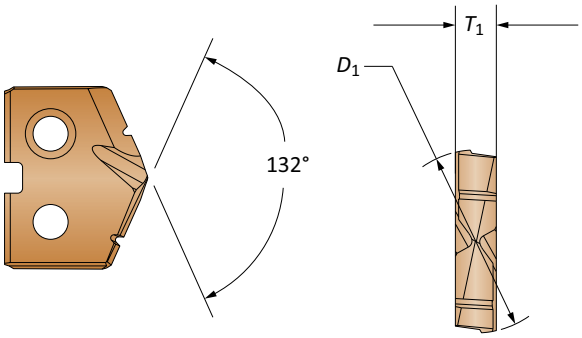
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35
Key on A25: 1

A25: 10


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

T-A Pro Carbide Drill Inserts

0 Series | Diameter Range: 12.70mm - 17.64mm

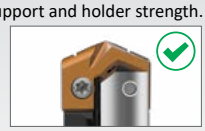


Insert					Part No.	Part No.	Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
0-A	12.70	0.5000	1/2	3.175	TAP0-12.70	TAK0-12.70	TAN0-12.70
0-A	12.80	0.5039		3.175	TAP0-12.80	TAK0-12.80	TAN0-12.80
0-A	12.90	0.5079		3.175	TAP0-12.90	TAK0-12.90	TAN0-12.90
0-A	13.00	0.5118		3.175	TAP0-13.00	TAK0-13.00	TAN0-13.00
0-A	13.10	0.5157	33/64	3.175	TAP0-13.10	TAK0-13.10	TAN0-13.10
0-A	13.20	0.5197		3.175	TAP0-13.20	TAK0-13.20	TAN0-13.20
0-A	13.30	0.5236		3.175	TAP0-13.30	TAK0-13.30	TAN0-13.30
0-A	13.40	0.5276		3.175	TAP0-13.40	TAK0-13.40	TAN0-13.40
0-A	13.49	0.5311	17/32	3.175	TAP0-13.49	TAK0-13.49	TAN0-13.49
0-A	13.50	0.5315		3.175	TAP0-13.50	TAK0-13.50	TAN0-13.50
0-A	13.60	0.5354		3.175	TAP0-13.60	TAK0-13.60	TAN0-13.60
0-A	13.70	0.5394		3.175	TAP0-13.70	TAK0-13.70	TAN0-13.70
0-A	13.80	0.5433		3.175	TAP0-13.80	TAK0-13.80	TAN0-13.80
0-A	13.89	0.5469	35/64	3.175	TAP0-13.89	TAK0-13.89	TAN0-13.89
0-B	14.00	0.5512		3.175	TAP0-14.00	TAK0-14.00	TAN0-14.00
0-B	14.10	0.5551		3.175	TAP0-14.10	TAK0-14.10	TAN0-14.10
0-B	14.20	0.5591		3.175	TAP0-14.20	TAK0-14.20	TAN0-14.20
0-B	14.29	0.5626	9/16	3.175	TAP0-14.29	TAK0-14.29	TAN0-14.29
0-B	14.40	0.5669		3.175	TAP0-14.40	TAK0-14.40	TAN0-14.40
0-B	14.50	0.5709		3.175	TAP0-14.50	TAK0-14.50	TAN0-14.50
0-B	14.60	0.5748		3.175	TAP0-14.60	TAK0-14.60	TAN0-14.60
0-B	14.68	0.5780	13/64	3.175	TAP0-14.68	TAK0-14.68	TAN0-14.68
0-B	14.80	0.5827		3.175	TAP0-14.80	TAK0-14.80	TAN0-14.80
0-B	14.90	0.5866		3.175	TAP0-14.90	TAK0-14.90	TAN0-14.90
0-B	15.00	0.5906		3.175	TAP0-15.00	TAK0-15.00	TAN0-15.00

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

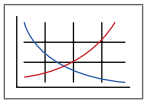

A Series Insert + A Series Holder


C Series Insert + A Series Holder

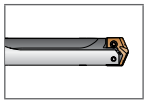

C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 34 - 35



A25: 14 - 15

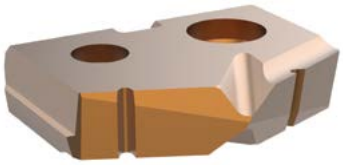


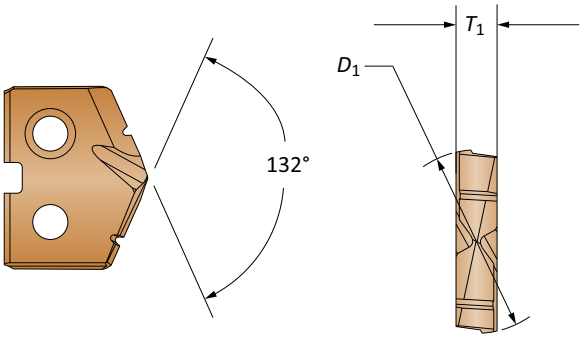
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

0 Series | Diameter Range: 12.70mm - 17.64mm

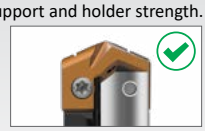




Insert					Part No.	Part No.	Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
0-C	15.08	0.5937	19/32	3.175	TAP0-15.08	TAK0-15.08	TAN0-15.08
0-C	15.20	0.5984		3.175	TAP0-15.20	TAK0-15.20	TAN0-15.20
0-C	15.25	0.6004		3.175	TAP0-15.25	TAK0-15.25	TAN0-15.25
0-C	15.30	0.6024		3.175	TAP0-15.30	TAK0-15.30	TAN0-15.30
0-C	15.40	0.6063		3.175	TAP0-15.40	TAK0-15.40	TAN0-15.40
0-C	15.48	0.6094	33/64	3.175	TAP0-15.48	TAK0-15.48	TAN0-15.48
0-C	15.50	0.6102		3.175	TAP0-15.50	TAK0-15.50	TAN0-15.50
0-C	15.60	0.6142		3.175	TAP0-15.60	TAK0-15.60	TAN0-15.60
0-C	15.70	0.6181		3.175	TAP0-15.70	TAK0-15.70	TAN0-15.70
0-C	15.80	0.6220		3.175	TAP0-15.80	TAK0-15.80	TAN0-15.80
0-C	15.88	0.6252	5/8	3.175	TAP0-15.88	TAK0-15.88	TAN0-15.88
0-C	16.00	0.6299		3.175	TAP0-16.00	TAK0-16.00	TAN0-16.00
0-C	16.08	0.6331		3.175	TAP0-16.08	TAK0-16.08	TAN0-16.08
0-C	16.20	0.6378		3.175	TAP0-16.20	TAK0-16.20	TAN0-16.20
0-C	16.27	0.6406	41/64	3.175	TAP0-16.27	TAK0-16.27	TAN0-16.27
0-C	16.40	0.6457		3.175	TAP0-16.40	TAK0-16.40	TAN0-16.40
0-D	16.50	0.6496		3.175	TAP0-16.50	TAK0-16.50	TAN0-16.50
0-D	16.60	0.6535		3.175	TAP0-16.60	TAK0-16.60	TAN0-16.60
0-D	16.67	0.6563	21/32	3.175	TAP0-16.67	TAK0-16.67	TAN0-16.67
0-D	16.80	0.6614		3.175	TAP0-16.80	TAK0-16.80	TAN0-16.80
0-D	16.90	0.6654		3.175	TAP0-16.90	TAK0-16.90	TAN0-16.90
0-D	17.00	0.6693		3.175	TAP0-17.00	TAK0-17.00	TAN0-17.00
0-D	17.07	0.6720	43/64	3.175	TAP0-17.07	TAK0-17.07	TAN0-17.07
0-D	17.10	0.6732		3.175	TAP0-17.10	TAK0-17.10	TAN0-17.10
0-D	17.20	0.6772		3.175	TAP0-17.20	TAK0-17.20	TAN0-17.20
0-D	17.30	0.6811		3.175	TAP0-17.30	TAK0-17.30	TAN0-17.30
0-D	17.40	0.6850		3.175	TAP0-17.40	TAK0-17.40	TAN0-17.40
0-D	17.46	0.6874	11/16	3.175	TAP0-17.46	TAK0-17.46	TAN0-17.46
0-D	17.50	0.6890		3.175	TAP0-17.50	TAK0-17.50	TAN0-17.50
0-D	17.60	0.6929		3.175	TAP0-17.60	TAK0-17.60	TAN0-17.60

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.


A Series Insert + A Series Holder

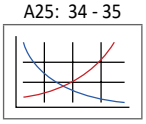

C Series Insert + A Series Holder


C Series Insert + C Series Holder

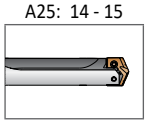

A Series Insert + C Series Holder

A25: 34 - 35

Key on A25:1



A25: 14 - 15

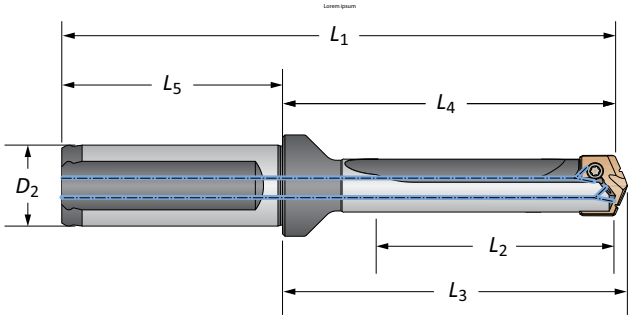


Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Drill Holders

0 Series Metric | Diameter Range: 12.70mm - 17.64mm



	Length	Sub Series	Series Diameter	Body L_2 mm	L_4 mm	L_3 mm	L_1 mm	Shank L_5 mm	D_2 mm	Flat	Part No
	STUB	A	12.70 - 13.89	15.3	44.0	46.7	95.5	51.6	20	Yes	**HTA0A01-20FM**
	STUB	A	12.70 - 13.89	15.3	44.0	46.7	95.5	51.6	20	No	**HTA0A01-20CM**
	STUB	B	14.00 - 15.00	15.3	44.0	46.7	95.5	51.6	20	Yes	**HTA0B01-20FM**
	STUB	B	14.00 - 15.00	15.3	44.0	46.7	95.5	51.6	20	No	**HTA0B01-20CM**
	STUB	C	15.08 - 16.40	15.3	44.0	46.7	95.5	51.6	20	Yes	**HTA0C01-20FM**
	STUB	C	15.08 - 16.40	15.3	44.0	46.7	95.5	51.6	20	No	**HTA0C01-20CM**
	STUB	D	16.50 - 17.60	15.3	44.0	46.7	95.5	51.6	20	Yes	**HTA0D01-20FM**
	STUB	D	16.50 - 17.60	15.3	44.0	46.7	95.5	51.6	20	No	**HTA0D01-20CM**
	3xD	A	12.70 - 13.89	45.9	77.8	80.5	129.4	51.6	20	Yes	**HTA0A03-20FM**
	3xD	A	12.70 - 13.89	45.9	77.8	80.5	129.4	51.6	20	No	**HTA0A03-20CM**
	3xD	B	14.00 - 15.00	45.9	77.8	80.5	129.4	51.6	20	Yes	**HTA0B03-20FM**
	3xD	B	14.00 - 15.00	45.9	77.8	80.5	129.4	51.6	20	No	**HTA0B03-20CM**
	3xD	C	15.08 - 16.40	45.9	77.8	80.5	129.4	51.6	20	Yes	**HTA0C03-20FM**
	3xD	C	15.08 - 16.40	45.9	77.8	80.5	129.4	51.6	20	No	**HTA0C03-20CM**
	3xD	D	16.50 - 17.60	45.9	77.8	80.5	129.4	51.6	20	Yes	**HTA0D03-20FM**
ⓜ	3xD	D	16.50 - 17.60	45.9	77.8	80.5	129.4	51.6	20	No	**HTA0D03-20CM**
	5xD	A	12.70 - 13.89	76.6	108.5	111.2	160.0	51.6	20	Yes	**HTA0A05-20FM**
	5xD	A	12.70 - 13.89	76.6	108.5	111.2	160.0	51.6	20	No	**HTA0A05-20CM**
	5xD	B	14.00 - 15.00	76.6	108.5	111.2	160.0	51.6	20	Yes	**HTA0B05-20FM**
	5xD	B	14.00 - 15.00	76.6	108.5	111.2	160.0	51.6	20	No	**HTA0B05-20CM**
	5xD	C	15.08 - 16.40	76.6	108.5	111.2	160.0	51.6	20	Yes	**HTA0C05-20FM**
	5xD	C	15.08 - 16.40	76.6	108.5	111.2	160.0	51.6	20	No	**HTA0C05-20CM**
	5xD	D	16.50 - 17.60	76.6	108.5	111.2	160.0	51.6	20	Yes	**HTA0D05-20FM**
	5xD	D	16.50 - 17.60	76.6	108.5	111.2	160.0	51.6	20	No	**HTA0D05-20CM**
	7xD	A	12.70 - 13.89	107.2	139.1	141.8	190.7	51.6	20	Yes	**HTA0A07-20FM**
	7xD	A	12.70 - 13.89	107.2	139.1	141.8	190.7	51.6	20	No	**HTA0A07-20CM**
	7xD	B	14.00 - 15.00	107.2	139.1	141.8	190.7	51.6	20	Yes	**HTA0B07-20FM**
	7xD	B	14.00 - 15.00	107.2	139.1	141.8	190.7	51.6	20	No	**HTA0B07-20CM**
	7xD	C	15.08 - 16.40	107.2	139.1	141.8	190.7	51.6	20	Yes	**HTA0C07-20FM**
	7xD	C	15.08 - 16.40	107.2	139.1	141.8	190.7	51.6	20	No	**HTA0C07-20CM**
	7xD	D	16.50 - 17.60	107.2	139.1	141.8	190.7	51.6	20	Yes	**HTA0D07-20FM**
	7xD	D	16.50 - 17.60	107.2	139.1	141.8	190.7	51.6	20	No	**HTA0D07-20CM**

Connection Accessories

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
C/D	72557-IP8-1	72557N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

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

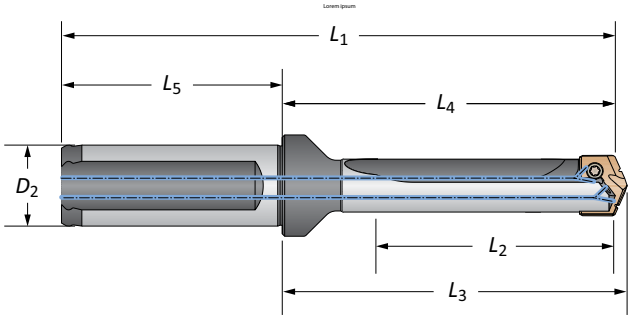
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35
Key on A25: 1
A25: 12 - 13

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

T-A Pro Drill Holders

0 Series Metric | Diameter Range: 12.70mm - 17.64mm



	Length	Sub Series	Series Diameter	Body L_2 mm	Body L_4 mm	Body L_3 mm	Body L_1 mm	Shank L_5 mm	Shank D_2 mm	Shank Flat	Part No
	10xD	A	12.70 - 13.89	153.2	185.0	187.8	236.6	51.6	20	Yes	HTA0A10-20FM
	10xD	A	12.70 - 13.89	153.2	185.0	187.8	236.6	51.6	20	No	HTA0A10-20CM
	10xD	B	14.00 - 15.00	153.2	185.0	187.8	236.6	51.6	20	Yes	HTA0B10-20FM
	10xD	B	14.00 - 15.00	153.2	185.0	187.8	236.6	51.6	20	No	HTA0B10-20CM
	10xD	C	15.08 - 16.40	153.2	185.0	187.8	236.6	51.6	20	Yes	HTA0C10-20FM
	10xD	C	15.08 - 16.40	153.2	185.0	187.8	236.6	51.6	20	No	HTA0C10-20CM
	10xD	D	16.50 - 17.60	153.2	185.0	187.8	236.6	51.6	20	Yes	HTA0D10-20FM
	10xD	D	16.50 - 17.60	153.2	185.0	187.8	236.6	51.6	20	No	HTA0D10-20CM
	12xD	A	12.70 - 13.89	183.8	215.7	218.4	267.2	51.6	20	Yes	HTA0A12-20FM
	12xD	A	12.70 - 13.89	183.8	215.7	218.4	267.2	51.6	20	No	HTA0A12-20CM
	12xD	B	14.00 - 15.00	183.8	215.7	218.4	267.2	51.6	20	Yes	HTA0B12-20FM
ⓜ	12xD	B	14.00 - 15.00	183.8	215.7	218.4	267.2	51.6	20	No	HTA0B12-20CM
	12xD	C	15.08 - 16.40	183.8	215.7	218.4	267.2	51.6	20	Yes	HTA0C12-20FM
	12xD	C	15.08 - 16.40	183.8	215.7	218.4	267.2	51.6	20	No	HTA0C12-20CM
	12xD	D	16.50 - 17.60	183.8	215.7	218.4	267.2	51.6	20	Yes	HTA0D12-20FM
	12xD	D	16.50 - 17.60	183.8	215.7	218.4	267.2	51.6	20	No	HTA0D12-20CM
	15xD	A	12.70 - 13.89	229.7	261.6	264.3	313.2	51.6	20	Yes	HTA0A15-20FM
	15xD	A	12.70 - 13.89	229.7	261.6	264.3	313.2	51.6	20	No	HTA0A15-20CM
	15xD	B	14.00 - 15.00	229.7	261.6	264.3	313.2	51.6	20	Yes	HTA0B15-20FM
	15xD	B	14.00 - 15.00	229.7	261.6	264.3	313.2	51.6	20	No	HTA0B15-20CM
	15xD	C	15.08 - 16.40	229.7	261.6	264.3	313.2	51.6	20	Yes	HTA0C15-20FM
	15xD	C	15.08 - 16.40	229.7	261.6	264.3	313.2	51.6	20	No	HTA0C15-20CM
	15xD	D	16.50 - 17.60	229.7	261.6	264.3	313.2	51.6	20	Yes	HTA0D15-20FM
	15xD	D	16.50 - 17.60	229.7	261.6	264.3	313.2	51.6	20	No	HTA0D15-20CM

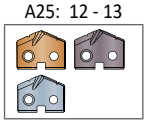
Connection Accessories

	Insert Screws	Nylon Locking Screws	Insert Driver	Preset Torque Hand Driver	Replacement Tips	Admissible Tightening Torque*
A/B	72556-IP8-1	72556N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)
C/D	72557-IP8-1	72557N-IP8-1	8IP-8	8IP-8TL	8IP-8B	175 N-cm (15.5 in-lbs)

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

WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 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 department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35
Key on A25: 1

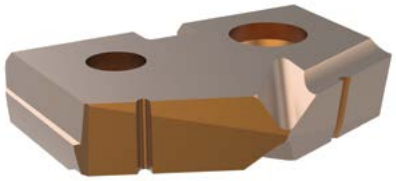


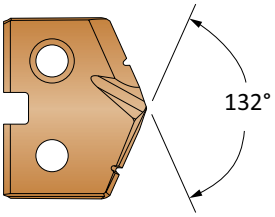
A25: 12 - 13

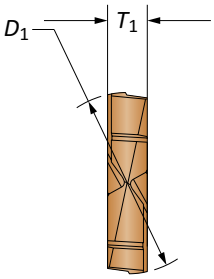
ⓜ = Metric (mm)
ⓘ = Imperial (in)
Screws sold in multiples of 10

T-A Pro Carbide Drill Inserts

1 Series | Diameter Range: 17.65mm - 24.37mm





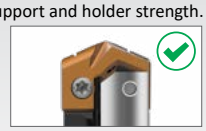


Insert					 Part No.	 Part No.	 Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
1-A	17.70	0.6969		3.97	**TAP1-17.70**	**TAK1-17.70**	**TAN1-17.70**
1-A	17.80	0.7008		3.97	**TAP1-17.80**	**TAK1-17.80**	**TAN1-17.80**
1-A	17.86	0.7031	45/64	3.97	**TAP1-17.86**	**TAK1-17.86**	**TAN1-17.86**
1-A	17.90	0.7047		3.97	**TAP1-17.90**	**TAK1-17.90**	**TAN1-17.90**
1-A	18.00	0.7087		3.97	**TAP1-18.00**	**TAK1-18.00**	**TAN1-18.00**
1-A	18.10	0.7126		3.97	**TAP1-18.10**	**TAK1-18.10**	**TAN1-18.10**
1-A	18.20	0.7165		3.97	**TAP1-18.20**	**TAK1-18.20**	**TAN1-18.20**
1-A	18.26	0.7189	23/32	3.97	**TAP1-18.26**	**TAK1-18.26**	**TAN1-18.26**
1-A	18.30	0.7205		3.97	**TAP1-18.30**	**TAK1-18.30**	**TAN1-18.30**
1-A	18.40	0.7244		3.97	**TAP1-18.40**	**TAK1-18.40**	**TAN1-18.40**
1-A	18.50	0.7283		3.97	**TAP1-18.50**	**TAK1-18.50**	**TAN1-18.50**
1-A	18.60	0.7323		3.97	**TAP1-18.60**	**TAK1-18.60**	**TAN1-18.60**
1-A	18.65	0.7343	47/64	3.97	**TAP1-18.65**	**TAK1-18.65**	**TAN1-18.65**
1-A	18.70	0.7362		3.97	**TAP1-18.70**	**TAK1-18.70**	**TAN1-18.70**
1-A	18.80	0.7402		3.97	**TAP1-18.80**	**TAK1-18.80**	**TAN1-18.80**
1-A	18.90	0.7441		3.97	**TAP1-18.90**	**TAK1-18.90**	**TAN1-18.90**
1-A	19.00	0.7480		3.97	**TAP1-19.00**	**TAK1-19.00**	**TAN1-19.00**

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

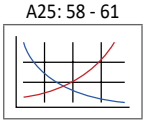

A Series Insert +
A Series Holder


C Series Insert +
A Series Holder

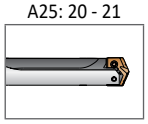

C Series Insert +
C Series Holder


A Series Insert +
C Series Holder

A25: 58 - 61



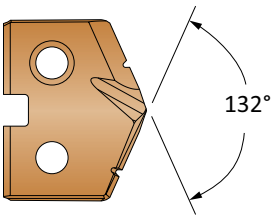
A25: 20 - 21

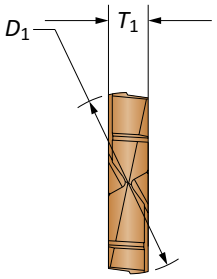


Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

1 Series | Diameter Range: 17.65mm - 24.37mm



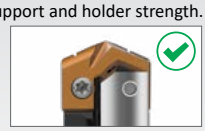


Insert					 Part No.	 Part No.	 Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
1-B	19.05	0.7500	3/4	3.97	**TAP1-19.05**	**TAK1-19.05**	**TAN1-19.05**
1-B	19.10	0.7520		3.97	**TAP1-19.10**	**TAK1-19.10**	**TAN1-19.10**
1-B	19.20	0.7559		3.97	**TAP1-19.20**	**TAK1-19.20**	**TAN1-19.20**
1-B	19.25	0.7579		3.97	**TAP1-19.25**	**TAK1-19.25**	**TAN1-19.25**
1-B	19.30	0.7598		3.97	**TAP1-19.30**	**TAK1-19.30**	**TAN1-19.30**
1-B	19.40	0.7638		3.97	**TAP1-19.40**	**TAK1-19.40**	**TAN1-19.40**
1-B	19.45	0.7657	49/64	3.97	**TAP1-19.45**	**TAK1-19.45**	**TAN1-19.45**
1-B	19.50	0.7677		3.97	**TAP1-19.50**	**TAK1-19.50**	**TAN1-19.50**
1-B	19.60	0.7717		3.97	**TAP1-19.60**	**TAK1-19.60**	**TAN1-19.60**
1-B	19.70	0.7756		3.97	**TAP1-19.70**	**TAK1-19.70**	**TAN1-19.70**
1-B	19.80	0.7795		3.97	**TAP1-19.80**	**TAK1-19.80**	**TAN1-19.80**
1-B	19.84	0.7811	23.97	3.97	**TAP1-19.84**	**TAK1-19.84**	**TAN1-19.84**
1-B	19.90	0.7835		3.97	**TAP1-19.90**	**TAK1-19.90**	**TAN1-19.90**
1-B	20.00	0.7874		3.97	**TAP1-20.00**	**TAK1-20.00**	**TAN1-20.00**
1-B	20.10	0.7913		3.97	**TAP1-20.10**	**TAK1-20.10**	**TAN1-20.10**
1-B	20.20	0.7953		3.97	**TAP1-20.20**	**TAK1-20.20**	**TAN1-20.20**
1-B	20.24	0.7969	51/64	3.97	**TAP1-20.24**	**TAK1-20.24**	**TAN1-20.24**
1-B	20.30	0.7992		3.97	**TAP1-20.30**	**TAK1-20.30**	**TAN1-20.30**
1-B	20.40	0.8031		3.97	**TAP1-20.40**	**TAK1-20.40**	**TAN1-20.40**
1-B	20.50	0.8071		3.97	**TAP1-20.50**	**TAK1-20.50**	**TAN1-20.50**

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

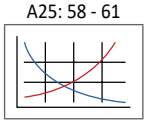

A Series Insert + A Series Holder


C Series Insert + A Series Holder

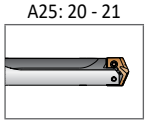

C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 58 - 61



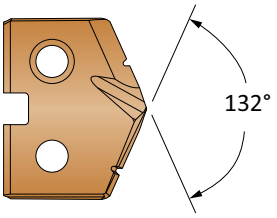
A25: 20 - 21

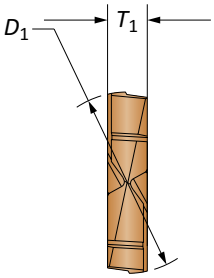


Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Drill Carbide ISO Inserts

1 Series | Diameter Range: 17.65mm - 24.37mm



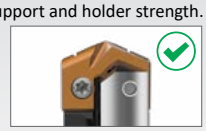


Insert					 Part No.	 Part No.	 Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
1-C	20.60	0.8110		3.97	TAP1-20.60	TAK1-20.60	TAN1-20.60
1-C	20.64	0.8126	13/16	3.97	TAP1-20.64	TAK1-20.64	TAN1-20.64
1-C	20.70	0.8150		3.97	TAP1-20.70	TAK1-20.70	TAN1-20.70
1-C	20.80	0.8189		3.97	TAP1-20.80	TAK1-20.80	TAN1-20.80
1-C	20.90	0.8228		3.97	TAP1-20.90	TAK1-20.90	TAN1-20.90
1-C	21.00	0.8268		3.97	TAP1-21.00	TAK1-21.00	TAN1-21.00
1-C	21.10	0.8307		3.97	TAP1-21.10	TAK1-21.10	TAN1-21.10
1-C	21.20	0.8346		3.97	TAP1-21.20	TAK1-21.20	TAN1-21.20
1-C	21.30	0.8386		3.97	TAP1-21.30	TAK1-21.30	TAN1-21.30
1-C	21.40	0.8425		3.97	TAP1-21.40	TAK1-21.40	TAN1-21.40
1-C	21.43	0.8437	27/32	3.97	TAP1-21.43	TAK1-21.43	TAN1-21.43
1-C	21.50	0.8465		3.97	TAP1-21.50	TAK1-21.50	TAN1-21.50
1-C	21.60	0.8504		3.97	TAP1-21.60	TAK1-21.60	TAN1-21.60
1-C	21.70	0.8543		3.97	TAP1-21.70	TAK1-21.70	TAN1-21.70
1-C	21.80	0.8583		3.97	TAP1-21.80	TAK1-21.80	TAN1-21.80
1-C	21.83	0.8594	55/64	3.97	TAP1-21.83	TAK1-21.83	TAN1-21.83
1-C	21.90	0.8622		3.97	TAP1-21.90	TAK1-21.90	TAN1-21.90
1-C	22.00	0.8661		3.97	TAP1-22.00	TAK1-22.00	TAN1-22.00
1-C	22.10	0.8701		3.97	TAP1-22.10	TAK1-22.10	TAN1-22.10
1-C	22.20	0.8740		3.97	TAP1-22.20	TAK1-22.20	TAN1-22.20
1-C	22.23	0.8752	7/8	3.97	TAP1-22.23	TAK1-22.23	TAN1-22.23
1-C	22.30	0.8780		3.97	TAP1-22.30	TAK1-22.30	TAN1-22.30
1-C	22.40	0.8819		3.97	TAP1-22.40	TAK1-22.40	TAN1-22.40
1-C	22.50	0.8858		3.97	TAP1-22.50	TAK1-22.50	TAN1-22.50
1-C	22.62	0.8906	57/34	3.97	TAP1-22.62	TAK1-22.62	TAN1-22.62
1-C	22.70	0.8937		3.97	TAP1-22.70	TAK1-22.70	TAN1-22.70
1-C	22.80	0.8976		3.97	TAP1-22.80	TAK1-22.80	TAN1-22.80

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

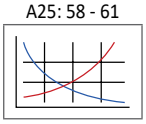

A Series Insert + A Series Holder


C Series Insert + A Series Holder

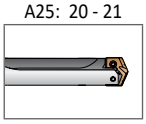

C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 58 - 61



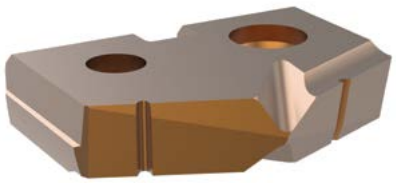
A25: 20 - 21

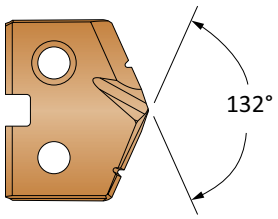


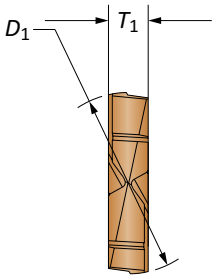
Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

1 Series | Diameter Range: 17.65mm - 24.37mm





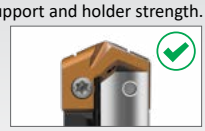


Insert					 Part No.	 Part No.	 Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
1-D	22.90	0.9016		3.97	TAP1-22.90	TAK1-22.90	TAN1-22.90
1-D	23.00	0.9055		3.97	TAP1-23.00	TAK1-23.00	TAN1-23.00
1-D	23.02	0.9063	29/32	3.97	TAP1-23.02	TAK1-23.02	TAN1-23.02
1-D	23.10	0.9094		3.97	TAP1-23.10	TAK1-23.10	TAN1-23.10
1-D	23.20	0.9134		3.97	TAP1-23.20	TAK1-23.20	TAN1-23.20
1-D	23.30	0.9173		3.97	TAP1-23.30	TAK1-23.30	TAN1-23.30
1-D	23.42	0.9220	59/64	3.97	TAP1-23.42	TAK1-23.42	TAN1-23.42
1-D	23.50	0.9252		3.97	TAP1-23.50	TAK1-23.50	TAN1-23.50
1-D	23.60	0.9291		3.97	TAP1-23.60	TAK1-23.60	TAN1-23.60
1-D	23.70	0.9331		3.97	TAP1-23.70	TAK1-23.70	TAN1-23.70
1-D	23.81	0.9374	15/16	3.97	TAP1-23.81	TAK1-23.81	TAN1-23.81
1-D	23.90	0.9409		3.97	TAP1-23.90	TAK1-23.90	TAN1-23.90
1-D	24.00	0.9449		3.97	TAP1-24.00	TAK1-24.00	TAN1-24.00
1-D	24.10	0.9488		3.97	TAP1-24.10	TAK1-24.10	TAN1-24.10
1-D	24.20	0.9528		3.97	TAP1-24.20	TAK1-24.20	TAN1-24.20
1-D	24.30	0.9567		3.97	TAP1-24.30	TAK1-24.30	TAN1-24.30

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

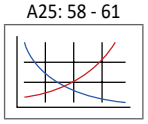

A Series Insert + A Series Holder


C Series Insert + A Series Holder

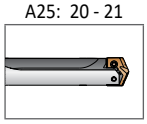

C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 58 - 61



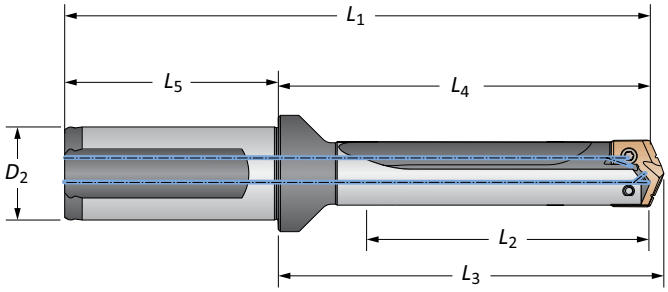
A25: 20 - 21



Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Drill Holders

1 Series Metric | Diameter Range: 17.65mm - 24.37mm



	Length	Sub Series	Series Diameter	Body L_2 mm	Body L_4 mm	Body L_3 mm	Body L_1 mm	Shank L_5 mm	Shank D_2 mm	Shank Flat	Part No
	STUB	A	17.70 - 19.00	21.0	56.5	60.0	114.4	57.9	25	Yes	**HTA1A01-25FM**
	STUB	A	17.70 - 19.00	21.0	56.5	60.0	114.4	57.9	25	No	**HTA1A01-25CM**
	STUB	B	19.05 - 20.50	21.0	56.5	60.0	114.4	57.9	25	Yes	**HTA1B01-25FM**
	STUB	B	19.05 - 20.50	21.0	56.5	60.0	114.4	57.9	25	No	**HTA1B01-25CM**
	STUB	C	20.60 - 22.80	21.0	56.5	60.0	114.4	57.9	25	Yes	**HTA1C01-25FM**
	STUB	C	20.60 - 22.80	21.0	56.5	60.0	114.4	57.9	25	No	**HTA1C01-25CM**
	STUB	D	22.90 - 24.30	21.0	56.5	60.0	114.4	57.9	25	Yes	**HTA1D01-25FM**
	STUB	D	22.90 - 24.30	21.0	56.5	60.0	114.4	57.9	25	No	**HTA1D01-25CM**
	3xD	A	17.70 - 19.00	62.9	100.9	104.5	158.8	57.9	25	Yes	**HTA1A03-25FM**
	3xD	A	17.70 - 19.00	62.9	100.9	104.5	158.8	57.9	25	No	**HTA1A03-25CM**
	3xD	B	19.05 - 20.50	62.9	100.9	104.5	158.8	57.9	25	Yes	**HTA1B03-25FM**
	3xD	B	19.05 - 20.50	62.9	100.9	104.5	158.8	57.9	25	No	**HTA1B03-25CM**
	3xD	C	20.60 - 22.80	62.9	100.9	104.5	158.8	57.9	25	Yes	**HTA1C03-25FM**
	3xD	C	20.60 - 22.80	62.9	100.9	104.5	158.8	57.9	25	No	**HTA1C03-25CM**
	3xD	D	22.90 - 24.30	62.9	100.9	104.5	158.8	57.9	25	Yes	**HTA1D03-25FM**
ⓜ	3xD	D	22.90 - 24.30	62.9	100.9	104.5	158.8	57.9	25	No	**HTA1D03-25CM**
	5xD	A	17.70 - 19.00	104.8	142.8	146.4	200.7	57.9	25	Yes	**HTA1A05-25FM**
	5xD	A	17.70 - 19.00	104.8	142.8	146.4	200.7	57.9	25	No	**HTA1A05-25CM**
	5xD	B	19.05 - 20.50	104.8	142.8	146.4	200.7	57.9	25	Yes	**HTA1B05-25FM**
	5xD	B	19.05 - 20.50	104.8	142.8	146.4	200.7	57.9	25	No	**HTA1B05-25CM**
	5xD	C	20.60 - 22.80	104.8	142.8	146.4	200.7	57.9	25	Yes	**HTA1C05-25FM**
	5xD	C	20.60 - 22.80	104.8	142.8	146.4	200.7	57.9	25	No	**HTA1C05-25CM**
	5xD	D	22.90 - 24.30	104.8	142.8	146.4	200.7	57.9	25	Yes	**HTA1D05-25FM**
	5xD	D	22.90 - 24.30	104.8	142.8	146.4	200.7	57.9	25	No	**HTA1D05-25CM**
	7xD	A	17.70 - 19.00	146.7	184.7	188.3	242.7	57.9	25	Yes	**HTA1A07-25FM**
	7xD	A	17.70 - 19.00	146.7	184.7	188.3	242.7	57.9	25	No	**HTA1A07-25CM**
	7xD	B	19.05 - 20.50	146.7	184.7	188.3	242.7	57.9	25	Yes	**HTA1B07-25FM**
	7xD	B	19.05 - 20.50	146.7	184.7	188.3	242.7	57.9	25	No	**HTA1B07-25CM**
	7xD	C	20.60 - 22.80	146.7	184.7	188.3	242.7	57.9	25	Yes	**HTA1C07-25FM**
	7xD	C	20.60 - 22.80	146.7	184.7	188.3	242.7	57.9	25	No	**HTA1C07-25CM**
	7xD	D	22.90 - 24.30	146.7	184.7	188.3	242.7	57.9	25	Yes	**HTA1D07-25FM**
	7xD	D	22.90 - 24.30	146.7	184.7	188.3	242.7	57.9	25	No	**HTA1D07-25CM**

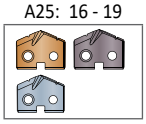
Connection Accessories

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

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

⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 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 department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35
Key on A25: 1

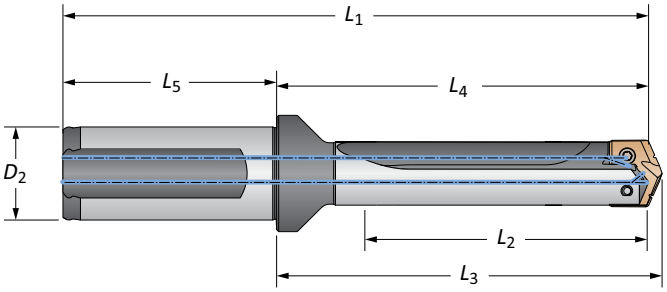


A25: 16 - 19

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

T-A Pro Drill Holders

1 Series Metric | Diameter Range: 17.65mm - 24.37mm



	Length	Sub Series	Series Diameter	Body L_2 mm	Body L_4 mm	Body L_3 mm	Body L_1 mm	Shank L_5 mm	Shank D_2 mm	Shank Flat	Part No
	10xD	A	17.70 - 19.00	209.6	247.6	251.2	305.5	57.9	25	Yes	HTA1A10-25FM
	10xD	A	17.70 - 19.00	209.6	247.6	251.2	305.5	57.9	25	No	HTA1A10-25CM
	10xD	B	19.05 - 20.50	209.6	247.6	251.2	305.5	57.9	25	Yes	HTA1B10-25FM
	10xD	B	19.05 - 20.50	209.6	247.6	251.2	305.5	57.9	25	No	HTA1B10-25CM
	10xD	C	20.60 - 22.80	209.6	247.6	251.2	305.5	57.9	25	Yes	HTA1C10-25FM
	10xD	C	20.60 - 22.80	209.6	247.6	251.2	305.5	57.9	25	No	HTA1C10-25CM
	10xD	D	22.90 - 24.30	209.6	247.6	251.2	305.5	57.9	25	Yes	HTA1D10-25FM
	10xD	D	22.90 - 24.30	209.6	247.6	251.2	305.5	57.9	25	No	HTA1D10-25CM
	12xD	A	17.70 - 19.00	251.5	289.5	293.1	347.4	57.9	25	Yes	HTA1A12-25FM
	12xD	A	17.70 - 19.00	251.5	289.5	293.1	347.4	57.9	25	No	HTA1A12-25CM
	12xD	B	19.05 - 20.50	251.5	289.5	293.1	347.4	57.9	25	Yes	HTA1B12-25FM
ⓜ	12xD	B	19.05 - 20.50	251.5	289.5	293.1	347.4	57.9	25	No	HTA1B12-25CM
	12xD	C	20.60 - 22.80	251.5	289.5	293.1	347.4	57.9	25	Yes	HTA1C12-25FM
	12xD	C	20.60 - 22.80	251.5	289.5	293.1	347.4	57.9	25	No	HTA1C12-25CM
	12xD	D	22.90 - 24.30	251.5	289.5	293.1	347.4	57.9	25	Yes	HTA1D12-25FM
	12xD	D	22.90 - 24.30	251.5	289.5	293.1	347.4	57.9	25	No	HTA1D12-25CM
	15xD	A	17.70 - 19.00	314.3	352.4	355.9	410.3	57.9	25	Yes	HTA1A15-25FM
	15xD	A	17.70 - 19.00	314.3	352.4	355.9	410.3	57.9	25	No	HTA1A15-25CM
	15xD	B	19.05 - 20.50	314.3	352.4	355.9	410.3	57.9	25	Yes	HTA1B15-25FM
	15xD	B	19.05 - 20.50	314.3	352.4	355.9	410.3	57.9	25	No	HTA1B15-25CM
	15xD	C	20.60 - 22.80	314.3	352.4	355.9	410.3	57.9	25	Yes	HTA1C15-25FM
	15xD	C	20.60 - 22.80	314.3	352.4	355.9	410.3	57.9	25	No	HTA1C15-25CM
	15xD	D	22.90 - 24.30	314.3	352.4	355.9	410.3	57.9	25	Yes	HTA1D15-25FM
	15xD	D	22.90 - 24.30	314.3	352.4	355.9	410.3	57.9	25	No	HTA1D15-25CM

Connection Accessories

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

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

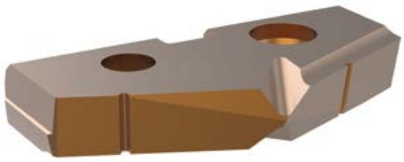
WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. ***Email: engineering.eu@alliedmachine.com***

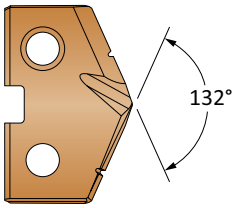
A25: 34 - 35
Key on A25: 1
A25: 16 - 19

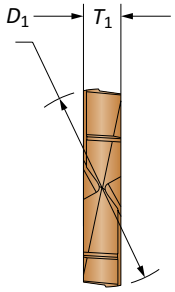
ⓜ = Metric (mm)
ⓘ = Imperial (in)
Screws sold in multiples of 10

T-A Pro Carbide Drill Inserts

2 Series | Diameter Range: 24.38mm - 35.04mm





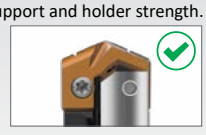


Insert					 Part No.	 Part No.	 Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
2-A	24.40	0.9606		4.76	**TAP2-24.40**	**TAK2-24.40**	**TAN2-24.40**
2-A	24.50	0.9646		4.76	**TAP2-24.50**	**TAK2-24.50**	**TAN2-24.50**
2-A	24.61	0.9689	31/32	4.76	**TAP2-24.61**	**TAK2-24.61**	**TAN2-24.61**
2-A	24.70	0.9724		4.76	**TAP2-24.70**	**TAK2-24.70**	**TAN2-24.70**
2-A	24.80	0.9764		4.76	**TAP2-24.80**	**TAK2-24.80**	**TAN2-24.80**
2-A	24.90	0.9803		4.76	**TAP2-24.90**	**TAK2-24.90**	**TAN2-24.90**
2-A	25.00	0.9843	63/64	4.76	**TAP2-25.00**	**TAK2-25.00**	**TAN2-25.00**
2-A	25.10	0.9882		4.76	**TAP2-25.10**	**TAK2-25.10**	**TAN2-25.10**
2-A	25.20	0.9921		4.76	**TAP2-25.20**	**TAK2-25.20**	**TAN2-25.20**
2-A	25.30	0.9961		4.76	**TAP2-25.30**	**TAK2-25.30**	**TAN2-25.30**

Inserts sold in multiples of 2

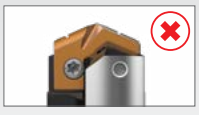
Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.


A Series Insert +
A Series Holder

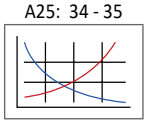

C Series Insert +
A Series Holder


C Series Insert +
C Series Holder

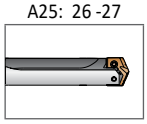

A Series Insert +
C Series Holder

A25: 34 - 35

Key on A25:1



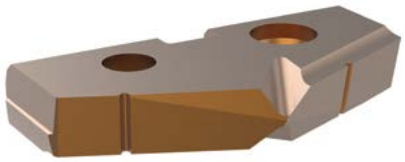
A25: 26 -27

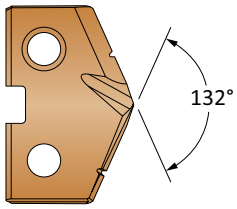


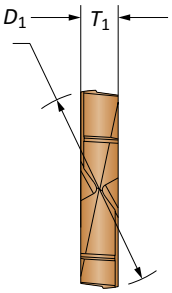
Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

2 Series | Diameter Range: 24.38mm - 35.04mm







Insert							
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	Part No. P	Part No. K	Part No. N
2-B	25.40	1.0000	1	4.76	TAP2-25.40	TAK2-25.40	TAN2-25.40
2-B	25.50	1.0039		4.76	TAP2-25.50	TAK2-25.50	TAN2-25.50
2-B	25.60	1.0079		4.76	TAP2-25.60	TAK2-25.60	TAN2-25.60
2-B	25.70	1.0118		4.76	TAP2-25.70	TAK2-25.70	TAN2-25.70
2-B	25.78	1.0150		4.76	TAP2-25.78	TAK2-25.78	TAN2-25.78
2-B	25.90	1.0197		4.76	TAP2-25.90	TAK2-25.90	TAN2-25.90
2-B	26.00	1.0236		4.76	TAP2-26.00	TAK2-26.00	TAN2-26.00
2-B	26.10	1.0276		4.76	TAP2-26.10	TAK2-26.10	TAN2-26.10
2-B	26.20	1.0315	1-1/32	4.76	TAP2-26.20	TAK2-26.20	TAN2-26.20
2-B	26.30	1.0354		4.76	TAP2-26.30	TAK2-26.30	TAN2-26.30
2-B	26.40	1.0394		4.76	TAP2-26.40	TAK2-26.40	TAN2-26.40
2-B	26.50	1.0433		4.76	TAP2-26.50	TAK2-26.50	TAN2-26.50
2-B	26.57	1.0461		4.76	TAP2-26.57	TAK2-26.57	TAN2-26.57
2-B	26.59	1.0469	1-3/64	4.76	TAP2-26.59	TAK2-26.59	TAN2-26.59
2-B	26.60	1.0472		4.76	TAP2-26.60	TAK2-26.60	TAN2-26.60
2-B	26.70	1.0512		4.76	TAP2-26.70	TAK2-26.70	TAN2-26.70
2-B	26.80	1.0551		4.76	TAP2-26.80	TAK2-26.80	TAN2-26.80
2-B	26.90	1.0591		4.76	TAP2-26.90	TAK2-26.90	TAN2-26.90
2-B	26.99	1.0626	1-1/16	4.76	TAP2-26.99	TAK2-26.99	TAN2-26.99
2-B	27.00	1.0630		4.76	TAP2-27.00	TAK2-27.00	TAN2-27.00
2-B	27.10	1.0669		4.76	TAP2-27.10	TAK2-27.10	TAN2-27.10
2-B	27.20	1.0709		4.76	TAP2-27.20	TAK2-27.20	TAN2-27.20
2-B	27.30	1.0748		4.76	TAP2-27.30	TAK2-27.30	TAN2-27.30
2-B	27.40	1.0787		4.76	TAP2-27.40	TAK2-27.40	TAN -27.40
2-B	27.50	1.0827		4.76	TAP2-27.50	TAK2-27.50	TAN2-27.50
2-B	27.60	1.0866		4.76	TAP2-27.60	TAK2-27.60	TAN2-27.60
2-B	27.70	1.0906		4.76	TAP2-27.70	TAK2-27.70	TAN2-27.70
2-B	27.78	1.0937	1-3/32	4.76	TAP2-27.78	TAK2-27.78	TAN2-27.78
2-B	27.90	1.0984		4.76	TAP2-27.90	TAK2-27.90	TAN2-27.90
2-B	28.00	1.1024		4.76	TAP2-28.00	TAK2-28.00	TAN2-28.00
2-B	28.10	1.1063		4.76	TAP2-28.10	TAK2-28.10	TAN2-28.10
2-B	28.17	1.1091	1-7/64	4.76	TAP2-28.17	TAK2-28.17	TAN2-28.17
2-B	28.20	1.1102		4.76	TAP2-28.20	TAK2-28.20	TAN2-28.20
2-B	28.30	1.1142		4.76	TAP2-28.30	TAK2-28.30	TAN2-28.30
2-B	28.40	1.1181		4.76	TAP2-28.40	TAK2-28.40	TAN2-28.40

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

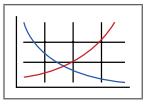
A Series Insert + A Series Holder

C Series Insert + A Series Holder

C Series Insert + C Series Holder

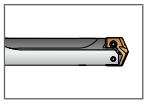
A Series Insert + C Series Holder

A25: 34 - 35



Key on A25: 1

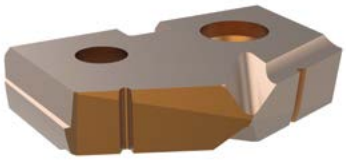
A25: 26 -27

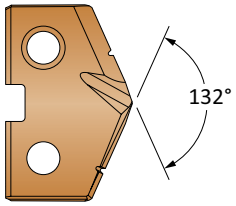


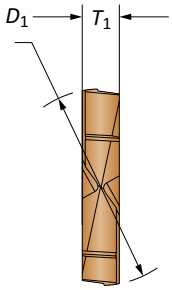
Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

2 Series | Diameter Range: 24.38mm - 35.04mm







Insert							
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	Part No. P	Part No. K	Part No. N
2-C	28.50	1.1220		4.76	TAP2-28.50	TAK2-28.50	TAN2-28.50
2-C	28.58	1.1252	1-1/8	4.76	TAP2-28.58	TAK2-28.58	TAN2-28.58
2-C	28.70	1.1299		4.76	TAP2-28.70	TAK2-28.70	TAN2-28.70
2-C	28.80	1.1339		4.76	TAP2-28.80	TAK2-28.80	TAN2-28.80
2-C	28.90	1.1378		4.76	TAP2-28.90	TAK2-28.90	TAN2-28.90
2-C	29.00	1.1417		4.76	TAP2-29.00	TAK2-29.00	TAN2-29.00
2-C	29.10	1.1457		4.76	TAP2-29.10	TAK2-29.10	TAN2-29.10
2-C	29.20	1.1496		4.76	TAP2-29.20	TAK2-29.20	TAN2-29.20
2-C	29.30	1.1535		4.76	TAP2-29.30	TAK2-29.30	TAN2-29.30
2-C	29.37	1.1563	1-5/32	4.76	TAP2-29.37	TAK2-29.37	TAN2-29.37
2-C	29.40	1.1575		4.76	TAP2-29.40	TAK2-29.40	TAN2-29.40
2-C	29.50	1.1614		4.76	TAP2-29.50	TAK2-29.50	TAN2-29.50
2-C	29.60	1.1654		4.76	TAP2-29.60	TAK2-29.60	TAN2-29.60
2-C	29.70	1.1693		4.76	TAP2-29.70	TAK2-29.70	TAN2-29.70
2-C	29.80	1.1732		4.76	TAP2-29.80	TAK2-29.80	TAN2-29.80
2-C	29.90	1.1772		4.76	TAP2-29.90	TAK2-29.90	TAN2-29.90
2-C	30.00	1.1811		4.76	TAP2-30.00	TAK2-30.00	TAN2-30.00
2-C	30.10	1.1850		4.76	TAP2-30.10	TAK2-30.10	TAN2-30.10
2-C	30.16	1.1874	1-3/16	4.76	TAP2-30.16	TAK2-30.16	TAN2-30.16
2-C	30.20	1.1890		4.76	TAP2-30.20	TAK2-30.20	TAN2-30.20
2-C	30.30	1.1929		4.76	TAP2-30.30	TAK2-30.30	TAN2-30.30
2-C	30.40	1.1969		4.76	TAP2-30.40	TAK2-30.40	TAN2-30.40
2-C	30.50	1.2008		4.76	TAP2-30.50	TAK2-30.50	TAN2-30.50
2-C	30.60	1.2047		4.76	TAP2-30.60	TAK2-30.60	TAN2-30.60
2-C	30.70	1.2087		4.76	TAP2-30.70	TAK2-30.70	TAN2-30.70
2-C	30.80	1.2126		4.76	TAP2-30.80	TAK2-30.80	TAN2-30.80
2-C	30.90	1.2165		4.76	TAP2-30.90	TAK2-30.90	TAN2-30.90
2-C	30.96	1.2189	1-7/32	4.76	TAP2-30.96	TAK2-30.96	TAN2-30.96
2-C	31.00	1.2205		4.76	TAP2-31.00	TAK2-31.00	TAN2-31.00
2-C	31.10	1.2244		4.76	TAP2-31.10	TAK2-31.10	TAN2-31.10
2-C	31.20	1.2283		4.76	TAP2-31.20	TAK2-31.20	TAN2-31.20
2-C	31.30	1.2323		4.76	TAP2-31.30	TAK2-31.30	TAN2-31.30
2-C	31.40	1.2362		4.76	TAP2-31.40	TAK2-31.40	TAN2-31.40
2-C	31.50	1.2402		4.76	TAP2-31.50	TAK2-31.50	TAN2-31.50
2-C	31.60	1.2441		4.76	TAP2-31.60	TAK2-31.60	TAN2-31.60

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

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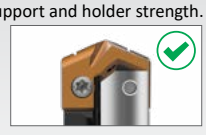
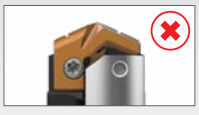
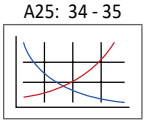

A Series Insert + A Series Holder


C Series Insert + A Series Holder


C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 34 - 35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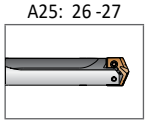
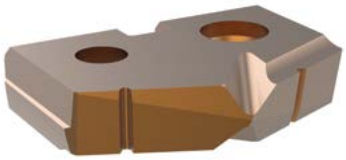
A25: 26 -27

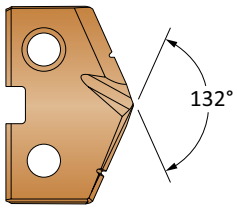


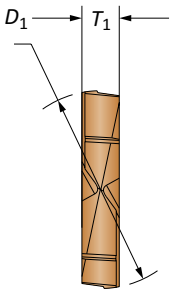
Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

2 Series | Diameter Range: 24.38mm - 35.04mm







Insert							
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	Part No. P	Part No. K	Part No. N
2-D	31.70	1.2480		4.76	TAP2-31.70	TAK2-31.70	TAN2-31.70
2-D	31.75	1.2500	1-1/4	4.76	TAP2-31.75	TAK2-31.75	TAN2-31.75
2-D	31.80	1.2520		4.76	TAP2-31.80	TAK2-31.80	TAN2-31.80
2-D	31.90	1.2559		4.76	TAP2-31.90	TAK2-31.90	TAN2-31.90
2-D	32.00	1.2598		4.76	TAP2-32.00	TAK2-32.00	TAN2-32.00
2-D	32.10	1.2638		4.76	TAP2-32.10	TAK2-32.10	TAN2-32.10
2-D	32.15	1.2657	1-17/64	4.76	TAP2-32.15	TAK2-32.15	TAN2-32.15
2-D	32.20	1.2677		4.76	TAP2-32.20	TAK2-32.20	TAN2-32.20
2-D	32.30	1.2717		4.76	TAP2-32.30	TAK2-32.30	TAN2-32.30
2-D	32.40	1.2756		4.76	TAP2-32.40	TAK2-32.40	TAN2-32.40
2-D	32.50	1.2795		4.76	TAP2-32.50	TAK2-32.50	TAN2-32.50
2-D	32.55	1.2815	1-9/32	4.76	TAP2-32.55	TAK2-32.55	TAN2-32.55
2-D	32.60	1.2835		4.76	TAP2-32.60	TAK2-32.60	TAN2-32.60
2-D	32.70	1.2874		4.76	TAP2-32.70	TAK2-32.70	TAN2-32.70
2-D	32.80	1.2913		4.76	TAP2-32.80	TAK2-32.80	TAN2-32.80
2-D	32.90	1.2953		4.76	TAP2-32.90	TAK2-32.90	TAN2-32.90
2-D	33.00	1.2992		4.76	TAP2-33.00	TAK2-33.00	TAN2-33.00
2-D	33.10	1.3031		4.76	TAP2-33.10	TAK2-33.10	TAN2-33.10
2-D	33.20	1.3071		4.76	TAP2-33.20	TAK2-33.20	TAN2-33.20
2-D	33.30	1.3110		4.76	TAP2-33.30	TAK2-33.30	TAN2-33.30
2-D	33.34	1.3126	1-5/16	4.76	TAP2-33.34	TAK2-33.34	TAN2-33.34
2-D	33.40	1.3150		4.76	TAP2-33.40	TAK2-33.40	TAN2-33.40
2-D	33.50	1.3189		4.76	TAP2-33.50	TAK2-33.50	TAN2-33.50
2-D	33.60	1.3228		4.76	TAP2-33.60	TAK2-33.60	TAN2-33.60
2-D	33.70	1.3268		4.76	TAP2-33.70	TAK2-33.70	TAN2-33.70
2-D	33.80	1.3307		4.76	TAP2-33.80	TAK2-33.80	TAN2-33.80
2-D	33.90	1.3346		4.76	TAP2-33.90	TAK2-33.90	TAN2-33.90
2-D	34.00	1.3386		4.76	TAP2-34.00	TAK2-34.00	TAN2-34.00
2-D	34.10	1.3425		4.76	TAP2-34.10	TAK2-34.10	TAN2-34.10
2-D	34.13	1.3437	1-11/32	4.76	TAP2-34.13	TAK2-34.13	TAN2-34.13
2-D	34.20	1.3465		4.76	TAP2-34.20	TAK2-34.20	TAN2-34.20
2-D	34.30	1.3504		4.76	TAP2-34.30	TAK2-34.30	TAN2-34.30
2-D	34.40	1.3543		4.76	TAP2-34.40	TAK2-34.40	TAN2-34.40
2-D	34.50	1.3583		4.76	TAP2-34.50	TAK2-34.50	TAN2-34.50
2-D	34.60	1.3622		4.76	TAP2-34.60	TAK2-34.60	TAN2-34.60
2-D	34.70	1.3661		4.76	TAP2-34.70	TAK2-34.70	TAN2-34.70
2-D	34.80	1.3701		4.76	TAP2-34.80	TAK2-34.80	TAN2-34.80
2-D	34.90	1.3740		4.76	TAP2-34.90	TAK2-34.90	TAN2-34.90
2-D	34.93	1.3752	1-3/8	4.76	TAP2-34.93	TAK2-34.93	TAN2-34.93
2-D	35.00	1.3780		4.76	TAP2-35.00	TAK2-35.00	TAN2-35.00

Inserts sold in multiples of 2

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

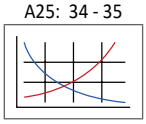

A Series Insert + A Series Holder


C Series Insert + A Series Holder

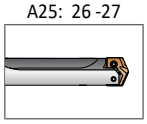

C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 34 - 35



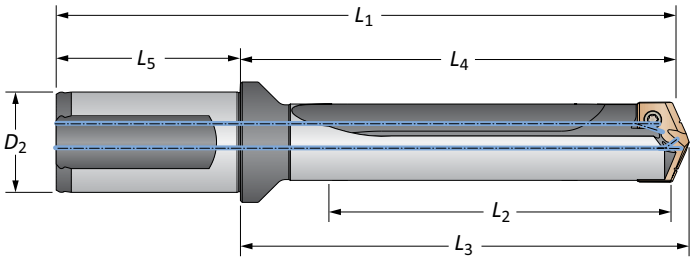
A25: 26 -27



Sizes not shown are available upon request. When ordering, please follow the example below:	
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

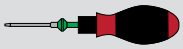
T-A Pro Drill Holders

2 Series Metric | Diameter Range: 24.38mm - 35.04mm

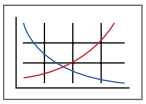
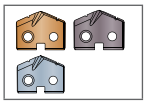


	Length	Sub Series	Series Diameter	Body L_2 mm	Body L_4 mm	Body L_3 mm	Body L_1 mm	Shank L_5 mm	Shank D_2 mm	Shank Flat	Part No
	STUB	A	24.40 - 25.30	29.7	75.0	78.6	132.9	57.9	32	Yes	**HTA2A01-32FM**
	STUB	A	24.40 - 25.30	29.7	75.0	78.6	132.9	57.9	32	No	**HTA2A01-32CM**
	STUB	B	25.40 - 28.40	29.7	75.0	78.6	132.9	57.9	32	Yes	**HTA2B01-32FM**
	STUB	B	25.40 -28.40	29.7	75.0	78.6	132.9	57.9	32	No	**HTA2B01-32CM**
	STUB	C	28.50 - 31.60	29.7	75.0	78.6	132.9	57.9	32	Yes	**HTA2C01-32FM**
	STUB	C	28.50 - 31.60	29.7	75.0	78.6	132.9	57.9	32	No	**HTA2C01-32CM**
	STUB	D	31.70 - 35.00	29.7	75.0	78.6	132.9	57.9	32	Yes	**HTA2D01-32FM**
	STUB	D	31.70 - 35.00	29.7	75.0	78.6	132.9	57.9	32	No	**HTA2D01-32CM**
	3xD	A	24.40 - 25.30	89.2	137.4	141.0	195.4	57.9	32	Yes	**HTA2A03-32FM**
	3xD	A	24.40 - 25.30	89.2	137.4	141.0	195.4	57.9	32	No	**HTA2A03-32CM**
	3xD	B	25.40 - 28.40	89.2	137.4	141.0	195.4	57.9	32	Yes	**HTA2B03-32FM**
	3xD	B	25.40 -28.40	89.2	137.4	141.0	195.4	57.9	32	No	**HTA2B03-32CM**
	3xD	C	28.50 - 31.60	89.2	137.4	141.0	195.4	57.9	32	Yes	**HTA2C03-32FM**
	3xD	C	28.50 - 31.60	89.2	137.4	141.0	195.4	57.9	32	No	**HTA2C03-32CM**
	3xD	D	31.70 - 35.00	89.2	137.4	141.0	195.4	57.9	32	Yes	**HTA2D03-32FM**
Ⓜ	3xD	D	31.70 - 35.00	89.2	137.4	141.0	195.4	57.9	32	No	**HTA2D03-32CM**
	5xD	A	24.40 - 25.30	148.7	196.9	200.5	254.8	57.9	32	Yes	**HTA2A05-32FM**
	5xD	A	24.40 - 25.30	148.7	196.9	200.5	254.8	57.9	32	No	**HTA2A05-32CM**
	5xD	B	25.40 - 28.40	148.7	196.9	200.5	254.8	57.9	32	Yes	**HTA2B05-32FM**
	5xD	B	25.40 -28.40	148.7	196.9	200.5	254.8	57.9	32	No	**HTA2B05-32CM**
	5xD	C	28.50 - 31.60	148.7	196.9	200.5	254.8	57.9	32	Yes	**HTA2C05-32FM**
	5xD	C	28.50 - 31.60	148.7	196.9	200.5	254.8	57.9	32	No	**HTA2C05-32CM**
	5xD	D	31.70 - 35.00	148.7	196.9	200.5	254.8	57.9	32	Yes	**HTA2D05-32FM**
	5xD	D	31.70 - 35.00	148.7	196.9	200.5	254.8	57.9	32	No	**HTA2D05-32CM**
	7xD	A	24.40 - 25.30	208.2	256.4	260.0	314.3	57.9	32	Yes	**HTA2A07-32FM**
	7xD	A	24.40 - 25.30	208.2	256.4	260.0	314.3	57.9	32	No	**HTA2A07-32CM**
	7xD	B	25.40 - 28.40	208.2	256.4	260.0	314.3	57.9	32	Yes	**HTA2B07-32FM**
	7xD	B	25.40 -28.40	208.2	256.4	260.0	314.3	57.9	32	No	**HTA2B07-32CM**
	7xD	C	28.50 - 31.60	208.2	256.4	260.0	314.3	57.9	32	Yes	**HTA2C07-32FM**
	7xD	C	28.50 - 31.60	208.2	256.4	260.0	314.3	57.9	32	No	**HTA2C07-32CM**
	7xD	D	31.70 - 35.00	208.2	256.4	260.0	314.3	57.9	32	Yes	**HTA2D07-32FM**
	7xD	D	31.70 - 35.00	208.2	256.4	260.0	314.3	57.9	32	No	**HTA2D07-32CM**

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)

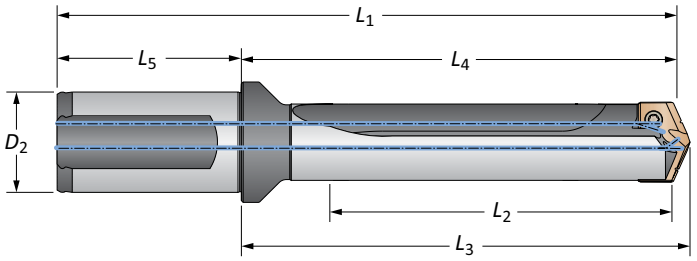
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35
Key on A25: 1

A25: 22 - 25


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

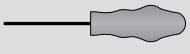
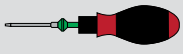
T-A Pro Drill Holders

2 Series Metric | Diameter Range: 24.38mm - 35.04mm



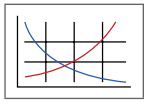
	Length	Sub Series	Series Diameter	Body L_2 mm	Body L_4 mm	Body L_3 mm	Body L_1 mm	Shank L_5 mm	Shank D_2 mm	Shank Flat	Part No
ⓜ	10xD	A	24.40 - 25.30	297.4	345.6	349.2	403.6	57.9	32	Yes	⚠ HTA2A10-32FM
	10xD	A	24.40 - 25.30	297.4	345.6	349.2	403.6	57.9	32	No	⚠ HTA2A10-32CM
	10xD	B	25.40 - 28.40	297.4	345.6	349.2	403.6	57.9	32	Yes	⚠ HTA2B10-32FM
	10xD	B	25.40 -28.40	297.4	345.6	349.2	403.6	57.9	32	No	⚠ HTA2B10-32CM
	10xD	C	28.50 - 31.60	297.4	345.6	349.2	403.6	57.9	32	Yes	⚠ HTA2C10-32FM
	10xD	C	28.50 - 31.60	297.4	345.6	349.2	403.6	57.9	32	No	⚠ HTA2C10-32CM
	10xD	D	31.70 - 35.00	297.4	345.6	349.2	403.6	57.9	32	Yes	⚠ HTA2D10-32FM
	10xD	D	31.70 - 35.00	297.4	345.6	349.2	403.6	57.9	32	No	⚠ HTA2D10-32CM
	12xD	A	24.40 - 25.30	356.9	405.1	408.7	463.0	57.9	32	Yes	⚠ HTA2A12-32FM
	12xD	A	24.40 - 25.30	356.9	405.1	408.7	463.0	57.9	32	No	⚠ HTA2A12-32CM
	12xD	B	25.40 - 28.40	356.9	405.1	408.7	463.0	57.9	32	Yes	⚠ HTA2B12-32FM
	12xD	B	25.40 -28.40	356.9	405.1	408.7	463.0	57.9	32	No	⚠ HTA2B12-32CM
	12xD	C	28.50 - 31.60	356.9	405.1	408.7	463.0	57.9	32	Yes	⚠ HTA2C12-32FM
	12xD	C	28.50 - 31.60	356.9	405.1	408.7	463.0	57.9	32	No	⚠ HTA2C12-32CM
	12xD	D	31.70 - 35.00	356.9	405.1	408.7	463.0	57.9	32	Yes	⚠ HTA2D12-32FM
	12xD	D	31.70 - 35.00	356.9	405.1	408.7	463.0	57.9	32	No	⚠ HTA2D12-32CM
	15xD	A	24.40 - 25.30	446.2	494.4	497.9	552.3	57.9	32	Yes	⚠ HTA2A15-32FM
	15xD	A	24.40 - 25.30	446.2	494.4	497.9	552.3	57.9	32	No	⚠ HTA2A15-32CM
	15xD	B	25.40 - 28.40	446.2	494.4	497.9	552.3	57.9	32	Yes	⚠ HTA2B15-32FM
	15xD	B	25.40 -28.40	446.2	494.4	497.9	552.3	57.9	32	No	⚠ HTA2B15-32CM
	15xD	C	28.50 - 31.60	446.2	494.4	497.9	552.3	57.9	32	Yes	⚠ HTA2C15-32FM
	15xD	C	28.50 - 31.60	446.2	494.4	497.9	552.3	57.9	32	No	⚠ HTA2C15-32CM
	15xD	D	31.70 - 35.00	446.2	494.4	497.9	552.3	57.9	32	Yes	⚠ HTA2D15-32FM
	15xD	D	31.70 - 35.00	446.2	494.4	497.9	552.3	57.9	32	No	⚠ HTA2D15-32CM

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)

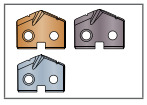
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35



Key on A25: 1

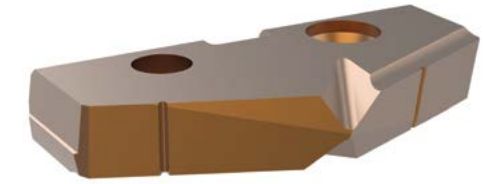
A25: 22 - 25

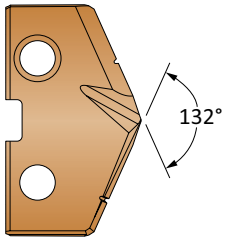


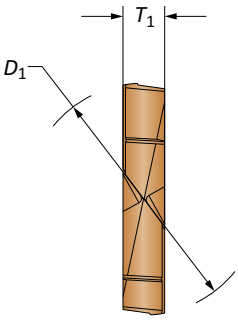
ⓜ = Metric (mm)
ⓘ = Imperial (in)
Screws sold in multiples of 10

T-A Pro Carbide Drill Inserts

3 Series | Diameter Range: 35.05mm - 47.80mm







Insert					Part No.	Part No.	Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
3-A	35.72	1.4063	1-13/32	6.35	**TAP3-35.72**	**TAK3-35.72**	**TAN3-35.72**
3-A	35.80	1.4094		6.35	**TAP3-35.80**	**TAK3-35.80**	**TAN3-35.80**
3-A	35.90	1.4134		6.35	**TAP3-35.90**	**TAK3-35.90**	**TAN3-35.90**
3-A	36.00	1.4173		6.35	**TAP3-36.00**	**TAK3-36.00**	**TAN3-36.00**
3-A	36.10	1.4213		6.35	**TAP3-36.10**	**TAK3-36.10**	**TAN3-36.10**
3-A	36.20	1.4252		6.35	**TAP3-36.20**	**TAK3-36.20**	**TAN3-36.20**
3-A	36.30	1.4291		6.35	**TAP3-36.30**	**TAK3-36.30**	**TAN3-36.30**
3-A	36.40	1.4331		6.35	**TAP3-36.40**	**TAK3-36.40**	**TAN3-36.40**
3-A	36.50	1.4370		6.35	**TAP3-36.50**	**TAK3-36.50**	**TAN3-36.50**
3-A	36.51	1.4374	1-7/16	6.35	**TAP3-36.51**	**TAK3-36.51**	**TAN3-36.51**
3-A	36.60	1.4409		6.35	**TAP3-36.60**	**TAK3-36.60**	**TAN3-36.60**
3-A	36.70	1.4449		6.35	**TAP3-36.70**	**TAK3-36.70**	**TAN3-36.70**
3-A	36.80	1.4488		6.35	**TAP3-36.80**	**TAK3-36.80**	**TAN3-36.80**
3-A	36.90	1.4528		6.35	**TAP3-36.90**	**TAK3-36.90**	**TAN3-36.90**
3-A	37.00	1.4567		6.35	**TAP3-37.00**	**TAK3-37.00**	**TAN3-37.00**
3-A	37.10	1.4606		6.35	**TAP3-37.10**	**TAK3-37.10**	**TAN3-37.10**
3-A	37.20	1.4646		6.35	**TAP3-37.20**	**TAK3-37.20**	**TAN3-37.20**
3-A	37.30	1.4685		6.35	**TAP3-37.30**	**TAK3-37.30**	**TAN3-37.30**
3-A	37.31	1.4689	1-15/32	6.35	**TAP3-37.31**	**TAK3-37.31**	**TAN3-37.31**
3-A	37.40	1.4724		6.35	**TAP3-37.40**	**TAK3-37.40**	**TAN3-37.40**
3-A	37.50	1.4764		6.35	**TAP3-37.50**	**TAK3-37.50**	**TAN3-37.50**
3-A	37.60	1.4803		6.35	**TAP3-37.60**	**TAK3-37.60**	**TAN3-37.60**
3-A	37.70	1.4843		6.35	**TAP3-37.70**	**TAK3-37.70**	**TAN3-37.70**

Inserts sold in multiples of 1

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength.

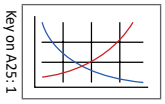

A Series Insert + A Series Holder


C Series Insert + A Series Holder

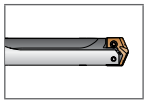

C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 34 - 35



A25: 32 - 33

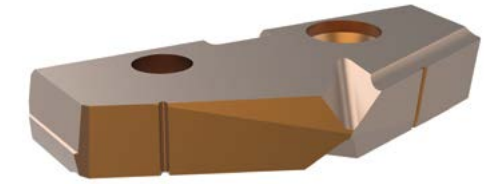


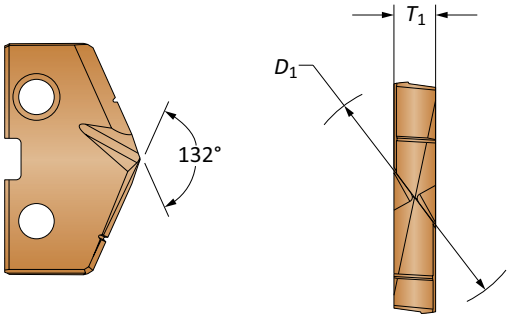
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

3 Series | Diameter Range: 35.05mm - 47.80mm





Insert					Part No.	Part No.	Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
3-B	37.80	1.4882		6.35	TAP3-37.80	TAK3-37.80	TAN3-37.80
3-B	37.90	1.4921		6.35	TAP3-37.90	TAK3-37.90	TAN3-37.90
3-B	38.00	1.4961		6.35	TAP3-38.00	TAK3-38.00	TAN3-38.00
3-B	38.10	1.5000	1-1/2	6.35	TAP3-38.10	TAK3-38.10	TAN3-38.10
3-B	38.20	1.5039		6.35	TAP3-38.20	TAK3-38.20	TAN3-38.20
3-B	38.30	1.5079		6.35	TAP3-38.30	TAK3-38.30	TAN3-38.30
3-B	38.40	1.5118		6.35	TAP3-38.40	TAK3-38.40	TAN3-38.40
3-B	38.50	1.5157		6.35	TAP3-38.50	TAK3-38.50	TAN3-38.50
3-B	38.60	1.5197		6.35	TAP3-38.60	TAK3-38.60	TAN3-38.60
3-B	38.70	1.5236		6.35	TAP3-38.70	TAK3-38.70	TAN3-38.70
3-B	38.80	1.5276		6.35	TAP3-38.80	TAK3-38.80	TAN3-38.80
3-B	38.89	1.5311	1-17/32	6.35	TAP3-38.89	TAK3-38.89	TAN3-38.89
3-B	38.90	1.5315		6.35	TAP3-38.90	TAK3-38.90	TAN3-38.90
3-B	39.00	1.5354		6.35	TAP3-39.00	TAK3-39.00	TAN3-39.00
3-B	39.10	1.5394		6.35	TAP3-39.10	TAK3-39.10	TAN3-39.10
3-B	39.20	1.5433		6.35	TAP3-39.20	TAK3-39.20	TAN3-39.20
3-B	39.29	1.5469		6.35	TAP3-39.29	TAK3-39.29	TAN3-39.29
3-B	39.30	1.5472		6.35	TAP3-39.30	TAK3-39.30	TAN3-39.30
3-B	39.40	1.5512		6.35	TAP3-39.40	TAK3-39.40	TAN3-39.40
3-B	39.50	1.5551		6.35	TAP3-39.50	TAK3-39.50	TAN3-39.50
3-B	39.60	1.5591		6.35	TAP3-39.60	TAK3-39.60	TAN3-39.60
3-B	39.69	1.5626	1-9/16	6.35	TAP3-39.69	TAK3-39.69	TAN3-39.69
3-B	39.70	1.5630		6.35	TAP3-39.70	TAK3-39.70	TAN3-39.70
3-B	39.80	1.5669		6.35	TAP3-39.80	TAK3-39.80	TAN3-39.80
3-B	39.90	1.5709		6.35	TAP3-39.90	TAK3-39.90	TAN3-39.90
3-B	40.00	1.5748		6.35	TAP3-40.00	TAK3-40.00	TAN3-40.00
3-B	40.10	1.5787		6.35	TAP3-40.10	TAK3-40.10	TAN3-40.10
3-B	40.20	1.5827		6.35	TAP3-40.20	TAK3-40.20	TAN3-40.20
3-B	40.30	1.5866		6.35	TAP3-40.30	TAK3-40.30	TAN3-40.30
3-B	40.40	1.5906		6.35	TAP3-40.40	TAK3-40.40	TAN3-40.40
3-B	40.48	1.5937	1-19/32	6.35	TAP3-40.48	TAK3-40.48	TAN3-40.48
3-B	40.50	1.5945		6.35	TAP3-40.50	TAK3-40.50	TAN3-40.50
3-B	40.60	1.5984		6.35	TAP3-40.60	TAK3-40.60	TAN3-40.60
3-B	40.70	1.6024		6.35	TAP3-40.70	TAK3-40.70	TAN3-40.70
3-B	40.80	1.6063		6.35	TAP3-40.80	TAK3-40.80	TAN3-40.80
3-B	40.90	1.6102		6.35	TAP3-40.90	TAK3-40.90	TAN3-40.90

Inserts sold in multiples of 1

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

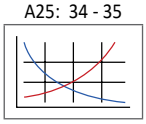
A Series Insert + A Series Holder

C Series Insert + A Series Holder

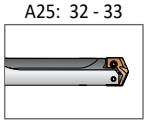
C Series Insert + C Series Holder

A Series Insert + C Series Holder

A25: 34 - 35



A25: 32 - 33

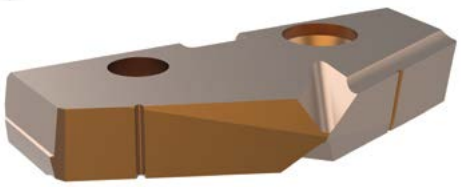


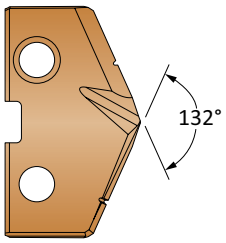
Sizes not shown are available upon request.
When ordering, please follow the example below:

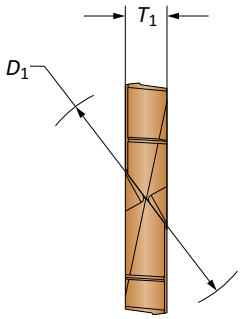
Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

3 Series | Diameter Range: 35.05mm - 47.80mm







Insert					Part No.	Part No.	Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
3-C	41.00	1.6142		6.35	TAP3-41.00	TAK3-41.00	TAN3-41.00
3-C	41.10	1.6181		6.35	TAP3-41.10	TAK3-41.10	TAN3-41.10
3-C	41.20	1.6220		6.35	TAP3-41.20	TAK3-41.20	TAN3-41.20
3-C	41.28	1.6252	1-5/8	6.35	TAP3-41.28	TAK3-41.28	TAN3-41.28
3-C	41.30	1.6260		6.35	TAP3-41.30	TAK3-41.30	TAN3-41.30
3-C	41.40	1.6299		6.35	TAP3-41.40	TAK3-41.40	TAN3-41.40
3-C	41.50	1.6339		6.35	TAP3-41.50	TAK3-41.50	TAN3-41.50
3-C	41.60	1.6378		6.35	TAP3-41.60	TAK3-41.60	TAN3-41.60
3-C	41.70	1.6417		6.35	TAP3-41.70	TAK3-41.70	TAN3-41.70
3-C	41.80	1.6457		6.35	TAP3-41.80	TAK3-41.80	TAN3-41.80
3-C	41.90	1.6496		6.35	TAP3-41.90	TAK3-41.90	TAN3-41.90
3-C	42.00	1.6535		6.35	TAP3-42.00	TAK3-42.00	TAN3-42.00
3-C	42.07	1.6563	1-21/32	6.35	TAP3-42.07	TAK3-42.07	TAN3-42.07
3-C	42.10	1.6575		6.35	TAP3-42.10	TAK3-42.10	TAN3-42.10
3-C	42.20	1.6614		6.35	TAP3-42.20	TAK3-42.20	TAN3-42.20
3-C	42.30	1.6654		6.35	TAP3-42.30	TAK3-42.30	TAN3-42.30
3-C	42.40	1.6693		6.35	TAP3-42.40	TAK3-42.40	TAN3-42.40
3-C	42.50	1.6732		6.35	TAP3-42.50	TAK3-42.50	TAN3-42.50
3-C	42.60	1.6772		6.35	TAP3-42.60	TAK3-42.60	TAN3-42.60
3-C	42.70	1.6811		6.35	TAP3-42.70	TAK3-42.70	TAN3-42.70
3-C	42.80	1.6850		6.35	TAP3-42.80	TAK3-42.80	TAN3-42.80
3-C	42.86	1.6874	1-11/16	6.35	TAP3-42.86	TAK3-42.86	TAN3-42.86
3-C	42.90	1.6890		6.35	TAP3-42.90	TAK3-42.90	TAN3-42.90
3-C	43.00	1.6929		6.35	TAP3-43.00	TAK3-43.00	TAN3-43.00
3-C	43.10	1.6969		6.35	TAP3-43.10	TAK3-43.10	TAN3-43.10
3-C	43.20	1.7008		6.35	TAP3-43.20	TAK3-43.20	TAN3-43.20
3-C	43.30	1.7047		6.35	TAP3-43.30	TAK3-43.30	TAN3-43.30
3-C	43.40	1.7087		6.35	TAP3-43.40	TAK3-43.40	TAN3-43.40
3-C	43.50	1.7126		6.35	TAP3-43.50	TAK3-43.50	TAN3-43.50
3-C	43.60	1.7165		6.35	TAP3-43.60	TAK3-43.60	TAN3-43.60
3-C	43.66	1.7189	1-23/32	6.35	TAP3-43.66	TAK3-43.66	TAN3-43.66
3-C	43.70	1.7205		6.35	TAP3-43.70	TAK3-43.70	TAN3-43.70
3-C	43.80	1.7244		6.35	TAP3-43.80	TAK3-43.80	TAN3-43.80
3-C	43.90	1.7283		6.35	TAP3-43.90	TAK3-43.90	TAN3-43.90
3-C	44.00	1.7323		6.35	TAP3-44.00	TAK3-44.00	TAN3-44.00
3-C	44.10	1.7362		6.35	TAP3-44.10	TAK3-44.10	TAN3-44.10
3-C	44.20	1.7402		6.35	TAP3-44.20	TAK3-44.20	TAN3-44.20
3-C	44.30	1.7441		6.35	TAP3-44.30	TAK3-44.30	TAN3-44.30

Inserts sold in multiples of 1

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

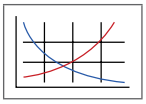

A Series Insert +
A Series Holder


C Series Insert +
A Series Holder

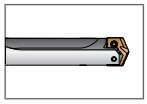

C Series Insert +
C Series Holder


A Series Insert +
C Series Holder

A25: 34 - 35



A25: 32 - 33

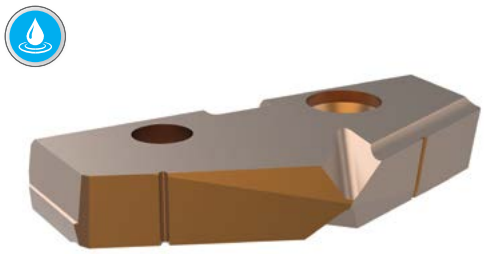


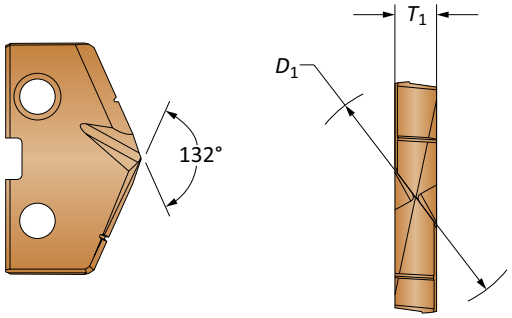
Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

T-A Pro Carbide Drill Inserts

3 Series | Diameter Range: 35.05mm - 47.80mm





Insert					Part No.	Part No.	Part No.
Series	D_1 mm	D_1 inch	Fractional Equivalent	T_1 mm	P	K	N
3-D	44.40	1.7480		6.35	TAP3-44.40	TAK3-44.40	TAN3-44.40
3-D	44.45	1.7500	1-3/4	6.35	TAP3-44.45	TAK3-44.45	TAN3-44.45
3-D	44.50	1.7520		6.35	TAP3-44.50	TAK3-44.50	TAN3-44.50
3-D	44.60	1.7559		6.35	TAP3-44.60	TAK3-44.60	TAN3-44.60
3-D	44.70	1.7598		6.35	TAP3-44.70	TAK3-44.70	TAN3-44.70
3-D	44.80	1.7638		6.35	TAP3-44.80	TAK3-44.80	TAN3-44.80
3-D	44.90	1.7677		6.35	TAP3-44.90	TAK3-44.90	TAN3-44.90
3-D	45.00	1.7717		6.35	TAP3-45.00	TAK3-45.00	TAN3-45.00
3-D	45.10	1.7756		6.35	TAP3-45.10	TAK3-45.10	TAN3-45.10
3-D	45.20	1.7795		6.35	TAP3-45.20	TAK3-45.20	TAN3-45.20
3-D	45.24	1.7811	1-25/32	6.35	TAP3-45.24	TAK3-45.24	TAN3-45.24
3-D	45.30	1.7835		6.35	TAP3-45.30	TAK3-45.30	TAN3-45.30
3-D	45.40	1.7874		6.35	TAP3-45.40	TAK3-45.40	TAN3-45.40
3-D	45.50	1.7913		6.35	TAP3-45.50	TAK3-45.50	TAN3-45.50
3-D	45.50	1.7913		6.35	TAP3-45.50	TAK3-45.50	TAN3-45.50
3-D	45.60	1.7953		6.35	TAP3-45.60	TAK3-45.60	TAN3-45.60
3-D	45.64	1.7969		6.35	TAP3-45.64	TAK3-45.64	TAN3-45.64
3-D	45.70	1.7992		6.35	TAP3-45.70	TAK3-45.70	TAN3-45.70
3-D	45.80	1.8031		6.35	TAP3-45.80	TAK3-45.80	TAN3-45.80
3-D	45.90	1.8071		6.35	TAP3-45.90	TAK3-45.90	TAN3-45.90
3-D	46.00	1.8110		6.35	TAP3-46.00	TAK3-46.00	TAN3-46.00
3-D	46.04	1.8126	1-13/16	6.35	TAP3-46.04	TAK3-46.04	TAN3-46.04
3-D	46.10	1.8150		6.35	TAP3-46.10	TAK3-46.10	TAN3-46.10
3-D	46.20	1.8189		6.35	TAP3-46.20	TAK3-46.20	TAN3-46.20
3-D	46.30	1.8228		6.35	TAP3-46.30	TAK3-46.30	TAN3-46.30
3-D	46.40	1.8268		6.35	TAP3-46.40	TAK3-46.40	TAN3-46.40
3-D	46.50	1.8307		6.35	TAP3-46.50	TAK3-46.50	TAN3-46.50
3-D	46.60	1.8346		6.35	TAP3-46.60	TAK3-46.60	TAN3-46.60
3-D	46.70	1.8386		6.35	TAP3-46.70	TAK3-46.70	TAN3-46.70
3-D	46.80	1.8425		6.35	TAP3-46.80	TAK3-46.80	TAN3-46.80
3-D	46.83	1.8437	1-27/32	6.35	TAP3-46.83	TAK3-46.83	TAN3-46.83
3-D	46.90	1.8465		6.35	TAP3-46.90	TAK3-46.90	TAN3-46.90
3-D	47.00	1.8504		6.35	TAP3-47.00	TAK3-47.00	TAN3-47.00
3-D	47.10	1.8543		6.35	TAP3-47.10	TAK3-47.10	TAN3-47.10
3-D	47.20	1.8583		6.35	TAP3-47.20	TAK3-47.20	TAN3-47.20
3-D	47.30	1.8622		6.35	TAP3-47.30	TAK3-47.30	TAN3-47.30
3-D	47.40	1.8661		6.35	TAP3-47.40	TAK3-47.40	TAN3-47.40
3-D	47.50	1.8661		6.35	TAP3-47.50	TAK3-47.50	TAN3-47.50
3-D	47.60	1.8740		6.35	TAP3-47.60	TAK3-47.60	TAN3-47.60
3-D	47.63	1.8752	1-7/8	6.35	TAP3-47.63	TAK3-47.63	TAN3-47.63

Inserts sold in multiples of 1

Sub Series Holders (A, B, C, D)

Sub series holders are recommended when running carbide inserts toward the upper end of the series drill range, as well as in tougher applications requiring more insert support and holder strength. NOTE: Only specified sub series inserts should be used with equivalent or smaller sub series holders.

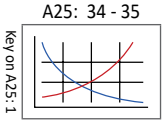

A Series Insert + A Series Holder


C Series Insert + A Series Holder

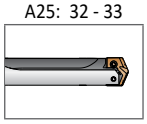

C Series Insert + C Series Holder


A Series Insert + C Series Holder

A25: 34 - 35



A25: 32 - 33

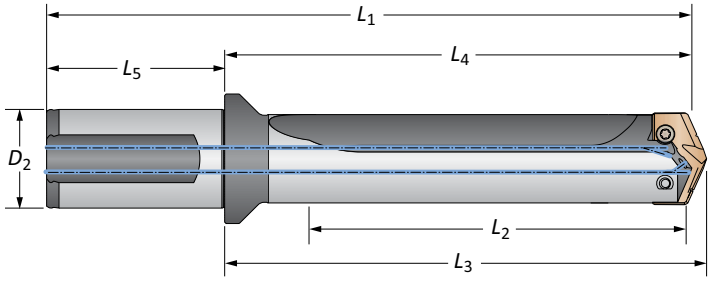


Sizes not shown are available upon request.
When ordering, please follow the example below:

Metric:	13.16mm, Steel, 0 series = use Part No. **TAP0-13.16**
Imperial:	0.5180", Steel, 0 series = use Part No. **TAP0-13.16**

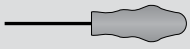
T-A Pro Drill Holders

3 Series Metric | Diameter Range: 35.05mm - 47.80mm

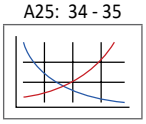
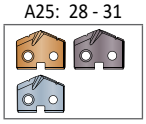


	Length	Sub Series	Series Diameter	Body L_2 mm	L_4 mm	L_3 mm	L_1 mm	Shank L_5 mm	D_2 mm	Flat	Part No
	STUB	A	35.72 - 37.70	41.1	92.3	97.1	160.6	68.3	40	Yes	**HTA3A01-40FM**
	STUB	A	35.72 - 37.70	41.1	92.3	97.1	160.6	68.3	40	No	**HTA3A01-40CM**
	STUB	B	37.80 - 40.90	41.1	92.3	97.1	160.6	68.3	40	Yes	**HTA3B01-40FM**
	STUB	B	37.80 - 40.90	41.1	92.3	97.1	160.6	68.3	40	No	**HTA3B01-40CM**
	STUB	C	41.00 - 44.30	41.1	92.3	97.1	160.6	68.3	40	Yes	**HTA3C01-40FM**
	STUB	C	41.00 - 44.30	41.1	92.3	97.1	160.6	68.3	40	No	**HTA3C01-40CM**
	STUB	D	44.40 - 47.63	41.1	92.3	97.1	160.6	68.3	40	Yes	**HTA3D01-40FM**
	STUB	D	44.40 - 47.63	41.1	92.3	97.1	160.6	68.3	40	No	**HTA3D01-40CM**
	3xD	A	35.72 - 37.70	123.3	180.1	184.8	248.3	68.3	40	Yes	**HTA3A03-40FM**
	3xD	A	35.72 - 37.70	123.3	180.1	184.8	248.3	68.3	40	No	**HTA3A03-40CM**
	3xD	B	37.80 - 40.90	123.3	180.1	184.8	248.3	68.3	40	Yes	**HTA3B03-40FM**
	3xD	B	37.80 - 40.90	123.3	180.1	184.8	248.3	68.3	40	No	**HTA3B03-40CM**
	3xD	C	41.00 - 44.30	123.3	180.1	184.8	248.3	68.3	40	Yes	**HTA3C03-40FM**
	3xD	C	41.00 - 44.30	123.3	180.1	184.8	248.3	68.3	40	No	**HTA3C03-40CM**
	3xD	D	44.40 - 47.63	123.3	180.1	184.8	248.3	68.3	40	Yes	**HTA3D03-40FM**
ⓜ	3xD	D	44.40 - 47.63	123.3	180.1	184.8	248.3	68.3	40	No	**HTA3D03-40CM**
	5xD	A	35.72 - 37.70	205.5	262.2	267.0	330.5	68.3	40	Yes	**HTA3A05-40FM**
	5xD	A	35.72 - 37.70	205.5	262.2	267.0	330.5	68.3	40	No	**HTA3A05-40CM**
	5xD	B	37.80 - 40.90	205.5	262.2	267.0	330.5	68.3	40	Yes	**HTA3B05-40FM**
	5xD	B	37.80 - 40.90	205.5	262.2	267.0	330.5	68.3	40	No	**HTA3B05-40CM**
	5xD	C	41.00 - 44.30	205.5	262.2	267.0	330.5	68.3	40	Yes	**HTA3C05-40FM**
	5xD	C	41.00 - 44.30	205.5	262.2	267.0	330.5	68.3	40	No	**HTA3C05-40CM**
	5xD	D	44.40 - 47.63	205.5	262.2	267.0	330.5	68.3	40	Yes	**HTA3D05-40FM**
	5xD	D	44.40 - 47.63	205.5	262.2	267.0	330.5	68.3	40	No	**HTA3D05-40CM**
	7xD	A	35.72 - 37.70	287.7	344.4	349.2	412.7	68.3	40	Yes	**HTA3A07-40FM**
	7xD	A	35.72 - 37.70	287.7	344.4	349.2	412.7	68.3	40	No	**HTA3A07-40CM**
	7xD	B	37.80 - 40.90	287.7	344.4	349.2	412.7	68.3	40	Yes	**HTA3B07-40FM**
	7xD	B	37.80 - 40.90	287.7	344.4	349.2	412.7	68.3	40	No	**HTA3B07-40CM**
	7xD	C	41.00 - 44.30	287.7	344.4	349.2	412.7	68.3	40	Yes	**HTA3C07-40FM**
	7xD	C	41.00 - 44.30	287.7	344.4	349.2	412.7	68.3	40	No	**HTA3C07-40CM**
	7xD	D	44.40 - 47.63	287.7	344.4	349.2	412.7	68.3	40	Yes	**HTA3D07-40FM**
	7xD	D	44.40 - 47.63	287.7	344.4	349.2	412.7	68.3	40	No	**HTA3D07-40CM**

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	1370 N-cm (121.3 in-llbs)

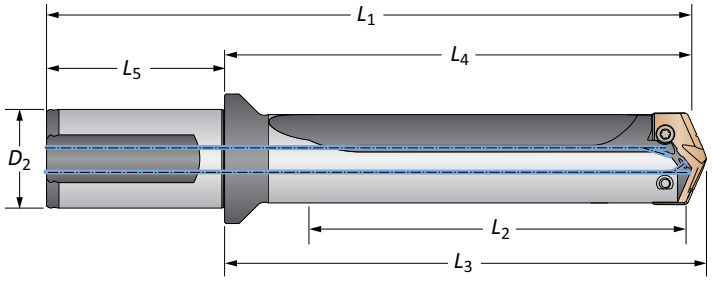
⚠ WARNING Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35
Key on A25:1

A25: 28 - 31


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

T-A Pro Drill Holders

3 Series Metric | Diameter Range: 35.05mm - 47.80mm



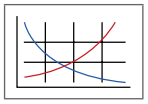
	Length	Sub Series	Series Diameter	Body L_2 mm	L_4 mm	L_3 mm	L_1 mm	Shank L_5 mm	D_2 mm	Flat	Part No
	10xD	A	35.72 - 37.70	411.0	467.7	472.5	536.0	68.3	40	Yes	⚠HTA3A10-40FM
	10xD	A	35.72 - 37.70	411.0	467.7	472.5	536.0	68.3	40	No	⚠HTA3A10-40CM
	10xD	B	37.80 - 40.90	411.0	467.7	472.5	536.0	68.3	40	Yes	⚠HTA3B10-40FM
	10xD	B	37.80 - 40.90	411.0	467.7	472.5	536.0	68.3	40	No	⚠HTA3B10-40CM
	10xD	C	41.00 - 44.30	411.0	467.7	472.5	536.0	68.3	40	Yes	⚠HTA3C10-40FM
	10xD	C	41.00 - 44.30	411.0	467.7	472.5	536.0	68.3	40	No	⚠HTA3C10-40CM
	10xD	D	44.40 - 47.63	411.0	467.7	472.5	536.0	68.3	40	Yes	⚠HTA3D10-40FM
	10xD	D	44.40 - 47.63	411.0	467.7	472.5	536.0	68.3	40	No	⚠HTA3D10-40CM
	12xD	A	35.72 - 37.70	493.2	549.9	554.7	618.2	68.3	40	Yes	⚠HTA3A12-40FM
	12xD	A	35.72 - 37.70	493.2	549.9	554.7	618.2	68.3	40	No	⚠HTA3A12-40CM
	12xD	B	37.80 - 40.90	493.2	549.9	554.7	618.2	68.3	40	Yes	⚠HTA3B12-40FM
Ⓜ	12xD	B	37.80 - 40.90	493.2	549.9	554.7	618.2	68.3	40	No	⚠HTA3B12-40CM
	12xD	C	41.00 - 44.30	493.2	549.9	554.7	618.2	68.3	40	Yes	⚠HTA3C12-40FM
	12xD	C	41.00 - 44.30	493.2	549.9	554.7	618.2	68.3	40	No	⚠HTA3C12-40CM
	12xD	D	44.40 - 47.63	493.2	549.9	554.7	618.2	68.3	40	Yes	⚠HTA3D12-40FM
	12xD	D	44.40 - 47.63	493.2	549.9	554.7	618.2	68.3	40	No	⚠HTA3D12-40CM
	15xD	A	35.72 - 37.70	616.5	673.2	678.0	741.5	68.3	40	Yes	⚠HTA3A15-40FM
	15xD	A	35.72 - 37.70	616.5	673.2	678.0	741.5	68.3	40	No	⚠HTA3A15-40CM
	15xD	B	37.80 - 40.90	616.5	673.2	678.0	741.5	68.3	40	Yes	⚠HTA3B15-40FM
	15xD	B	37.80 - 40.90	616.5	673.2	678.0	741.5	68.3	40	No	⚠HTA3B15-40CM
	15xD	C	41.00 - 44.30	616.5	673.2	678.0	741.5	68.3	40	Yes	⚠HTA3C15-40FM
	15xD	C	41.00 - 44.30	616.5	673.2	678.0	741.5	68.3	40	No	⚠HTA3C15-40CM
	15xD	D	44.40 - 47.63	616.5	673.2	678.0	741.5	68.3	40	Yes	⚠HTA3D15-40FM
	15xD	D	44.40 - 47.63	616.5	673.2	678.0	741.5	68.3	40	No	⚠HTA3D15-40CM

Connection Accessories

 Insert Screws	 Nylon Locking Screws	 Insert Driver	Admissible Tightening Torque*
7514-IP20-1	7514N-IP20-1	8IP-20	1370 N-cm (121.3 in-llbs)

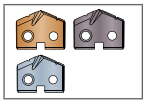
⚠ **WARNING** Refer to Speed and Feed charts for recommended adjustments to speeds and feeds. Refer to page A25: 36 for deep hole drilling guidelines in this section of the catalog. Visit **www.alliedmachine.com/DeepHoleGuidelines** for the most up-to-date information and procedures. Factory technical assistance is available for your specific applications through our Application Engineering department. ***Email: engineering.eu@alliedmachine.com***

A25: 34 - 35



Key on A25: 1

A25: 28 - 31



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

Recommended Drilling Data | Metric (mm)

T-A Pro™

	Material	Hardness (BHN)	Insert Grade	Speed (M/min)	Feed Rate (mm/rev) by Diameter 11.10mm - 12.69mm	12.70mm - 17.64mm	17.65mm - 24.37mm	24.38mm - 35.04mm	35.05mm - 47.80mm
P	**Free Machining Steel** 1111Mn30, 10S20, 11SMn36, etc.	100 - 150	P	145	0.180	0.250	0.330	0.410	0.510
		150 - 200	P	135	0.180	0.250	0.330	0.410	0.510
		200 - 250	P	125	0.150	0.250	0.330	0.410	0.510
	Low Carbon Steel C22, C10, CK22, 15Cr3, etc	85 - 125	P	130	0.150	0.230	0.300	0.380	0.480
		125 - 175	P	125	0.150	0.230	0.300	0.380	0.480
		175 - 225	P	115	0.130	0.200	0.250	0.360	0.460
		225 - 275	P	110	0.130	0.200	0.250	0.360	0.460
	Medium Carbon Steel C45, C60, 30Mn5, etc.	125 - 175	P	125	0.150	0.230	0.300	0.380	0.480
		175 - 225	P	115	0.130	0.200	0.250	0.360	0.460
		225 - 275	P	110	0.130	0.200	0.250	0.360	0.460
		275 - 325	P	100	0.100	0.180	0.230	0.300	0.410
	Alloy Steel 42CrM04, 36NiCr10, 10NiCrMo13 4, etc.	125 - 175	P	130	0.150	0.230	0.300	0.360	0.430
		175 - 225	P	120	0.130	0.200	0.280	0.360	0.430
		225 - 275	P	110	0.130	0.200	0.280	0.360	0.430
		275 - 325	P	105	0.100	0.180	0.250	0.300	0.380
		325 - 375	P	95	0.080	0.180	0.250	0.300	0.380
	High Strength Alloy 34NiCrMo8, etc.	225 - 300	P	105	0.100	0.180	0.250	0.330	0.380
		300 - 350	P	100	0.080	0.150	0.230	0.300	0.360
		350 - 400	P	90	0.080	0.150	0.200	0.280	0.330
	Structural Steel 1St37, St52, S355, etc.	100 - 150	P	120	0.150	0.250	0.300	0.360	0.460
		150 - 250	P	105	0.130	0.230	0.250	0.300	0.410
		250 - 350	P	85	0.100	0.200	0.230	0.250	0.360
	Tool Steel 1.2714, 1.2379, 1.2344 etc.	150 - 200	P	65	0.100	0.150	0.200	0.250	0.300
		200 - 250	P	55	0.100	0.150	0.200	0.250	0.300
S	**High Temp Alloy** Hastelloy B, Inconel 600, etc.	140 - 220	M	20	0.080	0.180	0.200	0.250	0.300
		220 - 310	M	15	0.080	0.150	0.180	0.200	0.250
	Titanium Alloy	140 - 220	M	20	0.080	0.180	0.200	0.250	0.300
		220 - 310	M	15	0.080	0.150	0.180	0.200	0.250
	Aerospace Alloy S82	185 - 275	M	45	0.130	0.200	0.230	0.250	0.360
		275 - 350	M	35	0.100	0.180	0.200	0.200	0.300

7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
100 M/min • 0.80	= 80 M/min
0.2 mm/rev • 0.80	= 0.16 mm/rev

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (10xD)
100 M/min • 0.70	= 70 M/min
0.2 mm/rev • 0.70	= 0.14 mm/rev

Coolant Recommendations

Series	STUB, 3xD, 5xD Pressure BAR	STUB, 3xD, 5xD Flow Rate LPM	7xD, 10xD Pressure BAR	7xD, 10xD Flow Rate LPM	12xD, 15xD Pressure BAR	12xD, 15xD Flow Rate LPM
Z	31	15	34	22	45	30
0	24	22	31	34	34	45
1	21	30	27	38	34	45
2	17	38	24	49	31	60
3	14	45	21	53	27	68

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

- When using holders without support bushing, use a short T-A Pro 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 department. ***Email: engineering.eu@alliedmachine.com***

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation chart for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, 12xD, and 15xD holder lengths, see adjustment example above.

Recommended Drilling Data | Metric (mm)

T-A Pro™

	Material	Hardness (BHN)	Insert Grade	Speed (M/min)	Feed Rate (mm/rev) by Diameter 11.10mm - 12.69mm	12.70mm - 17.64mm	17.65mm - 24.37mm	24.38mm - 35.04mm	35.05mm - 47.80mm
M	**Stainless Steel 400 Series**	185 - 275	M	85	0.130	0.250	0.280	0.300	0.330
	1.4404 etc.	275 - 350	M	70	0.100	0.230	0.250	0.280	0.300
	Stainless Steel 300 Series	135 - 185	M	85	0.130	0.180	0.200	0.230	0.300
	1.4571 etc.	185 - 275	M	70	0.100	0.150	0.180	0.200	0.280
	PH Stainless	275-350	P	50	0.080	0.100	0.150	0.200	0.250
	17-4, 13-8, 15-5	350-425	P	35	0.080	0.100	0.150	0.200	0.250
	Super Duplex Stainless Steel	135 - 185	M	35	0.130	0.130	0.150	0.150	0.180
		185 - 275	M	25	0.100	0.130	0.130	0.150	0.150
H	**Wear Plate**	400	P	20	0.080	0.150	0.200	0.230	0.300
	Hardox, AR400, T-1, etc.	500	P	15	0.050	0.130	0.180	0.200	0.250
		600	N/A	–	–	–	–	–	–
	Hardened Steel	300 - 400	P	30	0.080	0.150	0.200	0.230	0.300
		400 - 500	P	15	0.050	0.130	0.180	0.200	0.250
K	**SG / Nodular Cast Iron**	120 - 150	K	185	0.180	0.300	0.410	0.510	0.610
		150 - 200	K	170	0.150	0.280	0.360	0.460	0.560
		200 - 220	K	150	0.150	0.230	0.300	0.410	0.460
		220 - 260	K	135	0.130	0.180	0.230	0.300	0.360
		260 - 320	K	120	0.100	0.150	0.180	0.230	0.300
N	**Cast Aluminum**	30	N	335	0.200	0.330	0.410	0.510	0.560
		180	N	185	0.200	0.330	0.410	0.460	0.560
	Wrought Aluminum	30	N	335	0.230	0.330	0.430	0.510	0.610
		180	N	185	0.130	0.180	0.250	0.330	0.410
	Aluminum Bronze	100 - 200	N	150	0.150	0.280	0.360	0.460	0.560
		200 - 250	N	90	0.130	0.180	0.230	0.300	0.360
	Brass	100	N	135	0.180	0.300	0.410	0.510	0.610
	Copper	60	N	50	0.050	0.080	0.150	0.200	0.250

7xD and 10xD Adjustment Example (0.80 Adjustment)

Data • Adjustment Value	Speed/Feed (7xD)
100 M/min • 0.80	= 80 M/min
0.2 mm/rev • 0.80	= 0.16 mm/rev

12xD and 15xD Adjustment Example (0.70 Adjustment)

Speed • Adjustment Value	Speed/Feed (10xD)
100 M/min • 0.70	= 70 M/min
0.2 mm/rev • 0.70	= 0.14 mm/rev

Coolant Recommendations

Series	STUB, 3xD, 5xD Pressure BAR	STUB, 3xD, 5xD Flow Rate LPM	7xD, 10xD Pressure BAR	7xD, 10xD Flow Rate LPM	12xD, 15xD Pressure BAR	12xD, 15xD Flow Rate LPM
Z	31	15	34	22	45	30
0	24	22	31	34	34	45
1	21	30	27	38	34	45
2	17	38	24	49	31	60
3	14	45	21	53	27	68

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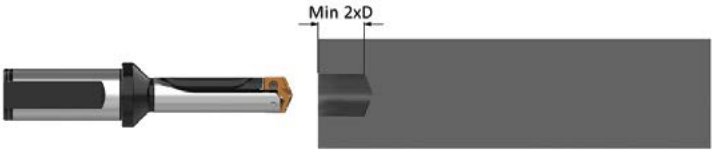
IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the coolant recommendation chart for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is available through our Application Engineering department. For 7xD, 10xD, 12xD, and 15xD holder lengths, see adjustment example above.

Deep Hole Drilling Guidelines

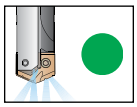
T-A Pro | 10xD, 12xD, 15xD Holders

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

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



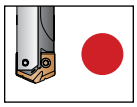
Coolant ON



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

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

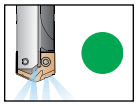
Coolant OFF



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

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

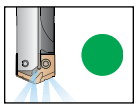
Coolant ON



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

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

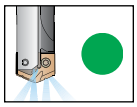
Coolant ON



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

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

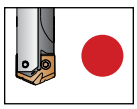
Coolant ON



⚠ **6. Drill Retract**
50 RPM max

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

Coolant OFF



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Tap Drill Information and Formulas | Metric (mm)

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

Formulas

1. **RPM = (318.47 • M/min) / DIA**

where:

RPM	= revolutions per minute (rev/min)
M/min	= speed (M/min)
DIA	= diameter of drill (mm)

2. **mm/min = RPM • mm/rev**

where:

mm/min	= mm per minute (mm/min)
RPM	= revolutions per minute (rev/min)
mm/rev	= feed rate (mm/rev)

3. **M/min = RPM • 0.003 • DIA**

where:

M/min	= speed (M/min)
RPM	= revolutions per minute (rev/min)
DIA	= diameter of drill (mm)

4. **Thrust = 154 • (mm/rev) • DIA • K_m**

where:

Thrust	= axial thrust (N)
mm/rev	= feed rate (mm/rev)
DIA	= diameter of drill (mm)
K_m	= specific cutting energy (kPa)

5. **Tool Power = ((mm/rev) • RPM • K_m • DIA^2) / 218604.8**

where:

Tool Power	= tool power (HP)
mm/rev	= feed rate (mm/rev)
RPM	= revolutions per minute (rev/min)
K_m	= specific cutting energy (kPa)
DIA	= diameter of drill (mm)

BSP and ISO 7-1

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

* Based on nominal tap drill diameter
** Based on 0.075mm probable mean oversize

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

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

Material Constants

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

Notes

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

Troubleshooting Guide

	Potential Problem																				
	Accelerated corner wear	Barber pole	Bell mouth hole	Insert chipping	Blue chips	Build Up Edge (BUE)	Chatter	Chip packing	Chipping of point	Damaged or broken tools	Excessive margin wear	High flank wear	Hole lead off	Hole out of position	Hole out of round	Oversize hole	Poor hole finish	Poor tool life	Power spikes - Load meter	Retract spiral	
Setup Condition	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	**Possible Solutions**
Worn or misaligned spindle (lathe, screw machine, chucker)	1		3				7		9	10	11		13			16	17			20	• Align spindle and turret or tailstock. • Repair spindle.
Use of low rigidity machine tools		2	3	4			7		9	10			13	14						20	• Reduce penetration rate to fall within the physical limits of the machine or setup (**NOTICE:** Do not reduce feed below threshold of good chip formation).
Poor work piece support		2		4			7			10	11				15		17			20	• Provide additional support for the work piece. • Reduce penetration rate to fall within the physical limits of the machine or setup (**NOTICE:** Do not reduce feed below threshold of good chip formation).
Flood coolant, low coolant pressure, or low coolant volume	1				5	6		8		10		12				16	17	18	19		• Run coolant through tool holder when drilling greater than 1xD. • Increase coolant pressure and volume through the tool holder. • Reduce penetration rate to fall within the coolant limitations (**NOTICE:** Do not reduce feed below threshold of good chip formation). • Add a peck cycle to help clear chips.
Interrupted cuts. Entry or exit surfaces that are not perpendicular to the spindle (draft angles, parting lines, curved or stepped surfaces, cross holes, and cast or forged surfaces)				4			7		9	10	11		13	14	15	16	17	18			• Pre-mill (spot face) entry or exit surface to remove interruption. • Decrease feed as much as 50% through entry or exit interruption. • Use short holders in low impact entry cuts.
Material harder than expected or running tools beyond recommended speed	1				5	6				10		12						18			• Reduce speed. • Increase coolant pressure and volume. • Improve coolant condition by use of quality products and regular maintenance.
Poor material micro-structure or foreign particles (forgings and castings that have not been normalised or annealed, poorly prepared steel, flame cut parts, and sand casting)				4		6				10		12	13					18			• Compare performance of other tools for similar wear problems, which may indicate poor micro-structure. Anneal or normalise parts to improve micro-structure for machining. • Reduce feeds (**NOTICE:** Do not reduce feed below threshold of good chip formation).
Poor chip control								8		10	11		13			16	17	18	19		• Increase feed to recommended levels. Contact Allied Application Engineering group for technical recommendations. • Increase coolant pressure and volume. • Improve coolant condition by use of quality products and regular maintenance.
Spot drilled holes with included angle less than that matching T-A Pro or cored holes	1			4			7						13					18			• Spot hole with short tool of same or greater included angle as T-A Pro drill insert. • Reduce feed (**NOTICE:** Do not reduce feed below threshold of good chip formation). If possible, drill from solid.

Guaranteed Application Form

Distributor PO #

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

CONTACT DETAILS

Trial P.O No*..... Date*..... Proposed Test Date*.....

Distributor*..... Distributor Contact*.....

Customer Name*..... Industry..... Contact Name*.....

APPLICATION INFORMATION

ATTENTION: The following Information is required to enable the best combination of tooling to be recommended. Please complete all that apply.

Material Type*..... Specification*..... Material Hardness ..... ☐ Kg ☐ BRN ☐ RC ☐ N/mm²

Material Condition ☐ Flat Stock ☐ Round Stock ☐ Tubular Stock ☐ Plate
☐ Stacked Plate ☐ Hot Rolled ☐ Cold Rolled ☐ Casting ☐ Forging

Hole Diameter ..... ☐ mm ☐ Inch ☐ Hole Depth..... ☐ Thru Hole ☐ Blind Hole

Drilled Hole Tolerance Req'd ..... Drilled Hole RMS Finished Req'd ..... ☐ µInch ☐ µMetre

APPLICATION INFORMATION

Material Condition ☐ Machining Centre ☐ Round Stock ☐ Boring Mill
☐ Multi-spindle auto ☐ Multi spindle drill ☐ Transfer Line
☐ Gantry machine ☐ Dial Index Machine ☐ Radial Arm
☐ Gun Drilling Machine ☐ Pedestal Drill ☐ Other

Machine Tool Builder* ..... Model .....

Machine Tool Control* ☐ CNC ☐ NC ☐ Mannual ☐ Other .....

Spindle Orientation* ☐ Vertical ☐ Horizontal ☐ Other .....

Tool* ☐ Stationary ☐ Revolves

Available Power* ☐ KW ☐ HP Available Feed Trust ..... ☐ Newtons ☐ Lbs

Available Speed* ☐ Variable ☐ Fixed ☐ RPM ☐ m/Min

Preferred Shank Type* ☐ Flanged ☐ Morse No ☐ RCA ☐ Lathe ☐ Diameter ..... ☐ mm ☐ Inch

Coolant Type* ☐ Cutting Oil ☐ Water Soluble Oil ☐ Air Mist ☐ Air ☐ Dry

Coolant Pressure* ☐ Bar ☐ PSI

Coolant Flow Rate* ☐ L/min ☐ GPM Coolant Supply ☐ Through Tool ☐ External

CURRENT DRILL INFORMATION

Drill Manufacturer ..... Part Nuber .....

Drill Type ..... ☐ Twist ☐ Brazed ☐ Indexable Insert ☐ Gun Drill
☐ Removable Tip ☐ Other .....

Tool Grade ☐ HSS ☐ Carbide ☐ Ceramic ☐ Other .....

Tool Coating ☐ Uncoated ☐ TiN ☐ TiCN ☐ TiAIN ☐ Other .....

Current Speed ..... ☐ RPM ☐ m/Min ☐ Current Feed Rate ..... ☐ mm/rev ☐ mm/min

Average Number of Holes Drilled New ..... After Regrind? .....

Reason(s) for Tool change ☐ Wear ☐ Fracture ☐ Chipping
☐ Losing Hole Tolerance ☐ Losing Chip Control ☐ Burr
☐ Other ..... ☐ Chatter ☐ New Application

What Criteria defines a successful test* ☐ Decreased Cycle Time ☐ Better Chip Control ☐ Safer Process
☐ Longer Tool Life ☐ Reduced Cost per Hole ☐ Other .....

Potential this application: Current Annual Usage €/£: Tools per Annum?

*Required Fields where applicable

FOR OFFICE USE ONLY

Application Engineer: Number: Status:

Notes

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