



ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing



Boring



Reaming



Burnishing



Threading



AccuPort 432[®]

► **PORTING**

Hydraulic Port Contour Cutters



Specials

The Foundation

Since 1941, Allied Machine & Engineering has provided dependable and practical holemaking solutions to the world. What was once a small job shop in Ohio is now a worldwide leader in cutting tool technology. With three manufacturing facilities in Ohio, one in Georgia, another in Germany, and headquarters in both the United States and Europe, Allied Machine is positioned to bring innovative solutions and technical expertise directly to the customers' hands.



The Beginning



Harold E. Stokey founded Allied Machine & Engineering to aid the war effort, manufacturing taper bearing lock nuts for the production of M1 tanks. Years later, after a sales meeting gone wrong, Stokey possessed a warehouse stocked with spade drill inserts. He set forth into the industry that would become Allied Machine's thriving identity: holemaking.

The T-A®

When Harold's son, William H. Stokey, became the president and CEO, he developed the Throw Away—or T-A—spade drill insert system. The T-A revolutionized the holemaking industry, launching Allied Machine ahead of the competition. Since then, numerous innovations and advancements have been created from the T-A's inspiration.



The Innovation

Since the development of the T-A, Allied Machine has expanded its product offering to support a vast range of customer applications, including large diameter and deep hole drilling, boring, reaming, burnishing, porting, and threading.



The Future

Allied Machine is constantly investing in the brightest and sharpest minds, shaping a future filled with success and quality for customers around the world.



Steve Stokey
Executive Vice President

William H. Stokey
President and CEO

Mike Stokey
Executive Vice President



ALLIED MACHINE & ENGINEERING

Holemaking Solutions for Today's Manufacturing

WOHLHAUPTER



SUPERION

CRITERION

DRILLING

High Penetration



GEN3SYS® XT Pro



GEN3SYS® XT



ASC 320®

General Production

(certain sizes are ideal for deep hole drilling and/or large diameter drilling)



GEN2 T-A®



Original T-A®



High Performance



Universal

Large Diameter



Revolution Drill®



Opening Drill®

Large Diameter / Deep Hole



APX Drill



BT-A Drill

Deep Hole



Guided T-A® Drill
(special)

Porting



AccuPort 432®

Structural Steel



GEN3SYS® XT



T-A®

BORING



WOHLHAUPTER®

Bringing you the finest in precision cutting tools

CRITERION™

REAMING



ALVAN®
Reaming Systems

S.C.A.M.I.®

BURNISHING



S.C.A.M.I.®
Roller Burnishing

THREADING



AccuThread™ 856
Pin Style Indexable



AccuThread™ 856
Bolt-in Style Indexable



AccuThread™ 856
Solid Carbide



ThreadMills USA
Solid Carbide



SPECIALS



Insta-Quote™
Online custom tool builder and quote generator



i-Form
Custom indexable drill / form tool system

Engineered Specials

If your special holmaking needs cannot be met with the Insta-Quote system, Allied Machine can specially engineer ANY product to make your application a success. Simply contact your local Field Sales Engineer or the Allied Machine Application Engineering department for assistance with creating your special tooling. Let Allied Machine resolve your challenges today.

Allied Machine & Engineering patent information can be found at www.alliedmachine.com/patents

AccuPort 432®

Replaceable Insert Port Contour Cutters | J1926 | ISO6149 | AS5202 | JDG173.1



High Performance Multi-Step Action

Durable and precise, the AccuPort 432 holders provide a strong and rigid platform for the drilling of hydraulic ports. The precision ground insert location on each holder ensures total repeatability and simple, uncomplicated changing of the replaceable inserts.

With the AccuPort technology, you can drill and finish port forms in **ONE** operation. Save time and money with AccuPort.

Single operation hydraulic port cutting system	No pre-drilling required	Replaceable inserts eliminate regrinding and resetting
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Applicable Industries



Aerospace



Agriculture



Automotive



Marine / Shipbuilding

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

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

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

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

WARNING

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

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

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

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

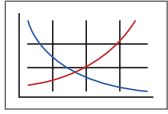
Reference Icons

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



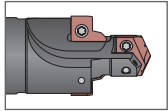
Setup / Assembly Information

Detailed instructions and information regarding the corresponding part(s)



Recommended Cutting Data

Speed and feed recommendations for optimum and safe drilling



AccuPort 432 Holders

Refers to the full details of the holder items included in each kit



Port and Thread Finishing Kits

Lists the available kits complete with AccuPort tool and AccuThread™ solid carbide thread mill

Introduction Information

Product Overview	2 - 4
Product Nomenclature	5

Port Specifications

SAE J-1926 / ISO 11926-1 / MS-16142	6 - 11
ISO 6149-1:2006 / SAE J-2244/1	12 - 13
SAE AS5202 / AND10050	14 - 15
JDS-G173.1	16 - 17

Port and Thread Finishing Kits

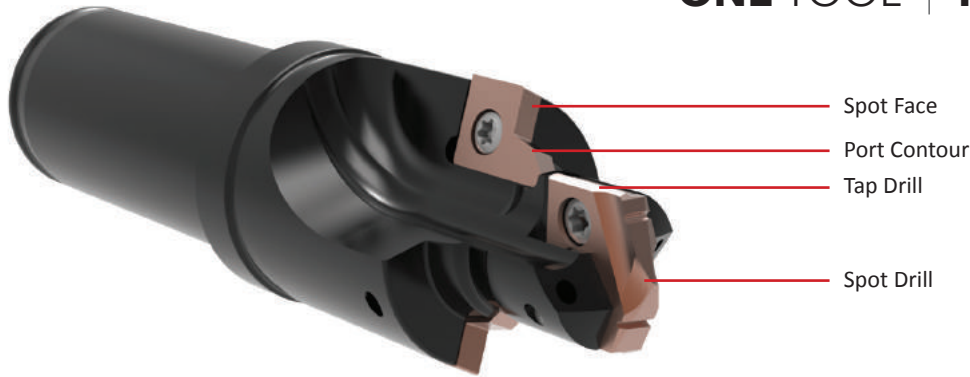
SAE J-1926 / ISO 11926-1 / MS-16142	18 - 21
ISO 6149-1:2006 / SAE J-2244/1	22 - 25
SAE AS5202 / AND10050	26 - 27
JDS-G173.1	28

Recommended Cutting Data (Imperial)

Imperial (inch)	HSS	30 - 31
	Carbide	32 - 33
Metric (mm)	HSS	34 - 35
	Carbide	36 - 37

Product Overview

ONE TOOL | FOUR OPERATIONS

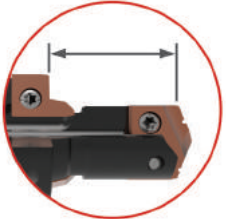


Advanced Solutions, Outstanding Results

As designers and manufacturing engineers push the limits of production technology to improve productivity and performance, Allied Machine has continued to innovate and develop new solutions like the unique AccuPort 432 hydraulic port contour cutter system. Every product in the AccuPort system is designed to deliver maximum performance in a diverse range of hydraulic port cutting applications and demanding manufacturing environments.

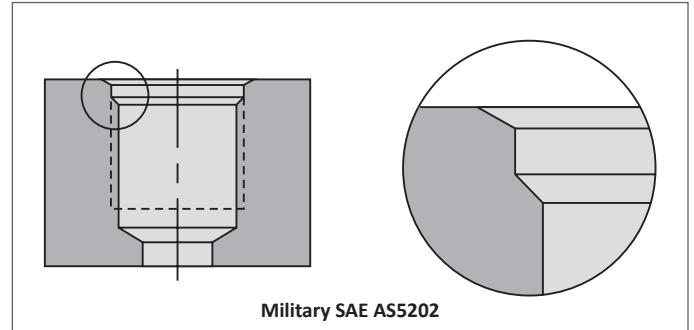
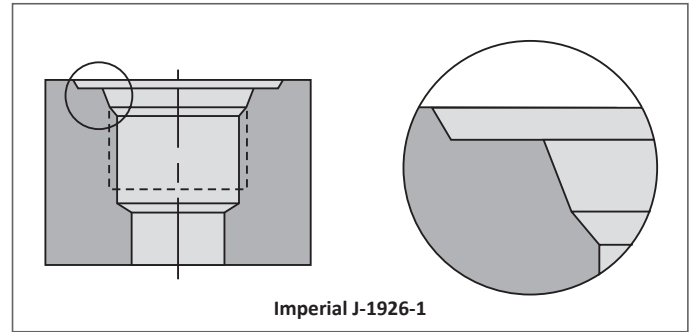
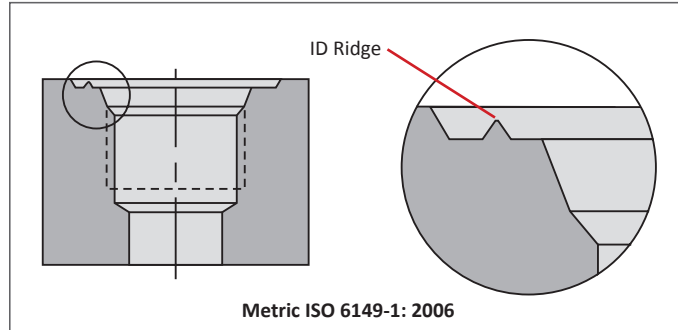
Using precision replaceable inserts for both the drilling and port forming operations, AccuPort eliminates the need for tool regrinding and enables absolute repeatability, excellent surface finish, and reduced cost-per-hole. The AccuPort drills, forms, and precision-finishes the hydraulic port in **one** pass. This replaces up to three separate cutting operations in a single tool to deliver outstanding improvements in productivity, accuracy, and repeatability.

Hydraulic systems are present in an incredibly diverse range of industries. Anywhere a hydraulic port is required, AccuPort can provide a more cost effective and higher performance solution in a fraction of the time taken for traditional methods using separate drills, special forming tools, and spot facers.

Port Specification	Notes
Imperial SAE J-1926 ISO 11926-1 MS-16142 	Extended minor diameter length option also available 
Metric ISO 6149-1:2006 SAE J-2244/1 	Holders made with ID ridge Utilizes inserts with or without ID ridge   ID ridge  No ID ridge
John Deere JDS-G173.1 	Adheres to John Deere port standards
Military SAE AS5202 	Also conforms to AND10050 specification by using an alternate tap drill size for a UN thread

Choosing the Right System

Every product in the AccuPort 432 product line is designed to deliver maximum performance in a diverse range of hydraulic port cutting applications and demanding manufacturing environments. The innovative design delivers the best possible range of benefits in terms of productivity, cost-per-hole, and tool life.



Common Industry Sectors and Components



Aerospace
Pumps
Landing Gear
Brake Cylinders
Manifolds



Agriculture
Pumps
Manifolds
Cylinders and Rams
Gear Pumps



Automotive
Motor Valves
Relief Valves
Brake Cylinders
Power Steering Pumps

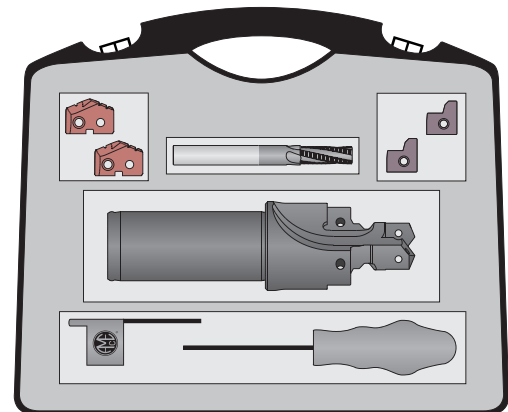


Marine / Shipbuilding
Pumps
Cylinders and Rams
Motors
Manifolds

The Complete Package

Producing fully finished threaded hydraulic ports has never been easier. The Port and Thread Finishing Kit includes the AccuPort 432 contour cutter with a dedicated AccuThread™ solid carbide threadmill in a single kit. You also receive the T-A® inserts and port form inserts needed to complete the assembly.

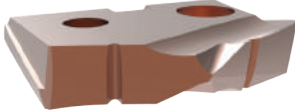
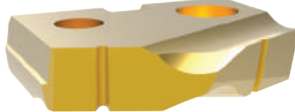
Port kits incorporate the AccuThread solid carbide threadmills to increase the manufacturing flexibility by allowing hydraulic ports to be produced in just two operations. In addition, where a unique port profile is required, Allied Machine provides a dedicated special tooling solution using our extensive tool design and manufacturing experience to meet precise specifications.





Replaceable Inserts Overview

T-A® Drill Insert Grades			
HSS Super Cobalt (Original T-A® / GEN2 T-A®)	Carbide C5 (P40) (Original T-A® only)	Carbide C1 (K10) (GEN2 T-A® only)	Carbide C3 (K35) (Original T-A® only)
Suited for good to rigid machining applications, used for drilling exotic and high alloy materials, or general use when surface speed needs to be increased for use in material hardness up to 350 BHN 121kg.	Excellent for drilling free machining steel, low/medium carbon steels, alloy steels, high strength steels, tool steels, and hardened steels.	Excellent for drilling free machining steel, low/medium carbon steels, alloy steels, high strength steels, tool steels, and hardened steels.	Designed for drilling grey/white cast irons. The special geometry offers substantial increases in penetration rates and provides exceptional edge strength and tool life.

Port Form Inserts	GEN2 T-A Inserts	Original T-A Inserts
 AM200® TiAlN	 AM200®	 TiN

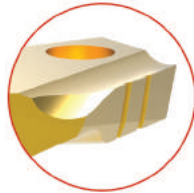
GEN2 T-A Standard Geometry

- Designed for rigid machining applications, primarily used for drilling exotic and high alloy materials
- Ideal for general use when the surface speed needs to be increased



Original T-A Standard Geometry

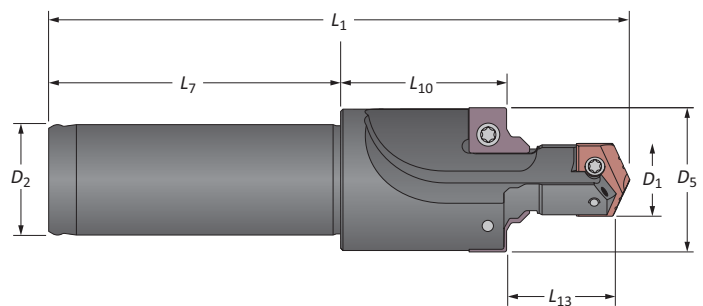
- First choice for machining aluminum
- Enhanced geometry improves chip formation and hole quality
- TiN coating improves heat resistance and extends tool life



Made-to-Order Tool Specifications

Scan and email a copy of the table below to Allied's Application Engineering Department to receive pricing for a made-to-order AccuPort 432 Port Contour Cutter.

Send emails to appeng@alliedmachine.com



Tube Dash No.	Specification	Port Thread Size	D ₁	L ₁₃	D ₅	L ₁₀	L ₁	D ₂	L ₇
	☐ J1926								
	☐ ISO 6149								
	☐ ISO 6149 (no ridge)								
	☐ JDS-G173.1								
	☐ AS5202								

Company Name

Contact Name

Phone

Distributor Name

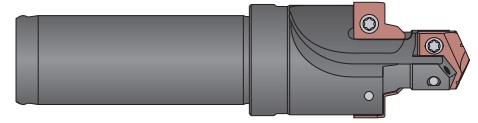
Fax



Product Nomenclature

AccuPort 432 Holders

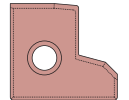
J1926	–	04	Y	–	063F
1		2	3		4



1. Port Specifications	2. Port Tube Dash No.	3. T-A® Insert Series	4. Shank Configuration	
J1926 = Imperial - J1926-1	04 14	Y = Y series	Imperial	Metric
X1926 = Imperial - J1926-1 (extended minor length)	05 16	Z = Z series	063F = 5/8" flanged	16FM = 16mm flanged
I6149 = Metric (ISO) - 6149-1	06 18	0 = 0 series	075F = 3/4" flanged	20FM = 20mm flanged
G1731 = John Deere - G173.1	08 20	1 = 1 series	100F = 1" flanged	25FM = 25mm flanged
AS5202 = Military - AS5202	10 24	2 = 2 series	125F = 1-1/4" flanged	32FM = 32mm flanged
	12 32	3 = 3 series	150F = 1-1/2" flanged	
		4 = 4 series		

AccuPort 432 Port Form Inserts

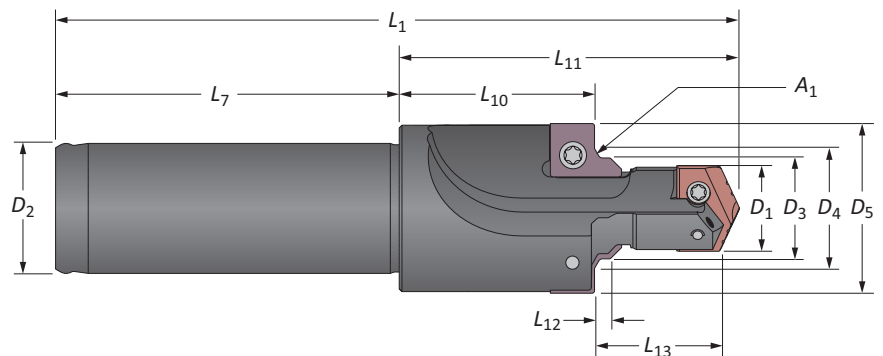
J1926	–	02	R	–	C5	A
1		2	3		4	5



1. Port Specifications	2. Insert Size	3. Port Specifications	4. Substrate	5. Coating
J1926 = Imperial I6149 = Metric (ISO) G1731 = John Deere AS5202 = Military	02 10 03 11 04 12 05 14 06 16 07 20 08 24 09 32	Blank = No ID ridge R = ID ridge	C5 = C5 carbide C3 = C3 carbide	A = TiAlN H = AM200®

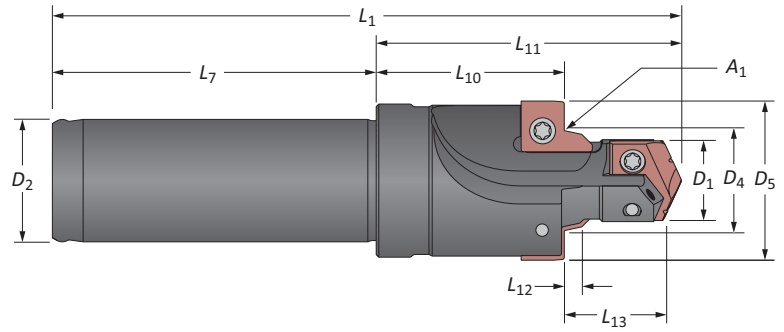
Reference Key

Symbol	Attribute
A₁	Seal angle
D₁	Minor diameter
D₂	Shank diameter
D₃	Pilot diameter
D₄	Seal angle diameter
D₅	Spot face diameter
L₁	Overall length
L₇	Shank length
L₁₀	Spot face to shoulder length
L₁₁	Total head length
L₁₂	Seal angle length
L₁₃	Minor diameter length



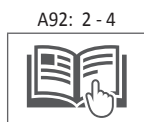
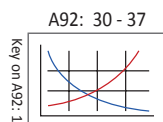
SAE J-1926 / ISO 11926-1 / MS-16142

Imperial Shank Holders



Tube Dash No.	Cutting			Seal Angle			Holder			Shank		Port Thread Size	Part No.
	D ₁	L ₁₃ *	D ₅	A ₁	D ₄	L ₁₂	L ₁₁	L ₁₀	L ₁	L ₇	D ₂		
-4	0.386	0.551	0.840	12°	0.490	0.106	1.527	0.896	3.402	1.875	0.625	7/16-20 UNF-2B	J1926-04Y-063F
-5	0.453	0.551	0.926	12°	0.553	0.106	1.527	0.885	3.402	1.875	0.625	1/2-20 UNF-2B	J1926-05Z-063F
-6	0.512	0.610	0.989	12°	0.618	0.106	1.857	1.144	3.826	1.969	0.750	9/16-18 UNF-2B	J1926-060-075F
-8	0.689	0.689	1.206	15°	0.813	0.106	1.982	1.150	3.951	1.969	0.750	3/4-16 UNF-2B	J1926-080-075F
-10	0.807	0.787	1.344	15°	0.945	0.106	2.140	1.185	4.421	2.281	1.000	7/8-14 UNF-2B	J1926-101-100F
i -12	0.984	0.906	1.655	15°	1.150	0.138	2.640	1.530	4.921	2.281	1.250	1 1/16-12 UN-2B	J1926-122-125F
-14	1.102	0.906	1.781	15°	1.276	0.138	2.640	1.504	4.921	2.281	1.250	1 3/16-12 UN-2B	J1926-142-125F
-16	1.231	0.906	1.934	15°	1.400	0.138	2.640	1.477	4.921	2.281	1.250	1 5/16-12 UN-2B	J1926-162-125F
-20	1.535	0.906	2.306	15°	1.715	0.138	3.062	1.835	5.750	2.688	1.500	1 5/8-12 UN-2B	J1926-203-150F
-24	1.791	0.906	2.564	15°	1.965	0.138	3.062	1.778	5.750	2.688	1.500	1 7/8-12 UN-2B	J1926-243-150F
-32	2.421	0.906	3.470	15°	2.589	0.138	3.812	2.393	6.500	2.688	1.500	2 1/2-12 UN-2B	J1926-324-150F
m -4	9.80	14.00	21.30	12°	12.50	2.70	38.80	22.80	86.40	47.60	15.90	7/16-20 UNF-2B	J1926-04Y-063F
-5	11.50	14.00	23.50	12°	14.10	2.70	38.80	22.50	86.40	47.60	15.90	1/2-20 UNF-2B	J1926-05Z-063F
-6	13.00	15.50	25.10	12°	15.70	2.70	47.20	29.00	97.20	50.00	19.10	9/16-18 UNF-2B	J1926-060-075F
-8	17.50	17.50	30.60	15°	20.70	2.70	50.30	29.20	100.40	50.00	19.10	3/4-16 UNF-2B	J1926-080-075F
-10	20.50	20.00	34.10	15°	24.00	2.70	54.40	30.10	112.30	57.90	25.40	7/8-14 UNF-2B	J1926-101-100F
m -12	25.00	23.00	42.00	15°	29.20	3.50	67.10	38.90	125.00	57.90	31.80	1 1/16-12 UN-2B	J1926-122-125F
-14	28.00	23.00	45.20	15°	32.40	3.50	67.10	38.20	125.00	57.90	31.80	1 3/16-12 UN-2B	J1926-142-125F
-16	31.20	23.00	49.10	15°	35.60	3.50	67.10	37.50	125.00	57.90	31.80	1 5/16-12 UN-2B	J1926-162-125F
-20	39.00	23.00	58.50	15°	43.60	3.50	77.80	46.60	146.00	68.30	38.10	1 5/8-12 UN-2B	J1926-203-150F
-24	45.50	23.00	65.10	15°	49.90	3.50	77.80	45.20	146.00	68.30	38.10	1 7/8-12 UN-2B	J1926-243-150F
-32	61.50	23.00	88.10	15°	65.80	3.50	96.80	60.80	165.10	68.30	38.10	2 1/2-12 UN-2B	J1926-324-150F

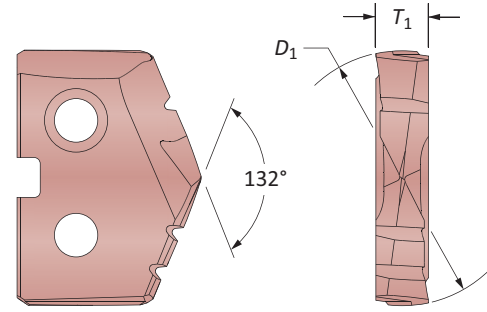
*Port contour cutters are available with extended pilot length (L₁₃). See pages A92: 10-11 for items.



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

SAE J-1926 / ISO 11926-1 / MS-16142

Inserts



See section A3 for complete T-A insert details

Original T-A® / GEN2 T-A® Drill Inserts

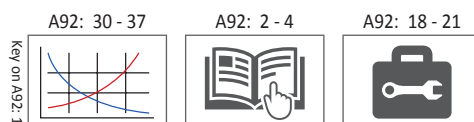
Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
			Super Cobalt	Carbide			
-4	J1926-04Y-063F	Y	45YH-.386	4C1YH-.386	724-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-5	J1926-05Z-063F	Z	45ZH-11.5	4C1ZH-11.5	7247-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-6	J1926-060-075F	0	450H-13	4C10H-13	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	J1926-080-075F	0	450H-0022	4C10H-0022	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	J1926-101-100F	1	451H-20.5	4C11H-20.5	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-12	J1926-122-125F	2	452H-25	4C12H-25	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-14	J1926-142-125F	2	452H-28	4C12H-28	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-16	J1926-162-125F	2	452H-1.231	4C12H-1.231	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-20	J1926-203-150F	3	453H-39	1C53A-39	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-24	J1926-243-150F	3	453H-45.5	1C53A-45.5	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-32	J1926-324-150F	4	454H-61.5	-	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)

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

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
		C3 Carbide (AM200®)	C5 Carbide (TiAlN)			
-4	J1926-04Y-063F	J1926-02-C3H	J1926-02-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-5	J1926-05Z-063F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-6	J1926-060-075F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	J1926-080-075F	J1926-07-C3H	J1926-07-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	J1926-101-100F	J1926-04-C3H	J1926-04-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-12	J1926-122-125F	J1926-08-C3H	J1926-08-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-14	J1926-142-125F	J1926-08-C3H	J1926-08-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-16	J1926-162-125F	J1926-09-C3H	J1926-09-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-20	J1926-203-150F	J1926-10-C3H	J1926-10-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-24	J1926-243-150F	J1926-11-C3H	J1926-11-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-32	J1926-324-150F	J1926-12-C3H	J1926-12-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)

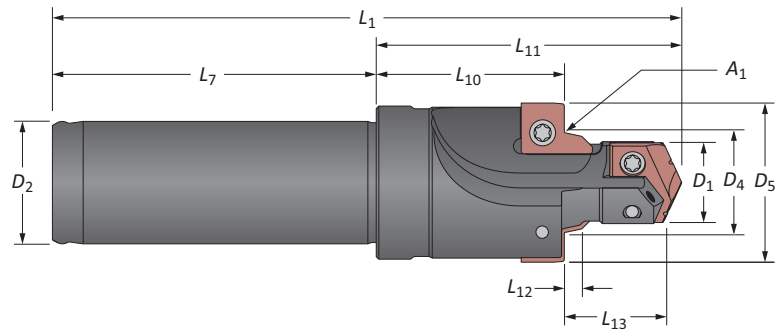
*Tightening torques are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength



Y - 2 series T-A inserts sold in multiples of 2
3 - 4 series T-A inserts sold in multiples of 1
Port form inserts sold in multiples of 2
Insert screws sold in multiples of 10

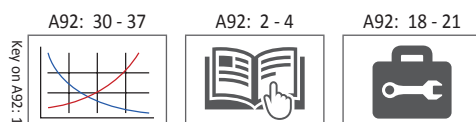
SAE J-1926 / ISO 11926-1 / MS-16142

Metric Shank Holders



Tube Dash No.	Cutting			Seal Angle			Holder			Shank		Port Thread Size	Part No.
	D ₁	L ₁₃	D ₅	A ₁	D ₄	L ₁₂	L ₁₁	L ₁₀	L ₁	L ₇	D ₂		
-4	0.386	0.551	0.840	12°	0.490	0.106	1.777	0.896	3.180	1.650	0.630	7/16-20 UNF-2B	J1926-04Y-16FM
-5	0.453	0.551	0.926	12°	0.553	0.106	1.777	0.885	3.650	1.650	0.630	1/2-20 UNF-2B	J1926-05Z-16FM
-6	0.512	0.610	0.989	12°	0.618	0.106	1.857	1.144	3.510	1.650	0.787	9/16-18 UNF-2B	J1926-060-20FM
-8	0.689	0.689	1.206	15°	0.813	0.106	1.982	1.150	3.630	1.650	0.787	3/4-16 UNF-2B	J1926-080-20FM
-10	0.807	0.787	1.344	15°	0.945	0.106	2.140	1.185	4.230	2.091	0.984	7/8-14 UNF-2B	J1926-101-25FM
i -12	0.984	0.906	1.655	15°	1.150	0.138	2.640	1.530	4.920	2.280	1.260	1 1/16-12 UN-2B	J1926-122-32FM
-14	1.102	0.906	1.781	15°	1.276	0.138	2.640	1.504	4.920	2.280	1.260	1 3/16-12 UN-2B	J1926-142-32FM
-16	1.231	0.906	1.934	15°	1.400	0.138	2.640	1.477	4.920	2.280	1.260	1 5/16-12 UN-2B	J1926-162-32FM
-20	1.535	0.906	2.306	15°	1.715	0.138	3.062	1.835	5.640	2.580	1.260	1 5/8-12 UN-2B	J1926-203-32FM*
-24	1.791	0.906	2.564	15°	1.965	0.138	3.062	1.778	5.640	2.580	1.260	1 7/8-12 UN-2B	J1926-243-32FM*
-32	2.421	0.906	3.470	15°	2.589	0.138	3.812	2.393	6.390	2.580	1.260	2 1/2-12 UN-2B	J1926-324-32FM*
-4	9.80	14.00	21.30	12°	12.50	2.70	45.10	22.80	80.70	41.90	16.00	7/16-20 UNF-2B	J1926-04Y-16FM
-5	11.50	14.00	23.50	12°	14.10	2.70	45.10	22.50	92.80	41.90	16.00	1/2-20 UNF-2B	J1926-05Z-16FM
-6	13.00	15.50	25.10	12°	15.70	2.70	47.20	29.00	89.10	41.90	20.00	9/16-18 UNF-2B	J1926-060-20FM
-8	17.50	17.50	30.60	15°	20.70	2.70	50.30	29.20	92.30	41.90	20.00	3/4-16 UNF-2B	J1926-080-20FM
-10	20.50	20.00	34.10	15°	24.00	2.70	54.40	30.10	107.40	53.10	25.00	7/8-14 UNF-2B	J1926-101-25FM
m -12	25.00	23.00	42.00	15°	29.20	3.50	67.10	38.90	125.00	57.90	32.00	1 1/16-12 UN-2B	J1926-122-32FM
-14	28.00	23.00	45.20	15°	32.40	3.50	67.10	38.20	125.00	57.90	32.00	1 3/16-12 UN-2B	J1926-142-32FM
-16	31.20	23.00	49.10	15°	35.60	3.50	67.10	37.50	125.00	57.90	32.00	1 5/16-12 UN-2B	J1926-162-32FM
-20	39.00	23.00	58.50	15°	43.60	3.50	77.80	46.60	143.30	65.50	32.00	1 5/8-12 UN-2B	J1926-203-32FM*
-24	45.50	23.00	65.10	15°	49.90	3.50	77.80	45.20	143.30	65.50	32.00	1 7/8-12 UN-2B	J1926-243-32FM*
-32	61.50	23.00	88.10	15°	65.80	3.50	96.80	60.80	162.30	65.50	32.00	2 1/2-12 UN-2B	J1926-324-32FM*

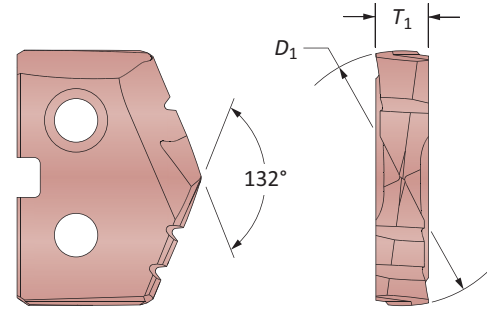
***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.



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

SAE J-1926 / ISO 11926-1 / MS-16142

Inserts



See section A3 for complete T-A insert details

Original T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
			Super Cobalt	Carbide			
-4	J1926-04Y-16FM	Y	45YH-.386	4C1YH-.386	724-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-5	J1926-05Z-16FM	Z	45ZH-11.5	4C1ZH-11.5	7247-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-6	J1926-060-20FM	0	450H-13	4C10H-13	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	J1926-080-20FM	0	450H-0022	4C10H-0022	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	J1926-101-25FM	1	451H-20.5	4C11H-20.5	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-12	J1926-122-32FM	2	452H-25	4C12H-25	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-14	J1926-142-32FM	2	452H-28	4C12H-28	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-16	J1926-162-32FM	2	452H-1.231	4C12H-1.231	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-20	J1926-203-32FM*	3	453H-39	1C53A-39	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-24	J1926-243-32FM*	3	453H-45.5	1C53A-45.5	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-32	J1926-324-32FM*	4	454H-61.5	-	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

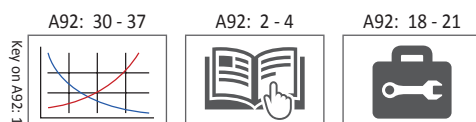
****Tightening torques** are calculated with a friction coefficient of $\mu = 0.14$ and develop 90% of ultimate yield strength

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
		C3 Carbide (AM200®)	C5 Carbide (TiAlN)			
-4	J1926-04Y-16FM	J1926-02-C3H	J1926-02-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-5	J1926-05Z-16FM	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-6	J1926-060-20FM	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	J1926-080-20FM	J1926-07-C3H	J1926-07-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	J1926-101-25FM	J1926-04-C3H	J1926-04-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-12	J1926-122-32FM	J1926-08-C3H	J1926-08-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-14	J1926-142-32FM	J1926-08-C3H	J1926-08-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-16	J1926-162-32FM	J1926-09-C3H	J1926-09-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-20	J1926-203-32FM*	J1926-10-C3H	J1926-10-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-24	J1926-243-32FM*	J1926-11-C3H	J1926-11-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-32	J1926-324-32FM*	J1926-12-C3H	J1926-12-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)

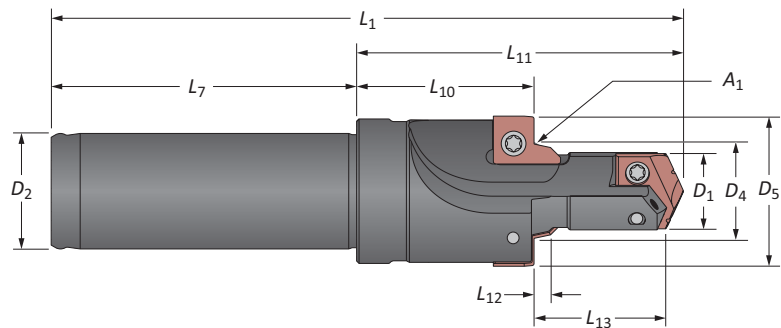
***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

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

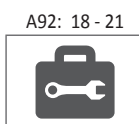
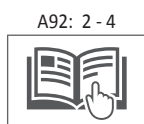
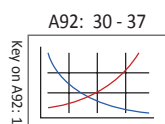


Y - 2 series T-A inserts sold in multiples of 2
3 - 4 series T-A inserts sold in multiples of 1
Port form inserts sold in multiples of 2
Insert screws sold in multiples of 10

SAE J-1926 / ISO 11926-1 / MS-16142

Imperial Shank Holders | Extended Minor Diameter Lengths (L_{13})


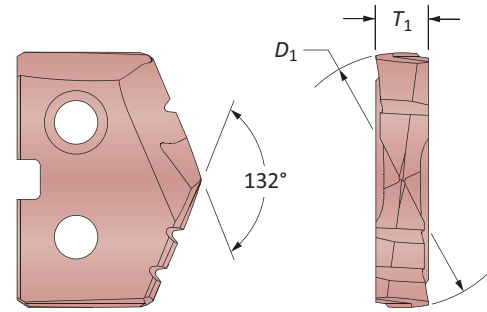
Tube Dash No.	Cutting			Seal Angle			Holder			Shank		Port Thread Size	Part No.
	D_1	L_{13}	D_5	A_1	D_4	L_{12}	L_{11}	L_{10}	L_1	L_7	D_2		
-4	0.386	0.801	0.840	12°	0.490	0.106	1.777	0.896	3.650	1.875	0.625	7/16-20 UNF-2B	X1926-04Y-063F
-5	0.453	0.801	0.926	12°	0.553	0.106	1.777	0.885	3.650	1.875	0.625	1/2-20 UNF-2B	X1926-05Z-063F
-6	0.512	0.860	0.989	12°	0.618	0.106	2.107	1.144	4.070	1.969	0.750	9/16-18 UNF-2B	X1926-060-075F
-8	0.689	0.939	1.206	15°	0.813	0.106	2.232	1.150	4.200	1.969	0.750	3/4-16 UNF-2B	X1926-080-075F
-10	0.807	1.037	1.344	15°	0.945	0.106	2.390	1.185	4.670	2.281	1.000	7/8-14 UNF-2B	X1926-101-100F
i -12	0.984	1.156	1.655	15°	1.150	0.138	2.890	1.530	5.170	2.281	1.250	1 1/16-12 UN-2B	X1926-122-125F
-14	1.102	1.156	1.781	15°	1.276	0.138	2.890	1.504	5.170	2.281	1.250	1 3/16-12 UN-2B	X1926-142-125F
-16	1.231	1.156	1.934	15°	1.400	0.138	2.890	1.477	5.170	2.281	1.250	1 5/16-12 UN-2B	X1926-162-125F
-20	1.535	1.156	2.306	15°	1.715	0.138	3.312	1.835	6.000	2.688	1.500	1 5/8-12 UN-2B	X1926-203-150F
-24	1.791	1.156	2.564	15°	1.965	0.138	3.312	1.778	6.000	2.688	1.500	1 7/8-12 UN-2B	X1926-243-150F
-32	2.421	1.156	3.470	15°	2.589	0.138	4.062	2.393	6.750	2.688	1.500	2 1/2-12 UN-2B	X1926-324-150F
m -4	9.80	20.30	21.30	12°	12.50	2.70	45.10	22.80	92.80	47.60	15.90	7/16-20 UNF-2B	X1926-04Y-063F
-5	11.50	20.30	23.50	12°	14.10	2.70	45.10	22.50	92.80	47.60	15.90	1/2-20 UNF-2B	X1926-05Z-063F
-6	13.00	21.80	25.10	12°	15.70	2.70	53.50	29.00	103.50	50.00	19.10	9/16-18 UNF-2B	X1926-060-075F
-8	17.50	23.80	30.60	15°	20.70	2.70	56.70	29.20	106.70	50.00	19.10	3/4-16 UNF-2B	X1926-080-075F
-10	20.50	26.30	34.10	15°	24.00	2.70	60.70	30.10	118.60	57.90	25.40	7/8-14 UNF-2B	X1926-101-100F
m -12	25.00	29.30	42.00	15°	29.20	3.50	73.40	38.90	131.30	57.90	31.80	1 1/16-12 UN-2B	X1926-122-125F
-14	28.00	29.30	45.20	15°	32.40	3.50	73.40	38.20	131.30	57.90	31.80	1 3/16-12 UN-2B	X1926-142-125F
-16	31.20	29.30	49.10	15°	35.60	3.50	73.40	37.50	131.30	57.90	31.80	1 5/16-12 UN-2B	X1926-162-125F
-20	39.00	29.30	58.50	15°	43.60	3.50	84.10	46.60	152.40	68.30	38.10	1 5/8-12 UN-2B	X1926-203-150F
-24	45.50	29.30	65.10	15°	49.90	3.50	84.10	45.20	152.40	68.30	38.10	1 7/8-12 UN-2B	X1926-243-150F
-32	61.50	29.30	88.10	15°	65.80	3.50	103.20	60.80	171.40	68.30	38.10	2 1/2-12 UN-2B	X1926-324-150F



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

SAE J-1926 / ISO 11926-1 / MS-16142

Inserts



See section A3 for complete T-A insert details

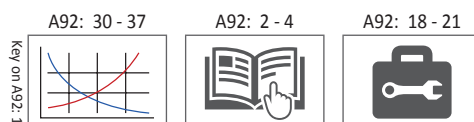
Original T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
			Super Cobalt	Carbide			
-4	X1926-04Y-063F	Y	45YH-.386	4C1YH-.386	724-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-5	X1926-05Z-063F	Z	45ZH-11.5	4C1ZH-11.5	7247-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-6	X1926-060-075F	0	450H-13	4C10H-13	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	X1926-080-075F	0	450H-0022	4C10H-0022	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	X1926-101-100F	1	451H-20.5	4C11H-20.5	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-12	X1926-122-125F	2	452H-25	4C12H-25	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-14	X1926-142-125F	2	452H-28	4C12H-28	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-16	X1926-162-125F	2	452H-1.231	4C12H-1.231	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-20	X1926-203-150F	3	453H-39	1C53A-39	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-24	X1926-243-150F	3	453H-45.5	1C53A-45.5	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-32	X1926-324-150F	4	454H-61.5	—	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)

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

Port Form Drill Inserts

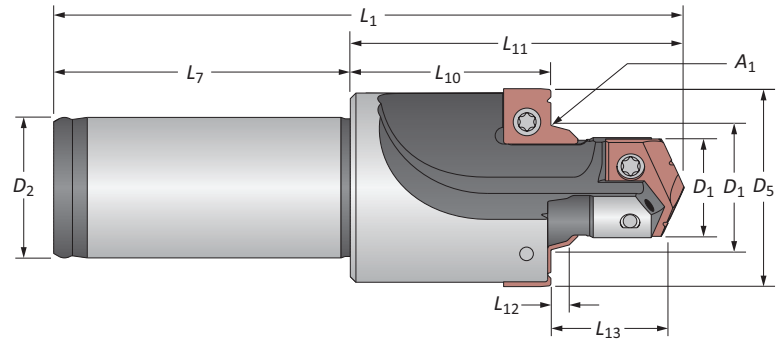
Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
		C3 Carbide (AM200®)	C5 Carbide (TiAlN)			
-4	X1926-04Y-063F	J1926-02-C3H	J1926-02-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-5	X1926-05Z-063F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-6	X1926-060-075F	J1926-03-C3H	J1926-03-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	X1926-080-075F	J1926-07-C3H	J1926-07-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	X1926-101-100F	J1926-04-C3H	J1926-04-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-12	X1926-122-125F	J1926-08-C3H	J1926-08-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-14	X1926-142-125F	J1926-08-C3H	J1926-08-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-16	X1926-162-125F	J1926-09-C3H	J1926-09-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-20	X1926-203-150F	J1926-10-C3H	J1926-10-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-24	X1926-243-150F	J1926-11-C3H	J1926-11-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-32	X1926-324-150F	J1926-12-C3H	J1926-12-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)

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

Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

ISO 6149-1:2006 / SAE J-2244/1

Metric Shank Holders



Tube Dash No.	Cutting			Seal Angle			Holder			Shank		Port Thread Size	Part No.
	D_1	L_{13}	D_5	A_1	D_4	L_{12}	L_{11}	L_{10}	L_1	L_7	D_2		
-4	0.413	0.556	0.945	15°	0.544	0.102	1.527	0.876	3.180	1.650	0.630	M12 X 1.5	I6149-04RY-16FM
-5	0.492	0.556	1.024	15°	0.623	0.102	1.527	0.858	3.180	1.650	0.630	M14 X 1.5	I6149-05RZ-16FM
-6	0.571	0.615	1.102	15°	0.702	0.102	1.857	1.116	3.510	1.650	0.787	M16 X 1.5	I6149-06R0-20FM
-8	0.650	0.674	1.181	15°	0.781	0.102	1.982	1.164	3.630	1.650	0.787	M18 X 1.5	I6149-08R0-20FM
-10	0.807	0.717	1.339	15°	0.938	0.102	2.140	1.246	4.230	2.091	0.984	M22 X 1.5	I6149-10R1-25FM
i -12	0.984	0.874	1.575	15°	1.159	0.130	2.640	1.552	4.920	2.280	1.260	M27 X 2	I6149-12R2-32FM
-14	1.102	0.874	1.733	15°	1.277	0.130	2.640	1.526	4.920	2.280	1.260	M30 X 2	I6149-14R2-32FM
-16	1.220	0.874	1.929	15°	1.395	0.130	2.640	1.499	4.920	2.280	1.260	M33 X 2	I6149-16R2-32FM
-20	1.575	0.895	2.362	15°	1.749	0.130	3.062	1.828	5.640	2.580	1.260	M42 X 2	I6149-20R3-32FM*
-24	1.811	0.993	2.602	15°	1.985	0.130	3.062	1.676	5.640	2.580	1.260	M48 X 2	I6149-24R3-32FM*
-32	2.283	1.092	2.992	15°	2.458	0.130	3.812	2.228	6.390	2.580	1.260	M60 X 2	I6149-32R4-32FM*
-4	10.50	14.10	24.00	15°	13.81	2.60	38.80	22.20	80.70	41.90	16.00	M12 X 1.5	I6149-04RY-16FM
-5	12.50	14.10	26.00	15°	15.80	2.60	38.80	21.80	80.70	41.90	16.00	M14 X 1.5	I6149-05RZ-16FM
-6	14.50	15.60	28.00	15°	17.80	2.60	47.20	28.30	89.10	41.90	20.00	M16 X 1.5	I6149-06R0-20FM
-8	16.50	17.10	30.00	15°	19.80	2.60	50.30	29.60	92.20	41.90	20.00	M18 X 1.5	I6149-08R0-20FM
-10	20.50	18.20	34.00	15°	23.80	2.60	54.40	31.60	107.50	53.10	25.00	M22 X 1.5	I6149-10R1-25FM
m -12	25.00	22.20	40.00	15°	29.40	3.30	67.10	39.40	125.00	57.90	32.00	M27 X 2	I6149-12R2-32FM
-14	28.00	22.20	44.00	15°	32.40	3.30	67.10	38.80	125.00	57.90	32.00	M30 X 2	I6149-14R2-32FM
-16	31.00	22.20	49.00	15°	35.40	3.30	67.10	38.10	125.00	57.90	32.00	M33 X 2	I6149-16R2-32FM
-20	40.00	22.70	60.00	15°	44.40	3.30	77.80	46.40	143.30	65.50	32.00	M42 X 2	I6149-20R3-32FM*
-24	46.00	25.20	66.10	15°	50.40	3.30	77.80	42.60	143.30	65.50	32.00	M48 X 2	I6149-24R3-32FM*
-32	58.00	27.70	76.00	15°	62.40	3.30	96.80	56.60	162.30	65.50	32.00	M60 X 2	I6149-32R4-32FM*

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

A92: 30 - 37

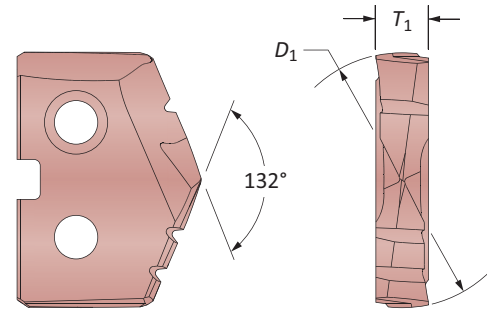
A92: 2 - 4

A92: 22 - 25

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

ISO 6149-1:2006 / SAE J-2244/1

Inserts



See section A3 for complete T-A insert details

Original T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
			Super Cobalt	Carbide			
-4	I6149-04RY-16FM	Y	45YH-10.5	4C1YH-10.5	724-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-5	I6149-05RZ-16FM	Z	45ZH-12.5	4C1ZH-12.5	7247-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-6	I6149-06R0-20FM	0	450H-14.5	4C10H-14.5	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	I6149-08R0-20FM	0	450H-16.5	4C10H-16.5	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	I6149-10R1-25FM	1	451H-20.5	4C11H-20.5	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-12	I6149-12R2-32FM	2	452H-25	4C12H-25	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-14	I6149-14R2-32FM	2	452H-28	4C12H-28	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-16	I6149-16R2-32FM	2	452H-31	4C12H-31	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-20	I6149-20R3-32FM*	3	453H-40	1C53A-40	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-24	I6149-24R3-32FM*	3	453H-46	1C53A-46	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-32	I6149-32R4-32FM*	4	454H-58	—	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

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

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No. - C3 Carbide (AM200®)		Part No. - C5 Carbide (TiAlN)		Insert Screw	Insert Driver	Admissible Tightening Torque**
		ID Ridge	No ID Ridge	ID Ridge	No ID Ridge			
-4	I6149-04RY-16FM	I6149-04R-C3H	I6149-04-C3H	I6149-04R-C5A	I6149-04-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-5	I6149-05RZ-16FM	I6149-04R-C3H	I6149-04-C3H	I6149-04R-C5A	I6149-04-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-6	I6149-06R0-20FM	I6149-06R-C3H	I6149-06-C3H	I6149-06R-C5A	I6149-06-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	I6149-08R0-20FM	I6149-06R-C3H	I6149-06-C3H	I6149-06R-C5A	I6149-06-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	I6149-10R1-25FM	I6149-04R-C3H	I6149-04-C3H	I6149-04R-C5A	I6149-04-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-12	I6149-12R2-32FM	I6149-12R-C3H	I6149-12-C3H	I6149-12R-C5A	I6149-12-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-14	I6149-14R2-32FM	I6149-14R-C3H	I6149-14-C3H	I6149-14R-C5A	I6149-14-C5A	72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-16	I6149-16R2-32FM	I6149-16R-C3H	I6149-16-C3H	I6149-16R-C5A	I6149-16-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-20	I6149-20R3-32FM*	I6149-20R-C3H	I6149-20-C3H	I6149-20R-C5A	I6149-20-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-24	I6149-24R3-32FM*	I6149-24R-C3H	I6149-24-C3H	I6149-24R-C5A	I6149-24-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-32	I6149-32R4-32FM*	I6149-32R-C3H	I6149-32-C3H	I6149-32R-C5A	I6149-32-C5A	7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

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

A92: 30 - 37

A92: 2 - 4

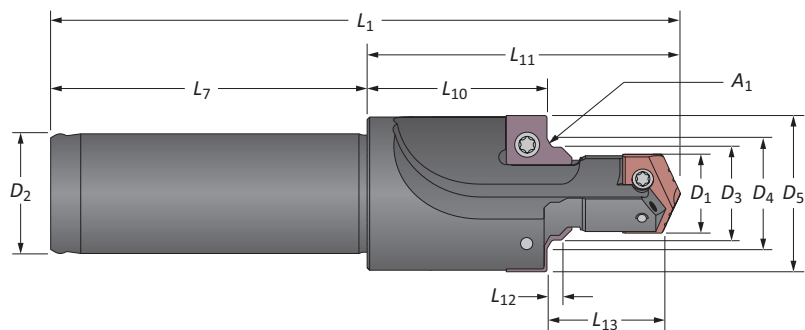
A92: 22 - 25

Key on A92: 1

Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

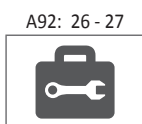
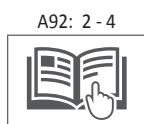
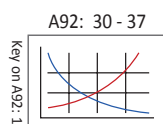
SAE AS5202 / AND10050

Imperial Shank Holders



Tube Dash No.	Cutting				Seal Angle			Holder				Shank		Port Thread Size	Port Thread Size*	Part No.
	D ₁	D ₁ *	L ₁₃	D ₅	A ₁	D ₄	L ₁₂	D ₃	L ₁₁	L ₁₀	L ₁	L ₇	D ₂			
-4	0.390	0.386	0.661	0.875	60°	0.564	0.083	0.454	1.637	0.896	3.510	1.875	0.625	7/16-20 UNJF-3B	7/16-20 UNF-3B	AS5202-04Y-063F
-5	0.453	0.451	0.661	0.916	60°	0.625	0.083	0.517	1.637	0.882	3.510	1.875	0.625	1/2-20 UNJF-3B	1/2-20 UNF-3B	AS5202-05Z-063F
-6	0.510	0.506	0.714	0.979	60°	0.688	0.083	0.580	1.940	1.119	3.910	1.969	0.750	9/16-18 UNJF-3B	9/16-18 UNF-3B	AS5202-06Z-075F
-8	0.689	0.688	0.839	1.198	60°	0.875	0.094	0.769	2.107	1.125	4.080	1.969	0.750	3/4-16 UNJF-3B	3/4-16 UNF-3B	AS5202-080-075F
-10	0.807	0.801	0.935	1.354	60°	1.002	0.107	0.896	2.290	1.189	4.570	2.281	1.000	7/8-14 UNJF-3B	7/8-14 UNF-3B	AS5202-101-100F
i -12	0.984	0.976	1.069	1.635	60°	1.237	0.125	1.086	2.765	1.494	5.050	2.281	1.250	1 1/16-12 UNJ-3B	1 1/16-12 UN-3B	AS5202-122-125F
-14	1.109	1.102	1.069	1.775	60°	1.363	0.125	1.211	2.765	1.465	5.050	2.281	1.250	1 3/16-12 UNJ-3B	1 3/16-12 UN-3B	AS5202-142-125F
-16	1.234	1.226	1.069	1.920	60°	1.487	0.125	1.336	2.765	1.437	5.050	2.281	1.250	1 5/16-12 UNJ-3B	1 5/16-12 UN-3B	AS5202-162-125F
-20	1.547	1.535	1.121	2.280	60°	1.799	0.125	1.648	3.187	1.745	5.880	2.688	1.500	1 5/8-12 UNJ-3B	1 5/8-12 UN-3B	AS5202-203-150F
-24	1.797	1.791	1.132	2.570	60°	2.050	0.125	1.898	3.187	1.676	5.880	2.688	1.500	1 7/8-12 UNJ-3B	1 7/8-12 UN-3B	AS5202-243-150F
-32	2.421	2.413	1.373	3.490	60°	2.676	0.125	2.524	3.687	1.802	6.380	2.688	1.500	2 1/2-12 UNJ-3B	2 1/2-12 UN-3B	AS5202-324-150F
-4	9.90	9.80	16.79	22.23	60°	14.34	2.11	11.53	41.58	22.76	89.20	47.63	15.88	7/16-20 UNJF-3B	7/16-20 UNF-3B	AS5202-04Y-063F
-5	11.50	11.45	16.79	23.27	60°	15.88	2.11	13.13	41.58	22.39	89.20	47.63	15.88	1/2-20 UNJF-3B	1/2-20 UNF-3B	AS5202-05Z-063F
-6	12.95	12.85	18.14	24.87	60°	17.46	2.11	14.73	49.28	28.43	99.29	50.01	19.05	9/16-18 UNJF-3B	9/16-18 UNF-3B	AS5202-06Z-075F
-8	17.50	17.46	21.31	30.43	60°	22.23	2.39	19.53	53.52	28.57	103.53	50.01	19.05	3/4-16 UNJF-3B	3/4-16 UNF-3B	AS5202-080-075F
-10	20.50	20.35	23.75	34.39	60°	25.46	2.72	22.76	58.17	30.19	116.10	57.94	25.40	7/8-14 UNJF-3B	7/8-14 UNF-3B	AS5202-101-100F
m -12	25.00	24.80	27.15	41.53	60°	31.42	3.18	27.58	70.23	37.94	128.17	57.94	31.75	1 1/16-12 UNJ-3B	1 1/16-12 UN-3B	AS5202-122-125F
-14	28.17	28.00	27.15	45.09	60°	34.61	3.18	30.76	70.23	37.22	128.17	57.94	31.75	1 3/16-12 UNJ-3B	1 3/16-12 UN-3B	AS5202-142-125F
-16	31.34	31.15	27.15	48.77	60°	37.77	3.18	33.93	70.23	36.51	128.17	57.94	31.75	1 5/16-12 UNJ-3B	1 5/16-12 UN-3B	AS5202-162-125F
-20	39.29	39.00	28.47	57.91	60°	45.69	3.18	41.86	80.95	44.32	149.23	68.28	38.10	1 5/8-12 UNJ-3B	1 5/8-12 UN-3B	AS5202-203-150F
-24	45.64	45.50	28.75	65.28	60°	52.07	3.18	48.21	80.95	42.58	149.23	68.28	38.10	1 7/8-12 UNJ-3B	1 7/8-12 UN-3B	AS5202-243-150F
-32	61.49	61.30	34.87	88.65	60°	67.97	3.18	64.11	93.65	45.78	161.93	68.28	38.10	2 1/2-12 UNJ-3B	2 1/2-12 UN-3B	AS5202-324-150F

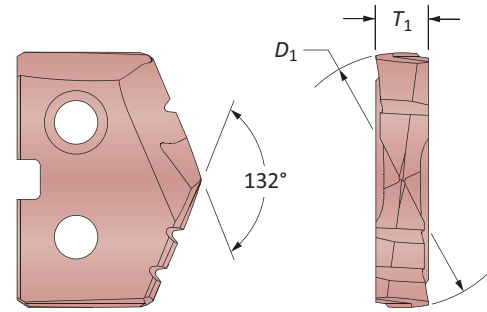
*AND10050 specifications shown in red



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

SAE AS5202 / AND10050

Inserts



See section A3 for complete T-A insert details

Original T-A® / GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.				 Insert Screw	 Insert Driver	Admissible Tightening Torque*
			 Super Cobalt	 Carbide					
-4	AS5202-04Y-063F	Y	45YH-.390	45YH-.386	4C1YH-.390	4C1YH-.386	724-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-5	AS5202-05Z-063F	Z	45ZH-11.5	45ZH-.451	4C1ZH-11.5	4C1ZH-.451	7247-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-6	AS5202-06Z-075F	Z	45ZH-.510	45ZH-.506	4C1ZH-.510	4C1ZH-.506	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	AS5202-080-075F	0	450H-17.5	450H-0022	4C10H-17.5	4C10H-0022	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	AS5202-101-100F	1	451H-20.5	451H-.801	4C11H-20.5	4C11H-.801	739-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-12	AS5202-122-125F	2	452H-25	452H-.976	4C12H-25	4C12H-.976	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-14	AS5202-142-125F	2	452H-1.109	452H-28	4C12H-1.109	4C12H-28	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-16	AS5202-162-125F	2	452H-1.234	452H-1.226	4C12H-1.234	4C12H-1.226	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-20	AS5202-203-150F	3	453H-1.547	453H-39	1C53A-1.547	1C53A-39	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-24	AS5202-243-150F	3	453H-1.797	453H-45.5	1C53A-1.797	1C53A-45.5	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-32	AS5202-324-150F	4	454H-2.421	454H-2.413	—	—	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)

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

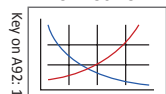
NOTE: AND10050 specifications shown in red

Port Form Drill Inserts

Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque*
		C5 Carbide (TiAlN)				
-4	AS5202-04Y-063F	AS5202-04-C5A		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-5	AS5202-05Z-063F	AS5202-05-C5A		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-6	AS5202-06Z-075F	AS5202-06-C5A		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	AS5202-080-075F	AS5202-08-C5A		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	AS5202-101-100F	AS5202-10-C5A		7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-12	AS5202-122-125F	AS5202-12-C5A		7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-14	AS5202-142-125F	AS5202-14-C5A		7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-16	AS5202-162-125F	AS5202-16-C5A		7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-20	AS5202-203-150F	AS5202-20-C5A		7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-24	AS5202-243-150F	AS5202-24-C5A		7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-32	AS5202-324-150F	AS5202-32-C5A		7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)

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

A92: 30 - 37



A92: 2 - 4



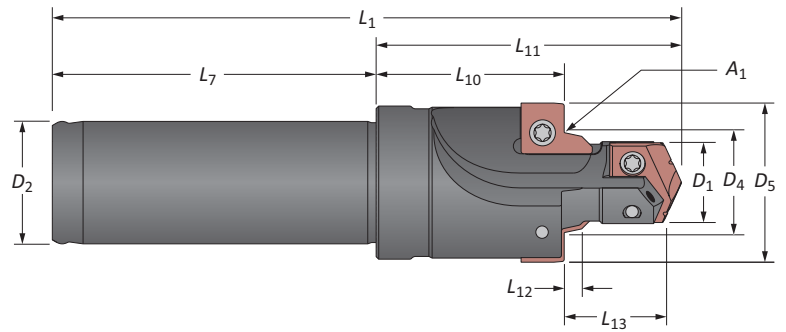
A92: 26 - 27



Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

JDS-G173.1

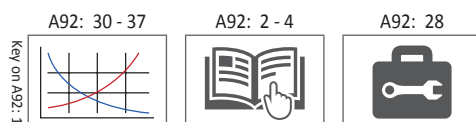
Metric Shank Holders



Tube Dash No.	Cutting			Seal Angle			Holder			Shank		Port Thread Size	Part No.
	D ₁	L ₁₃	D ₅	A ₁	D ₄	L ₁₂	L ₁₁	L ₁₀	L ₁	L ₇	D ₂		
-4	0.413	0.709	0.945	15°	0.547	0.104	1.580	0.875	3.320	1.650	0.630	M12 X 1.5	G1731-04Y-16FM
-5	0.492	0.709	1.024	15°	0.626	0.104	1.580	0.858	3.320	1.650	0.630	M14 X 1.5	G1731-05Z-16FM
-6	0.571	0.748	1.142	15°	0.705	0.104	1.870	1.117	3.630	1.650	0.787	M16 X 1.5	G1731-060-20FM
-8	0.650	0.827	1.220	15°	0.783	0.104	2.020	1.161	3.770	1.650	0.787	M18 X 1.5	G1731-080-20FM
-10	0.807	0.866	1.378	15°	0.941	0.104	2.140	1.246	4.370	2.090	0.984	M22 X 1.5	G1731-101-25FM
-12	0.984	1.063	1.614	15°	1.161	0.132	2.680	1.553	5.100	2.280	1.260	M27 X 2	G1731-122-32FM
-14	1.102	1.063	1.732	15°	1.280	0.132	2.680	1.526	5.100	2.280	1.260	M30 X 2	G1731-142-32FM
-16	1.221	1.063	1.969	15°	1.398	0.132	2.680	1.500	5.100	2.280	1.260	M33 X 2	G1731-162-32FM
-18	1.417	1.063	2.165	15°	1.594	0.132	3.020	1.844	5.780	2.580	1.260	M38 X 2	G1731-183-32FM*
-20	1.575	1.063	2.402	15°	1.752	0.132	3.020	1.809	5.780	2.580	1.260	M42 X 2	G1731-203-32FM*
-24	1.811	1.142	2.638	15°	1.988	0.132	3.020	1.687	5.780	2.580	1.260	M48 X 2	G1731-243-32FM*
-32	2.284	1.260	3.031	15°	2.461	0.132	3.780	2.300	6.550	2.580	1.260	M60 X 2	G1731-324-32FM*
C**	0.728	0.787	1.299	15°	0.862	0.104	2.000	1.281	4.230	2.090	0.984	M20 X 1.5	G1731-CV1-25FM
-4	10.50	18.00	24.00	15°	13.90	2.65	40.10	22.20	84.50	41.90	16.00	M12 X 1.5	G1731-04Y-16FM
-5	12.50	18.00	26.00	15°	15.90	2.65	40.10	21.80	84.50	41.90	16.00	M14 X 1.5	G1731-05Z-16FM
-6	14.50	19.00	29.00	15°	17.90	2.65	47.60	28.40	92.20	41.90	20.00	M16 X 1.5	G1731-060-20FM
-8	16.50	21.00	31.00	15°	19.90	2.65	51.20	29.50	95.80	41.90	20.00	M18 X 1.5	G1731-080-20FM
-10	20.50	22.00	35.00	15°	23.90	2.65	54.40	31.60	111.00	53.10	25.00	M22 X 1.5	G1731-101-25FM
-12	25.00	27.00	41.00	15°	29.50	3.35	68.10	39.40	129.60	57.90	32.00	M27 X 2	G1731-122-32FM
-14	28.00	27.00	44.00	15°	32.50	3.35	68.10	39.70	129.60	57.90	32.00	M30 X 2	G1731-142-32FM
-16	31.00	27.00	50.00	15°	35.50	3.35	68.10	38.10	129.60	57.90	32.00	M33 X 2	G1731-162-32FM
-18	36.00	27.00	55.00	15°	40.50	3.35	76.60	46.80	146.80	65.50	32.00	M38 X 2	G1731-183-32FM*
-20	40.00	27.00	61.00	15°	44.50	3.35	76.60	45.90	146.80	65.50	32.00	M42 X 2	G1731-203-32FM*
-24	46.00	29.00	67.00	15°	50.50	3.35	76.60	42.80	146.80	65.50	32.00	M48 X 2	G1731-243-32FM*
-32	58.00	32.00	77.00	15°	62.50	3.35	96.10	58.40	166.40	65.50	32.00	M60 X 2	G1731-324-32FM*
C**	18.50	20.00	33.00	15°	21.90	2.65	50.80	32.50	107.40	53.10	25.00	M20 X 1.5	G1731-CV1-25FM

***NOTICE:** Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

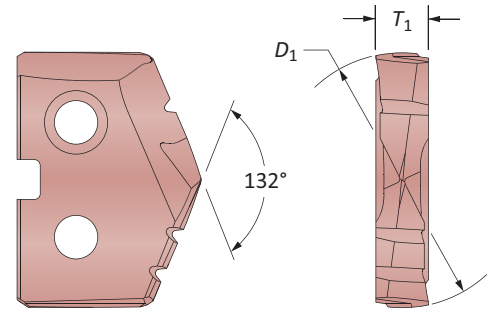
****Cartridge cavity**



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

JDS-G173.1

Inserts



See section A3 for complete T-A insert details

GEN2 T-A® Drill Inserts

Tube Dash No.	AccuPort Part No.	T-A® Insert Series	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
			Super Cobalt	Carbide			
-4	G1731-04Y-16FM	Y	45YH-10.5	4C2YH-10.5	724-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-5	G1731-05Z-16FM	Z	45ZH-12.5	4C2ZH-12.5	7247-IP7-1	8IP-7	7.4 in/lbs (84 N-cm)
-6	G1731-060-20FM	0	450H-14.5	4C20H-14.5	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	G1731-080-20FM	0	450H-16.5	4C20H-16.5	72567-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	G1731-101-25FM	1	451H-20.5	4C21H-20.5	739-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-12	G1731-122-32FM	2	452H-25	4C22H-25	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-14	G1731-142-32FM	2	452H-28	4C22H-28	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-16	G1731-162-32FM	2	452H-31	4C22H-31	7495-IP15-1	8IP-15	61.0 in/lbs (690 N-cm)
-18	G1731-183-32FM*	3	453H-36	—	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-20	G1731-203-32FM*	3	453H-40	—	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-24	G1731-243-32FM*	3	453H-46	—	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
-32	G1731-324-32FM*	4	454H-58	—	7514-IP20-1	8IP-20	121.3 in/lbs (1370 N-cm)
C***	G1731-CV1-25FM	1	451H-18.5	4C21H-18.5	739-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

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

***Cartridge cavity

Port Form Drill Inserts

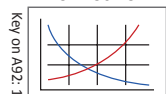
Tube Dash No.	AccuPort Part No.	Part No.		Insert Screw	Insert Driver	Admissible Tightening Torque**
		C3 Carbide (AM200®)				
-4	G1731-04Y-16FM	G1731-01-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-5	G1731-05Z-16FM	G1731-01-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-6	G1731-060-20FM	G1731-02-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-8	G1731-080-20FM	G1731-02-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-10	G1731-101-25FM	G1731-02-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-12	G1731-122-32FM	G1731-03-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-14	G1731-142-32FM	G1731-03-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)
-16	G1731-162-32FM	G1731-04-C3H		7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-18	G1731-183-32FM*	G1731-04-C3H		7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-20	G1731-203-32FM*	G1731-05-C3H		7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-24	G1731-243-32FM*	G1731-05-C3H		7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
-32	G1731-324-32FM*	G1731-06-C3H		7375-IP9-1	8IP-9	27.0 in/lbs (305 N-cm)
C***	G1731-CV1-25FM	G1731-02-C3H		72556-IP8-1	8IP-8	15.5 in/lbs (175 N-cm)

*NOTICE: Due to the cutting forces generated by this tool, a mechanical chuck is required. Please contact Application Engineering with any questions.

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

***Cartridge cavity

A92: 30 - 37



A92: 2 - 4



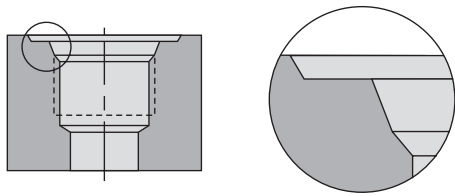
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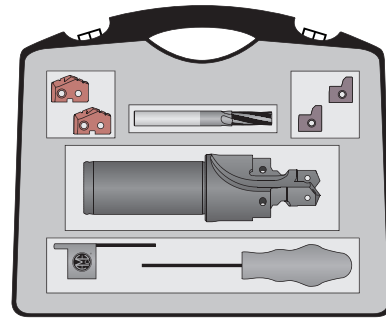
Y - 2 series T-A inserts sold in multiples of 2
 3 - 4 series T-A inserts sold in multiples of 1
 Port form inserts sold in multiples of 2
 Insert screws sold in multiples of 10

Port and Thread Finishing Kits

J1926 | Imperial | Ferrous Materials

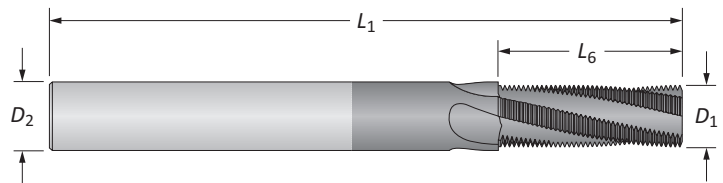


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Port and Thread Finishing Kits

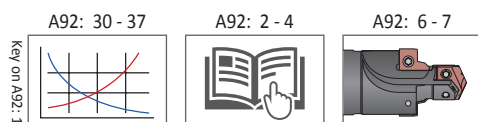
Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	J1926-04Y-063F	7/16-20 UNF-2B	1	45YH-.386	2	J1926-02-C5A	2	TMAK0438-20	1	ATKK04-1926
-5	J1926-05Z-063F	1/2-20 UNF-2B	1	45ZH-11.5	2	J1926-03-C5A	2	TMAK0438-20	1	ATKK05-1926
-6	J1926-060-075F	9/16-18 UNF-2B	1	450H-13	2	J1926-03-C5A	2	TMAK0563-18	1	ATKK06-1926
-8	J1926-080-075F	3/4-16 UNF-2B	1	450H-0022	2	J1926-07-C5A	2	TMAK0750-16	1	ATKK08-1926
-10	J1926-101-100F	7/8-14 UNF-2B	1	451H-20.5	2	J1926-04-C5A	2	TMAK0875-14	1	ATKK10-1926
-12	J1926-122-125F	1-1/16-12 UN-2B	1	452H-25	2	J1926-08-C5A	2	TMAK1063-12	1	ATKK12-1926
-14	J1926-142-125F	1-3/16-12 UN-2B	1	452H-28	2	J1926-08-C5A	2	TMAK1063-12	1	ATKK14-1926
-16	J1926-162-125F	1-5/16-12 UN-2B	1	452H-1.231	2	J1926-09-C5A	2	TMAK1063-12	1	ATKK16-1926
-20	J1926-203-150F	1-5/8-12 UN-2B	1	453H-39	1	J1926-10-C5A	2	TMAK1063-12	1	ATKK20-1926
-24	J1926-243-150F	1-7/8-12 UN-2B	1	453H-45.5	1	J1926-11-C5A	2	TMAK1063-12	1	ATKK24-1926
-32	J1926-324-150F	2-1/2-12 UN-2B	1	454H-61.5	1	J1926-12-C5A	2	TMAK1063-12	1	ATKK32-1926



AccuThread™ Port Specific Solid Carbide Thread Mills

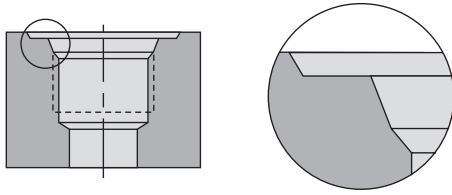
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAK0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAK0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAK0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAK0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAK1063-12

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

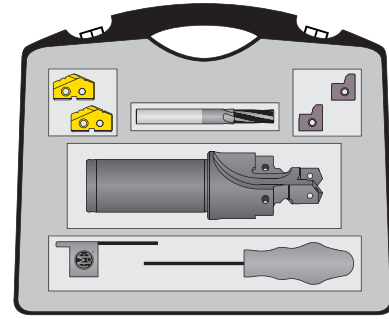


Port and Thread Finishing Kits

J1926 | Imperial | Non-Ferrous Materials

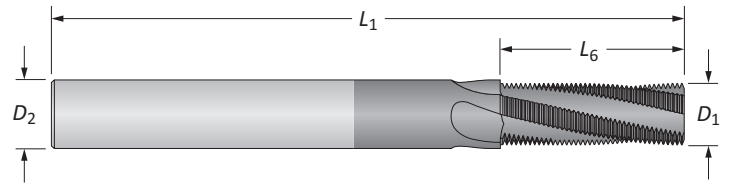


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Port and Thread Finishing Kits

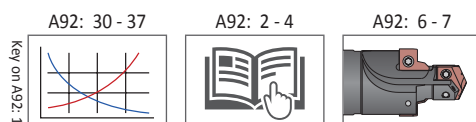
Tube Dash No.	AccuPort 432			Original T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	J1926-04Y-063F	7/16-20 UNF-2B	1	45YH-.386	2	J1926-02-C5A	2	TMAU0438-20	1	ATKU04-1926
-5	J1926-05Z-063F	1/2-20 UNF-2B	1	45ZH-11.5	2	J1926-03-C5A	2	TMAU0438-20	1	ATKU05-1926
-6	J1926-060-075F	9/16-18 UNF-2B	1	450H-13	2	J1926-03-C5A	2	TMAU0563-18	1	ATKU06-1926
-8	J1926-080-075F	3/4-16 UNF-2B	1	450H-0022	2	J1926-07-C5A	2	TMAU0750-16	1	ATKU08-1926
-10	J1926-101-100F	7/8-14 UNF-2B	1	451H-20.5	2	J1926-04-C5A	2	TMAU0875-14	1	ATKU10-1926
-12	J1926-122-125F	1-1/16-12 UN-2B	1	452H-25	2	J1926-08-C5A	2	TMAU1063-12	1	ATKU12-1926
-14	J1926-142-125F	1-3/16-12 UN-2B	1	452H-28	2	J1926-08-C5A	2	TMAU1063-12	1	ATKU14-1926
-16	J1926-162-125F	1-5/16-12 UN-2B	1	452H-1.231	2	J1926-09-C5A	2	TMAU1063-12	1	ATKU16-1926
-20	J1926-203-150F	1-5/8-12 UN-2B	1	453H-39	1	J1926-10-C5A	2	TMAU1063-12	1	ATKU20-1926
-24	J1926-243-150F	1-7/8-12 UN-2B	1	453H-45.5	1	J1926-11-C5A	2	TMAU1063-12	1	ATKU24-1926
-32	J1926-324-150F	2-1/2-12 UN-2B	1	454H-61.5	1	J1926-12-C5A	2	TMAU1063-12	1	ATKU32-1926



AccuThread™ Port Specific Solid Carbide Thread Mills

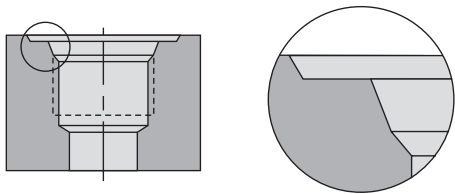
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAU0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAU0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAU0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAU0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAU1063-12

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE A5202 port form specifications.

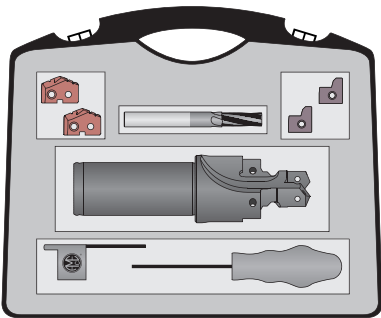


Port and Thread Finishing Kits

J1926 | Metric | Ferrous Materials

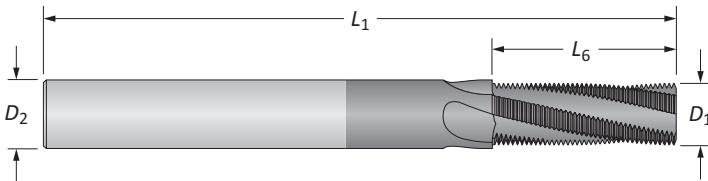


SAE J-1926-1 / ISO 11926-1



Port and Thread Finishing Kits

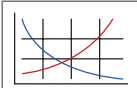
Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	 Super Cobalt (AM200®)	Qty	 C5 Carbide (TiAlN)	Qty	 Part No. (AM210®)	Qty	
-4	J1926-04Y-16FM	7/16-20 UNF-2B	1	45YH-.386	2	J1926-02-C5A	2	TMAK0438-20M	1	ATKK04-1926M
-5	J1926-05Z-16FM	1/2-20 UNF-2B	1	45ZH-11.5	2	J1926-03-C5A	2	TMAK0438-20M	1	ATKK05-1926M
-6	J1926-060-20FM	9/16-18 UNF-2B	1	450H-13	2	J1926-03-C5A	2	TMAK0563-18M	1	ATKK06-1926M
-8	J1926-080-20FM	3/4-16 UNF-2B	1	450H-0022	2	J1926-07-C5A	2	TMAK0750-16M	1	ATKK08-1926M
-10	J1926-101-25FM	7/8-14 UNF-2B	1	451H-20.5	2	J1926-04-C5A	2	TMAK0875-14M	1	ATKK10-1926M
-12	J1926-122-32FM	1-1/16-12 UN-2B	1	452H-25	2	J1926-08-C5A	2	TMAK1063-12M	1	ATKK12-1926M
-14	J1926-142-32FM	1-3/16-12 UN-2B	1	452H-28	2	J1926-08-C5A	2	TMAK1063-12M	1	ATKK14-1926M
-16	J1926-162-32FM	1-5/16-12 UN-2B	1	452H-1.231	2	J1926-09-C5A	2	TMAK1063-12M	1	ATKK16-1926M
-20	J1926-203-32FM	1-5/8-12 UN-2B	1	453H-39	1	J1926-10-C5A	2	TMAK1063-12M	1	ATKK20-1926M
-24	J1926-243-32FM	1-7/8-12 UN-2B	1	453H-45.5	1	J1926-11-C5A	2	TMAK1063-12M	1	ATKK24-1926M
-32	J1926-324-32FM	2-1/2-12 UN-2B	1	454H-61.5	1	J1926-12-C5A	2	TMAK1063-12M	1	ATKK32-1926M



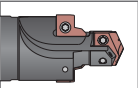
AccuThread™ Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	8.51	15.24	10.00	73.00	4	TMAK0438-20M
-6	18	9.40	16.92	10.00	73.00	4	TMAK0563-18M
-8	16	11.94	19.05	12.00	84.00	4	TMAK0750-16M
-10	14	11.94	21.77	12.00	84.00	4	TMAK0875-14M
-12 to -32	12	11.94	23.29	12.00	84.00	4	TMAK1063-12M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

A92: 30 - 37


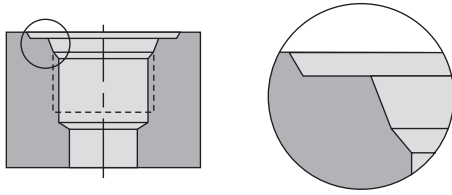
A92: 2 - 4


A92: 8 - 9


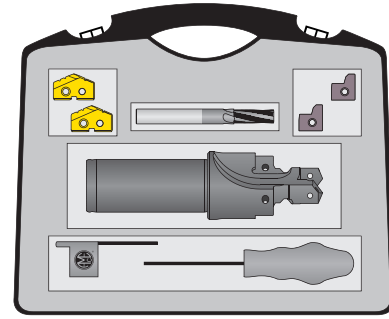
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Port and Thread Finishing Kits

J1926 | Metric | Non-Ferrous Materials

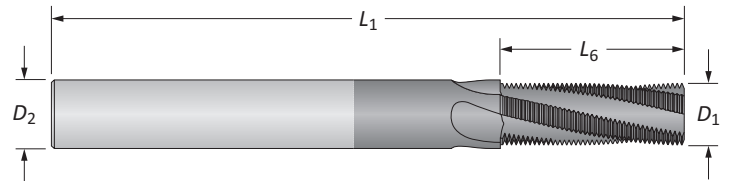


SAE J-1926-1 / ISO 11926-1



Port and Thread Finishing Kits

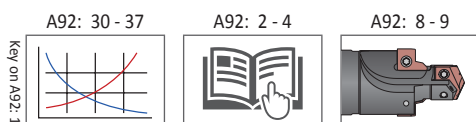
Tube Dash No.	AccuPort 432			Original T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	J1926-04Y-16FM	7/16-20 UNF-2B	1	15YT-.386	2	J1926-02-C5A	2	TMAU0438-20M	1	ATKU04-1926M
-5	J1926-05Z-16FM	1/2-20 UNF-2B	1	15ZT-11.5	2	J1926-03-C5A	2	TMAU0438-20M	1	ATKU05-1926M
-6	J1926-060-20FM	9/16-18 UNF-2B	1	150T-13	2	J1926-03-C5A	2	TMAU0563-18M	1	ATKU06-1926M
-8	J1926-080-20FM	3/4-16 UNF-2B	1	150T-0022	2	J1926-07-C5A	2	TMAU0750-16M	1	ATKU08-1926M
-10	J1926-101-25FM	7/8-14 UNF-2B	1	151T-20.5	2	J1926-04-C5A	2	TMAU0875-14M	1	ATKU10-1926M
-12	J1926-122-32FM	1-1/16-12 UN-2B	1	152T-25	2	J1926-08-C5A	2	TMAU1063-12M	1	ATKU12-1926M
-14	J1926-142-32FM	1-3/16-12 UN-2B	1	152T-28	2	J1926-08-C5A	2	TMAU1063-12M	1	ATKU14-1926M
-16	J1926-162-32FM	1-5/16-12 UN-2B	1	152T-1.231	2	J1926-09-C5A	2	TMAU1063-12M	1	ATKU16-1926M
-20	J1926-203-32FM	1-5/8-12 UN-2B	1	453T-39	1	J1926-10-C5A	2	TMAU1063-12M	1	ATKU20-1926M
-24	J1926-243-32FM	1-7/8-12 UN-2B	1	453T-45.5	1	J1926-11-C5A	2	TMAU1063-12M	1	ATKU24-1926M
-32	J1926-324-32FM	2-1/2-12 UN-2B	1	454T-61.5	1	J1926-12-C5A	2	TMAU1063-12M	1	ATKU32-1926M



AccuThread™ Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	8.51	15.24	10.00	73.00	4	TMAU0438-20M
-6	18	9.40	16.92	10.00	73.00	4	TMAU0563-18M
-8	16	11.94	19.05	12.00	84.00	4	TMAU0750-16M
-10	14	11.94	21.77	12.00	84.00	4	TMAU0875-14M
-12 to -32	12	11.94	23.29	12.00	84.00	4	TMAU1063-12M

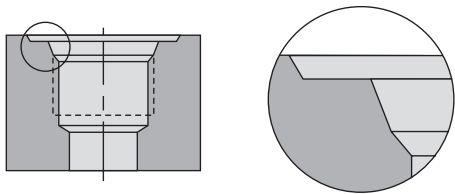
AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE A5202 port form specifications.



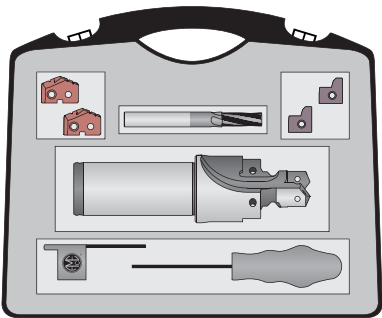
A DRILLING

Port and Thread Finishing Kits

I6149 | No ID Ridge | Ferrous Materials



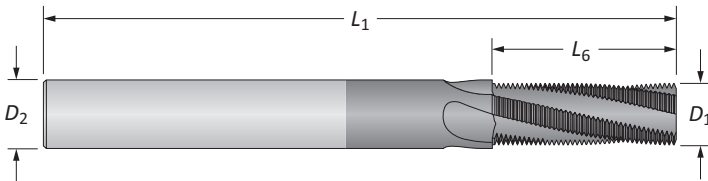
ISO 6149-1:2006 / SAE J-2244/1



B BORING

Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	 Super Cobalt (AM200®)	Qty	 C5 Carbide (TiAlN)	Qty	 Part No. (AM210®)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	45YH-10.5	2	I6149-04-C5A	2	TMMK1000-150M	1	ATKK04-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	45ZH-12.5	2	I6149-04-C5A	2	TMMK1400-150M	1	ATKK05-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	450H-14.5	2	I6149-06-C5A	2	TMMK1400-150M	1	ATKK06-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	450H-16.5	2	I6149-06-C5A	2	TMMK1800-150M	1	ATKK08-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	451H-20.5	2	I6149-04-C5A	2	TMMK1800-150M	1	ATKK10-6149
-12	I6149-12R2-32FM	M27 X 2	1	452H-25	2	I6149-12-C5A	2	TMMK2000-200M	1	ATKK12-6149
-14	I6149-14R2-32FM	M30 X 2	1	452H-28	2	I6149-14-C5A	2	TMMK2000-200M	1	ATKK14-6149
-16	I6149-16R2-32FM	M33 X 2	1	452H-31	2	I6149-16-C5A	2	TMMK2000-200M	1	ATKK16-6149
-20	I6149-20R3-32FM	M42 X 2	1	453H-40	1	I6149-20-C5A	2	TMMK2000-200M	1	ATKK20-6149
-24	I6149-24R3-32FM	M48 X 2	1	453H-46	1	I6149-24-C5A	2	TMMK2000-200M	1	ATKK24-6149
-32	I6149-32R4-32FM	M60 X 2	1	454H-58	1	I6149-32-C5A	2	TMMK2000-200M	1	ATKK32-6149



D BURNISHING

AccuThread™ Port Specific Solid Carbide Thread Mills

Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMK1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMK1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMK1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMK2000-200M

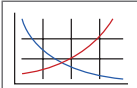
AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

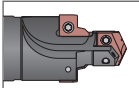
X SPECIALS

A92: 30 - 37

A92: 2 - 4

A92: 12 - 13

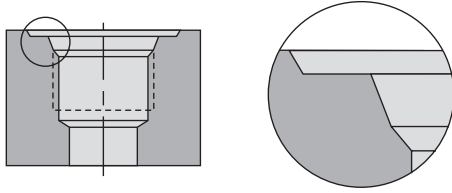




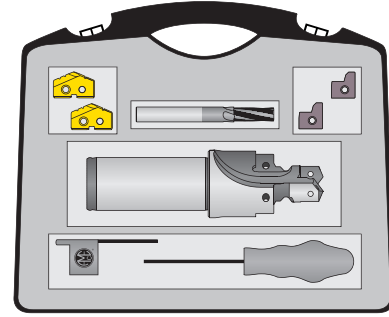
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Port and Thread Finishing Kits

I6149 | No ID Ridge | Non-Ferrous Materials

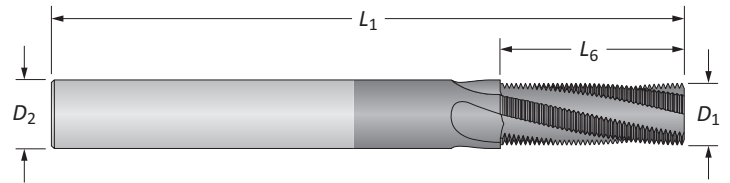


ISO 6149-1:2006 / SAE J-2244/1



Port and Thread Finishing Kits

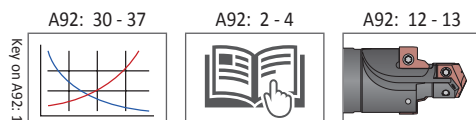
Tube Dash No.	AccuPort 432			Original T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	 Super Cobalt (TiN)	Qty	 C5 Carbide (TiAlN)	Qty	 Part No. (AM210®)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	15YT-10.5	2	I6149-04-C5A	2	TMMU1000-150M	1	ATKU04-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	15ZT-12.5	2	I6149-04-C5A	2	TMMU1400-150M	1	ATKU05-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	150T-14.5	2	I6149-06-C5A	2	TMMU1400-150M	1	ATKU06-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	150T-16.5	2	I6149-06-C5A	2	TMMU1800-150M	1	ATKU08-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	151T-20.5	2	I6149-04-C5A	2	TMMU1800-150M	1	ATKU10-6149
-12	I6149-12R2-32FM	M27 X 2	1	152T-25	2	I6149-12-C5A	2	TMMU2000-200M	1	ATKU12-6149
-14	I6149-14R2-32FM	M30 X 2	1	152T-28	2	I6149-14-C5A	2	TMMU2000-200M	1	ATKU14-6149
-16	I6149-16R2-32FM	M33 X 2	1	152T-31	2	I6149-16-C5A	2	TMMU2000-200M	1	ATKU16-6149
-20	I6149-20R3-32FM	M42 X 2	1	453T-40	1	I6149-20-C5A	2	TMMU2000-200M	1	ATKU20-6149
-24	I6149-24R3-32FM	M48 X 2	1	453T-46	1	I6149-24-C5A	2	TMMU2000-200M	1	ATKU24-6149
-32	I6149-32R4-32FM	M60 X 2	1	454T-58	1	I6149-32-C5A	2	TMMU2000-200M	1	ATKU32-6149



AccuThread™ Port Specific Solid Carbide Thread Mills

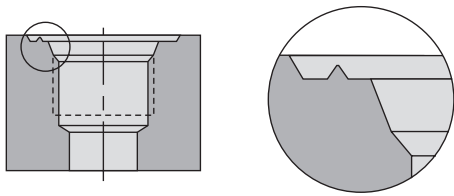
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMU1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMU1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMU1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMU2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE A5202 port form specifications.

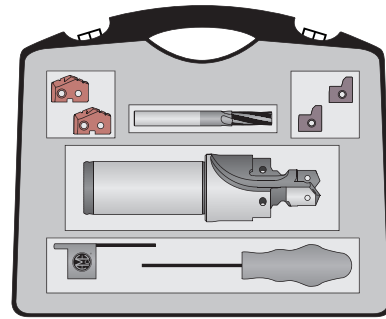


Port and Thread Finishing Kits

16149 | ID Ridge | Ferrous Materials

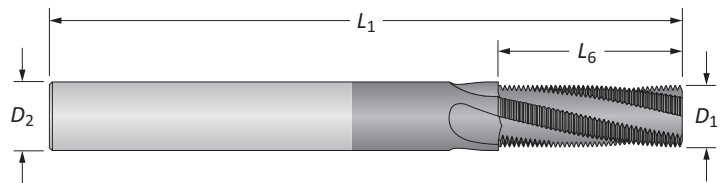


ISO 6149-1:2006 / SAE J-2244/1



Port and Thread Finishing Kits

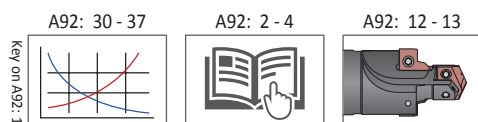
Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	 Super Cobalt (AM200®)	Qty	 C5 Carbide (TiAlN)	Qty	 Part No. (AM210®)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	45YH-10.5	2	I6149-04R-C5A	2	TMMK1000-150M	1	ATKK04R-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	45ZH-12.5	2	I6149-04R-C5A	2	TMMK1400-150M	1	ATKK05R-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	450H-14.5	2	I6149-06R-C5A	2	TMMK1400-150M	1	ATKK06R-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	450H-16.5	2	I6149-06R-C5A	2	TMMK1800-150M	1	ATKK08R-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	451H-20.5	2	I6149-04R-C5A	2	TMMK1800-150M	1	ATKK10R-6149
-12	I6149-12R2-32FM	M27 X 2	1	452H-25	2	I6149-12R-C5A	2	TMMK2000-200M	1	ATKK12R-6149
-14	I6149-14R2-32FM	M30 X 2	1	452H-28	2	I6149-14R-C5A	2	TMMK2000-200M	1	ATKK14R-6149
-16	I6149-16R2-32FM	M33 X 2	1	452H-31	2	I6149-16R-C5A	2	TMMK2000-200M	1	ATKK16R-6149
-20	I6149-20R3-32FM	M42 X 2	1	453H-40	1	I6149-20R-C5A	2	TMMK2000-200M	1	ATKK20R-6149
-24	I6149-24R3-32FM	M48 X 2	1	453H-46	1	I6149-24R-C5A	2	TMMK2000-200M	1	ATKK24R-6149
-32	I6149-32R4-32FM	M60 X 2	1	454H-58	1	I6149-32R-C5A	2	TMMK2000-200M	1	ATKK32R-6149



AccuThread™ Port Specific Solid Carbide Thread Mills

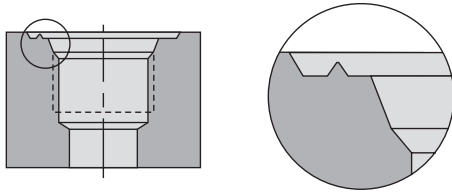
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMK1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMK1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMK1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMK2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

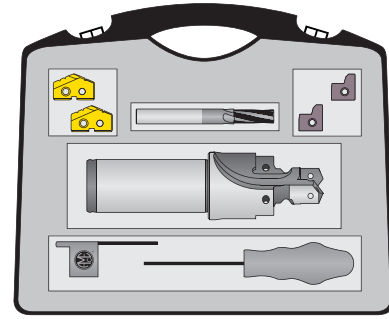


Port and Thread Finishing Kits

I6149 | ID Ridge | Non-Ferrous Materials

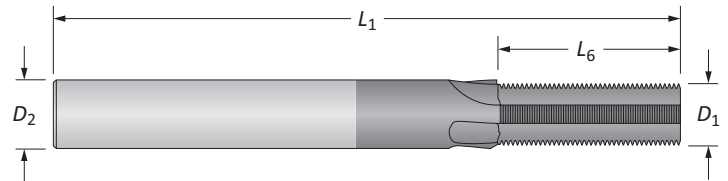


ISO 6149-1:2006 / SAE J-2244/1



Port and Thread Finishing Kits

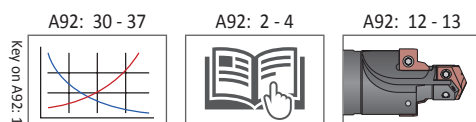
Tube Dash No.	AccuPort 432			Original T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (TiN)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	I6149-04RY-16FM	M12 X 1.5	1	15YT-10.5	2	I6149-04R-C5A	2	TMMU1000-150M	1	ATKU04R-6149
-5	I6149-05RZ-16FM	M14 X 1.5	1	15ZT-12.5	2	I6149-04R-C5A	2	TMMU1400-150M	1	ATKU05R-6149
-6	I6149-06R0-20FM	M16 X 1.5	1	150T-14.5	2	I6149-06R-C5A	2	TMMU1400-150M	1	ATKU06R-6149
-8	I6149-08R0-20FM	M18 X 1.5	1	150T-16.5	2	I6149-06R-C5A	2	TMMU1800-150M	1	ATKU08R-6149
-10	I6149-10R1-25FM	M22 X 1.5	1	151T-20.5	2	I6149-04R-C5A	2	TMMU1800-150M	1	ATKU10R-6149
-12	I6149-12R2-32FM	M27 X 2	1	152T-25	2	I6149-12R-C5A	2	TMMU2000-200M	1	ATKU12R-6149
-14	I6149-14R2-32FM	M30 X 2	1	152T-28	2	I6149-14R-C5A	2	TMMU2000-200M	1	ATKU14R-6149
-16	I6149-16R2-32FM	M33 X 2	1	152T-31	2	I6149-16R-C5A	2	TMMU2000-200M	1	ATKU16R-6149
-20	I6149-20R3-32FM	M42 X 2	1	453T-40	1	I6149-20R-C5A	2	TMMU2000-200M	1	ATKU20R-6149
-24	I6149-24R3-32FM	M48 X 2	1	453T-46	1	I6149-24R-C5A	2	TMMU2000-200M	1	ATKU24R-6149
-32	I6149-32R4-32FM	M60 X 2	1	454T-58	1	I6149-32R-C5A	2	TMMU2000-200M	1	ATKU32R-6149



AccuThread™ Port Specific Solid Carbide Thread Mills

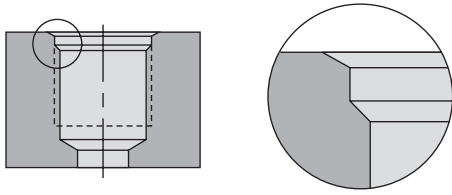
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMU1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMU1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMU1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMU2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE A55202 port form specifications.

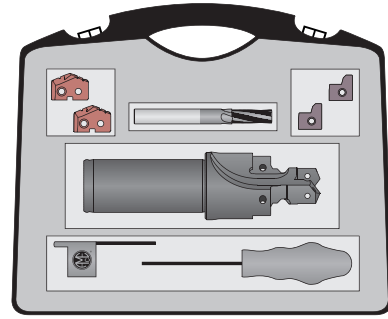


Port and Thread Finishing Kits

AS5202 | Ferrous Materials

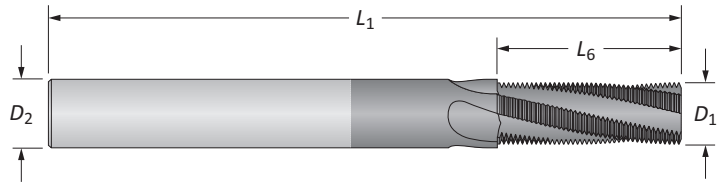


SAE AS5202



Port and Thread Finishing Kits

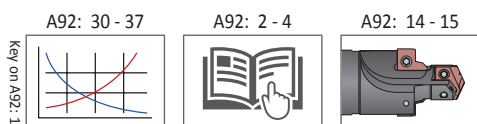
Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	Super Cobalt (AM200®)	Qty	C5 Carbide (TiAlN)	Qty	Part No. (AM210®)	Qty	
-4	AS5202-04Y-063F	7/16-20 UNJF-3B	1	45YH-.390	2	AS5202-04-C5A	2	TMAK0438-20	1	ATKK04-5202
-5	AS5202-05Z-063F	1/2-20 UNJF-3B	1	45ZH-11.5	2	AS5202-05-C5A	2	TMAK0438-20	1	ATKK05-5202
-6	AS5202-06Z-075F	9/16-18 UNJF-3B	1	45ZH-.510	2	AS5202-06-C5A	2	TMAK0563-18	1	ATKK06-5202
-8	AS5202-080-075F	3/4-16 UNJF-3B	1	450H-17.5	2	AS5202-08-C5A	2	TMAK0750-16	1	ATKK08-5202
-10	AS5202-101-100F	7/8-14 UNJF-3B	1	451H-20.5	2	AS5202-10-C5A	2	TMAK0875-14	1	ATKK10-5202
-12	AS5202-122-125F	1-1/16-12 UNJ-3B	1	452H-25	2	AS5202-12-C5A	2	TMAK1063-12	1	ATKK12-5202
-14	AS5202-142-125F	1-3/16-12 UNJ-3B	1	452H-1.109	2	AS5202-14-C5A	2	TMAK1063-12	1	ATKK14-5202
-16	AS5202-162-125F	1-5/16-12 UNJ-3B	1	452H-1.234	2	AS5202-16-C5A	2	TMAK1063-12	1	ATKK16-5202
-20	AS5202-203-150F	1-5/8-12 UNJ-3B	1	453H-1.547	1	AS5202-20-C5A	2	TMAK1063-12	1	ATKK20-5202
-24	AS5202-243-150F	1-7/8-12 UNJ-3B	1	453H-1.797	1	AS5202-24-C5A	2	TMAK1063-12	1	ATKK24-5202
-32	AS5202-324-150F	2-1/2-12 UNJ-3B	1	454H-61.5	1	AS5202-32-C5A	2	TMAK1063-12	1	ATKK32-5202



AccuThread™ Port Specific Solid Carbide Thread Mills

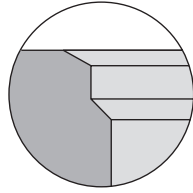
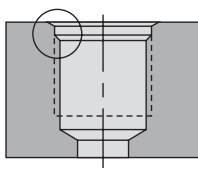
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAK0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAK0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAK0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAK0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAK1063-12

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

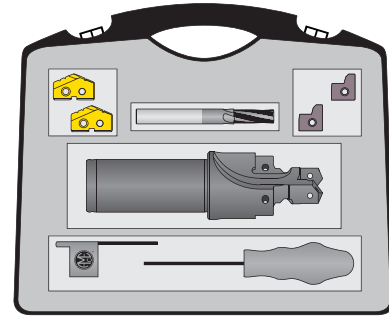


Port and Thread Finishing Kits

AS5202 | Non-Ferrous Materials

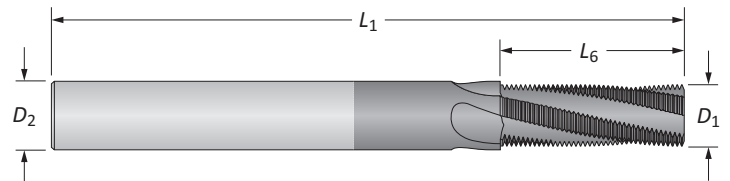


SAE AS5202



Port and Thread Finishing Kits

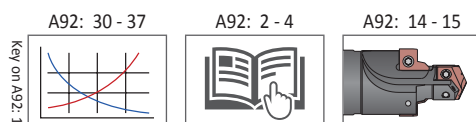
Tube Dash No.	AccuPort 432			Original T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	 Super Cobalt (TiN)	Qty	 C5 Carbide (TiAlN)	Qty	 Part No. (AM210®)	Qty	
-4	AS5202-04Y-063F	7/16-20 UNJF-3B	1	15YT-.390	2	AS5202-04-C5A	2	TMAU0438-20	1	ATKU04-5202
-5	AS5202-05Z-063F	1/2-20 UNJF-3B	1	15ZT-11.5	2	AS5202-05-C5A	2	TMAU0438-20	1	ATKU05-5202
-6	AS5202-06Z-075F	9/16-18 UNJF-3B	1	15ZT-.510	2	AS5202-06-C5A	2	TMAU0563-18	1	ATKU06-5202
-8	AS5202-080-075F	3/4-16 UNJF-3B	1	150T-17.5	2	AS5202-08-C5A	2	TMAU0750-16	1	ATKU08-5202
-10	AS5202-101-100F	7/8-14 UNJF-3B	1	151T-20.5	2	AS5202-10-C5A	2	TMAU0875-14	1	ATKU10-5202
-12	AS5202-122-125F	1-1/16-12 UNJ-3B	1	152T-25	2	AS5202-12-C5A	2	TMAU1063-12	1	ATKU12-5202
-14	AS5202-142-125F	1-3/16-12 UNJ-3B	1	152T-1.109	2	AS5202-14-C5A	2	TMAU1063-12	1	ATKU14-5202
-16	AS5202-162-125F	1-5/16-12 UNJ-3B	1	152T-1.234	2	AS5202-16-C5A	2	TMAU1063-12	1	ATKU16-5202
-20	AS5202-203-150F	1-5/8-12 UNJ-3B	1	453T-1.547	1	AS5202-20-C5A	2	TMAU1063-12	1	ATKU20-5202
-24	AS5202-243-150F	1-7/8-12 UNJ-3B	1	453T-1.797	1	AS5202-24-C5A	2	TMAU1063-12	1	ATKU24-5202
-32	AS5202-324-150F	2-1/2-12 UNJ-3B	1	454T-61.5	1	AS5202-32-C5A	2	TMAU1063-12	1	ATKU32-5202



AccuThread™ Port Specific Solid Carbide Thread Mills

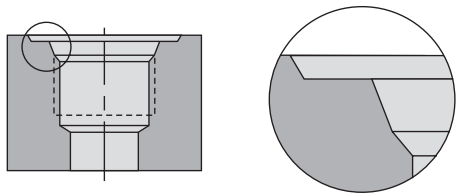
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D_1	L_6	D_2	L_1		
-4 to -5	20	0.335	0.600	0.375	3.5	4	TMAU0438-20
-6	18	0.370	0.666	0.375	3.5	4	TMAU0563-18
-8	16	0.495	0.750	0.500	3.5	4	TMAU0750-16
-10	14	0.495	0.857	0.500	3.5	4	TMAU0875-14
-12 to -32	12	0.495	0.917	0.500	3.5	4	TMAU1063-12

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

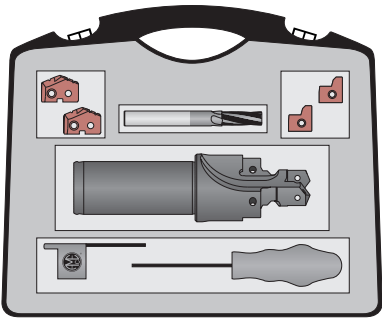


Port and Thread Finishing Kits

G1731 | Ferrous Materials

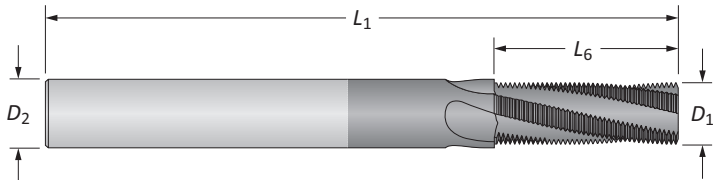


JDS-G173.1



Port and Thread Finishing Kits

Tube Dash No.	AccuPort 432			GEN2 T-A® Insert		Port Form Insert		AccuThread™ Thread Mill		Kit Part No.
	Part No.	Port Thread Size	Qty	 Super Cobalt (AM200®)	Qty	 C3 Carbide (AM200®)	Qty	 Part No. (AM210®)	Qty	
-4	G1731-04Y-16FM	M12 X 1.5	1	45YH-10.5	2	G1731-01-C3H	2	TMMK1000-150M	1	ATKK04-G1731
-5	G1731-05Z-16FM	M14 X 1.5	1	45ZH-12.5	2	G1731-01-C3H	2	TMMK1400-150M	1	ATKK05-G1731
-6	G1731-06O-20FM	M16 X 1.5	1	45OH-14.5	2	G1731-02-C3H	2	TMMK1400-150M	1	ATKK06-G1731
-8	G1731-08O-20FM	M18 X 1.5	1	45OH-16.5	2	G1731-02-C3H	2	TMMK1800-150M	1	ATKK08-G1731
-10	G1731-10I-25FM	M22 X 1.5	1	45IH-20.5	2	G1731-02-C3H	2	TMMK1800-150M	1	ATKK10-G1731
-12	G1731-12Z-32FM	M27 X 2	1	45ZH-25	2	G1731-03-C3H	2	TMMK2000-200M	1	ATKK12-G1731
-14	G1731-14Z-32FM	M30 X 2	1	45ZH-28	2	G1731-03-C3H	2	TMMK2000-200M	1	ATKK14-G1731
-16	G1731-16Z-32FM	M33 X 2	1	45ZH-31	2	G1731-04-C3H	2	TMMK2000-200M	1	ATKK16-G1731
-18	G1731-18Z-32FM	M38 X 2	1	45ZH-36	1	G1731-04-C3H	2	TMMK2000-200M	2	ATKK18-G1731
-20	G1731-20Z-32FM	M42 X 2	1	45ZH-40	1	G1731-05-C3H	2	TMMK2000-200M	1	ATKK20-G1731
-24	G1731-24Z-32FM	M48 X 2	1	45ZH-46	1	G1731-05-C3H	2	TMMK2000-200M	1	ATKK24-G1731
-32	G1731-32Z-32FM	M60 X 2	1	45ZH-58	1	G1731-06-C3H	2	TMMK2000-200M	1	ATKK32-G1731



AccuThread™ Port Specific Solid Carbide Thread Mills

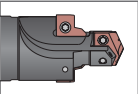
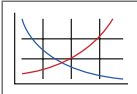
Port Size	Pitch	Thread Mill				Flutes	Part No.
		D ₁	L ₆	D ₂	L ₁		
-4	1.50	7.40	19.50	8.00	64.00	4	TMMK1000-150M
-5 to -6	1.50	10.90	27.00	12.00	84.00	4	TMMK1400-150M
-8 to -10	1.50	11.90	31.50	12.00	84.00	4	TMMK1800-150M
-12 to -32	2.00	11.95	30.00	12.00	84.00	4	TMMK2000-200M

AccuPort 432 specific thread mills - International Unified Series (UN) manufactured specifically for use with AccuPort 432 hydraulic port forms. The length of cut allows full thread with one pass. Conforms with J1926 and SAE AS5202 port form specifications.

A92: 30 - 37

A92: 2 - 4

A92: 16 - 17



Key on A92: 1

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A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS



Recommended Drilling Data | Imperial (inch)

HSS

ISO	Material	Hardness (BHN)	Grade	Speed (SFM)				Feed Rate (IPR) by Tube Size and T-A® Insert Series					
				TiN	TiAlN	TiCN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
								T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	200	280	260	325	0.007	0.010	0.013	0.016	0.020	0.023
		150 - 200	HSS	180	260	235	300	0.007	0.010	0.013	0.016	0.020	0.023
		200 - 250	HSS	160	240	210	280	0.006	0.010	0.013	0.016	0.020	0.023
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	170	250	220	290	0.006 ❖	0.009	0.012	0.015	0.019	0.023
		125 - 175	HSS	160	240	210	275	0.006 ❖	0.009	0.012	0.015	0.019	0.023
		175 - 225	HSS	150	225	195	260	0.005 ❖	0.008	0.010	0.014	0.018	0.021
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	225 - 275	HSS	140	210	180	240	0.005 ❖	0.008	0.010	0.014	0.018	0.021
		125 - 175	HSS	160	240	210	275	0.006	0.009	0.012	0.015	0.019	0.023
		175 - 225	HSS	150	225	195	260	0.005	0.008	0.010	0.014	0.018	0.021
		225 - 275	HSS	140	210	180	240	0.005	0.008	0.010	0.014	0.018	0.021
	Alloy Steel 4140, 5140, 8640, etc.	275 - 325	SC	130	195	170	225	0.004	0.007	0.009	0.012	0.016	0.019
		125 - 175	HSS	150	210	195	240	0.006	0.008	0.010	0.014	0.017	0.019
		175 - 225	HSS	140	195	180	225	0.005	0.008	0.010	0.014	0.017	0.019
		225 - 275	HSS	130	180	170	210	0.005	0.007	0.010	0.014	0.017	0.019
		275 - 325	SC	120	170	155	195	0.004	0.006	0.009	0.012	0.015	0.017
	High Strength Alloy 4340, 4330V, 300M, etc.	325 - 375	SC	110	155	145	180	0.003	0.006	0.009	0.012	0.015	0.017
		225 - 300	SC	80	110	100	125	0.005 ❖	0.007	0.009	0.010	0.014	0.017
		300 - 350	SC	60	85	80	100	0.004 ❖	0.007	0.009	0.010	0.014	0.017
	Structural Steel A36, A285, A516, etc.	350 - 400	SC	50	70	65	80	0.003 ❖	0.006	0.008	0.009	0.012	0.015
		100 - 150	HSS	140	200	180	235	0.006 ❖	0.010	0.012	0.014	0.018	0.021
		150 - 250	HSS	120	170	155	190	0.005 ❖	0.009	0.010	0.012	0.016	0.019
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	250 - 350	SC	100	140	130	160	0.004 ❖	0.009	0.009	0.010	0.014	0.017
		150 - 200	SC	80	110	105	125	0.004 ❖	0.006	0.008	0.010	0.014	0.015
	High Temp Alloy Hastelloy B, Inconel 600, etc.	200 - 250	SC	60	90	85	105	0.004 ❖	0.006	0.008	0.010	0.012	0.015
		140 - 220	SC	30	40	35	45	0.003 ❖	0.007	0.008	0.010	0.012	0.015
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	220 - 310	SC	25	35	30	40	0.003 ❖	0.006	0.007	0.008	0.010	0.012
		185 - 275	SC	75	105	95	110	0.006 ❖	0.008	0.009	0.011	0.012	0.016
M	Stainless Steel 400 Series 416, 420, 303, etc.	275 - 350	SC	60	90	80	100	0.005 ❖	0.007	0.008	0.010	0.012	0.014
		120 - 150	HSS	170	250	220	290	0.007	0.012	0.016	0.020	0.024	0.027
K	Nodular, Grey, Ductile Cast Iron	150 - 200	HSS	150	225	195	260	0.006	0.011	0.014	0.018	0.022	0.025
		200 - 220	HSS	130	195	170	225	0.006	0.009	0.012	0.016	0.018	0.021
		220 - 260	SC	110	165	145	190	0.005	0.007	0.009	0.012	0.014	0.017
		260 - 320	SC	90	135	120	155	0.004	0.006	0.007	0.009	0.012	0.014
		120 - 150	HSS	170	250	220	290	0.007	0.012	0.016	0.020	0.024	0.027
N	Aluminum	30	HSS	600	850	750	–	0.008	0.013	0.016	0.020	0.022	0.025
		180	HSS	300	450	400	–	0.008	0.013	0.016	0.018	0.022	0.025

Formulas

1. RPM = (3.82 • SFM) / DIA where: RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = finish diameter of drill (inch)	2. SFM = RPM • 0.262 • DIA where: SFM = speed (ft/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (inch)	3. IPM = RPM • IPR where: IPM = Feed rate RPM = revolutions per minute (rev/min) IPR = feed rate (in/rev)
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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*.

IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Coolant Recommendations | Imperial (inch)

HSS

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free Machining Steel 1118, 1215, 12L14, etc.	PSI	175 - 185	100 - 120	105 - 140	80 - 115	75 - 100	40 - 50
		GPM	2.5 - 2.6	2.8 - 3.0	4.4 - 5.2	7 - 8	12 - 14	30 - 33
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	PSI	165 - 170	75 - 90	75 - 95	60 - 80	55 - 75	30 - 40
		GPM	2.4 - 2.5	2.4 - 2.6	3.7 - 4.2	6 - 7	11 - 12	26 - 30
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	PSI	160 - 165	70 - 85	70 - 90	55 - 75	50 - 70	30 - 40
		GPM	2.3 - 2.4	2.3 - 2.6	3.7 - 4.2	5 - 6	10 - 12	26 - 30
	Alloy Steel 4140, 5140, 8640, etc.	PSI	160 - 165	65 - 75	65 - 80	50 - 70	45 - 60	30 - 35
		GPM	2.3 - 2.4	2.2 - 2.4	3.5 - 3.9	5 - 6	10 - 11	26 - 28
	High Strength Alloy 4340, 4330V, 300M, etc.	PSI	150 - 155	55 - 60	45 - 50	25 - 30	25 - 30	20 - 25
		GPM	2.3 - 2.4	2.1 - 2.2	2.9 - 3.1	4 - 5	7 - 8	21 - 23
	Structural Steel A36, A285, A516, etc.	PSI	160 - 165	75 - 85	65 - 80	40 - 55	40 - 50	25 - 30
		GPM	2.3 - 2.4	2.4 - 2.6	3.5 - 3.9	5 - 6	9 - 10	23 - 26
S	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	PSI	150 - 155	55 - 60	45 - 50	25 - 30	25 - 30	20 - 25
		GPM	2.3 - 2.4	2.1 - 2.2	2.9 - 3.1	4 - 5	7 - 8	21 - 23
M	High Temp Alloy Hastelloy B, Inconel 600, etc.	PSI	150 - 155	60 - 65	50 - 55	30 - 35	25 - 30	25 - 30
		GPM	2.3 - 2.4	2.2 - 2.3	3.1 - 3.2	4 - 5	7 - 8	23 - 26
K	Stainless Steel 400 Series 416, 420, 303, etc.	PSI	171	86	75	55	51	29
		GPM	3	3	4	6	10	26
N	Nodular, Grey, Ductile Cast Iron	PSI	160	65	61	41	35	29
		GPM	2	2	3	5	9	26
X	Aluminum	PSI	210	180	230	159	125	51
		GPM	3	4	6	9	16	33

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied's recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds.



Recommended Drilling Data | Imperial (inch)

Carbide

ISO	Material	Hardness (BHN)	Grade	Speed (SFM)			Feed Rate (IPR) by Tube Size and T-A® Insert Series				
				TiN	TiAlN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
							T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 150	C1, C5	320	420	480	0.008	0.012	0.015	0.018	0.021
		150 - 200	C1, C5	280	360	415	0.007	0.011	0.014	0.016	0.019
		200 - 250	C1, C5	260	340	390	0.006	0.010	0.013	0.015	0.017
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	C1, C5	300	390	450	0.008 ❖	0.010	0.013	0.017	0.019
		125 - 175	C1, C5	260	340	390	0.007 ❖	0.010	0.013	0.016	0.018
		175 - 225	C1, C5	240	310	355	0.006 ❖	0.009	0.012	0.015	0.017
		225 - 275	C1, C5	210	270	310	0.005 ❖	0.009	0.012	0.015	0.017
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	C1, C5	260	340	390	0.007	0.010	0.013	0.016	0.018
		175 - 225	C1, C5	240	310	355	0.006	0.009	0.012	0.015	0.017
		225 - 275	C1, C5	210	270	310	0.006	0.009	0.012	0.015	0.017
		275 - 325	C1, C5	180	230	265	0.005	0.008	0.011	0.014	0.016
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	C1, C5	250	325	375	0.007	0.010	0.013	0.016	0.018
		175 - 225	C1, C5	230	300	345	0.006	0.009	0.012	0.015	0.017
		225 - 275	C1, C5	210	270	310	0.006	0.009	0.012	0.015	0.017
		275 - 325	C1, C5	200	250	285	0.005	0.008	0.011	0.014	0.016
		325 - 375	C1, C5	170	220	255	0.004	0.007	0.010	0.013	0.015
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	C1, C5	160	200	230	0.006 ❖	0.009	0.010	0.012	0.015
		300 - 350	C1, C5	140	180	205	0.005 ❖	0.008	0.009	0.011	0.014
		350 - 400	C1, C5	120	160	185	0.004 ❖	0.007	0.008	0.010	0.012
	Structural Steel A36, A285, A516, etc.	100 - 150	C1, C5	240	310	355	0.008 ❖	0.011	0.014	0.016	0.018
		150 - 250	C1, C5	200	250	285	0.006 ❖	0.010	0.012	0.014	0.016
		250 - 350	C1, C5	180	230	265	0.005 ❖	0.009	0.011	0.012	0.014
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	C1, C5	160	220	255	0.004 ❖	0.007	0.009	0.011	0.013
		200 - 250	C1, C5	120	170	195	0.004 ❖	0.007	0.009	0.011	0.013
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	C2	80	105	120	0.004 ❖	0.007	0.009	0.011	0.013
		220 - 310	C2	60	85	95	0.004 ❖	0.006	0.008	0.010	0.012
M	Stainless Steel 400 Series 416, 420, 303, etc.	185 - 275	C2	160	210	240	0.007 ❖	0.009	0.012	0.014	0.016
		275 - 350	C2	120	160	185	0.006 ❖	0.008	0.011	0.012	0.014
K	Nodular, Grey, Ductile Cast Iron	120 - 150	C2, C3	320	460	500	0.008	0.012	0.015	0.019	0.023
		150 - 200	C2, C3	270	400	480	0.007	0.011	0.013	0.017	0.021
		200 - 220	C2, C3	240	360	430	0.006	0.009	0.012	0.015	0.018
		220 - 260	C2, C3	210	310	370	0.005	0.008	0.011	0.013	0.015
		260 - 320	C2, C3	180	270	335	0.005	0.007	0.010	0.011	0.013
N	Aluminum	30	C2	1200	1500	–	0.010	0.015	0.018	0.020	0.022
		180	C2	800	1000	–	0.009	0.013	0.016	0.018	0.020

Formulas

1. RPM = $(3.82 \bullet \text{SFM}) / \text{DIA}$ where: RPM = revolutions per minute (rev/min) SFM = speed (ft/min) DIA = finish diameter of drill (inch)	2. SFM = $\text{RPM} \bullet 0.262 \bullet \text{DIA}$ where: SFM = speed (ft/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (inch)	3. IPM = $\text{RPM} \bullet \text{IPR}$ where: IPM = Feed rate RPM = revolutions per minute (rev/min) IPR = feed rate (in/rev)
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IMPORTANT: The speeds and feeds listed above are a general starting point for all applications. Refer to the Coolant Recommendation charts for coolant requirements to run at the recommended speeds and feeds. Factory technical assistance is also available through our Application Engineering Team. Due to potential chip formation issues, contact our Application Engineering Team for assistance machining materials marked with a ❖.

Coolant Recommendations | Imperial (inch)

Carbide

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free Machining Steel	PSI	195	140	160	140	155
	1118, 1215, 12L14, etc.	GPM	2.6	3.3	5.5	9	18
	Low Carbon Steel	PSI	180	105	105	110	115
	1010, 1020, 1025, 1522, 1144, etc.	GPM	2.5	2.9	4.4	8	15
	Medium Carbon Steel	PSI	175	100	90	100	75
	1030, 1040, 1050, 1527, 1140, 1151, etc.	GPM	2.5	2.8	4.1	7	13
	Alloy Steel	PSI	165	85	100	75	70
	4140, 5140, 8640, etc.	GPM	2.4	2.6	4.3	6	12
	High Strength Alloy	PSI	160	65	55	40	35
	4340, 4330V, 300M, etc.	GPM	2.4	2.3	3.2	5	8
	Structural Steel	PSI	175	115	105	75	70
	A36, A285, A516, etc.	GPM	2.5	3	4.4	6	12
S	Tool Steel	PSI	155	60	55	40	35
	H-13, H-21, A-4, O-2, S-3, etc.	GPM	2.4	2.2	3.2	5	8
S	High Temp Alloy	PSI	150 - 155	60 - 65	50 - 55	30 - 35	25 - 30
	Hastelloy B, Inconel 600, etc.	GPM	2.3 - 2.4	2.2 - 2.3	3.1 - 3.2	4 - 5	7 - 8
M	Stainless Steel 400 Series	PSI	329	239	260	250	190
	416, 420, 303, etc.	GPM	3	4	7	12	20
K	Nodular, Grey, Ductile Cast Iron	PSI	225	104	90	90	80
		GPM	3	3	4	7	13
N	Aluminum	PSI	350	319	315	284	200
		GPM	4	5	8	12	20

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied's recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds.



Recommended Drilling Data | Metric (mm)

HSS

ISO	Material	Hardness (BHN)	Grade	Speed (M/min)				Feed Rate (mm/rev) by Tube Size and T-A® Insert Series					
				TiN	TiAlN	TiCN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
								T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 150	HSS	61	85	79	92	0.18	0.25	0.33	0.41	0.51	0.58
		150 - 200	HSS	55	79	72	87	0.18	0.25	0.33	0.41	0.51	0.58
		200 - 250	HSS	49	73	64	81	0.15	0.25	0.33	0.41	0.51	0.58
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	HSS	52	76	67	84	0.15 ❖	0.23	0.30	0.38	0.48	0.58
		125 - 175	HSS	49	73	64	81	0.15 ❖	0.23	0.30	0.38	0.48	0.58
		175 - 225	HSS	46	69	59	76	0.13 ❖	0.20	0.25	0.36	0.46	0.53
		225 - 275	HSS	43	64	55	70	0.13 ❖	0.20	0.25	0.36	0.46	0.53
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	HSS	49	73	64	79	0.15	0.23	0.30	0.38	0.48	0.58
		175 - 225	HSS	46	69	59	75	0.13	0.20	0.25	0.36	0.46	0.53
		225 - 275	HSS	43	64	55	70	0.13	0.20	0.25	0.36	0.46	0.53
		275 - 325	SC	40	59	52	66	0.10	0.18	0.23	0.30	0.41	0.48
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	HSS	46	64	59	69	0.15	0.20	0.25	0.36	0.43	0.48
		175 - 225	HSS	43	59	55	66	0.13	0.20	0.25	0.36	0.43	0.48
		225 - 275	HSS	40	55	52	60	0.13	0.18	0.25	0.36	0.43	0.48
		275 - 325	SC	37	52	47	56	0.10	0.15	0.23	0.30	0.38	0.43
		325 - 375	SC	34	47	44	55	0.08	0.15	0.23	0.30	0.38	0.43
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	SC	24	34	30	37	0.13 ❖	0.18	0.23	0.25	0.36	0.43
		300 - 350	SC	18	26	24	27	0.10 ❖	0.18	0.23	0.25	0.36	0.43
		350 - 400	SC	15	21	20	23	0.08 ❖	0.15	0.20	0.23	0.30	0.38
	Structural Steel A36, A285, A516, etc.	100 - 150	HSS	43	61	55	67	0.15 ❖	0.25	0.30	0.36	0.46	0.53
		150 - 250	HSS	37	52	47	56	0.13 ❖	0.23	0.25	0.30	0.41	0.48
		250 - 350	SC	30	43	40	47	0.10 ❖	0.20	0.23	0.25	0.36	0.43
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	SC	24	34	32	37	0.10	0.15	0.20	0.25	0.30	0.38
		200 - 250	SC	18	27	26	31	0.10	0.15	0.20	0.25	0.30	0.38
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	SC	30	40	35	45	0.08 ❖	0.18	0.20	0.25	0.30	0.38
		220 - 310	SC	25	35	30	40	0.08 ❖	0.15	0.18	0.20	0.25	0.30
M	Stainless Steel 400 Series 416, 420, 303, etc.	185 - 275	SC	23	32	29	33	0.15 ❖	0.20	0.23	0.28	0.36	0.41
		275 - 350	SC	18	27	24	29	0.13 ❖	0.18	0.20	0.25	0.30	0.36
K	Nodular, Grey, Ductile Cast Iron	120 - 150	HSS	52	76	67	82	0.18	0.30	0.41	0.51	0.61	0.69
		150 - 200	HSS	46	69	59	75	0.15	0.28	0.36	0.46	0.56	0.64
		200 - 220	HSS	40	59	52	66	0.15	0.23	0.30	0.41	0.46	0.53
		220 - 260	SC	34	50	44	55	0.13	0.18	0.23	0.30	0.36	0.43
		260 - 320	SC	27	41	37	44	0.10	0.15	0.18	0.23	0.30	0.36
N	Aluminum	30	HSS	183	259	229	–	0.20	0.33	0.41	0.51	0.56	0.64
		180	HSS	91	137	122	–	0.20	0.33	0.41	0.46	0.56	0.64

Formulas

1. RPM = $(318.47 \bullet \text{M/min}) / \text{DIA}$ where: RPM = revolutions per minute (rev/min) M/min = speed (M/min) DIA = finish diameter of drill (mm)	2. M/min = $\text{RPM} \bullet 0.003 \bullet \text{DIA}$ where: M/min = speed (M/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (mm)	3. IPM = $\text{RPM} \bullet \text{mm/rev}$ where: IPM = feed rate RPM = revolutions per minute (rev/min) mm/rev = feed rate (mm/rev)
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Coolant Recommendations | Metric (mm)

HSS

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24	Tube No. 32
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3	T-A Series 4
P	Free Machining Steel 1118, 1215, 12L14, etc.	BAR	12 - 13	7 - 8	7 - 10	6 - 8	6 - 7	3 - 4
		LPM	9.5 - 9.8	10.6 - 11.4	16.7 - 19.7	26.5 - 30.3	45.4 - 53.0	114 - 125
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	BAR	11 - 12	5 - 6	5 - 7	4 - 6	4 - 5	2 - 3
		LPM	9.1 - 9.5	9.1 - 9.8	14.0 - 15.9	22.7 - 26.5	41.6 - 45.4	98 - 114
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	BAR	11	5 - 6	5 - 6	4 - 5	3 - 5	2 - 3
		LPM	8.7 - 9.1	8.7 - 9.8	13.6 - 15.5	18.9 - 22.7	37.9 - 45.4	98 - 114
	Alloy Steel 4140, 5140, 8640, etc.	BAR	11	5 - 6	5	3 - 5	3 - 4	2
		LPM	8.7 - 9.1	13.2 - 14.8	8.3 - 9.1	18.9 - 22.7	34.1 - 37.9	87 - 98
	High Strength Alloy 4340, 4330V, 300M, etc.	BAR	10 - 11	4 - 5	3 - 4	2	2	2
		LPM	8.7 - 9.1	7.9 - 8.3	11.0 - 11.7	15.1 - 18.9	26.5 - 30.3	79 - 87
	Structural Steel A36, A285, A516, etc.	BAR	11	5 - 6	5 - 6	3 - 4	3	2
		LPM	8.7 - 9.1	9.1 - 9.8	13.2 - 14.8	18.9 - 22.7	34.1 - 37.9	87 - 98
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	BAR	4	10 - 11	3	2	2	1 - 2
		LPM	7.9 - 8.3	8.7 - 9.1	11.0 - 11.7	15.1 - 18.9	26.5 - 30.3	79 - 87
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	BAR	10 - 11	4 - 5	3 - 4	2	2	2
		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.1	15.1 - 18.9	26.5 - 30.3	87 - 98
M	Stainless Steel 400 Series 416, 420, 303, etc.	BAR	11.4 - 11.7	4.8 - 5.8	4.5 - 5.2	2.7 - 3.8	2.7 - 3.4	1.7 - 2
		LPM	9.1 - 9.5	8.7 - 9.8	13.2 - 14	18.9 - 22.7	34.1 - 37.9	87 - 98
K	Nodular, Grey, Ductile Cast Iron	BAR	10.7 - 11.0	4.1 - 4.5	3.4 - 4.1	2 - 2.7	2 - 2.4	1.7 - 2
		LPM	8.7 - 9.1	8.3 - 8.7	11.7 - 12.5	15.1 - 18.9	30.3 - 34.1	87 - 98
N	Aluminum	BAR	13.1 - 14.5	9.6 - 12.4	10.3 - 15.8	7.9 - 11	6.2 - 8.6	2.7 - 3.4
		LPM	9.8 - 10.2	12.5 - 14	20.1 - 23.1	30.3 - 34.1	53 - 60.6	114 - 125

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied's recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds.

A

DRILLING

B

BORING

C

REAMING

D

BURNISHING

E

THREADING

X

SPECIALS



Recommended Drilling Data | Metric (mm)

Carbide

ISO	Material	Hardness (BHN)	Grade	Speed (M/min)			Feed Rate (mm/rev) by Tube Size and T-A® Insert Series				
				TiN	TiAlN	AM200®	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
							T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free Machining Steel 1118, 1215, 12L14, etc.	100 - 150	K35, P40	98	128	146	0.020	0.30	0.38	0.46	0.53
		150 - 200	K35, P40	85	110	126	0.18	0.28	0.36	0.41	0.48
		200 - 250	K35, P40	79	104	119	0.15	0.25	0.33	0.38	0.43
	Low Carbon Steel 1010, 1020, 1025, 1522, 1144, etc.	85 - 125	K35, P40	91	119	137	0.20 ❖	0.25	0.33	0.43	0.48
		125 - 175	K35, P40	79	104	119	0.18 ❖	0.25	0.33	0.41	0.46
		175 - 225	K35, P40	73	94	108	0.15 ❖	0.23	0.30	0.38	0.43
		225 - 275	K35, P40	64	82	94	0.13 ❖	0.23	0.30	0.38	0.43
	Medium Carbon Steel 1030, 1040, 1050, 1527, 1140, 1151, etc.	125 - 175	K35, P40	79	104	119	0.18	0.25	0.33	0.41	0.46
		175 - 225	K35, P40	73	94	108	0.15	0.23	0.30	0.38	0.43
		225 - 275	K35, P40	64	82	94	0.15	0.23	0.30	0.38	0.43
		275 - 325	K35, P40	55	70	81	0.13	0.20	0.28	0.36	0.41
	Alloy Steel 4140, 5140, 8640, etc.	125 - 175	K35, P40	76	99	114	0.18	0.25	0.33	0.41	0.46
		175 - 225	K35, P40	70	91	105	0.15	0.23	0.30	0.38	0.43
		225 - 275	K35, P40	64	82	94	0.15	0.23	0.30	0.38	0.43
		275 - 325	K35, P40	61	76	87	0.13	0.20	0.28	0.36	0.41
		325 - 375	K35, P40	52	67	78	0.10	0.18	0.25	0.33	0.38
	High Strength Alloy 4340, 4330V, 300M, etc.	225 - 300	K35, P40	49	61	73	0.15 ❖	0.23	0.25	0.30	0.38
		300 - 350	K35, P40	43	55	62	0.13 ❖	0.20	0.23	0.28	0.36
		350 - 400	K35, P40	37	49	56	0.10 ❖	0.18	0.20	0.25	0.30
	Structural Steel A36, A285, A516, etc.	100 - 150	K35, P40	73	94	108	0.20 ❖	0.28	0.36	0.41	0.46
		150 - 250	K35, P40	61	76	87	0.15 ❖	0.25	0.30	0.36	0.41
		250 - 350	K35, P40	55	70	81	0.13 ❖	0.23	0.28	0.30	0.36
	Tool Steel H-13, H-21, A-4, O-2, S-3, etc.	150 - 200	K35, P40	49	67	78	0.10 ❖	0.18	0.23	0.28	0.33
		200 - 250	K35, P40	37	52	59	0.10 ❖	0.18	0.23	0.28	0.33
S	High Temp Alloy Hastelloy B, Inconel 600, etc.	140 - 220	K20	24	32	36	0.10 ❖	0.18	0.23	0.28	0.33
		220 - 310	K20	18	26	29	0.10 ❖	0.15	0.20	0.25	0.30
M	Stainless Steel 400 Series 416, 420, 303, etc.	185 - 275	K20	49	64	73	0.18 ❖	0.23	0.30	0.36	0.41
		275 - 350	K20	37	49	46	0.15 ❖	0.20	0.28	0.30	0.36
K	Nodular, Grey, Ductile Cast Iron	120 - 150	K20, K10	98	140	152	0.20	0.30	0.38	0.48	0.58
		150 - 200	K20, K10	82	122	146	0.18	0.28	0.33	0.43	0.53
		200 - 220	K20, K10	73	110	131	0.15	0.23	0.30	0.38	0.46
		220 - 260	K20, K10	64	94	113	0.13	0.20	0.28	0.33	0.38
		260 - 320	K20, K10	55	82	102	0.13	0.18	0.25	0.28	0.33
N	Aluminum	30	K20	366	457	–	0.25	0.38	0.46	0.51	0.56
		180	K20	244	305	–	0.23	0.33	0.41	0.46	0.51

Formulas

1. RPM = $(318.47 \bullet \text{M/min}) / \text{DIA}$ where: RPM = revolutions per minute (rev/min) M/min = speed (M/min) DIA = finish diameter of drill (mm)	2. M/min = $\text{RPM} \bullet 0.003 \bullet \text{DIA}$ where: M/min = speed (M/min) RPM = revolutions per minute (rev/min) DIA = diameter of drill (mm)	3. IPM = $\text{RPM} \bullet \text{mm/rev}$ where: IPM = feed rate RPM = revolutions per minute (rev/min) mm/rev = feed rate (mm/rev)
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Coolant Recommendations | Metric (mm)

Carbide

ISO	Material	Pressure / Flow Rate	Tube No. 4 - 5	Tube No. 6 - 8	Tube No. 10	Tube No. 12 - 16	Tube No. 20 - 24
			T-A Series Y - Z	T-A Series 0	T-A Series 1	T-A Series 2	T-A Series 3
P	Free Machining Steel	BAR	20	16	17	15	12
	1118, 1215, 12L14, etc.	LPM	12.2	16.3	25.3	41.5	71.9
	Low Carbon Steel	BAR	11.4	13.3	20.6	36.5	62
	1010, 1020, 1025, 1522, 1144, etc.	LPM	17	10	10	10	8
	Medium Carbon Steel	BAR	17	9	10	8	7
	1030, 1040, 1050, 1527, 1140, 1151, etc.	LPM	11.1	12.3	19.3	30	55.8
	Alloy Steel	BAR	10.4	9.1	12.6	18.8	33.6
	4140, 5140, 8640, etc.	LPM	16	9	8	7	5
	High Strength Alloy	BAR	15	5	5	3	3
	4340, 4330V, 300M, etc.	LPM	10.4	9.1	13.6	19.7	36.5
	Structural Steel	BAR	16	9	8	7	5
	A36, A285, A516, etc.	LPM	10.8	12	17.5	27.8	47.1
S	Tool Steel	BAR	15	5	5	3	3
	H-13, H-21, A-4, O-2, S-3, etc.	LPM	10.4	9.1	13.6	19.7	36.5
S	High Temp Alloy	BAR	17	11.4	12.4	11	9
	Hastelloy B, Inconel 600, etc.	LPM	11.1	13.5	21.9	35.4	62
M	Stainless Steel 400 Series	BAR	22.7	16.5	17.9	17.2	13.1
	416, 420, 303, etc.	LPM	13	16.3	26.3	44.2	75
K	Nodular, Grey, Ductile Cast Iron	BAR	15.5	7.2	6.2	6.2	5.5
		LPM	10.7	10.8	15.4	26.5	48.7
N	Aluminum	BAR	24.1	22	21.7	19.6	13.8
		LPM	13.4	18.8	29	47.2	77

IMPORTANT: The coolant pressure and flow rate recommendations above represent a good approximation to obtain optimum tool life and chip evacuation at Allied's recommended speeds and feeds. If lower coolant capabilities exist in a drilling application, the AccuPort 432 Port Contour Cutter will still function at reduced penetration rates. Contact our Application Engineering Department for a more specific recommendation of coolant requirements and/or speeds and feeds.

Guaranteed Test / Demo Application Form

Distributor PO #

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

Distributor Information

Company Name: _____
Contact: _____
Account Number: _____
Phone: _____
Email: _____

End User Information

Company Name: _____
Contact: _____
Industry: _____
Phone: _____
Email: _____

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

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

Application Information

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

Machine Information

Machine Type: _____ (Lathe / Screw machine / Machine center / etc.)	Builder: _____ (Haas, Mori Seiki, etc.)	Model #: _____
Shank Required: _____ (CAT50 / Morse taper, etc.)	Power: _____ HP/KW	
Rigidity: _____ ☐ Excellent ☐ Good ☐ Poor	Orientation: _____ ☐ Vertical ☐ Horizontal	Tool Rotating: _____ ☐ Yes ☐ No Thrust: _____ lbs/N

Coolant Information

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

Requested Tooling

QTY	Item Number

QTY	Item Number



Allied Machine & Engineering
120 Deeds Drive
Dover, OH 44622

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Warranty Information

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