



FINLEY

PRECISION SPINDLES



INDEX

AIR MOTORS (AM) AND BELT DRIVE (BD) SPINDLES

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FINLEY

PRECISION SPINDLES

Series

36 - AM Spindle



36 - AM - RA Spindle



36 - BD Spindle



36 - BD - RA Spindle



36 - AM - TC Spindle



50 - AM Spindle



50 - BD Spindle



50 - AM - TC Spindle



NEMA 23 or 34 Spindle



Gang Tool Holders



Legends

AM- Air Motor
BD- Belt Drive
RA- Right Angle
TC- Tool Changer

Series 36 - AM & 36 - BD Spindles



The Series 36 spindle is designed for high speed drilling, cutting and milling operations using standard RD - 16 collets*. Its high precision and compact size can be used in a wide variety of OEM machines to secondary CNC operations. The Series 36 air motor is capable of 21,500 RPM with direct drive or lower RPM's with integral planetary gears. Gear train has been designed for long life with needle bearings inside each gear. The Series 36 design also allows for belt drive configurations which is widely used with conjunction of Servo motors for maximum versatility.

*Maximum collet size: 10mm (.3937")

36 - AM Performance Specifications

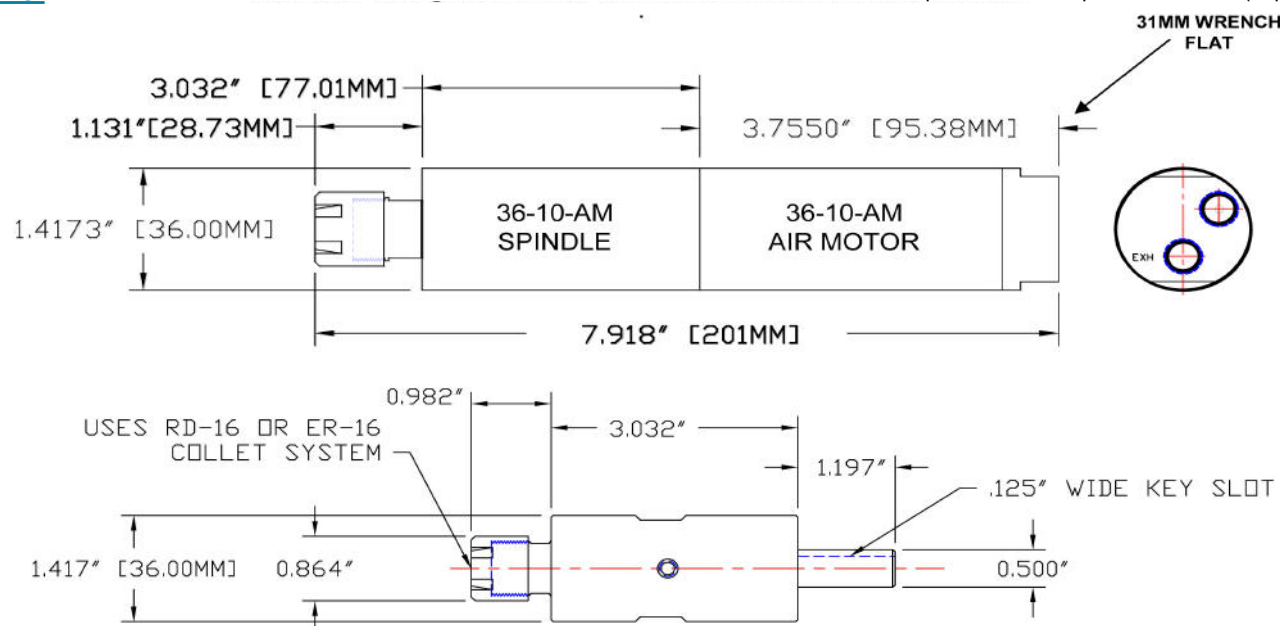
Motor #		36-AM-21500	36-AM-5000	36-AM-2250	36-AM-1040	36-AM-510	36-AM-REV-13800	36-AM-REV-3000	36-AM-REV-1350
Rotation		Clockwise	Clockwise	Clockwise	Clockwise	Clockwise	Reversible	Reversible	Reversible
Max Output	KW	0.25	0.25	0.25	0.24	0.24	0.16	0.16	0.16
	HP	0.34	0.34	0.34	0.32	0.32	0.22	0.22	0.22
Speed at Max Output	Rev/Min	9600	2200	1040	535	235	6500	1390	650
Torque at Max Output	Nm	0.25	1.1	2.4	4.3	9.9	0.24	1.1	2.4
	Ft.Lb.	0.18	0.81	1.7	3.2	7.3	0.18	0.81	1.7
Minimum Starting Torque	Nm	0.45	2.0	4.5	8.0	17.0	0.35	1.3	3.0
	Ft.Lb.	0.33	1.5	3.3	5.9	12.5	0.26	0.96	2.2
Free Speed	Rev/Min	21500	5000	2250	1140	510	13800	3000	1350
Air Cons. At Max Output	L/S	5.3	5.3	5.3	5.3	5.3	5.0	5.0	5.0
	CFM	11.2	11.2	11.2	11.2	11.2	10.6	10.6	10.6
Motor Weight	KG	0.55	0.55	0.55	0.75	0.75	0.55	0.55	0.55
	LB	1.21	1.21	1.21	1.75	1.75	1.21	1.21	1.21
Spindle Weight	KG	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	LB	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Dimensions:

* Test performed at air pressure 6.3 bar (91psi) Max.



*Series 36 Spindle also available with a 46 motor configuration



*Add 1.200\" to length of Air Motor for Series 36-AM-1140 & 36-AM-510

Series 36 - AM - RA & BD - RA



The Series 36 right angle spindle makes it easier to maneuver on the hard to reach operations without sacrificing area space. Like the Series 36 AM the RA configurations capability excel in drilling, cutting, and milling processes for both the air and belt driven spindles. Also equipped with large hardened spiral bevel gears for long life and high torque transmission capability. Air Motor is capable of 14,000 RPM with direct drive or lower RPM's with integral planetary gears. Uses standard RD-16 collets*. Air motor can easily be detached from spindle and replaced with another of a different RPM. The Series 36 RA spindle gives a more compact form while increasing valuable torque strength.

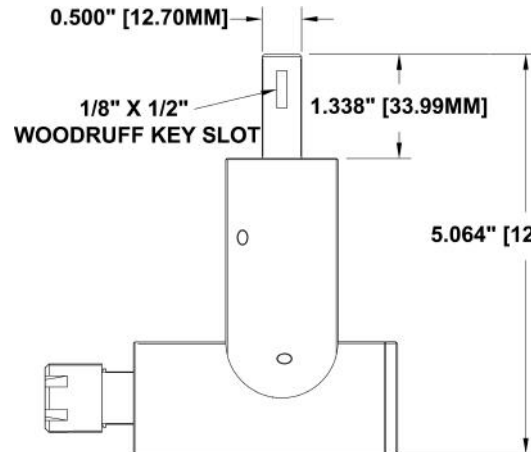
*Maximum collet size: 10mm (.3937")

36 - AM - RA Performance Specifications

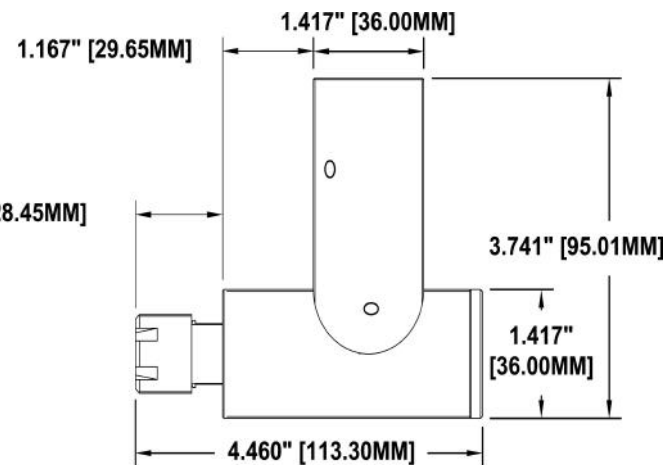
Motor #		36-AM-21500	36-AM-5000	36-AM-2250	36-AM-1040	36-AM-510	36-AM-REV-13800	36-AM-REV-3000	36-AM-REV-1350
Rotation		Clockwise	Clockwise	Clockwise	Clockwise	Clockwise	Reversible	Reversible	Reversible
Max Output	KW	0.25	0.25	0.25	0.24	0.24	0.16	0.16	0.16
	HP	0.34	0.34	0.34	0.32	0.32	0.22	0.22	0.22
Speed at Max Output	Rev/Min	6400	1467	693	357	157	4334	927	433
Torque at Max Output	Nm	0.35	1.54	3.36	6.02	13.86	0.336	1.54	3.36
	Ft.Lb.	0.252	1.134	2.38	4.48	10.22	0.252	1.134	2.38
Minimum Starting Torque	Nm	0.63	2.8	6.3	11.2	23.8	0.49	1.82	4.2
	Ft.Lb.	0.462	2.1	4.62	8.26	17.5	0.364	1.344	3.08
Free Speed	Rev/Min	14190	3300	1485	752	337	9108	1980	891
Air Cons. At Max Output	L/S	5.3	5.3	5.3	5.3	5.3	5.0	5.0	5.0
	CFM	11.2	11.2	11.2	11.2	11.2	10.6	10.6	10.6
Motor Weight	KG	0.55	0.55	0.55	0.75	0.75	0.55	0.55	0.55
	LB	1.21	1.21	1.21	1.75	1.75	1.21	1.21	1.21
Spindle Weight	KG	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	LB	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Dimensions:

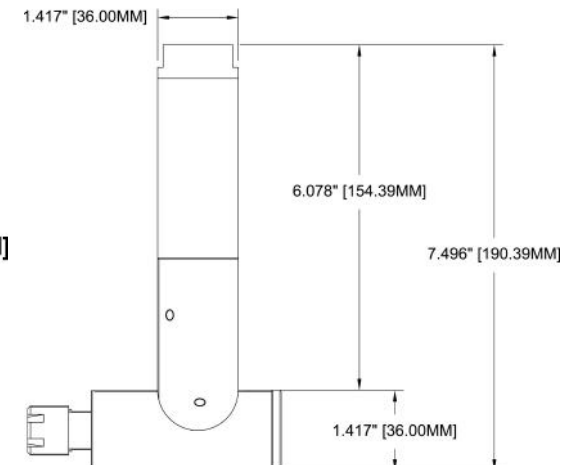
* Test performed at air pressure 6.3 bar (91psi) Max.



Belt Driven



Air Motor Driven



Spindle with Air Motor

*Add 1.200" to length of Air Motor for Series 36-AM- RA-1140 & 36-AM-510

Series 50 - AM & BD



The Series 50 - AM & BD spindles provide a heavy duty drive while giving you the comfort of the easy to work with configurations. Providing the ability of more strength and torque makes it for a valuable spindle. The Series 50 - AM & BD spindles have a rugged ball bearing design that is used for the tough and hard to do jobs that need that extra support. The air motor is capable of 21,000 RPM or lower RPM's with integral planetary gears. Uses standard RD 20 collets*. The capability of this spindle provides an integral piece of machinery for your tasks in hand.

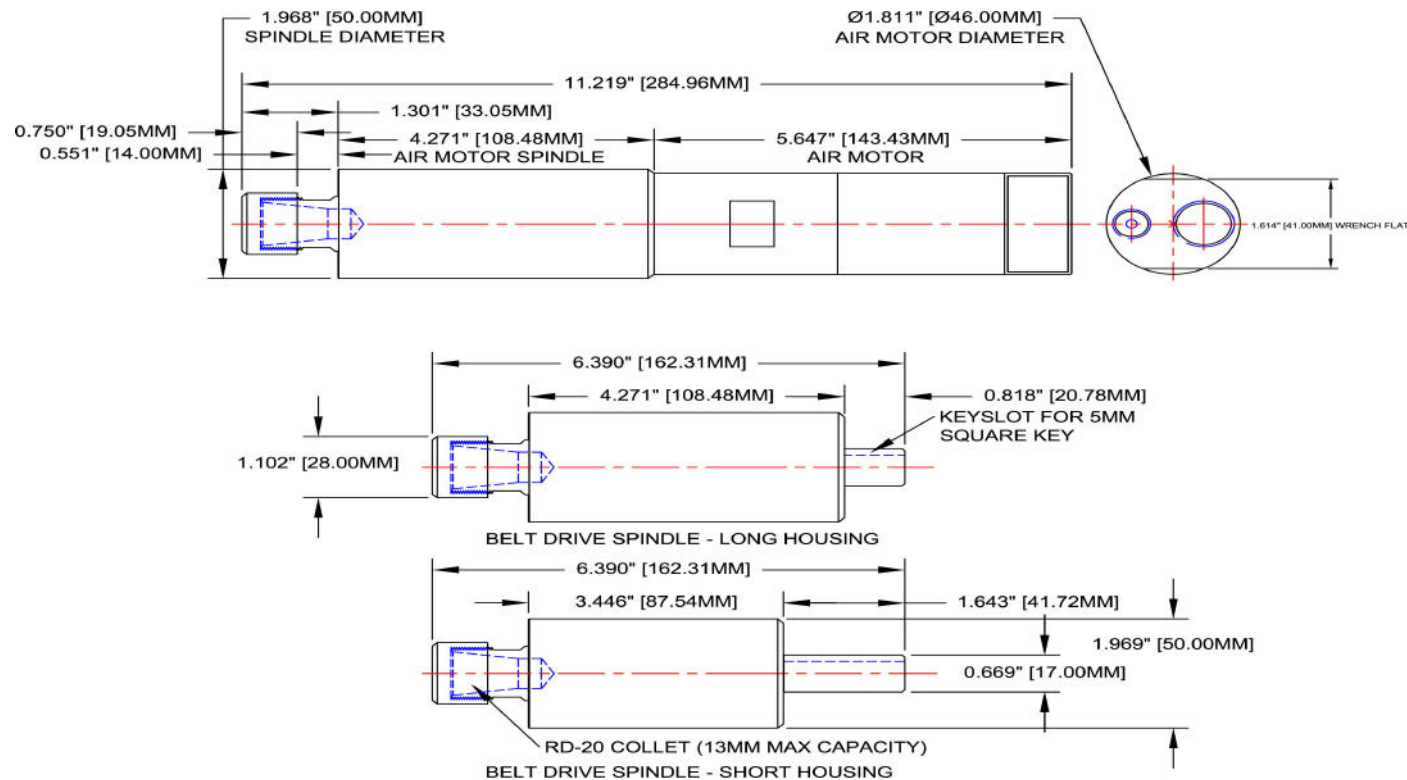
*Maximum collet size: 13mm (.5120")

50 - AM Performance Specifications

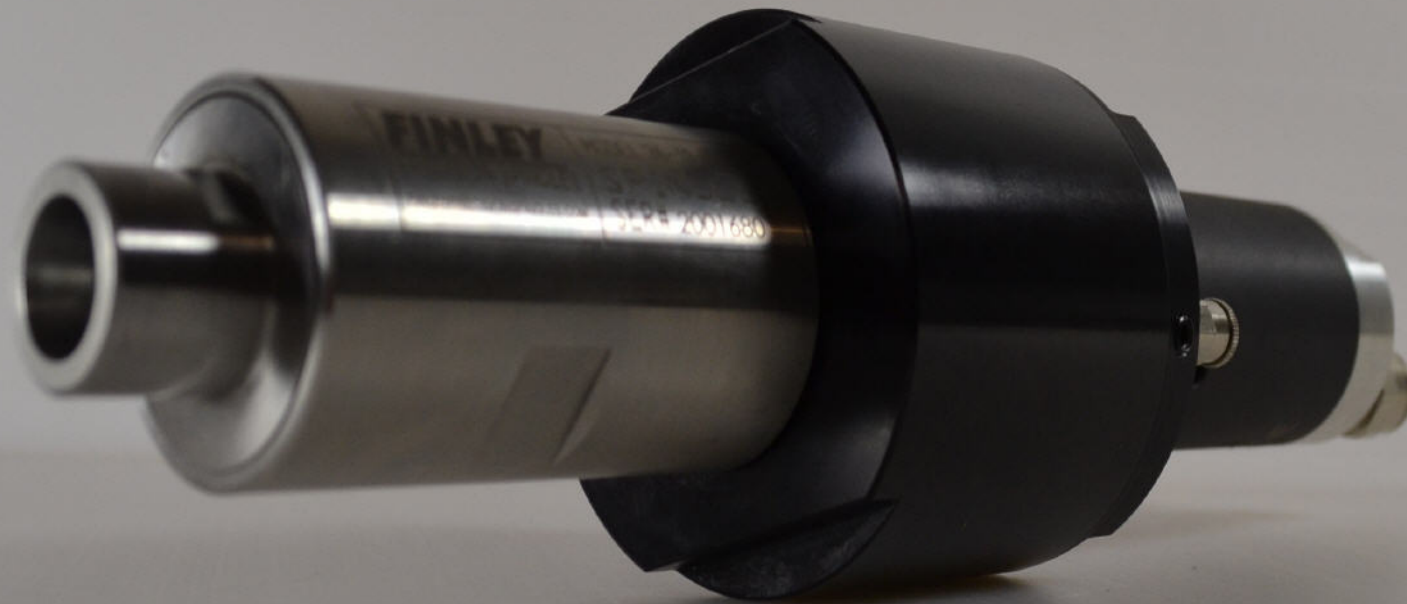
Motor #		46-AM-21000	46-AM-6700	46-AM-4200	46-AM-2550	46-AM-REV-15000	46-AM-REV-5000	46-AM-REV-3200	46-AM-REV-1100
Rotation		Clockwise	Clockwise	Clockwise	Clockwise	Reversible	Reversible	Reversible	Reversible
Max Output	KW	0.84	0.84	0.84	0.84	0.63	0.63	0.63	0.63
	HP	1.13	1.13	1.13	1.13	0.84	0.84	0.84	0.84
Speed at Max Output	Rev/Min	10800	3300	2100	1280	8500	2600	1670	590
Torque at Max Output	Nm	0.74	2.4	3.8	6.3	0.71	2.3	3.6	10.1
	Ft.Lb.	0.55	1.8	2.8	4.6	0.52	1.7	2.7	7.4
Minimum Starting Torque	Nm	1.2	3.9	6.2	10.0	0.96	3.1	4.9	13.5
	Ft.Lb.	0.88	2.9	4.6	7.4	0.71	2.3	3.6	10.0
Free Speed	Rev/Min	21000	6700	4200	2550	15000	5000	3200	1100
Air Cons. At Max Output	L/S	16.5	16.5	16.5	16.5	14.0	14.0	14.0	14.0
	CFM	35.0	35.0	35.0	35.0	29.7	29.7	29.7	29.7
Motor Weight	KG	0.55	1.2	1.2	1.2	1.20	1.20	1.20	1.20
	LB	1.21	2.65	2.65	2.65	2.65	2.65	2.65	2.65
Spindle Weight	KG	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
	LB	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Dimensions:

* Test performed at air pressure 6.3 bar (91psi) Max.



Series 36 - TC Tool Changer



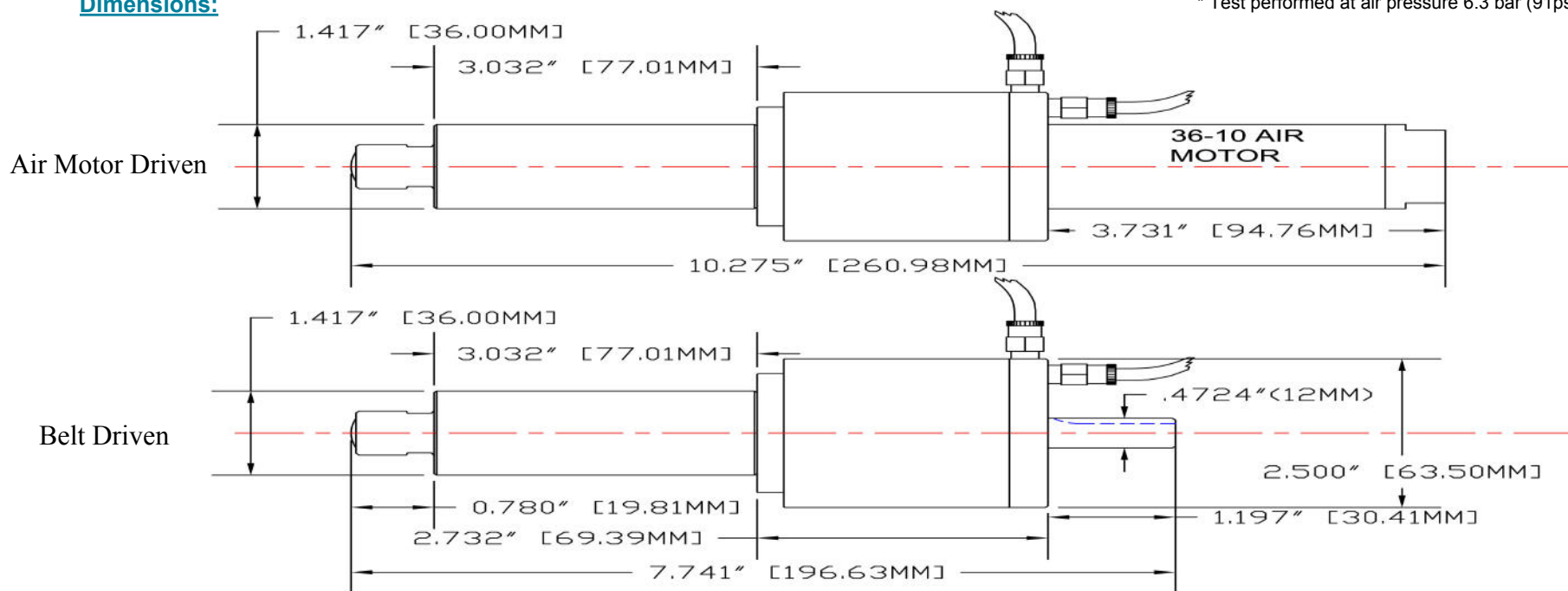
The Series 36 Tool Changer provides the ability to interchange numerous drilling heads while giving you a compact design. Its multi-purpose capability provides cost saving and time efficiency. With the use of an air motor its max capable speed is 21,500 RPM with direct drive as well as lower RPM's if chosen. Gear train has been designed for long life with needle bearings inside each gear. Spindles uses 1C style collets. The belt drive version has a 12mm diameter shaft protruding from the actuator.

36 - AM - TC Performance Specifications

Motor #		36-AM-21500	36-AM-5000	36-AM-2250	36-AM-1040	36-AM-510	36-AM-REV-13800	36-AM-REV-3000	36-AM-REV-1350
Rotation		Clockwise	Clockwise	Clockwise	Clockwise	Clockwise	Reversible	Reversible	Reversible
Max Output	KW	0.25	0.25	0.25	0.24	0.24	0.16	0.16	0.16
	HP	0.34	0.34	0.34	0.32	0.32	0.22	0.22	0.22
Speed at Max Output	Rev/Min	9600	2200	1040	535	235	6500	1390	650
Torque at Max Output	Nm	0.25	1.1	2.4	4.3	9.9	0.24	1.1	2.4
	Ft.Lb.	0.18	0.81	1.7	3.2	7.3	0.18	0.81	1.7
Minimum Starting Torque	Nm	0.45	2.0	4.5	8.0	17.0	0.35	1.3	3.0
	Ft.Lb.	0.33	1.5	3.3	5.9	12.5	0.26	0.96	2.2
Free Speed	Rev/Min	21500	5000	2250	1140	510	13800	3000	1350
Air Cons. At Max Output	L/S	5.3	5.3	5.3	5.3	5.3	5.0	5.0	5.0
	CFM	11.2	11.2	11.2	11.2	11.2	10.6	10.6	10.6
Motor Weight	KG	0.55	0.55	0.55	0.75	0.75	0.55	0.55	0.55
	LB	1.21	1.21	1.21	1.75	1.75	1.21	1.21	1.21
Spindle Weight	KG	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
	LB	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

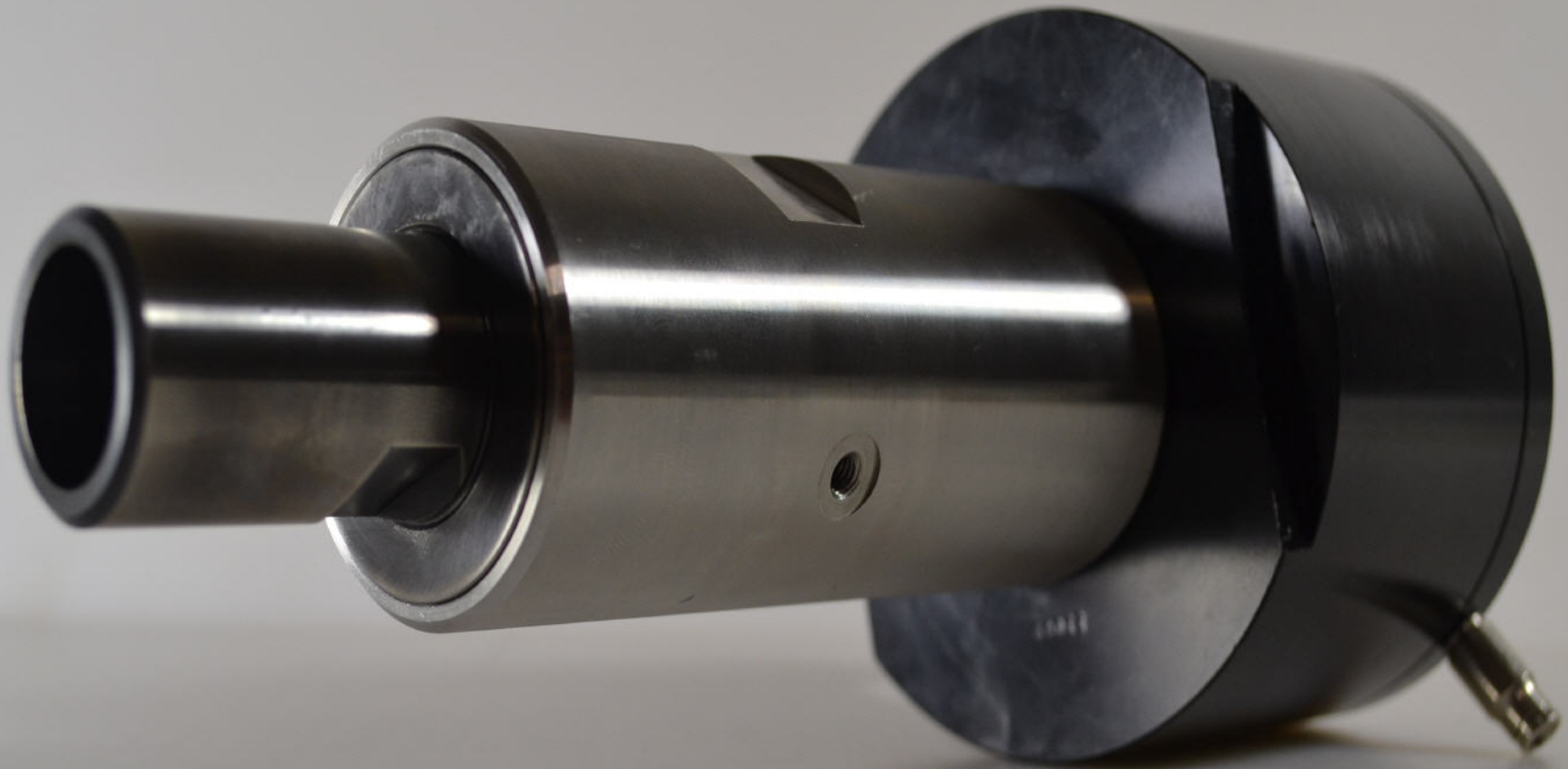
Dimensions:

* Test performed at air pressure 6.3 bar (91psi) Max.



*Add 1.200" to length of Air Motor for Series 36-AM-TC-1140 & 36-AM-TC-510

Series 50 - TC Tool Changer



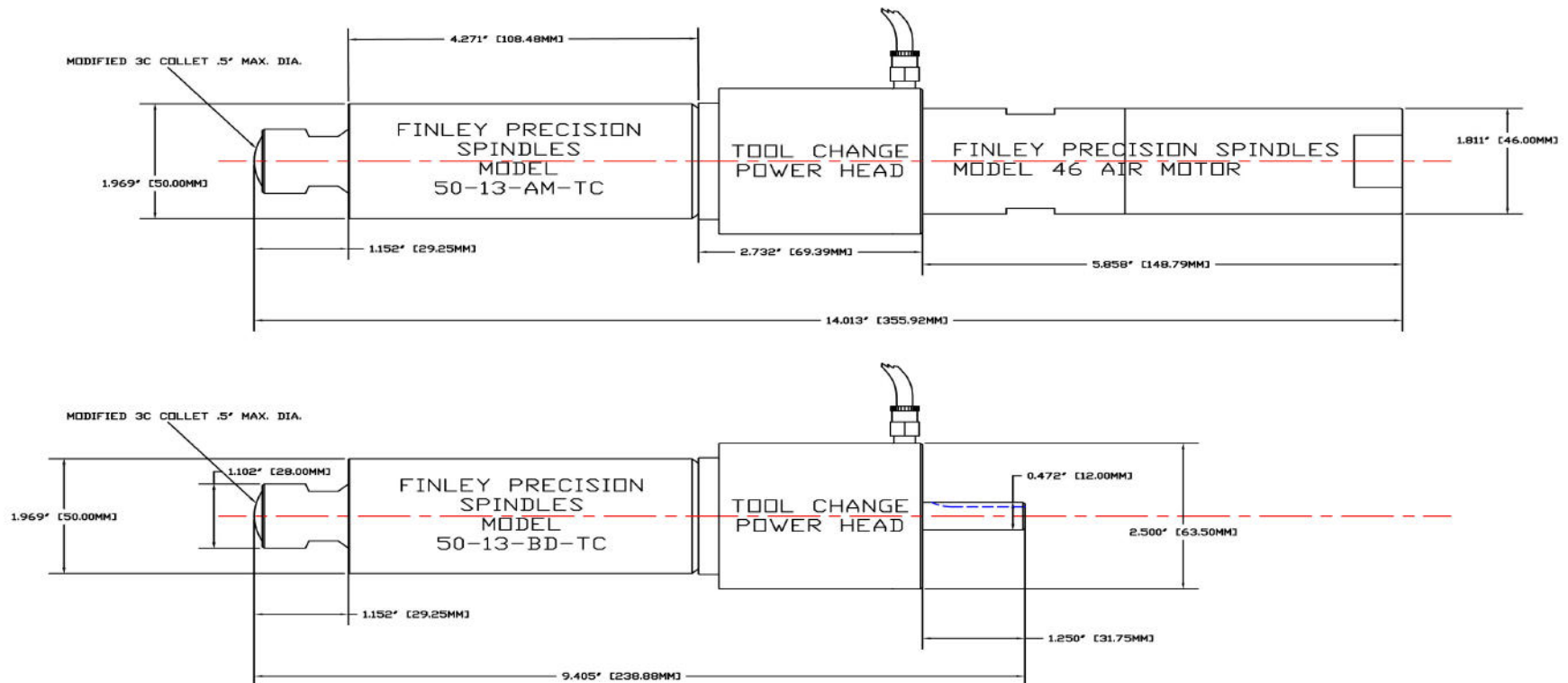
The Series 50 Tool Changer provides the ability to interchange numerous drilling and milling heads for heavy duty applications. The tool changer's large diameter shaft utilizes 3C style collets for high strength and maximum durability. For high speed applications the air motor can provide up to 21,000 RPM when properly equipped. The belt drive version has a 16mm diameter shaft protruding from the actuator. The precision of the Series 50 TC gives an overall ability to provide flexibility while delivering more power, dependability and utmost results.

50 - TC Performance Specifications

Motor #		46-AM-21000	46-AM-6700	46-AM-4200	46-AM-2550	46-AM-REV-15000	46-AM-REV-5000	46-AM-REV-3200	46-AM-REV-1100
Rotation		Clockwise	Clockwise	Clockwise	Clockwise	Reversible	Reversible	Reversible	Reversible
Max Output	KW	0.84	0.84	0.84	0.84	0.63	0.63	0.63	0.63
	HP	1.13	1.13	1.13	1.13	0.84	0.84	0.84	0.84
Speed at Max Output	Rev/Min	10800	3300	2100	1280	8500	2600	1670	590
Torque at Max Output	Nm	0.74	2.4	3.8	6.3	0.71	2.3	3.6	10.1
	Ft.Lb.	0.55	1.8	2.8	4.6	0.52	1.7	2.7	7.4
Minimum Starting Torque	Nm	1.2	3.9	6.2	10.0	0.96	3.1	4.9	13.5
	Ft.Lb.	0.88	2.9	4.6	7.4	0.71	2.3	3.6	10.0
Free Speed	Rev/Min	21000	6700	4200	2550	15000	5000	3200	1100
Air Cons. At Max Output	L/S	16.5	16.5	16.5	16.5	14.0	14.0	14.0	14.0
	CFM	35.0	35.0	35.0	35.0	29.7	29.7	29.7	29.7
Motor Weight	KG	0.55	1.2	1.2	1.2	1.20	1.20	1.20	1.20
	LB	1.21	2.65	2.65	2.65	2.65	2.65	2.65	2.65
Spindle Weight	KG	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
	LB	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

Dimensions:

* Test performed at air pressure 6.3 bar (91psi) Max.



Servo Motor Spindle Adapter



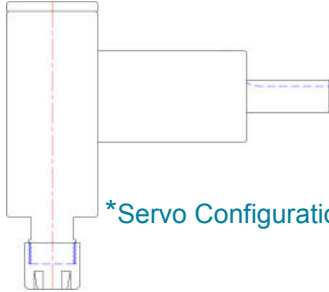
*Also available with a series 36 spindle

*Servo motor not provided

Our Servo Motor Adapters allow for a direct drive to the spindles for a space saving solution. The direct drive minimizes the power loss due to belts and pulleys. The fully servo controlled spindles are capable of rigid tapping or gear hobbing as well as milling and drilling. The spindles used in the servo configuration are the belt driven series 36-BD and 50-BD models. The adapters can be used with NEMA 23 or 34 servo motors. The servo motor adapters are convenient while still providing overall strength and durability of the Series 36 and 50 spindles.

FINLEY PRECISION SPINDLES CUSTOM SPINDLES

NEMA23 OR NEMA34 OR 80MM SERVO MOTORS



*Servo Configuration also available with 36-RA Spindle

Multiple configurations can be used with servo motors as shown on figures A-D.

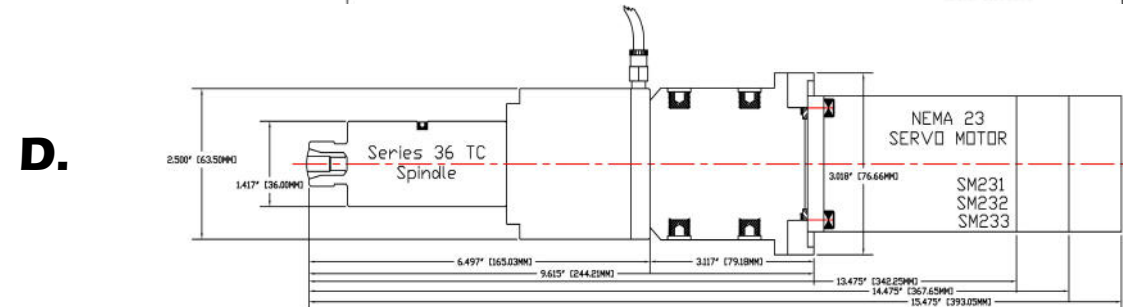
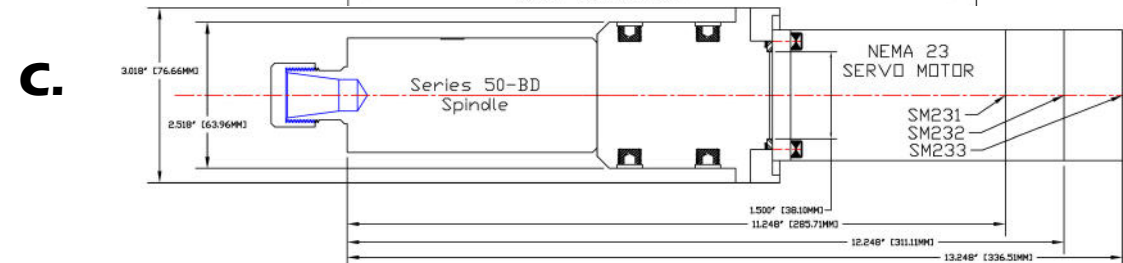
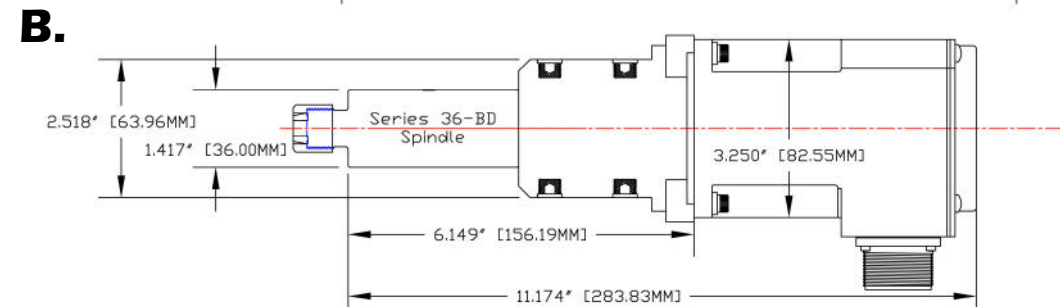
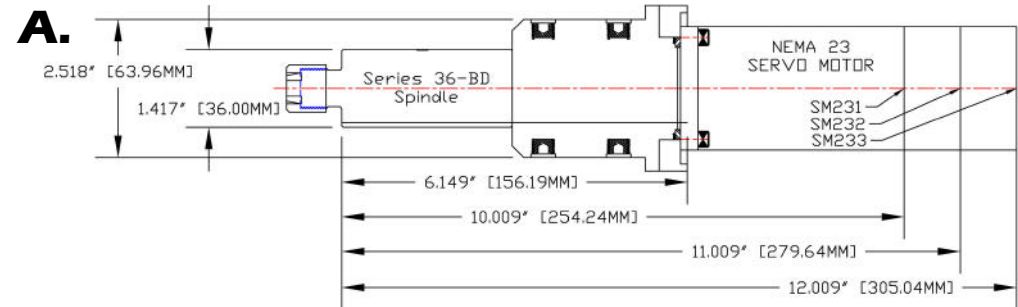
A. Series 36-BD spindle with a NEMA 23 servo motor can provide a compact solution for small machines.

B. Series 36-BD spindle with a NEMA 34 servo motor can provide controllability with high capacity.

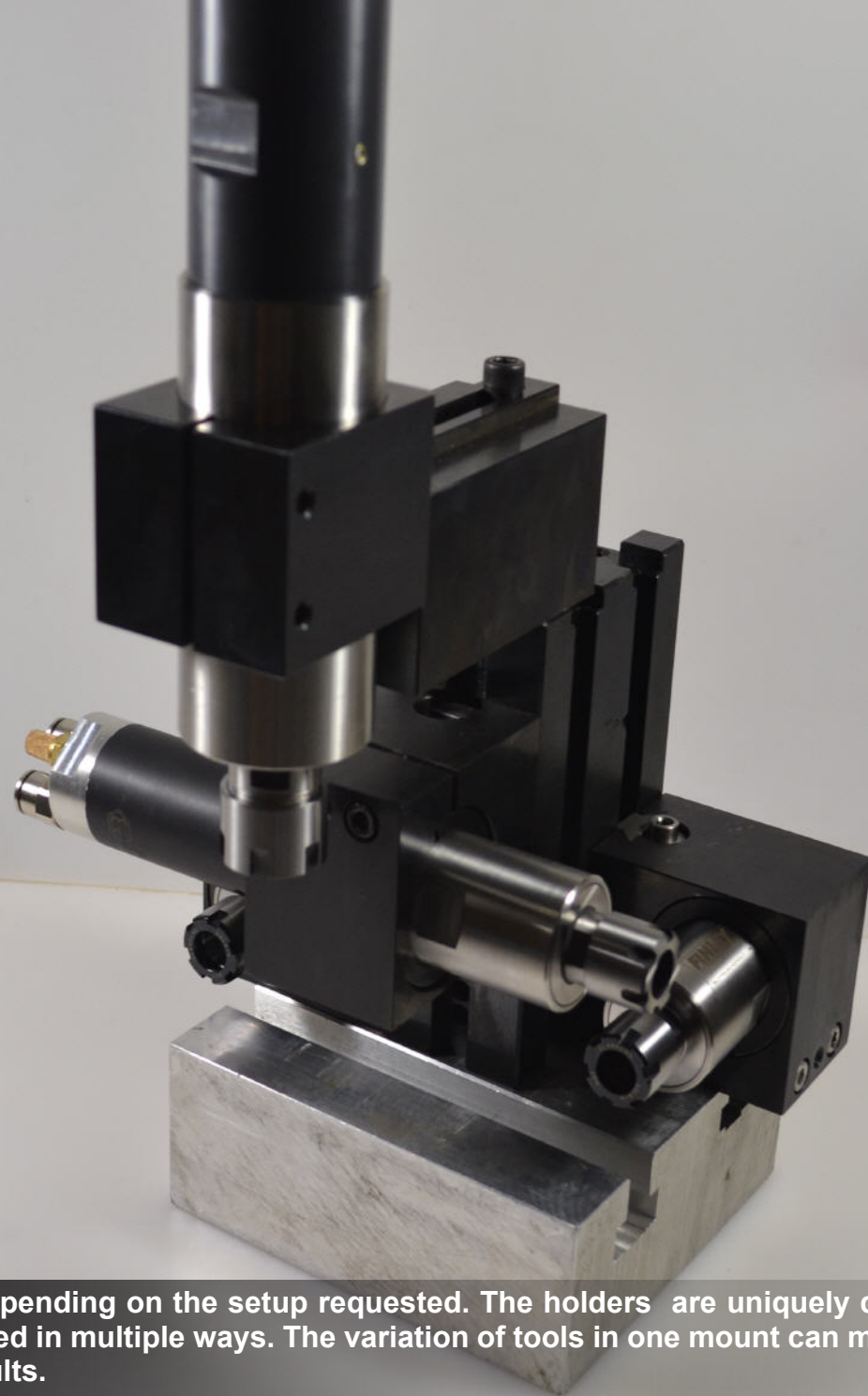
C. Series 50-BD spindle with a NEMA 23 servo motor can take on heavy duty work loads while still delivering an absolute results.

D. Series 36-TC spindle with a NEMA 23 servo motor can give you a maximum controllability for tool changing setups.

Finley Precision Spindles can provide over 8 configurations based on custom machining needs. We take pride on customer satisfaction.



GANG TOOL MOUNTS



Gang Tool Mounts vary depending on the setup requested. The holders are uniquely designed for our spindles and can be oriented in multiple ways. The variation of tools in one mount can make the process automated for quicker results.

Gang Tool Holder

THE MOUNTING PRINCIPAL IS THE SAME AS ENGINEERED CONCEPTS (ECI). THE ECI TOOL HOLDERS WILL FIT ONTO OUR TOOL POSTS. THE DOVETAIL PLATE IS DRAWN BACK TO THE TOOL POST FROM THE REAR WITH 2 SOCKET HEAD CAP SCREWS. TO ADJUST THE VERTICAL POSITION OF THE TOOL, LOOSEN THE REAR BOLTS, INSERT A HEX WRENCH INTO THE JACK SCREW, CENTER THE TOOL AND LOCK IT IN PLACE BY RE TIGHTENING THE SOCKET HEAD CAP SCREWS.



UNIVERSAL MOUNTING
POST W/HARDWARE



AXIAL & RADIAL LIVE TOOL
HOLDER W/HARDWARE



REDUCER BUSHING
50MM TO 36MM



LOCATING KEY FOR
WASINO, HAAS, KIA, HYUNDAI
& DAEWOO



COLLETS



Collets provide an easy to use and wide variety of machine tools (drilling, milling, cutting, boring, reaming, etc). By ensuring high quality collets and meeting precision needs we at Finley Precision Spindles will help you assure accuracy on your end result.



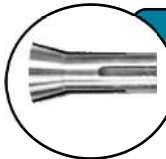
Collet Nut

Collet Nut	Series Use
RD-16	Series 36 Spindle
RD-20	Series 50 Spindle



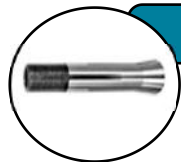
Collet Hex Nut

Collet Nut	Series Use
RD-16	Series 36 Spindle
RD-20	Series 50 Spindle



Hardinge 1C Collet

Size	Drill Size Imperial
1/16"	.0625"
3/32"	.0935"
1/8"	.1250"
3/16"	.1875"
1/4"	.2500"



3C Collet

Size	Drill Size Imperial
1/16"	.0625"
1/8"	.1250"
3/16"	.1875"
1/4"	.2500"
5/16"	.3125"
3/8"	.3750"
7/16"	.4375"
1/2"	.5000"



RD 20 Collet

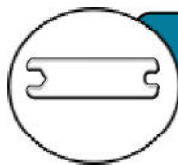
RD-20	Drill Size Metric	Drill Size Imperial
M2	1MM - 2MM	.0394" - .0787"
M3	2MM - 3MM	.0787" - .1181"
M4	3MM - 4MM	.1181" - .1575"
M5	4MM - 5MM	.1575" - .1968"
M6	5MM - 6MM	.1968" - .2362"
M7	6MM - 7MM	.2363 - .2756"
M8	7MM - 8MM	.2756" - .3150"
M9	8MM - 9MM	.3150" - .3543"
M10	9MM - 10MM	.3543" - .3937"
M11	10MM - 11MM	.3937" - .4331"
M12	11MM - 12MM	.4331" - .4724"
M13	12MM - 13MM	.4724" - .5118"



RD 16 Collet

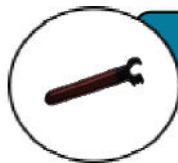
RD-16	Drill Size Metric	Drill Size Imperial
M1	.5MM -1MM	.0197" - .0394"
M2	1MM - 2MM	.0394" - .0787"
M3	2MM - 3MM	.0787" - .1181"
M4	3MM - 4MM	.1181" - .1575"
M5	4MM - 5MM	.1575" - .1968"
M6	5MM - 6MM	.1968" - .2362"
M7	6MM - 7MM	.2363 - .2756"
M8	7MM - 8MM	.2756" - .3150"
M9	8MM - 9MM	.3150" - .3543"
M10	9MM - 10MM	.3543" - .3937"





Spanner Open End Wrench

Spanner 7MM & 22MM Open End Wrench



Wrench for Mini Nut

Collet Nut	Series Use
RD-16	Series 36 Spindle
RD-20	Series 50 Spindle



Muffler for Air Motor

Motor Type	Motor Direction
Series 36	Standard
Series 36	Reversible
Series 46	Standard
Series 46	Reversible



Low Pressure Regulator Kit

Kit contains above Filter Regulator & Mounting Bracket & 1/4" Inlet-Outlet for 4MM Tubing & 2 Meters of Polyurethane Tubing & Fitting to Connect to Side of Spindle.



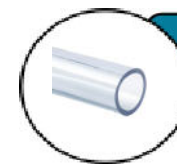
Tubing Push in Male Conn.

Size
M5 X 0.8 x 4MM
1/8" BSP x 4MM
1/8" BSP x 6MM
1/8" BSP x 8MM
1/4" BSP x 4MM
3/8" BSP X 12MM



NPT Reducer Bushing

3/4" X 3/8" NPT Reducer Bushing



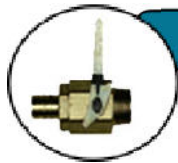
Air Hose

Size
4MM O.D. X 2.4MM I.D.
8MM O.D. X 5MM I.D.
12MM O.D. X 8MM I.D.



NPT Male & Female street Tee

3/8" NPT Male X 3/8" NPT Female Street Tee



Ball Valve

Ball Valve-3/8" NPT Male X 3/8" O.D. Barb



Filter - Regulator - Lubricator Kit

Filter-Regulator-Lubricator 3/4" NPT WITH Low Level Highly recommended to assure long Air Motor life. If someone forgets to fill the Lubricator Bowl just one time, it could result in a damaged Air Motor and a production Machine that is shut down for hours or days while the Air Motor is repaired or replaced. Comes with Reducer Bushings to 3/8" NPT.



Replacement Low Level Oil

Replacement Low Level Oil Switch for above Filter-Regulator-Lubricator kit



Rotating Air Union

Rotating Air Union-Single Stage-3/8" NPT Male Inlet to 1/4" NPT Female Outlet



1C Collet Tool

Collet adjustment tool for above modified hardinge and standard collets.



Gage Kit

Kit to measure pressure at Spindle. Includes Pressure Gage & Fittings for 12MM, 10MM, 8MM & 6MM hoses.



Tool Oil

Provides excellent protection against moisture and corrosion of metal parts. Extends Air Motor life. Excellent wear protection at all speeds. Good low temperature fluidity. Compatible with all systems and seal materials. Extra heavy duty applications.



Pilot Activated Direct Mount

Pilot Activated Direct Mount 3/2 N.C. Inline Air Valve with 3/8" NPT Female Threads & 24VDC Coil with Connector & 6' Molded Cable. Flow Cv is 2.60 Operating Pressure 29 to 145 psi



Mount for Single 36-10 Spindle

A row of several cylindrical metal spindles, likely for a lathe, arranged in a perspective line. The spindles are silver-colored and have labels that read "FINLEY" and "MODEL 36-10". The background is a solid light blue color.

PERFORMANCE

A row of Eimtex batteries is shown in a perspective view, receding into the distance. The batteries are cylindrical and silver-colored. The text "BUILT TO LAST" is overlaid in a large, bold, black font across the center of the image. The background is a solid light blue color.

BUILT TO LAST

Company Overview

Finley Precision Spindles established in 2001 to offer high quality, small precision spindles and accessories at competitive pricing. Our Engineering Staff is experienced in multiple manufacturing industries and can help you find a solution that fits your requirements.

Every product is designed for long life and a wide range of functionality. They are presently being used by many Original Equipment Manufacturers" (OEM's) for custom designed machines or tasks that eliminate many secondary operations.

Finley Precision Spindles headquarters is in Orlando, Florida. At Finley Precision Spindles, we are proud to offer durable, high quality, precision spindles, along with first-class service here in the United States. If you need help designing a system please contact us, we would love to help you achieve your goals.

We look forward to doing business with you.

Respectfully yours,

Finley Precision Spindles Team

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