



# Buckeye® · Dotco® · Gardner-Denver® Pneumatic Power Motors

 **COOPER** PowerTools



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Cooper Power Tools Division has attained ISO 9001 Quality System Certification for seven of our facilities. The driving force behind the implementation of the Quality System is the commitment "to provide our customers with the **best value delivered** by offering only products and services **that meet or exceed their expectations**".



Lexington, South Carolina



Dayton, Ohio



Hicksville, Ohio



Springfield, Ohio



Braunschweig, Germany



Westhausen, Germany



Ozoir-la-Ferrière, France

# Model Number Index

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## Warranty

Cooper warrants products and parts sold by it, insofar as they are of its own manufacture, against defects of material and workmanship, under normal use and service in accordance with its written instructions, recommendations, and ratings for installation, operation, maintenance, and service of products, for a period of **ONE YEAR FROM THE DATE OF INITIAL USE, BUT IN NO EVENT SHALL THE WARRANTY EXCEED 24 MONTHS FROM DATE OF DELIVERY TO DISTRIBUTOR.** Proof of Purchase with shipment date must be furnished by the user to validate the warranty. This warranty applies only to products manufactured by Cooper and specifically excludes products manufactured by others. Products not manufactured by Cooper are warranted only to the extent and in the manner warranted to Cooper by the manufacturer

and then only to the extent Cooper is able to enforce such warranty. Cooper's warranty with respect to products manufactured by it is limited to the repair or replacement, as Cooper may elect, of any defective part regarding which the Distributor has given 5 days written notice from the discovery of such defect. Installation and transportation costs are not included. Cooper shall have the option of requiring the return to it of the defective material, transportation prepaid, for inspection. No allowance will be made for repairs without Cooper's approval. **COOPER MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, AND HEREBY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

## Lubrication Products

Cooper Power Tools' products are classified as non-hazardous manufactured items, defined in the OSHA 1910.1200 Hazard Communication Standard as "Articles". These products, under conditions of normal use, do not release or cause exposure to a hazardous chemical.

Under normal conditions of use, lubrication products sold separately for or used within these tools should not cause an exposure hazard. Refer to the Material Safety Data Sheet (M.S.D.S.) for Safety and Disposal Information. M.S.D.S. sheets are available upon request from Cooper Power Tools.

Cooper is also aware of, and complies with, the

provisions of section 611 amendments to the Clean Air Act of 1990. No ozone depleting chemicals have been used in the manufacture of our products.

If you resell or distribute these products, you have the responsibility for ensuring that the Material Safety Data Sheets are provided to the purchaser.

Proper lubrication is essential to the economical operation of pneumatic and electric tools. Cooper Power Tools perform better and their life is extended by using the recommended lubricants. All lubricants that are listed in the accessory section of this catalog have undergone extensive testing and are recommended for use with Cooper Power Tools products.



## Choose the right Air Motor to fit your application

Cooper Power Tools' air motors are engineered for flexibility and reliability. Dotco, Buckeye, and Gardner-Denver air motors cover a wide range of uses where compressed air is advantageous: powering air driven machinery, raising foundry cokes and drags, rotating a turntable, mixing paint, powering cranes, valve actuation, or power source for mechanical hands or universal joints.

### Rotary Vane Air Motors

Cooper Power Tools offers two types of rotary vane air motors, the large Gardner-Denver MR series (1.0 to 7.5 hp) with spring loaded blades and small to medium sizes (.14 to 2.3 hp) in the Dotco, Buckeye, and Gardner-Denver product lines. All motors feature durable construction with precision heavy-duty bearings throughout, and multiple blade rotors for smooth power. There is a wide range of speeds and torques as well as a choice of foot, face, or flange mounting. These motors require air line lubrication for long, trouble-free service. Mount the lubricator as close to the motor as possible. These motors perform satisfactorily in high temperature areas up to 200°F (93° C).

### Axial Piston

These small, lightweight Gardner-Denver motors are ideal for installation in close quarters. The rugged construction and precision manufacturing of these motors allows long life with minimum maintenance. Generous size spindle bearings permit overhung weight on spindle with no external support.

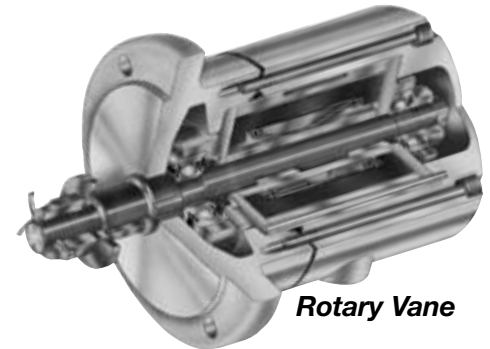
High torque is an inherent characteristic of piston type air motors, making them especially desirable for applications involving heavy starting loads. The overlap of power impulses in axial piston air motors provides even torque and full power in either direction of rotation. These motors should be operated under load and horizontally. Axial piston motors are ideal for start stop operations. It is not recommended that they be operated at speeds greater than 75% of free speed. Their enclosed type construction allows operation in corrosive or dusty atmospheres. These motors perform satisfactorily in high temperature areas up to 200° (93° C). Grease fittings are provided for lubrication. It is recommended that air lines be equipped with filters and lubricators. Mount the lubricator as close to the motor as possible.

### Radial Piston

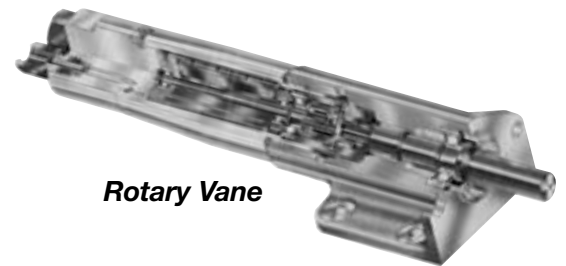
Heavy-duty construction make these motors suitable for continuous operation. The counterbalanced crankshaft is supported by anti-friction bearings. A slinger distributes oil to all moving parts of the motor. Oil level and drain plugs are easily accessible.

High torque is an inherent characteristic of piston type air motors, making them especially desirable for applications involving heavy starting loads. The overlap of power impulses in radial piston air motors provides even torque and full power in either direction of rotation. At least two pistons are always on a power stroke. These motors should be operated under load and in a horizontal position. It is not recommended that they be operated at speeds greater than 75% of free speed.

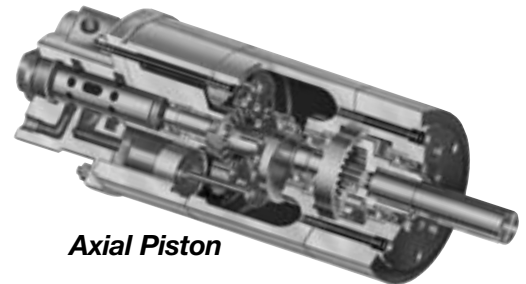
These motors perform satisfactorily in high temperature areas up to 200° (93° C). It is recommended that air lines be equipped with lubricators. Mount the lubricator as close to the motor as possible.



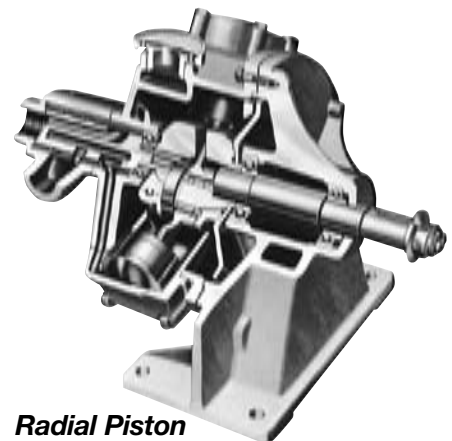
**Rotary Vane**



**Rotary Vane**



**Axial Piston**



**Radial Piston**

## Air Motor Selection

To assist in the selection of an air motor, we need any two of the following three items of information:

1. Horsepower required.
2. Speed (RPM) required against load.
3. Work load expressed in foot pounds or inch pounds of dynamic torque (moving torque load).

As air motors are dependent upon input air pressure for performance, these factors must also be considered:

1. Air pressure (psig or bars) at motor location.
2. Pipe size of air supply system to assure adequate volume (cfm or m<sup>3</sup>/min) so as to minimize line loss (air pressure drop during motor operation).
3. Plant air system pressure may vary during the day due to use by other equipment; therefore, base the selection of the air motor on the lowest psig or bars that can be expected. Then, by using a pressure regulator in the line at the motor, a uniform air supply is assured.

In applications of intermittent short service, Cooper Power Tools' air motors can be operated over the complete range indicated for each without harm or significant wear. In applications involving sustained continuous operation for long periods, however, some guidelines are suggested. **Do not operate piston and MR motors at more than 75% of free speed.** Consult the factory for applications requiring continuous operation of rotary vane motors at maximum HP or for any applications requiring vertical operation of these motors. Review service manuals carefully.

For two known and one unknown, the following formulas can be used:

$$\text{Ft. lbs. Torque} = \frac{1000 \times \text{HP}}{0.19 \times \text{RPM}}$$

$$\text{Horsepower (HP)} = \frac{0.19 \times \text{Torque (ft. lbs.)} \times \text{RPM}}{1000}$$

$$\text{Speed (RPM)} = \frac{1000 \times \text{HP}}{0.19 \times \text{Torque (ft. lbs.)}}$$

When working with Newton meters (Nm), substitute .0258 in place of 0.19 in the formula.

Use the performance charts provided for each motor size and type for obtaining this same data procedure:

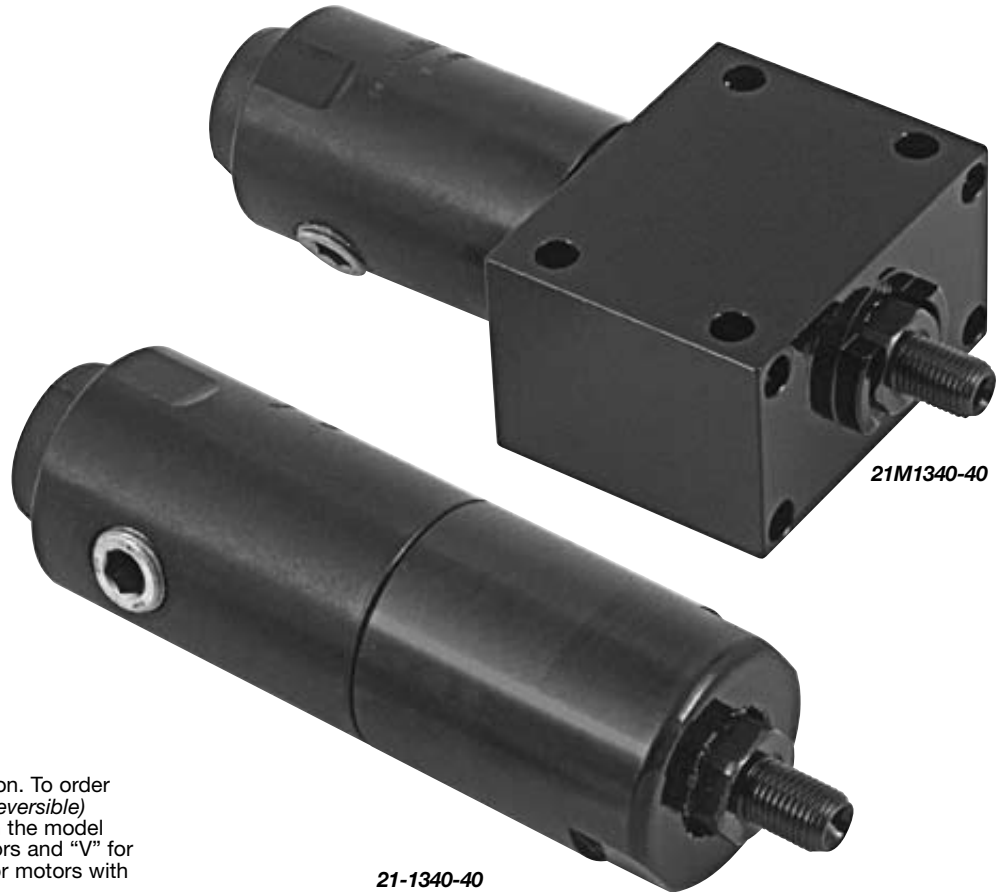
1. Select operating pressure.
2. Select torque required from the left hand scale.
3. Extend that point position across chart until it intersects with torque performance curve of the selected pressure.
4. Draw a vertical line from the above mentioned intersection to the corresponding motor scale at the bottom of the chart to determine the operating speed at the required torque and psig pressure.
4. Extend the vertical line until it intersects the horsepower curve of selected operating pressure and read horsepower from the motor scale on the right side of the chart.

Torque and horsepower curves may be interpreted for approximate performance at other psi pressure.

## DOTCO®

### 21 Series

- Maximum Power  
0.3 hp  
0.22 kW
- Torque Range  
0.2 – 15.2 ft. lbs.  
0.27 – 20.6 Nm
- Non-Reversible
- Rear Exhaust



### Spindle Rotation

All models are right-hand rotation. To order left-hand rotation models (*not reversible*) substitute “D” for the first “-” in the model number for round housing motors and “V” for the “M” in the model number for motors with flange and base mounting.

**IMPORTANT: Threaded spindles have right-hand threads; therefore use keyed shaft models only (-49) for left-hand rotation.**

Model Number*	RPM		Stall Torque		Weight		Gear Ratio	Length (page 7)	
	at Max. hp	Free Speed	ft lbs.	Nm	lbs.	kg		Overall (A) in.	Pilot (B) in.

#### Round Housing – 3/8” Diameter Keyed Spindle

21-1041-49	300	600	9.9	13.41	2.1	.95	44.82:1	5.66	.25
21-1042-49	450	900	6.4	8.67	2.1	.95	29.1:1	5.66	.25
21-1340-49	1600	3200	1.8	2.44	1.6	.73	8.3:1	4.34	.25
21-1940-49	15000	30000	0.2	0.27	1.2	.54	—	3.00	.69

#### Flange and Base Mounting – 3/8” Diameter Keyed Spindle

21M1041-49	300	600	9.9	13.41	3.0	1.36	44.82:1	5.66	.25
21M1340-49	1600	3200	1.8	2.44	2.5	1.13	8.3:1	4.34	.25
21M1540-49	2500	5000	1.2	1.63	2.5	1.13	5.4:1	4.34	.25

#### General:

Air Inlet: 1/4” NPT – Side and rear

Air consumption: 12 cfm (.34 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### \*Optional Terminations:

Replace -49 in model number with the desired termination when ordering.

- 38 0”-1/4” Capacity Drill Chuck (5000 RPM or less)
- 51 1/16”-3/8” Capacity Drill Chuck (5000 RPM or less)
- 40 3/8”-24 Threaded Spindle
- 01 Series 200 Collet Chuck (for milling and routing)
- 36 Series 300 Collet Chuck (for milling and routing)

#### Standard Equipment:

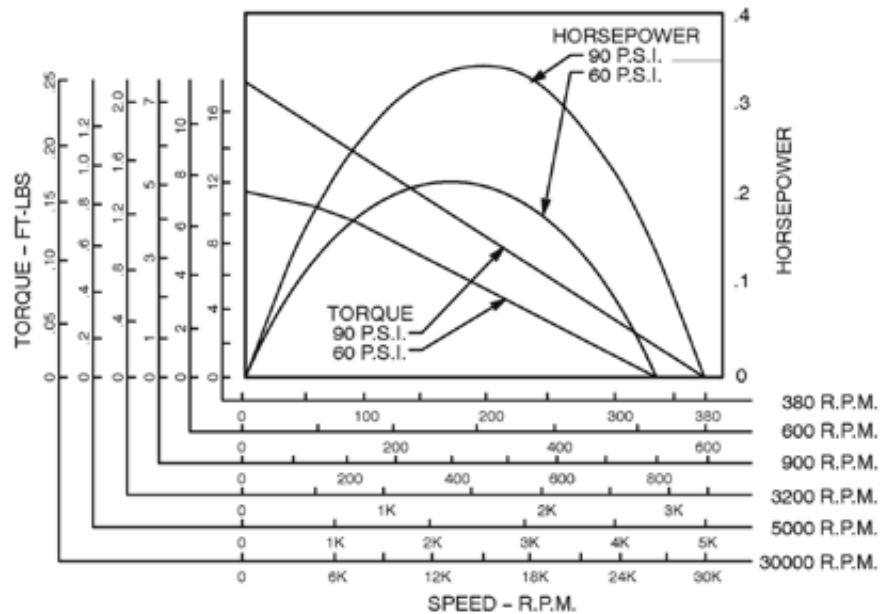
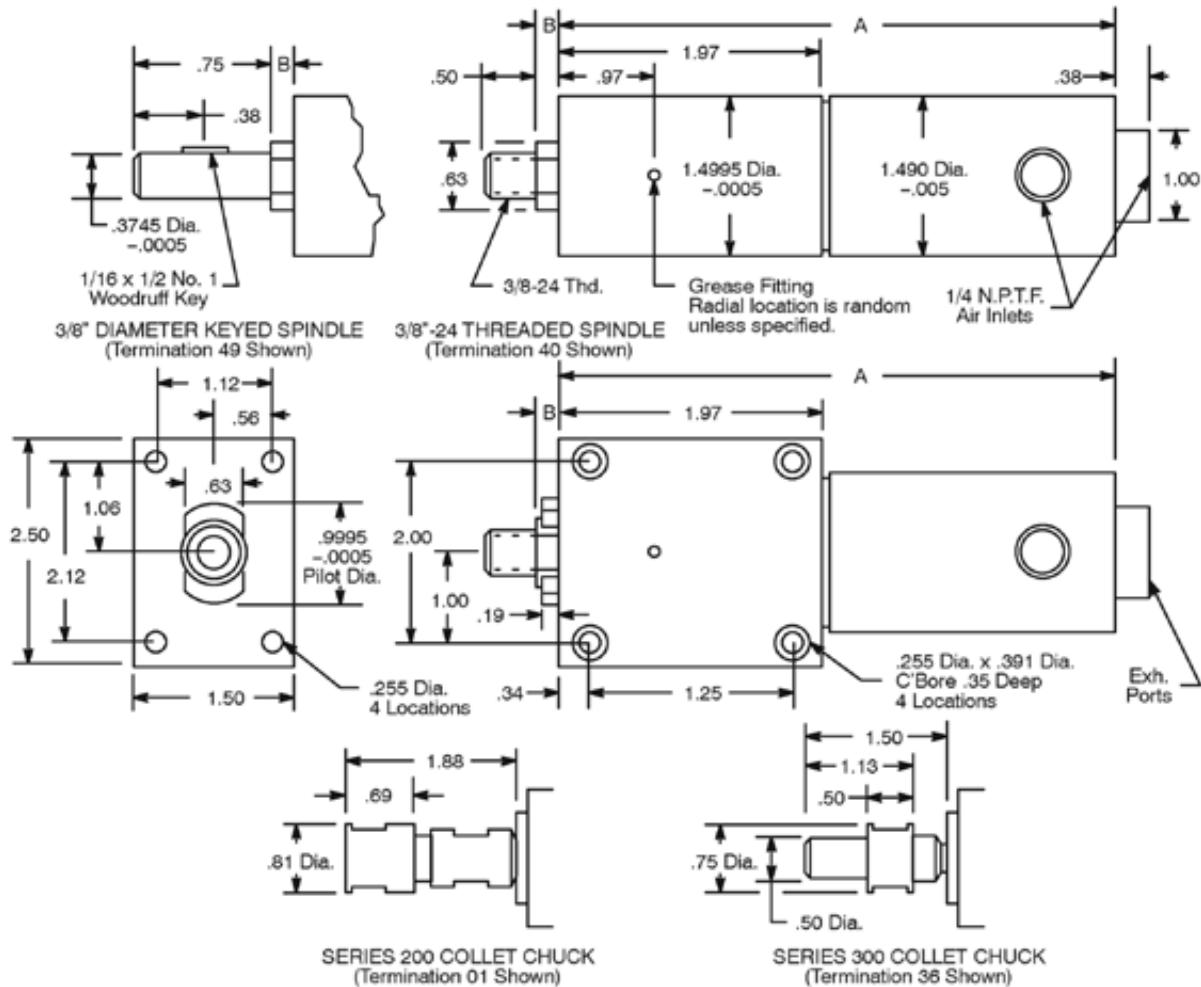
Hex socket screw provided for closure of unused inlet. Flush fitting for lubrication of gears. Wrench for threaded spindle and collet chuck models. 1/4” collet included with series 200 & 300 collet chuck.

#### Optional Equipment:

Exhaust mufflers, remote-exhaust hoses, air intake hoses, spindle adapters and filter-lubricator-regulators available at extra cost.

Any series 200 collet may be substituted at no additional cost. On series 300 collet chuck, collets 301, 302, and 303 are available at extra cost. Any other series 300 collet may be substituted at no additional cost.





## Important:

A 5/16" I.D. air inlet hose may be used for runs up to 10'. For longer runs, use 3/8" I.D. hoses. Planetary gears should be greased after every 250 hours with gear grease # 45-0983, or equivalent. For Filters, Regulators and Lubricators refer to page 64. If air line connector is used, install at end of hose away from the tool.

## Concentricity:

On motors with round housings, concentricity of spindle to O.D. of housing is .003 TIR.

## DOTCO®

### 21 Series

- Maximum Power  
0.3 hp  
0.22 kW
- Torque Range  
0.2 – 15.2 ft. lbs.  
0.27 – 20.6 Nm
- Non-Reversible
- Side Exhaust



21M1300-40



21-1000-40

### Spindle Rotation

All models are right-hand rotation. To order left-hand rotation models (*not reversible*) substitute “D” for the first “-” in the model number for round housing motors and “V” for the “M” in the model number for motors with flange and base mounting.

**IMPORTANT: Threaded spindles have right-hand threads; therefore use keyed shaft models only (-49) for left-hand rotation.**

Model Number	RPM		Stall Torque		Weight		Gear Ratio	Length (page 9)	
	at Max. hp	Free Speed	ft lbs.	Nm	lbs.	kg		Overall (A) in.	Pilot (B) in.
Round Housing – 3/8” Diameter Keyed Spindle									
21-1000-49	190	380	15.2	20.60	2.3	1.04	68.9:1	5.66	.25
21-1900-49	15000	30000	0.2	0.27	1.3	.59	—	3.00	.69
Flange and Base Mounting – 1/2” Diameter Keyed Spindle									
21M1000-49	190	380	15.2	20.60	3.1	1.41	68.9:1	5.66	.25
21M1002-49	450	900	6.4	8.67	3.1	1.41	29.1:1	5.66	.25
21M1300-49	1600	3200	1.8	2.44	2.6	1.18	8.3:1	4.34	.25

#### General:

Air Inlet: 1/4" NPT – Side and rear

Air consumption: 12 cfm (.34 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### \*Optional Terminations:

Replace -49 in model number with the desired termination when ordering.

- 38 0"-1/4" Capacity Drill Chuck (5000 RPM or less)
- 51 1/16"-3/8" Capacity Drill Chuck (5000 RPM or less)
- 40 3/8"-24 Threaded Spindle
- 01 Series 200 Collet Chuck (for milling and routing)
- 36 Series 300 Collet Chuck (for milling and routing)

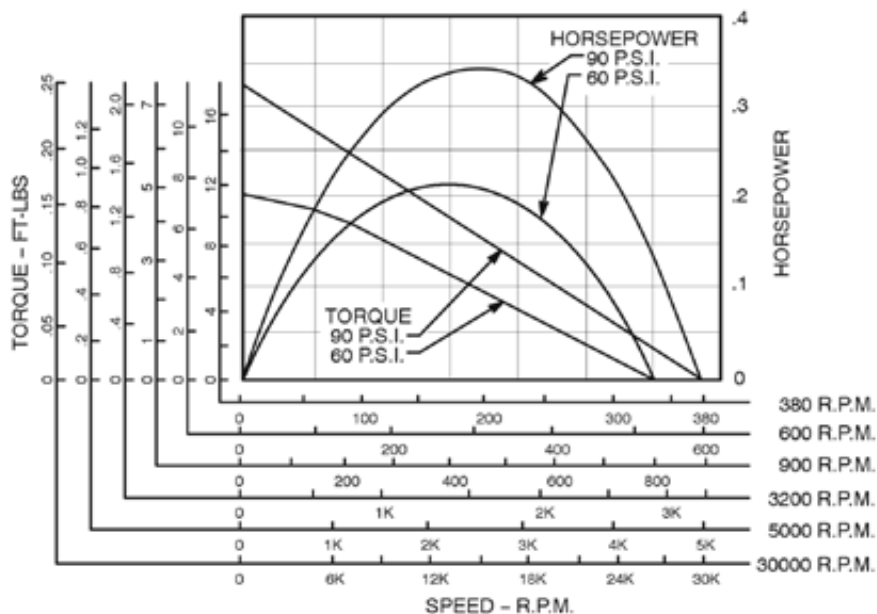
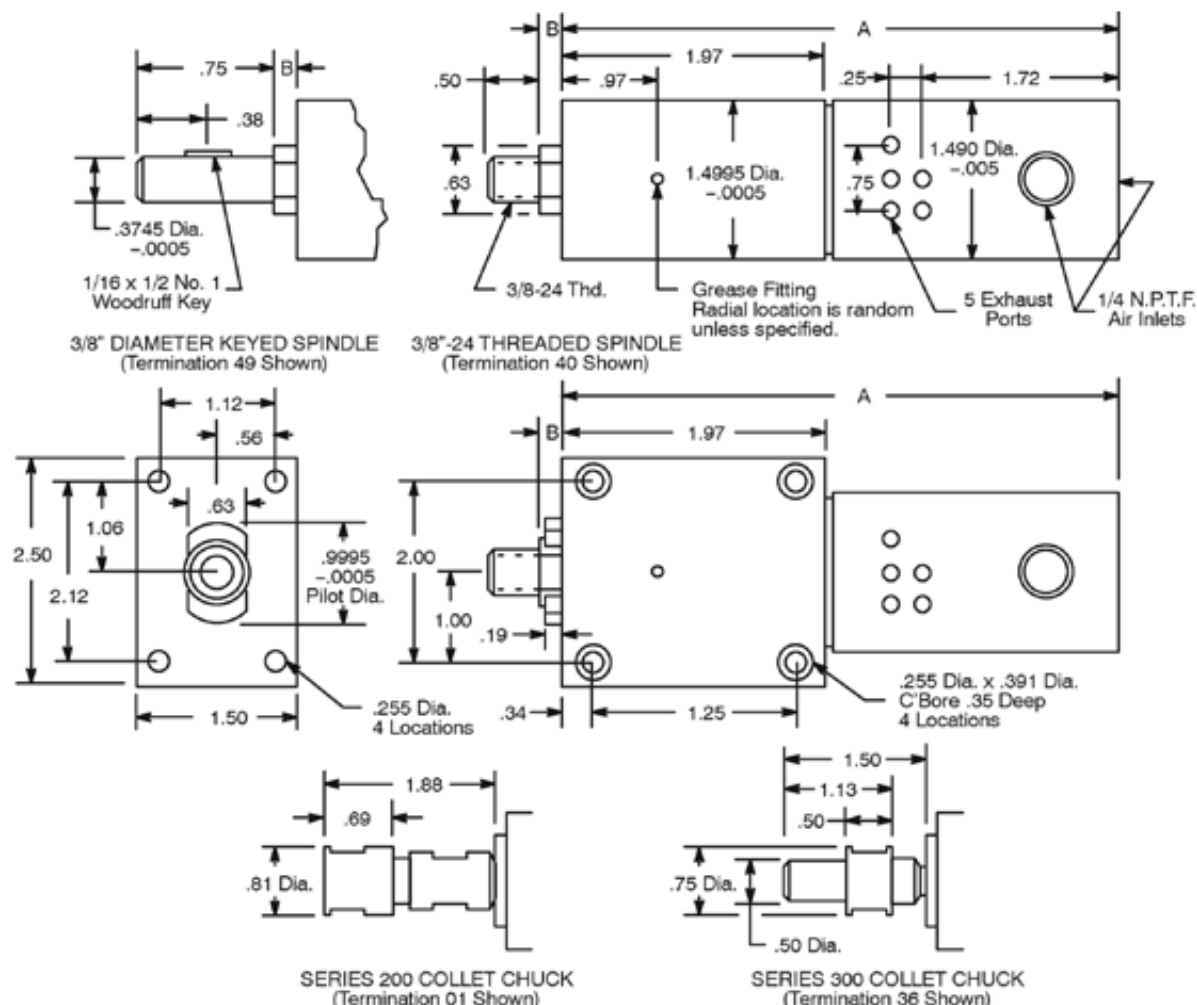
#### Standard Equipment:

Hex socket screw provided for closure of unused inlet. Flush fitting for lubrication of gears. Wrench for threaded spindle and collet chuck models. 1/4" collet included with series 200 & 300 collet chuck.

#### Optional Equipment:

Exhaust mufflers, remote-exhaust hoses, air intake hoses, spindle adapters and filter-lubricator-regulators available at extra cost.

Any series 200 collet may be substituted at no additional cost. On series 300 collet chuck, collets 301, 302, and 303 are available at extra cost. Any other series 300 collet may be substituted at no additional cost.



## Important:

A 5/16" I.D. air inlet hose may be used for runs up to 10'. For longer runs, use 3/8" I.D. hoses. Planetary gears should be greased after every 250 hours with gear grease # 45-0983, or equivalent. For Filters, Regulators and Lubricators refer to page 64. If air line connector is used, install at end of hose away from the tool.

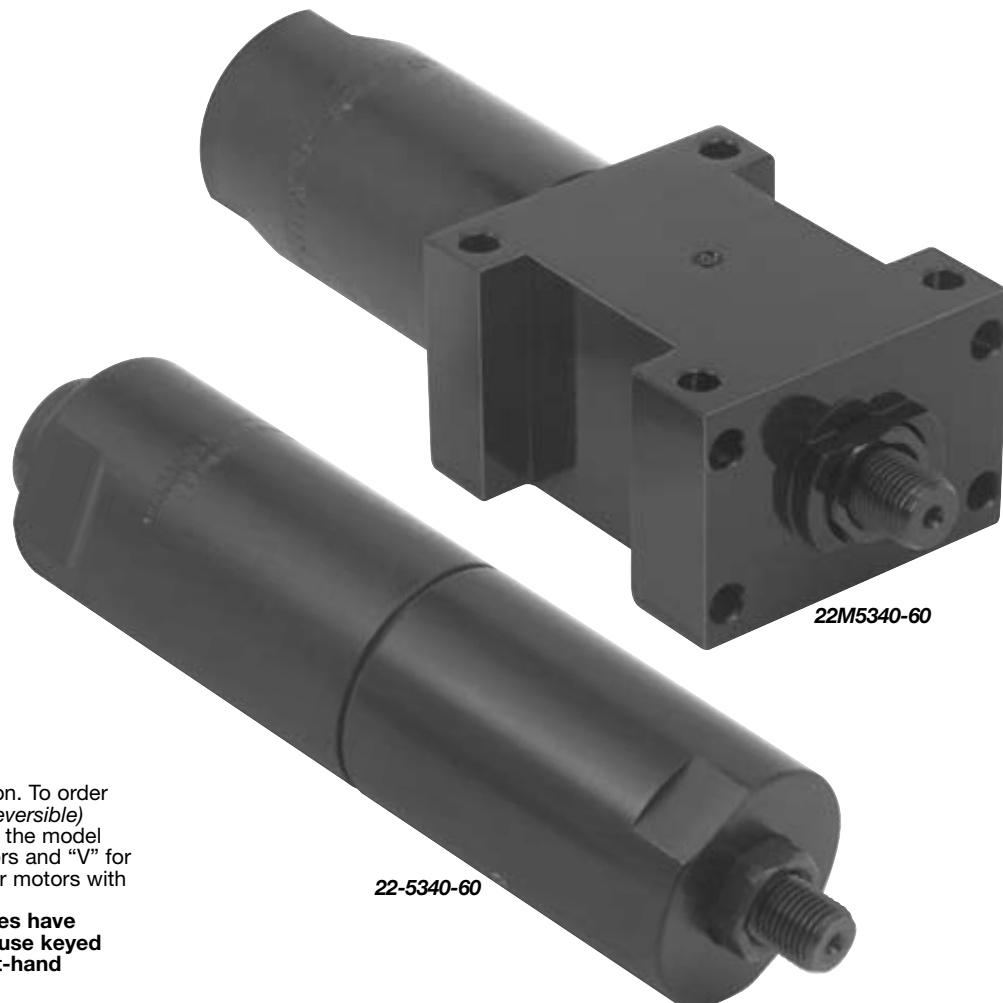
## Concentricity:

On motors with round housings, concentricity of spindle to O.D. of housing is .003 TIR.

## DOTCO®

### 22 Series

- Maximum Power  
0.9 hp  
0.67 kW
- Torque Range  
0.8 – 41.2 ft. lbs.  
1.08 – 55.83 Nm
- Non-Reversible
- Rear Exhaust



### Spindle Rotation

All models are right-hand rotation. To order left-hand rotation models (*not reversible*) substitute “D” for the first “-” in the model number for round housing motors and “V” for the “M” in the model number for motors with flange and base mounting.

**IMPORTANT: Threaded spindles have right-hand threads; therefore use keyed shaft models only (-50) for left-hand rotation.**

Model Number	RPM		Stall Torque		Weight		Gear Ratio	Length (page 7)	
	at Max. hp	Free Speed	ft lbs.	Nm	lbs.	kg		Overall (A) in.	Pilot (B) in.
Round Housing – 1/2” Diameter Keyed Spindle									
22-5040-50	215	430	41.2	55.83	4.1	1.86	50.4:1	7.94	.25
22-5041-50	320	640	28.4	38.48	4.1	1.86	34.8:1	7.94	.25
22-5042-50	470	940	19.6	26.56	4.1	1.86	24:1	7.94	.25
22-5340-50	1600	3200	5.8	7.86	3.1	1.41	7.1:1	6.19	.25
22-5440-50	2350	4700	4.0	5.42	3.1	1.41	4.9:1	6.19	.25
22-5940-50	11500	23000	0.8	1.08	2.5	1.13	—	4.38	.63
Flange and Base Mounting – 1/2” Diameter Keyed Spindle									
22M5042-50	470	940	19.6	26.56	5.0	2.27	24:1	7.94	.25
22M5340-50	1600	3200	5.8	7.86	4.0	1.81	7.1:1	6.19	.25
22M5440-50	2350	4700	4.0	5.42	4.0	1.81	4.9:1	6.19	.25
22M5940-50	11500	23000	.8	1.08	3.4	1.54	—	4.38	.63

#### General:

Air Inlet: 1/4” NPT – Side and rear

Air consumption: 29 cfm (.82 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### •Optional Terminations:

Replace -50 in model number with the desired termination when ordering.

- 38 0”-1/4” Capacity Drill Chuck (5000 RPM or less)
- 51 1/16”-3/8” Capacity Drill Chuck (5000 RPM or less)
- 53 5/64”-1/2” Capacity Drill Chuck (5000 RPM or less)
- 60 1/2”-20 Threaded Spindle
- 01 Series 200 Collet Chuck (for milling and routing)
- 62 Series “K” Collet Chuck (for milling and routing)

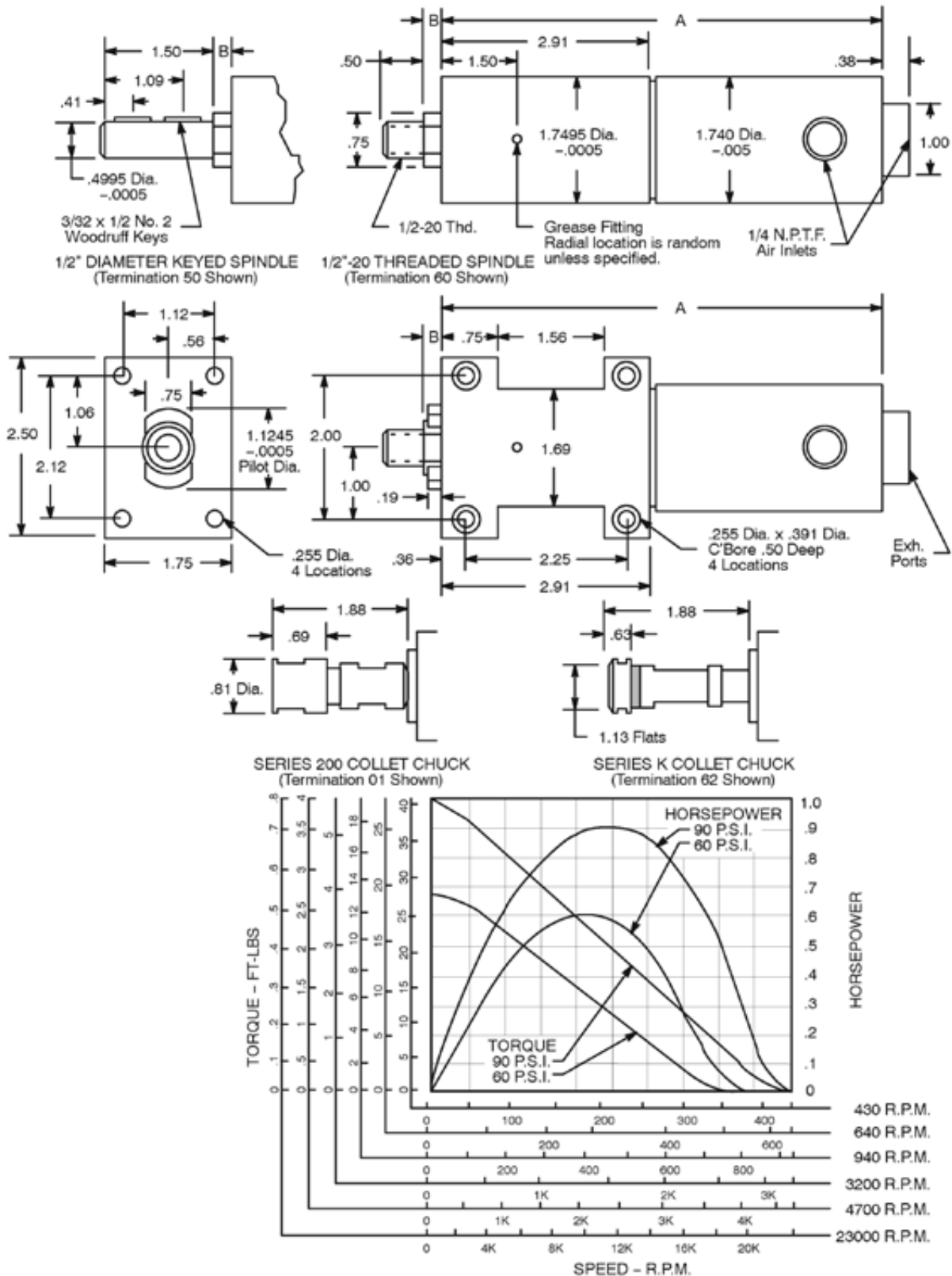
#### Standard Equipment:

Hex socket screw provided for closure of unused inlet. Flush fitting for lubrication of gears. Wrench for threaded spindle and collet chuck models. 1/4” collet included with series 200 & “K” collet chuck.

#### Optional Equipment:

Exhaust mufflers, remote-exhaust hoses, air intake hoses, spindle adapters and filter-lubricator-regulators available at extra cost.

Any series 200 and “K” collet may be substituted at no additional cost.



## Important:

A 3/8" I.D. air inlet hose may be used for runs up to 10'. For longer runs, use 1/2" I.D. hoses. When remote-exhaust hose is used, the portion of air inlet hose inserted into the exhaust hose should not exceed 3/8" I.D. (approx. .650" O.D.). Planetary gears should be greased after every 250 hours with gear grease # 45-0983, or equivalent. For Filters, Regulators and Lubricators refer to pgs. 60-61.

If air line connector is used, install at end of hose away from the tool.

## Concentricity:

On motors with round housings, concentricity of spindle to O.D. of housing is .003 TIR.



## DOTCO®

### 22 Series

- Maximum Power  
0.9 hp  
0.67 kW
- Torque Range  
5.8 – 41.2 ft. lbs.  
7.86 – 55.83 Nm
- Non-Reversible
- Side Exhaust



### Spindle Rotation

All models are right-hand rotation. To order left-hand rotation models (*not reversible*) substitute “D” for the first “-” in the model number for round housing motors and “V” for the “M” in the model number for motors with flange and base mounting.

**IMPORTANT: Threaded spindles have right-hand threads; therefore use keyed shaft models only (-50) for left-hand rotation.**

Model Number	RPM		Stall Torque		Weight		Gear Ratio	Length (page 13)	
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg		Overall (A) in.	Pilot (B) in.
Round Housing – 1/2” Diameter Keyed Spindle									
22-5000-50	215	430	41.2	55.83	4.2	1.91	50.4:1	7.94	.25
22-5002-50	470	940	19.6	26.56	4.2	1.91	24:1	7.94	.25
Flange and Base Mounting – 1/2” Diameter Keyed Spindle									
22M5000-50	215	430	41.2	55.83	5.1	2.31	50.4:1	7.94	.25
22M5001-50	320	640	28.4	38.48	5.1	2.31	3.48:1	7.94	.25
22M5002-50	470	940	19.6	26.56	5.1	2.31	24:1	7.94	.25
22M5300-50	1600	3200	5.8	7.86	4.1	1.86	7.1:1	6.19	.25

#### General:

Air Inlet: 1/4” NPT – Side and rear  
Air consumption: 29 cfm (.82 m<sup>3</sup>/min)  
All tools performance rated @ 90psi (620 kPa) air pressure.

#### •Optional Terminations:

Replace -50 in model number with the desired termination when ordering.

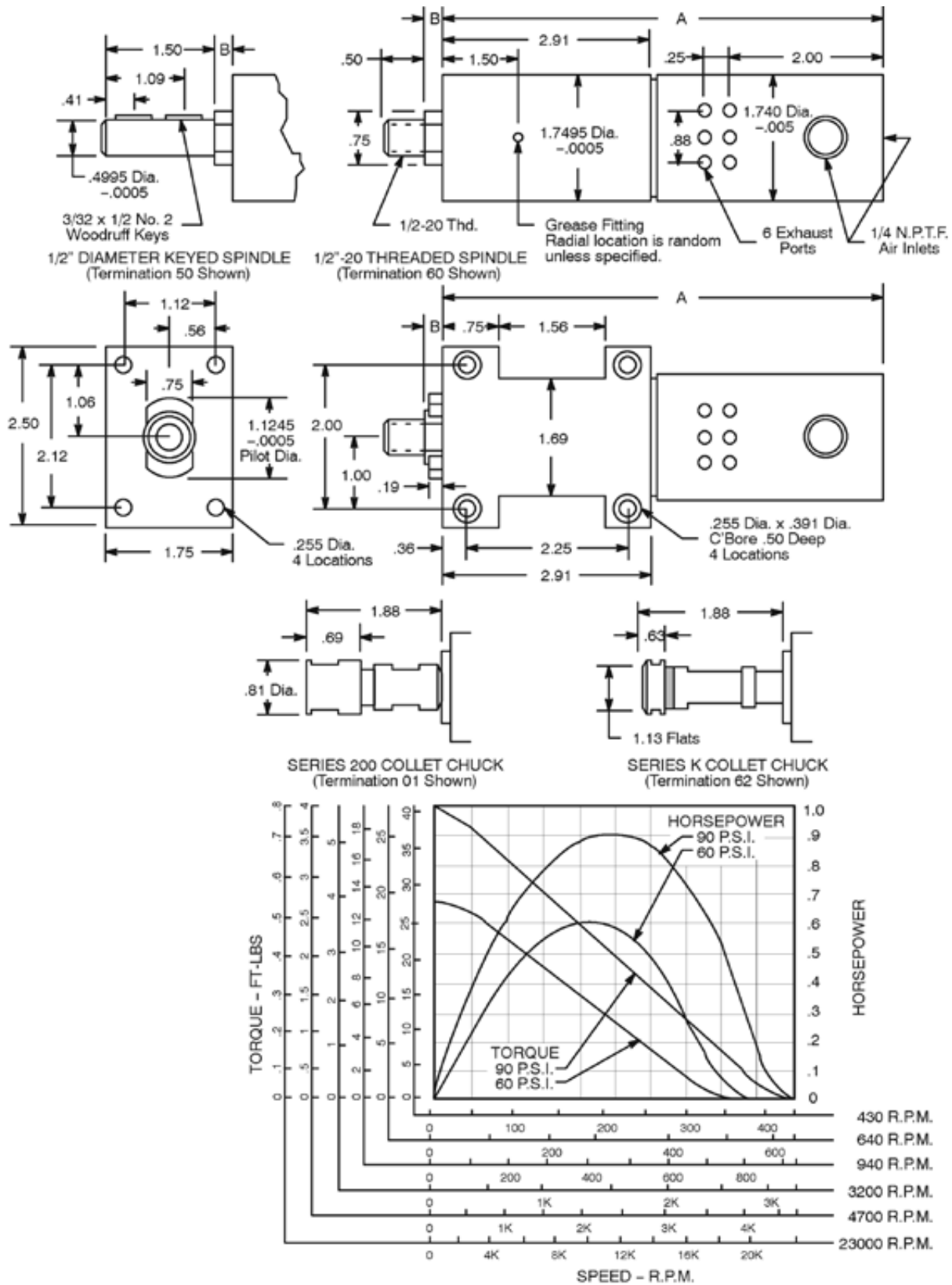
- 38 0”-1/4” Capacity Drill Chuck (5000 RPM or less)
- 51 1/16”-3/8” Capacity Drill Chuck (5000 RPM or less)
- 53 5/64”-1/2” Capacity Drill Chuck (5000 RPM or less)
- 60 1/2”-20 Threaded Spindle
- 01 Series 200 Collet Chuck (for milling and routing)
- 62 Series “K” Collet Chuck (for milling and routing)

#### Standard Equipment:

Hex socket screw provided for closure of unused inlet. Flush fitting for lubrication of gears. Wrench for threaded spindle and collet chuck models. 1/4” collet included with series 200 & “K” collet chuck.

#### Optional Equipment:

Exhaust mufflers, remote-exhaust hoses, air intake hoses, spindle adapters and filter-lubricator-regulators available at extra cost. Any series 200 and “K” collet may be substituted at no additional cost.



## Important:

A 3/8" I.D. air inlet hose may be used for runs up to 10'. For longer runs, use 1/2" I.D. hoses. Planetary gears should be greased after every 250 hours with gear grease # 45-0983, or equivalent. For Filters, Regulators and Lubricators refer to page 64. If air line connector is used, install at end of hose away from the tool.

## Concentricity:

On motors with round housings, concentricity of spindle to O.D. of housing is .003 TIR.

## DOTCO®

### 22 Series

- Maximum Power  
0.7 hp  
0.52 kW
- Torque Range  
0.6 – 28.4 ft. lbs.  
0.81 – 38.48 Nm
- Reversible
- Side Exhaust



Model Number	RPM		Stall Torque		Weight		Gear Ratio	Length (page 15)	
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg		Overall (A) in.	Pilot (B) in.
Round Housing – 1/2” Diameter Keyed Spindle									
22-5070-50	165	330	28.4	38.48	2.75	1.25	50.4:1	7.88	.25
22-5370-50	1750	3500	2.8	3.79	2.06	0.93	4.9:1	6.16	.25
Flange and Base Mounting – 1/2” Diameter Keyed Spindle									
22M5070-50	165	330	28.4	38.48	3.06	1.39	50.4:1	7.88	.25
22M5071-50	250	500	19.6	26.56	3.06	1.39	3.48:1	7.88	.25
22M5072-50	350	700	13.5	18.29	3.06	1.39	24:1	7.88	.25
22M5270-50	1200	2400	4.0	5.42	2.38	1.08	7.1:1	6.16	.25

#### General:

Air Inlet: 1/4" NPT – Side and rear  
Air consumption: 29 cfm (.82 m<sup>3</sup>/min)  
All tools performance rated @ 90psi (620 kPa) air pressure.

#### •Optional Terminations:

Replace -50 in model number with the desired termination when ordering.

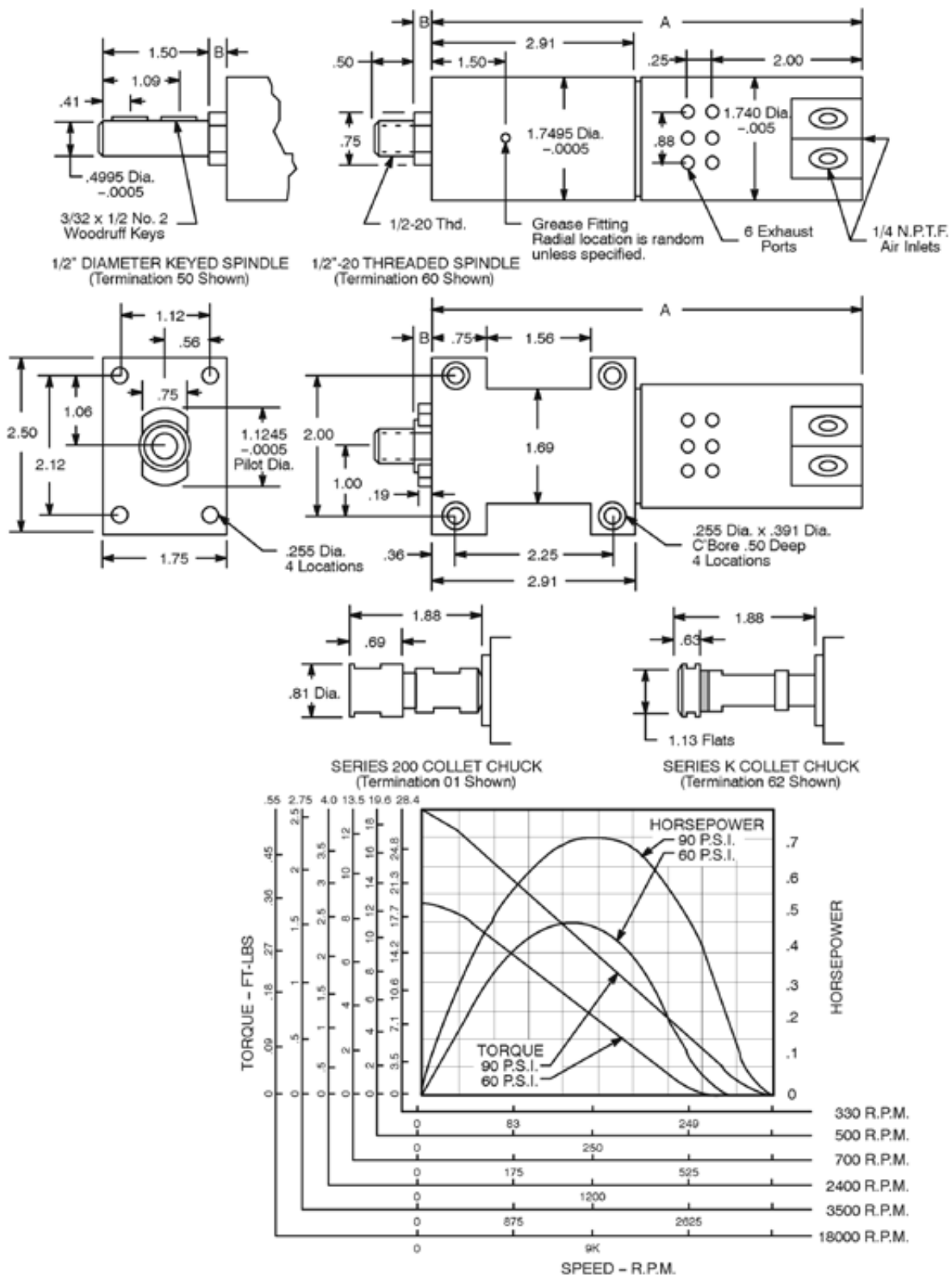
- 38 0"-1/4" Capacity Drill Chuck (5000 RPM or less)
- 51 1/16"-3/8" Capacity Drill Chuck (5000 RPM or less)
- 53 5/64"-1/2" Capacity Drill Chuck (5000 RPM or less)
- 60 1/2"-20 Threaded Spindle
- 01 Series 200 Collet Chuck (for milling and routing)
- 62 Series "K" Collet Chuck (for milling and routing)

#### Standard Equipment:

Hex socket screw provided for closure of unused inlet. Flush fitting for lubrication of gears. Wrench for threaded spindle and collet chuck models. 1/4" collet included with series 200 & "K" collet chuck.

#### Optional Equipment:

Exhaust mufflers, remote-exhaust hoses, air intake hoses, spindle adapters and filter-lubricator-regulators available at extra cost. Any series 200 and "K" collet may be substituted at no additional cost.



## Important:

A 3/8" I.D. air inlet hose may be used for runs up to 10'. For longer runs, use 1/2" I.D. hoses. Planetary gears should be greased after every 250 hours with gear grease # 45-0983, or equivalent. For Filters, Regulators and Lubricators refer to page 64. If air line connector is used, install at end of hose away from the tool.

## Concentricity:

On motors with round housings, concentricity of spindle to O.D. of housing is .003 TIR.

## Note:

Spindles with 1/2-20 thread are equipped with 1/4-28 internal threaded jam screw. This will prevent sprockets or pulleys from unthreading in reverse direction.

# Optional Equipment for Dotco Motors

## Exhaust Muffler

With this Exhaust Muffler, the noise level is approximately 85 dBA. It is recommended that a motor always be used with this muffler, unless provision is made in the mounting structure, by the user, for an exhaust cavity to provide noise attenuation.

Use Exhaust Muffler 14-1117 on 21 Series side exhaust motors and 14-2110 on 22 series side exhaust motors.



14-1117



14-2110

## Muffler with Remote-Exhaust Hose

Remote-exhaust Hose 45-2000 (specify length desired) can be attached to the muffler with Hose Clamp 45-2126 to provide remote exhaust and additional quieting. (4' length reduces noise level to 80 dBA)

## Remote-Exhaust Hose (Rear Exhaust Models)

Standard Hose Lengths	
Part Number	Length (ft.)
45-2003	3
45-2004	4
45-2006	6
45-2008	8
45-2010	10
45-2012	12
45-2016	16
45-2020	20
45-2025	25



45-2003

## Dual Hose Adapter

Adapters for rear exhaust non-reversible models for separate inlet and exhaust hoses. Provides piped exhaust for clean of white room applications, power plants, etc.

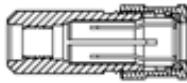
Part Number: 14-2263  
Motor Series: 21 & 22  
Inlet Size: 1/4" NPT  
Exhaust Size: 3/8" NPT



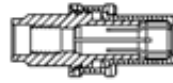
14-2263



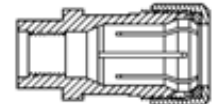
204



304



120



Part Number	Size	Capacity	
		min.	max.
Termination 01 – Series 200 Collets			
204	1/8"	3/32"	1/8"
205	5/32"	1/8"	5/32"
206	3/16"	5/32"	3/16"
207	7/32"	3/16"	7/32"
208	1/4"	7/32"	1/4"
209	9/32"	1/4"	9/32"
210	5/16"	9/32"	5/16"
211	11/32"	5/16"	11/32"
212	3/8"	11/32"	3/8"
213	6mm	—	—
216	6mm	—	—

Part Number	Size	Capacity	
		min.	max.
Termination 36 – Series 300 Collets			
301	3/64"	1/64"	3/64"
302	5/64"	3/64"	5/64"
303	3/32"	1/16"	3/32"
304	1/8"	3/32"	1/8"
305	5/32"	1/8"	5/32"
306	3/16"	5/32"	3/16"
307	7/32"	3/16"	7/32"
308	1/4"	7/32"	1/4"
310	6mm	—	—
311	3mm	—	—

Part Number	Size	Capacity	
		min.	max.
Termination 62 – Series K Collets			
120	1/8"	3/32"	1/8"
121	3/16"	5/32"	3/16"
122	1/4"	7/32"	1/4"
123	5/16"	9/32"	5/16"
124	3/8"	11/32"	3/8"
125	7/16"	13/32"	7/16"
126	1/2"	15/32"	1/2"
127	9/16"	17/32"	9/16"
134	8mm	—	—
135	10mm	—	—



## Hose Line Lubricator

**45-0201 – 1/4" NPTF**

**45-0301 – 3/8" NPTF**

45-0201



Mounts in Hose Line. One ounce reservoir good for average 8-hour shift. Use in locations where it is inconvenient to use a standard air line lubricator.

## Flexible air hose

No.	Hose I.D.	Length	Fittings
45-1307	3/16	7	1/4 x 1/8
45-1408	1/4	8	1/4 x 1/4
45-1508	5/16	8	1/4 x 1/4
45-1610	3/8	10	3/8 x 3/8
45-1812	1/2	12	1/2 x 1/2
45-1825	1/2	25	1/2 x 1/2



## Push Pull Sleeve Valve

**14-2209**

Air inlet 1/4" female NPT; outlet is 1/4" male NPTF; stainless steel sleeve body; oil resistant O-rings.

## Lubricating oil

**45-0918 - Qt.**

**45-0919 - Gal.**

An excellent lubricant for pneumatic tools, non-tacky, non-gumming. Use full strength in automatic lubricators.



45-0918

## Air Pressure Needle Gauge

**14-0612**

Used for checking air pressure in the air hose close to tool, while tool is running. Furnished with metal guard and carrying case.



## Gear grease

**45-0992**

**14-1/2 oz. cartridge**

Excellent grease for hi-speed gears after every 8 hours of operation.

## Push Type Grease Gun

**45-0982**

For gear lubrication, for small flush type fittings. Can be operated with one hand. **45-0983 GEAR GREASE** for lubrication of planetary gearing.



## Hose line filter

**45-0211**

Contains a replaceable filter cartridge. Will not remove water. To be used where it is inconvenient to use standard air line filter. Filter complete with cartridge No. 45-0211. Replacement cartridge only, No. 45-0212.

Quick Disconnect Fittings				
Type of Fitting	Thd	Nominal Size		
		1/4	3/8	1/2
Male Pipe Threads				
Coupler	1/8	45-0710	—	—
Coupler	1/4	45-0711	45-0713	—
Coupler	3/8	45-0712	—	—
Coupler	1/2	—	—	45-0717
Female Pipe Threads				
Coupler	3/8	45-0732	45-0734	45-0736
Male Pipe Threads				
Nipple	1/8	45-0720	—	—
Nipple	1/4	—	45-0724	—
Nipple	3/8	45-0722	45-0725	45-0726
Nipple	1/2	—	—	45-0727
Female Pipe Threads				
Nipple	1/4	—	45-0744	—
Nipple	3/8	45-0742	45-0745	45-0746
Nipple	1/2	—	—	45-0747
With Hose Barbs				
Nipple	1/4	45-0748	—	—
Nipple	1/2	—	—	45-0753



## BUCKEYE®

### 21MF-900/910 Series

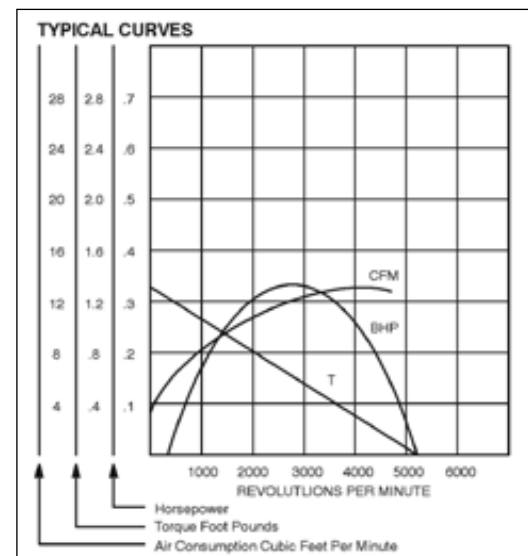
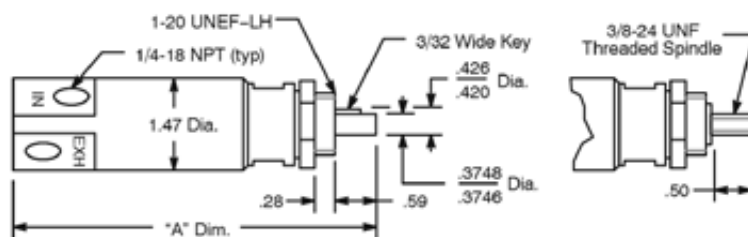
- Maximum Power  
0.3 hp  
0.22 kW
- Torque Range  
0.24 – 11.3 ft. lbs.  
0.3 – 15.3 Nm
- Non-Reversible
- Side Exhaust
- Threaded or Keyed Spindle



21MF-900

Speed Code	"A" Dim.
Code 0, 1, 2 & 3	5.69
Code 4	6.06
Code 5, 6 & 7	6.75

Speed code refers to last digit in model number.



Model Number		RPM		Stall Torque		Weight		Gear Ratio
3/8" Threaded	3/8" Keyed	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
Spindle – RH Rotation								
21MF-900	21MF-910	12000	24000	.24	.3	1.7	.771	—
21MF-901	21MF-911	2375	4750	1.30	1.8	1.7	.771	5.0:1
21MF-902	21MF-912	1750	3500	1.70	2.3	1.7	.771	6.8:1
21MF-903		1400	2800	2.10	2.8	1.7	.771	8.6:1
	21MF-914	1050	2100	2.80	3.8	1.8	.816	11.4:1
	21MF-915	450	900	6.90	9.4	2.0	.907	26.6:1
21MF-906	21MF-916	325	650	9.30	12.6	2.0	.907	36.9:1
21MF-907	21MF-917	250	500	11.30	15.3	2.0	.907	48.0:1

#### General:

Air Inlet: 1/4" NPT

Air consumption: 12 cfm (.34 m<sup>3</sup>/min)

Offset (Side-to-Center) – 47/64"

Achieves full speed within a half revolution

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

1015869 Muffler

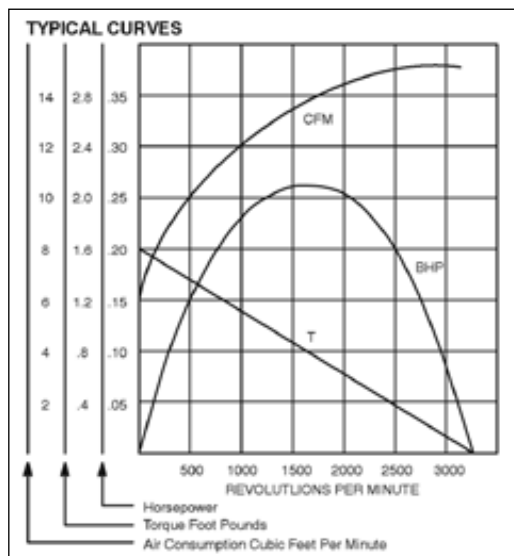
## BUCKEYE®

### 21MR-910 Series

- Maximum Power  
0.25 hp  
0.19 kW
- Torque Range  
1.6 – 10.0 ft. lbs.  
2.2 – 13.6 Nm
- Reversible
- Side Exhaust
- Keyed Spindle

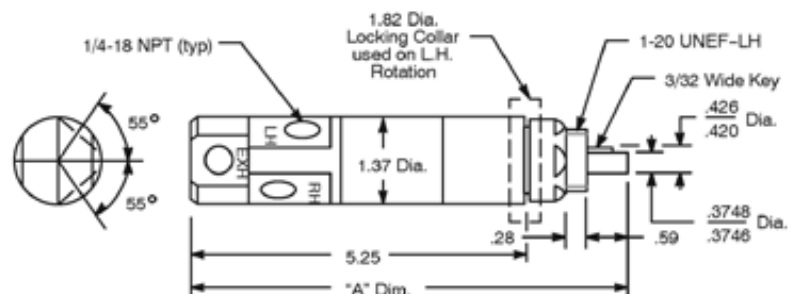


21MR-912



Speed Code	"A" Dim.
Code 1, 2 & 3	6.50
Code 4	6.75
Code 5, 6 & 7	7.56

Speed code refers to last digit in model number.



Model Number	RPM		Stall Torque		Weight		Gear Ratio
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
21MR-912	1500	3000	1.60	2.2	1.9	.862	6.8:1
21MR-913	1225	2450	1.90	2.6	1.9	.862	8.6:1
21MR-914	900	1800	2.50	3.4	2.0	.907	11.4:1
21MR-917	200	400	10.00	13.6	2.2	.998	48.0:1

**General:**

Air Inlet: 1/4" NPT  
 Air consumption: 14 cfm (.40 m<sup>3</sup>/min)  
 Offset (side-to-center) – 15/16"

Can be reversed instantaneously and continuously.  
 All tools performance rated @ 90psi (620 kPa) air pressure.  
**Standard Equipment:**  
 1015748 Muffler

## BUCKEYE®

### 31MF-900/910 Series

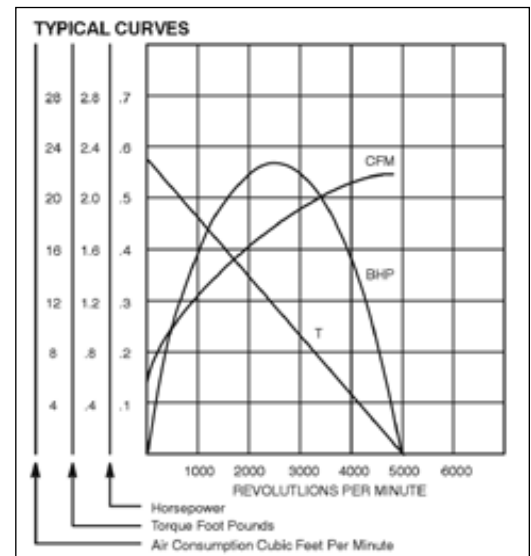
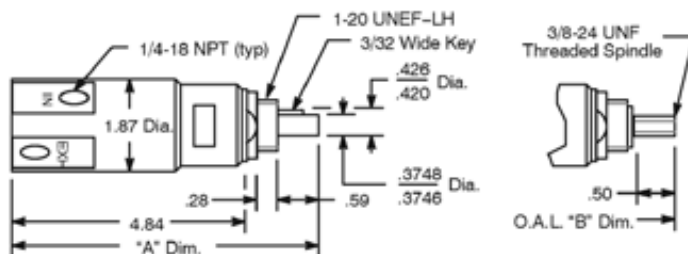
- Maximum Power  
0.5 hp  
0.37 kW
- Torque Range  
0.5 – 23.6 ft. lbs.  
0.68 – 32 Nm
- Non-Reversible
- Side Exhaust
- Threaded or Keyed Spindle



31MF-900

Speed Code	"A" Dim.	"B" Dim.
Code 0, 1, 2 & 3	6.18	6.06
Code 4	6.87	6.75
Code 5, 6 & 7	7.56	7.44

Speed code refers to last digit in model number.



Model Number		RPM		Stall Torque		Weight		Gear Ratio
3/8" Threaded	3/8" Keyed	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
Spindle – RH Rotation								
31MF-900	31MF-910	10000	20000	0.5	0.68	2.7	1.225	—
31MF-901	31MF-911	2500	5000	2.2	3.00	2.7	1.225	4.0:1
31MF-902	31MF-912	1500	3000	3.5	4.70	2.7	1.225	6.44:1
31MF-903	31MF-913	925	1850	5.9	8.00	2.7	1.225	10.8:1
31MF-904	31MF-914	700	1400	7.1	9.60	2.8	1.270	14.28:1
31MF-905	31MF-915	550	1100	8.8	11.90	3.1	1.406	16.0:1
31MF-906	31MF-916	375	750	14.1	19.10	3.1	1.406	25.73:1
31MF-907	31MF-917	225	450	23.6	32.00	3.1	1.406	43.06:1

#### General:

Air Inlet: 1/4" NPT  
Air consumption: 18 cfm (.51 m<sup>3</sup>/min)  
Offset (Side-to-Center) – 15/16"

Achieves full speed within a half revolution  
All tools performance rated @ 90psi (620 kPa) air pressure.

**Standard Equipment:**  
1015869 Muffler

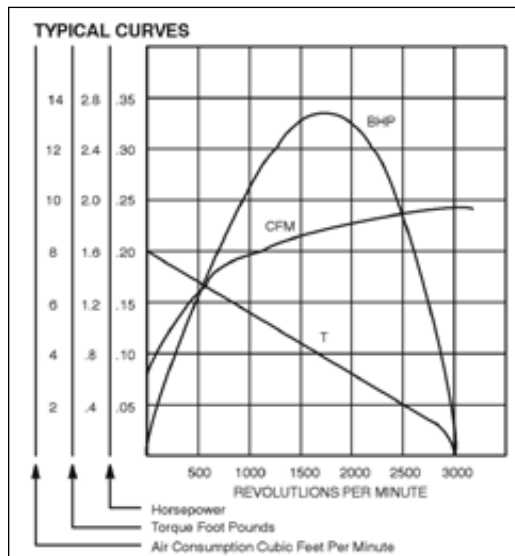
## BUCKEYE®

### 31MR-910 Series

- Maximum Power  
0.3 hp  
0.22 kW
- Torque Range  
2 – 21.6 ft. lbs.  
2.7 – 29.3 Nm
- Reversible
- Side Exhaust
- Keyed Spindle

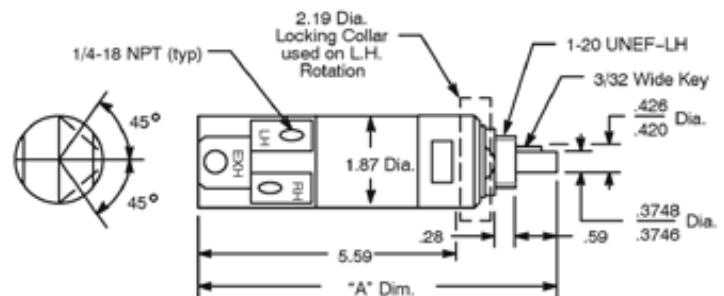


31MR-911



Speed Code	"A" Dim.
Code 1, 2 & 3	6.93
Code 4	7.62
Code 5, 6 & 7	8.31

Speed code refers to last digit in model number.



Model Number	RPM		Stall Torque		Weight		Gear Ratio
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
31MR-911	1750	3500	2.0	2.7	3.5	1.588	4.0:1
31MR-912	1075	2150	3.2	4.3	3.5	1.588	6.44:1
31MR-914	500	1000	6.5	8.8	3.6	1.633	14.28:1
31MR-916	250	500	12.8	17.4	3.8	1.723	25.73:1
31MR-917	150	300	21.6	29.3	3.8	1.723	43.06:1

**General:**

Air Inlet: 1/4" NPT

Air consumption: 21 cfm (.59 m<sup>3</sup>/min)

Offset (side-to-center) – 1-1/8"

Can be reversed instantaneously and continuously.

All tools performance rated @ 90psi (620 kPa) air pressure.

**Standard Equipment:**

1015869 Muffler



## BUCKEYE®

### 41MF-900/910 Series

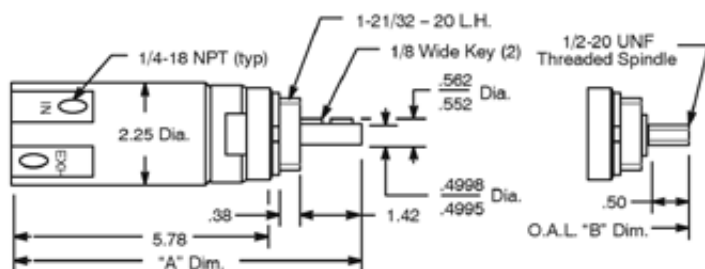
- Maximum Power  
0.75 hp  
0.56 kW
- Torque Range  
2.8 – 37.8 ft. lbs.  
3.8 – 51.3 Nm
- Non-Reversible
- Side Exhaust
- Threaded or Keyed Spindle



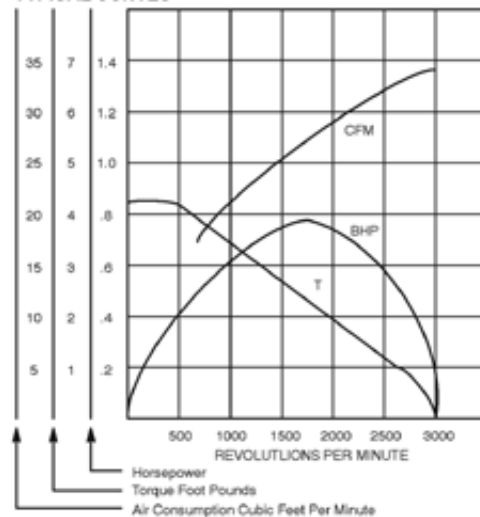
41MF-901

Speed Code	"A" Dim.	"B" Dim.
Code 0, 1, 2 & 3	7.73	6.98
Code 4	8.23	7.48
Code 5, 6 & 7	9.23	8.48

Speed code refers to last digit in model number.



TYPICAL CURVES



Model Number		RPM		Stall Torque		Weight		Gear Ratio
1/2" Threaded	1/2" Keyed	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
Spindle – RH Rotation								
	41MF-910	9000	18000	0.7	0.95	4.9	2.222	—
41MF-901	41MF-911	2250	4500	2.8	3.80	4.9	2.222	4.0:1
41MF-902	41MF-912	1500	3000	4.2	5.70	4.9	2.222	6.0:1
	41MF-913	1000	2000	6.3	8.50	4.9	2.222	9.0:1
	41MF-914	750	1500	8.7	11.80	4.9	2.222	12.37:1
41MF-905	41MF-915	500	1000	11.2	15.20	5.4	2.450	16.0:1
	41MF-916	363	725	16.8	22.80	5.4	2.450	24.7:1
41MF-907	41MF-917	250	500	25.2	34.20	5.4	2.450	36.0:1
41MF-908	41MF-918	165	330	37.8	51.30	5.4	2.450	54.5:1

**General:**

Air Inlet: 1/4" NPT

Air consumption: 27 cfm (.76 m<sup>3</sup>/min)

Offset (side-to-center) – 1-7/32"

Achieves full speed within a half revolution

All tools performance rated @ 90psi (620 kPa) air pressure.

**Standard Equipment:**

1015869 Muffler

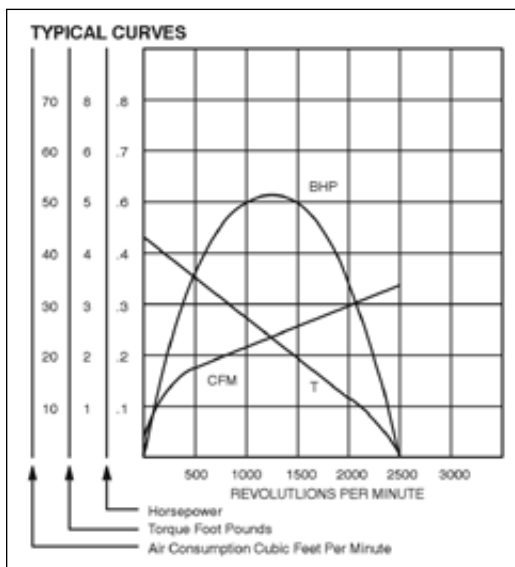
## BUCKEYE®

### 41MR-910 Series

- Maximum Power  
0.6 hp  
0.45 kW
- Torque Range  
2.9 – 39.6 ft. lbs.  
3.9 – 53.7 Nm
- Reversible
- Side Exhaust
- Keyed Spindle

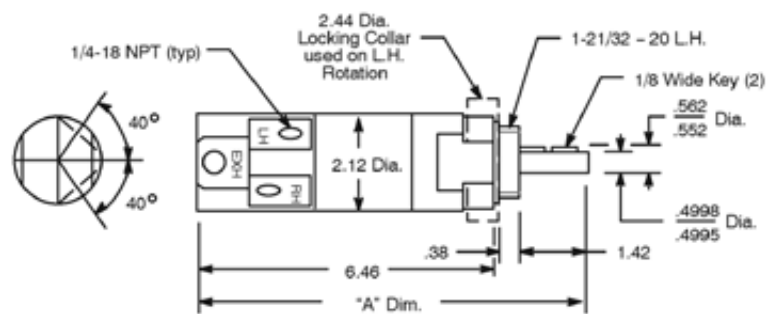


41MR-911



Speed Code	"A" Dim.
Code 1, 2 & 3	8.42
Code 4	8.92
Code 5, 6 & 7	9.92

Speed code refers to last digit in model number.



Model Number	RPM		Stall Torque		Weight		Gear Ratio
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
41MR-911	1875	3750	2.9	3.9	4.9	2.222	4.0:1
41MR-912	1250	2500	4.4	6.0	4.9	2.222	6.0:1
41MR-914	600	1200	9.1	12.3	4.9	2.222	12.37:1
41MR-915	450	900	11.7	15.9	5.4	2.450	16.0:1
41MR-916	313	625	17.6	23.9	5.4	2.450	24.7:1
41MR-917	200	400	26.4	35.8	5.4	2.450	36.0:1
41MR-918	138	275	39.6	53.7	5.4	2.450	54.5:1

**General:**

Air Inlet: 1/4" NPT  
Air consumption: 25 cfm (.71 m<sup>3</sup>/min)  
Offset (Side-to-Center) – 1-7/32"

Can be reversed instantaneously and continuously.  
All tools performance rated @ 90psi (620 kPa) air pressure

**Standard Equipment:**

1024078 Muffler

## BUCKEYE®

### 61MF-910 Series

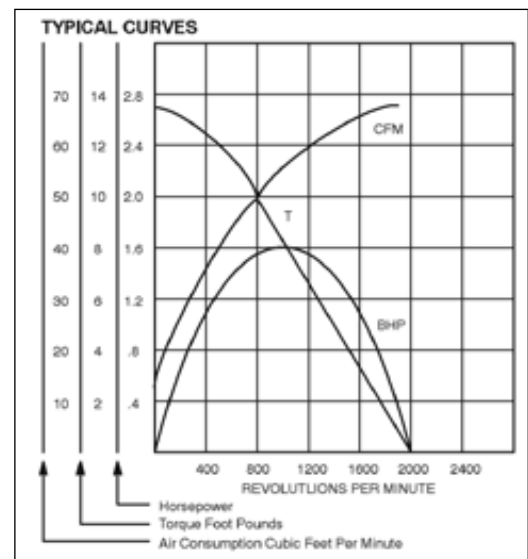
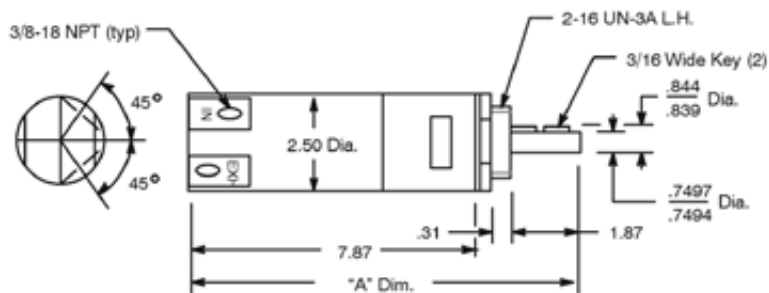
- Maximum Power  
1.5 hp  
1.12 kW
- Torque Range  
6.9 – 110 ft. lbs.  
9.4 – 149.2 Nm
- Non-Reversible
- Side Exhaust
- Threaded or Keyed Spindle



61MF-911

Speed Code	"A" Dim.
Code 1 & 2	10.47
Code 3, 4 & 5	12.28

Speed code refers to last digit in model number.



Model Number	RPM		Stall Torque		Weight		Gear Ratio
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
3/4" Keyed Spindle – RH Rotation							
61MF-911	1875	3700	6.9	9.4	8.0	3.629	4.0:1
61MF-912	925	1850	13.6	18.4	8.0	3.629	8.14:1
61MF-913	438	875	28.5	38.6	10.0	4.536	16.0:1
61MF-914	225	450	56.0	75.9	10.0	4.536	32.57:1
61MF-915	113	225	110.0	149.2	10.0	4.536	66.3:1

#### General

Air Inlet: 3/8" NPT  
Air consumption: 55 cfm (1.56 m3/min)  
Offset (side-to-center) – 1-1/4"

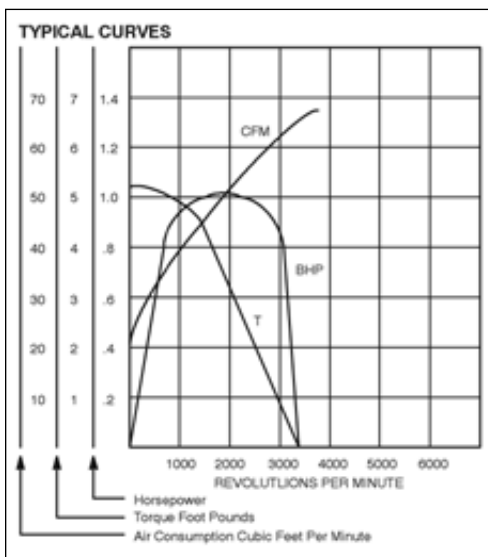
Achieves full speed within a half revolution  
All tools performance rated @ 90psi (620 kPa) air pressure.  
**Standard Equipment:**  
1015870 Muffler

## BUCKEYE®

### 61MR-910 Series

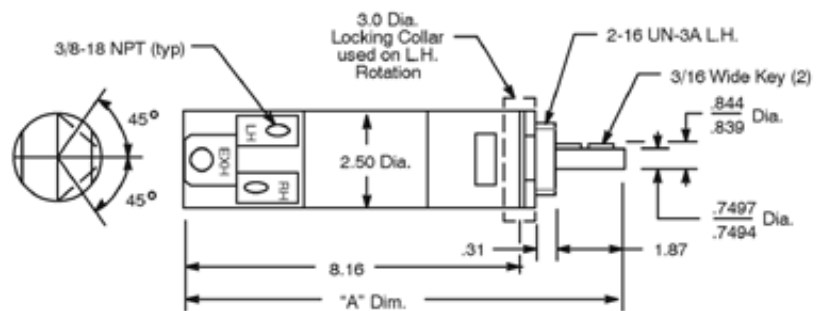
- Maximum Power  
1.0 hp  
0.75 kW
- Torque Range  
5.2 – 83 ft. lbs.  
7.1 – 112.5 Nm
- Reversible
- Side Exhaust
- Keyed Spindle

61MR-911



Speed Code	"A" Dim.
Code 1 & 2	10.70
Code 3, 4 & 5	12.59

Speed code refers to last digit in model number.



Model Number	RPM		Stall Torque		Weight		Gear Ratio
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg	
61MR-911	1700	3400	5.2	7.1	8.5	3.856	4.0:1
61MR-912	850	1700	10.2	13.8	8.5	3.856	8.14:1
61MR-913	413	825	21.5	29.2	10.5	4.763	16.0:1
61MR-914	200	400	42.4	57.5	10.5	4.763	32.57:1
61MR-915	100	200	83.0	112.5	10.5	4.763	66.3:1

**General:**

Air Inlet: 3/8" NPT  
 Air consumption: 50 cfm (1.42 m<sup>3</sup>/min)  
 Offset (Side-to-Center) – 1-1/2"

Can be reversed instantaneously and continuously.  
 All tools performance rated @ 90psi (620 kPa) air pressure.  
**Standard Equipment:**  
 1015869 Muffler

# Accessories for Buckeye Motors

Each air motor is supplied with its appropriate muffler.  
Choice of foot mount brackets or flange mount is provided  
as no-cost option with purchase of motor...if specified.

## Muffler Identification

A muffler is furnished for the common exhaust outlet  
on all reversible motors. If a 4-way valve is preferred  
to facilitate reversing, a muffler will be needed on the  
exhaust outlet of the valve. Flow restriction through the  
valve and muffler must be minimized in order to maintain  
maximum power output. If a valve is not used, another  
muffler will be required on the inlet port not being utilized  
for optional inlet flow.



Part Number	Motor Series
-------------	--------------

### Mufflers

1015869	21MF
1015748	21MR
1015869	31MF
1015869	31MR
1015869	41MF
1024078	41MR
1015870	61MF
1015869	61MR

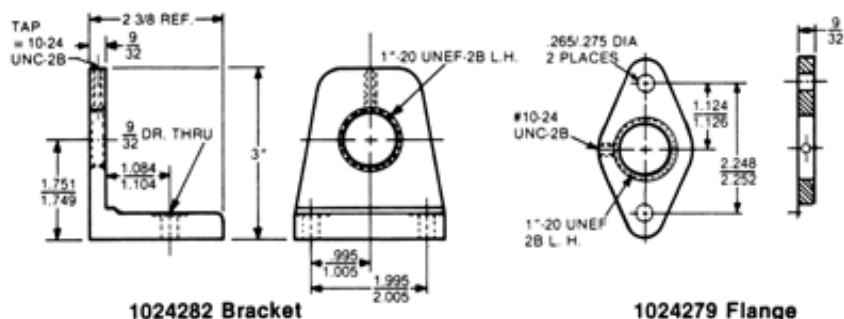
### Foot Mounts

1024282	21MF & 21MR
1024282	31MF & 31MR
1024283	41MF & 41MR
1024284	61MF & 61MR

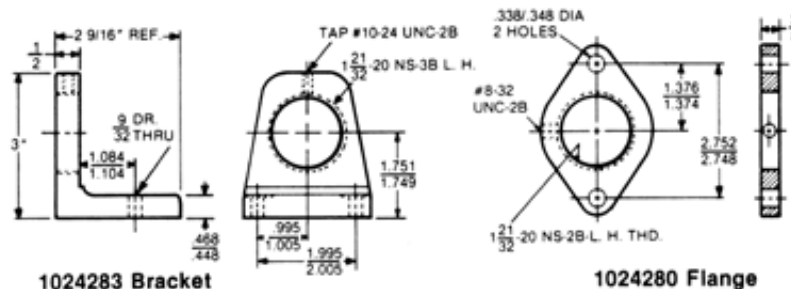
### Flange Mounts

1024279	21MF & 21MR
1024279	31MF & 31MR
1024280	41MF & 41MR
1024281	61MF & 61MR

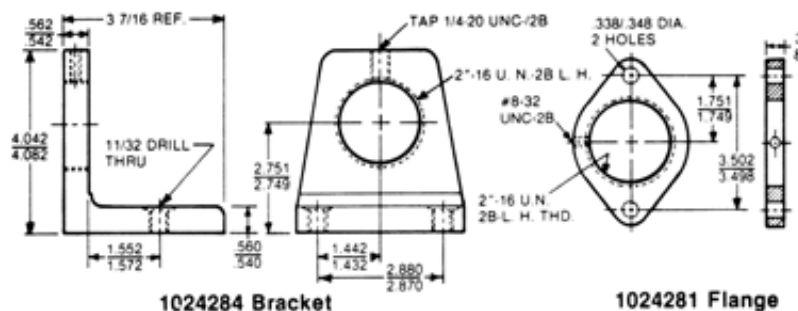
## 21 & 31 Series Foot Mount/Flange Mount Brackets



## 41 Series Foot Mount/Flange Mount Brackets



## 61 Series Foot Mount/Flange Mount Brackets





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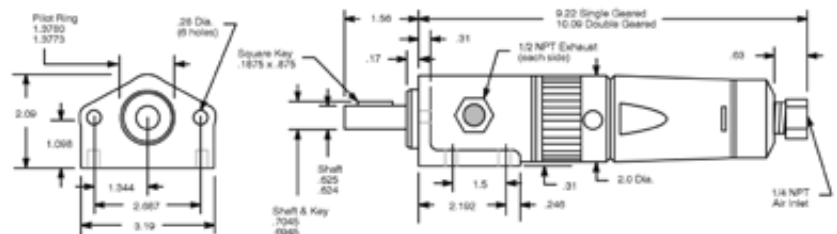
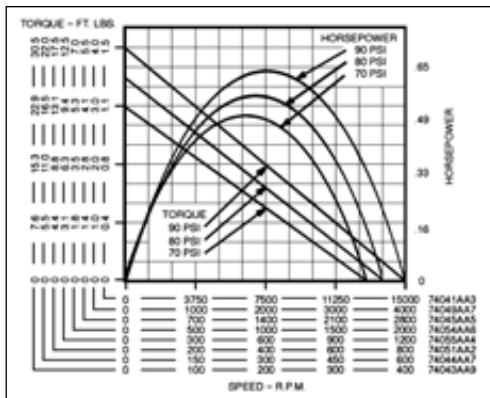
## GARDNER-DENVER®

### C3 Series

- Maximum Power  
0.65 hp  
0.48 kW
- Torque Range  
1.5 – 30.5 ft. lbs.  
2.0 – 42 Nm
- Non-Reversible
- Side Exhaust



74041AA3



Model Number	RPM		Stall Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg		lbs.	kg
74041AA3	7500	15000	1.5	2.0	4.00	1.8	—	470	213
74045AA5	1400	2800	5.5	7.5	4.00	1.8	5:1	470	213
74054AA6	1000	2000	7.0	9.5	4.00	1.8	6.6:1	470	213
74055AA4	600	1200	12.5	17.0	4.50	2.0	12.56:1	470	213
74051AA2	400	800	17.5	24.0	4.50	2.0	17.74:1	470	213
74044AA7	300	600	22.0	30.0	4.50	2.0	23.47:1	470	213
74043AA9	200	400	30.5	42.0	4.50	2.0	33:1	470	213

\*All models assume overhung load located at .94" (23.81mm) from face of motor.

#### General:

Air Inlet: 1/4" NPT

Air consumption: 28 cfm (.79 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Air strainer intake fitting. Foot and flange type mount.

#### Optional Equipment:

Speed Regulator – Part 504938

Pilot Ring – Part 30262

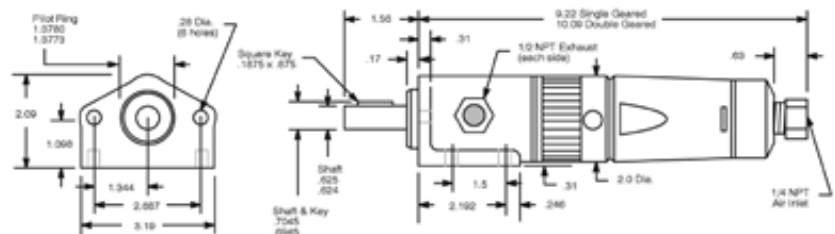
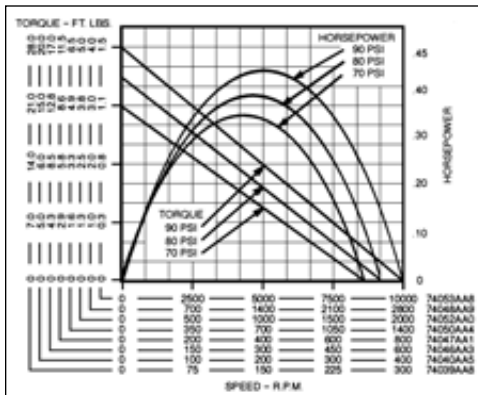
Lubricating Oil – Part 533485 (1 gallon)

Additional Accessories: Pages 64-65

## GARDNER-DENVER®

### C3 Series

- Maximum Power  
0.45 hp  
0.34 kW
- Torque Range  
4.0 – 28 ft. lbs.  
5.4 – 38 Nm
- Reversible
- Side Exhaust



Model Number	RPM		Stall Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg		lbs.	kg
74048AA9	1400	2800	4.0	5.4	4.13	1.9	3.55:1	470	213
74050AA4	700	1400	6.5	8.8	4.13	1.9	6.6:1	470	213
74047AA1	400	800	11.5	15.6	4.63	2.1	12.56:1	470	213
74046AA3	300	600	17.0	23.0	4.63	2.1	17.74:1	470	213
74040AA5	200	400	20.0	27.0	4.63	2.1	23.47:1	470	213
74039AA8	150	300	28.0	38.0	4.63	2.1	33:1	470	213

\*All models assume overhung load located at .94" (23.81mm) from face of motor.

#### General:

Air Inlet: 1/4" NPT

Air consumption: 28 cfm (.79 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Air strainer intake fitting. Foot and flange type mount.

#### Optional Equipment:

Speed Regulator – Part 504938

Pilot Ring – Part 30262

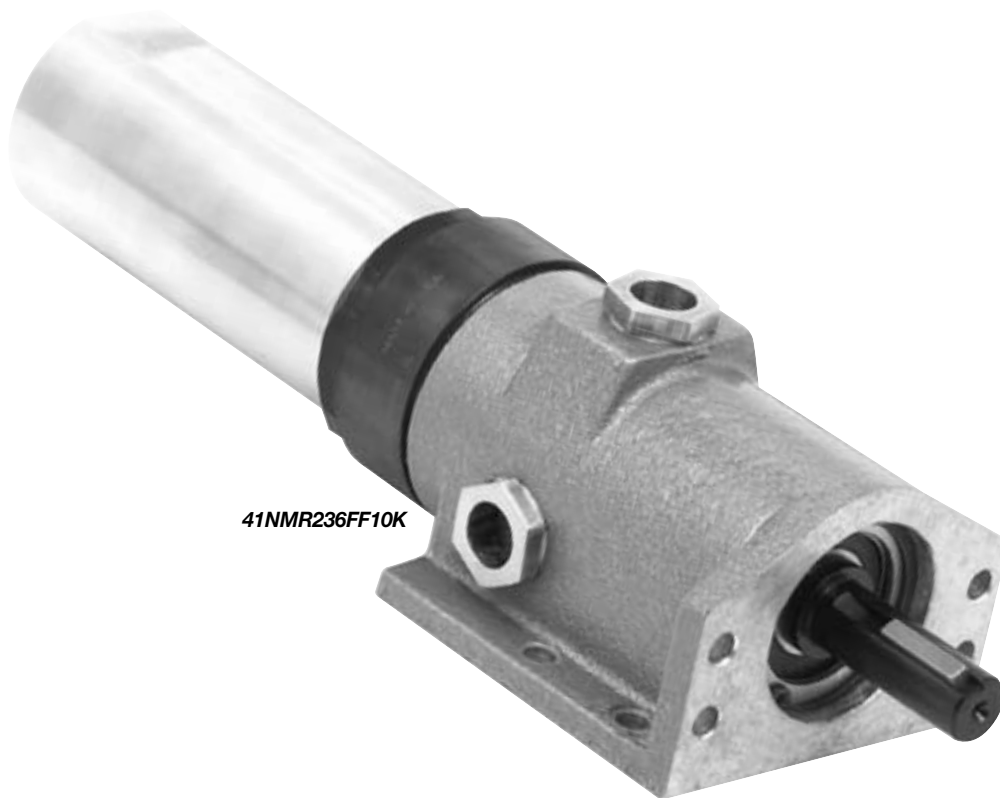
Lubricating Oil – Part 533485 (1 gallon)

**Additional Accessories:** Pages 64-65

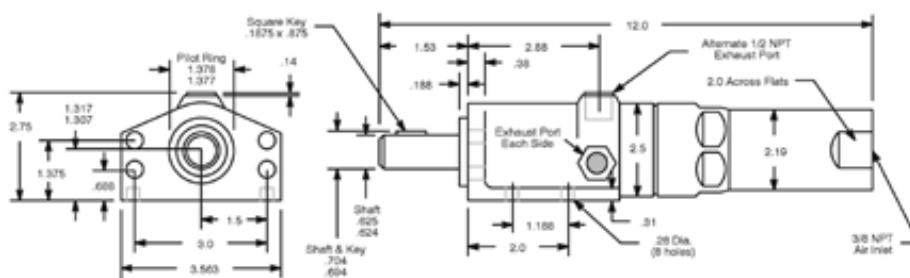
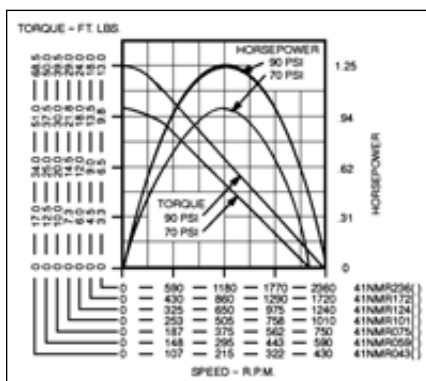
## GARDNER-DENVER®

### 41 Series

- Maximum Power  
1.25 hp  
0.93 kW
- Torque Range  
13 – 68.5 ft. lbs.  
17.6 – 92.8 Nm
- Non-Reversible
- Side Exhaust



41NMR236FF10K



Model Number	RPM		Stall Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg		lbs.	kg
41NMR236FF10K	1180	2360	13.0	17.6	6.25	2.84	7.2:1	600	272
41NMR172FF10K	860	1720	18.0	24.4	6.25	2.84	9.86:1	600	272
41NMR124FF10K	650	1240	24.0	32.5	6.25	2.84	13.7:1	600	272
41NMR075FF10K	375	750	39.5	53.6	6.50	2.95	22.6:1	600	272
41NMR043FF10K	215	430	68.5	92.8	6.50	2.95	39:1	600	272

•Available On Quotation Basis Only

\*All models assume overhung load located at .94" (23.81mm) from face of motor.

#### General:

Air Inlet: 3/8" NPT

Air consumption: 40 cfm (1.13 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Air strainer intake fitting. Foot and flange type mount.

#### Optional Equipment:

Pilot Ring – Part 520886

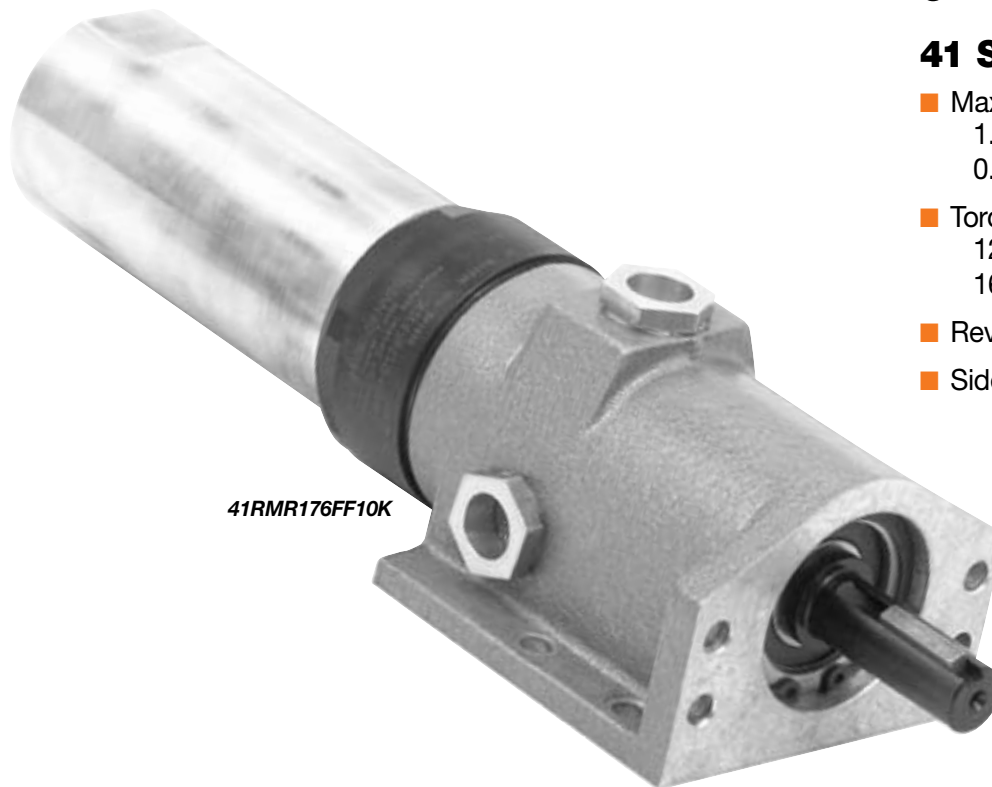
Lubricating Oil – Part 533485 (1 gallon)

Additional Accessories: Pages 64-65

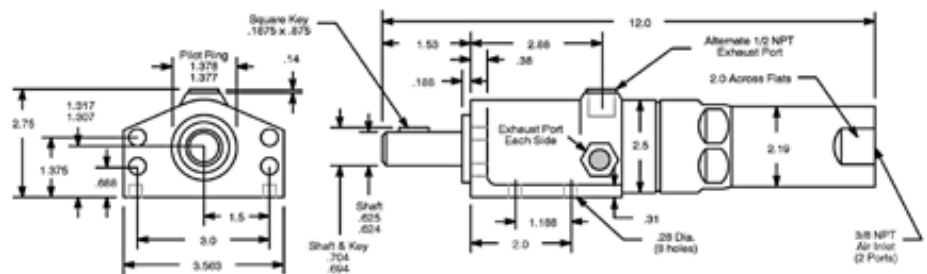
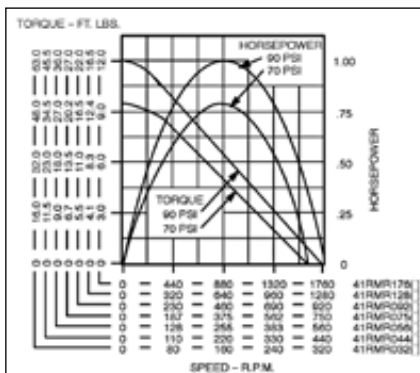
## GARDNER-DENVER®

### 41 Series

- Maximum Power  
1.0 hp  
0.75 kW
- Torque Range  
12 – 63 ft. lbs.  
16.3 – 85.4 Nm
- Reversible
- Side Exhaust



41RMR176FF10K



Model Number	RPM		Stall Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	in. lbs.	Nm	lbs.	kg		lbs.	kg
41RMR176FF10K	880	1760	12.0	16.3	6.25	2.84	7.2:1	600	272
41RMR128FF10K	640	1280	16.5	22.4	6.25	2.84	9.86:1	600	272
41RMR092FF10K	460	920	22.0	30.0	6.25	2.84	13.7:1	600	272
41RMR075FF10K	375	750	27.0	36.6	6.50	2.95	16.8:1	600	272
41RMR056FF10K	255	560	36.0	48.8	6.50	2.95	22.6:1	600	272
41RMR044FF10K	220	440	45.5	61.7	6.50	2.95	28.4:1	600	272
41RMR032FF10K	160	320	63.0	85.4	6.50	2.95	39:1	600	272

\*All models assume overhung load located at 1.0" (25.40mm) from face of motor.

#### General:

Air Inlet: 3/8" NPTF

Air consumption: 33 cfm (.93 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Air strainer intake fitting. Foot and flange type mount.

#### Optional Equipment:

Pilot Ring – Part 520886

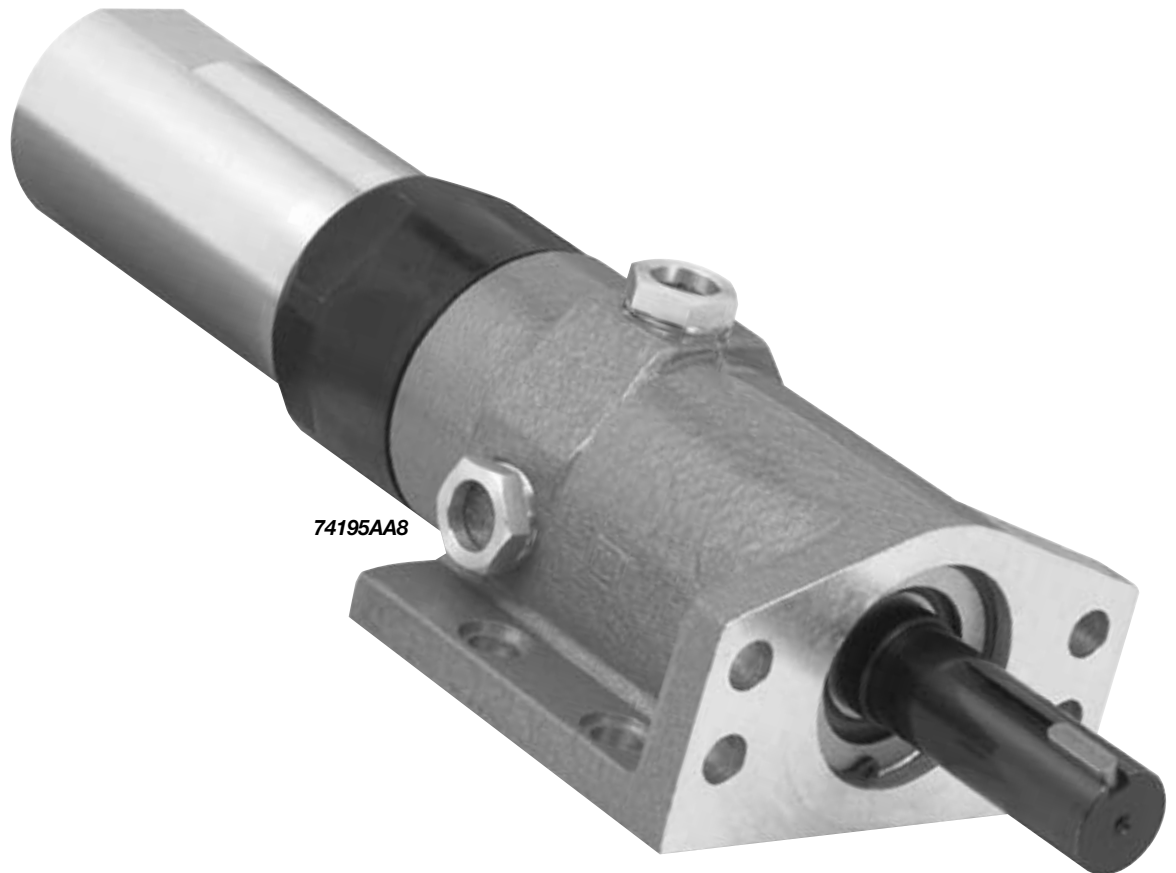
Lubricating Oil – Part 533485 (1 gallon)

**Additional Accessories:** Pages 64-65

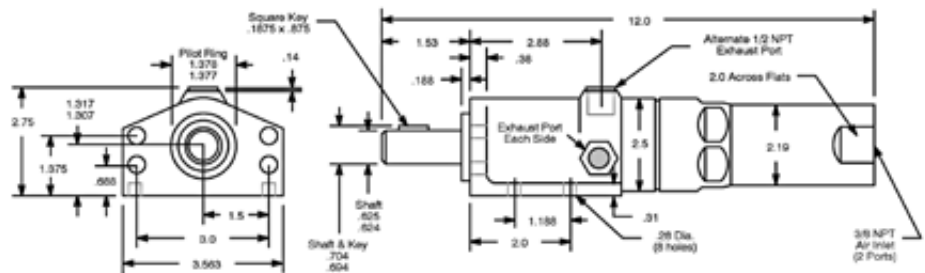
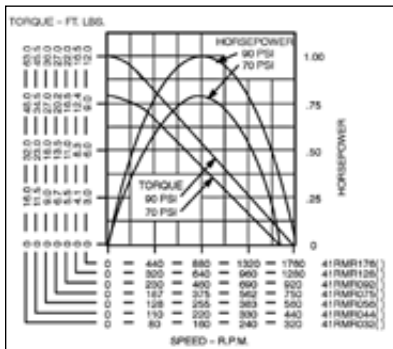
## GARDNER-DENVER®

### 60 Series

- Maximum Power  
2.3 hp  
1.72 kW
- Torque Range  
50 – 120 ft. lbs.  
68 – 163 Nm
- Non-Reversible
- Side Exhaust



74195AA8



Model Number	RPM		Stall Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg		lbs.	kg
74195AA8	460	920	50	68	15	6.8	14.2:1	1000	454
74196AA6	345	690	67	91	15	6.8	19:1	1000	454
74198AA2	240	480	95	129	15	6.8	27:1	1000	454
74199AA0	195	390	120	163	15	6.8	33.7:1	1000	454

\*All models assume overhung load located at 2.0" (50.80mm) from face of motor.

#### General:

Air Inlet: 1/2" NPTF

Air consumption: 70 cfm (1.98 m3/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Air strainer intake fitting. Foot and flange type mount.

#### Optional Equipment:

Lubricating Oil – Part 533485 (1 gallon)

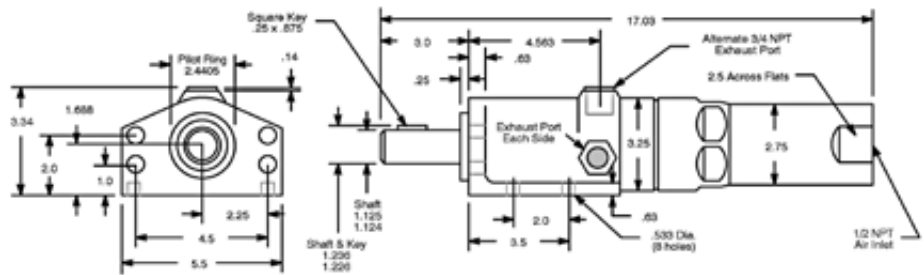
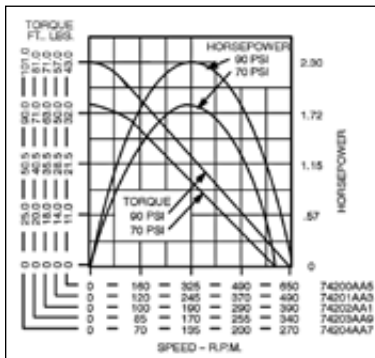
Additional Accessories: Pages 64-65



## GARDNER-DENVER®

### 60 Series

- Maximum Power  
1.9 hp  
1.42 kW
- Torque Range  
43 – 101 ft. lbs.  
58 – 137 Nm
- Reversible
- Side Exhaust



Model Number	RPM		Stall Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	lbs.	kg		lbs.	kg
74200AA5	325	650	43	58	15	6.8	14.2:1	1000	454
74201AA3	245	490	57	77	15	6.8	19:1	1000	454
74202AA1	195	390	71	96	15	6.8	23.7:1	1000	454
74203AA9	170	340	81	110	15	6.8	27:1	1000	454
74204AA7	135	270	101	137	15	6.8	33.7:1	1000	454

\*All models assume overhung load located at 2.0" (50.80mm) from face of motor.

#### General:

Air Inlet: 1/2" NPTF

Air consumption: 70 cfm (1.98 m3/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Air strainer intake fitting. Foot and flange type mount.

#### Optional Equipment:

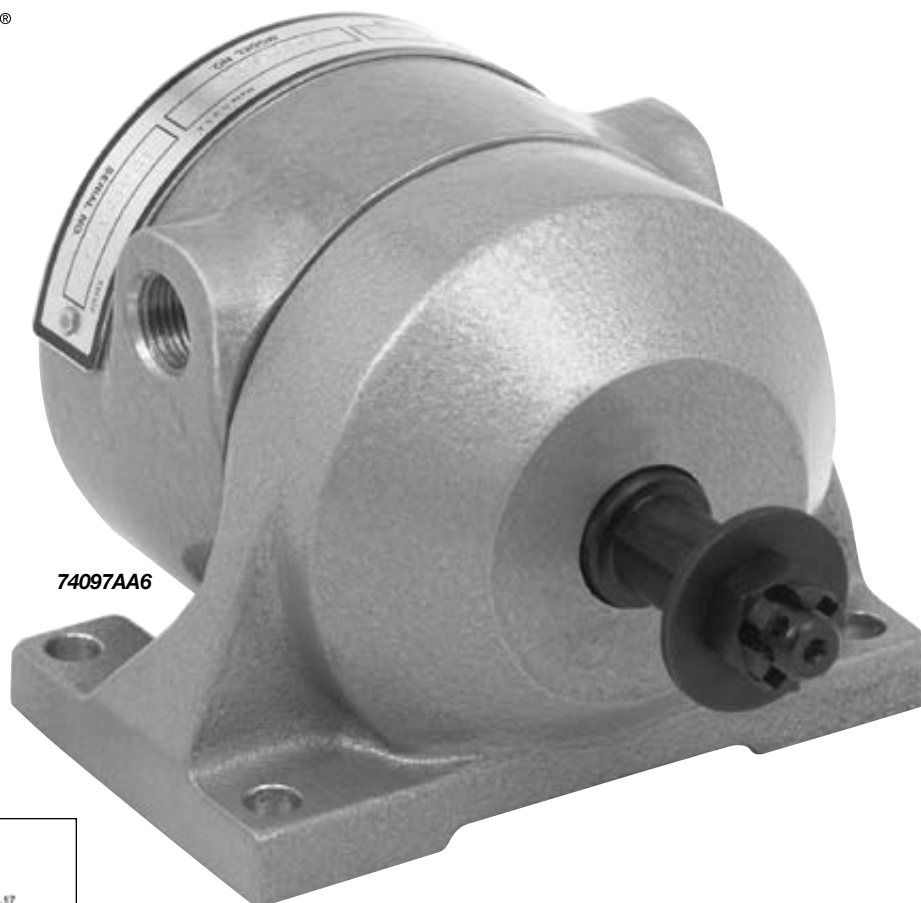
Lubricating Oil – Part 533485 (1 gallon)

Additional Accessories: Pages 64-65

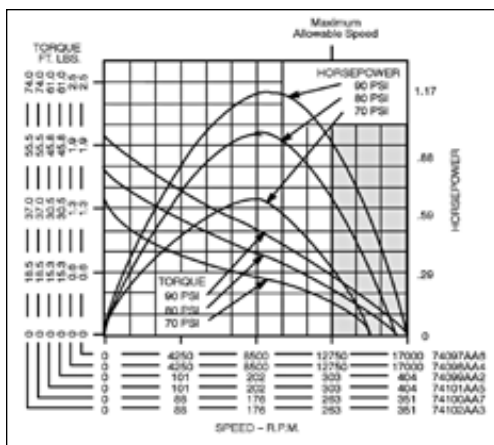
## GARDNER-DENVER®

### MR10 Series

- Maximum Power  
1.0 hp  
0.75 kW
- Torque Range  
2.5 – 74 ft. lbs.  
3.4 – 100 Nm
- Reversible
- Side Exhaust



74097AA6



Model Number	RPM		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
Foot Mounting – 5/8” (Non-geared) or 7/8” (Geared) Diameter Keyed Spindle											
74097AA6	8500	17000	2.5	3.4	1.8	2.4	7	3.2	—	680	308
74099AA2	210	400	61.0	83.0	35.0	47.0	23	10.4	29.7:1	1055	478
74100AA7	183	350	74.0	100.0	46.0	62.0	23	10.4	34.2:1	1055	478
Flange Mounting – 5/8” (Non-geared) or 7/8” (Geared) Diameter Keyed Spindle											
74098AA4	8500	17000	2.5	3.4	1.8	2.4	7	3.2	—	680	308
74101AA5	210	400	61.0	83.0	35.0	47.0	23	10.4	29.7:1	1055	478
74102AA3	183	350	74.0	100.0	46.0	62.0	23	10.4	34.2:1	1055	478

\*Non-geared models assume overhung load located at 0.5" (12.70mm) from face of motor.  
Geared models assume overhung load located at 0.75" (19.05mm) from face of motor.

**General:**  
Air Inlet: 3/8" NPTF  
Air consumption: 54 cfm (1.53 m<sup>3</sup>/min)  
All tools performance rated @ 90psi (620 kPa) air pressure.

**Standard Equipment:**  
Air strainer intake fitting. Foot and flange type mount.

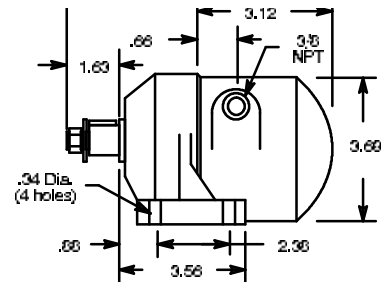
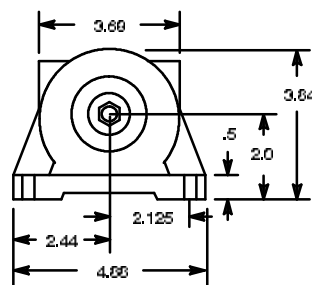
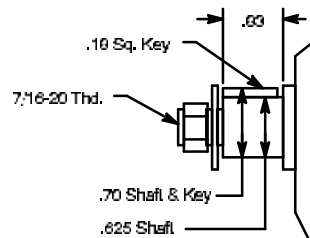
**Optional Equipment:**  
Exhaust Muffler – Part A27137  
Lubricating Oil – Part 533485 (1 gallon)  
Gear Oil – Part 535090 (1 gallon)

**Additional Accessories:** Pages 64-65

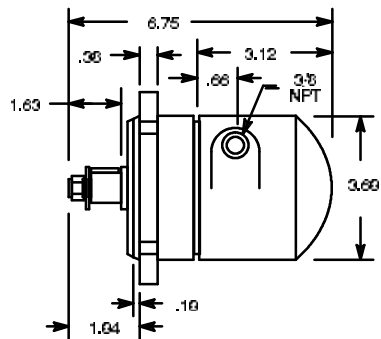
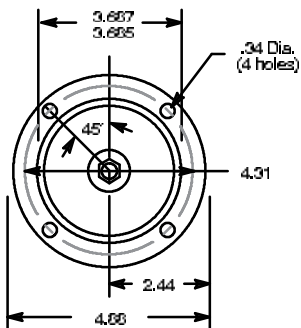
## MR10 Series Dimensional Data

### ■ Non-Geared

#### 74097AA6 FOOT MOUNTED

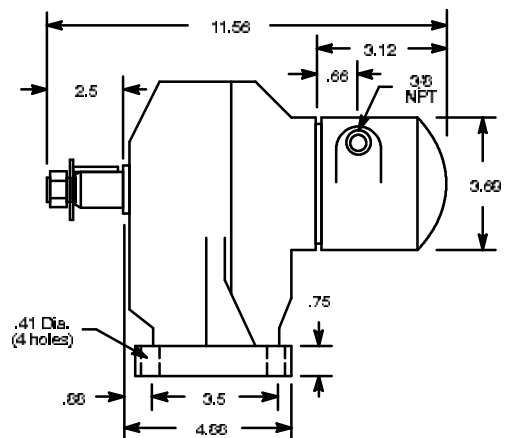
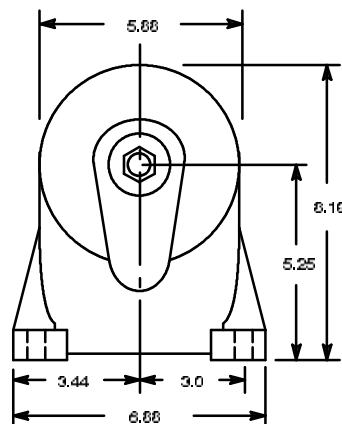
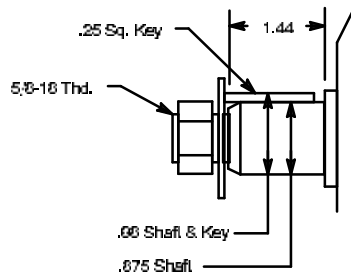


#### 74098AA4 FLANGE MOUNTED

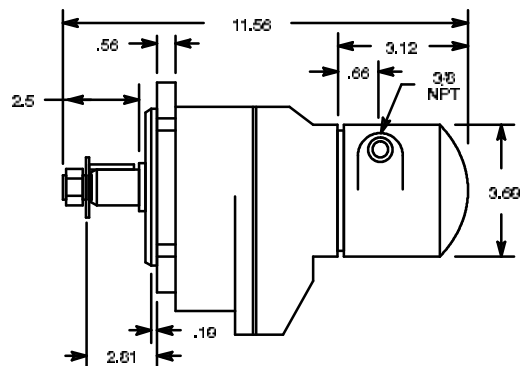
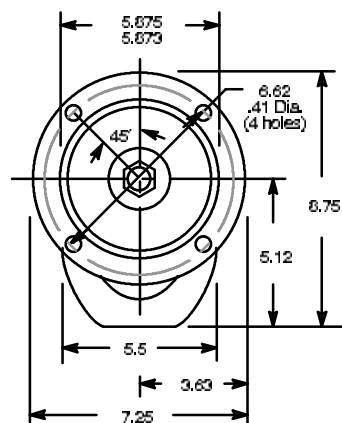


### ■ Geared

#### 74099AA2 74100AA7 FOOT MOUNTED



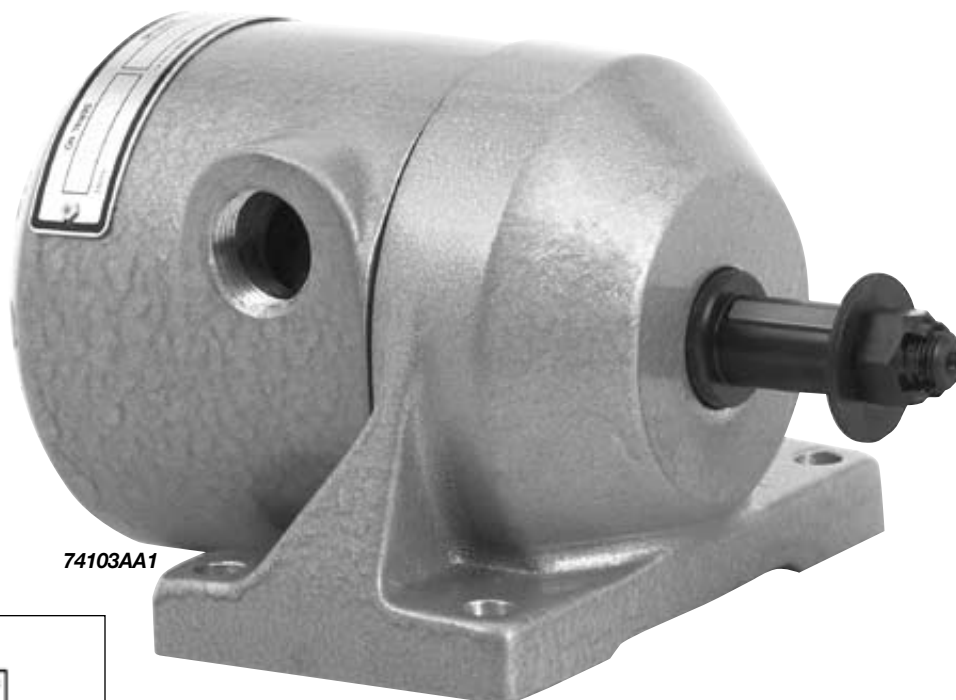
#### 74101AA5 74102AA3 FLANGE MOUNTED



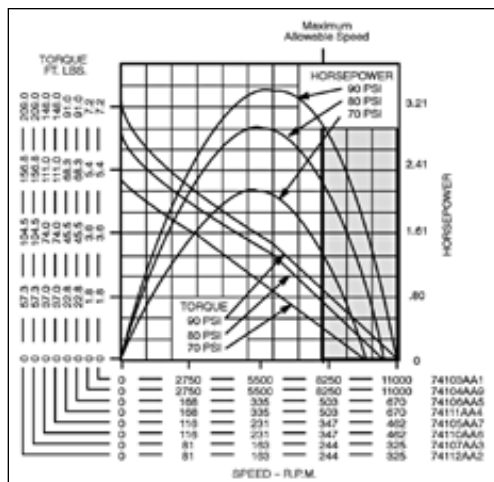
## GARDNER-DENVER®

### MR30 Series

- Maximum Power  
3.0 hp  
2.24 kW
- Torque Range  
7.2 – 209 ft. lbs.  
10 – 283 Nm
- Reversible
- Side Exhaust



74103AA1



Model Number	RPM		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
Foot Mounting – 3/4” (Non-geared) or 1-1/8” (Geared) Diameter Keyed Spindle											
74103AA1	6000	11000	7.2	10	4.6	6	12.5	5.7	—	1220	553
74106AA5	366	670	91.0	123	45.0	61	33.0	15.0	16.4:1	1550	703
74105AA7	252	460	148.0	201	87.0	118	33.0	15.0	23.8:1	1550	703
74107AA3	177	325	209.0	283	122.0	165	33.0	15.0	23.8:1	1550	703
Flange Mounting – 3/4” (Non-geared) or 1-1/8” (Geared) Diameter Keyed Spindle											
74104AA9	6000	11000	7.2	10	4.6	6	12.5	5.7	—	1220	553
74111AA4	366	670	91.0	123	45.0	61	33.0	15.0	16.4:1	1550	703
74110AA6	252	460	148.0	201	87.0	118	33.0	15.0	23.8:1	1550	703
74112AA2	177	325	209.0	283	122.0	165	33.0	15.0	23.8:1	1550	703

\*Non-geared models assume overhung load located at 0.625" (15.88mm) from face of motor.  
Geared models assume overhung load located at 0.875" (22.023mm) from face of motor.

#### General:

Air Inlet: 3/4" NPTF  
Air consumption: 124 cfm (3.51 m<sup>3</sup>/min)  
All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Foot and flange type mount.

#### Optional Equipment:

Exhaust Muffler – Part 524301

Lubricating Oil – Part 533485 (1 gallon)

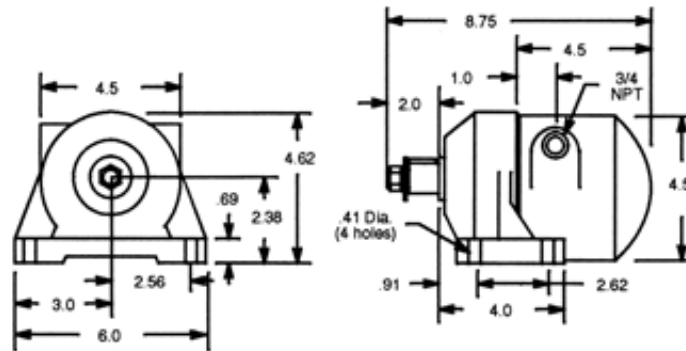
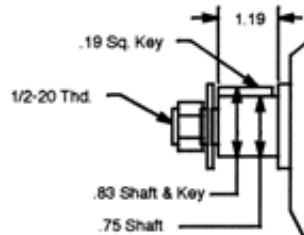
Gear Oil – Part 535090 (1 gallon)

**Additional Accessories:** Pages 64-65

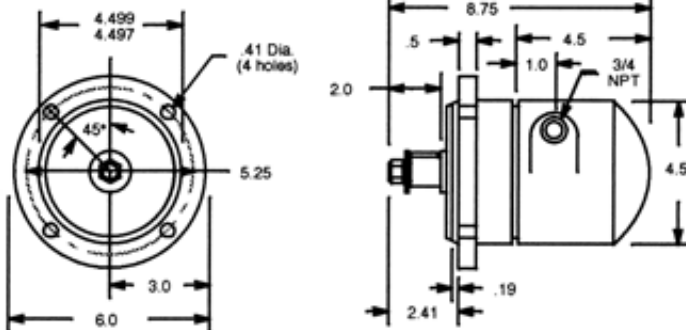
## MR30 Series Dimensional Data

### Non-Geared

#### 74103AA1 FOOT MOUNTED

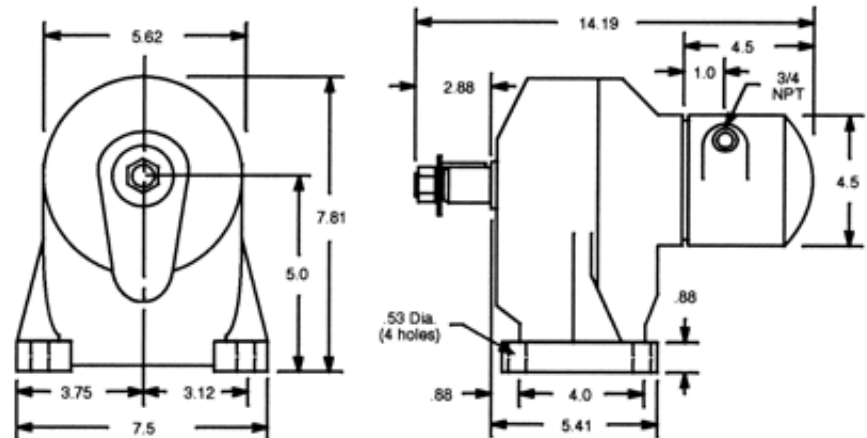
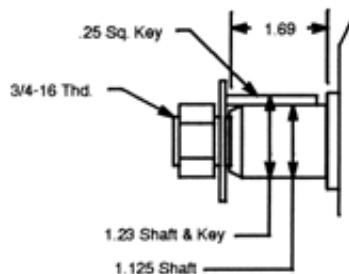


#### 74104AA9 FLANGE MOUNTED

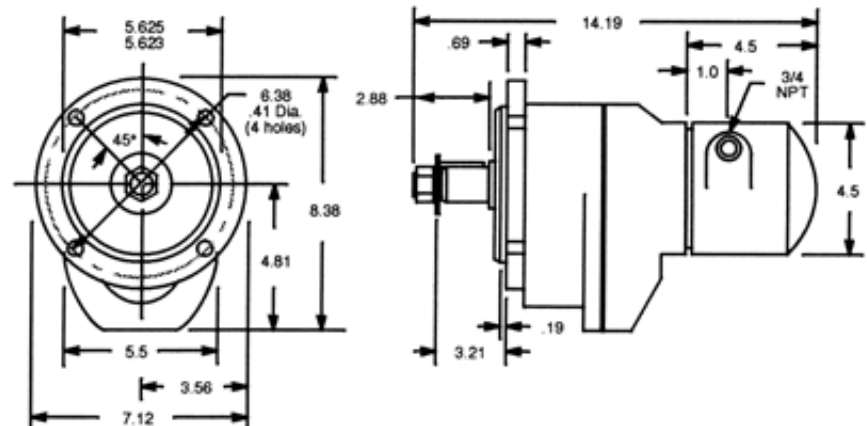


### Geared

#### 74106AA5 74105AA7 74107AA3 FOOT MOUNTED



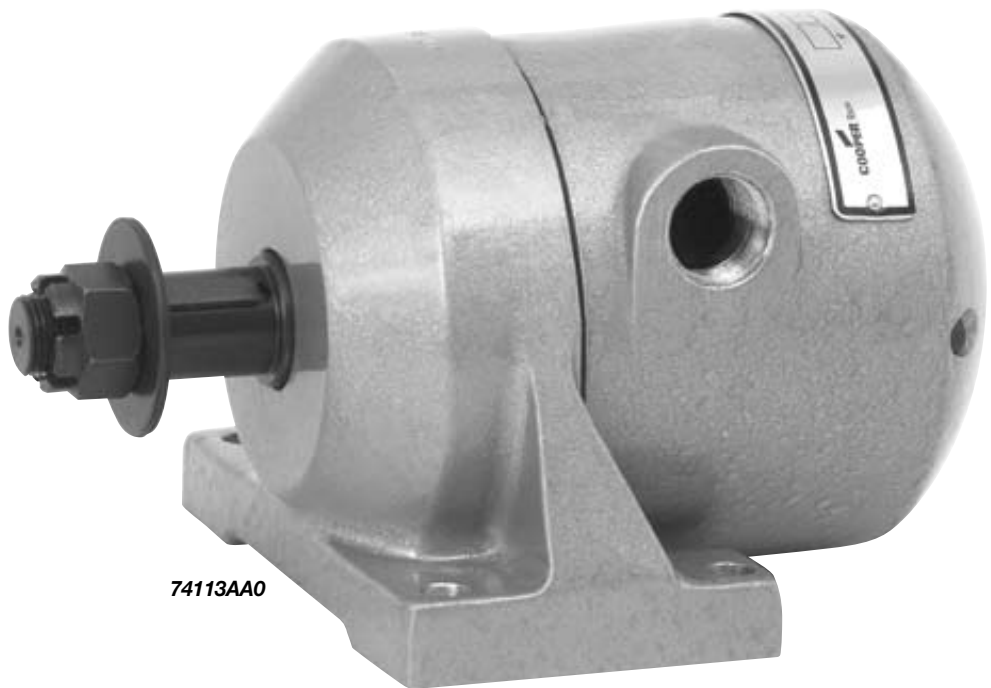
#### 74111AA4 74110AA6 74112AA2 FLANGE MOUNTED



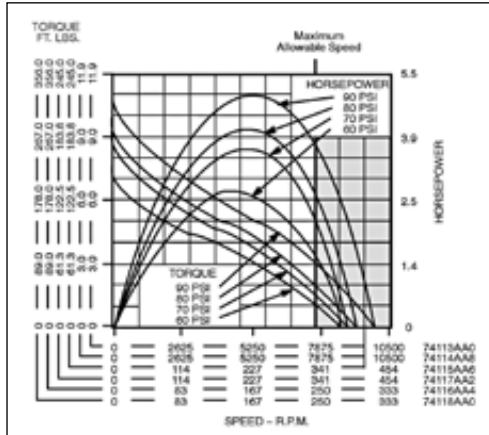
## GARDNER-DENVER®

### MR50 Series

- Maximum Power  
5.5 hp  
4.10 kW
- Torque Range  
11.9 – 356 ft. lbs.  
16 – 483 Nm
- Reversible
- Side Exhaust



74113AA0



Model Number	RPM		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
Foot Mounting – 1” (Non-geared) or 1-1/8” (Geared) Diameter Keyed Spindle											
74115AA6	247	450	245.0	332	173.0	235	46.0	21.0	23.1:1	2110	957
74116AA4	181	330	356.0	483	260.0	353	46.0	21.0	31.58:1	2110	957
Flange Mounting – 1” (Non-geared) or 1-1/8” (Geared) Diameter Keyed Spindle											
74114AA8	5700	10500	11.9	16	8.7	12	18.5	8.4	—	1510	685
74117AA2	247	450	245.0	332	173.0	235	46.0	21.0	23.1:1	2110	957
74118AA0	181	330	356.0	483	260.0	353	46.0	21.0	31.58:1	2110	957

\*Non-geared models assume overhung load located at 0.625" (15.88mm) from face of motor.  
Geared models assume overhung load located at 0.875" (22.23mm) from face of motor.

#### General:

Air Inlet: 3/4" NPTF  
Air consumption: 172 cfm (4.87 m<sup>3</sup>/min)  
All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Foot and flange type mount.

#### Optional Equipment:

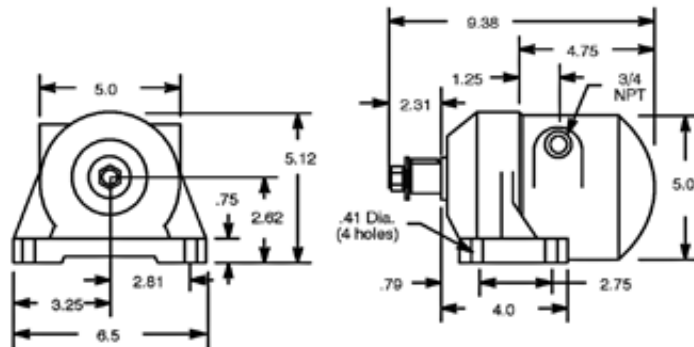
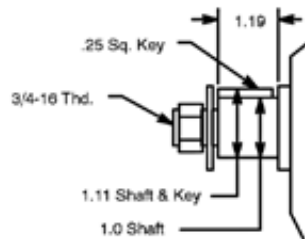
Exhaust Muffler – Part 524301  
Lubricating Oil – Part 533485 (1 gallon)  
Gear Oil – Part 535090 (1 gallon)  
**Additional Accessories:** Pages 64-65



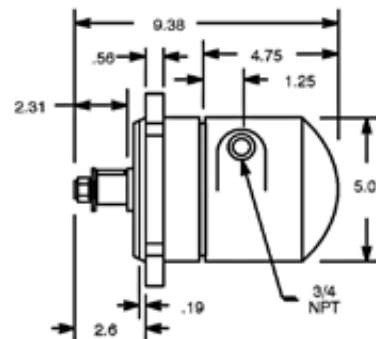
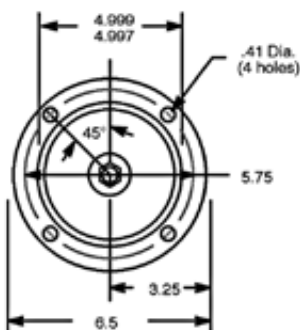
## MR50 Series Dimensional Data

### Non-Geared

74113AA0  
FOOT MOUNTED

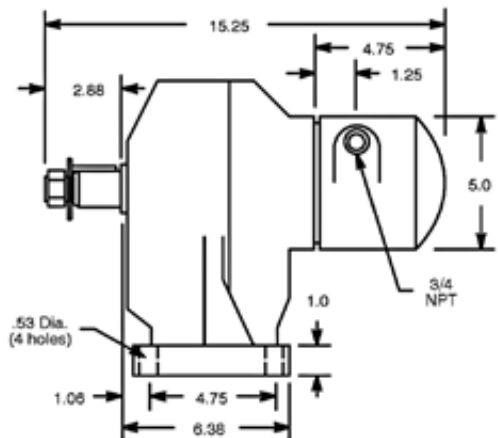
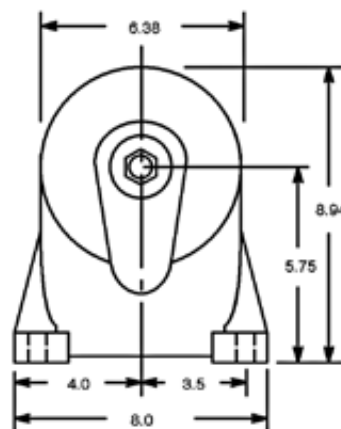
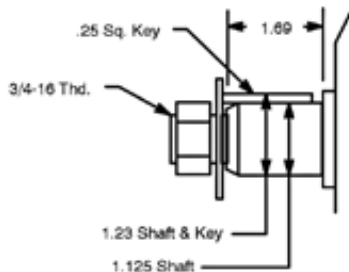


74114AA8  
FLANGE MOUNTED

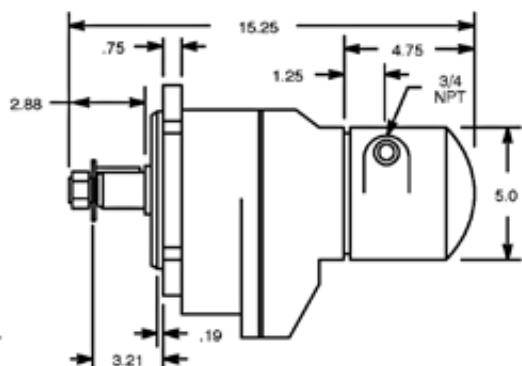
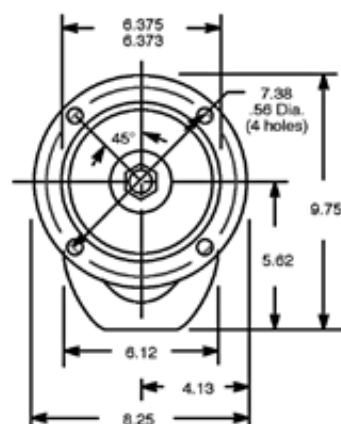


### Geared

74115AA6  
74116AA4  
FOOT MOUNTED



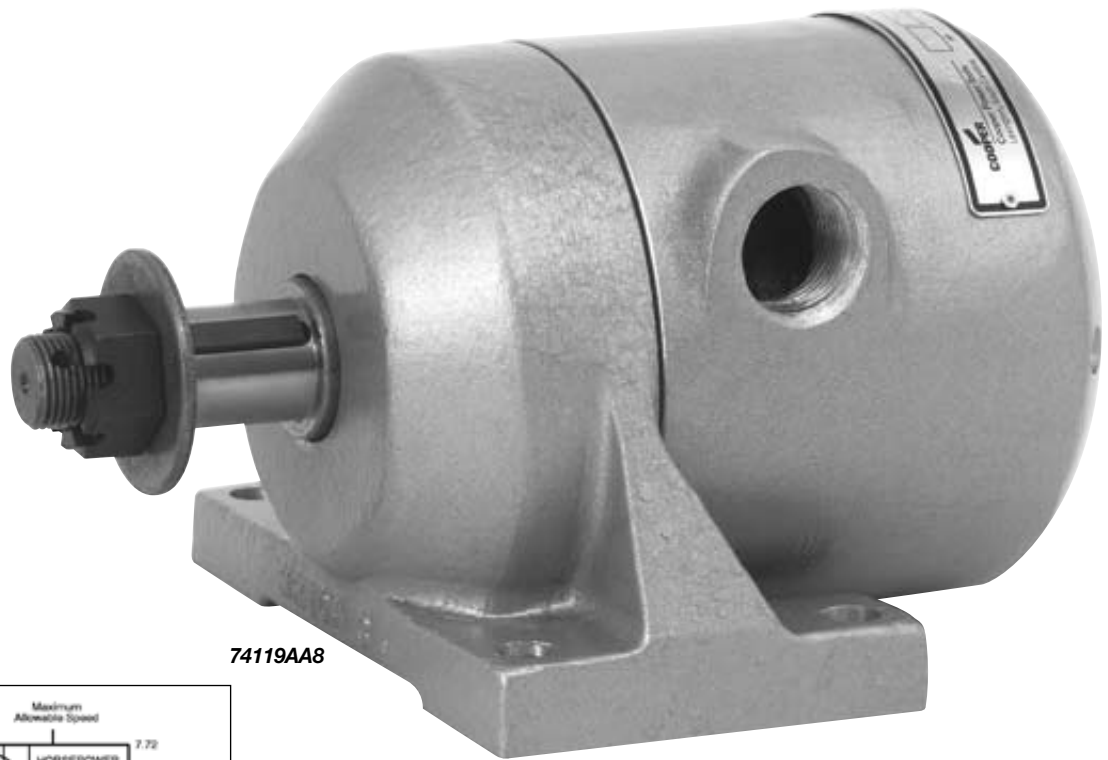
74117AA2  
74118AA0  
FLANGE MOUNTED



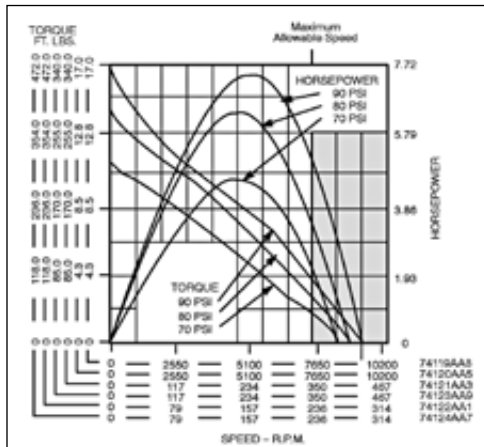
## GARDNER-DENVER®

### MR70 Series

- Maximum Power  
7.5 hp  
5.59 kW
- Torque Range  
17 – 472 ft. lbs.  
23 – 640 Nm
- Reversible
- Side Exhaust



74119AA8



Model Number	RPM		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
Foot Mounting – 1-1/8" (Non-geared) or 1-1/4" (Geared) Diameter Keyed Spindle											
74119AA8	5500	10200	17	23	12	16	27.5	12.5	—	2080	943
74121AA3	257	465	340	461	227	308	65.0	29.0	21.8:1	2560	1161
74122AA1	169	310	472	640	336	456	65.0	29.0	32.5:1	2560	1161
Flange Mounting – 1-1/8" (Non-geared) or 1-1/4" (Geared) Diameter Keyed Spindle											
74120AA5	5500	10200	17	23	12	16	27.5	12.5	—	2080	943
74123AA9	257	465	340	461	227	308	65.0	29.0	21.8:1	2560	1161
74124AA7	169	310	472	640	336	456	65.0	29.0	32.5:1	2560	1161

\*Non-geared models assume overhung load located at 0.75" (19.05mm) from face of motor.  
Geared models assume overhung load located at 1" (25.40mm) from face of motor.

#### General:

Air Inlet: 1" NPTF  
Air consumption: 212 cfm (6.00 m3/min)  
All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Foot and flange type mount.

#### Optional Equipment:

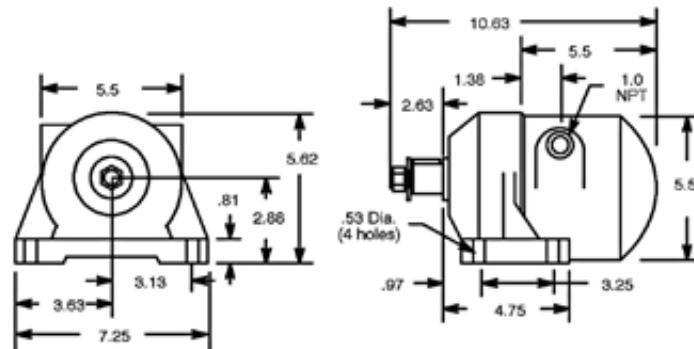
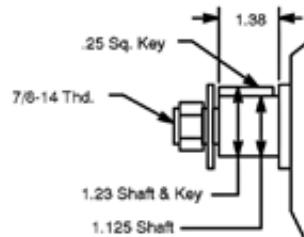
Exhaust Muffler – Part 524302  
Lubricating Oil – Part 533485 (1 gallon)  
Gear Oil – Part 535090 (1 gallon)

**Additional Accessories:** Pages 64-65

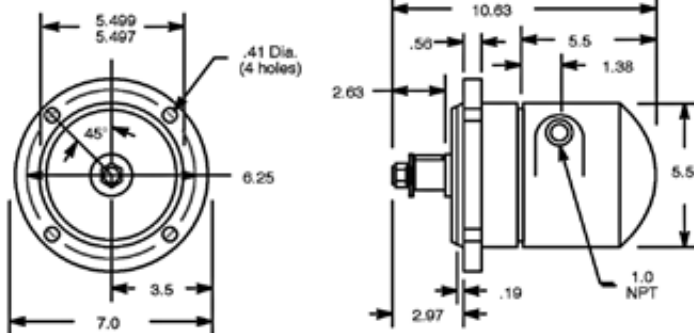
## MR70 Series Dimensional Data

### Non-Geared

#### 74119AA8 FOOT MOUNTED

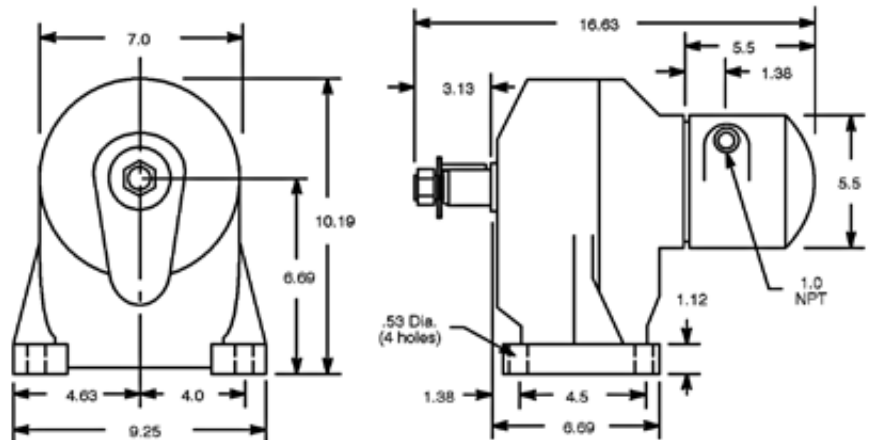
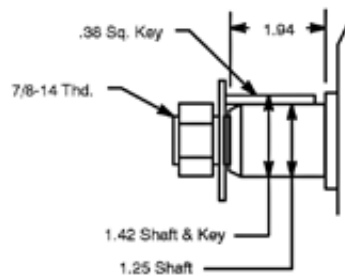


#### 74120AA5 FLANGE MOUNTED

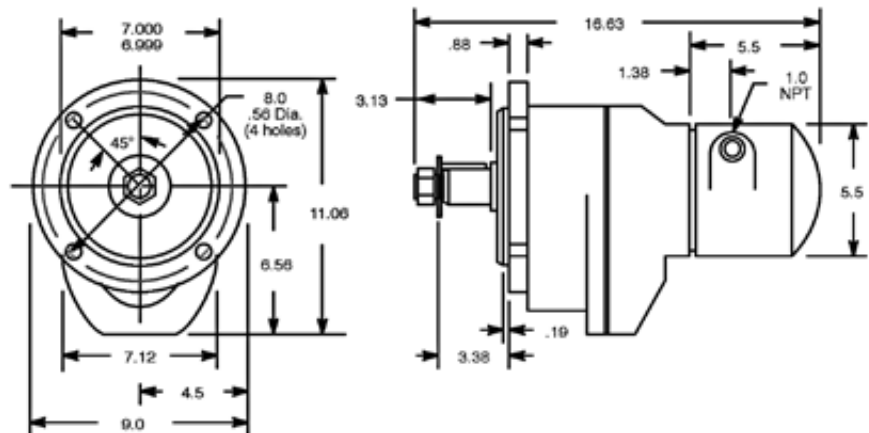


### Geared

#### 74121AA3 74122AA1 FOOT MOUNTED



#### 74123AA9 74124AA7 FLANGE MOUNTED



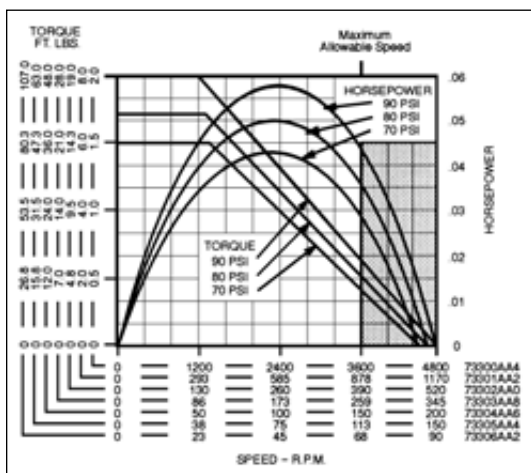
## GARDNER-DENVER®

### A2 Series

- Maximum Power  
0.6 hp  
0.45 kW
- Torque Range  
2 – 107 ft. lbs.  
2.7 – 145 Nm
- Reversible
- Rear Exhaust



73300AA4



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
73300AA4	2360	4800	2	2.7	1.5	2	14	6.35	—	800	363
73301AA2	575	1170	8	11.0	6.0	8	14	6.35	4.1:1	800	363
73302AA0	255	520	19	26.0	13.0	18	14	6.35	9.25:1	800	363
73303AA8	169	345	28	38.0	21.0	28	22	9.98	13.9:1	800	363
73304AA6	99	200	48	65.0	36.0	49	22	9.98	23.8:1	800	363
73305AA4	75	150	63	85.0	47.0	64	22	9.98	31.4:1	800	363
73306AA2	44	90	107	145.0	80.0	108	22	9.98	53.6:1	800	363

\* All models assume overhung load located at 1.75" (44.45mm) from face of motor.

\*\* These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 1" NPTF

Air consumption: 212 cfm (6.00 m3/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Standard Equipment:

Foot and flange type mount.

#### Optional Equipment:

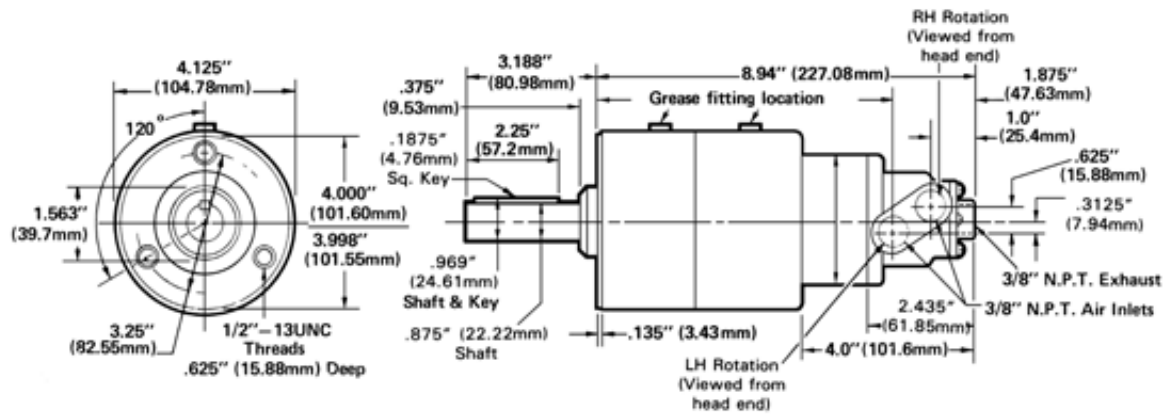
Exhaust Muffler – Part 524302

Lubricating Oil – Part 533485 (1 gallon)

Gear Oil – Part 535090 (1 gallon)

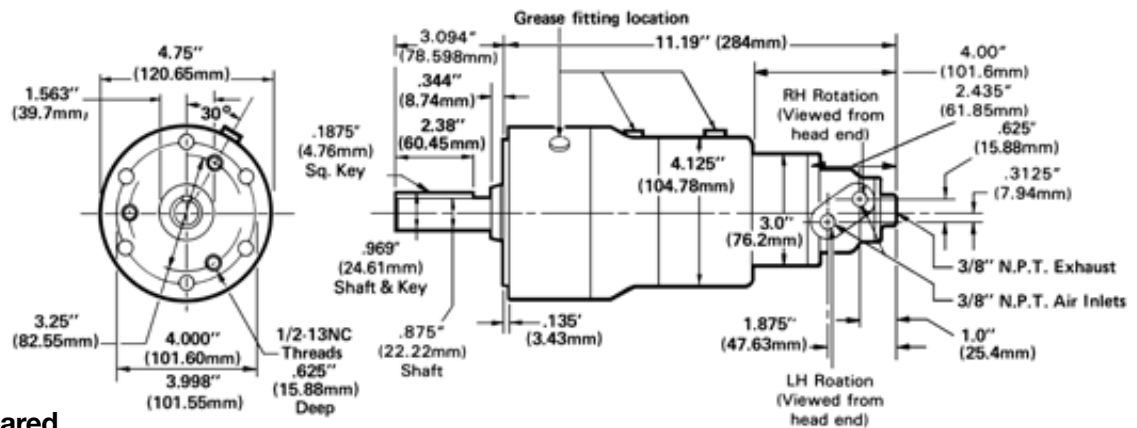
Additional Accessories: Pages 64-65

## A2 Series Dimensional Data



### Single Geared

73300AA4  
73301AA2  
73302AA0



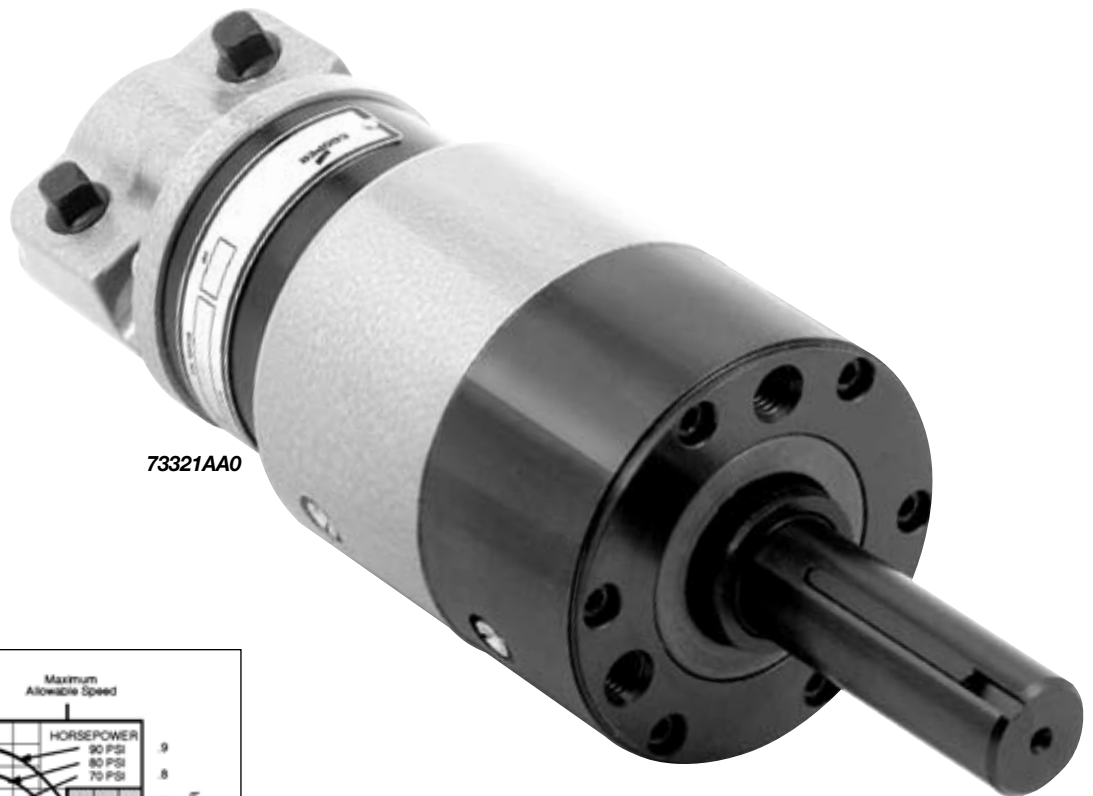
### Double Geared

73303AA8  
73304AA6  
73305AA4  
73306AA2

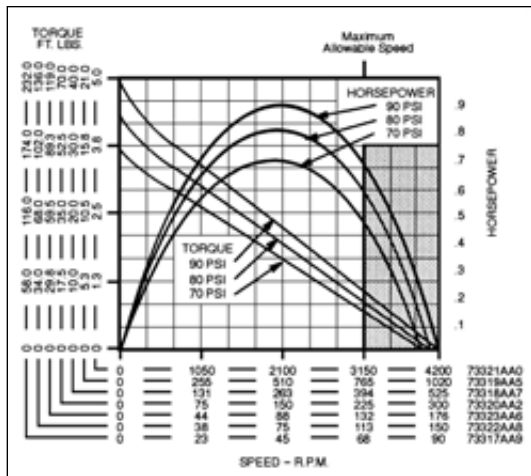
## GARDNER-DENVER®

### B4 Series

- Maximum Power  
0.9 hp  
0.67 kW
- Torque Range  
4 – 232 ft. lbs.  
6.8 – 315 Nm
- Reversible
- Rear Exhaust



73321AA0



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
Face Mounting – 7/8” Diameter Keyed Spindle											
73321AA0	2150	4200	5	6.8	3.7	5	14.5	6.57	—	800	363
73319AA5	525	1020	21	28.0	15.0	20	14.5	6.57	4.1:1	800	363
73318AA7	270	525	40	54.0	30.0	41	14.5	6.57	8:1	800	363
73320AA2	154	300	70	95.0	52.0	71	22.5	10.21	13.9:1	800	363
73323AA6	90	175	119	161.0	88.0	119	22.5	10.21	23.8:1	800	363
73322AA8	79	150	136	184.0	101.0	137	22.5	10.21	27.2:1	800	363
73317AA9	46	90	232	315.0	172.0	233	22.5	10.21	46.4:1	800	363

\* All models assume overhung load located at 1.75" (44.45mm) from face of motor.

\*\* These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 3/8" NPTF

Air consumption: 40 cfm (1.13 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Optional Equipment:

Exhaust Muffler – Part 813485

Pendent Control Kits – See page 51

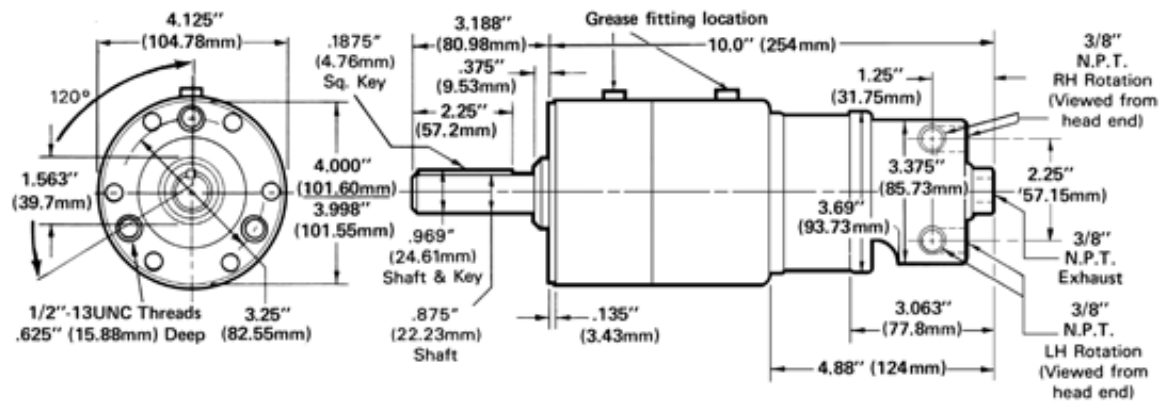
Lubricating Oil – Part 533485 (1 gallon)

Motor and Gear Lube – Part A123771 (1 pound)

**Additional Accessories:** Pages 64-65

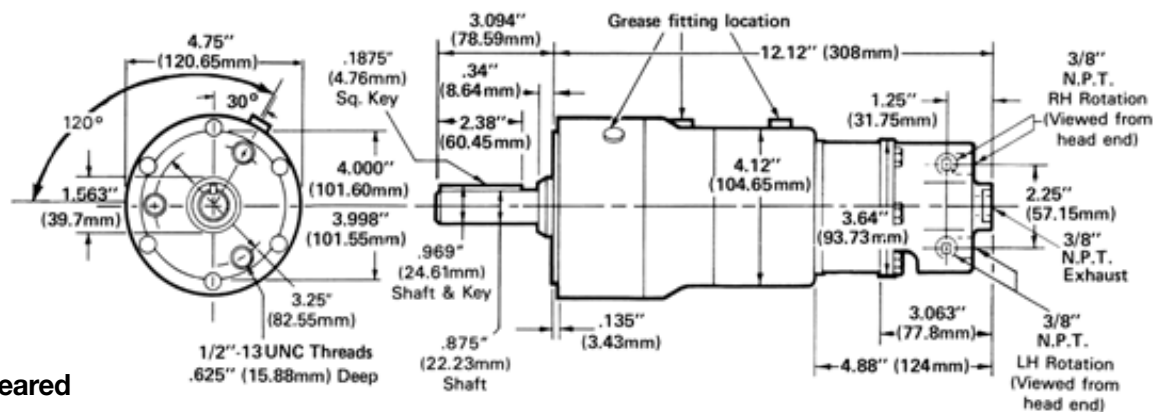


## B4 Series Dimensional Data



### Single Geared

73321AA0  
73319AA5  
73318AA7



### Double Geared

73317AA9  
73320AA2  
73322AA8  
73323AA6

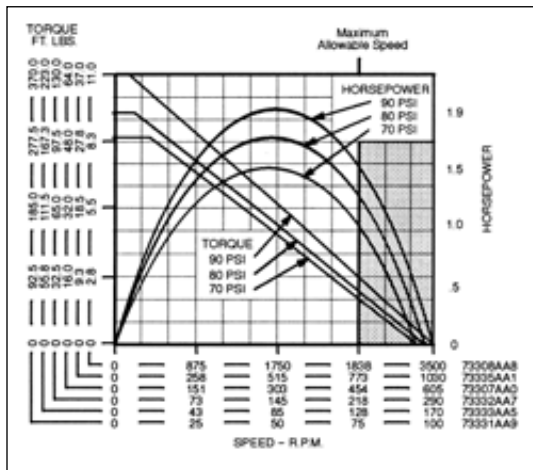
## GARDNER-DENVER®

### A6 Series

- Maximum Power  
1.9 hp  
1.42 kW
- Torque Range  
11 – 370 ft. lbs.  
15 – 502 Nm
- Reversible
- Rear Exhaust



73308AA8



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
Face Mounting – 1 1/8” Diameter Keyed Spindle											
73308AA8	1820	3500	1	15	8	11	27	12.2	—	1000	454
73335AA1	535	1030	37	50	27	37	27	12.2	3.4:1	1000	454
73307AA0	315	605	64	87	48	65	27	12.2	5.8:1	1000	454
73332AA7	152	290	130	176	96	130	43	19.5	11.9:1	1000	454
73333AA5	89	170	223	302	163	221	43	19.5	20.3:1	1000	454
73331AA9	54	100	370	502	269	365	43	19.5	33.6:1	1000	454

\* All models assume overhung load located at 2.25" (57.15mm) from face of motor.

\*\* These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 3/8" NPTF

Air consumption: 62 cfm (1.76 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Optional Equipment:

Exhaust Muffler – Part 813485

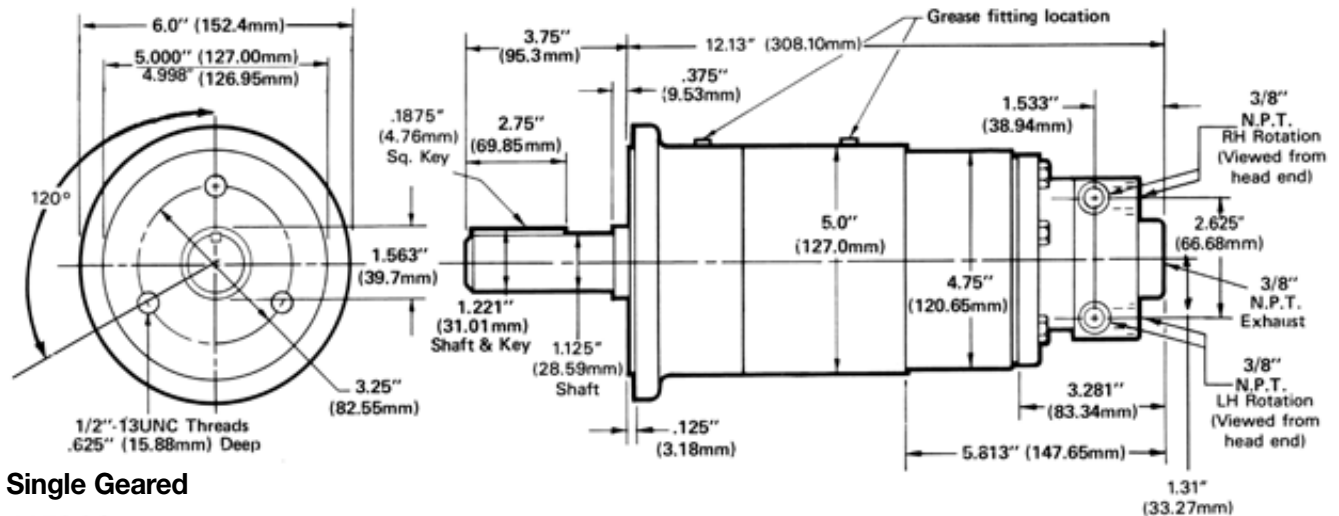
Pendent Control Kits – See page 51

Lubricating Oil – Part 533485 (1 gallon)

Motor and Gear Lube – Part A123771 (1 pound)

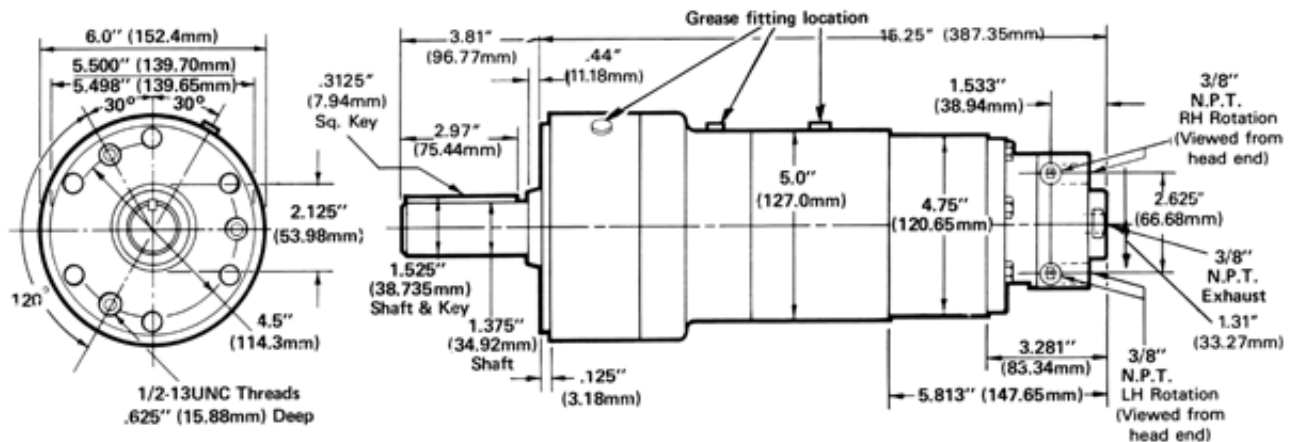
Additional Accessories: Pages 64-65

## A6 Series Dimensional Data



### Single Geared

73307AA0  
73308AA8  
73335AA1



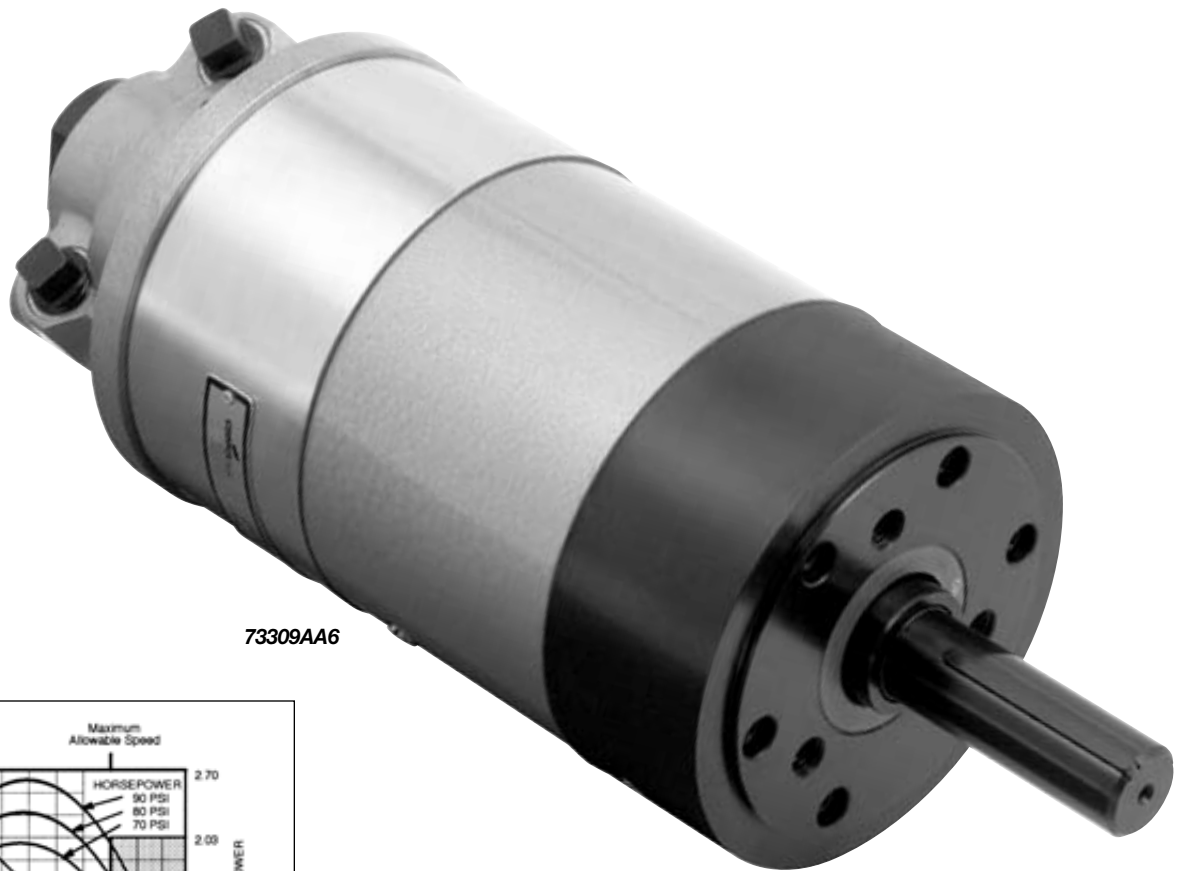
### Double Geared

73331AA9  
73332AA7

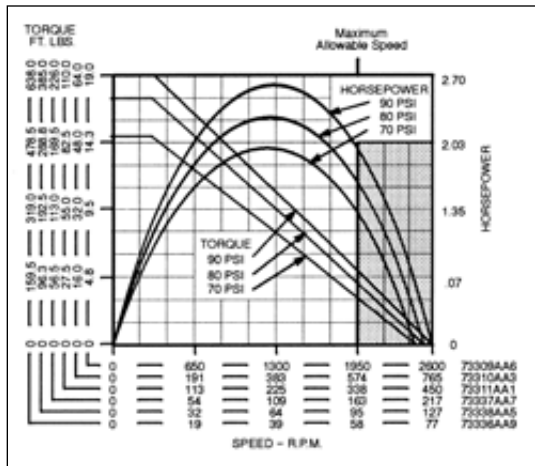
## GARDNER-DENVER®

### A8 Series

- Maximum Power  
2.7 hp  
2.01 kW
- Torque Range  
19 – 638 ft. lbs.  
26 – 865 Nm
- Reversible
- Rear Exhaust



73309AA6



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg		lbs.	kg
Face Mounting – 1 1/8” Diameter Keyed Spindle											
73309AA6	1300	2600	19	26	14	19	38	17.2	—	1000	454
73310AA3	375	765	64	87	48	65	38	17.2	3.4:1	1000	454
73311AA1	225	450	110	149	82	111	38	17.2	5.8:1	1000	454
73337AA7	109	215	226	306	167	226	51	23.1	11.9:1	1000	454
73338AA5	64	125	385	522	285	386	51	23.1	20.3:1	1000	454
73336AA9	38	75	638	865	471	639	51	23.1	33.6:1	1000	454

\* All models assume overhung load located at 2.25" (57.15mm) from face of motor.

\*\* These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 1/2" NPTF

Air consumption: 83 cfm (3.18 m<sup>3</sup>/min)

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Optional Equipment:

Exhaust Muffler – Part A19509

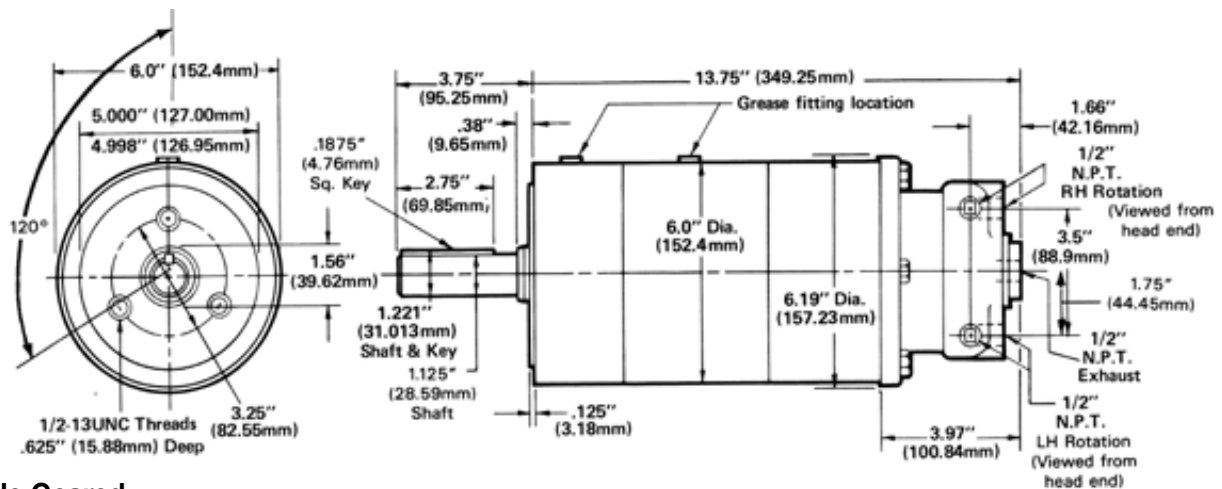
Pendent Control Kits – See page 51

Lubricating Oil – Part 533485 (1 gallon)

Motor and Gear Lube – Part A123771 (1 pound)

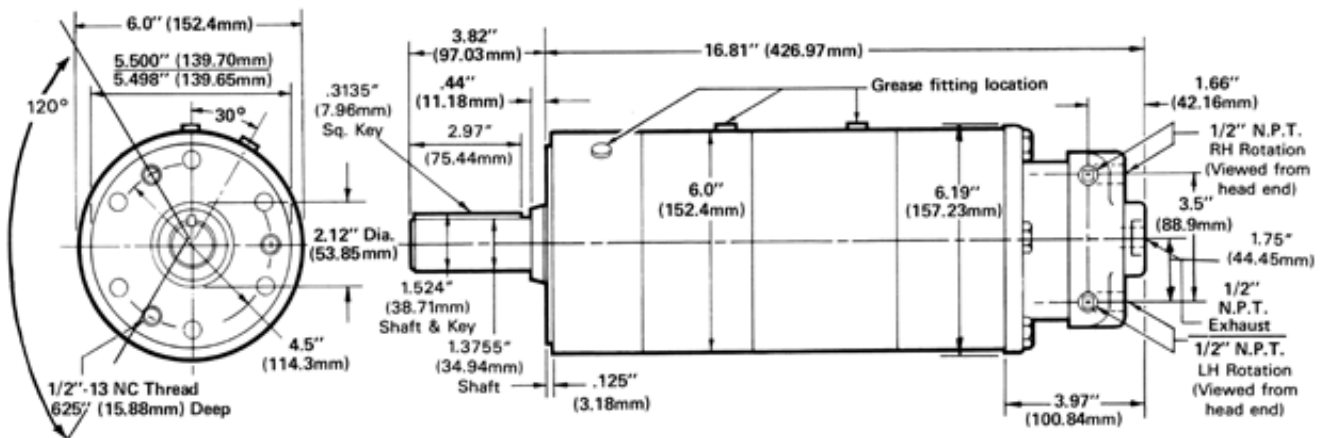
Additional Accessories: Pages 64-65

## A8 Series Dimensional Data



### Single Geared

73309AA6  
73310AA3  
73311AA1



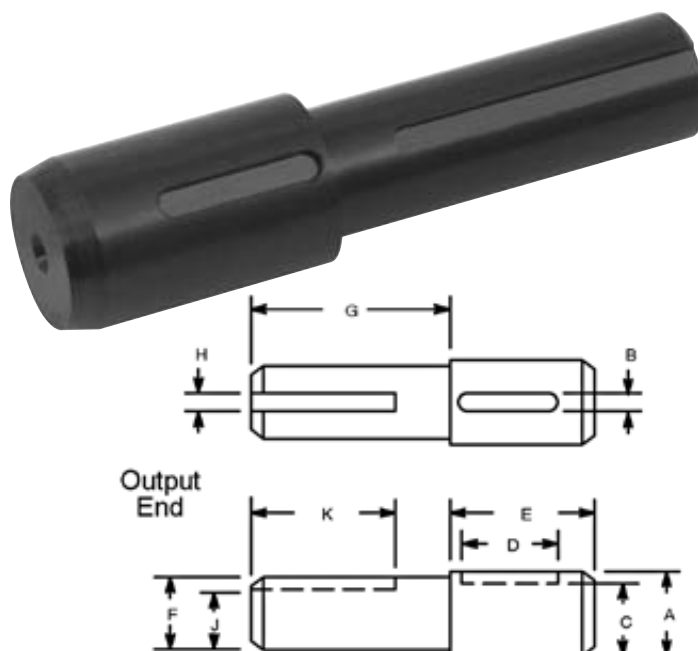
### Double Geared

73336AA9  
73337AA7  
73338AA5

# Spindle Information for Axial Piston Motors

The axial piston air motors are equipped with standard spindles, *unless otherwise specified*. If a special spindle is required, the motor is shipped without a spindle; using the dimensions of the shank end of the spindle shown in the dimensional drawing, the customer can make a spindle to fit the requirements of the job.

If other than a standard spindle is required, specify shipment of motor *without spindle* – or provide detailed dimensional information of the spindle required.



Model Number	Std. Spindle	Dia. "A"	Key Width "B"	Key Depth "C"	Key Slot "D"	"E"	Dia. "F"	"G"	Key Width "H"	Key Depth "J"	Key Slot "K"
Single Geared											
73300AA4	18299	<u>1.1585"</u> <u>1.1569"</u> or <u>29.43mm</u> 29.39mm	<u>.187</u> <u>.189</u> or <u>4.75mm</u> 4.80mm	<u>1.0565"</u> <u>1.0515"</u> or <u>26.83mm</u> 26.71mm	1.125" or 28.57mm	1.875" or 47.62mm	<u>.8750"</u>	2.75 or 69.88mm	<u>.7715"</u>	19.60mm 19.47mm	2.25 or 57.15mm
73301AA2							<u>.8744"</u>		<u>.7665"</u>		
73302AA0							or		or		
73321AA0							<u>22.22mm</u>		<u>.1875"</u>		
73319AA5							<u>22.21mm</u>		<u>.1855"</u>		
73318AA7	18319	<u>29.43mm</u> 29.39mm	<u>4.75mm</u> 4.80mm	<u>26.83mm</u> 26.71mm	1.500" or 38.10mm	47.62mm	<u>1.1255"</u>	3.375" or 85.73mm	<u>4.76mm</u>	<u>1.0188"</u>	69.85mm
73308AA8							<u>1.1245"</u>		<u>4.71mm</u>	<u>1.0238"</u>	
73335AA1							or		Sq. Key	or	
73307AA0							<u>28.59mm</u>		<u>25.88mm</u>		
73309AA6							<u>28.56mm</u>		<u>26.00mm</u>		
73310AA3											
73311AA1											
Double Geared											
73303AA8	29717	<u>1.0008"</u> <u>1.0002"</u> or <u>25.42mm</u> <u>25.41mm</u>	<u>.249"</u> <u>.251"</u> or <u>6.32mm</u> <u>6.38mm</u>	<u>.859"</u> <u>.849"</u> or <u>21.82mm</u> <u>21.56mm</u>	1.125" or 28.57mm	1.875" or 47.62"	<u>.8750"</u>	2.75" or 69.85mm	<u>.1875"</u>	<u>.771"</u>	2.375" or 60.32mm
73304AA6							<u>.8744"</u>		<u>.1855"</u>	<u>.761"</u>	
73305AA4							or		or	or	
73306AA2							<u>22.22mm</u>		<u>4.76mm</u>	<u>19.58mm</u>	
73320AA2							<u>22.21mm</u>		<u>4.71mm</u>	<u>19.33mm</u>	
73323AA6	30053	<u>1.4398"</u> <u>1.4392"</u> or <u>36.57mm</u> <u>36.56mm</u>	<u>.374"</u> <u>.376"</u> or <u>9.50mm</u> <u>9.55mm</u>	<u>1.225"</u> <u>1.215"</u> or <u>31.12mm</u> <u>30.86mm</u>	1.500" or 38.10mm	2.000" or 50.80mm	<u>1.3755"</u>	3.375" or 85.73mm	<u>.3125"</u>	<u>1.201"</u>	3.125" or 79.38mm
73322AA8							<u>1.3745"</u>		<u>.3135"</u>	<u>1.191"</u>	
73317AA9							or		Sq. Key	or	
73332AA7							<u>34.94mm</u>		<u>7.94mm</u>	<u>30.50mm</u>	
73333AA5							<u>34.91mm</u>		<u>7.96mm</u>	<u>30.25mm</u>	
73331AA9											
73337AA7											
73338AA5											
73337AA9											



# Pendant Controls for Axial Piston Motors



Motor Size	A2	B4	A6	A8
Motor Port Size	3/8 NPT	3/8 NPT	3/8 NPT	1/2 NPT
2 Lever P.C. Kit*	506151	506152	506153	506154
5' Hose Assembly	506136	506136	—	—
15' Hose Assembly	506140	506140	—	—
4 Lever P.C. Kit*	506147	—	—	—
5' Hose Assembly	513549	513549	513549	513549
10' Hose Assembly	513550	513550	513550	513550
15' Hose Assembly	513551	513551	513551	513551

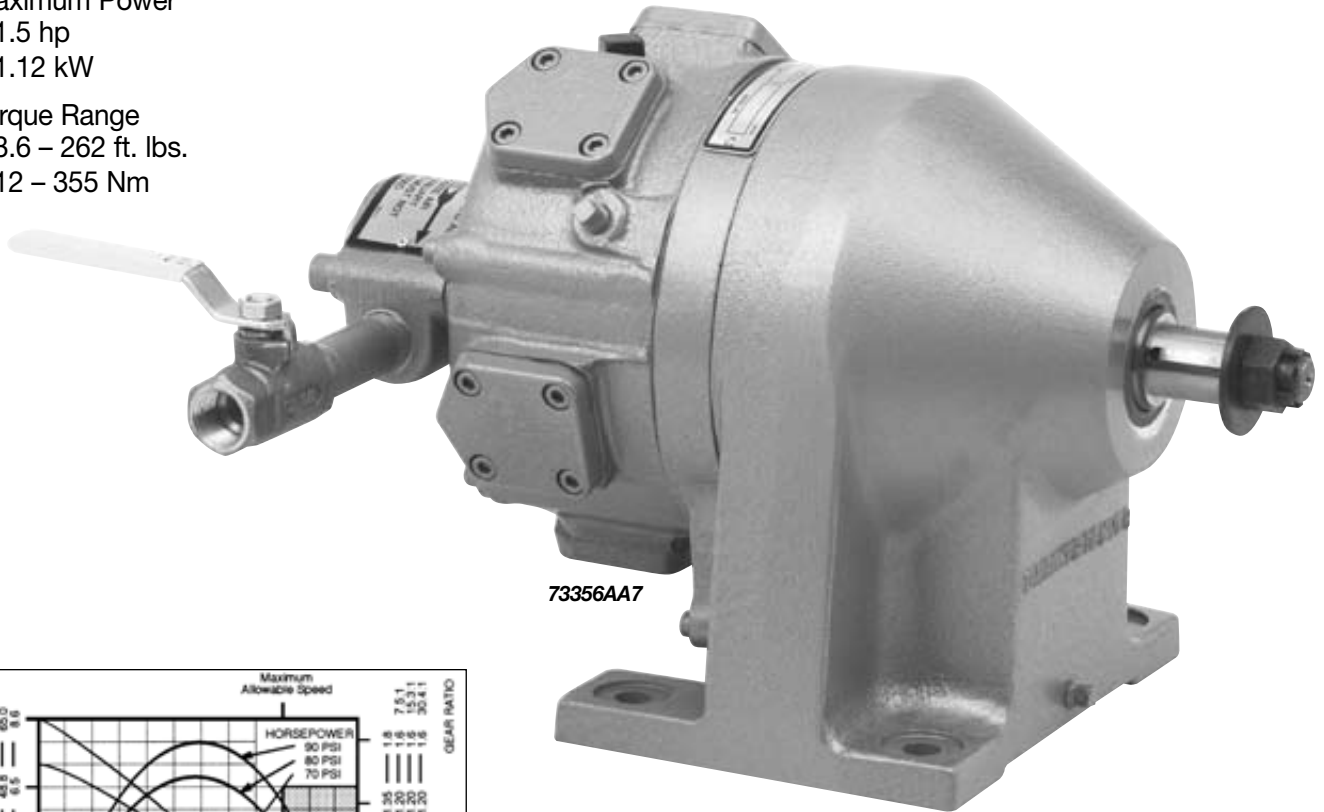
\* Kits include handle assembly, (2) quick exhaust valves, and all necessary fittings.  
For part numbers of individual components and positioning the quick exhaust valves, refer to the appropriate motor service manual.

**Ordering Procedure:**  
Specify Pendent Control Kit No., Hose Assembly number and length. On 4 lever hose assemblies, cable assembly is provided as part of a standart hose assembly. Contact the factory for additional hose lengths.

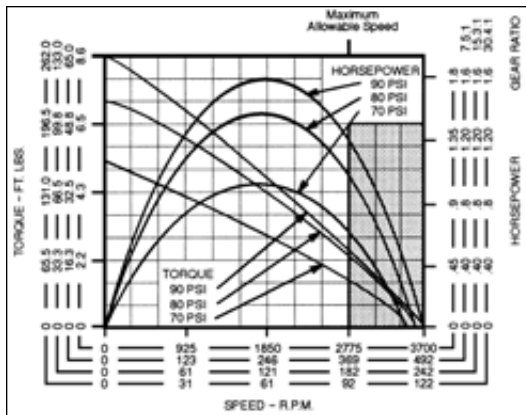
## GARDNER-DENVER®

### MA2 Series

- Maximum Power
  - 1.5 hp
  - 1.12 kW
- Torque Range
  - 8.6 – 262 ft. lbs.
  - 12 – 355 Nm



73356AA7



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Air Consumption		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg	cfm	m³/min		lbs.	kg
with Single-Direction Valving													
73356AA7	246	490	65.0	88	30	41.0	40	18.1	65	1.84	7.5:1	1700	771
73352AA5	61	120	262.0	355	122	165.0	40	18.1	62	1.76	30.4:1	1700	771
with Reversible Valving													
73355AA9	119	240	133.0	180	61	83.0	43	19.5	54	1.53	15.3:1	1700	771
73353AA3	60	120	262.0	355	122	165.0	43	19.5	58	1.64	30.4:1	1700	771
without Valving													
73404AA4	119	240	133.0	180	61	83.0	43	19.5	54	1.53	15.3:1	1700	771
73403AA6	60	120	262.0	355	122	165.0	43	19.5	58	1.64	30.4:1	1700	771

\*All models assume overhung load located at 0.625" (15.88mm) from face of motor.

\*\*These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 1/2" NPTF

All tools performance rated @ 90psi (620 kPa) air pressure.

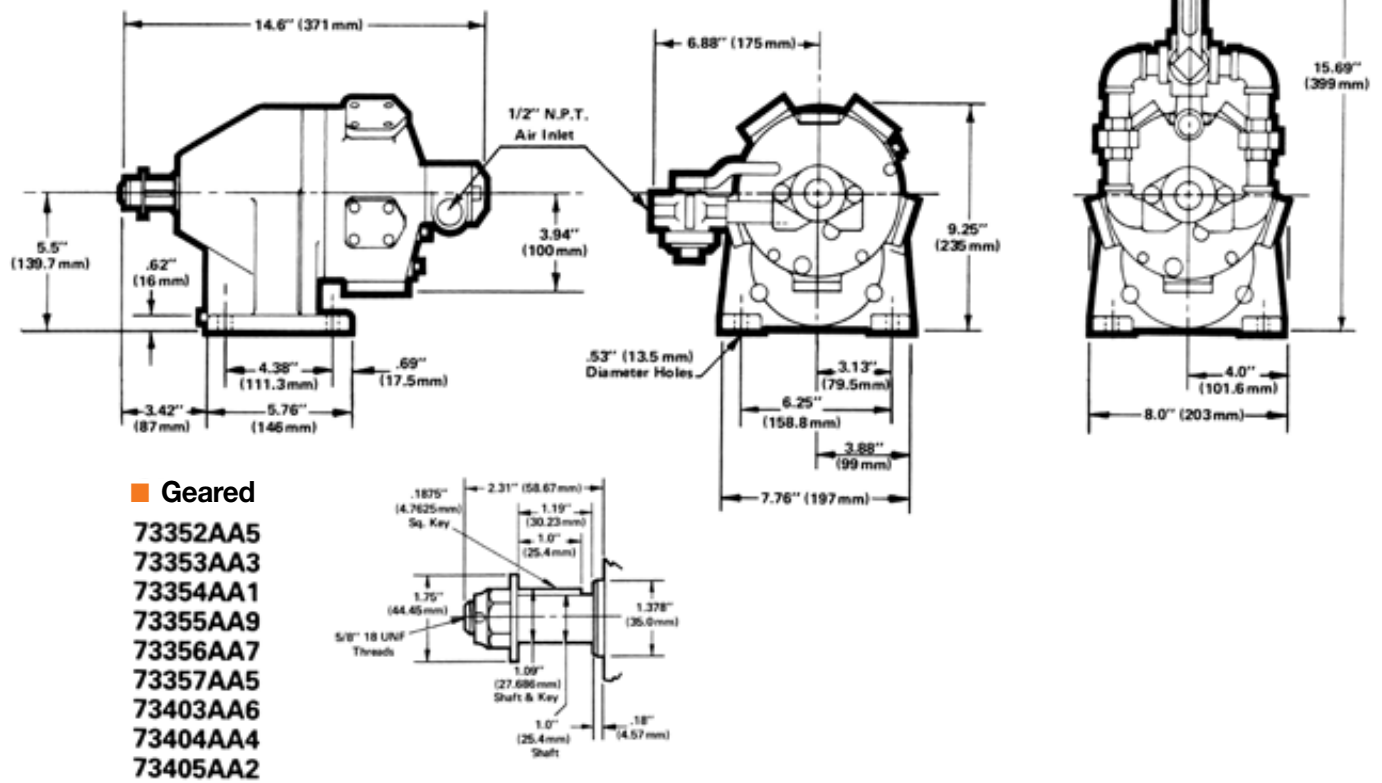
#### Optional Equipment:

Lubricating Oil – Part 533485 (1 gallon)

Gear Oil – Part 535090 (1 gallon)

Additional Accessories: Pages 64-65

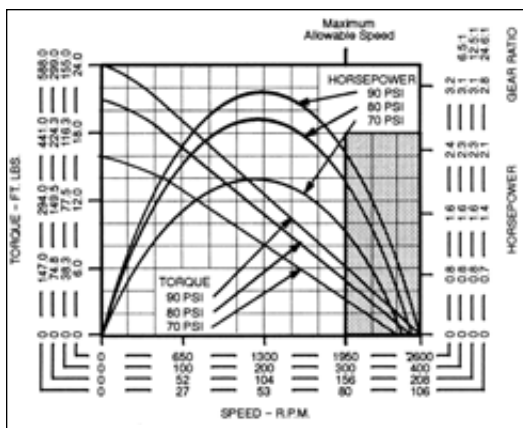
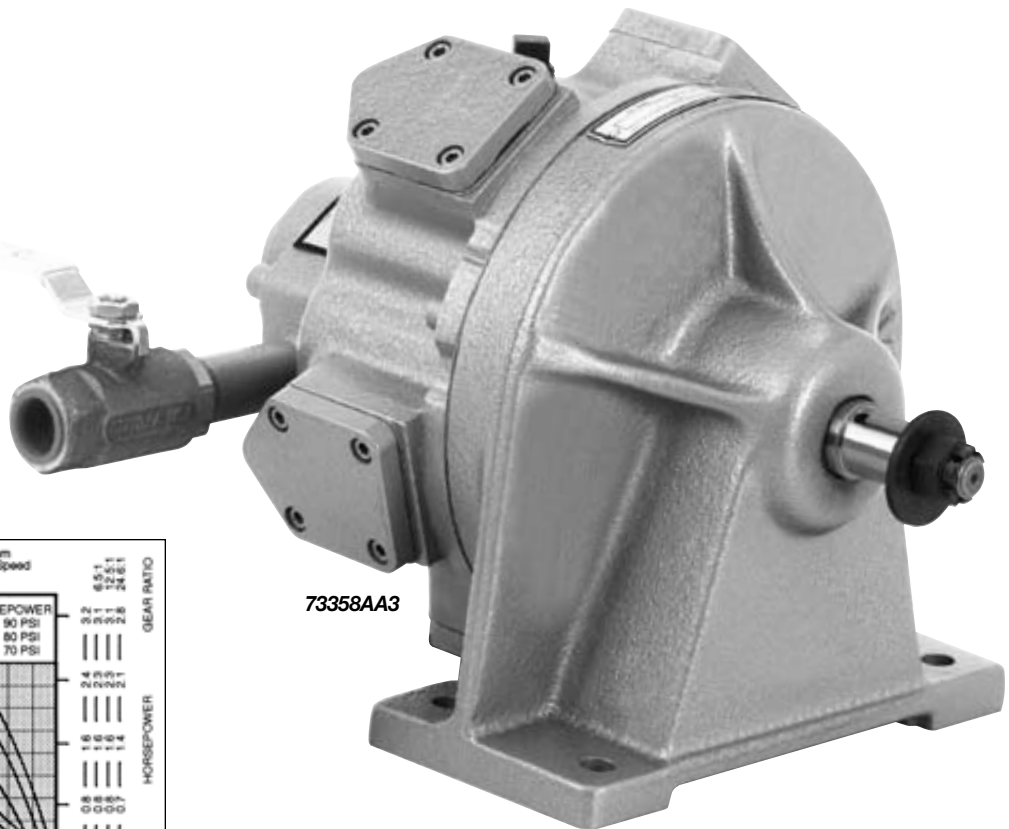
## MA2 Series Dimensional Data



## GARDNER-DENVER®

### MA3 Series

- Maximum Power  
3.0 hp  
2.24 kW
- Torque Range  
24 – 588 ft. lbs.  
33 – 797 Nm



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Air Consumption		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg	cfm	m³/min		lbs.	kg
with Single-Direction Valving													
73358AA3	1300	2600	24	33	13	18	49	22.2	90	2.55	—	750	340
73372AA3	200	400	155	210	84	114	65	29.5	90	2.55	6.5:1	2560	1161
73370AA7	104	200	299	405	161	218	65	29.5	88	2.49	12.5:1	2560	1161
73360AA8	53	100	588	797	317	430	65	29.5	97	2.74	24.6:1	2560	1161
with Reversible Valving													
73359AA1	1190	2600	24	33	13	18	51	23.1	80	2.27	—	750	340
73373AA1	183	400	155	210	84	114	67	30.1	87	2.46	6.5:1	2560	1161
73371AA5	95	200	299	405	161	218	67	30.1	90	2.55	12.5:1	2560	1161
73361AA6	48	100	588	797	317	430	67	30.1	95	2.69	24.6:1	2560	1161
without Valving													
73406AA0	1190	2600	24	33	13	18	51	23.1	80	2.27	—	750	340
73409AA4	183	400	155	210	84	114	67	30.1	87	2.46	6.5:1	2560	1161
73408AA6	95	200	299	405	161	218	67	30.1	90	2.55	12.5:1	2560	1161
73407AA8	48	100	588	797	317	430	67	30.1	95	2.69	24.6:1	2560	1161

\* Non-geared models assume overhung load located at 0.625" (15.88mm) from face of motor.  
Geared models assume overhung load located at 1" (25.40mm) from face of motor.

\*\*These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 3/4" NPTF

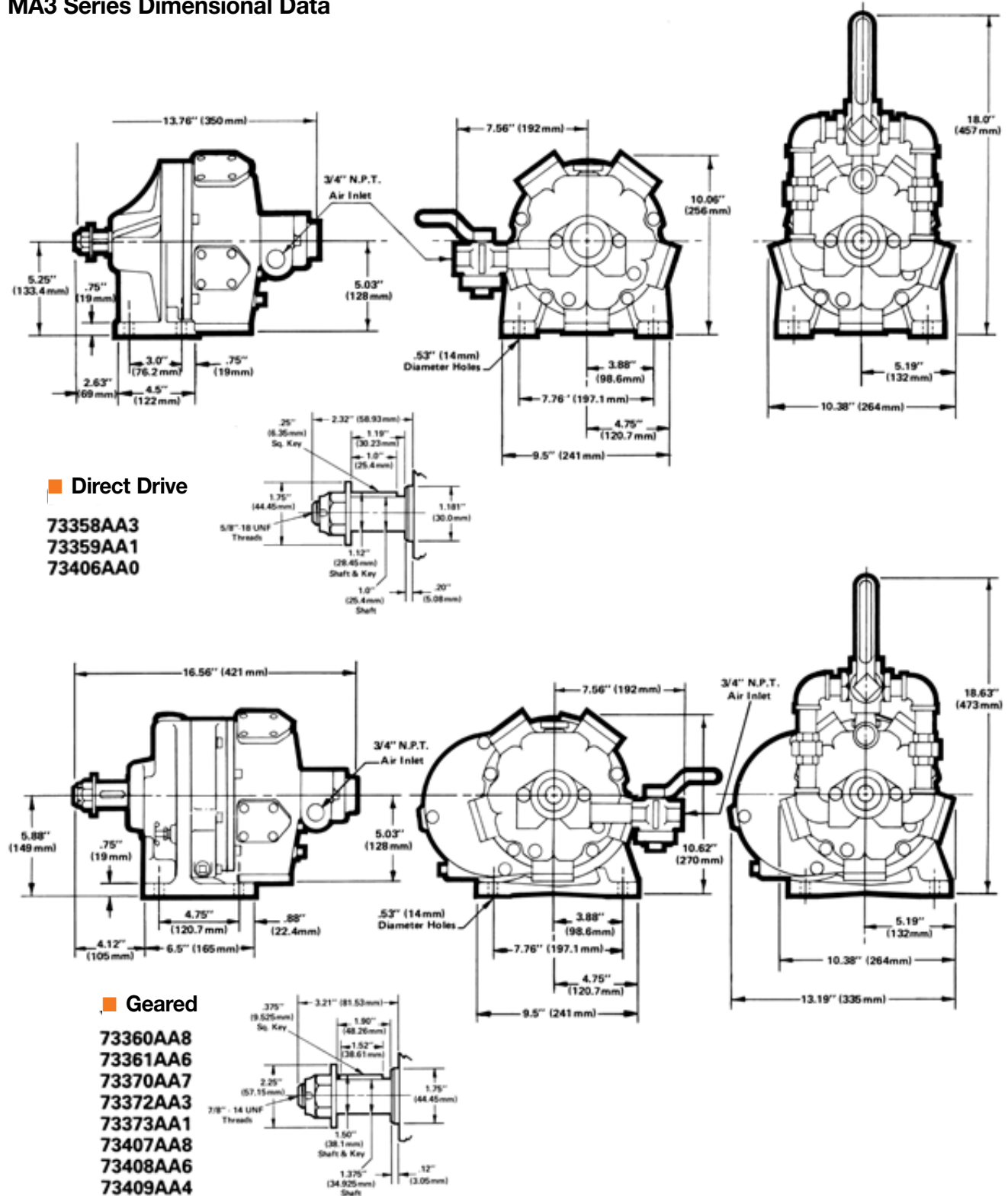
All tools performance rated @ 90psi (620 kPa) air pressure.

#### Optional Equipment:

Lubricating Oil – Part 533485 (1 gallon)

Gear Oil – Part 535090 (1 gallon)

## MA3 Series Dimensional Data

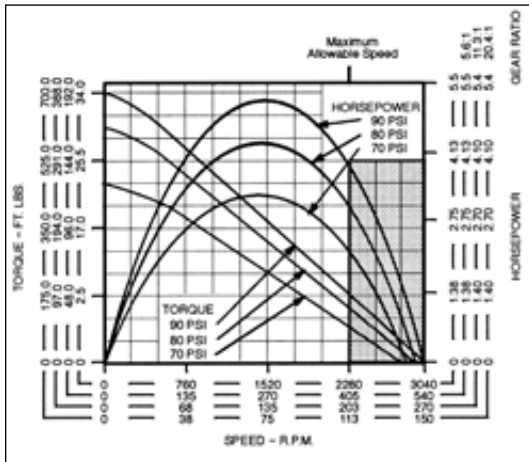
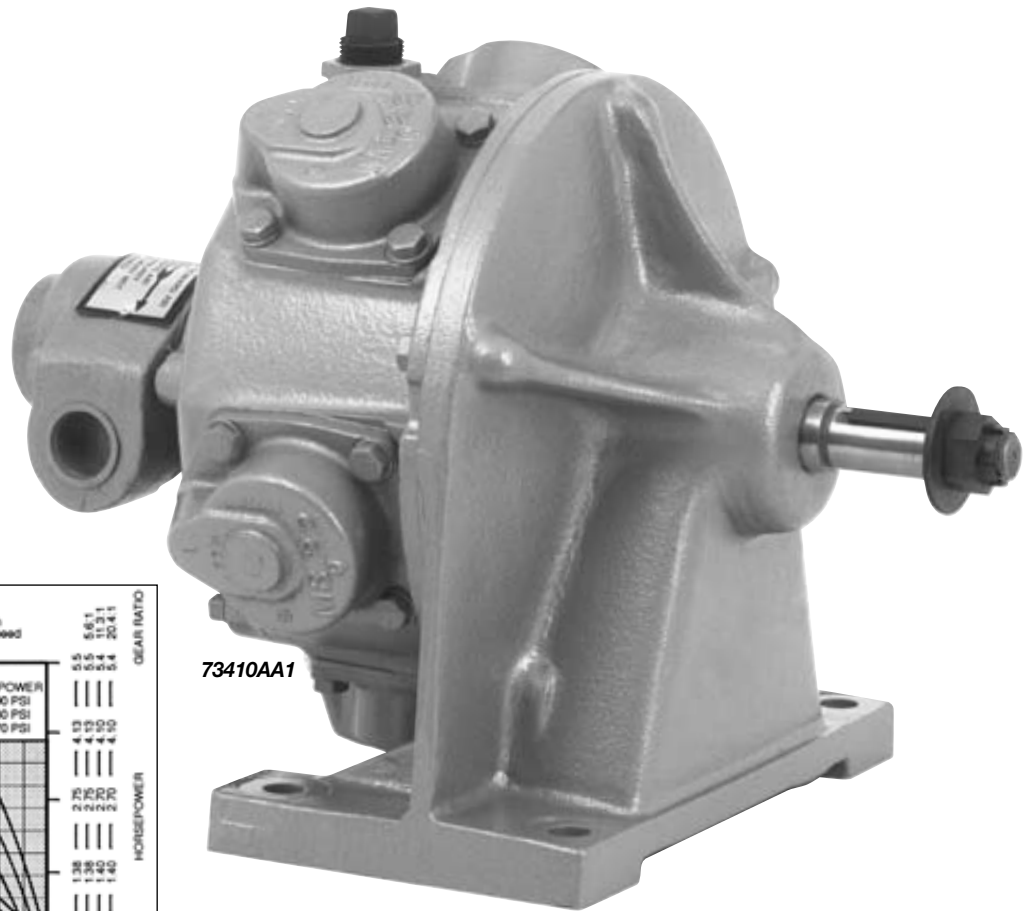




## GARDNER-DENVER®

### MB Series

- Maximum Power  
5.5 hp  
4.10 kW
- Torque Range  
34 – 700 ft. lbs.  
46 – 949 Nm



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Air Consumption		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg	cfm	m³/min		lbs.	kg
with Single-Direction Valving													
73374AA9	1520	3000	34	46	15	20	100	45.4	166	4.70	—	1310	594
73380AA6	270	540	192	260	81	110	145	65.8	144	4.08	5.6:1	2200	998
73376AA5	75	150	700	949	296	401	145	65.8	167	4.73	20.4:1	2200	998
with Reversible Valving													
73381AA4	268	540	192	260	81	110	148	67.1	140	3.96	5.6:1	2200	998
73379AA9	133	270	388	526	164	222	148	67.1	148	4.19	11.3:1	2200	998
73377AA3	74	150	700	949	296	401	148	67.1	154	4.36	20.4:1	2200	998
without Valving													
73410AA1	1500	3000	34	46	15	20	103	46.7	152	4.30	—	1310	594
73413AA5	268	540	192	260	81	110	148	67.1	140	3.96	6.5:1	2200	998
73412AA7	133	270	388	526	164	222	148	67.1	148	4.19	11.3:1	2200	998
73411AA9	74	150	700	949	296	401	148	67.1	154	4.36	20.4:1	2200	998

•Available On Quotation Basis Only

\*All models assume overhung load located at 1" (25.40mm) from face of motor.

\*\*These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 1" NPTF

All tools performance rated @ 90psi (620 kPa) air pressure.

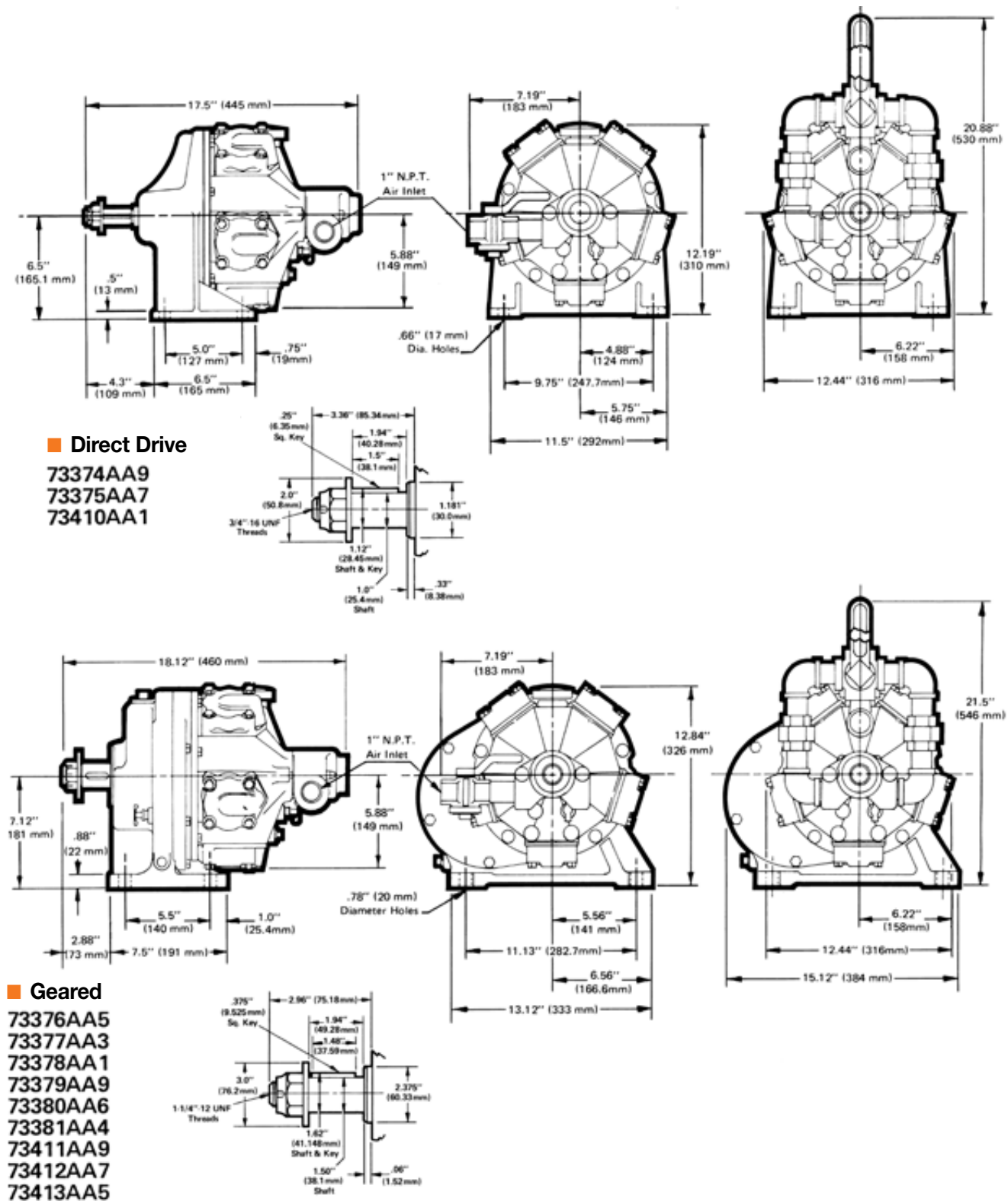
#### Optional Equipment:

Lubricating Oil – Part 533485 (1 gallon)

Gear Oil – Part 535090 (1 gallon)



## MB Series Dimensional Data



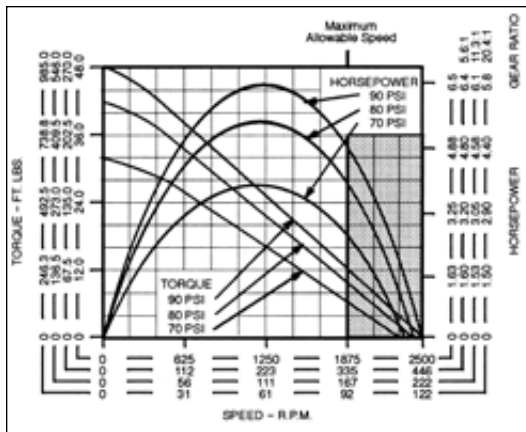
## GARDNER-DENVER®

### ME Series

- Maximum Power  
6.5 hp  
4.85 kW
- Torque Range  
48 – 985 ft. lbs.  
65 – 1336 Nm



73389AA8



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Air Consumption		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg	cfm	m³/min		lbs.	kg
with Single-Direction Valving													
73386AA4	111	220	546	740	209	283	153	69.4	169	4.79	11.3:1	2200	998
73384AA8	61	120	985	1336	377	511	153	69.4	168	4.76	20.4:1	2200	998
with Reversible Valving													
73389AA8	219	440	270	366	104	141	157	71.2	152	4.30	5.6:1	2200	998
73387AA2	108	220	546	740	209	283	157	71.2	171	4.84	11.3:1	2200	998
73385AA6	60	120	985	1336	377	511	157	71.2	167	4.73	20.4:1	2200	998
without Valving													
73414AA3	1225	2500	48	65	19	26	104	47.2	161	4.56	—	1310	594
73417AA7	219	440	270	366	104	141	157	71.2	152	4.30	6.5:1	2200	998
73415AA1	60	120	985	1336	377	511	157	71.2	167	4.73	20.4:1	2200	998

\*All models assume overhung load located at 1" (25.40mm) from face of motor.

\*\*These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 1" NPTF

All tools performance rated @ 90psi (620 kPa) air pressure.

#### Optional Equipment:

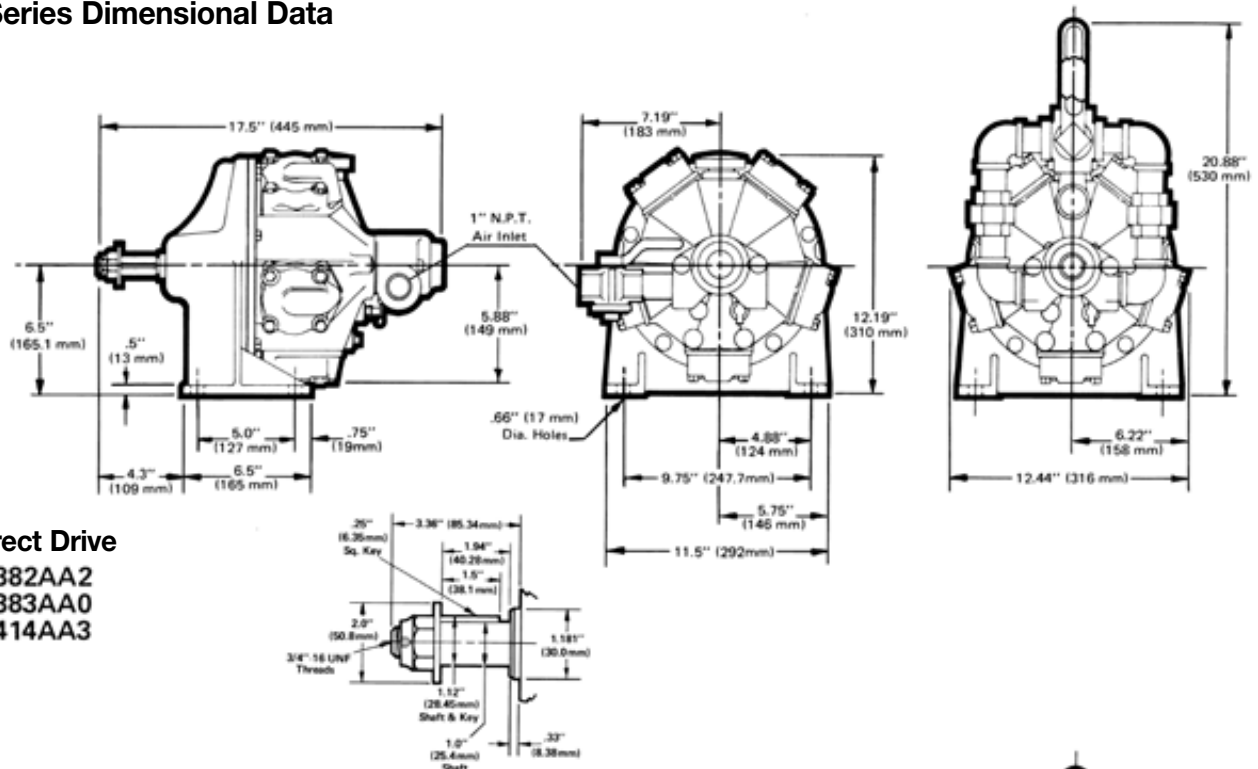
Lubricating Oil – Part 533485 (1 gallon)

Gear Oil – Part 535090 (1 gallon)

## ME Series Dimensional Data

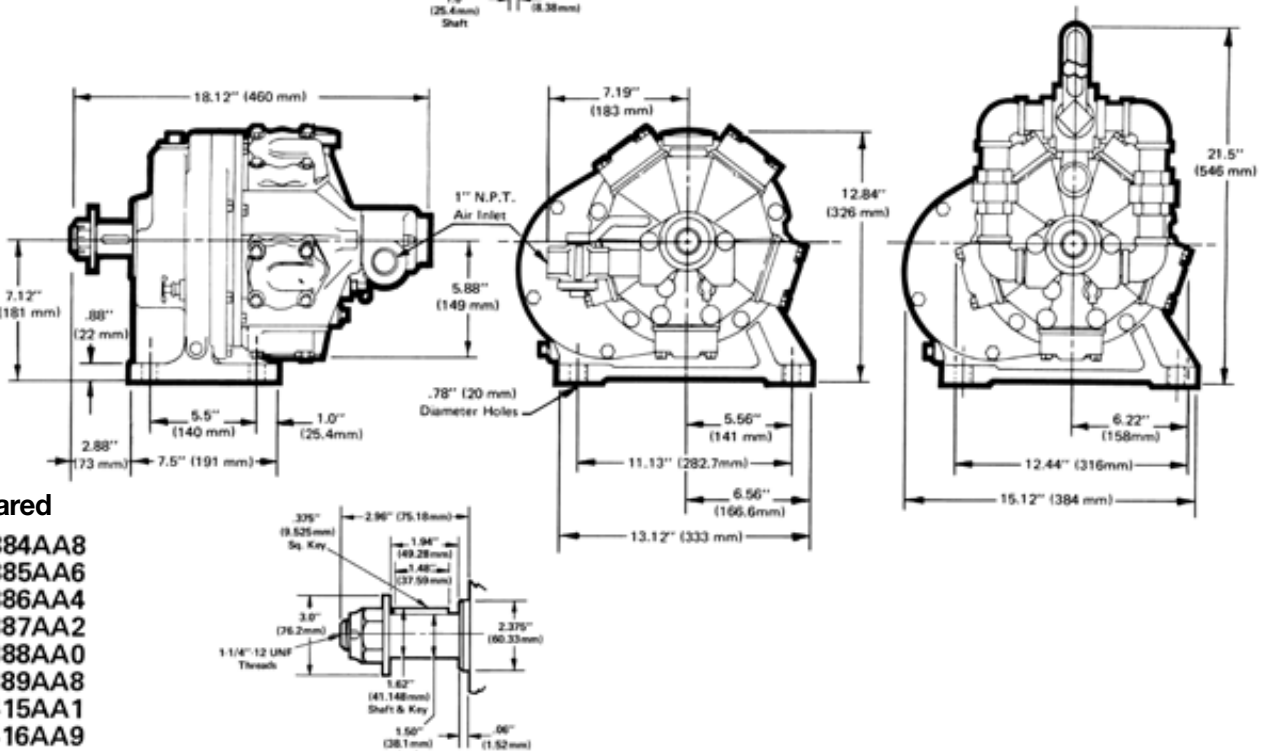
### Direct Drive

73382AA2  
73383AA0  
73414AA3



### Geared

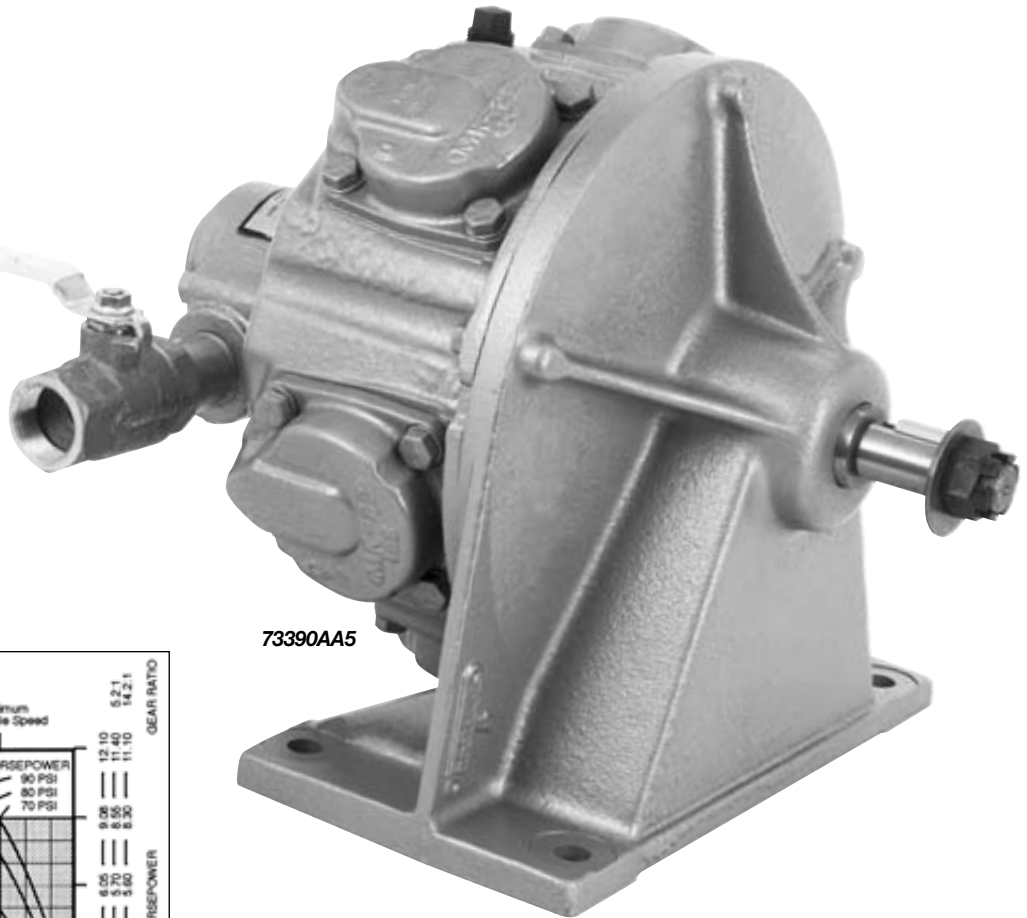
73384AA8  
73385AA6  
73386AA4  
73387AA2  
73388AA0  
73389AA8  
73415AA1  
73416AA9  
73417AA7



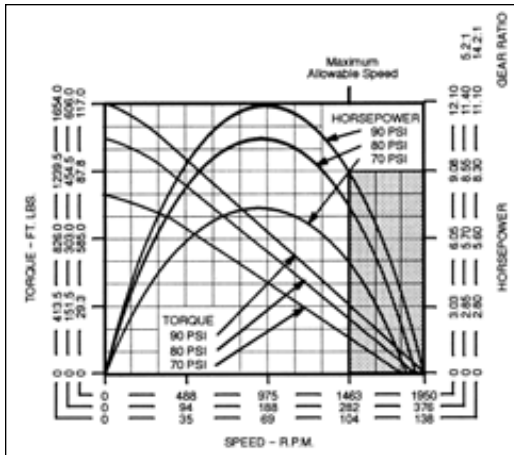
## GARDNER-DENVER®

### MK Series

- Maximum Power  
11 hp  
8.20 kW
- Torque Range  
117 – 1654 ft. lbs.  
159 – 2243 Nm



73390AA5



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Air Consumption		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg	cfm	m³/min		lbs.	kg
with Single-Direction Valving													
73390AA5	975	1900	117	159	72	98	195	88.5	302	8.55	—	2500	1134
73392AA1	69	135	1654	2243	1021	1384	225	102.1	293	8.30	14.2:1	2800	1270
with Reversible Valving													
73391AA3	975	1900	117	159	72	98	202	91.6	311	8.81	—	2500	1134
73395AA5	183	375	606	822	374	507	230	104.3	299	8.47	5.2:1	2800	1270
73393AA9	67	135	1654	2243	1021	1384	230	104.3	288	8.16	14.2:1	2800	1270
without Valving													
73418AA5	975	1900	117	159	72	98	104	91.6	311	8.81	—	2500	1134
73420AA0	183	375	606	822	374	507	230	104.3	299	8.47	5.2:1	2800	1270
73419AA3	67	135	1654	2243	1021	1384	230	104.3	288	8.16	14.2:1	2800	1270

\*All models assume overhung load located at 1" (25.40mm) from face of motor.

\*\*These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 1-1/4" NPTF

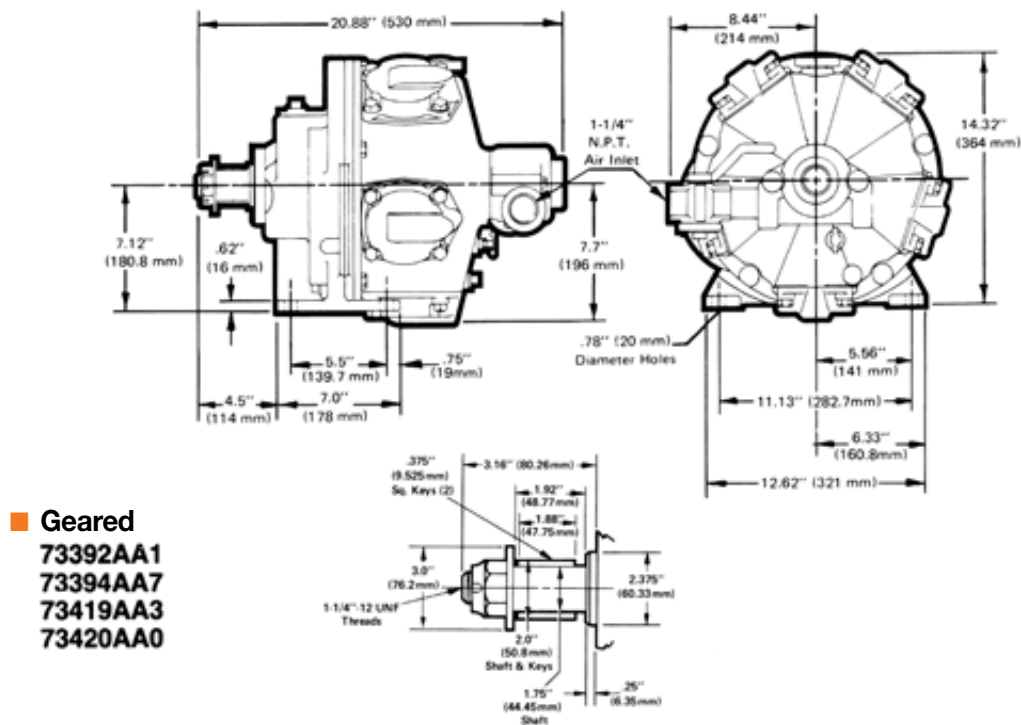
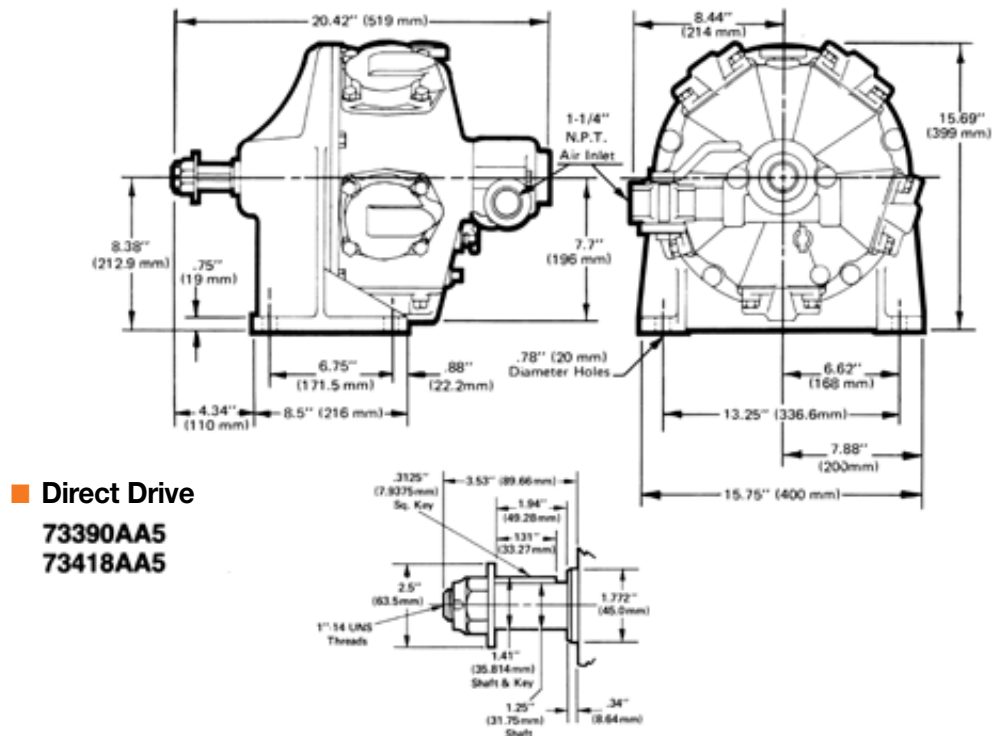
All tools performance rated @ 90psi (620 kPa) air pressure.

#### Optional Equipment:

Lubricating Oil – Part 533485 (1 gallon)

Gear Oil – Part 535090 (1 gallon)

## MK Series Dimensional Data

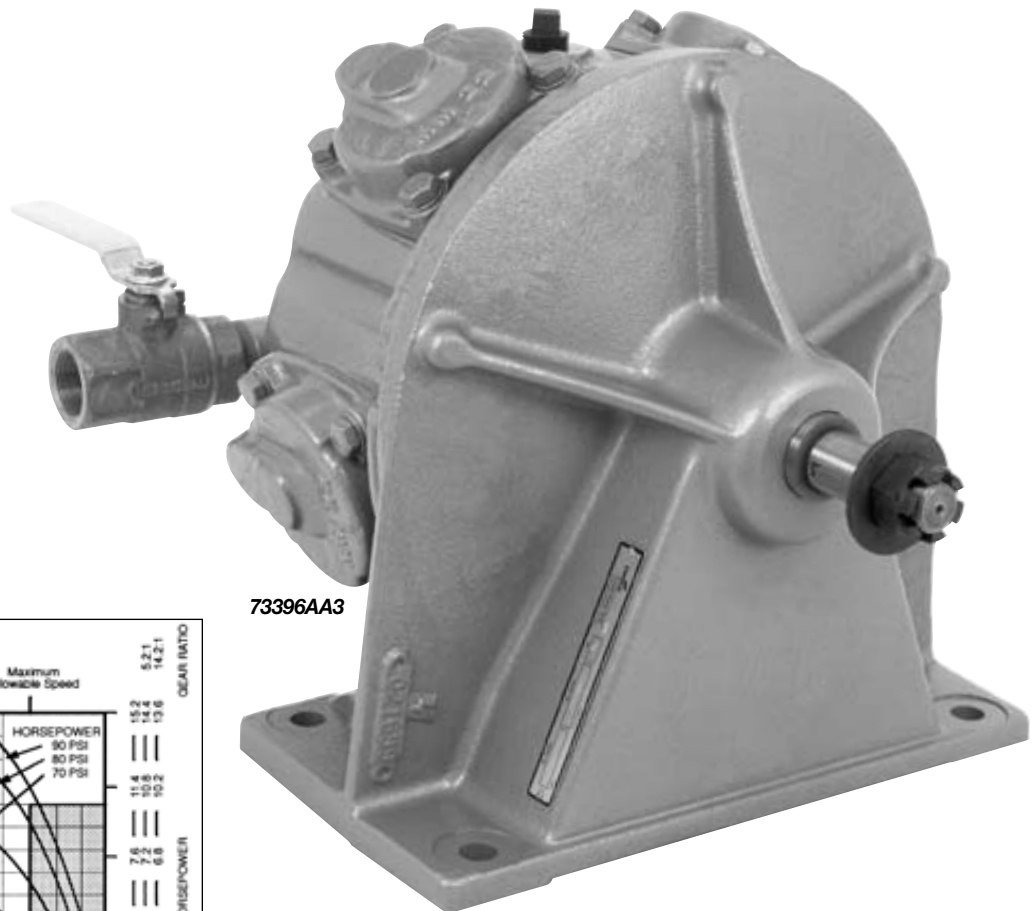




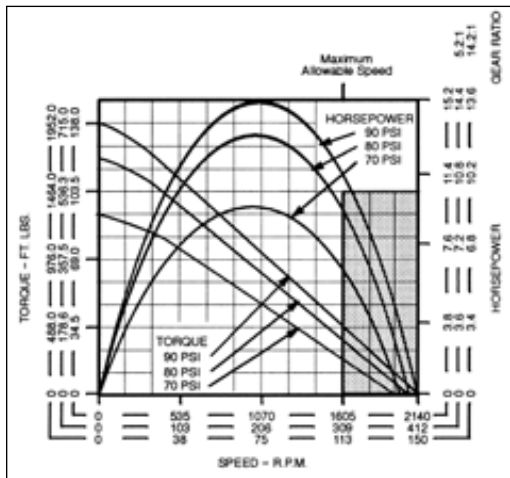
## GARDNER-DENVER®

### MM Series

- Maximum Power  
15 hp  
11.19 kW
- Torque Range  
138 – 1952 ft. lbs.  
187 – 2647 Nm



73396AA3



Model Number	RPM**		Stall Torque		Starting Torque		Weight		Air Consumption		Gear Ratio	Max. Overhung Load @ Stall*	
	at Max. hp	Free Speed	ft. lbs.	Nm	ft. lbs.	Nm	lbs.	kg	cfm	m³/min		lbs.	kg
with Single-Direction Valving													
73396AA3	1070	2100	138	187	82	111	210	95.3	348	9.86	—	2500	1134
73400AA2	206	400	715	970	424	575	226	102.5	336	9.52	5.2:1	2800	1270
with Reversible Valving													
73397AA1	1010	2100	138	187	82	111	214	97.1	352	9.97	—	2500	1134
73401AA0	194	400	715	970	424	575	231	104.8	332	9.40	5.2:1	2800	1270
73399AA7	71	150	1952	2647	1157	1569	231	104.8	345	9.77	14.2:1	2800	1270
without Valving													
73421AA8	1010	2100	138	187	82	111	214	97.1	352	9.97	—	2500	1134
73423AA4	194	400	715	970	424	575	231	104.8	332	9.40	5.2:1	2800	1270
73422AA6	71	150	1952	2647	1157	1569	231	104.8	345	9.77	14.2:1	2800	1270

\*All models assume overhung load located at 1" (25.40mm) from face of motor.

\*\*These motors must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

#### General:

Air Inlet: 1-1/4" NPTF

All tools performance rated @ 90psi (620 kPa) air pressure.

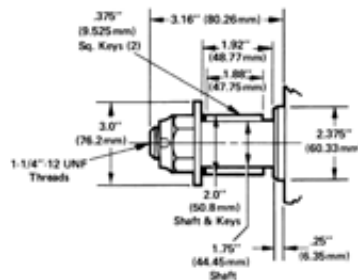
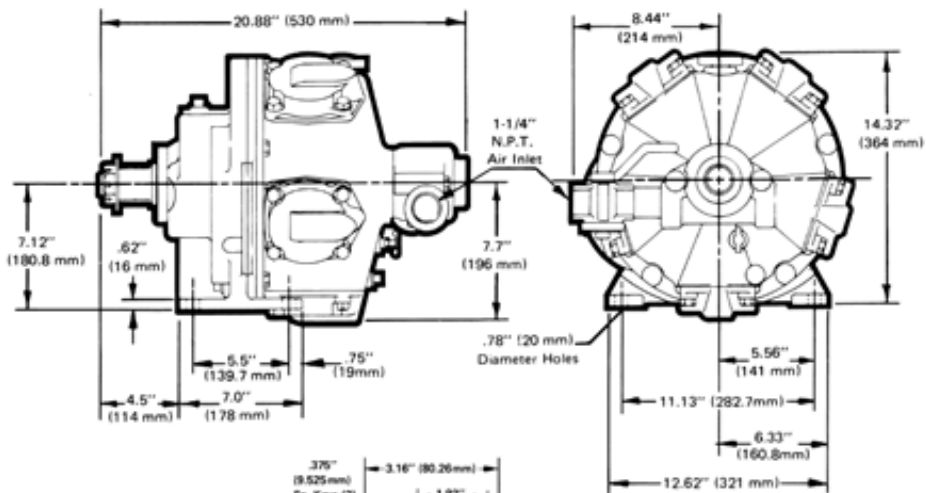
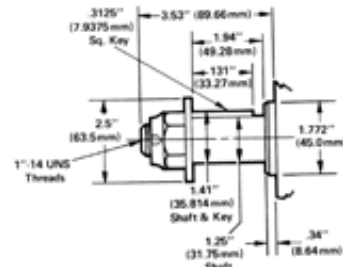
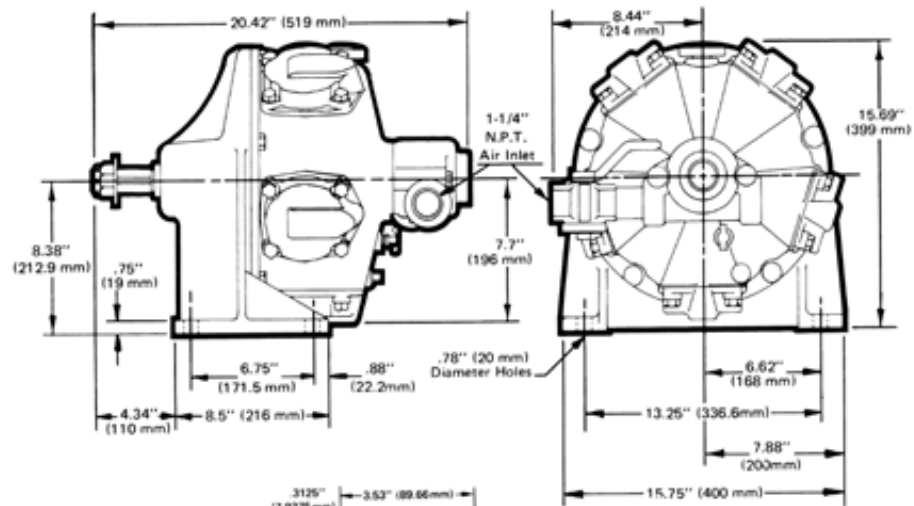
#### Optional Equipment:

Lubricating Oil – Part 533485 (1 gallon)

Gear Oil – Part 535090 (1 gallon)



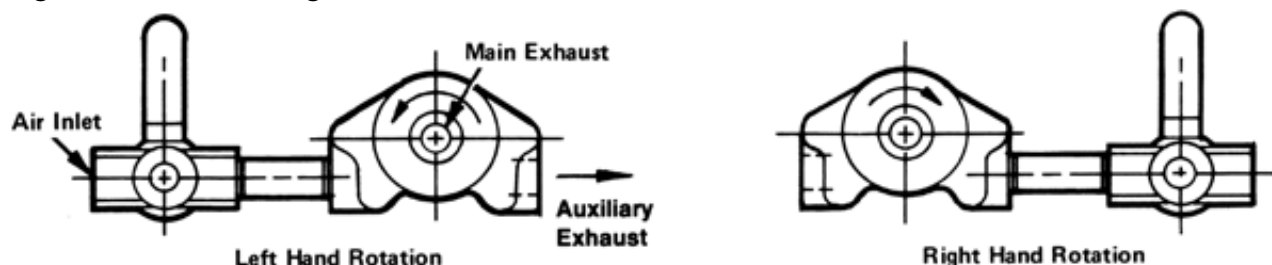
## MM Series Dimensional Data



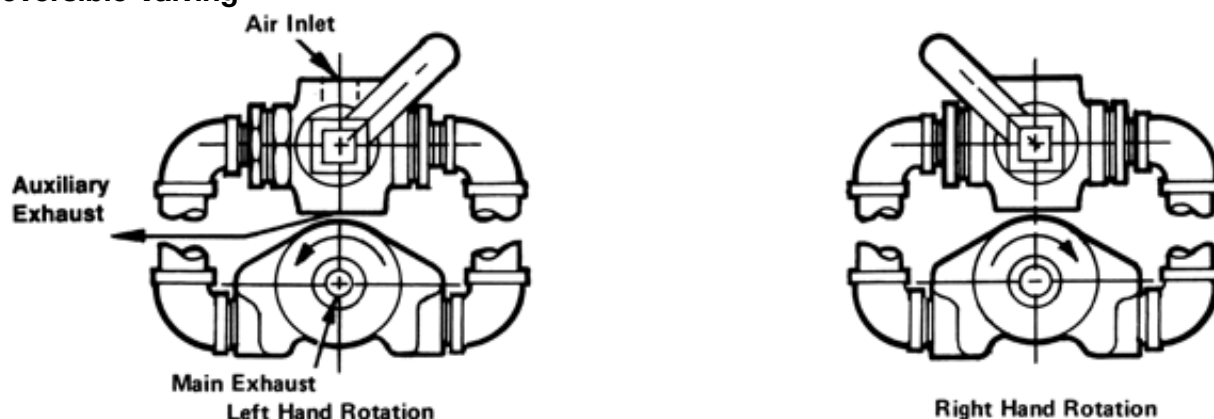
- Geared**
- 73398AA9  
73400AA2  
73422AA6  
73423AA4

# Throttle Combinations for Radial Piston Motors

## Single Direction Valving



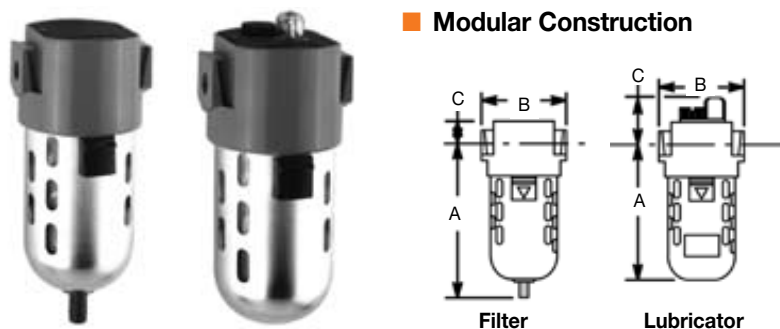
## Reversible Valving



## General Accessories

### Filters, Lubricators

#### Modular Construction



Model Number	NPT	Air Flow		Bowl Capacity		"A"		"B"		"C"	
	in.	SCFM	m <sup>3</sup> /min	oz.	liter	in.	mm	in.	mm	in.	mm
<b>Filters</b>											
F02-M	1/4	35	9.9	5.0	0.15	5.6	142	3.0	76	0.9	23
F03-M	3/8	44	12.9	5.0	0.15	5.6	142	3.0	76	0.9	23
<b>Lubricators – Economist (Standard Mist)</b>											
L03-EP	3/8	48	6.2	5.0	0.15	4.8	122	3.0	76	1.6	41

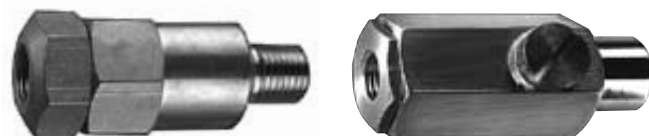
### Modular Sleeve & Bracket (with O-Ring)

#### Model: MS-102

Combination sleeve/wall mounting bracket as shown. Designed for mounting a single unit or combination of units directly to the wall. The sleeve and mounting bracket can be ordered assembled at the factory, or just the mounting bracket alone to be used on existing modular sleeves.



## Airline Filter and Lubricator



Part Number	Description	NPT	Air Flow		Max. Pressure	
		in.	SCFM	m <sup>3</sup> /min	psig	bar
45-0211	Filter w/cartridge*	1/4	17	8.0	100	6.9
45-0212	Filter cartridge	—	—	—	—	—
45-0201	Lubricator**	1/4	22	10	100	6.9
45-0301	Lubricator**	3/8	22	10	100	6.9

GENERAL: Use where inconvenient for standard filter or lubricator.

\* NOTE: Filter will not remove water.

\*\* NOTE: One ounce reservoir good for an average eight hour shift.



## Air Hoses

Part Number	Hose I.D.		Fittings (NPT)		Length	
	in.	mm	in.	mm	ft.	m
A139856	3/16	4.7	1/8	1/8	6.0	1.8
45-1307	3/16	4.7	1/8	1/4	7.0	2.1
45-1408	1/4	6.4	1/4	1/4	8.0	2.4
45-1409	1/4	6.4	1/8	1/4	8.0	2.4
45-1508	5/16	7.9	1/4	1/4	8.0	2.4
45-1610	3/8	9.5	3/8	3/8	10	3.0
45-1810	1/2	12.7	3/8	1/2	10	3.0
45-1812	1/2	12.7	1/2	1/2	12	3.7
45-1825	1/2	12.7	1/2	1/2	25	7.6

GENERAL: 3/16" & 1/4" hoses have braided covers, all others have neoprene covers.

\* NOTE: 3/8"-24 is a straight thread

## Lubricants (do not substitute)

### Oil –

#### • Air Tool Oil #500021:

Available in: 1 gal. can – part #533485

#### • High Film Strength oil (for severe use):

Available in: 1 gal. can – part #536333

NOTE: Cannot be used in AtoMist Lubricators. Use only with EconoMist or Servoil type lubricators.

#### • MR Series Motors – Gearing Oil:

Available in: 1 gal. can – part #535090

### Grease –

#### Gear Lube:

Available in: 1 lb. can – part #A123771

1 gal. can – part #533485

NOTE: Same as Shell Oil Co. Alvania #EP RIO 71039

Grade "00" or Sun Petroleum Products Prestige 740

AEP Grade "00".

• Available On Quotation Basis Only

## Swivel Hose Couplings

Part Number	NPT in.
A20744	1/4
A20741	3/8
A20764	1/2



## Air Pressure Gage Kit

Part Number	Description
A13157	Gage, needle, cap & case



## Quick Disconnect Fittings

Fitting Type*	NPT in.	Nominal Size		
		1/4"	3/8"	1/2"

### Coupler (male NPT)



1/8	45-0710	—	—
1/4	45-0711	45-0713	—
3/8	45-0712	—	—
1/2	—	—	45-0717

### Coupler (female NPT)

3/8	45-0732	45-0734	45-0736
-----	---------	---------	---------

### Nipple (male NPT)



1/8	45-0720	—	—
1/4	—	45-0724	—
3/8	45-0722	45-0725	45-0726
1/2	—	—	45-0727

### Nipple (female NPT)



1/4	—	45-0744	—
3/8	45-0742	45-0745	45-0746
1/2	—	—	45-0747

### Nipple (with hose barbs)



1/4**	45-0748	—	—
1/2**	—	—	45-0753

\* NOTE: Nipples of one size will not fit couplers of another size.

\*\* NOTE: Indicates inside diameter of hose.

NOTE: 1/4" nominal will pass 49 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 30 cfm.

3/8" nominal will pass 90 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 53 cfm.

1/2" nominal will pass 168 cfm free air @ 90 psi, but pressure drop exceeds 10 psi with air flow over 109 cfm.

# Conversion Tables

Millimeter – Decimal – Fraction

mm	Dec.	in.	mm	Dec.	in.	mm	Dec.	in.	mm	Dec.	in.	mm	Dec.	in.	mm	Dec.	in.
0.100	.0039		5.159	.2031	13/64	10.200	.4016		15.300	.6024		20.300	.7992				
0.200	.0079		5.200	.2047		10.300	.4055		15.400	.6063		20.400	.8031				
0.300	.0118		5.300	.2087		10.319	.4063	13/32	15.478	.6094	39/64	20.500	.8071				
0.397	.0156	1/64	5.400	.2126		10.400	.4094		15.500	.6102		20.600	.8110				
0.400	.0157		5.500	.2165		10.500	.4134		15.600	.6142		20.638	.8125	13/16			
0.500	.0197		5.556	.2188	7/32	10.600	.4173		15.700	.6181		20.700	.8150				
0.600	.0236		5.600	.2205		10.700	.4219		15.800	.6220		20.800	.8189				
0.700	.0276		5.700	.2244		10.716	.4219	27/64	15.875	.6250	5/8	20.900	.8228				
0.794	.0313	1/32	5.800	.2283		10.800	.4252		15.900	.6250		21.000	.8268				
0.800	.0315		5.900	.2323		10.900	.4291		16.000	.6299		21.034	.8182	53/64			
0.900	.0354		5.953	.2344	15/64	11.000	.4331		16.100	.6339		21.100	.8307				
1.000	.0394		6.000	.2362		11.100	.4370		16.200	.6378		21.200	.8307				
1.100	.0433		6.100	.2402		11.113	.4375	7/16	16.272	.6406	41/64	21.200	.8346				
1.191	.0469	3/64	6.200	.2441		11.200	.4409		16.300	.6417		21.300	.8386				
1.200	.0472		6.300	.2480		11.300	.4449		16.400	.6457		21.400	.8425				
1.300	.0512		6.350	.2500	1/4	11.400	.4488		16.500	.6496		21.431	.8438	27/32			
1.400	.0551		6.400	.2520		11.500	.4528		16.600	.6535		21.500	.8465				
1.500	.0591		6.500	.2559		11.509	.4531	29/64	16.669	.6563	21/32	21.600	.8504				
1.588	.0625	1/16	6.600	.2598		11.600	.4567		16.700	.6575		21.700	.8543				
1.600	.0630		6.700	.2638		11.700	.4606		16.800	.6614		21.800	.8583				
1.700	.0669		6.747	.2656	17/64	11.800	.4646		16.900	.6654		21.828	.8594	55/94			
1.800	.0709		6.800	.2677		11.900	.4685		17.000	.6693		21.900	.8622				
1.900	.0748		6.900	.2717		11.906	.4688	15/32	17.066	.6719	43/64	22.000	.8661				
1.984	.0781	5/64	7.000	.2756		12.000	.4724		17.100	.6732		22.100	.8701				
2.000	.0878		7.100	.2795		12.100	.4764		17.200	.6772		22.200	.8740				
2.100	.0827		7.144	.2813	9/32	12.200	.4803		17.300	.6811		22.225	.8750	7/8			
2.200	.0866		7.200	.2835		12.300	.4843		17.400	.6850		22.300	.8780				
2.300	.0906		7.300	.2874		12.303	.4844	31/64	17.463	.6875	11/16	22.400	.8819				
2.381	.0938	3/32	7.400	.2913		12.400	.4882		17.500	.6890		22.500	.8858				
2.400	.0945		7.500	.2953		12.500	.4921		17.600	.6929		22.600	.8898				
2.500	.0984		7.541	.2969	19/64	12.600	.4961		17.700	.6968		22.622	.8906	57/64			
2.600	.1024		7.600	.2992		12.700	.5000	1/2	17.800	.7008		22.700	.8937				
2.700	.1063		7.700	.3031		12.800	.5039		17.859	.7031	45/64	22.800	.8976				
2.778	.1094	7/64	7.800	.3071		12.900	.5079		17.900	.7047		22.900	.9016				
2.800	.1102		7.900	.3110		13.000	.5118		18.000	.7087		23.000	.9055				
2.900	.1142		7.938	.3125	5/16	13.097	.5156	33/64	18.100	.7126		23.019	.9063	29/32			
3.000	.1181		8.000	.3150		13.100	.5157		18.200	.7165		23.100	.9094				
3.100	.1220		8.100	.3189		13.200	.5197		18.256	.7188	23/32	23.200	.9134				
3.175	.1250	1/8	8.200	.3228		13.300	.5236		18.300	.7205		23.300	.9173				
3.200	.1260		8.300	.3268		13.400	.5276		18.400	.7244		23.400	.9213				
3.300	.1299		8.334	.3281	21/64	13.494	.5313	17/32	18.500	.7283		23.416	.9219	59/64			
3.400	.1339		8.400	.3307		13.500	.5315		18.600	.7323		23.500	.9252				
3.500	.1378		8.500	.3346		13.600	.5354		18.653	.7344	47/64	23.600	.9291				
3.572	.1406	9/64	8.600	.3386		13.700	.5394		18.700	.7362		23.700	.9331				
3.600	.1417		8.700	.3425		13.800	.5433		18.800	.7402		23.800	.9370				
3.700	.1457		8.731	.3438	11/32	13.891	.5469	35/64	18.900	.7441		23.900	.9409				
3.800	.1496		8.800	.3465		13.900	.5472		19.000	.7480		24.000	.9449				
3.900	.1535		8.900	.3504		14.000	.5512		19.050	.7500	3/4	24.100	.9488				
3.969	.1563	5/32	9.000	.3543		14.100	.5551		19.100	.7520		24.200	.9528				
4.000	.1575		9.100	.3583		14.200	.5591		19.200	.7559		24.209	.9531	61/64			
4.100	.1624		9.128	.3594	23/64	14.288	.5625	9/16	19.300	.7598		24.300	.9567				
4.200	.1654		9.200	.3622		14.300	.5630		19.400	.7638		24.400	.9606				
4.300	.1693		9.300	.3661		14.400	.5669		19.447	.7656	49/64	24.500	.9646				
4.366	.1719	11/64	9.400	.3701		14.500	.5709		19.500	.7677		24.600	.9685				
4.400	.732		9.500	.3740		14.600	.5748		19.600	.7717		24.606	.9688	31/32			
4.500	.1772		9.525	.3750	3/8	14.684	.5781	37/64	19.700	.7756		24.700	.9724				
4.600	.1811		9.600	.3780		14.700	.5787		19.800	.7795		24.800	.9764				
4.700	.1850		9.700	.3819		14.800	.5827		19.844	.7813	25/32	24.900	.9803				
4.763	.1875	3/16	9.800	.3858		14.900	.5866		19.900	.7835		25.000	.9843				
4.800	.1890		9.900	.3898		15.000	.5906		20.000	.7874		25.003	.9844	63/64			
4.900	.1929		9.922	.3902	25/64	15.081	.5938	19/32	20.100	.7913		25.100	.9882				
5.000	.1969		10.000	.3937		15.100	.5945		20.200	.7953		25.200	.9921				
5.100	.2008		10.100	.3976		15.200	.5984		20.241	.7969	51/64	25.300	.9961				
												25.400	1.000	1			

# Conversion Tables

Torque – Air Pressure – Miscellaneous

Torque Conversion – In. Lbs. (Nm)					
In.	Nm	In.	Nm	In.	Nm
5	0.6	50	5.7	140	15.8
10	1.1	60	6.8	150	17.0
15	1.7	70	7.9	160	18.1
20	2.3	80	9.0	170	19.2
25	2.8	90	10.2	180	20.3
30	3.4	100	11.3	190	21.5
35	4.0	110	12.4	200	22.6
40	4.5	120	13.6		
45	5.1	130	14.7		

Torque Conversion – Ft. Lbs. (Nm)					
Ft. Lbs.	Nm	Ft. Lbs.	Nm	Ft. Lbs.	Nm
1	1.36	43	58.3	85	115.3
2	2.7	44	60.0	86	117.0
3	4.1	45	61.0	87	118.0
4	5.4	46	62.4	88	119.3
5	6.8	47	63.7	89	121.0
6	8.1	48	65.1	90	122.0
7	9.5	49	66.4	91	123.4
8	10.9	50	67.8	92	125.0
9	12.2	51	69.2	93	126.1
10	13.6	52	70.5	94	127.5
11	14.9	53	71.9	95	129.0
12	16.3	54	73.2	96	130.2
13	17.6	55	74.6	97	131.5
14	19.0	56	75.9	98	133.0
15	20.3	57	77.3	99	134.2
16	21.7	58	78.7	100	135.6
17	23.1	59	80.0	110	149.2
18	24.4	60	81.4	115	156.0
19	25.8	61	82.7	120	163.0
20	27.1	62	84.1	125	170.0
21	28.5	63	85.4	130	176.3
22	29.8	64	86.8	135	183.1
23	31.2	65	88.1	140	190.0
24	32.5	66	90.0	145	197.0
25	33.9	67	90.9	150	203.4
26	35.3	68	92.2	155	210.2
27	36.6	69	93.6	160	217.0
28	38.0	70	94.9	165	224.0
29	39.3	71	96.3	170	231.0
30	40.7	72	97.6	175	237.3
31	42.0	73	99.0	180	244.1
32	43.4	74	100.3	185	251.0
33	44.8	75	102.0	190	258.0
34	46.1	76	103.1	195	264.4
35	47.5	77	104.4	200	271.2
36	48.8	78	105.8	225	305.1
37	50.2	79	107.1	250	339.0
38	52.0	80	108.5	275	373.0
39	52.9	81	110.0	300	407.0
40	54.2	82	111.2	350	475.0
41	55.6	83	112.6	400	542.4
42	57.0	84	114.0		

Torque Conversion factors		
To Convert	Into	Multiply By
Inch Pounds	Foot Pounds	0.0835
Inch Pounds	Newton meters	0.1130
Inch Pounds	Kg-meters	0.0115
Inch Pounds	Kg-Cm	1.1519
Foot Pounds	Inch Pounds	12.000
Foot Pounds	Newton meters	1.3560
Foot Pounds	Kg-meters	0.1382
Foot Pounds	Kg-Cm	13.8240
Newton Meters	Inch Pounds	8.8440
Newton Meters	Foot Pounds	0.7370
Newton Meters	Kg-meters	0.1020
Newton Meters	Kg-Cm	10.2000
Kg meters	Inch Pounds	86.8100
Kg meters	Foot Pounds	7.2340
Kg meters	Newton-meters	9.8040
Kg Cm	Inch Pounds	0.8681
Kg Cm	Foot Pounds	0.0723
Kg Cm	Newton-meters	0.0980

Miscellaneous Conversion Factors		
To Convert	Into	Multiply By
Inches	Millimeters	25.4000
Millimeters	Inches	0.0394
Pounds	Kilograms	0.4536
Kilograms	Pounds	2.2050
psi	bar	0.069
bar	psi	14.5

Air Pressure Conversion		
PSI	kPa*	Bar**
85	586	5.9
90	620	6.2
95	655	6.6
100	690	6.9
125	860	8.6

\* Preferred: Approximate to the nearest 5 kPa.

\*\* Approximate to the nearest 0.5 Bar.



## The Total Solution

The total solution from Cooper Power Tools includes not only a complete line of quality industrial tools and accessories but also a professional engineering and product support staff to help customize each tool to specific application requirements. All are as close as a telephone or e-mail.

Cooper Power Tools maintains company-owned Service Centers in strategic locations throughout the world, staffed with professional tool repair technicians who use genuine Cooper Power Tools parts and who are outfitted with the very latest in testing, calibration and inspection equipment. Each tool that is returned to a customer from one of our Service Centers carries with it a warranty that is Cooper Power Tools' assurance that it will perform just like it did when it was purchased new.

Our support personnel are fully capable of helping to diagnose problems and promptly recommend solutions.



Our complete line of tools are carefully designed and built from the finest materials available in order to provide years of trouble free service. But, as with any piece of equipment, service problems can occur. All tools are designed to be easy to service ... that is, of course, with properly trained personnel.

## TRAINING

To facilitate quick repairs, and limit downtime ... Cooper Power Tools conducts training seminars covering all aspects of every tool we make.

Introductory training seminars are designed to fully acquaint students with the entire line of tools and their fundamental operation. Advanced training seminars, which are often tailored to individual needs, are designed to hone the skills of the experienced student. Hands-on experience, with an emphasis on troubleshooting and repairing, are the focus of this training.

Service literature, product information, brand catalogs and FAQs are also available around the clock on the web. Just access [www.cooperpowertools.com](http://www.cooperpowertools.com) for the latest information available.







# Sales & Service Centers

**Note:** All locations may not service all products. Please contact the nearest Sales & Service Center for the appropriate facility to handle your service requirements.

## Dallas, TX

### **Cooper Power Tools Sales & Service Center**

1470 Post & Paddock  
Grand Prairie, TX 75050  
Tel: (972) 641-9563  
Fax: (972) 641-9674

## Detroit, MI

### **Cooper Power Tools Sales & Service Center**

4121 North Atlantic Blvd.  
Auburn Hills, MI 48326  
Tel: (248) 391-3700  
Fax: (248) 391-6295

## Houston, TX

### **Cooper Power Tools Sales & Service Center**

6550 West Sam Houston  
Parkway North, Suite 200  
Houston, TX 77041  
Tel: (713) 849-2364  
Fax: (713) 849-2047

## Seattle, WA

### **Cooper Power Tools Sales & Service Center**

2865 152nd Ave N.E.  
Redmond, WA 98052  
Tel: (425) 497-0476  
Fax: (425) 497-0496

## Lexington, SC

### **Cooper Power Tools**

670 Industrial Drive  
Lexington, SC 29072  
Tel: (800) 845-5629  
Tel: (803) 951-7544  
Fax: (803) 358-7681

## York, PA

### **Cooper Power Tools Sales & Service Center**

York Service Center  
3990 E. Market Street  
York, PA 17402  
Tel: (717) 755-2933  
Fax: (717) 757-5063

## Brazil

### **Cooper Tools Industrial Ltda.**

Av. Liberdade, 4055  
Zona Industrial - Iporanga  
18087-170 Sorocaba, SP Brazil  
Tel: (011) 55 15 238 3929  
Fax: (011) 55 15 228 3260

## Canada

### **Cooper Power Tools Sales & Service Center**

5925 McLaughlin Road  
Mississauga, Ont. L5R 1B8  
Canada  
Tel: (905) 501-4785  
Fax: (905) 501-4786

## China

### **Cooper (China) Co., Ltd.**

955 Sheng Li Road,  
Heqing Pudong, Shanghai  
China 201201  
Tel: +86-21-28994176  
Fax: + 86-21-51118446

## France

### **Cooper Power Tools SAS Recoules Operation**

Zone Industrielle  
BP 28  
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## Germany

### **Cooper Power Tools GmbH & Co. OHG**

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## Mexico

### **Cooper Power Tools de México S.A. de C.V.**

Libramiento La Joya No. 1  
Bodega No. 2  
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Cuautitlán, Edo de México C.P. 54870  
Phone: (011) 525 5899 9510  
Fax: (011) 525 5870 5012

## Cooper Power Tools Is On The Web!

Cooper Power Tools provides a complete resource for power tools on-line. Our website [www.cooperpowertools.com](http://www.cooperpowertools.com) offers product information, service literature, brand catalogs, press releases and more. A dominant source of information, the Cooper Power Tools website is your source for application solutions on-line.

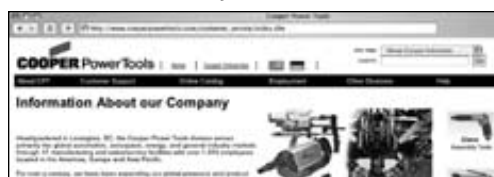


you with current information on our broad product line. Even Material Safety Data Sheets (M.S.D.S.) for Safety and Disposal Information are available on our website.

## Making your job easier is our goal!

You can access service literature anytime. Choose a category such as Assembly Tools or Material Removal Tools from the main menu and then click on the brand you're looking for. You'll be on your way to any current service literature you need, whether it's Cleco, Apex, Master Power, or any of our power tool brands.

Up-to-date product catalogs are also available online providing



## It's simple!

Our *Customer Care* section provides you with information such as answers to frequently asked questions or contact phone numbers and addresses for your area of the country. You can browse through the *What's New* information to learn how Cooper Power Tools continues to be your source for solutions.

For even faster searches, you can go direct to a brand site by simply entering the brand name. Entering [www.dotco-tools.com](http://www.dotco-tools.com) takes you directly to the Dotco brand site.

What is the future of [www.cooperpowertools.com](http://www.cooperpowertools.com)? A dynamic site continuing to focus on your need for up-to-date information on the latest Cooper Power Tools' offerings that you can access anytime you need... twenty-four hours a day, seven days a week!



## One of the broadest range of tools in the world is at your fingertips!

Cooper Power Tools covers a wide range of industrial markets, including aerospace, automotive, foundries, furniture, general industry, metal fabrication, petroleum, power generation, shipbuilding, and transportation. These markets have been served by Cooper Power Tools' brands for many decades, by offering our customers solutions and products that meet their demanding productivity requirements.

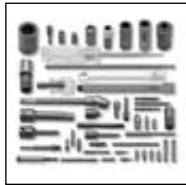
To receive a product catalog, visit our website

**[www.cooperpowertools.com](http://www.cooperpowertools.com)** to request.

Select the literature or software you want. Then complete the "Contact Information" form, hit "Submit Request" and your order will be processed immediately. Materials normally arrive within 48 hours.



## Below are a few of our more popular product catalogs



### **Apex Fastener Tools**

A comprehensive line of industrial quality bits, finders, sockets and extensions.

(Catalog # TC-100)

**[www.apex-tools.com](http://www.apex-tools.com)**

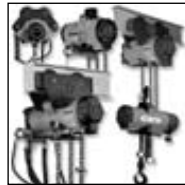


### **Dotco/Cleco Material Removal Tools**

A full line of pneumatic material removal tools including drills, sanders, and grinders.

(Catalog # SP-102)

**[www.dotco-tools.com](http://www.dotco-tools.com)**



### **Gardner-Denver Air Hoists**

A broad line of quality pneumatic hoists for industrial applications.

(Catalog # SP-103)

**[www.gardnerdenvertools.com](http://www.gardnerdenvertools.com)**



### **Apex Universal Joints**

Industrial quality universal joints that can be custom designed for most any application.

(Catalog # SP-1400)

**[www.apexuniversal.com](http://www.apexuniversal.com)**



### **Buckeye • Dotco • Gardner-Denver Power Motors**

A comprehensive line of industrial pneumatic motors for a multitude of applications.

(Catalog # SP-104)

**[www.buckeye-tools.com](http://www.buckeye-tools.com)**



### **Master Power Industrial Air Tools**

A complete line of industrial pneumatic tools for assembly and material removal applications.

(Catalog # SP-904)

**[www.masterpowertools.com](http://www.masterpowertools.com)**



### **Cleco Pneumatic Assembly Tools**

A full line of industrial pneumatic assembly tools from screwdrivers to nutrunners to impacts.

(Catalog # SP-1000)

**[www.clecotools.com](http://www.clecotools.com)**



### **Buckeye Fixtured Drills**

An extensive line of industrial pneumatic fixtured drills.

(Catalog # SP-105)

**[www.buckeye-tools.com](http://www.buckeye-tools.com)**



### **Utica Torque Products**

A full line of torque measuring products including torque screwdrivers, torque wrenches and analyzers.

(Catalog # SP-301)

**[www.uticatools.com](http://www.uticatools.com)**

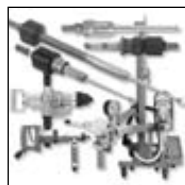


### **Cleco D.C. Electric Assembly Tools**

A complete line of industrial D.C. electric assembly tools and controllers.

(Catalog # SP-105)

**[www.clecotools.com](http://www.clecotools.com)**



### **Airetool Tube Cleaners & Expanders**

A complete line of industrial tube cleaners, expanders and installation tools.

(Catalog # SP-1100)

**[www.airetools.com](http://www.airetools.com)**

## Sales & Service Centers

**Note:** All locations may not service all products. Please contact the nearest Sales & Service Center for the appropriate facility to handle your service requirements.

**Dallas, TX**  
**Cooper Power Tools**  
**Sales & Service Center**  
1470 Post & Paddock  
Grand Prairie, TX 75050  
Tel: (972) 641-9563  
Fax: (972) 641-9674

**Detroit, MI**  
**Cooper Power Tools**  
**Sales & Service Center**  
4121 North Atlantic Blvd.  
Auburn Hills, MI 48326  
Tel: (248) 391-3700  
Fax: (248) 391-6295

**Houston, TX**  
**Cooper Power Tools**  
**Sales & Service Center**  
6550 West Sam Houston  
Parkway North, Suite 200  
Houston, TX 77041  
Tel: (713) 849-2364  
Fax: (713) 849-2047

**Lexington, SC**  
**Cooper Power Tools**  
670 Industrial Drive  
Lexington, SC 29072  
Tel: (800) 845-5629  
Tel: (803) 359-1200  
Fax: (803) 358-7681

**Seattle, WA**  
**Cooper Power Tools**  
**Sales & Service Center**  
2865 152nd Ave N.E.  
Redmond, WA 98052  
Tel: (425) 497-0476  
Fax: (425) 497-0496

**York, PA**  
**Cooper Power Tools**  
**Sales & Service Center**  
3990 East Market Street  
York, PA 17402  
Tel: (717) 755-2933  
Fax: (717) 757-5063

**Canada**  
**Cooper Power Tools**  
**Sales & Service Center**  
5925 McLaughlin Road  
Mississauga, Ont. L5R 1B8  
Canada  
Tel: (905) 501-4785  
Fax: (905) 501-4786

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