

SERIES M002 MULTI-VANE AIR MOTORS

Round Keyed Shaft • Square Shaft (Optional) • Threaded Shaft (Optional)
 .11 to .25 hp • Flange Mounted

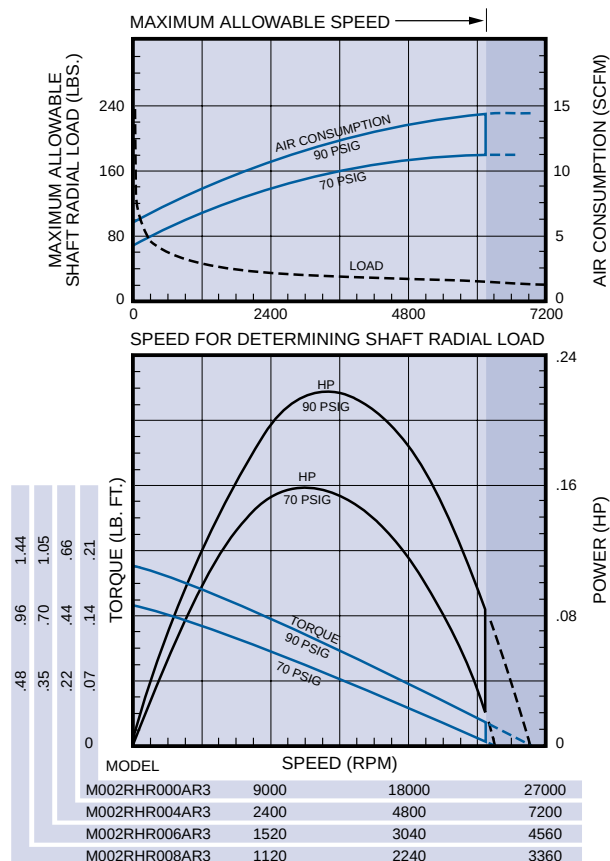
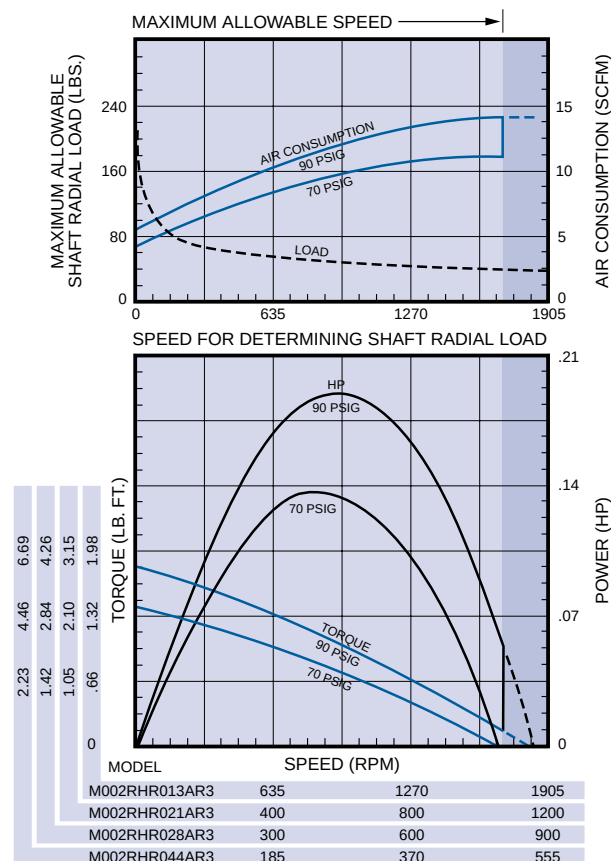
SPECIFICATIONS

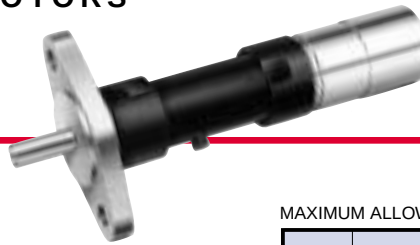
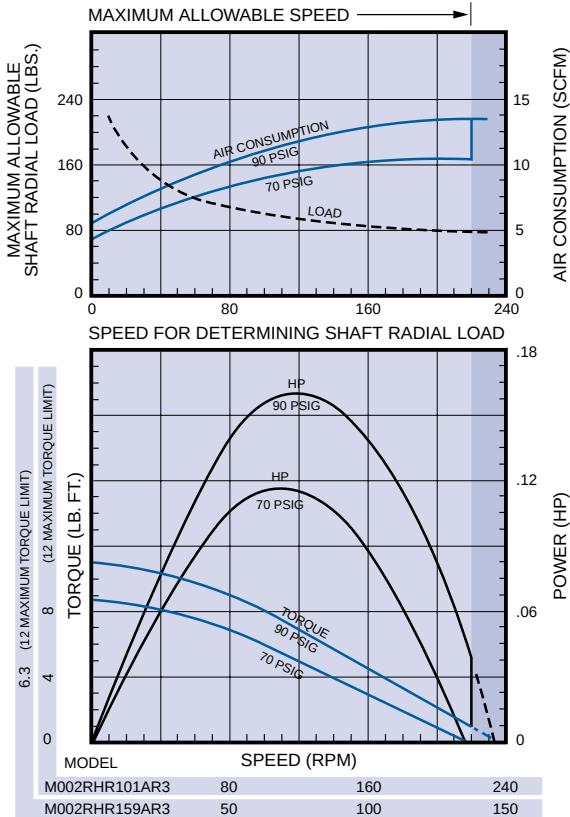
Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m³/m	lb.	kg
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
M002RHR000AR3	0.25	0.19	12,250	26,000	0.15	0.20	0.20	0.27	12.0	0.34	1	0.46
M002RHR004AR3	0.22	0.16	3250	6920	0.45	0.61	0.61	0.83	11.9	0.34	1	0.46
M002RHR006AR3	0.22	0.16	2060	4385	0.72	0.98	0.96	1.30	11.9	0.34	1½	0.49
M002RHR008AR3	0.22	0.16	1520	3240	0.98	1.33	1.31	1.78	11.9	0.34	1	0.46
M002RHR013AR3	0.19	0.14	880	1840	1.36	2.50	1.82	2.47	11.8	0.33	1½	0.50
M002RHR021AR3	0.19	0.14	555	1165	2.16	2.93	2.88	3.90	11.8	0.33	1½	0.50
M002RHR028AR3	0.19	0.14	410	860	2.92	3.96	3.90	5.29	11.8	0.33	1½	0.50
M002RHR044AR3	0.19	0.14	262	545	4.61	6.25	6.15	8.34	11.8	0.33	1½	0.50
M002RHR101AR3	0.16	0.12	112	228	*8.32	*11.2	*11.1	*15.0	11.7	0.33	1½ ₁₆	0.54
M002RHR159AR3	0.16	0.12	71	145	*13.1	*17.7	*17.5	*23.7	11.7	0.33	1½ ₁₆	0.54
Reversible												
M002RVR000AR3	0.20	0.15	11,500	23,000	0.13	0.18	0.18	0.24	9.8	0.28	1	0.46
M002RVR004AR3	0.17	0.13	3045	6090	0.40	0.54	0.54	0.73	9.7	0.27	1	0.46
M002RVR006AR3	0.17	0.13	1930	3860	0.64	0.87	0.86	1.17	9.7	0.27	1½	0.49
M002RVR008AR3	0.17	0.13	1425	2850	0.87	1.18	1.16	1.57	9.7	0.27	1	0.46
M002RVR013AR3	0.14	0.10	820	1645	1.17	1.58	1.56	2.11	9.6	0.27	1½	0.50
M002RVR021AR3	0.14	0.10	520	1045	1.85	2.51	2.47	3.35	9.6	0.27	1½	0.50
M002RVR028AR3	0.14	0.10	385	770	2.50	3.39	3.34	4.53	9.6	0.27	1½	0.50
M002RVR044AR3	0.14	0.10	240	485	3.96	5.37	5.28	7.16	9.6	0.27	1½	0.50
M002RVR101AR3	0.11	0.08	104	209	*6.78	*9.19	*9.05	*12.2	9.5	0.27	1½ ₁₆	0.54
M002RVR159AR3	0.11	0.08	66	132	*10.7	*14.5	*14.2	*19.3	9.5	0.27	1½ ₁₆	0.54

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

* Applications with these models must be limited to 12 lb.-ft. (16.3 Nm) torque.

Performance figures are at 90 psig (620 kPa) air pressure.





SERIES M002 DIMENSIONS

The technical drawing illustrates the dimensions for the Series M002 pump assembly. It includes three main views: a top view of the "A" flange, a side view of the pump body, and a front view of the pump head.

"A" FLANGE

INLETS AND FLANGES CAN BE RELOCATED RELATIVE TO EACH OTHER IN INCREMENTS OF 15°

"B" FLANGE 4 HOLE MOUNTING

NON-REVERSIBLE

REVERSIBLE

OPTIONAL SIDE EXHAUST HOUSING FOR REVERSIBLE MODELS

DIMENSIONS:

- .394" R (10.0mm)
- 1.250" (31.75mm)
- 1.624" DIA (41.25mm)
- 1.250" (31.75mm)
- .330" DIA (8.375mm)
- .125" SQ. KEY (3.175mm)
- .625" LONG (15.88mm)
- 1.0" (25.4mm)
- .088" (2.25mm)
- 1.498" DIA (38.05mm)
- 1.496" DIA (38.05mm)
- .3748" DIA (9.52mm)
- .3740" DIA (9.50mm)
- .315" (8.0mm)
- SHAFT RADIAL LOAD
- 1.304" DIA (33.125mm)
- .345" (8.75mm)
- Mounting Face of "B" Flange
- A
- 2.01" (51.06mm)
- 1.156" (29.38mm)
- 1.304" DIA (33.125mm)
- 1.304" (33.125mm)
- 1.67" (42.44mm)
- 1.304" (33.125mm)
- PRIMARY EXHAUST
- 1/8" NPT 3-PLACES
- FORWARD INLET
- 1/8" NPT INLET
- .665" (16.89mm)
- .580" (14.72mm)
- .522" (13.27mm)
- 1/4" NPT EXHAUST
- .659" (16.75mm)
- .556" (14.13mm)
- FEMALE PILOT .671" DIA (17.05mm)
- .669" DIA (17.0mm)
- .128" DEEP (3.25mm)
- #6-32 UNC-2B THD. 4-PLACES .325" (8.25mm) DEEP

M 002 RV R 028 A R3
 ↑ ↑ ↑ ↑ ↑ ↑
 Motor HP Rotation Air Inlet Gear Flange Shaft

Rotation = RV Reversible
 RH Non-Reversible, Right Hand from Rear of Motor (CCW facing shaft)
 LH Non-Reversible, Left Hand from Rear of Motor (CW facing shaft)

Shaft = R3 $\frac{3}{8}$ " Round Keyed
T3 $\frac{3}{8}$ "-24 UNF-2A Threaded.
Threaded Shaft Extension is 1" (25.4mm) with
Threaded Length from Shaft End of .87"
(22mm).
Threaded Shaft Pilot at End is .315" (8mm) Dia.
Max. by .374" (9.5mm) Long
S3 $\frac{3}{8}$ " Square Drive
Square Shaft Extension is 1.791" (45.5mm)

Gear Ratios (Refer to Model No.)	A	
	in.	mm
000, 004, 008	4.989	126.73
006, 013, 021, 028, 044	5.510	139.93
101, 159	6.020	152.91

Furnished with Cataloged Models	Optional at No Extra Price	Optional at Extra Price
2 Hole Flange Mounting	4 Hole Face Mounting	R1440-212-1 ¾" Square Drive Adapter, 1" long with ¾" -24 Female threads for use with Threaded Shaft.
¾" Round Keyed Shaft	¾"-24 Threaded Shaft	
	Side Inlet and Exhaust Housing (for Reversible Models only)	Required for ¾" Adapter (2) R2J-561 set screws (1) 8U-722 Bail

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SERIES M004 MULTI-VANE AIR MOTORS

Round Keyed Shaft • Square Shaft (Optional) • Threaded Shaft (Optional)
.31 to .50 hp • Geared Drive • Flange Mounted



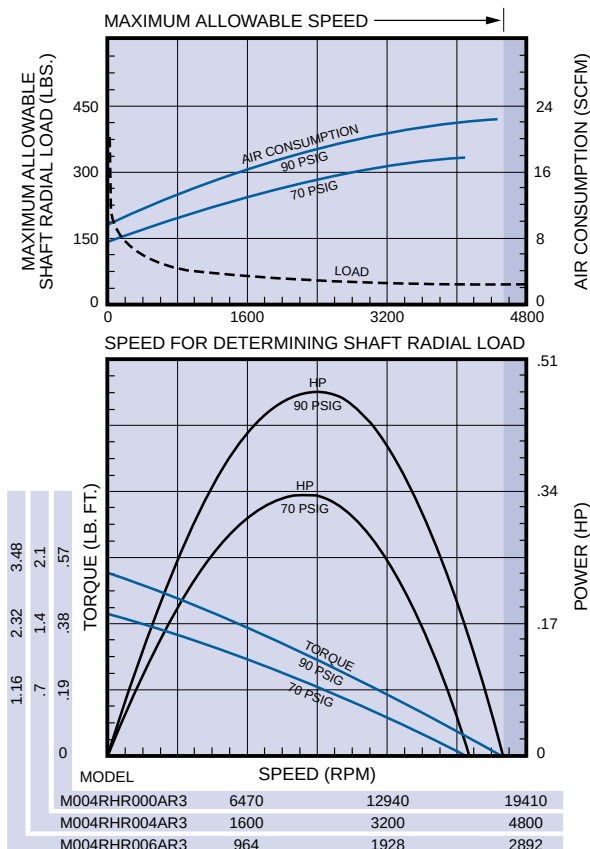
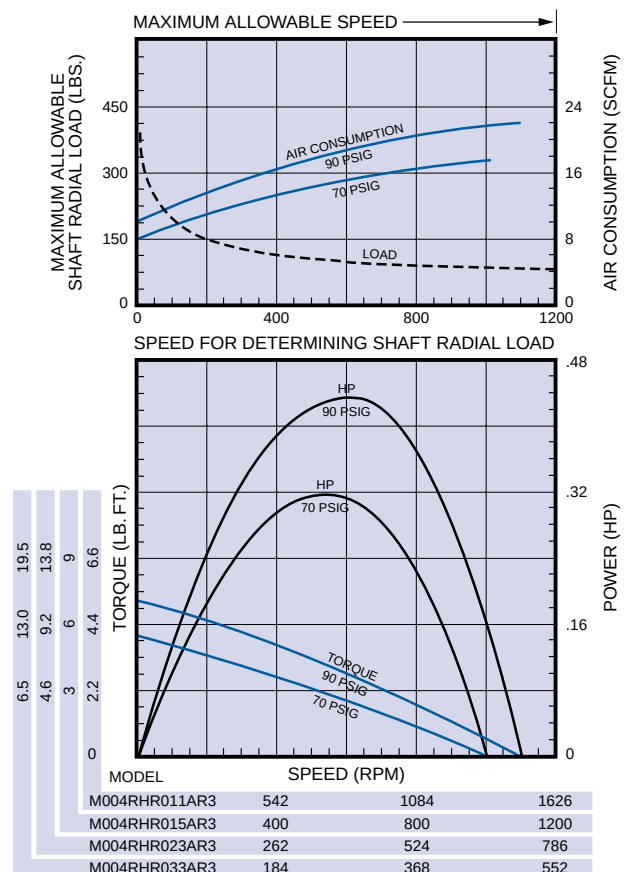
SPECIFICATIONS

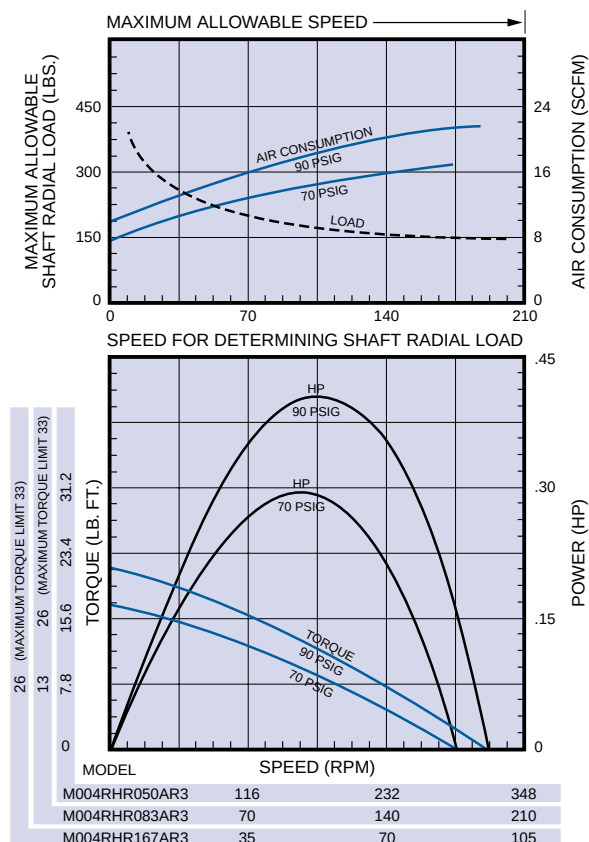
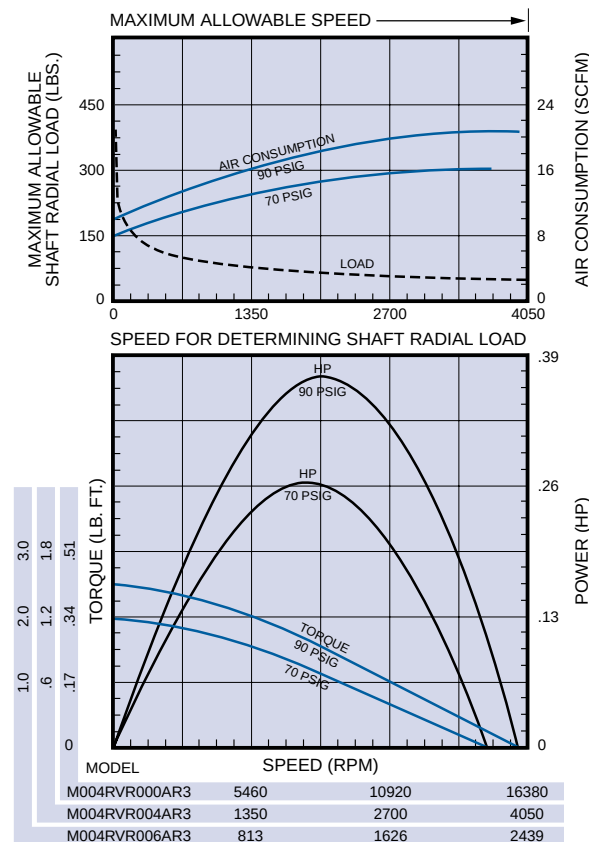
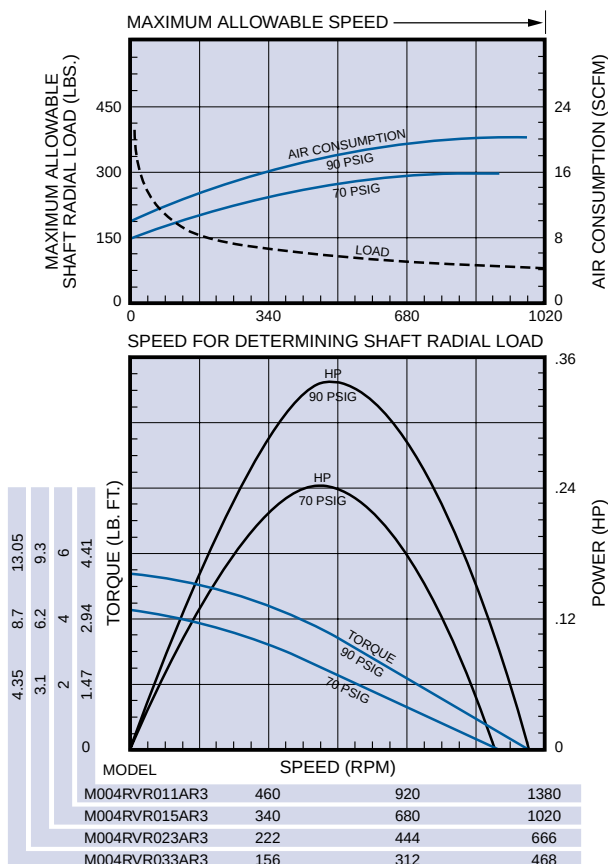
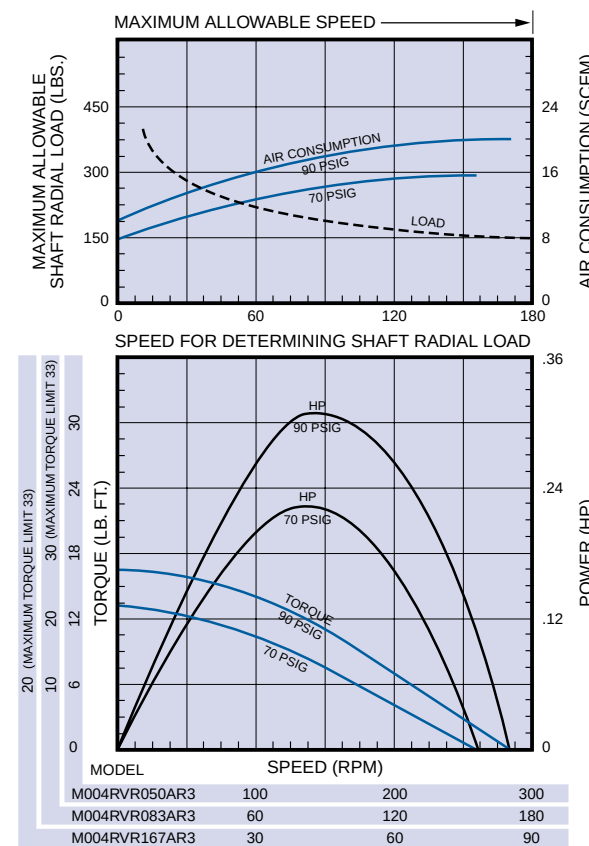
Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m³/m	lb.	kg
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
M004RHR000AR3	0.50	0.37	10,000	18,000	0.40	0.54	0.53	0.72	20.0	0.57	2 1/16	0.95
M004RHR004AR3	0.47	0.35	2470	4450	1.46	1.98	1.94	2.63	19.5	0.55	2 1/16	1.00
M004RHR006AR3	0.47	0.35	1490	2680	2.42	3.28	3.22	4.37	19.5	0.55	2 1/16	1.00
M004RHR011AR3	0.44	0.33	825	1490	3.92	5.32	5.22	7.08	19.0	0.54	2 3/8	1.09
M004RHR015AR3	0.44	0.33	610	1095	5.32	7.21	7.10	9.63	19.0	0.54	2 3/8	1.09
M004RHR023AR3	0.44	0.33	395	715	8.10	11.0	10.8	14.6	19.0	0.54	2 3/8	1.09
M004RHR033AR3	0.44	0.33	280	505	11.5	15.6	15.4	20.8	19.0	0.54	2 3/8	1.09
M004RHR050AR3	0.41	0.31	175	315	*16.5	*22.4	*22.1	*30.0	18.5	0.52	2 1/16	1.22
M004RHR083AR3	0.41	0.31	106	190	*27.5	*37.3	*36.7	*49.7	18.5	0.52	2 1/16	1.22
M004RHR167AR3	0.41	0.31	53	95	*55.0	*74.5	*73.3	*99.4	18.5	0.52	2 1/16	1.22
Reversible												
M004RVR000AR3	0.40	0.30	8000	16,000	0.32	0.43	0.42	0.57	19.0	0.54	2 1/16	0.95
M004RVR004AR3	0.37	0.28	1975	3955	1.13	1.53	1.51	2.05	18.5	0.52	2 1/16	1.00
M004RVR006AR3	0.37	0.28	1190	2380	1.88	2.55	2.51	3.40	18.5	0.52	2 1/16	1.00
M004RVR011AR3	0.34	0.25	660	1325	3.00	4.07	4.00	5.42	18.0	0.51	2 3/8	1.09
M004RVR015AR3	0.34	0.25	485	975	4.07	5.52	5.43	7.36	18.0	0.51	2 3/8	1.09
M004RVR023AR3	0.34	0.25	315	635	6.23	8.45	8.30	11.2	18.0	0.51	2 3/8	1.09
M004RVR033AR3	0.34	0.25	225	450	8.85	12.0	11.8	16.0	18.0	0.51	2 3/8	1.09
M004RVR050AR3	0.31	0.23	140	280	*12.3	*16.7	*16.5	*22.4	17.5	0.50	2 1/16	1.22
M004RVR083AR3	0.31	0.23	84	169	*20.6	*27.9	*27.5	*37.3	17.5	0.50	2 1/16	1.22
M004RVR167AR3	0.31	0.23	42	85	*41.3	*56.0	*55.0	*74.5	17.5	0.50	2 1/16	1.22

▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

* Applications with these models must be limited to 33 lb.-ft. (44.7 Nm) torque.

Performance figures are at 90 psig (620 kPa) air pressure.

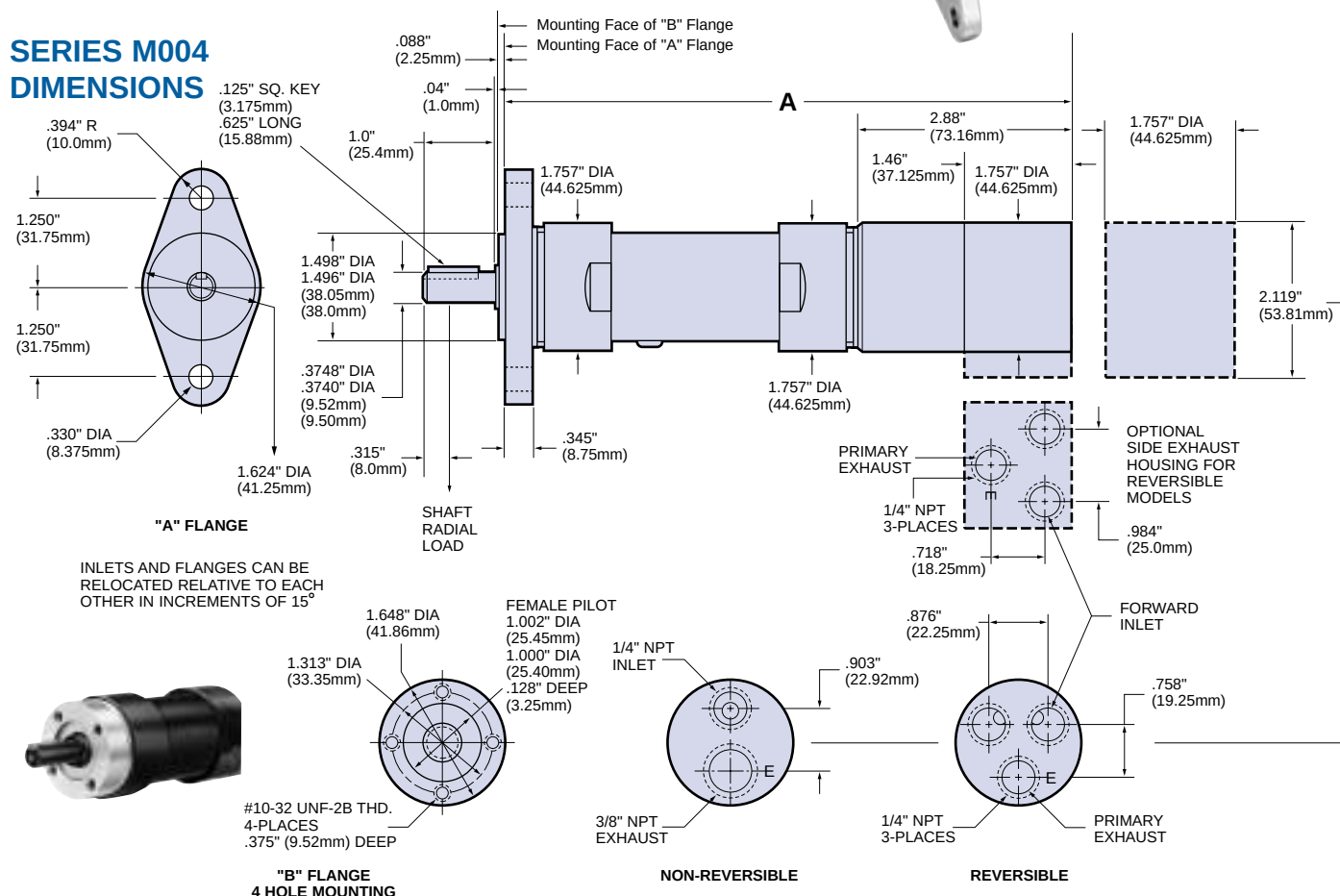




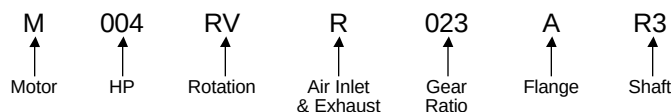
SERIES M004 MULTI-VANE AIR MOTORS



SERIES M004 DIMENSIONS



SERIES M004 MODEL NUMBER SYMBOLIZATION



HP = Approximate horsepower range (.31 to .50)

Rotation = RV Reversible
 RH Non-Reversible, Right Hand from Rear of Motor (CCW facing shaft)
 LH Non-Reversible, Left Hand from Rear of Motor (CW facing shaft)

Air Inlet & Exhaust = R Rear, S Side (Side Inlet and Exhaust available on Reversible Models only)

Gear Ratio = 023 is 1 to 23, 033 is 1 to 33, etc.

Flange = A 2 Hole Flange, B 4 Hole Face Mounting

Shaft = R3 $\frac{3}{8}$ " Round Keyed
 T3 $\frac{3}{8}$ "-24 UNF-2A Threaded
 Threaded Shaft Extension is .512" (13mm)
 Full Thread Length is .424" (10.75mm)
 S3 $\frac{3}{8}$ " Square Drive
 Square Shaft Extension is 1.791" (45.5mm)

DIMENSIONS

Gear Ratios (Refer to Model No.)	A	
	in.	mm
000, 004, 006	6.248	158.69
011, 015, 023, 033	6.984	177.38
050, 083, 167	7.745	196.73

EQUIPMENT OPTIONS

Furnished with Cataloged Models	Optional at No Extra Price	Optional at Extra Price
2 Hole Flange Mounting	4 Hole Face Mounting	R1440-212-1 $\frac{3}{8}$ " Square Drive Adapter, 1" long with $\frac{3}{8}$ " -24 Female threads for use with Threaded Shaft.
$\frac{3}{8}$ " Round Keyed Shaft	$\frac{3}{8}$ "-24 Threaded Shaft	
	Side Inlet and Exhaust Housing (for Reversible Models only)	Required for $\frac{3}{8}$ " Adapter (2) R2J-561 set screws

Note: On all Series M002, M004, and M007 Air Motors, performance is the same for both directions of rotation. On Non-Reversible models, direction of rotation may be easily changed without the need of additional parts by inverting cylinder. See Assembly Instruction form number listed in price sheet.

SERIES M007 MULTI-VANE AIR MOTORS

Round Keyed Shaft • Square Shaft (Optional) • .61 to .85 hp • Geared Drive
Flange or Face Mounted

SPECIFICATIONS

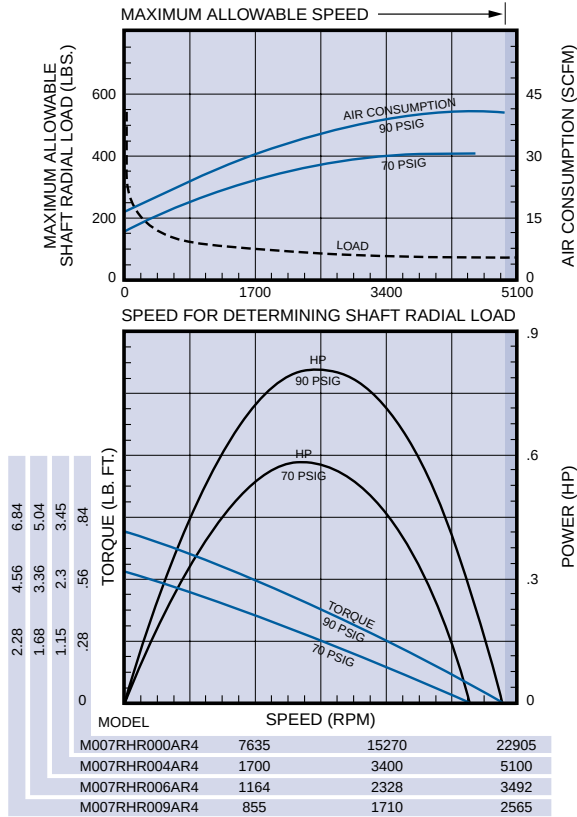
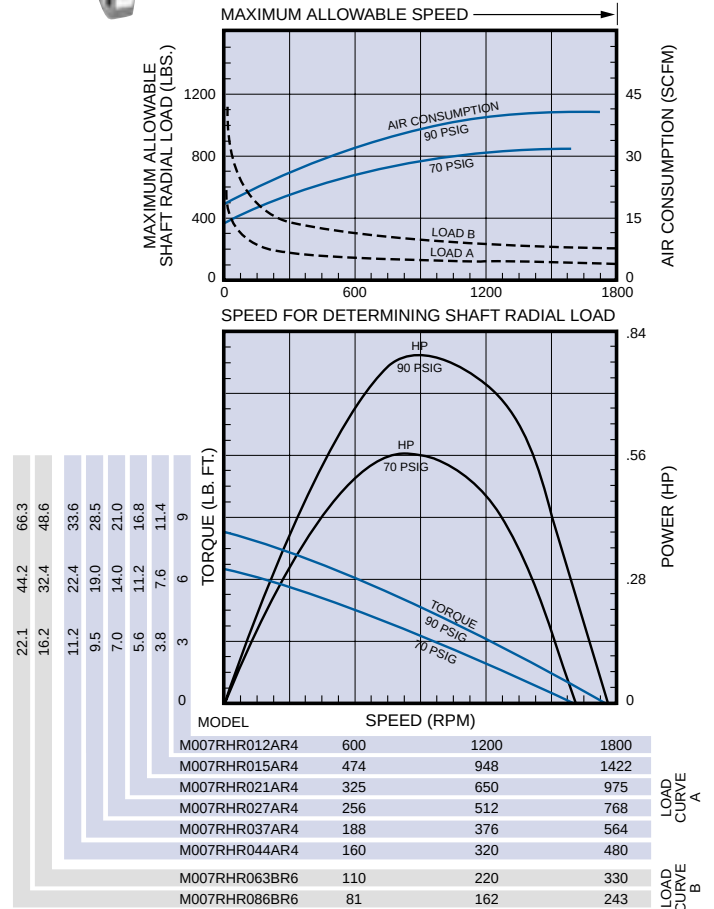
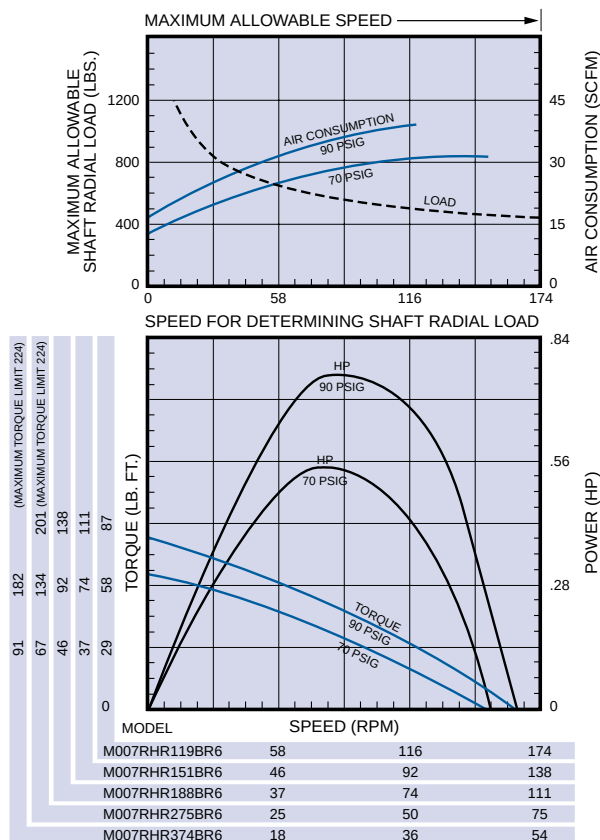
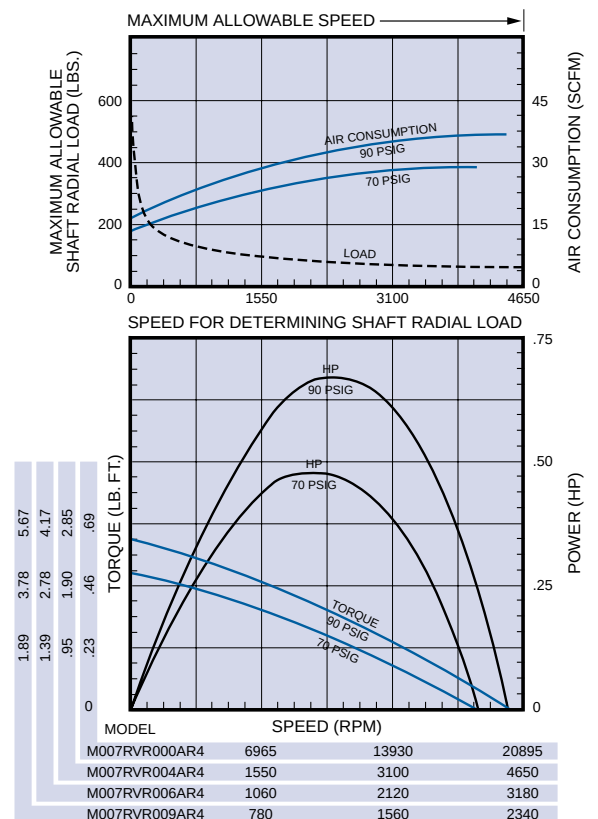
Model	Max. Power		Speed at Max. Power	Free Speed▲	Starting Torque		Stall Torque		Air Consumption at Max. Power		Weight	
	hp	kw	rpm	rpm	lb.-ft.	Nm	lb.-ft.	Nm	scfm	m³/m	lb.	kg
Non-Reversible Direction of rotation is counterclockwise when facing the shaft.												
M007RHR000AR4	0.85	0.63	11,000	22,000	0.58	0.79	0.77	1.04	36	1.02	3½	1.4
M007RHR004AR4	0.82	0.61	2445	4890	2.39	3.24	3.19	4.33	36	1.02	3½	1.4
M007RHR006AR4	0.82	0.61	1675	3350	3.50	4.75	4.66	6.32	36	1.02	3½	1.4
M007RHR009AR4	0.82	0.61	1230	2460	4.76	6.45	6.34	8.60	36	1.02	3½	1.4
M007RHR012AR4	0.79	0.59	870	1740	6.19	8.39	8.25	11.2	36	1.02	3½	1.6
M007RHR015AR4	0.79	0.59	685	1370	7.80	10.6	10.4	14.1	36	1.02	3½	1.6
M007RHR021AR4	0.79	0.59	470	940	11.5	15.6	15.3	20.7	36	1.02	3½	1.6
M007RHR027AR4	0.79	0.59	370	740	14.5	19.7	19.3	26.2	36	1.02	3½	1.6
M007RHR037AR4	0.79	0.59	270	540	19.7	26.7	26.3	35.7	36	1.02	3½	1.6
M007RHR044AR4	0.79	0.59	232	465	23.2	31.5	30.9	41.9	36	1.02	3½	1.6
M007RHR063BR6	0.79	0.59	161	321	33.5	45.4	44.7	60.6	36	1.02	7½	3.2
M007RHR086BR6	0.79	0.59	118	236	45.7	62.0	60.9	82.6	36	1.02	7½	3.2
M007RHR119BR6	0.76	0.57	82	163	60.5	82.0	80.7	109.0	36	1.02	7½	3.4
M007RHR151BR6	0.76	0.57	65	129	76.5	104.0	102.0	138.0	36	1.02	7½	3.4
M007RHR188BR6	0.76	0.57	52	103	96.0	130.0	128.0	174.0	36	1.02	7½	3.4
M007RHR275BR6	0.76	0.57	35	70	*140.0	*190.0	*187.0	*254.0	36	1.02	7½	3.4
M007RHR374BR6	0.76	0.57	26	52	*191.0	*259.0	*254.0	*344.0	36	1.02	7½	3.4
Reversible												
M007RVR000AR4	0.70	0.52	10,000	20,000	0.47	0.64	0.63	0.85	33	0.93	3½	1.4
M007RVR004AR4	0.67	0.50	2225	4450	1.94	2.63	2.59	3.51	33	0.93	3½	1.4
M007RVR006AR4	0.67	0.50	1520	3045	2.84	3.85	3.78	5.13	33	0.93	3½	1.4
M007RVR009AR4	0.67	0.50	1120	2240	3.86	5.23	5.14	6.97	33	0.93	3½	1.4
M007RVR012AR4	0.64	0.48	790	1580	4.97	6.74	6.63	8.99	33	0.93	3½	1.6
M007RVR015AR4	0.64	0.48	625	1250	6.29	8.53	8.38	11.4	33	0.93	3½	1.6
M007RVR021AR4	0.64	0.48	425	855	9.2	12.5	12.2	16.5	33	0.93	3½	1.6
M007RVR027AR4	0.64	0.48	335	675	11.6	15.7	15.5	20.1	33	0.93	3½	1.6
M007RVR037AR4	0.64	0.48	245	495	15.8	21.4	21.1	28.6	33	0.93	3½	1.6
M007RVR044AR4	0.64	0.48	210	420	18.6	25.2	24.8	33.6	33	0.93	3½	1.6
M007RVR063BR6	0.64	0.48	146	292	26.9	36.5	35.9	48.7	33	0.93	7½	3.2
M007RVR086BR6	0.64	0.48	107	215	36.7	49.8	48.9	66.3	33	0.93	7½	3.2
M007RVR119BR6	0.61	0.46	74	148	48.1	65.3	64.1	87.0	33	0.93	7½	3.4
M007RVR151BR6	0.61	0.46	58	117	61.0	82.7	81.3	110.0	33	0.93	7½	3.4
M007RVR188BR6	0.61	0.46	47	94	76.5	104.0	102.0	138.0	33	0.93	7½	3.4
M007RVR275BR6	0.61	0.46	32	64	*111.0	*151.0	*148.0	*201.0	33	0.93	7½	3.4
M007RVR374BR6	0.61	0.46	23	47	*152.0	*206.0	*202.0	*274.0	33	0.93	7½	3.4

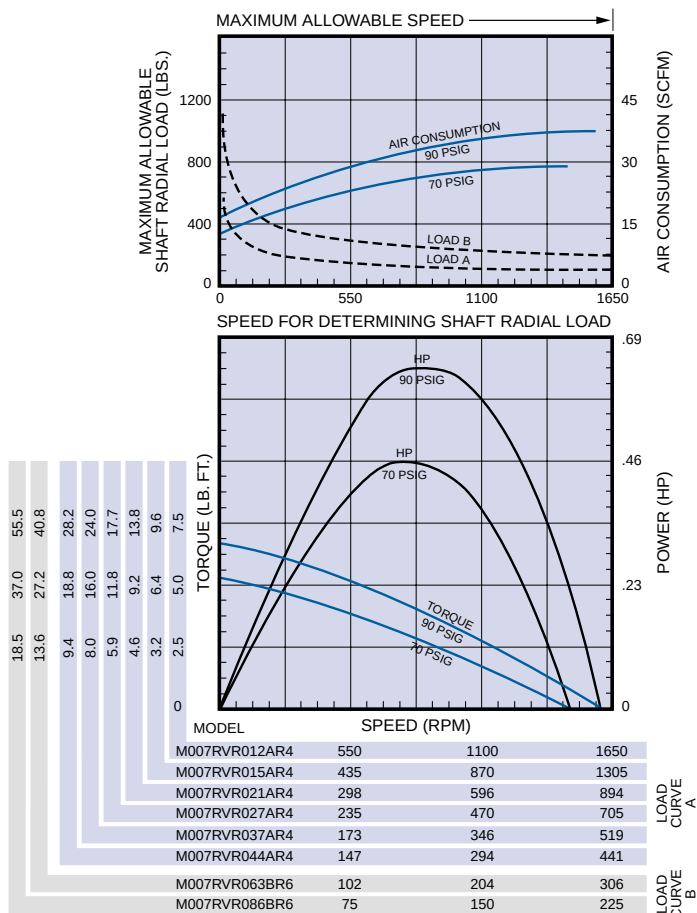
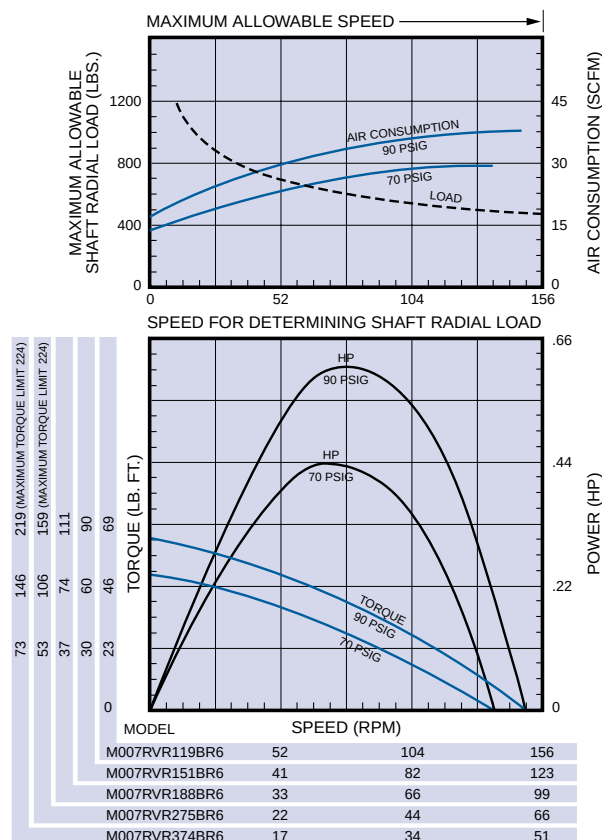
▲ ALL models must be operated with sufficient load to prevent speed from exceeding maximum allowable speed shown on performance curve.

* Applications with these models must be limited to 224 lb.-ft. (304 Nm) torque.

Performance figures are at 90 psig (620 kPa) air pressure.

Note: On all Series M002, M004, and M007 Air Motors, performance is the same for both directions of rotation. On Non-Reversible models, direction of rotation may be easily changed without the need of additional parts by inverting cylinder. See Assembly Instruction form number listed in price sheet.





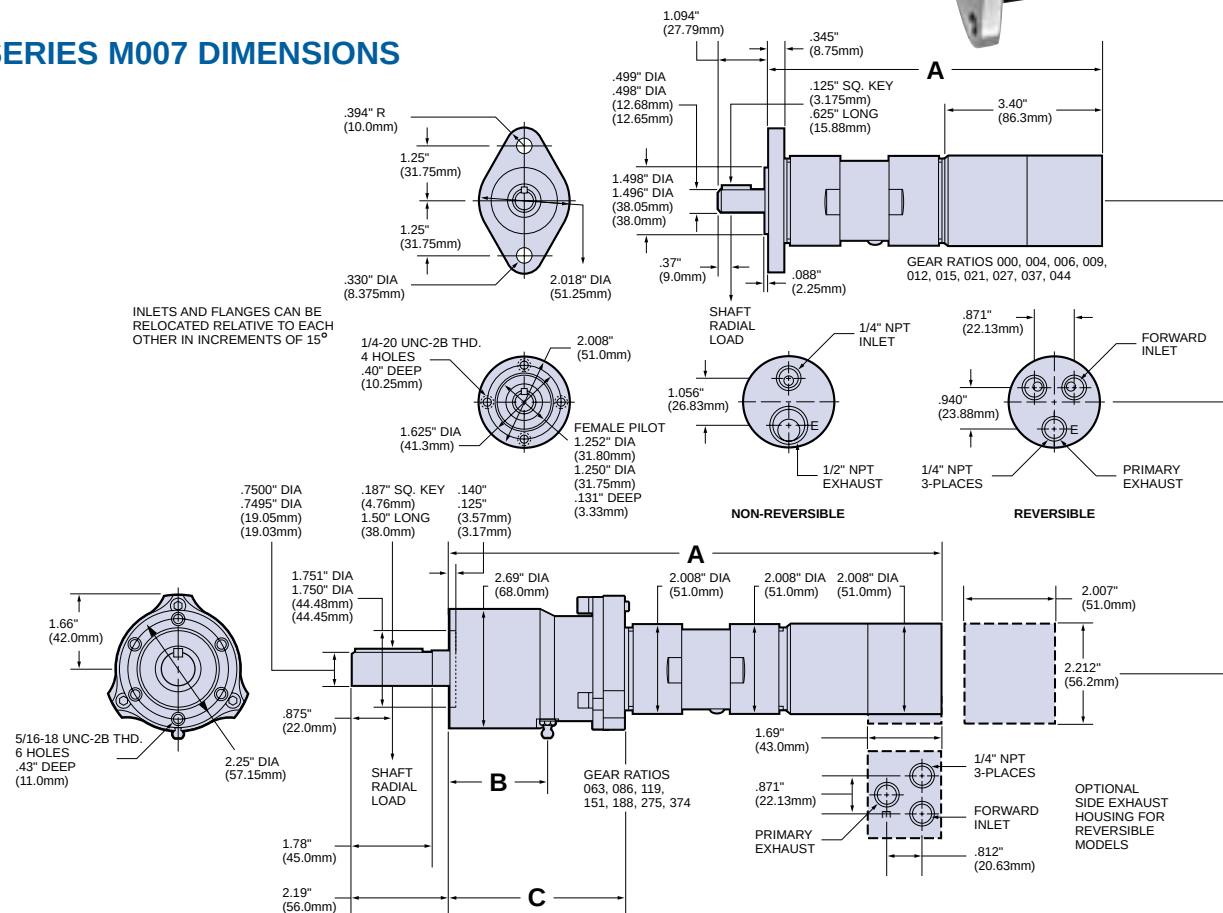
EQUIPMENT OPTIONS

Furnished with Cataloged Models	Optional at No Extra Price	Optional at Extra Price
2 Hole Flange Mounting on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	4 Hole Flange Mounting on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	½" Square Drive Shaft on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044
6 Hole Face Mounting on Gear Ratios: 063, 086, 119, 151, 188, 275, 374	Side Inlet and Exhaust Housing (for Reversible Models only)	¾" Square Drive Shaft on Gear Ratios: 063, 086, 119, 151, 188, 275, 374
½" Round Keyed Shaft on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	¾"—24 or ½"—20 Threaded Shaft on Gear Ratios: 000, 004, 006, 009, 012, 015, 021, 027, 037, 044	
¾" Round Keyed Shaft on Gear Ratios: 063, 086, 119, 151, 188, 275, 374		

SERIES M007 MULTI-VANE AIR MOTORS



SERIES M007 DIMENSIONS



SERIES M007 MODEL NUMBER SYMBOLIZATION

M Motor
007 HP
RV Rotation
R Air Inlet & Exhaust
021 Gear Ratio
A Flange
R4 Shaft

HP = Approximate horsepower range (.61 to .85)

Rotation = RV Reversible

RH Non-Reversible, Right Hand from Rear of Motor (CCW facing shaft)

LH Non-Reversible, Left Hand from Rear of Motor (CW facing shaft)

Air Inlet & Exhaust = R Rear, S Side (Side Inlet and Exhaust available on Reversible Models only)

Gear Ratio = 021 is 1 to 21, 027 is 1 to 27, etc.

Flange = A 2 Hole Flange, B 4 Hole Face Mounting (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios), B 6 Hole Face Mounting (on 063, 086, 119, 151, 188, 275, 374 gear ratios).

Shaft = R4 ½" Round Keyed (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

R6 ¾" Round Keyed (on 063, 086, 119, 151, 188, 275, 374 gear ratios).

S4 ½" Square Drive (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

Shaft Extension 1.31" (33.27mm)

S5 ¾" Square Drive (on 063, 086, 119, 151, 188, 275, 374 gear ratios).

Shaft Extension 1.25" (31.75mm)

T3 ⅜"-24 UNF-2A Threaded (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

Shaft Extension .512" (13mm)

T4 ½" 20 UNF-2A Threaded (on 000, 004, 006, 009, 012, 015, 021, 027, 037, 044 gear ratios).

Shaft Extension .512" (13mm)

DIMENSIONS

Gear Ratios (Refer to Model No.)	A		B		C	
	in.	mm	in.	mm	in.	mm
000, 004, 006, 009	7.362	187.0				
012, 015, 021, 027, 037, 044	8.133	206.56				
063, 086	9.343	237.3	.41	10	2.3	58.4
119, 188, 275, 374, 151	10.937	277.8	2.19	56	3.9	99.0

