

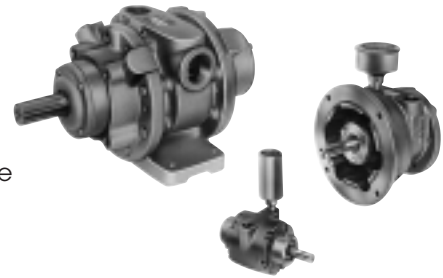


Air Motors/Gearmotors

Known industry wide for their rugged construction and reliability, Gast Air Motors and air powered Gearmotors are used in a variety of applications.

Lubricated Air Motors come in seven basic models up to 9.5 HP (7.1 kW); motor speeds are variable from 300 to 10,000 RPM. Oilless versions, which require absolutely no lubrication, come in three basic models ranging from .18 to 2.5 HP (0.13 to 1.86 kW) and with motor speeds up to 4,000 RPM. Choose from hub, foot, face, NEMA C-Flange or Metric D Series interface mountings and clockwise, counterclockwise or reversible rotations. Four and eight vane models are also available.

Air powered Gearmotors are available in rightangle and in-line models offering a maximum torque range of 73 to 5,200 lb. in. (8 to 587 Nm) and gear ratios from 10:1 to 60:1 single reduction gear reducers. A full line of recommended accessories is also available.



Why you should look into a Gast Air Motor

- **Variable speed.**

You can vary air motor speed between 300 and 10,000 rpm (depending on model selection) with a simple valve put in between the air source and air motor.

- **Nonelectrical sparking.**

As a nonelectrical device, the possibility of explosion from igniting flammable gases is greatly reduced.

- **Instantly reversible.**

A four-way valve in the air line enables a Gast Air Motor to be instantly reversed. A turn of the valve causes a complete reversal of rotation, even when the motor is running at full speed.

- **Cool running.**

As the air motor turns, expanded air cools the motor. Units can be used in ambient temperatures up to 250°F (120°C) in a nonhazardous atmosphere.

- **Compact and portable.**

Get maximum horsepower with minimum size and weight.

- **Minimum maintenance.**

You can put a Gast Air Motor in places where they will not get much service, because there's virtually nothing to service on a Gast Air Motor, providing it is operated on a clean, dry, and lubricated air supply*.

- **Will not burn out.**

Gast Air Motors can be stalled or overloaded for long periods without damage.

- **Low price.**

Cost is less than other motors of equal horsepower and capabilities.

- **Operate in all positions.**

Mount them sideways, upside-down, or in any position so long as adequate lubrication* is provided and end thrust is kept to design limits. Gearmotors will operate in almost any position, see model data.

- **Low-shock starts.**

Because Gast Air Motors go to work with air-cushioned smoothness, they cut stress on your equipment.

- **Self-sealing vanes.**

Vaness are self-sealing and automatically take up their own wear, thus ensuring constant output for thousands of hours of use.

- **Mounting flexibility.**

Foot, hub, face, NEMA-C or metric flange motor mountings are standard equipment for most air motor sizes.

- **Four-vane or eight-vane.**

Four-vane units meet most requirements, but for more precise inching control and minimum blowby in applications where motor is operating in a stalled condition, specify eight-vane models.

- **Long-life accessories.**

To ensure long life, Gast offers accessories designed to extend unit life including air filters that remove water and particles down to 5 microns, and air line lubricators that supply a constant flow of lubrication automatically*. We can supply a pressure regulator that provides precise control of power and operating speed. Options like these help you get smooth performance with minimum maintenance.

*Non-lubricated series does not require a lubricator

Pictorial and dimensional data is subject to change without notice.

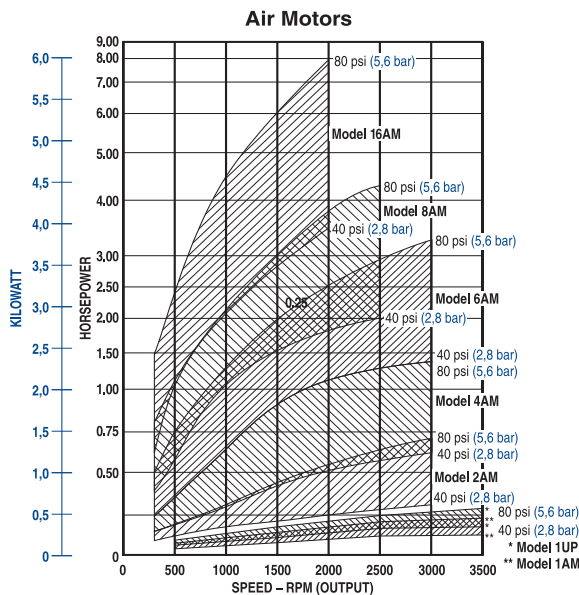
The information presented in this catalog is based on technical data and test results of nominal units. It is believed to be accurate and is offered as an aid in the selection of Gast products. It is the user's responsibility to determine suitability of the product for intended use and the user assumes all risk and liability whatsoever in connection therewith.



Typical Applications

- Mixing Equipment
- Conveyor Drives
- Pump Drives
- Food Packaging
- Pharmaceutical Packaging
- Hoists and Winches
- Hose Reels
- Fiberglass Choppers
- Tension Devices
- Turntables

The chart below shows general performance ranges of our lubricated Air Motors. See if we have the right offering for your application.



How to select an air motor.

Air motors differ in many ways from other power sources. These unique operating characteristics must be considered when selecting an air motor for a particular job. It is easy to change horsepower and speed of an air motor by throttling the air inlet. Therefore, the best rule of thumb for selecting an air motor is to choose one that will provide the horsepower and torque needed using only two-thirds ($\frac{2}{3}$) of the line pressure available. The full air line pressure will then be available for overloads and starting.



• Output Power vs Speed.

The output power of an air motor is relative to speed and to air line pressure.

• Torque vs Speed.

1. An air motor slows down when load increases... at the same time its torque increases to a point where it matches the load. It will continue to provide increased torque all the way to the stalled condition, and it can maintain the stalled condition without any harm to the motor.
2. As the load is reduced, an air motor will increase speed and the torque will decrease to match the reduced load.
3. When the load on an air motor is either increased or decreased, speed can be controlled by increasing or decreasing air pressure.
4. Starting torque of an air motor is lower than running torque. While this provides smooth, low-shock starting, it is necessary to have additional air line pressure for starting under heavy loads.

• Air Consumption vs Speed.

Air consumption increases as speed and air pressure is increased.

Use of Air Motors in Hazardous Atmospheres

Most of the Gast air motors and some of the gearmotors in this catalog meet the requirements of the EC directive 94/9EC (ATEX 100a). They may be used in zones 1 and 2 where explosive atmospheres of gas or dust are likely to occur. These are marked with II 2 G D c T4 in the catalogue and on the product. This indicates the air motor is Group II, Category 2, Gas and Dust Atmospheres, and a maximum surface temperature of 275°F/ 135°C. Check that the product driven by the air motor meets ATEX directive.

There are several points regarding the safety of air motors. Our air motors are not a source of electric sparks. However, it is possible that an article which is not part of the air motor (e.g., wrenches, hammers, etc.) could create a spark by sharply impacting a cast iron or aluminum case or the steel shaft of the air motor. [Note that electric motor enclosures for both class 1 and II hazardous locations can be made of "...iron, steel, copper, bronze, or aluminum..." (UL 674, Electric Motors and Generators - Hazardous Locations, June 23, 1989; paragraph 4.2, page 6)].

Gast air motors are designed to be operated by compressed air, the expansion of which creates a cooling effect. As a result, the outside surface temperature of the air motor will not reach ignition temperature. A maximum surface temperature of 275°F/135°C. Operation of the air motor with compressed air purges a flammable mixture from the inside of the air motor. **To prevent static electricity from being an ignition source electrically ground the metal air motor.**

We do not guarantee the safety of any application, but to ensure the safe operation of an air motor in your application, always follow the product operation manual, follow ATEX 100a when operating in a hazardous atmosphere and consult with a qualified engineer.



Whatever your rotary air motor power requirements, chances are we have what you're looking for.

Performance Overview

AIR MOTORS

MODEL	OPERATING DATA								MAX. TORQUE		Page No.
	MAX. SPEED	MAX OUTPUT POWER		TORQUE AT MAX OUTPUT		MAX. AIR CONSUMPTION		MAX. SPEED			
	rpm	hp	kW	lb. in.	Nm	cfm	m³/h	rpm	lb. in.	Nm	
1AM (A)	10,000	0.45	0,33	2.75	0,31	20.5	35,1	650	5.60	0,65	5
1UP (B)	6,000	0.45	0,33	5.25	0,58	27	47	500	6.00	0,68	5
2AM (A)	3,000	0.93	0,68	19.50	2,20	30	49,5	350	26.10	3,05	6-7
4AM (A)	3,000	1.70	1,30	36.00	4,1	78	132,5	300	56.00	6,3	8-9
6AM (A)	3,000	4.00	3,00	84.00	10,00	128	228	300	115.00	13,00	10-11
8AM (A)	2,500	5.25	3,90	132.00	14,40	175	293	300	185.00	21,00	12-13
16AM (A)	2,000	9.50	7,00	290.00	34,00	275	475	300	372.00	43,00	14
*NL22(B)	4,000	.18	0,13	2.80	0,32	18.5	31	1000	4.30	0,49	16
*NL32(B)	2,000	.42	0,31	13.50	1,5	30	51	300	21.00	2,5	17
*NL42(B)	2,000	.82	0,61	25.50	2,90	41	70	500	44.00	5,0	18
*NL52(B)	2,000	2.50	1.86	78.75	8,90	68	115	500	100.00	11,3	19

*Oilless models

GEARMOTORS

MODEL	GEAR RATIO	OPERATING DATA											Page No.
		MAX. SPEED	LINE PRES.	MAX OUTPUT POWER		TORQUE AT MAX OUTPUT		MAX. AIR CONSUMPTION		MAX. SPEED	MAX TORQUE		
		rpm		hp	kW	lb. in.	Nm	cfm	m³/h	rpm	lb. in.	Nm	
1AM-NRV	15:1	350	A	0.34	0,26	62	7,1	21.0	36	30	72	8,1	21
1UP-NRV	15:1	400	C	0.32	0,23	49	5,5	21.0	36	30	71	8,0	21
4AM-RV	10:1	300	B	1.26	0,94	274	31,0	57.5	98	30	425	48,0	22
4AM-RV	15:1	200	B	1.25	0,90	400	45,2	60.0	102	20	640	72,0	22
4AM-70C	20:1	150	A	1.17	0,87	487	55,0	71.0	120	15	740	83,6	23
4AM-70C	40:1	75	A	0.95	0,71	800	90,4	71.0	120	7	1255	141,8	24
4AM-70C	60:1	50	A	0.82	0,61	1040	117,5	71.0	120	5	1640	185,3	25
6AM-22A	10:1	300	A	3.40	2,54	720	81,4	130.0	221	30	950	107,4	26
6AM-22A	20:1	150	A	2.65	1,98	1100	124,3	130.0	221	15	1550	175,6	27
6AM-22A	40:1	75	A	2.10	1,57	1725	194,9	135.0	230	8	2500	282,5	28
8AM-32A	20:1	125	A	3.70	2,76	1850	209,1	177.0	301	15	2550	288,2	29
16AM-13	20:1	100	A	6.50	4,85	4175	471,8	275.0	468	15	5175	584,8	30

A – 100 psig and 7,0 bar line pressure for imperial and metric data, respectively.

B – 80 psig and 5,5 bar line pressure for imperial and metric data, respectively.

C – 60 psig and 4,1 bar line pressure for imperial and metric data, respectively.



MODEL

1AM-NCC-12

(4 Vanes, CCW Rotation)

1AM-NCW-14

(4 Vanes, CW Rotation)

1AM-NRV-39A

(4 Vanes, Reversible)

1AM-NRV-63A

(8 Vanes, Reversible)

Net wt. 2 lbs. (0,9 kg)

FEATURES

- Hub mounting
- Any plane operation
- Muffler AF350

-  II, 2 GD c T4

RECOMMENDED

- Filter AH100F
- Regulator AH101R
- Gauge AA806
- Lubricator AH102L
- Oil AD220 – 1 quart (.94 liters)
- Repair kit K200 (Single Rotation)
- Repair kit K201 (Reversible)
- Repair kit K278 (8 Vane, Reversible)

OPTIONAL

- Foot mounting-see page 34

1UP-NCC-1A

(4 Vanes, CCW Rotation)

1UP-NCW-2A

(4 Vanes, CW Rotation)

1UP-NRV-3A

(4 Vanes, Reversible)

1UP-NRV-10

(8 Vanes, Reversible)

Net wt. 3 lbs. (1,4 kg)

FEATURES

- Hub mounting
- Any plane operation
- Muffler AF350

-  II, 2 GD c T4

RECOMMENDED

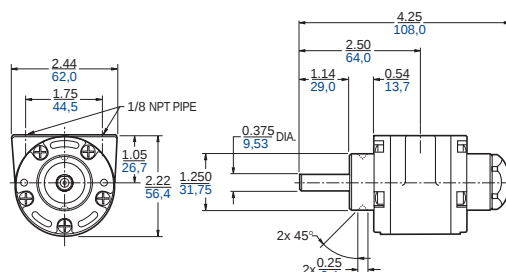
- Filter AH100F
- Regulator AH101R
- Gauge AA807
- Lubricator AH102L
- Oil AD220 – 1 quart (.94 liters)
- Repair kit K285 (Single Rotation)
- Repair kit K286 (Reversible)
- Repair kit K298 (8 Vane, Reversible)

OPTIONAL

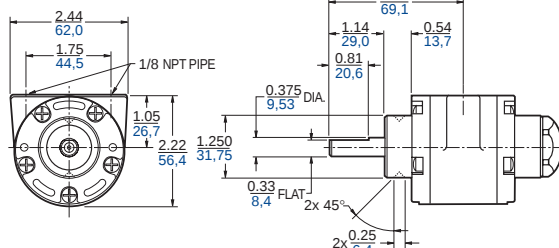
- Foot mounting-see page 34



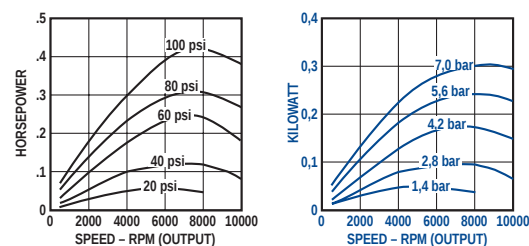
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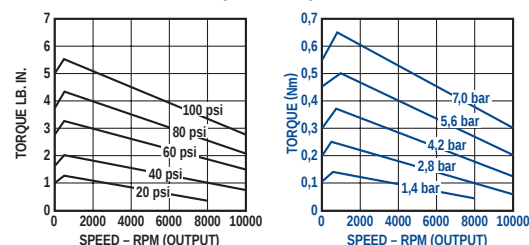
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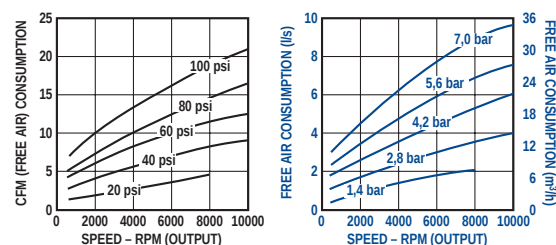
Output Power vs. Speed



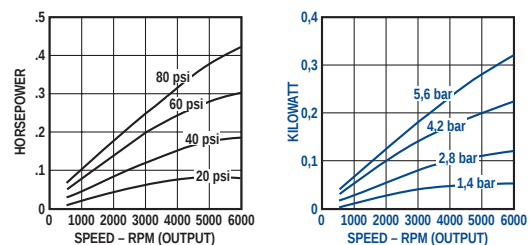
Torque vs. Speed



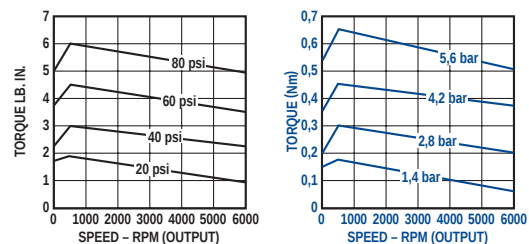
Air Consumption vs. Speed



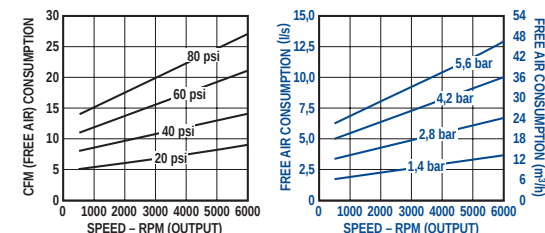
Output Power vs. Speed



Torque vs. Speed



Air Consumption vs. Speed





MODEL

2AM-FCC-1

(4 Vanes, CCW Rotation)

2AM-FCW-13

(4 Vanes, CW Rotation)

Net wt. 7 lbs. (3,2 kg)

FEATURES

- Foot mounting
- Any plane operation
- Metal muffler AC980 adds 2" height when installed

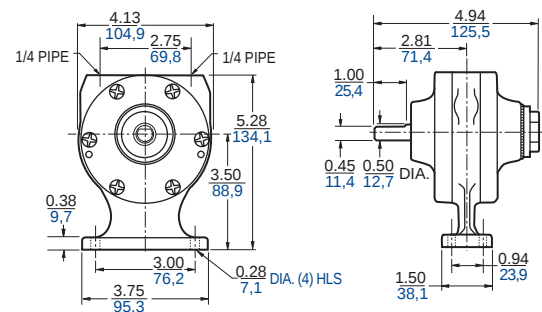
•  II 2 GD c T4

RECOMMENDED

- Filter AH103F
- Regulator AH104R
- Gauge AA806
- Lubricator AH105L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K202 (Single Rotation)



inches / mm



2AM-NCC-16

(4 Vanes, CCW Rotation)

2AM-NCW-7B

(4 Vanes, CW Rotation)

2AM-NRV-89

(4 Vanes, Reversible)

Net wt. 6 lbs. (2,7 kg)

FEATURES

- Hub mounting
- Any plane operation
- Metal muffler AC980 adds 2" height when installed

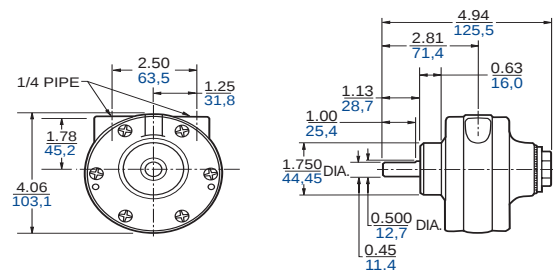
•  II 2 GD c T4

RECOMMENDED

- Filter AH103F
- Regulator AH104R
- Gauge AA806
- Lubricator AH105L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K202 (Single Rotation)
- Repair kit K509 (Reversible)



inches / mm



2AM-NCC-43A

(4 Vanes, CCW Rotation)

2AM-NRV-90

(4 Vanes, Reversible)

Net wt. 15 lbs. (6,8 kg)

FEATURES

- NEMA 56C mounting
- Any plane operation
- Metal muffler AC980 adds 2" height when installed

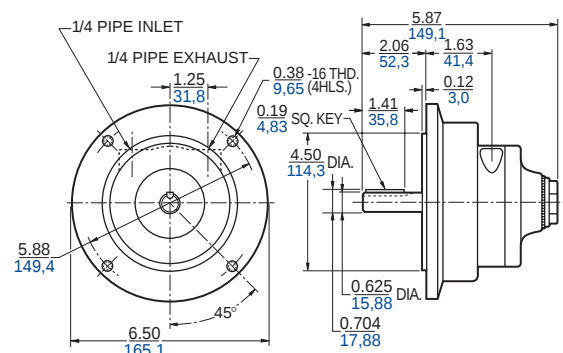
•  II 2 GD c T4

RECOMMENDED

- Filter AH103F
- Regulator AH104R
- Gauge AA806
- Lubricator AH105L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K203A (Single Rotation)
- Repair kit K510 (Reversible)



inches / mm





MODEL

2AM-ACC-88

(4 Vanes, CCW Rotation)
Flange Mount

2AM-ACC-91

(4 Vanes, CCW Rotation)
Face Mount

2AM-ARV-92

(4 Vanes, Reversible)
Flange Mount

2AM-ARV-93

(4 Vanes, Reversible)
Face Mount

FEATURES

- IEC #72 mounting frame size:
D71 (2AM-ACC-88, 2AM-ARV-92)
D71C (2AM-ACC-91, 2AM-ARV-93)
- Any plane operation
- Metal muffler AC980 adds 2" height when installed

- II 2 GD c T4

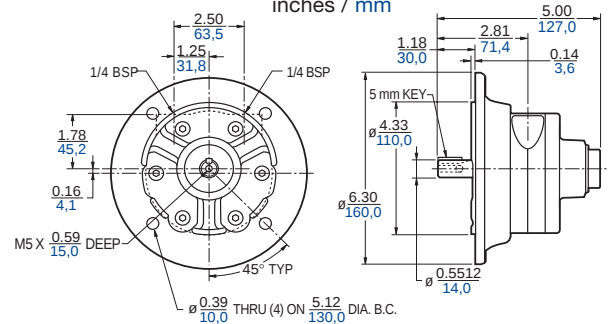
RECOMMENDED

- Repair kit K203A (Single Rotation)
- Repair kit K510 (Reversible)

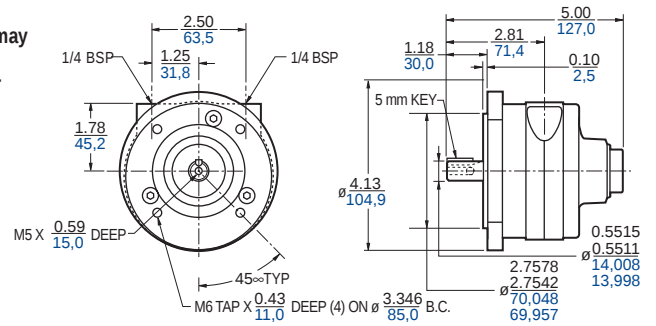


Models 2AM-ACC-88/2AM-ARV-92

inches / mm

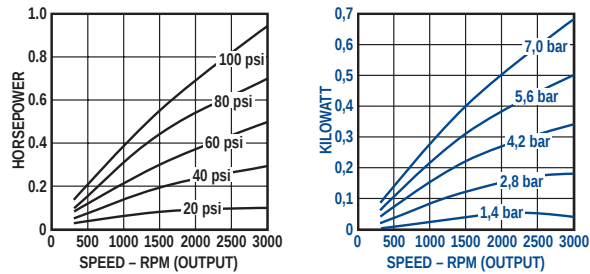


Models 2AM-ACC-91/2AM-ARV-93

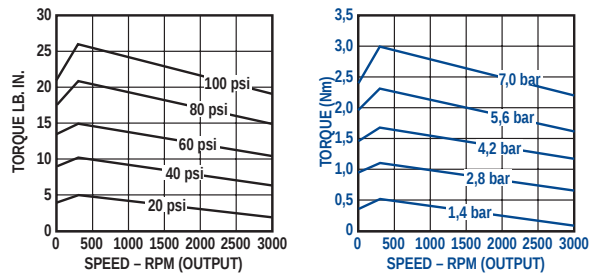


Delivers up to 0,56 kW (¾ hp). Speeds may be varied from 300 to 3,000 rpm. Max. recommended operating pressure 7 bar (100 psi).

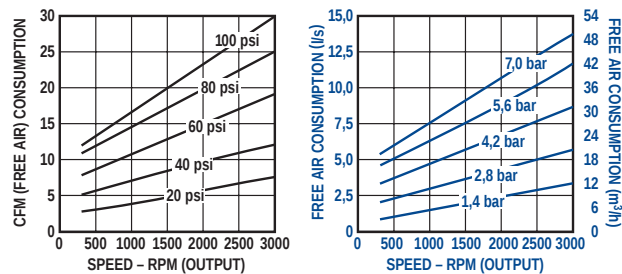
Output Power vs. Speed



Torque vs. Speed



Air Consumption vs. Speed





MODEL

4AM-FRV-24

(4 Vanes, Dual Shaft)

4AM-FRV-13C

(4 Vanes, Reversible)

4AM-FRV-63A

(8 Vanes, Reversible)

Net wt. 9 lbs. (4,1 kg)

FEATURES

- Foot mounting
- Any plane operation
- Single or dual shaft
- Metal muffler AC980 adds 2" height when installed.

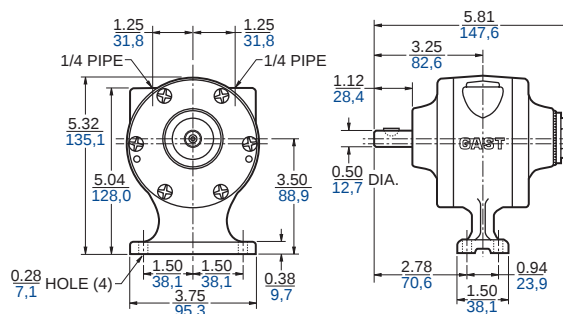
-  II 2 GD c T4

RECOMMENDED

- Filter AH103F
- Regulator AH104R
- Gauge AA806
- Lubricator AH105L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K205 (4 Vane, Reversible)
- Repair kit K279 (8 Vane, Reversible)



inches / mm



4AM-NRV-22B

(4 Vanes, Reversible)

4AM-NRV-54A

(8 Vanes, Reversible)

Net wt. 9 lbs. (4,1 kg)

FEATURES

- Face mounting
- Any plane operation
- Metal muffler AC980 adds 2" height when installed.

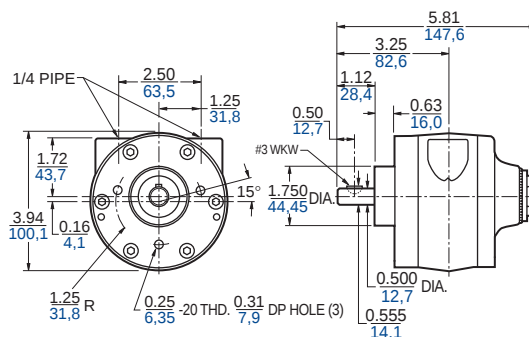
-  II 2 GD c T4

RECOMMENDED

- Filter AH103F
- Regulator AH104R
- Gauge AA806
- Lubricator AH105L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K205 (4 Vane, Reversible)
- Repair kit K279 (8 Vane, Reversible)



inches / mm



4AM-NRV-50C

(4 Vanes, Reversible)

4AM-NRV-70C

(8 Vanes, Reversible)

Net wt. 12 lbs. (5,4 kg)

FEATURES

- NEMA 56C mounting
- Any plane operation
- Metal muffler AC980 adds 2" height when installed

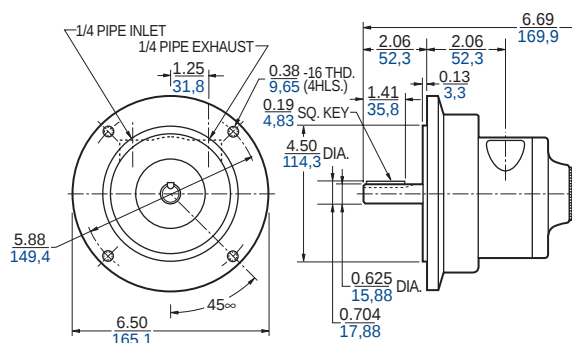
-  II, 2 GD c T4

RECOMMENDED

- Filter AH103F
- Regulator AH104R
- Gauge AA806



inches / mm





MODEL

4AM-ARV-119

(4 Vanes, Reversible)

4AM-ARV-120

(8 Vanes, Reversible)

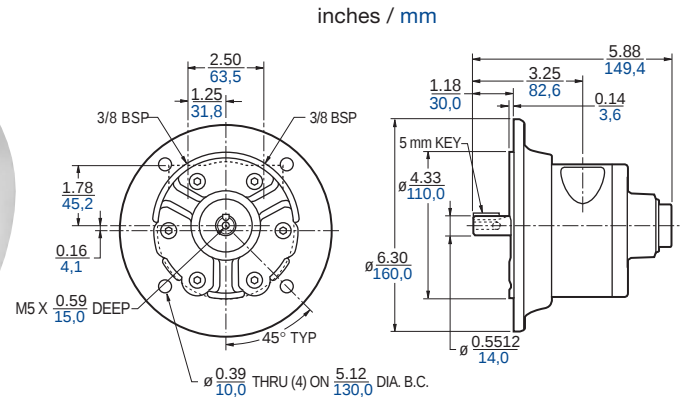
FEATURES

- IEC #72 mounting frame size D71
- Any plane operation
- Metal muffler AC980 adds 2" height when installed. (Includes 3/8 BSP adaptor with air motor).

- II 2 GD c T4

RECOMMENDED

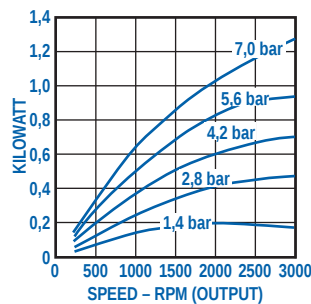
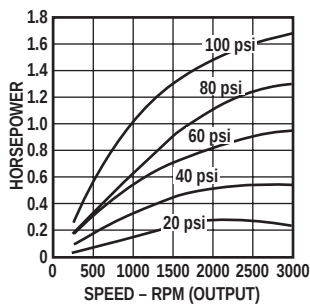
- Repair kit K206C (4AM-ARV-119)
- Repair kit K208B (4AM-ARV-120)



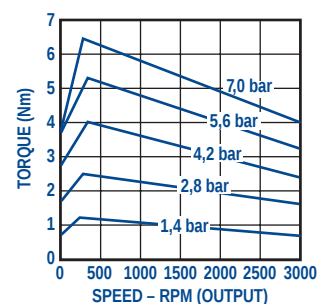
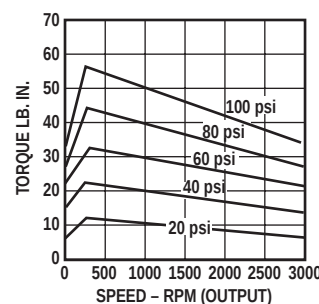
Delivers up to 1,5 kW (2 hp). Speeds may be varied from 300 to 3,000 rpm. Max. recommended operating pressure 7 bar (100 psi).

Note: Performance data represents a 4-vane model with no exhaust restriction.

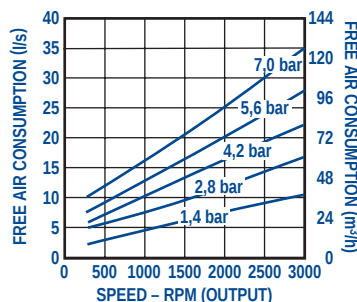
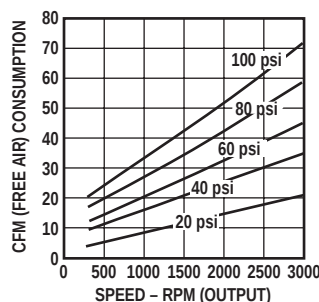
Output Power vs. Speed



Torque vs. Speed



Air Consumption vs. Speed





MODEL

6AM-FRV-5A (4 Vanes, Reversible)

6AM-FRV-23A (8 Vanes, Reversible)

Net wt. 21 lbs. (9,5 kg)

FEATURES

- Foot mounting
- Any plane operation
- Metal muffler AC990 adds 2" height when installed

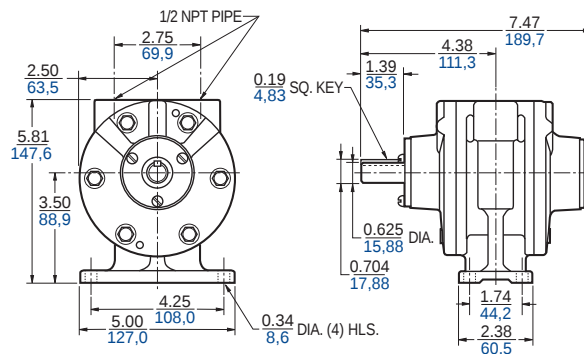
• II 2 GD c T4

RECOMMENDED

- Filter AH106F
- Regulator AH107R
- Gauge AA806
- Lubricator AH108L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K208 (4 Vane)
- Repair kit K281 (8 Vane)



inches / mm



6AM-NRV-7A (4 Vanes, Reversible)

Net wt. 18 lbs. (8,1 kg)

FEATURES

- Face mounting
- Any plane operation
- Muffler AC990 adds 2" height when installed

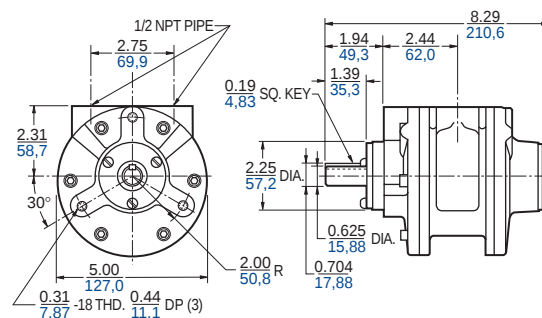
• II 2 GD c T4

RECOMMENDED

- Filter AH106F
- Regulator AH107R
- Gauge AA806
- Lubricator AH108L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K208



inches / mm



6AM-NRV-11A (4 Vanes, Reversible)

6AM-NRV-22A (8 Vanes, Reversible)

Net wt. 24 lbs. (10,8 kg)

FEATURES

- NEMA 56C mounting
- Any plane operation
- Muffler AC990 adds 2" height when installed

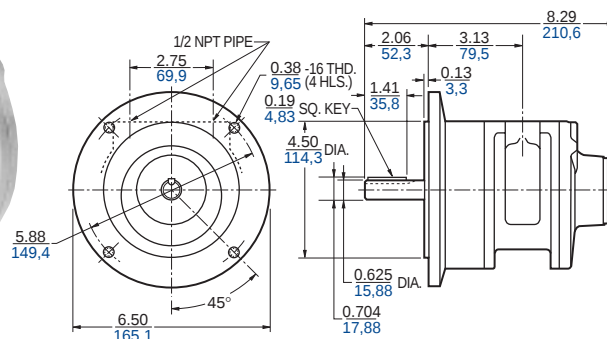
• II 2 GD c T4

RECOMMENDED

- Filter AH106F
- Regulator AH107R
- Gauge AA806
- Lubricator AH108L
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K208 (4 Vane)
- Repair kit K281 (8 Vane)



inches / mm



MODEL

6AM-ARV-54

(4 Vanes, Reversible)
Repair kit K281A

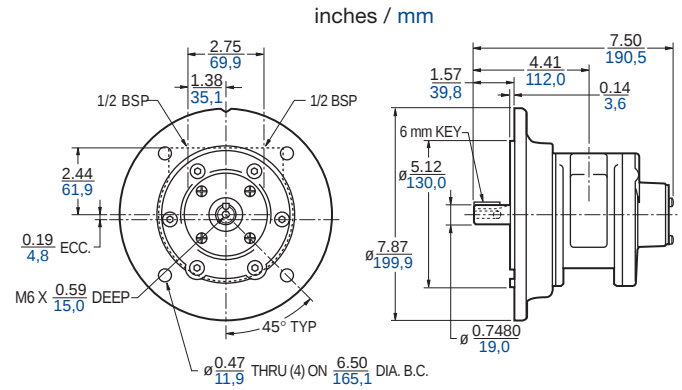
6AM-ARV-55

(8 Vanes, Reversible)
Repair kit K281B

FEATURES

- IEC #72 mounting frame size D80
- Any plane operation
- Metal muffler AC990 adds 2" height when installed

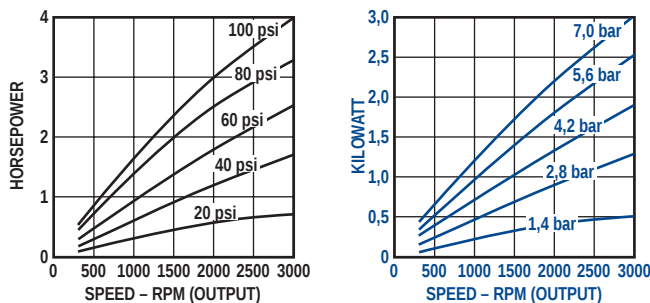
- II 2 GD c T4



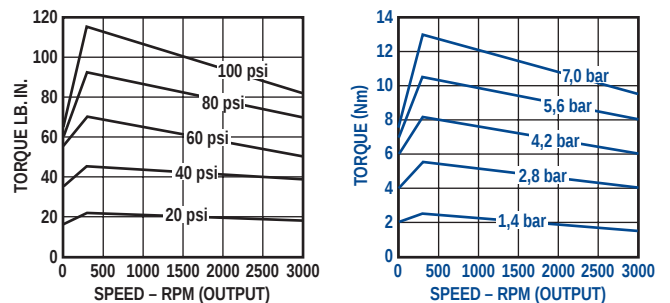
Delivers up to 3 kW (4 hp). Speeds may be varied from 300 to 3,000 rpm. Max. recommended operating pressure 7 bar (100 psi).

Note: Performance data represents a 4-vane model with no exhaust restriction.

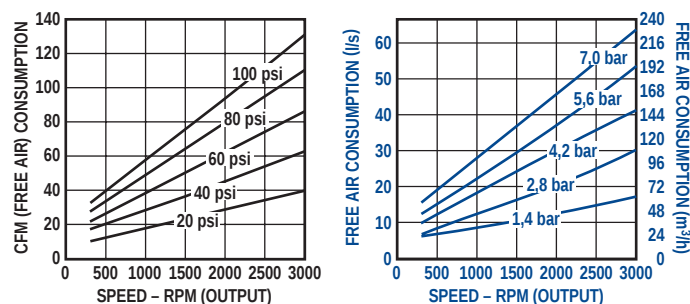
Output Power vs. Speed



Torque vs. Speed



Air Consumption vs. Speed





MODEL

8AM-FRV-2B (4 Vanes, Reversible)

8AM-FRV-30A (8 Vanes, Reversible)

Net wt. 27 lbs. (12,2 kg)

FEATURES

- Foot mounting
- Any plane operation
- Metal muffler AC990 adds 2" height when installed

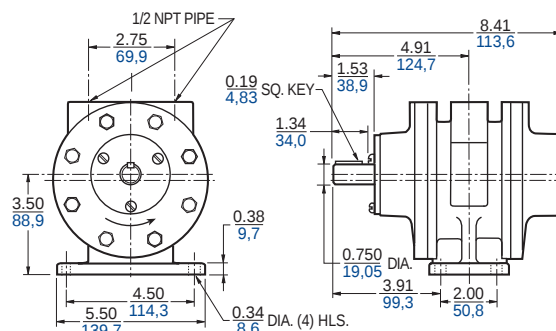
• II 2 GD c T4

RECOMMENDED

- Filter AH106F
- Regulator AH107R
- Gauge AA806
- Lubricator AH108L
- Muffler AG600 – above 1,000 rpm
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K210 (4 Vane)
- Repair kit K283 (8 Vane)



inches / mm



8AM-NRV-5B (4 Vanes, Reversible)

8AM-NRV-42A (8 Vanes, Reversible)

Net wt. 28 lbs. (12,6 kg)

FEATURES

- Face mounting
- Any plane operation
- Metal muffler AC990 adds 2" height when installed

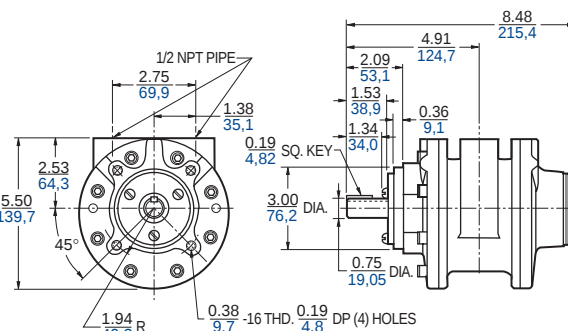
• II 2 GD c T4

RECOMMENDED

- Filter AH106F
- Regulator AH107R
- Gauge AA806
- Lubricator AH108L
- Muffler AG600 – above 1,000 rpm
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K210 (4 Vane)
- Repair kit K283 (8 Vane)



inches / mm



8AM-NRV-28A (4 Vanes, Reversible)

8AM-NRV-32A (8 Vanes, Reversible)

Net wt. 28 lbs. (12,6 kg)

FEATURES

- NEMA 145TC mounting
- Any plane operation
- Metal muffler AC990 adds 2" height when installed

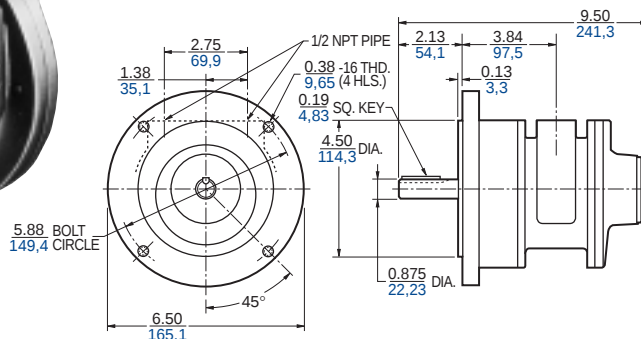
• II 2 GD c T4

RECOMMENDED

- Filter AH106F
- Regulator AH107R
- Gauge AA806
- Lubricator AH108L
- Muffler AG600 – above 1,000 rpm
- Oil AD220 – 1 quart (.94 litres)
- Repair kit K211 (4 Vane)
- Repair kit K282 (8 Vane)



inches / mm



MODEL

8AM-ARV-70

(4 Vanes, Reversible)
Repair kit K282A

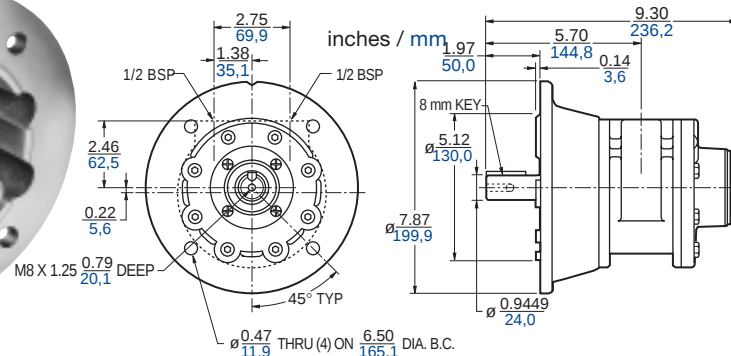
8AM-ARV-71

(8 Vanes, Reversible)
Repair kit K282B

FEATURES

- IEC #72 mounting frame size D90
- Any plane operation
- Metal muffler AC990 adds 2" height when installed

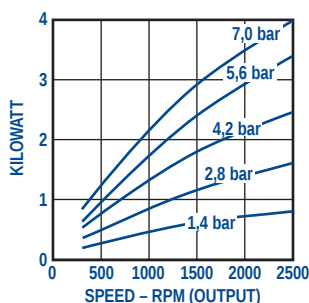
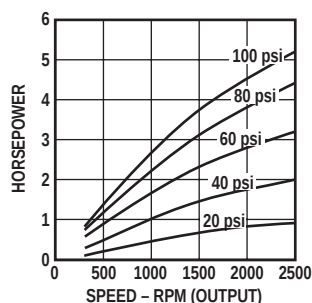
- II 2 GD c T4



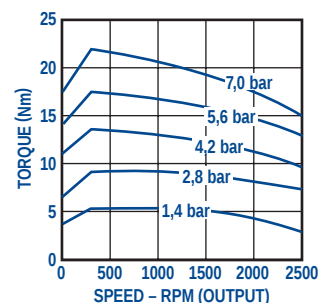
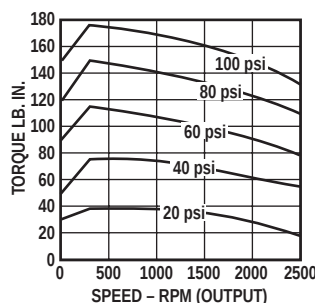
Delivers up to 3,7 kW (5 hp). Speeds may be varied from 300 to 2,500 rpm. Max. recommended operating pressure 7 bar (100 psi).

Note: Performance data represents a 4-vane model with no exhaust restriction.

Output Power vs. Speed



Torque vs. Speed



Air Consumption vs. Speed

