



GLOBE AIRMOTORS B.V.



YOUR GLOBAL FORCE IN AIR POWER





AIR MOTOR SELECTION GUIDE

VANE AIR MOTORS

The vane air motors are the most widely used design of air motors. They are available in a broad range of power and can operate in any position. The vane air motors prove themselves to be much lighter and more compact compared to piston air motors of similar power. A combination of a GLOBE vane air motor with a large variety of gearboxes is possible when lower speed and/or higher torque is demanded for the application.

The most typical vane air motor applications are:

- Mixing equipment
- Ventilators
- Hoists
- Winches
- Pump drives
- Conveyor belts
- Turntables
- Packing machines
- After coolers

COMPACT VANE AIR MOTORS

The compact vane air motors are motors that have incorporated reduction units. Due to the wide range of gear ratios the compact vane air motors are suitable in many different applications. The compact vane air motors are known for delivering very high speed and very high torque compared to the compact build of the motor.

Compact vane air motors prove themselves in handheld applications, pipe cleaners and lots of other different industries which require compact build and strong reliable motors.

COMPACT PISTON AIR MOTOR

The GLOBE compact piston air motors are used in numerous applications. Due to its unique design the compact piston air motor are most suitable for light and medium duties at low speed operations. A combination of a GLOBE compact piston air motor with a large variety of gearboxes is possible when even lower speed and/or higher torque is demanded for the application.

The most typical compact piston air motor applications are:

- Mixing equipment
- Winding equipment
- Conveyor belts
- Hose reels
- Turntables
- Packing machines
- Cap screwing machines

PISTON AIR MOTOR

The GLOBE piston air motor are heavy duty air motors. This radial piston air motor combines a large variable speed with high power and torque. The motors have either four or five pistons with oil bath lubrication and their design allows them to deliver the highest power in air motors. A combination of a GLOBE piston air motor with a large variety of gearboxes is possible when lower speed and/or higher torque is demanded for the application.

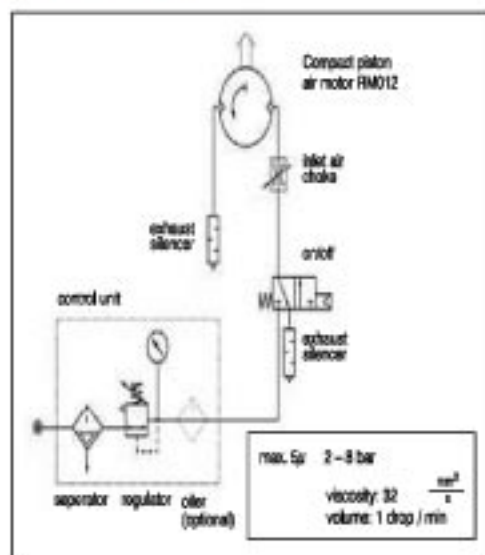
The piston air motor is applicable in many situations and is commonly used in winches, offshore and other heavy duty applications.



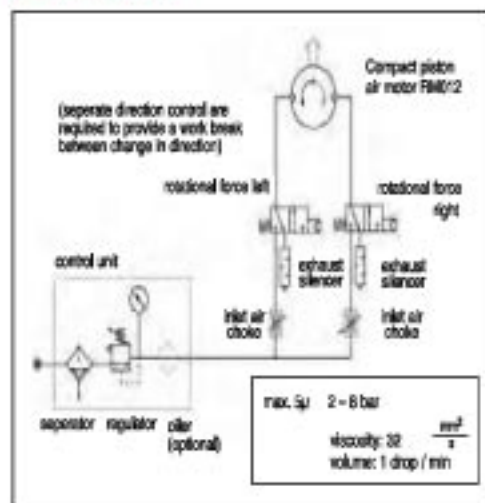
DIRECTIONS OF ROTATION

The GLOBE air motor can be used both as a uni-directional and as a bi-directional air motor. When the air motor is used in a non-reversible application, it is sufficient to use a 2/2 or a 3/2 valve. For the reversible motor you can use either a 5/3 or two 3/2 valve to gain directional control.

UNI - DIRECTIONAL



BI - DIRECTIONAL



AIR SUPPLY

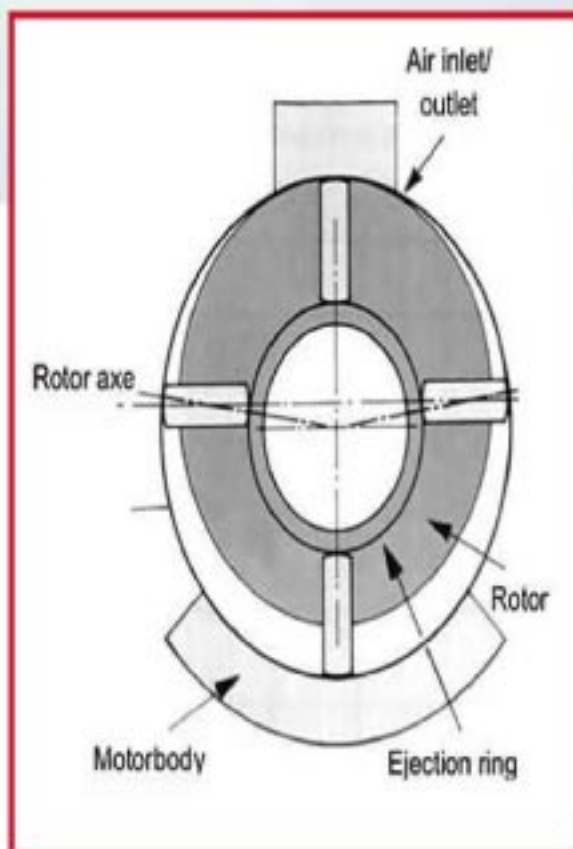
AIR QUALITY

To ensure optimal working conditions for the GLOBE air motor, the air supply must be dry, filtered and lubricated. A 5 micron filter or better is recommended for the compact piston air motors and the compact vane air motors, a 64 microns filter or better is recommended for the vane air motors. The GLOBE air motor should be lubricated sufficiently. Oilless operations are possible in certain applications.

AIR LINE RESTRICTIONS

Air line restrictions on the inlet side of the motor will result in performance loss. Therefore it is important to make sure that the desired air pressure is available at the motor during operation. The pressure reading at the compressor or pressure regulator may be different than the pressure available at the motor. Performance loss can also occur by an exhaust restriction generating back pressure on the outlet side of the motor. An insufficiently sized silencer, valve or coupling is usually the cause.





GLOBE VANE AIR MOTORS

ADVANTAGES

Vane air motors offer a unique form of drive and incorporate advantages not found in other prime movers.

These advantages include:

- Simple and inexpensive variable speed and torque control with a flow control valve and/or pressure regulator.
- Intrinsically safe for explosion proof environments. All GLOBE vane air motors are certified according to the European Explosion Directive ATEX II cat. 2 G&D T5 and ATEX I M2.
- Air motors can be stalled indefinitely under load. They will not over heat or burn out.
- Instantly reversible, operated with a simple control valve.
- Controllable over a wide speed range.
- Resistant to warm, dirty and damp conditions.
- Cool running caused by the expanding air. GLOBE vane air motors can be used in ambient temperatures up to 80 °C.
- Minimal maintenance because of simple design which results in less downtime.
- Air motors are compact and light weight compared to equivalent electric motors.
- High reliability and little wear thanks to the low number of moving parts.
- No shock start up which improves the life span of your equipment.
- Variety of mountings which include foot, face, NEMA flanges and IEC flanges.

WHY CHOOSE A GLOBE VANE AIR MOTOR?

NO PINS OR SPRINGS.

The GLOBE blade ejection system consists of an ejection ring which maintains a constant positive blade contact with the motor body. This guarantees the blade position on start up, preventing free air flow from port to port and ensuring the motor produces its rated starting torque. The ejection ring design removes the requirement for pins or springs, the result is low vane wear and a high motor reliability.

THE GLOBE vane air motors can be supplied with a wide range of gearboxes, such as planetary, helical, bevel and worm gears, directly coupled to the motor.

Suitable for running on natural sweet gas and other gasses.

Oil-less function possible under certain operating conditions.

Robust design for operation in harsh environments. Available in a variety of motor interfaces including foot, face, NEMA and IEC flanges. Special adaptations are available on request, consult GLOBE Airmotors BV or your local distributor for more information.

GLOBE Airmotors has developed a stainless steel addition to the standard and non lubricated vane air motors. These stainless steel vane air motors have the same dimensions and performances as the standard edition.

These stainless steel vane air motors are perfect for use in aggressive environments and food processing industry.

Please consult GLOBE Airmotors BV about the possibilities regarding the stainless steel vane air motors.



GLOBE GEARED VANE AIR MOTORS

The GLOBE geared vane air motors are available with a standard range of worm and coaxial gearboxes. They generate high torques and low speeds of rotation required in many applications. Power ranges up to 8.3kW/11.1HP at 6 bar/90psi air pressure.

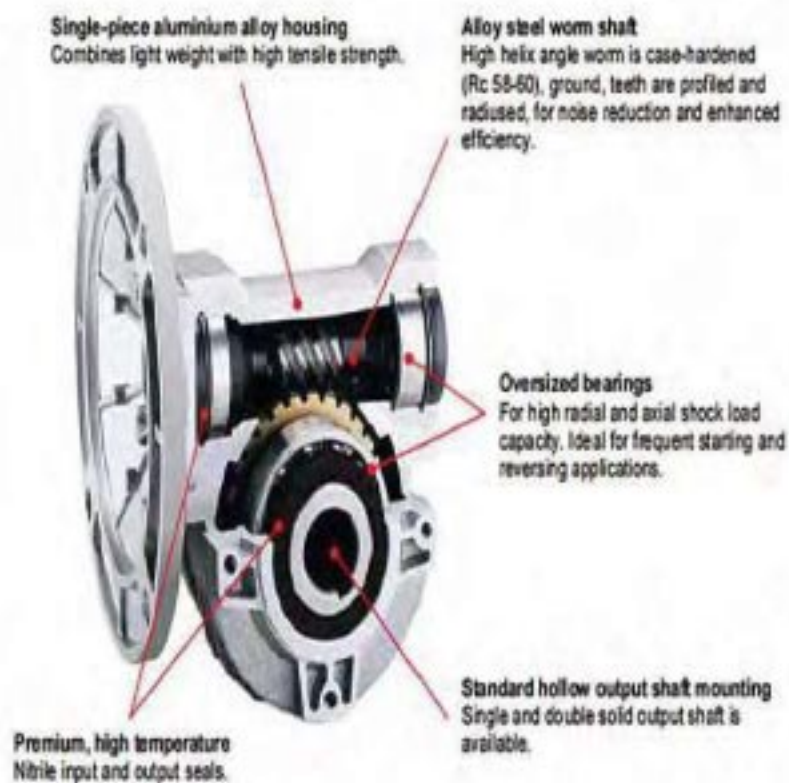
The motor and gearbox are directly mounted onto each other, making them compact and resistant against the environment. GLOBE geared vane air motors are designed for smooth operation and are commonly used in mixing equipment, conveyor belts, hoists and winches, hose reels and turntables.

GLOBE geared vane air motors have many advantages including:

- Power ranges up to 8.3kW/11.1HP at 6 bar/90psi air pressure
- High nominal torque up to 1650Nm/1216 lbs.ft
- Speed of rotation as low as 7 rpm
- Easily variable and controllable speed and torque
- Perfect for applications in hazardous and aggressive environments
- ATEX certification ATEX II cat. 2 G&D T5 on request
- No damage by overload or repeated starting
- Can be used in stall conditions
- Superior power to weight ratio
- Instantly reversible
- Minimum maintenance
- High radial and axial loads permitted
- Oil free possible

Please contact GLOBE for special requests. We are known for our custom solutions.





The GLOBE PFG-red motors are of the vane type and are available with a wide range of planetary reducers ranging from $i = 3:1$ to $i = 1000:1$ (reductions above $i = 100:1$ on request)

GLOBE PFG-red motors are designed for light and medium industrial applications and are used in all kinds of driving, mixing and transporting applications.

- Available from 0,44 kW to 2,1 kW. Higher powers available on request.
- Easily variable speed control
- Variable torque control
- Perfect in many applications in hazardous environments
- Explosion proof according ATEX directive EU 94/9/EC (ATEX II cat. 2 G&D T5)
- No damage by overload or repeated starting
- Cool running
- Can be used in stall conditions
- Superior power to weight ratio
- Instantly reversible
- No shock start-up
- Maintenance-free
- Suitable for oil-free operation
- Radial and axial loads permitted
- Oil free possible

VA1 - PFG

Stage	Ratio
PFG01	3,5,7,10
PFG02	16,20,28,40
PFG04	40,50,70,100

VA2 - PFG

Stage	Ratio
PFG01	3,5,7,10
PFG04	16,20,28,40,50
PFG06	70,100

VA4 - PFG

Stage	Ratio
PFG03	3,5,7,10
PFG04	16,20
PFG06	20,28,40



Use the ordering codes to create the GLOBE PFG Air Motor Unit you want.

For example: VA1PFG02 $i=16$ or VA4PFG07 $i=70$



VANE AIR MOTORS WITH BRAKE

The GLOBE vane air motors are also available in combination with a pneumatic brake.

The GLOBE BN brakes are fail-safe brakes (spring engaged, air released). They can be used as a static brake and under certain conditions in dynamic applications.

The pneumatic brake is mounted directly onto the vane air motor.

Vane air motors with brake are certified according to the European Explosive Directive ATEX II cat. 2 G&D T3 (in static applications only).

THE ADVANTAGES OF THE VANE AIR MOTORS WITH BRAKE INCLUDE:

- Braked vane air motors can be used in hold and emergency stop
- Field serviceable;
- Easy flange connection according to IEC and NEMA standards;
- Low maintenance because very few parts are exposed to wear;
- Compact design;
- Easy interchangeable because of independent brake module;
- Cast-iron or steel housing and excellent thermal capacity for use in harsh environments;
- Long life-time;
- Certified according to the European Explosive Directive ATEX II cat. 2 G&D T3.

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