



Hydraulic Motors





Sauer-Danfoss-Daikin

Orbital Motors are light and compact and therefore, easy to install in equipment such as forklift trucks, grass-cutters, winches, fishing vessels and injection moulding machines.

The mini version motors may be the smallest and lightest on the market, but they are real heavyweights when it comes to power. A great space-saver on your machine.

High power density is a major asset of the mini motors. Integration of the spool valve with the output shaft gives you an efficient performance in the smallest possible package

When the going gets tough, the medium-size motors get going — performing longer, better and more economically. The medium-size orbital motors are built for challenging conditions and demanding operations. The numerous configurations mean they can fit your requirements precisely.

The largest orbital motors are built for continuous operation in the roughest conditions your vehicles will ever face. Up against high pressures, thin oil or frequent reversals, the motors are guaranteed to perform smoothly and efficiently - even at low speed. No matter what the demands of your market, Fluid Line Services can provide you with the motor to satisfy your needs.



Orbital Motors

The motors vary in size (rated displacement) from 8 cm³ (0,49 in³) to 800 cm³ (48,91 in³) per revolution.

Speeds range from a top speed of approx. 2,500 min⁻¹ for the smallest type and up to approx 600 min⁻¹ for the largest type.

Maximum operating torques vary from 13 Nm (115 in-lbs) to 2,700 Nm (24,000 in-lbs) (peak) and maximum outputs are from 2.0 kW (2.7 hp) to 70 kW (95 hp).



Characteristic features

- Smooth running over the entire speed range
- Constant operating torque over a wide speed range
- High starting torque
- High return pressure without the use of drain line (high pressure shaft seal)
- High efficiency
- Long life under extreme operating conditions
- Robust and compact design
- High radial and axial bearing capacity
- For applications in both open and closed loop hydraulic systems
- Suitable for a wide variety of hydraulic fluids.
The product range is characterised by technical features appealing to a large number of applications and by motors that can be adapted to a given application.



Orbital Motor Overview

Motor type	Displacement	Pressure drop	Flow	Max output
	<i>cm³</i> <i>(in³)</i>	<i>(cont. / Int / Peak)</i> <i>bar</i> <i>(psi)</i>	<i>(cont)</i> <i>l/min</i> <i>(gpm, US)</i>	<i>(int)</i> <i>KW</i> <i>(HP)</i>
OML	8 - 32 (0,49 - 1,95)	70 / 125 / 140 (1000 / 1800 / 2000)	16 (4,2)	2 (2,7)
OMM	8 - 50 (0,49 - 3,07)	100/ 140 / 200 (1450 / 2000 / 2900)	20 (5,5)	3,2 (4,4)
OMP	25 - 400 (2,96 - 23,80)	140 / 175 / 200 (2000 / 2500 / 3300)	60 (16,0)	13 (18)
OMR	50 - 375 (3,15 - 22,72)	175 / 200 / 225 (2500 / 2900 / 3300)	60 (16,0)	15 (20)
OMH	200 - 500 (12,28 - 28,72)	175 / 200 / 225 (2500 / 2900 / 3300)	75 (20,0)	18,5 (25)
OMEW	100 - 315 (6,10 - 18,92)	200 / 210 / 225 (2900 / 3000 / 3300)	60 (16)	15 (20)
OMS	80 - 400 (4,91 - 23,98)	175 / 210 / 225 (2500 / 3000 / 3300)	75 (20,0)	21 (28)
OMT	160 - 500 (9,83 - 31,95)	200 / 240 / 280 (2900 / 3500 / 4050)	125 (33,0)	40 (54)
OMV	315 - 800 (19,18 - 48,91)	200 / 240 / 280 (2900 / 3500 / 4050)	200 (53,0)	64 (87)

External Gear Motors

In the 1960s, Eaton began manufacturing gear pumps and gear motors for the growing aerospace industry. Today, they deliver gear products to worldwide customers in most mobile and industrial applications.

Eaton Gear Products combine state of the art innovation and manufacturing processes. These products are designed to satisfy global customer requirements for higher pressure, quiet operation, long life, and a full range of options and features.

Eaton offers a wide range of bi-directional gear motors. Many functions, such as valves and controls, are directly incorporated in the products in order to optimize space and costs for the system.

With their products you can choose preferred configurations and multiple combinations, or they can design a product to fit your specific application.

Eaton Hydraulic Gear Motors are suited for a wide range of equipment applications from construction, agriculture, material handling, aerial lifts, turf care and much more.



Vane Motors

Vane Motors are used in industrial and mobile applications. The proven reliability and the available cartridge kit designs make for uptime and easy serviceability. Additionally, a low break out force smoothes out the start-up speed allowing for vane motors to be more forgiving to system pressure spikes.

Vane motors offer an economical, efficient and economical means of applying variable speed, rotary hydraulic power and offer variable horsepower (constant torque) characteristics. They can be stalled under load without damage when protected by a relief valve. A wide variety of displacements and torques are available .





PGM020 Series

Parker Hannifin's PGM020 Gear Motors are an ideal power for the truck industry. With the ½" gears, it measures only 6" from mounting flange to the port end cover and weighs only 25 lbs.

A variety of drive shafts and mounting styles are offered to meet your needs. Standard features include rigid, one-piece drive shaft and gears and pressure-balanced thrust plated, which assure top efficiency. A rugged, high-strength, cast iron body provides durability.

Multiple Units

PGM020 Gear Motors can be assembled in tandem to provide more motor torque from on the drive shaft. Each gear section is connected to the drive shaft by a connecting shaft. The strength of the shafts (their PL factor) determines the maximum gear width the motor can turn at a given pressure





PGM030/050/075 Series

The PGM030/031, 050/051 and 075/076 Hydraulic Gear Motors are manufactured with hi-tensile grey iron. They offer a wide variety of drive shafts that are designed for high-torque applications and unique pressure balanced thrust plates contribute to optimized performance.

Units are available in single and multiple section configurations, along with various Valve and Relief Valve options.

PGM030/031 Features

Single and Multiple Motor, Flow Divider, Piggyback and Winch Motor configurations are available

Speeds up to 2400 rpm

Pressures up to to 3000 psi (206 bar)

Output flows up to to 41 gpm (155 lpm)

Average PGM030 Torque up to 1125 in-lbs (1296 kg-cm) @ 2000 psi (137 bar)

Average PGM031 Torque up to 1370 in-lbs (1578 kg-cm) @ 2500 psi (172 bar)

Optional priority or two-speed valves are available

PGM050/051 Features

Single and Multiple Motor, Flow Divider, Piggyback and Winch Motor configurations are available

Speeds up to 2400 rpm

Pressures up to to 3000 psi (206 bar)

Output flows up to to 66 gpm (250 lpm)

Average PGM050 torque up to 1720 in-lbs (2016 kg-cm) @ 2000 psi (137 bar)

Average PGM051 torque up to 2250 in-lbs (2592 kg-cm) @ 2500 psi (172 bar)

Optional priority, two-speed, and unloader valves are available

PGM075/076 Features

Single and Multiple Motor, Flow Divider, Piggyback and Winch Motor configurations are available

Speeds up to 2400 rpm

Pressures up to to 3000 psi (206 bar)

Output flows up to to 128 gpm (484 lpm)

Average PGM075 torque up to 3425 in-lbs (3945 kg-cm) @ 2000 psi (137 bar)

Average PGM076 torque up to 3425 in-lbs (3945 kg-cm) @ 2500 psi (172 bar)

Optional two-speed valves are available





PGM500 Series

PGM500 series Gear Motors are an advanced performance version of the international "bushing block" style Motors. PGM500 series Motors offer superior performance, high efficiency and low noise operation at high operating pressures. They are produced in three frame sizes (PGM505, PGM511, PGM517) with displacements ranging from .12 to 3.17 cir (2 to 52 ccr). A wide variety of standard options are available to meet specific application requirements worldwide.

High efficiency

Pressure balanced bearing blocks assure maximum efficiency under all operating conditions.

Application flexibility

International mounts and connections, and integrated valve capabilities provide unmatched design and application versatility.

Advantages

Up to 4000 psi (275 bar) continuous operation High strength materials and large journal diameters provide low bearing loads for high pressure operation.

Low noise

The 500 Series has optimized flow metering to provide reduced pressure pulsation and exceptionally quiet operation.





F11 Fixed Displacement Axial Piston Motors

F11 is the well proven bent axis, fixed displacement heavy-duty motor/pump series. They can be used in numerous applications in both open and closed loop circuits.

F11 motors can be used at unusually high shaft speeds

Operating pressures up to 420 bar provides for the high output power capability

The 40° angle between shaft and cylinder barrel allows for a very compact, lightweight motor and pump

The laminated piston ring provides low internal leakage and thermal shock resistance

Pump versions have highly engineered valve plates for increased self priming speed and low noise

F11 Series have very few moving parts, making them very reliable motors/pumps

Heavy duty roller bearings permit substantial external axial and radial shaft loads





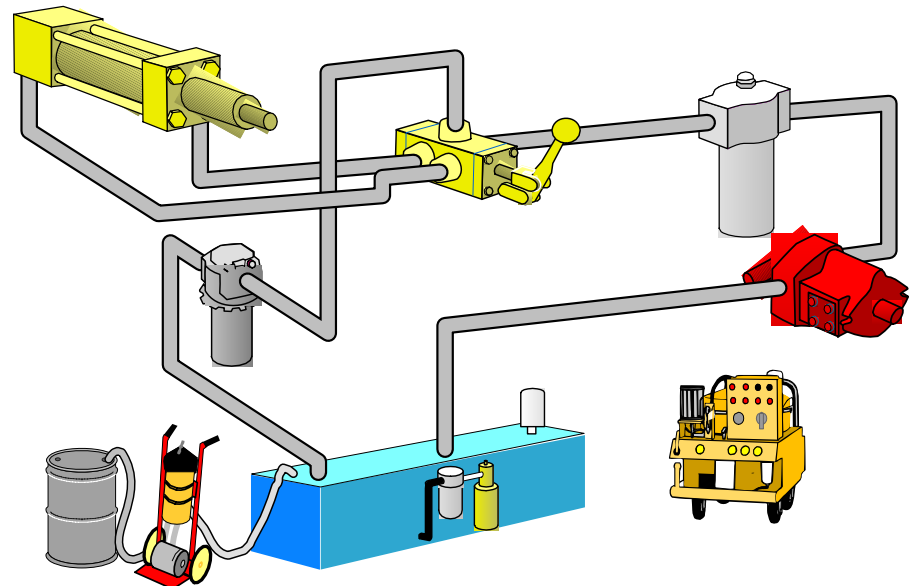
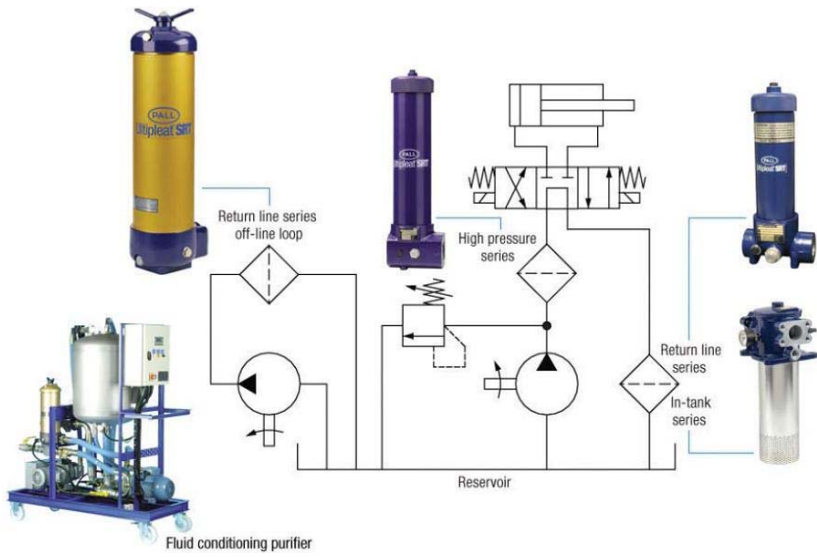
F12 Fixed Displacement Axial Piston Motors

Series F12 is the high performance bent axis, fixed displacement heavy-duty motor/pump series. They can be used in numerous applications in both open and closed loop circuits.

**F12 motors can be used at unusually high shaft speeds
Operating pressures up to 480 bar provides for the high output power capability
The 40° angle between shaft and cylinder barrel allows for a very compact, lightweight motor and pump.**

**The laminated piston ring provides low internal leakage and thermal shock resistance
Pump versions have highly engineered valve plates for increased selfpriming speed and low noise
The F12 series have very few moving parts, making them very reliable motors/pumps
Heavy duty roller bearings permit substantial external axial and radial shaft loads**







“Your Fluid Power, Filtration & Lubrication Engineers.”