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QPM3 Gerotor pumps

Low pressure oil pumps for industrial and marine applications



ENGINEERING YOUR SUCCESS.



The Olaer Group is part of Parker Hannifin since July 1st, 2012. With manufacturing and sales in 14 countries in North America, Asia and Europe, the Olaer Group expands Parker's presence in geographic growth areas and offers expertise in hydraulic accumulator and cooling systems for target growth markets such as oil and gas, power generation and renewable energy.

Low pressure pump for high efficiency

Parker's QPM compact, light-weight range of gerotor circulation pumps offer high performance, low noise levels and low energy consumption. The low pressure QPM3 has a dual shaft bearing and a resilient connection that guarantees safe and secure operation. It conforms to EN 60034-1/IEC 60072 version B3/B14, which allows the use of different makes of electric motors.

Advantages

The special design of the pressure relief groove ensures low flow pulsations and low noise levels. Double-feed gerotor provides excellent suction ability. Dual shaft bearings ensures a long service life. The design of the pressure chambers ensures low pressure pulsations. Few internal parts make the pump light and compact.

Applications:

- Circulation of oil in cooling and oil filter systems
- Circulation of oil in industrial hydraulic systems
- Filling and draining of oil in tanks
- Transfer of oil in stationary or mobile oil storage depots.



The QPM3 is compatible with mineral, synthetic and vegetable oils. When operating with other fluids always consult your Parker representative.

Internal or external bypass valve with opening pressure 5 or 10 bar.



A simple, robust design means cost efficiency.

Consult your Parker representative for:

- special models
- dimensioning support
- extreme operating conditions

The QPM3 range of low pressure pumps

QPM3 type of gerotor pumps are available with the following pump capacities:

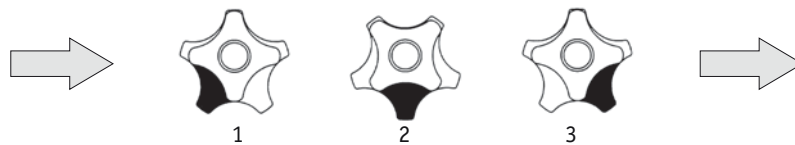
QPM3-20	QPM3-40	QPM3-60	QPM3-80
20 l/min	40 l/min	60 l/min	80 l/min

Operating principles of the gerotor

The gerotor principle is based on an inner and an outer rotor. The inner rotor has one less tooth than the outer. The inner rotor has its centre-line positioned

at a fixed eccentricity from the centre-line of the outer rotor. As the rotors rotate about their own respective axes, oil is drawn into the enlarging chamber.

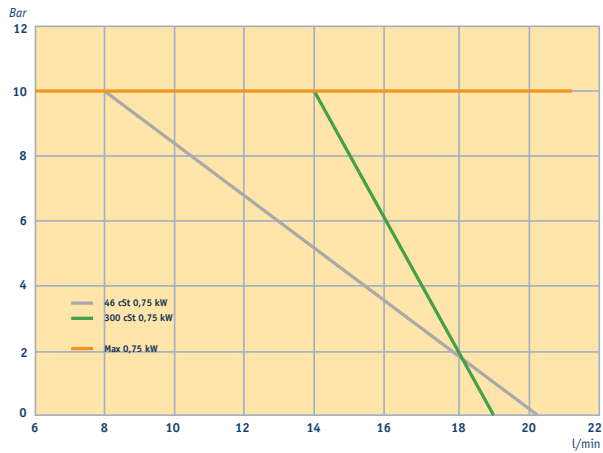
The process occurs constantly for each chamber, providing a smooth pumping action.



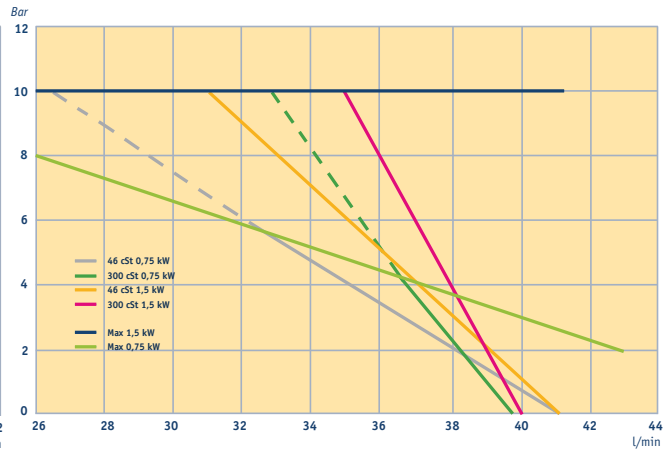
Consider this before installation:

- Install the QPM3 in a horizontal position.
- Minimise the difference in height between the pump inlet and the tank fluid level, preferably with the pump below the tank fluid level (max. 5 m).
- Use by-pass valves if the system is fitted with shut-off valves etc., or if the pump is exposed to cold starts.
- A low suction height and a short inlet line provide optimum pump performance.
- The diameter of the inlet line must be equal to, or larger than, the pump connection.
- For a long service life, oil cleanliness should, according to ISO 4406, not be below 17/15.
- Can be fitted as required in steps of 90° in relation to the electric motor.
- The electric motor may be overloaded due to cold starting and operation with viscous fluids – choose the right electric motor!
- Oil temperature must not exceed 100 °C. In the event of higher temperatures, always consult your Parker representative.
- Recommended ambient temperature: -20°C – +40°C.
- Recommended max. working pressure: 10 bar.
- For operation at higher working pressures, consult your Parker representative.
- Maximum oil viscosity: 800 cSt.
- Maximum suction side pressure: 0.5 bar.
- Maximum negative pressure in inlet line: 0.4 bar with oil filled pump.

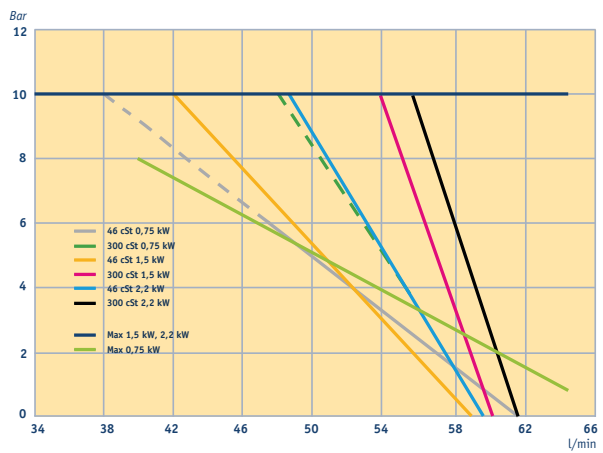
QPM3 20 L



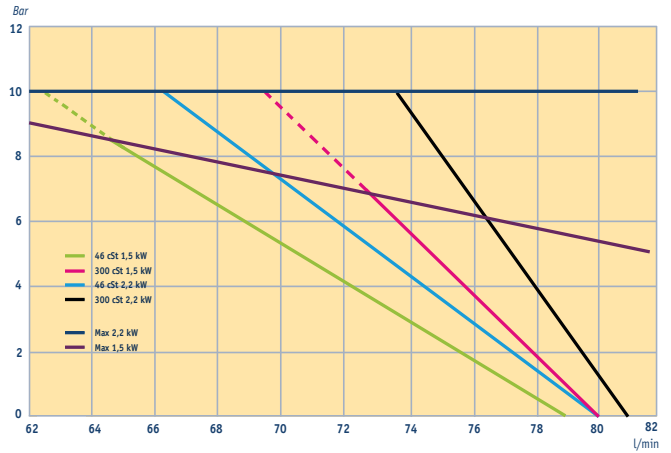
QPM3 40 L



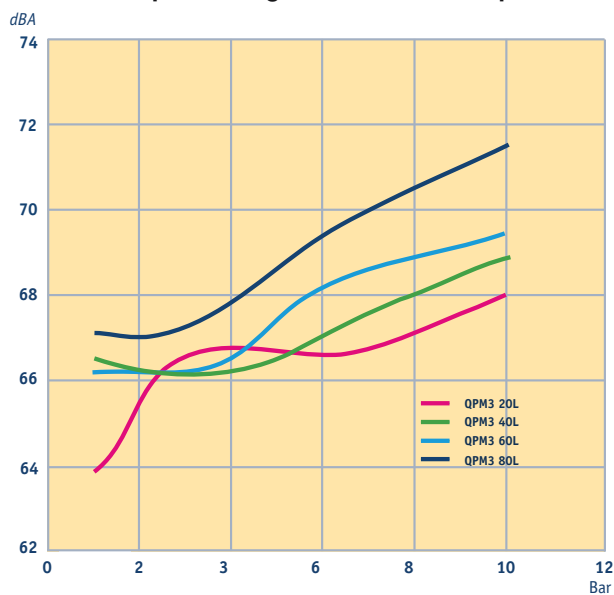
QPM3 60 L



QPM3 80 L



Acoustic power diagram for QPM3 Pump



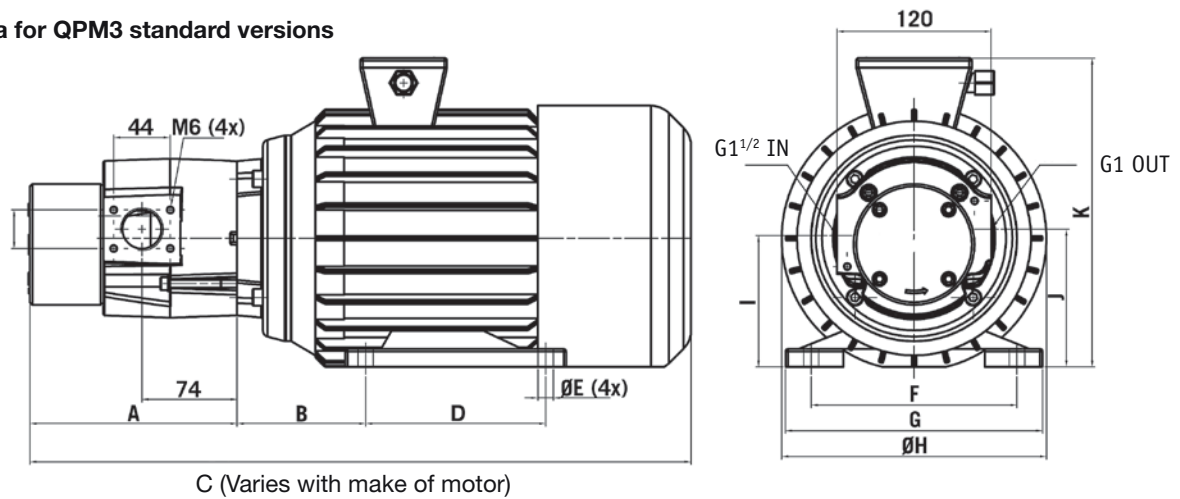
Motor:
MEZ 4AP90L-4
1,5 kW 4-pole

Ambient temp.: 20°C

Viscosity: 100 cSt

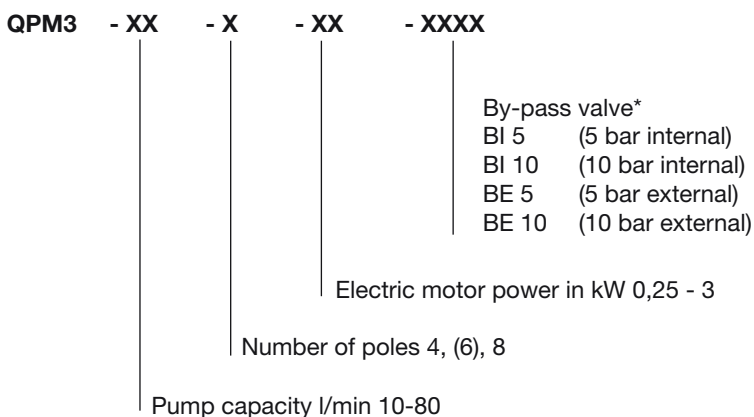
Standard: ISO 3741

Data for QPM3 standard versions



TYPE	Num. of poles	Motor power kW	Pump flow l/min	Weight* kg	Acoustic pressure level LpA dB(A) at 1 m**	Dimensions in mm										
						A	B	C*	D	E	F	G*	H*	I	J	K*
QPM3 10	8	0.25	10	13	65	136	50	368	100	10	125	160	157	82	87	195
QPM3 20	4	0.75	20	13	65	136	50	368	100	10	125	160	157	82	87	195
QPM3 20	4	1.5	20	21	66	136	83	443	125	10	140	170	185	92	97	220
QPM3 40	4	0.75	40	13	65	148	50	381	100	10	125	160	157	82	87	195
QPM3 40	4	1.5	40	21	66	148	83	456	125	10	140	170	185	92	97	220
QPM3 40	4	2.2	40	28	67	148	100	502	140	12	160	200	206	102	107	240
QPM3 40	4	3	40	28	67	148	100	502	140	12	160	200	206	102	107	240
QPM3 60	4	0.75	60	14	65	161	50	393	100	10	125	160	157	82	87	195
QPM3 60	4	1.5	60	22	66	161	83	468	125	10	140	170	185	92	97	220
QPM3 60	4	2.2	60	28	67	161	100	514	140	12	160	200	206	102	107	240
QPM3 60	4	3	60	28	67	161	100	514	140	12	160	200	206	102	107	240
QPM3 80	4	1.5	80	22	67	174	83	481	125	10	140	170	185	92	97	220
QPM3 80	4	2.2	80	28	67	174	100	527	140	12	160	200	206	102	107	240
QPM3 80	4	3	80	28	67	174	100	527	140	12	160	200	206	102	107	240

* Depends on motor make. ** Noise level tolerance ± 3 dB(A)



When ordering a special pump, the product, components and performance must be written out clearly in full*.

* To be omitted if not required

Technical specification and options

TECHNICAL DATA

- Pump housing/pump cover aluminium with anodized surfaces
- Sintered steel gerotor
- Nitrile o-rings/sealings
- 3-phase, 4-pole, asynchronous motor equipped with support and flange
- Pump capacity 10–80 l/min

ELECTRIC MOTOR

- ΔY 220–240/380–420 V, 50 Hz
- ΔY 255–280/440–480 V, 60 Hz
- Protection standard IP 55
- Insulation class F

- Rise of temperature class B
- Cooling method IC 411
- The electric motor fulfils the requirements of standards: EN 60034-1, IEC 60072, DIN/VDE 0530.
- Electric motor, 4-pole, 0.75 kW with a rated current of 3.5 A at 230 V and 2.0 A at 400 V, 50 Hz*
- Electric motor, 4-pole, 1.5 kW with a rated current of 6.1 A at 230 V and 3.5 A at 400 V, 50 Hz*
- Electric motor, 4-pole, 2.2 kW with a rated current of 8.5 A at 230 V and 4.8 A

- at 400 V, 50 Hz*
- Electric motor, 4-pole, 3.0 kW with a rated current of 11.3 A at 230 V and 6.6 A at 400 V, 50 Hz*
- The motor should be overload protected.
- When the QPM3 is installed in an environment where water could enter the electric motor from above, a protective shield (optional equipment) should be used.

* Approximate values depending on make of motor.

