QPM3

Low pressure pump – for circulation of oil in hydraulic and lubricating systems
The Olaer Group is a global player specialising in innovative, efficient system solutions for temperature optimisation and energy storage.

All over the world, our products operate in the most diverse environments and applications, e.g. the aircraft, engineering, steel and mining industries, as well as in sectors such as oil and gas, contracting and transport, farming and forestry, renewable energy, etc.

Low pressure pump

– for high efficiency

Properties

Oiltech’s QPM range of gerotor type of low pressure pumps has been a big seller on the market for many years. High performance, light and compact, low noise level as well as low energy consumption are strong arguments for having a QPM3 installed in your system for the circulation of oil. The QPM3 pump has a resilient connection that guarantees safe and secure operation. The pump conforms to standard EN 60034-1/IEC 60072, version B3/B14, which makes it possible to choose between different makes of electric motor.

Construction and advantages

- The special design of the pressure relief groove provides low flow pulsations and low noise level.
- Double-feed gerotor provides excellent suction ability.
- Double bearings in crankshaft assures long service life.
- The design of the pressure chambers assures low pressure pulsations.
- Few internal parts make the pump light and compact.

Many areas of use

QPM3 is ideal for:
- circulation of oil in cooling and oil filter systems,
- circulation of oil in industrial hydraulics,
- filling and draining of oil in tanks,
- transfer of oil in stationary or mobile oil storage depots.
QPM3 is compatible with:
- Mineral oils
- Synthetic oils
- Vegetable oils

When operating with other fluids always consult your local Olaer office.

Adapted
QPM3 is used in Oiltech’s DUO3 oil filter, WEGO3 cooling and filter system and LOC cooling system.

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

Cost effective
Simple and robust design = cost effective.

Consult your local Olaer company for:
- Special models
- Dimensioning
- Extreme operating conditions
### DATA FOR QPM3 STANDARD VERSIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of poles</th>
<th>Motor power</th>
<th>Pump flow</th>
<th>Weight*</th>
<th>Acoustic pressure level dB(A) at 1 m**</th>
<th>Dimensions in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kW</td>
<td>l/min</td>
<td>kg</td>
<td>A</td>
<td>B</td>
<td>C*</td>
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<tr>
<td>QPM3 10</td>
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<td>0.25</td>
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<td>0.75</td>
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<td>67</td>
<td>174</td>
</tr>
</tbody>
</table>

* Varies with make of motor; ** Noise level tolerance ± 3 dB(A)
**Technical specification and options**

**TECHNICAL DATA**

- Pump housing and pump cover in aluminium with anodized surfaces.
- Gerotor in sintered steel.
- O-rings and sealings made of nitrile rubber.
- 3-phase, 4-pole, asynchronous motor equipped with support and flange.
- Pump capacity from 10 litres to 80 litres per minute.

**ELECTRIC MOTOR**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>∆Y 220-240/380-420 V, 50 Hz</th>
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<tbody>
<tr>
<td>Protection standard</td>
<td>IP 55</td>
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<tr>
<td>Insulation class</td>
<td>F</td>
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<tr>
<td>Rise of temperature class</td>
<td>B</td>
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<tr>
<td>Cooling as per</td>
<td>IC 411</td>
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</tbody>
</table>

- By-pass valve:
  - BI 5 (5 bar internal)
  - BI 10 (10 bar internal)
  - BE 5 (5 bar external)
  - BE 10 (10 bar external)

**ORDERING KEY**

<table>
<thead>
<tr>
<th>QPM3 - XX - X - XXX - XXXX - XXXX</th>
</tr>
</thead>
</table>

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

*To be omitted if not required.

The electric motor fulfils the requirements of standards:

- EN 60034-1
- IEC 60072
- DIN/VDE 0530

<table>
<thead>
<tr>
<th>Electric motor, 4-polar</th>
<th>0.75 kW</th>
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<tbody>
<tr>
<td>Rated current</td>
<td>3.5 A at 230 V and 2.0 A at 400 V, 50 Hz*</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Electric motor, 4-polar</th>
<th>1.5 kW</th>
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</thead>
<tbody>
<tr>
<td>Rated current</td>
<td>6.1 A at 230 V and 3.5 A at 400 V, 50 Hz*</td>
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</table>

<table>
<thead>
<tr>
<th>Electric motor, 4-polar</th>
<th>2.2 kW</th>
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<tbody>
<tr>
<td>Rated current</td>
<td>8.5 A at 230 V and 4.8 A at 400 V, 50 Hz*</td>
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</table>

<table>
<thead>
<tr>
<th>Electric motor, 4-polar</th>
<th>3.0 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated current</td>
<td>11.3 A at 230 V and 6.6 A at 400 V, 50 Hz*</td>
</tr>
</tbody>
</table>

* Approximate values depending on make of motor.

The motor should be overload protected.

**Options**

In case where the QPM3 is installed in an environment where water could enter the electric motor from above, a protective shield should be used. The protective shield is available as an option.
Operating principles of the gerotor

The operation is based on an internal and external rotor that are displaced off-centre to each other. The internal rotor has one less tooth than the external rotor. The difference in the number of teeth creates an “opening” where the oil is transferred.

Step 1: Oil is drawn into the gerotor
Step 2: The opening between the “gear wheels” is closed. Suction side and pressure side are sealed from each other.
Step 3: The oil is forced out into the pressure channel.

To consider before installation

- We recommend to 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 shutoff 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 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 temperature, always consult your local Olaer office.
- Recommended ambient temperature –20°C – +40°C.
- Recommended max. working pressure: 10 bar. For operation at higher working pressures, consult your local Olaer office.
- 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.
Products equipped with the QPM3 pump

LOC cooling system with AC motor
- maximum cooling capacity 160 kW
- Compact and lightweight
- Quiet fan and fan motor
- Integrated circulation pump
- Low pressure drop and high cooling capacity
- Easy to maintain and easy to retrofit
- Can easily be equipped with Oiltech’s filter unit FX3

WEGO3
cooling and filter system in one compact unit
- Compact, off-line cooling and filter system
- Cools, cleans and circulates oil day and night
- Low initial pressure drop
- Quiet
- Easy to retrofit when rebuilding a system
- Equipped with Oiltech’s filter unit FX3

DUO3
oil filter operates day and night
- Off-line system operating day and night
- For long hydraulic system life
- Accessibility and reliability in operation
- Compact and quiet
- Low power consumption
- Easy to retrofit when rebuilding a system
- Equipped with Oiltech’s filter unit FX3
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