**Proportional Directional Control Valve, Pilot Operated**

**PRM8-06**

Size 06 (D03) • Q\(_{\text{max}}\) 140 l/min (37 GPM) • p\(_{\text{max}}\) 350 bar (5100 PSI)

**Technical Features**

- Pilot operated proportional control valve with exceptional hydraulic power limits
- Subplate mounting surface acc. to ISO 4401, DIN 24340 (CETOP 03) standards
- The valve opening and resulting flow rate can be modulated continuously in proportion to the reference signal
- The valve can be controlled directly by a current control supply unit or by a electronic control unit to exploit the valve performance to the fullest
- Analog converter card EL3E allows fine position control of the valve spool, reducing hysteresis and response time and optimizing the performance of the valve
- Five chamber housing design with reduced hydraulic power dependence on fluid viscosity
- Wide range of electrical terminal versions for the solenoids available
- Wide range of interchangeable spools and manual overrides available
- The coil is fastened to the core tube with a retaining nut and can be rotated by 360° to suit the available space
- In the standard version, the valve housing is phosphated and steel parts zinc-coated for 240 h salt spray protection acc. to ISO 9227
- Enhanced surface protection for mobile sector available (ISO 9227, 520 h salt spray)

**Functional Description**

The pilot operated main spool valve follows the control spool position, which is given by the control current to the solenoid. The solenoids are supplied from an external source, which should be provided with a current feedback. In order to achieve optimum operating parameters the external electronics should be able to generate a dither signal. The proportional valve can be used within the whole range of input pressure where the required continuity of the flow rate characteristics and minimum hysteresis is achieved.

The selected concept increases the achieved output parameters of the proportional valve in comparison to direct controlled proportional valve. The valve can be controlled directly by a current control supply unit or by means of the external electronic card directly mounted to the electrical unit to exploit the valve performance to the fullest.

**Technical Data**

<table>
<thead>
<tr>
<th>Valve size</th>
<th>06 (D03)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure at ports A, B, T</td>
<td>350 (5080) bar</td>
</tr>
<tr>
<td>Maximal flow at pressure 320 bar (4640 PSI)</td>
<td>140 (37) l/min (GPM)</td>
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<tr>
<td>Maximum operating pressure at port T</td>
<td>210 (3050) bar</td>
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<tr>
<td>Fluid temperature range (NBR / (FPM)</td>
<td>°C (°F)</td>
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<tr>
<td>Ambient temperature max.</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Nominal flow rate Q(_{\text{max}}) at Δp=10 bar (145 PSI)</td>
<td>25 (6.6) l/min (GPM)</td>
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<tr>
<td>Hysteresis</td>
<td>%</td>
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<tr>
<td>Mass</td>
<td>kg (lbs)</td>
</tr>
<tr>
<td>Technical data of the proportional solenoid</td>
<td>2.4 (5.3)</td>
</tr>
<tr>
<td>Nominal supply voltage V</td>
<td>12 DC</td>
</tr>
<tr>
<td>Limit current A</td>
<td>2.5</td>
</tr>
<tr>
<td>Mean resistance value at 20 °C (68 °F)</td>
<td>2.3 Ω</td>
</tr>
</tbody>
</table>
| Data Sheet Type | Nibi

**General information**

GL.0060 Products and operating conditions

**Coil types / Connectors**

C_8007 C22B* / K*

**Mounting interface**

MT_0019 Size 06

**Spare parts**

SP_0010

**Technical Features**

- Operating limits:
  - Flow direction P → A / B → T or P → B / A → T
  - Flow Q [l/min (GPM)]
  - Δp=10 bar (145 PSI)

- Regulated flow related to control signal
  - Control current Ic [%]
  - Flow Q [l/min (GPM)]

The coil current initializing the flow through the proportional directional valve can differ due to the production tolerances in a range of ± 6 % of the limit current.

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Proportional directional control valve

Valve size

Spool symbols

Nominal flow rate at $\Delta p = 10$ bar (145 PSI) 25 l/min (6.6 GPM)

Rated supply voltage of solenoids
(at the coil terminal)

- For proportional valves with two solenoids, one solenoid must be de-energized before the other solenoid can be charged.
- The solenoid operated valves are delivered without connectors. For available connectors see data sheet K_8008.
- Electronics for controlling proportional valves can be ordered separately, see catalog HA 9150.
- Mounting bolts M5 x 30 ISO 4762 or stud must be ordered separately. Tightening torque is 8.9 Nm (6.56 lbf.ft)
- Besides the shown widely used valve versions other special models are available. Contact our technical support for their identification, feasibility and operating limits.

Solenoid Coil in millimeters (inches)

Manual Override in millimeters (inches)

Dimensions in millimeters (inches)

* Example with electrical terminal EN 175301-803-A (E1, E2)

Proper function of the valve is guaranteed only if the supply pressure in the "P" channel is present and exceeds always the pressure in the "T" channel.