Auxiliary Valve
PRS6
Pressure Reducing Valve

Catalogue HY17-8541/UK
June 2003
Applications
The PRS6 is a three-way pressure reducing valve that has been developed to give reduced pressure in a particular part of a hydraulic system. The valve maintains the secondary pressure setting constantly, regardless of pressure variations on the primary side. A common application is in pilot circuits in hydraulic and electro-hydraulic servo systems, where the pressure is taken from the main system and reduced by the PRS6 to a level that is suitable for the pilot circuit.

Construction and function
The valve housing is manufactured from continuously-cast grey iron and contains a precision-ground spool. To keep oil consumption at a low level, the spool has positive overlapping. This gives a certain difference in secondary pressure at different flow take-off rates. For this reason, the valve setting should be made with the desired flow rate passing through the valve. When a high primary pressure is reduced to a low secondary pressure (pressure differential over 150 bar), pressure reduction should be effected in two stages using two PRS6 valves connected in series.

Advantages
- Compact and easy to install.
- Easy to adjust within respective pressure range.
- Can be factory-set and sealed to prevent unauthorized pressure changing.
- Highly suited for use as a reducing valve in pilot circuits where the pilot pressure is taken from the main circuit.
- Withstands high pressure shocks in the tank connection.

Optional equipment
Numerous other options are available for the PRS6. For further information, please contact your Parker representative.
- Spool for two-way function.
- Hand wheel for easy changing of pressure setting.
- Flanged version of PRS6 for flanging directly to, e.g. a valve block.
- Adjuster device for external control of secondary pressure by means of a pilot pressure.

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- Hand wheel for easy changing of pressure setting.
- Flanged version of PRS6 for flanging directly to, e.g. a valve block.
- Adjuster device for external control of secondary pressure by means of a pilot pressure.
**Possible pressure setting ranges**
(applicable range will depend on pressure setting you specify)

- Secondary pressure
  - 4-10 bar
  - 11-20 bar
  - 21-30 bar
  - 31-45 bar
  - 46-150 bar
  - 150 bar to any value below 250 bar.

**Primary pressure**
Max. 250 bar

**Tank pressure**
Max. 250 bar in pressure shocks.

**Recommended reduction**
(differential between primary and secondary pressure)
Max. 150 bar

**Pressure-setting flow rate**
Pressure should be set with desired flow rate (l/min) flowing through the valve.

**Recommended flow rate**
Max. 30 l/min depending on secondary pressure.
See diagram.

**Connections**
All connections are available in two versions:
- G1/4 (BSP pipe thread) for flat seal (type Tredo) according to ISO 228/1.
- 9/16-18 UNF-2B for O-ring seal according to SAE J1926/1.

**Leakage**
Connection P to connection T max. 0.15 l/min at pressure differential of 100 bar and oil viscosity of 30 mm/s².

**Weight**
Approx. 1.0 kg

**Hydraulic fluids**
Best performance is obtained using mineral-base oil of high quality and cleanliness in the hydraulic system.
- HLP hydraulic fluids (DIN 51524), automatic-gearbox oil type A and API CD engine oils can be used. If in doubt, please contact Parker for further information.
  - For best function, oil viscosity should be between 15 and 45 mm²/s² (cSt).

**Filtration**
Filtration should be arranged so that Target Contamination Class 18/16/13 according to ISO 4406 is not exceeded.

**Temperature**
Temperature range, fluid:
- -20 °C to + 70 °C
Temperature range, ambient:
- -40 °C to +70 °C
Temperature-shock resistance: max. 100 °C/second

**General**
Technical data in this catalogue is applicable using mineral base oil according to DIN 51524 at a viscosity of 30 mm²/s and temperature of 50 °C.
Please use ordering-code system in chart below to specify your PRS6 valve. The ordering numbers in the table below apply to certain standard settings (please cross-reference with ordering-code system chart) and can be used directly when ordering.

<table>
<thead>
<tr>
<th>Code</th>
<th>Ordering number</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRS6G-10-01-O</td>
<td>8234 8906 35</td>
</tr>
<tr>
<td>PRS6G-20-01-O</td>
<td>8234 8906 25</td>
</tr>
<tr>
<td>PRS6G-30-01-O</td>
<td>8234 8906 33</td>
</tr>
<tr>
<td>PRS6G-40-01-O</td>
<td>8234 8906 34</td>
</tr>
<tr>
<td>PRS6G-100-01-O</td>
<td>8234 8907 08</td>
</tr>
</tbody>
</table>

**Ordering code**

- **PRS6**
- Connection
- Secondary pressure
- Pressure setting
- Sealing

**Code Sealing**

<table>
<thead>
<tr>
<th>Code</th>
<th>Sealing</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>Not sealed</td>
</tr>
<tr>
<td>P</td>
<td>Valve sealed with sealing wire and seal</td>
</tr>
</tbody>
</table>

**Code Pressure-setting flow rate**

Secondary pressure is set while desired flow rate (l/min) is passing through valve. Flow range: 0 - 30 l/min

**Code Secondary pressure**

Valve is delivered preset at specified secondary pressure (pressure range 4 bar to marginally below 250 bar)

**Code Connection**

<table>
<thead>
<tr>
<th>Code</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td>G1/4 (BSP pipe) thread</td>
</tr>
<tr>
<td>U</td>
<td>9/16-18 UNF-2B thread</td>
</tr>
</tbody>
</table>
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