2 way flow control valves are used to provide pressure compensated flow. The valve design also compensates temperature and viscosity variations to a certain extent. Optionally the flow from A to B can be blocked by external pilot pressure applied to port P (option X). This can be used to avoid unintended initial movements of actuators.

The GFG is optionally equipped with a built-in check valve for the return flow.

**Design**

The 2 way flow control valves are fitted with a triangular flow restrictor and a subsequent pressure compensator. The setting of the flow rate can be locked by a key lock in the adjusting knob against unauthorised adjustment (option C).

**Function**

The fluid enters through port A through the flow restrictor. Downstream of the flow restrictor the pressure compensator is located. The control edges are provided by four radial bores in the poppet, which are fully open to port B in the neutral position.

This can cause a short non-compensated flow when the valve is initialized.

Optionally the compensator spool can be held in closed position by external pilot pressure in port P (option X). The flow adjustment is done via the flow resistor which is adjusted by the hand knob. The adjusting angle of the hand knob is 270°.

**Features**

- Flow rate independent of pressure, temperature and viscosity
- Available for 7 different flow rates
- Good fine adjustment
- Optional reverse flow check valve
- Turn knob with key lock (option C)

**Note**

Rectifier plate see 'Accessories' at the end of this chapter.
### Technical data

<table>
<thead>
<tr>
<th>Design</th>
<th>Orifice, infinitely variable, pressure-compensated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actuator</td>
<td>Manual flow rate adjustment</td>
</tr>
<tr>
<td>Mounting type</td>
<td>ISO 6263</td>
</tr>
<tr>
<td>Mounting position</td>
<td>code: ISO 6263-AB-03-4-B</td>
</tr>
<tr>
<td>Weight</td>
<td>1.1 (without subplate)</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>Max. 70</td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-25...+50</td>
</tr>
<tr>
<td>Viscosity range</td>
<td>2.8...400</td>
</tr>
<tr>
<td>Filtering</td>
<td>ISO 4406 (1999); 18/16/13</td>
</tr>
<tr>
<td>Min. pressure difference</td>
<td>5 (GFG<em>1.6/3.2), 8.5 (GFG</em>6.3/12/18)</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>A: B = 315 , P = 5 (GFG*, GFG<em>C), A, B, P = 160 (GFG</em>X)</td>
</tr>
<tr>
<td>Effect of pressure on Q&lt;sub&gt;max&lt;/sub&gt; at p = 160 bar</td>
<td>± 2 (GFG<em>1.6/3.2/6.3/12), ± 2.5 (GFG</em>18)</td>
</tr>
<tr>
<td>Flow direction</td>
<td>A → B, B → A</td>
</tr>
<tr>
<td>Flow control function</td>
<td>Throttle function or free flow through check valve</td>
</tr>
</tbody>
</table>

### Ordering code

**GFG**

2 way flow control valve

**2**

Nominal Size

**PK**

Pressure compensated

**Flow**

Seal

**Design series**

(not required for ordering)

**Pilot port**

- Code: Check valve
  - omit C: Without check valve
  - With check valve
- Code: Locking option
  - omit S: Standard without lock
  - With 2H (E10) lock
- Code: Flow [/l/min]
  - 0.6: 0.015 to 0.6
  - 1.0: 0.015 to 1.0
  - 1.6: 0.015 to 1.6
  - 3.2: 0.025 to 3.2
  - 6.3: 0.025 to 6.3
  - 12.0: 0.080 to 12.0
  - 18.0: 0.080 to 18.0

**Bold letters = Short-term availability**

*Only in combination with integrated check valve.*
Changes in pressure cause a change of pre-set flow rate. Flow rate deviations a $Q_{\text{max}} = \pm 2\%$

### Dimensions

![Diagram of valve dimensions]

**Bolt kits** (Cylinder head DIN 912-12.9 not included)

<table>
<thead>
<tr>
<th>Nom. size Valve</th>
<th>Valve model</th>
<th>Quantity</th>
<th>Tightening torque [Nm]</th>
<th>Valve without rectifier plate</th>
<th>Valve with rectifier plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>NG6</td>
<td>GFG2</td>
<td>2</td>
<td>8.1Nm</td>
<td>2xM5x60 BK380</td>
<td>2xM5x100 BK466</td>
</tr>
</tbody>
</table>

**O-rings for sealing the connecting surface**

<table>
<thead>
<tr>
<th>Nom. size Valve</th>
<th>Valve model</th>
<th>Ports</th>
<th>Dimensions</th>
<th>Quantity</th>
<th>Seal kits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NG6</td>
<td>GFG2</td>
<td>A and B</td>
<td>O-inner x cord thickness</td>
<td>9x1.5</td>
<td>SK-GFG2 NBR</td>
</tr>
</tbody>
</table>