1 General

1.1 Product description

Series RVG-... units are screw-in check valves with mounting threads ranging from G 1/8" to G 3/4". For other thread forms, contact Bucher Hydraulics.

The units are spring-closed plate valves with hardened body, seat and valve plate. The sealing faces are diamond-lapped.

A metal cutting lip seals the leakage path between the valve and cavity wall.

The valves can be used for pressure relief in the opening direction, but only to a limited extent (consult Bucher Hydraulics for such applications).

1.2 Advantages

- Virtually leak-free
- High pressure rating
- Compact construction
- Particularly suitable for use as make-up check valves

2 Main characteristics

Designation | check valve / non-return valve
Design | geführte Plattenausführung
Mounting method | screw-in cartridge
Size | nominal 04 ... 10 mm. See table in section 5, Dimensions
Dimensions | see table in section 5, Dimensions
Mounting attitude | unrestricted
No-flow direction | A → B (see symbol)
Operating pressure range | ... 250 bar
Opening pressure range | 0,2 ... 0,3 bar
Flow rate, Q max. | ... 50 l/min
Fluid | HL und HLP hydraulic oils to DIN 51524
Temperature range | -30°C ... + 80°C
Viscosity range | 10 ... 500 cSt
Min. fluid cleanliness | 18/14 to ISO 4406 / CETOP RP70H 8 ... 9 to NAS 1638

For applications outside these parameters, please contact Bucher Hydraulics.
3 Schematic section

4 Components

<table>
<thead>
<tr>
<th>Item</th>
<th>Qty.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Valve seat</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Valve body</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Valve plate</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>Spring</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>O-ring</td>
</tr>
</tbody>
</table>

5 Dimensions

5.1 Valve

5.2 Cavity type REG-03

<table>
<thead>
<tr>
<th>Q Nom = Q_{max} (l/min)</th>
<th>G</th>
<th>ØD</th>
<th>H</th>
<th>X</th>
<th>SW</th>
<th>Tightening torque (Nm)</th>
<th>Ød</th>
<th>ØK</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>RVG-04-ST</td>
<td>8</td>
<td>G1/8&quot;</td>
<td>8.50</td>
<td>16.50</td>
<td>5.00</td>
<td>4</td>
<td>10</td>
<td>4.00</td>
<td>8,70</td>
</tr>
<tr>
<td>RVG-06-ST</td>
<td>15</td>
<td>G1/4&quot;</td>
<td>11.50</td>
<td>20.00</td>
<td>7.00</td>
<td>6</td>
<td>20</td>
<td>6.00</td>
<td>11.75</td>
</tr>
<tr>
<td>RVG-08-ST</td>
<td>30</td>
<td>G3/8&quot;</td>
<td>14.90</td>
<td>24.00</td>
<td>9.00</td>
<td>8</td>
<td>30</td>
<td>8.00</td>
<td>15.25</td>
</tr>
<tr>
<td>RVG-10-ST</td>
<td>50</td>
<td>G1/2&quot;</td>
<td>18.70</td>
<td>26.50</td>
<td>10.00</td>
<td>10</td>
<td>60</td>
<td>11.00</td>
<td>19.00</td>
</tr>
</tbody>
</table>
6 Performance graphs
measured with oil viscosity 33 cSt

RVG-04
B → A

RVG-06
B → A

RVG-08
B → A

RVG-10
B → A
7 Ordering details

Model code key

Check valve, screw-in type

Ex.  R  V  G - - -

Thread
Whitworth pipe thread  G
Metric thread  M
UNF thread  U

Nominal size
04
06
08
10

Opening pressure
0.2...0.3 bar  03

Contact Bucher Hydraulics for further advice on:
• Other opening pressures
• Orifice diameters
• Special materials
• Customised designs
8  Design and installation notes
The installation dimensions and tolerances must be maintained.

Use the specified tightening torque when fitting the valve.

When fitting the valve, take particular care to ensure that:
- the valve cutting lip is firmly seated on the sealing surface
- valve components are not deformed by the use of excessive force

Referring to the free-flow direction, nozzles and orifices must not be situated directly before the check valve.
(see Data Sheet 170-P-059000-E)

We offer form tools for hire or sale.

9  Application notes
The maximum operating pressure must not be exceeded and any pressure peaks must be taken into consideration.

In applications such as accumulator circuits, where sudden pressure can be applied to the valve in the free-flow direction, ensure that the specified flow ratings are not exceeded. In dynamic accumulator circuits, use the internally damped valves.

The specified nominal flow rate must not be exceeded.

Buyers bear the sole responsibility for ensuring that the selected products are suitable for their applications. Buyers normally establish this by undertaking qualification programs on test stands, or by evaluating the performance of prototype machines or systems.