OPERATION

When stem is up, the direct way is closed, with stem down direct way is open.

ACTUATORS

VSB and VMB are actuated by CONTROLLI MVB, MVF, MVH, MVH56FA/C, MVE electrical actuators.

APPLICATION AND USE

Two-way VSB and three-way VMB valves can be used either for control or fluid detection in air-conditioning, thermoventilation and heating plants, both environmental and industrial, and in machines for product thermal process.

Three-way valves should be used only as mixing valves; angle way should never be used for control purposes.

MANUFACTURING CHARACTERISTICS

The valve body is made of G25 cast iron (only DN1/2" valves have brass body and fitting).

The plug is in brass with Contoured-type profile on direct way and V-port on angle way.

The stem is in CrNi steel with threaded M8 end and female threaded connections. The stem packing is constituted by a EPDM O-ring with graphited teflon scraper rings.

NOTE: The valves are also available in the stainless steel plug version (profile and Kvs are the same of the brass plug). For further sales information, please contact our Sales Support.

TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Modelli</th>
<th>DN</th>
<th>Portata Kvs m³/h</th>
<th>Corsa [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSB3</td>
<td>3/4&quot;</td>
<td>6,3</td>
<td>16,5</td>
</tr>
<tr>
<td>VSB4</td>
<td>1&quot;</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>VSB5</td>
<td>1 1/4&quot;</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>VSB6</td>
<td>1 1/2&quot;</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>VSB8</td>
<td>2&quot;</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>VSB8A</td>
<td>2&quot;</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

Leakage*

VSB-VMB direct way: 0...0,03% of Kvs

VMB angle way: 0...2% of Kvs

Connections: female threaded

Stroke: 16,5 mm (max 18,5)

Allowed fluids:
- water
  - max. temperature: 150 °C
  - min. temperature: -10 °C
- glycol added
  - max. temperature: 150 °C
  - max. pressure: 2,5 bar (absolute value)

Leakage* Leakage is measured according to the EN1349 standard.

NOTE: If V.B valves are assembled with MVB+spacer (MVBHT) the max. operating temperature is 140 °C, while without spacer is 120 °C. For other actuators the max. operating temperature is 150 °C.

INSTALLATION

Before valves are mounted, make sure that pipes are clean, free from welding slags, that are perfectly lined up with valve body and not subjected to vibrations.

The valve can be mounted in any position except upside-down (for MVH actuators see Fig. 3).

While assembling, respect the flow directions indicated by the letters located on the valve body (see Fig. 1 and 2) and the application schemes.

OPERATION

When stem is up, the direct way is closed, with stem down direct way is open.

ACTUATORS

VSB and VMB are actuated by CONTROLLI MVB, MVF, MVH, MVH56FA/C, MVE electrical actuators.

MOUNTING POSITIONS

Accessory

AG52 Mounting kit for MVF actuator
AG62 Mounting kit for MVH actuator
AG63 Mounting kit for MVF,S actuator
GVB3 Thermal insulation for DN 3/4" valves (V.B3)
GVB4 Thermal insulation for DN 1" valves (V.B4)
GVB5 Thermal insulation for DN 1 1/4" valves (V.B5)
GVB6 Thermal insulation for DN 1 1/2" valves (V.B6)
GVB8 Thermal insulation for DN 2" valves (V.B8)
GVB8A Thermal insulation or DN 2" valves (V.B8A)

NOTE: If V.B valves are assembled with MVB+spacer (MVBHT) the max. operating temperature is 140 °C, while without spacer is 120 °C. For other actuators the max. operating temperature is 150 °C.
Automatic control systems for:
air conditioning/heating/industrial thermal process.

ISO 9001

The performances stated in this sheet can be modified without any prior notice due to design improvements.

MAX DIFFERENTIAL PRESSURE (kPa)

<table>
<thead>
<tr>
<th>U-Bolt Connection</th>
<th>MVH</th>
<th>MVHA/C*</th>
<th>MVB</th>
<th>MVF54</th>
<th>MVF58</th>
<th>MVF515</th>
<th>MVF59A/C</th>
<th>MVEX06</th>
<th>MVEX10</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN</td>
<td>A-AB</td>
<td>B-AB</td>
<td>A-AB</td>
<td>B-AB</td>
<td>A-AB</td>
<td>B-AB</td>
<td>A-AB</td>
<td>B-AB</td>
<td>B-AB</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>1600</td>
<td>1600</td>
<td>1600</td>
<td>1560</td>
<td>1080</td>
<td>260</td>
<td>1210</td>
<td>760</td>
<td>1600</td>
</tr>
<tr>
<td>1&quot;</td>
<td>1600</td>
<td>1600</td>
<td>1380</td>
<td>1030</td>
<td>680</td>
<td>170</td>
<td>760</td>
<td>500</td>
<td>1560</td>
</tr>
<tr>
<td>1 1/4&quot;</td>
<td>1600</td>
<td>1370</td>
<td>840</td>
<td>650</td>
<td>410</td>
<td>110</td>
<td>460</td>
<td>320</td>
<td>950</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
<td>1170</td>
<td>990</td>
<td>590</td>
<td>470</td>
<td>290</td>
<td>80</td>
<td>320</td>
<td>230</td>
<td>670</td>
</tr>
<tr>
<td>2&quot;</td>
<td>870</td>
<td>750</td>
<td>440</td>
<td>350</td>
<td>210</td>
<td>60</td>
<td>240</td>
<td>170</td>
<td>490</td>
</tr>
</tbody>
</table>

DP max = max differential pressure value ensured by the actuator for regular operation

NOTE In order to avoid wear between plug and seat, we recommend not to overcome the 2 bar differential pressure.

Note: in case of lack of voltage, with MVH56FA direct way is closed, with MVH56FC angle way is closed.

APPLICATION SCHEMES

VSB VALVES

a) Variable flow control when used

b) Constant flow when used in injection circuits

c) Variable flow mixing when used

d) Constant flow mixing when used in injection or tapping circuits

OVERALL DIMENSIONS (mm.)

<table>
<thead>
<tr>
<th>Dimensioni valvola [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN</td>
</tr>
<tr>
<td>L</td>
</tr>
<tr>
<td>3/4&quot;</td>
</tr>
<tr>
<td>1&quot;</td>
</tr>
<tr>
<td>1 1/4&quot;</td>
</tr>
<tr>
<td>1 1/2&quot;</td>
</tr>
<tr>
<td>2&quot; (V.B8A)</td>
</tr>
<tr>
<td>2&quot; (V.B8)</td>
</tr>
</tbody>
</table>

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