2/2-WAY SOLENOID VALVE, FORCE PILOT OPERATED, FLANGE VERSION

Description:
- 2/2-way valve in flange version
- Piston poppet valve
- Force pilot operated
- Overall length EN558-1, line 1
- Duty cycle 100% (VDE0580)
- Installation position: with standing magnet
- Flange EN1092-1; Version grey iron: 0 to 16bar, cast steel
- Cap nut – Version in grey iron and cast steel have a thick-coat passivation as corrosion protection
- Connector plug EN 175301-803 respectively terminal box (depending on magnet type)

Application area:
- Viscosity 22mm²/s
- Media temperature -10°C to +80°C
- Ambient temperature -10°C to +35°C
- Operating pressure gray iron: 0 to 16bar, cast steel and VA: 0 to 40bar
- No differential pressure necessary
- IP65 (with correct installed connector plug) DIN 40050
- For hot and cold water, oil and air,

Explanation:
Voltage tolerance +10% / -10% at maximal pressure and ambient temperature. Please note the flow pattern (arrow mark on body).

The setting of a defined minimum or maximum flow rate is possible via the basic quantity setting available on request. Valves with flanges acc. to ANSI available.

Other tensions and coil power as well as sealings on request. You find these in the catalog under „Spare parts and accessories“. The connector plug EN175301-803 is included in the scope of supply. You find more connector plugs under accessories and spare parts in the catalog. On request a higher protection class than IP65 is possible, with special coils and connector plugs.

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Component</th>
<th>Cast iron</th>
<th>Cast steel</th>
<th>Stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>EN-GJL-250 thick layer</td>
<td>K</td>
<td>1.4581</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.4301</td>
<td>GP240GH thick layer</td>
<td>O</td>
</tr>
<tr>
<td>2</td>
<td>Seat</td>
<td>1.4301</td>
<td>up to DN50: Messing</td>
<td>1.4581</td>
</tr>
<tr>
<td>3</td>
<td>Cover</td>
<td>1.4301</td>
<td>from DN65: EN-GJL-250</td>
<td>from DN65: 1.4408</td>
</tr>
<tr>
<td>4</td>
<td>Valve disk</td>
<td>1.4104</td>
<td>1.4581</td>
<td></td>
</tr>
<tr>
<td>5,8</td>
<td>Seat sealing, Pilot seat</td>
<td>PTFE (Version PN25)</td>
<td>B</td>
<td>NBR* (Version PN25)</td>
</tr>
<tr>
<td>6</td>
<td>Pilot seat</td>
<td>1.4104</td>
<td>PTWF (Version PN40)</td>
<td>B</td>
</tr>
<tr>
<td>7</td>
<td>Pilot spindle</td>
<td>1.4104</td>
<td>1.4104</td>
<td></td>
</tr>
<tr>
<td>9, 19</td>
<td>Spring</td>
<td>1.4310</td>
<td>1.4104</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Cap nut</td>
<td>1.4104</td>
<td>1.4104</td>
<td></td>
</tr>
<tr>
<td>12, 13</td>
<td>O-ring, cover, body and</td>
<td>NBR*</td>
<td>1.4104</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Piston guide band</td>
<td>PTFE-coal</td>
<td>1.4104</td>
<td></td>
</tr>
</tbody>
</table>

*Optional seals in FKM, EPDM and PTFE for PN25 version possible. Diviating temperature possible. Possibly use of another solenoid necessary.

Wear parts:
- Pilot seat
- Complete valve piston
- Pilot spindle
- Cap nut
- Groove ring
- Guide star
- O-ring
- Disk
- Spring
- Tube
- Plunger
- Coil
- plug or terminal box

Wear parts can vary depending on the valve design. Service set: incl. Complete piston Sealing set: contains all seals, WITHOUT piston and seat sealing

References:
For contaminated fluids insertion of a strainer is recommended.

At operating state temperature the input power of a coil decreases by up to ca. 30% due to physical reasons.

Attention! The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.
FMV2400-57-x xx500-x-x
FMV2400-58-x xx650-x-x
FMV2400-59-x xx800-x-x
FMV2400-60-x xx1000-x-x
FMV2400-61-x xx1250-x-x
FMV2400-62-x xx1500-x-x
FMV2400-63-x xx2000-x-x
FMV2400-64-x xx2500-x-x
FMV2400-65-x xx3000-x-x

Options:
- NO: opened in rest position
- HA: manual override
- TH: temperature version up to 180°C
- OF: free of oil and grease
- BU: non-ferrous metals
- PS: position indication (from DN20)

**CV-Value:** The nominal pressure of Kv to VDI / VDE 2173 indicates the water amount in m³/h, found out at a pressure difference \( \Delta p = 1 \text{bar} \) and a media temperature from +5°C to 30°C.

Appointment details:
1. Type: FMV2400
2. Connection size: 57-65 (see chart)
   with pressure stage
   - PN16: 1
   - PN40: 3
3. Material:
   - 1. Body material
     L=gray iron
     K=cast steel
     O=stainless steel
   - 2. Sealing
     B=NBR (standard)
4. Nominal size in 1/10mm (s.chart)
5. Operation:
   - 1. (3 digits): Indication of the coil type
     (s. chart/options)
   - 2. Indication of the tension:
     0: 230V AC
     1: 24V DC
     2: 110V AC (on request)
     Other tensions on request.
6. Options (see „Options“)
   Demands on your application conditions that are not listed on the data sheet, can be requested!
   The guide book and the maintenance guidelines, particularly the given safety instructions have to be paid attention to before the installation!
Heating and power of solenoid coils

default solenoid valves are designed for continuous operation (100% ED = power-on time) under normal operating conditions. The pulling force of a solenoid coil is basically influenced by three elements:

- the self-heating of the magnet coil
- the medium temperature
- the ambient temperature

Solenoid coils are by default designed for a maximum ambient temperature of +35 °C. This specification applies for the maximum allowable operating pressure specified in the data sheet of the corresponding valve, 100% duty cycle and a medium temperature of +80 °C.

A higher ambient temperature is possible, when lower values are applied for the other influencing parameters. When the max. operation pressure and max. ambient temperature of +50 °C is given the medium temperature is not allowed to be higher than max. +50 °C. In addition to that, deviations from the default design temperature range are possible, e.g. when temperature coils or other constructive measures are used. Please contact the MIT headquarters to discuss the specific application.

More precise specifications and technical data with regard to the operating conditions can be found in the data sheets of the solenoid coils and the solenoid valve regarded. Please observe that the surface temperature of a permanently loaded coil can amount up to +120 °C, solely by the self-heating of the coil. The power consumption of our default solenoid valves was calculated to DIN VDE 05820 for a coil temperature of +20 °C.