Components for pneumatic automation

Solenoid valves for fluid
F300 Series

PNEUMAX GREEN LINE: TECHNOLOGY & INNOVATION
**General details**

PNEUMAX offer a vast range of solenoid valves in brass and stainless steel designed to control air, water, steam and all fluids that are compatible with the materials (body and seals) used in the range.

The solenoid valves are 2 or 3-way, normally closed, normally open, general service, direct acting or servo-actuated, with connections available in NPT & BSP threads from G1/8" up to G2", with a working pressure range from vacuum to 100 bar.

Solenoid valves are available with coils that conform to CESI 03 ATEX 344 certification for explosive environments.

Our technical office ensures the highest standard of skill and understanding for the widest variety of applications, ensuring that the best possible solutions are found.

**Versions manufactured**

**Direct action 2-way:** 2-way solenoid valves have an input connection and an output connection machined in the valve body, the orifice being intercepted by the plunger mounted in the core tube.

They can be **normally closed (2/2 NC)**, in this case the fluid is intercepted by the plunger at rest, with electricity applied, the input orifice is opened and the media reaches the intended use.

They can be **normally open (2/2 NA)**, in this case at rest the orifice remains open without electricity applied, the media reaches the intended use. When electricity is applied the input orifice closes.

Performance in both cases depends solely on the magnetic field produced by the solenoid coil.

The solenoid valves can also work at zero pressure.

**Direct action 3-way:** 3-way solenoid valves have an input and an output connection in the valve body and an exhaust connection fitted in the fixed core. The input and exhaust orifices are intercepted directly by the plunger fitted within the core tube.

They can be **normally closed (3/2 NC)** and in this case, at rest, the incoming fluid is intercepted by the plunger and output port is connected to the exhaust port.

Applying electrical power, the input orifice is opened and feed is supplied to the output. Exhaust is closed.

They can be **normally open (3/2 NA)** and in this case, at rest, the input orifice is open without electricity applied, the media reaches the intended use. Exhaust is closed.

Applying power, the input orifice closes and the output discharges through the exhaust port.

Performance in both cases depends solely on the magnetic field produced by the solenoid coil.

The solenoid valves can also work at zero pressure.
Servo actuated
With large-sized passage orifices, the static pressure value that needs to be overcome by the magnetic field produced by the coil increases. These solenoid valves are used to control high-pressure values with large diameter bores.
In these models, the fluid helps in the opening or closing of the main plunger.

They can be normally closed (2/2 NC) and have an input and a utilisation connection machined into the valve body, which can be either diaphragm or a piston. In this condition, the fluid acts on both faces of the main plunger though a pinhole contributing to closure of the plunger.
Applying electrical power, the secondary, or pilot, orifice opens leading to the exhaust of the fluid, which acts to close the main plunger. Greater force is thus applied when opening, the plunger is raised from the orifice and allows the media to flows to the output.
In these versions, performance does not depend solely on the magnetic field produced by the coil; a minimum input pressure is also needed so as to move the diaphragm or the piston overcoming its rigidity and to keep it raised from the main orifice.
\[ \Delta p \text{ minimum performance} \]

They can be normally open (2/2 NA), and have an input and output connection machined into the valve body, and at rest the secondary plunger communicates with output, a minimum-pressure difference between the feed and the output causes the main shutter to rise, leading to it opening.
Applying electrical power, the secondary orifice closes and equilibrium between the pressure on the two faces of the main shutter is reinstated, and so it returns to its closed position on the main orifice.
In this version a minimum working pressure is also needed.

Sealing materials

<table>
<thead>
<tr>
<th>Designation</th>
<th>Trade names</th>
<th>General characteristics</th>
<th>Field of use</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPM (Fluorocarbon)</td>
<td>VITON TECNOFLON FLUOREL</td>
<td>A synthetic hexa-fluoropropylene-based elastomer. Excellent resistance to high temperatures. Excellent resistance to ozone, oxygen, mineral oils, synthetic hydraulic fluids, fuels, hydrocarbons and many chemical products. Not specific for superheated steam.</td>
<td>For general use up to 130 °C</td>
</tr>
</tbody>
</table>
Resistance to fluids

The table below serves to general information relating to the compatibility between FPM (fluorocarbon) and a number of neutral fluids. Where there are corrosive fluids, in order to establish compatibility, it is important to be aware of all the data relating to use: temperature, concentration and composition of the fluid.

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl acetate</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Acetylene</td>
<td>Compatible</td>
</tr>
<tr>
<td>Vinegar</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Acetone</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Calcareous water</td>
<td>Compatible</td>
</tr>
<tr>
<td>Hot water &lt;75°C</td>
<td>Compatible</td>
</tr>
<tr>
<td>Hot water and steam &lt;140°C</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Water with glycerol</td>
<td>Compatible</td>
</tr>
<tr>
<td>Deionised water</td>
<td>Compatible</td>
</tr>
<tr>
<td>Demineralised water</td>
<td>Compatible</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>Compatible</td>
</tr>
<tr>
<td>Soapy water</td>
<td>Compatible</td>
</tr>
<tr>
<td>Carbon dioxide (liquid)</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Dry carbon dioxide (gas)</td>
<td>Compatible</td>
</tr>
<tr>
<td>Argon</td>
<td>Compatible</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>Compatible</td>
</tr>
<tr>
<td>Petrol/Gasoline</td>
<td>Compatible</td>
</tr>
<tr>
<td>Benzol</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Butane</td>
<td>Compatible</td>
</tr>
<tr>
<td>Chloroform</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Ethyl Chloride</td>
<td>Compatible</td>
</tr>
<tr>
<td>Methyl chloride</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Helium</td>
<td>Compatible</td>
</tr>
<tr>
<td>Heptane</td>
<td>Compatible</td>
</tr>
<tr>
<td>Hexane</td>
<td>Compatible</td>
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<tr>
<td>Ethane</td>
<td>Compatible</td>
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<tr>
<td>Ethanol</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>Compatible</td>
</tr>
<tr>
<td>Freon</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Natural gas</td>
<td>Compatible</td>
</tr>
<tr>
<td>Diesel oil</td>
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<tr>
<td>Glycerine</td>
<td>Compatible</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>Compatible</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>Compatible</td>
</tr>
<tr>
<td>Isobutane</td>
<td>Compatible</td>
</tr>
<tr>
<td>Isopentane</td>
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<tr>
<td>Methane</td>
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<tr>
<td>Methanol</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Calcium monoxide</td>
<td>Compatible</td>
</tr>
<tr>
<td>Neon</td>
<td>Compatible</td>
</tr>
<tr>
<td>Nitrobenzene</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Mineral oil</td>
<td>Compatible</td>
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<tr>
<td>Oxygen</td>
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</tr>
<tr>
<td>Pentane-n</td>
<td>Compatible</td>
</tr>
<tr>
<td>Propanol-n</td>
<td>Compatible</td>
</tr>
<tr>
<td>Propane-n</td>
<td>Compatible</td>
</tr>
<tr>
<td>Carbon sulphide</td>
<td>Non Compatible</td>
</tr>
<tr>
<td>Toluene</td>
<td>Compatible</td>
</tr>
<tr>
<td>Dry trichloroethylene</td>
<td>Compatible</td>
</tr>
<tr>
<td>Xylene</td>
<td>Compatible</td>
</tr>
</tbody>
</table>
F300 Series

Solenoid valves for fluids - F3106
Brass body, with G connector (ISO228) 1/4"

2-way solenoid normally closed valve, direct plunger operation

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection G ISO 228</th>
<th>Orifice (mm)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption</th>
<th>Coil Series</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3106BV100</td>
<td>1/4&quot;</td>
<td>1.5</td>
<td>0.07</td>
<td>0</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>F3106BV200</td>
<td>1/4&quot;</td>
<td>2.0</td>
<td>0.1</td>
<td>0</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>F3106BV300</td>
<td>1/4&quot;</td>
<td>2.5</td>
<td>0.15</td>
<td>0</td>
<td>16</td>
<td>20</td>
</tr>
<tr>
<td>F3106BV400</td>
<td>1/4&quot;</td>
<td>3.5</td>
<td>0.32</td>
<td>0</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>F3106BV1400</td>
<td>1/4&quot;</td>
<td>4.5</td>
<td>0.43</td>
<td>0</td>
<td>5.5</td>
<td>3.5</td>
</tr>
<tr>
<td>F3106BV2400</td>
<td>1/4&quot;</td>
<td>5.2</td>
<td>0.47</td>
<td>0</td>
<td>4</td>
<td>1.8</td>
</tr>
<tr>
<td>F3106BV3400</td>
<td>1/4&quot;</td>
<td>6.4</td>
<td>0.64</td>
<td>0</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>F3106BV1500</td>
<td>1/4&quot;</td>
<td>7.5</td>
<td>0.77</td>
<td>0</td>
<td>60</td>
<td>80</td>
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<tr>
<td>F3106BV2500</td>
<td>1/4&quot;</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>60</td>
<td>80</td>
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<tr>
<td>F3106BV3500</td>
<td>1/4&quot;</td>
<td>12.5</td>
<td>0.33</td>
<td>0</td>
<td>23</td>
<td>19</td>
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<tr>
<td>F3106BV4500</td>
<td>1/4&quot;</td>
<td>14</td>
<td>0.41</td>
<td>0</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>F3106BV5000</td>
<td>1/4&quot;</td>
<td>16</td>
<td>0.47</td>
<td>0</td>
<td>10</td>
<td>9</td>
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<tr>
<td>F3106BV6000</td>
<td>1/4&quot;</td>
<td>18</td>
<td>0.64</td>
<td>0</td>
<td>5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure) with seals in PTFE and 2.5 bar with seals in EPDM.

2-way normally closed, direct acting solenoid valve with G connector (ISO228) 1/4", Seals in FPM, Orifice 5.2 mm, Coil 220V 50/60Hz (MG58, size 30).

Operational characteristic
- Brass Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- OPTIONS (if requested):
  - Manual operation
  - Surface treatment in chemical nickel-plating
  - Inserted stainless steel seating
  - For use with oxygen

Technical characteristic
- Maximum admitted pressure (bar) 80
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 +55
- Ambient temperature: with class H coil (°C) -10 +55
- Mounting position indifferent
- Weight (gr.) with MG Series Coil 300
- Weight (gr.) with MK Series Coil 380
2-way solenoid normally closed, direct plunger operation

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**CODE**

- **V** = Seals in FPM
- **G** = Brass body

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection G (ISO 228)</th>
<th>Orifice (mm)</th>
<th>KV (m³/h)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption</th>
<th>Coil Ø</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3106DV54</td>
<td>1/2&quot;</td>
<td>6.4</td>
<td>0.64</td>
<td>4.5</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>F3106DV52</td>
<td>1/2&quot;</td>
<td>5.2</td>
<td>0.47</td>
<td>4</td>
<td>1.8</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>F3106DV50</td>
<td>1/2&quot;</td>
<td>4.5</td>
<td>0.41</td>
<td>4</td>
<td>1.3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>F3106DV42</td>
<td>1/2&quot;</td>
<td>4.4</td>
<td>0.4</td>
<td>4</td>
<td>1.3</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure) with seals in PTFE and 2.5 bar with seals in EPDM.

Example: F3106DV52 => F3106DV52MK5:

- 2-way normally closed, direct acting solenoid valve with G connector (ISO228) 1/2", Seals in FPM, Orifice 5.2 mm, Coil 24V DC (MK5, size 36).

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**Operational characteristic**

- Brass Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

- **OPTIONS (if requested):**
  - Manual operation
  - Surface treatment in chemical nickel-plating
  - For use with oxygen

**Technical characteristic**

- Maximum admitted pressure (bar): 80
- Maximum fluid viscosity (mm²/s): 25cSt
- Ambient temperature: with class F coil (°C): -10 +80
- Ambient temperature: with class H coil (°C): -10 +80
- Mounting position: indifferent

- Weight (gr.) with MG Series Coil: 300
- Weight (gr.) with MK Series Coil: 380

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Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
2-Way normally closed solenoid valve, servo-actuated diaphragm

<table>
<thead>
<tr>
<th>CONNECTION</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>Weight (gr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G3/8” Ø10</td>
<td>49</td>
<td>65</td>
<td>11</td>
<td>32</td>
<td>16</td>
<td>22</td>
<td>230</td>
</tr>
<tr>
<td>G3/8” Ø12</td>
<td>59</td>
<td>70</td>
<td>14</td>
<td>45</td>
<td>16</td>
<td>22</td>
<td>420</td>
</tr>
<tr>
<td>G3/8” Ø12</td>
<td>59</td>
<td>70</td>
<td>14</td>
<td>45</td>
<td>16</td>
<td>22</td>
<td>350</td>
</tr>
<tr>
<td>G3/4”</td>
<td>79</td>
<td>76</td>
<td>18</td>
<td>55</td>
<td>16</td>
<td>22</td>
<td>650</td>
</tr>
<tr>
<td>G1”</td>
<td>86</td>
<td>85</td>
<td>20</td>
<td>72</td>
<td>16</td>
<td>22</td>
<td>1050</td>
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<tr>
<td>G1” 1/4</td>
<td>119</td>
<td>92</td>
<td>25</td>
<td>85</td>
<td>16</td>
<td>22</td>
<td>1700</td>
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</tbody>
</table>

CODE

<table>
<thead>
<tr>
<th>V= Seals in FPM</th>
<th>Connection G ISO 228</th>
<th>Orifice (mm)</th>
<th>KV (m³/h)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption</th>
<th>Coil Ø</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3107/8V10</td>
<td>1/4”</td>
<td>10</td>
<td>1.5</td>
<td>0.15 10 15 15 12 8 6.5 M6 22</td>
<td>-10 +130</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>F3107/8C12</td>
<td>3/8”</td>
<td>12</td>
<td>2.2</td>
<td>0.15 10 15 15 12 8 6.5 M6 22</td>
<td>-10 +130</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>F3107/8D12</td>
<td>1/2”</td>
<td>12</td>
<td>2.5</td>
<td>0.15 10 15 15 12 8 6.5 M6 22</td>
<td>-10 +130</td>
<td>22</td>
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</tr>
<tr>
<td>F3107/8E16</td>
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<td>18</td>
<td>5.5</td>
<td>0.15 13 13 13 12 8 6.5 M6 22</td>
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<td>22</td>
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<tr>
<td>F3107/8F22</td>
<td>1”</td>
<td>24</td>
<td>10.2</td>
<td>0.15 10 10 10 12 8 6.5 M6 22</td>
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<td>F3107/8G30</td>
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<td>15</td>
<td>0.15 10 10 10 12 8 6.5 M6 22</td>
<td>-10 +130</td>
<td>22</td>
<td></td>
</tr>
</tbody>
</table>

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

Example: F3107BV10 MI5:
2-Way normally closed solenoid valve, servo-actuated diaphragm with Connector G (ISO 228) 1/4”, Seals in FPM, Orifice 10 mm, Coil 24V DC (MI5, size 22).

Pneumatic symbol

Operational characteristic

- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

OPTIONS (if requested):
- Manual operation
- Surface treatment in chemical nickel-plating
- Coil for potentially explosive environments meeting ‘ATEX standards Ex m Serie XME’
- Version with slowed commutation
- Version for vacuum (air/gas)
- Version for use with oxygen
- "SVGW/SSIGE" approved versions.

Technical characteristic

- Minimum differential pressure (bar) 0.15
- Maximum admitted pressure (bar) 25
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 +55
- Ambient temperature: with class H coil (°C) -10 +80

Mounting position

Preferably with coil upwards
Solenoid valves for fluids - F3107
Body and cover in Brass, with Connector G (ISO228) 1” 1/4” ÷ 2”

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.

2-Way normally closed solenoid valve, servo-actuated diaphragm

Pneumatic symbol

Operational characteristic
- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

OPTIONS (if requested):
- Manual operation
- Surface treatment in chemical nickel-plating
- Version for vacuum (air/gas)

Technical characteristic
- Minimum differential pressure (bar) 0.15 ÷ 3
- Maximum admitted pressure (bar) 80
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 +55
- Ambient temperature: with class H coil (°C) -10 +80
- Mounting position Preferably with coil upwards
2-way solenoid normally closed valve, direct plunger operation

F300 Series

Stainless Steel Body, with Connector G (ISO228) 1/4” ÷ 1/2”

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure)

Example: F3110BV25

b => F3110BV25MG5:

2-way solenoid normally closed valve, direct plunger operation with Connector G (ISO228) 1/4", Seals in FPM, Orifice 2,5 mm, Coil 24V DC (MG5, size 30).

The data in brackets refer to the MK Series coil

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection G ISO 228</th>
<th>Orifice (mm)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption AC</th>
<th>Coil Series</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Min AC Max DC</td>
<td>Min AC</td>
<td>VA Holding</td>
<td>DC Watt</td>
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<tr>
<td>F3110BV25</td>
<td>1/4&quot;</td>
<td>2,5</td>
<td>0 16 14 20 15 10</td>
<td>0 16 14 20 15 10</td>
<td>MG 30</td>
<td>30</td>
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<td>0 10 8 20 15 10</td>
<td>0 10 8 20 15 10</td>
<td>MG 30</td>
<td>30</td>
</tr>
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<td>F3110BV45</td>
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<td>0 6,5 3,5 20 15 10</td>
<td>MG 30</td>
<td>30</td>
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<td>F3110CV25</td>
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<td>0 10 8 20 15 10</td>
<td>0 10 8 20 15 10</td>
<td>MG 30</td>
<td>30</td>
</tr>
<tr>
<td>F3110CV35</td>
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<td>0 4 1,8 20 15 10</td>
<td>0 4 1,8 20 15 10</td>
<td>MG 30</td>
<td>30</td>
</tr>
<tr>
<td>F3110DV25</td>
<td>1/2&quot;</td>
<td>3,5</td>
<td>0 10 8 20 15 10</td>
<td>0 10 8 20 15 10</td>
<td>MG 30</td>
<td>30</td>
</tr>
<tr>
<td>F3110DV35</td>
<td>1/2&quot;</td>
<td>5,2</td>
<td>0 4 1,8 20 15 10</td>
<td>0 4 1,8 20 15 10</td>
<td>MG 30</td>
<td>30</td>
</tr>
<tr>
<td>F3110DV45</td>
<td>1/2&quot;</td>
<td>6,4</td>
<td>0 3,5 1 20 15 10</td>
<td>0 3,5 1 20 15 10</td>
<td>MG 30</td>
<td>30</td>
</tr>
<tr>
<td>F3110BV25</td>
<td>1/4&quot;</td>
<td>2,5</td>
<td>0 35 33 40 30 27</td>
<td>0 35 33 40 30 27</td>
<td>MK 36</td>
<td>36</td>
</tr>
<tr>
<td>F3110BV35</td>
<td>1/4&quot;</td>
<td>3,5</td>
<td>0 20 19 40 30 27</td>
<td>0 20 19 40 30 27</td>
<td>MK 36</td>
<td>36</td>
</tr>
<tr>
<td>F3110BV45</td>
<td>1/4&quot;</td>
<td>4,5</td>
<td>0 14 13 40 30 27</td>
<td>0 14 13 40 30 27</td>
<td>MK 36</td>
<td>36</td>
</tr>
<tr>
<td>F3110CV35</td>
<td>3/8&quot;</td>
<td>3,5</td>
<td>0 20 19 40 30 27</td>
<td>0 20 19 40 30 27</td>
<td>MK 36</td>
<td>36</td>
</tr>
<tr>
<td>F3110CV30</td>
<td>3/8&quot;</td>
<td>5,2</td>
<td>0 16 9 40 30 27</td>
<td>0 16 9 40 30 27</td>
<td>MK 36</td>
<td>36</td>
</tr>
<tr>
<td>F3110DV35</td>
<td>1/2&quot;</td>
<td>5,2</td>
<td>0 10 9 40 30 27</td>
<td>0 10 9 40 30 27</td>
<td>MK 36</td>
<td>36</td>
</tr>
<tr>
<td>F3110DV45</td>
<td>1/2&quot;</td>
<td>6,4</td>
<td>0 5 4,5 40 30 27</td>
<td>0 5 4,5 40 30 27</td>
<td>MK 36</td>
<td>36</td>
</tr>
</tbody>
</table>

Operational characteristic

- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

- OPTIONS (if requested):
  - Manual operation
  - Advance ring in silver
  - For use with oxygen

Technical characteristic

- Maximum admitted pressure (bar) 100
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 + 55
- Ambient temperature: with class H coil (°C) -10 + 80
- Mounting position indifferent
- Weight (gr.) with MG Series Coil 360
- Weight (gr.) with MK Series Coil 440

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
Solenoid valves for fluids - F3111
Stainless Steel Body, with Connector G (ISO228) 1/8"

2-way solenoid normally closed valve, direct plunger operation

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection</th>
<th>Orifice (mm)</th>
<th>KV (l/min)</th>
<th>Differential Pressure (bar)</th>
<th>Power Consumption VA</th>
<th>Coil</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3111AV12</td>
<td>ISO 228</td>
<td>1/8&quot;</td>
<td>0.04</td>
<td>Max AC 50</td>
<td>25 12 8 6.5 MI 22</td>
<td></td>
<td>-10 to 130</td>
</tr>
<tr>
<td>F3111AV15</td>
<td>ISO 228</td>
<td>1/4&quot;</td>
<td>0.06</td>
<td>Max AC 50</td>
<td>16 16 8 6.5 MI 22</td>
<td></td>
<td>-10 to 80</td>
</tr>
</tbody>
</table>

N.B. For use with steam, maximum admitted pressure PS is 6 bar (relative pressure).
Example: F3111AV12MI56.

- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

OPTIONS (if requested):
- Advance ring in silver
- Coil for potentially explosive environments meeting ATEX standards Ex m Serie XME.
- For use with oxygen

Maximum admitted pressure (bar)
Maximum fluid viscosity (mm²/s) 25cSt
Ambient temperature: with class F coil (°C) -10 to 130
Ambient temperature: with class H coil (°C) -10 to 80
Mounting position indifferent
Weight (g.) 150
F300 Series

Solenoid valves for fluids - F3177
Body and cover in Stainless Steel, with Connector G (ISO228) 3/8” ÷ 1”

2-way normally closed diaphragm solenoid valve in stainless steel AISI 316, servo-actuated

<table>
<thead>
<tr>
<th>CONNECTION</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G3/8&quot;</td>
<td>59</td>
<td>70</td>
<td>11</td>
<td>45</td>
<td>16</td>
<td>22</td>
<td>301</td>
</tr>
<tr>
<td>G1/2&quot;</td>
<td>59</td>
<td>70</td>
<td>13</td>
<td>45</td>
<td>16</td>
<td>22</td>
<td>301</td>
</tr>
<tr>
<td>G3/4&quot;</td>
<td>80</td>
<td>75</td>
<td>16</td>
<td>59</td>
<td>16</td>
<td>22</td>
<td>320</td>
</tr>
<tr>
<td>G1&quot;</td>
<td>100</td>
<td>84</td>
<td>20</td>
<td>72</td>
<td>16</td>
<td>22</td>
<td>350</td>
</tr>
</tbody>
</table>

CODE

V = Seals in FPM
D = Coil
ISO 228

<table>
<thead>
<tr>
<th>Orifice (mm)</th>
<th>Min</th>
<th>Max</th>
<th>AC</th>
<th>DC</th>
<th>VA Holding</th>
<th>DC Watt</th>
<th>Power Consumption</th>
<th>Diff Pressure (bar)</th>
<th>Coil Option</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/8&quot;</td>
<td>0,15</td>
<td>2,2</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>8,6,5</td>
<td>6,5</td>
<td>0,15</td>
<td>MI5</td>
<td>-10 ÷ +130</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>0,15</td>
<td>2,5</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>8,6,5</td>
<td>6,5</td>
<td>0,15</td>
<td>MI5</td>
<td>-10 ÷ +130</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>0,15</td>
<td>5,5</td>
<td>15</td>
<td>15</td>
<td>12</td>
<td>8,6,5</td>
<td>6,5</td>
<td>0,15</td>
<td>MI5</td>
<td>-10 ÷ +130</td>
</tr>
<tr>
<td>1&quot;</td>
<td>0,15</td>
<td>10,2</td>
<td>10</td>
<td>10</td>
<td>12</td>
<td>8,6,5</td>
<td>6,5</td>
<td>0,15</td>
<td>MI5</td>
<td>-10 ÷ +130</td>
</tr>
</tbody>
</table>

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)
Example: F3177CV12 => F3177CV12MI5:
2-way normally closed diaphragm solenoid valve in stainless steel AISI 316, servo-actuated with Connector G (ISO228), Orifice 12 mm, Coil 24V DC (MI5, size 22).

Operational characteristic

- Body and cover in Stainless Steel.
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- OPTIONS (if requested):
  - Manual operation
  - Coils for potentially explosive environments meeting ‘ATEX standards Ex m Serie XME’
  - Seals for use with foodstuff fluids
  - Version with slowed commutation
  - Version for use with oxygen
  - Advance ring in silver

Diagram

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
Solenoid valves for fluids - F3206
Brass body, with G connector (ISO228) 1/4"

2-way normally open with direct operated plunger solenoid valve

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)
Example: F3206BV15MG58:
2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/4", Seals in FPM, Orifice 1,5 mm, Coil 220V 50/60Hz (MG58, size 30).

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection G ISO 228</th>
<th>Orifice (mm)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption</th>
<th>Coil</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3206BV15</td>
<td>1/8&quot;</td>
<td>1.5</td>
<td>0.07</td>
<td>0</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>F3206BV20</td>
<td>1/8&quot;</td>
<td>2.0</td>
<td>0.1</td>
<td>0</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td>F3206BV30</td>
<td>1/8&quot;</td>
<td>3.5</td>
<td>0.32</td>
<td>0</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>F3206BV45</td>
<td>1/8&quot;</td>
<td>4.5</td>
<td>0.41</td>
<td>0</td>
<td>4.5</td>
<td>20</td>
</tr>
<tr>
<td>F3206BV60</td>
<td>1/8&quot;</td>
<td>5.2</td>
<td>0.47</td>
<td>0</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>F3206BV80</td>
<td>1/8&quot;</td>
<td>6.2</td>
<td>0.64</td>
<td>0</td>
<td>3.5</td>
<td>20</td>
</tr>
</tbody>
</table>

Operational characteristic
- Brass Body
- Guide pipe in Brass
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- OPTIONS (if requested):
  - Surface treatment in chemical nickel-plating
  - Guide pipe in Stainless Steel

Technical characteristic
- Maximum admitted pressure (bar) 50
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 to +55
- Ambient temperature: with class H coil (°C) -10 to +80
- Mounting position indifferent
- Weight (g) with MG Series Coil 300
- Weight (g) with MK Series Coil 380
F300 Series

Solenoid valves for fluids - F3206
Brass body, with G connector (ISO228) 1/2"

2-way normally open with direct operated plunger solenoid valve

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)
Example: F3206DV30MG58:
2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/2", Orifice 3 mm, Coil) 220V 50/60Hz (MG58, size 30).

Operational characteristic
- Brass Body.
- Guide pipe in Brass.
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- OPTIONS (if requested):
- Surface treatment in chemical nickel-plating
- Guide pipe in Stainless Steel

Technical characteristic
- Maximum admitted pressure (bar) 50
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 +55
- Ambient temperature: with class H coil (°C) -10 +80
- Mounting position indifferent
- Weight (gr.) with MG Series Coil 360
- Weight (gr.) with MK Series Coil 440

Pneumatic symbol

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
Solenoid valves for fluids - F3207
Body and cover in Brass, with Connector G (ISO228) 1/4” ÷ 1”

2-way normally open servo-actuated diaphragm solenoid valve

<table>
<thead>
<tr>
<th>CONNECTION</th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>Weight (gr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1/4” B10</td>
<td>49</td>
<td>69</td>
<td>11</td>
<td>32</td>
<td>16</td>
<td>22</td>
<td>230</td>
</tr>
<tr>
<td>G3/8” B10</td>
<td>49</td>
<td>69</td>
<td>11</td>
<td>32</td>
<td>16</td>
<td>22</td>
<td>240</td>
</tr>
<tr>
<td>G1/2” B12</td>
<td>59</td>
<td>74</td>
<td>14</td>
<td>45</td>
<td>16</td>
<td>22</td>
<td>390</td>
</tr>
<tr>
<td>G3/4”</td>
<td>79</td>
<td>81</td>
<td>19</td>
<td>55</td>
<td>16</td>
<td>22</td>
<td>650</td>
</tr>
<tr>
<td>G1”</td>
<td>96</td>
<td>89</td>
<td>20</td>
<td>72</td>
<td>16</td>
<td>22</td>
<td>1050</td>
</tr>
</tbody>
</table>

CODE
V = Seals in FPM
G = Coil

Orifice (mm) | KV (m³/h) | Pressure (bar) | Power Consumption | Coil | Temp. range (°C) |
-------------|-----------|----------------|-------------------|------|------------------|
| 1/4”        | 10        | 0.15           | 15                | AC   | 12               |
|             |           |                | DC                | DC   | 8                |
| F3207BV110G|           |                | MI               | 22   |
| 3/8”        | 10        | 0.15           | 15                | AC   | 12               |
|             |           |                | DC                | DC   | 8                |
| F3207DV110G|           |                | MI               | 22   |
| 1/2”        | 12        | 0.15           | 15                | AC   | 12               |
|             |           |                | DC                | DC   | 8                |
| F3207EV110G|           |                | MI               | 22   |
| 3/4”        | 18        | 0.15           | 13                | AC   | 12               |
|             |           |                | DC                | DC   | 8                |
| F3207EV122G|           |                | MI               | 22   |
| 1”          | 24        | 0.15           | 10                | AC   | 12               |
|             |           |                | DC                | DC   | 8                |
| F3207PV222G|           |                | MI               | 22   |

N.B. For use with steam maximum admitted pressure PS is 2.5 bar; (relative pressure).
Example: F3207BV110G => F3207BV110MI5:
2-way normally open servo-actuated diaphragm solenoid valve with Connector G (ISO228) 1/4”, Seals in FPM, Orifice 10 mm, Coil 24V DC (MI5, size 22).

Pneumatic symbol

Operational characteristic
- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- OPTIONS (if requested):
  - Surface treatment in chemical nickel-plating
  - Coil for potentially explosive environments meeting ATEX standards Ex m Serie XME.

Technical characteristic
- Minimum differential pressure (bar) 0,15
- Maximum admitted pressure (bar) 25
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 ÷ 80
- Ambient temperature: with class H coil (°C) -10 ÷ 90
- Mounting position indifferent

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
2-way normally open with direct operated plunger solenoid valve

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection</th>
<th>Orifice (mm)</th>
<th>Differential Pressure (bar)</th>
<th>Power Consumption</th>
<th>Coil G Series Size</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISO 228</td>
<td></td>
<td>Min</td>
<td>Max</td>
<td>AC</td>
<td>DC</td>
</tr>
<tr>
<td>F3210BV55G</td>
<td>1/4&quot;</td>
<td>2.5</td>
<td>0</td>
<td>10</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210BV56G</td>
<td>1/4&quot;</td>
<td>3.5</td>
<td>0</td>
<td>7</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210BV57G</td>
<td>1/4&quot;</td>
<td>4.5</td>
<td>0</td>
<td>4.5</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210CV55G</td>
<td>3/8&quot;</td>
<td>3.5</td>
<td>0</td>
<td>7</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210CV56G</td>
<td>3/8&quot;</td>
<td>4.5</td>
<td>0</td>
<td>4.5</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210CV57G</td>
<td>3/8&quot;</td>
<td>5.2</td>
<td>0</td>
<td>3</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210CV58G</td>
<td>1/2&quot;</td>
<td>3.5</td>
<td>0</td>
<td>7</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210CV59G</td>
<td>1/2&quot;</td>
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<td>0</td>
<td>4.5</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210CV60G</td>
<td>1/2&quot;</td>
<td>5.2</td>
<td>0</td>
<td>3</td>
<td>0-15</td>
<td>20</td>
</tr>
<tr>
<td>F3210CV61G</td>
<td>1/2&quot;</td>
<td>6.4</td>
<td>0</td>
<td>3.5</td>
<td>0-15</td>
<td>20</td>
</tr>
</tbody>
</table>

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

Example: F3210BV25M30G56: 2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/4", Orifice 2.5 mm, Coil 24V 50/60Hz (M56, size 30).

Operational characteristic
- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

OPTIONS (if requested):
- Advance ring in silver

Technical characteristic
- Maximum admitted pressure (bar): 50
- Maximum fluid viscosity (mm²/s): 25cSt
- Ambient temperature: class F coil (°C): -10 to 55
- Ambient temperature: class H coil (°C): -10 to 80
- Mounting position: indifferent
Solenoid valves for fluids - F3211
Stainless Steel Body, with Connector G (ISO228) 1/8"

2-way normally open with direct operated plunger solenoid valve

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection</th>
<th>Orifice (mm)</th>
<th>KV</th>
<th>Power Consumption</th>
<th>Power Consumption</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3211AV12G</td>
<td>G ISO 228</td>
<td>1.2</td>
<td>0.04</td>
<td>0</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>F3211AV16G</td>
<td>G ISO 228</td>
<td>1.5</td>
<td>0.06</td>
<td>0</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>F3211AV23G</td>
<td>G ISO 228</td>
<td>2</td>
<td>0.09</td>
<td>0</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)
Example: F3211AV12G = F3211AV12G56:
2-way normally open with direct operated plunger solenoid valve with Connector G (ISO228) 1/8", Seals in FPM, Orifice 1,2 mm, Coil 24V 50/60Hz (Mi56, size 22).

Operational characteristic
- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing elements in FPM
- OPTIONS (if requested):
  - Coil for potentially explosive environments meeting 'ATEX standards Ex m Serie XME'.

Technical characteristic
- Maximum admitted pressure (bar)
- Maximum fluid viscosity (mm²/s)
- Ambient temperature: with class F coil (°C)
- Ambient temperature: with class H coil (°C)
- Mounting position

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
F300 Series

Body and cover in Stainless Steel, with Connector G (ISO228) 3/8” ÷ 1”

2-way normally open servo-actuated diaphragm solenoid valve in stainless steel AISI 316

N.B. For use with steam maximum admitted pressure PS is 2.5 bar (relative pressure)

Example: F3277CV12 => F3277CV12MI5:
2-way normally open servo-actuated diaphragm solenoid valve in stainless steel AISI 316 with Connector G (ISO228) 3/8”, Seals in FPM, Orifice 12 mm, Coil 24V DC (MI5, size 22).

Pneumatic symbol

Operational characteristic
- Body and cover in Stainless Steel
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- OPTIONS (if requested):
  - Coil for potentially explosive environments meeting ‘ATEX standards Ex m Serie XME’.
  - Seals for use with foodstuff fluids.
  - Advance ring in silver

Technical characteristic
- Minimum differential pressure (bar) 0.15
- Maximum admitted pressure (bar) 25
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 ÷ 55
- Ambient temperature: with class H coil (°C) -10 ÷ 80
- Mounting position Preferably with coil upwards

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
Solenoid valves for fluids - F3310
Stainless Steel Body, with Connector G (ISO228) 1/4"

3-way direct acting solenoid valve

Example: F3310BV25G
 => F3310BV25GMG5:
3-way direct acting solenoid valve with Connector G (ISO228) 1/4", Seals in FPM, Feed bore 2,5 mm, Exhaust bore 2,4 mm Coil 24V DC (MG5, size 30), N.O.

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection</th>
<th>Orifice (mm)</th>
<th>Power Consumption</th>
<th>Coil Ø</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U Universal</td>
<td>G = Connector ISO 228</td>
<td>Inlet</td>
<td>Exhaust</td>
<td>Min AC</td>
<td>Max AC</td>
</tr>
<tr>
<td>F3310BV25G</td>
<td>1/4&quot;</td>
<td>2.5</td>
<td>2.4</td>
<td>0</td>
<td>5</td>
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</tbody>
</table>

Operational characteristic
- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM
- OPTIONS (if requested):
  - Advance ring in silver

Technical characteristic
- Maximum admitted pressure (bar)
- Maximum running pressure + 10%
- Maximum fluid viscosity (mm²/s)
- Ambient temperature: with class F coil (°C)
- Ambient temperature: with class H coil (°C)
- Mounting position: indifferent
- Weight (g.)

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
3-way direct acting solenoid valve

Example: F3311AV15G

Pneumatic symbol

Operational characteristic
- Stainless Steel Body
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

OPTIONS (if requested):
- Advance ring in silver
- Coil for potentially explosive environments meeting ‘ATEX standards Ex m Serie XME’
- Exhaust with hose mount.

Technical characteristic
- Maximum admitted pressure (bar) + 10%
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 to 80
- Ambient temperature: with class H coil (°C) -10 to 80
- Mounting position indifferent
- Weight (g.) 150

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
2-way normally closed servo-actuated towed membrane solenoid valve

Example: F3108DV12
2-way normally closed in brass with towed membrane solenoid valve with Connector G (ISO228) 1/2", Seals in FPM, Orifice 12 mm, Coil 24V DC (MG5, size 30).

Operational characteristic

- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Sealing assemblies in FPM

OPTIONS (if requested):
- Surface treatment in chemical nickel-plating

Technical characteristic

- Maximum admitted pressure (bar): 25
- Maximum fluid viscosity (mm²/s): 25cSt
- Ambient temperature: with class F coil (°C): -10 to +55
- Ambient temperature: with class H coil (°C): -10 to +80
- Mounting position: Preferably with coil upwards
F300 Series

Solenoid valves for fluids - F3119
Brass body, with G connector (ISO228)1/4"

2-way normally closed servo-actuated piston solenoid valve 1/4"

---

**Example:** F3119BV52 => F3119BV52MG5:
2-way normally closed servo-actuated piston solenoid valve in brass with Connector G (ISO228) 1/4", Seals in FPM, Orifice 5.2 mm, Coil 24V DC (MG5, size 30).

---

**Operational characteristic**
- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Piston in Brass
- Guide slide in loaded PTFE
- Main shutter in PTFE
- Remaining sealing elements in FPM.
- OPTIONS (if requested):
  - Surface treatment in chemical nickel-plating

**Technical characteristic**
- Minimum differential pressure (bar) 1
- Maximum admitted pressure (bar) 40
- Maximum running pressure Versione /1 (bar) 60
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 to +55
- Ambient temperature: with class H coil (°C) -10 to +80
- Mounting position Preferably with coil upwards
- Weight (g) 630

---

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
Solenoid valves for fluids - F3119
Brass body, with G connector (ISO228)3/8” ÷ 1/2”

2-way normally closed, servo-actuated piston solenoid valve

The data in brackets refer to the MK Series coil

Example: F3119DV12MG5:
2-way normally closed servo-actuated piston solenoid valve in brass with Connector G (ISO228) 1/2”, Seals in FPM, Orifice 12 mm, Coil 24V DC (MG5, size 30).

Operational characteristic

- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Piston in Brass.
- Guide slide in loaded PTFE.
- Main shutter in PTFE.
- Remaining sealing elements in FPM.
- OPTIONS (if requested):
  - Surface treatment in chemical nickel-plating

Technical characteristic

- Minimum differential pressure (bar) 1
- Maximum admitted pressure (bar) 40
- Maximum running pressure Versione /1 (bar) 60
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature: with class F coil (°C) -10 +55
- Ambient temperature: with class H coil (°C) -10 +80
- Mounting position Preferably with coil upwards
- Weight (g) w/ MI Series Coil 630
- Weight (g) w/ MK Series Coil 710

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection G ISO 228</th>
<th>Orifice (mm)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption</th>
<th>Coil</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3119DV12</td>
<td>3/8”</td>
<td>12</td>
<td>2</td>
<td>30</td>
<td>AC</td>
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<td></td>
<td>30</td>
<td></td>
<td>DC</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td>VA</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td>Coil</td>
<td>MG</td>
</tr>
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<td>30</td>
<td></td>
<td>Size</td>
<td>30</td>
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<tr>
<td>F3119DV012</td>
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<td>2.2</td>
<td>30</td>
<td>AC</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td>DC</td>
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<td>VA</td>
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<td>Coil</td>
<td>MG</td>
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<td>30</td>
<td></td>
<td>Size</td>
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</tr>
<tr>
<td>F3119DV012</td>
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<td>12</td>
<td>2</td>
<td>50</td>
<td>AC</td>
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<td></td>
<td>VA</td>
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<td></td>
<td></td>
<td>30</td>
<td></td>
<td>Coil</td>
<td>MK</td>
</tr>
<tr>
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<td></td>
<td>30</td>
<td></td>
<td>Size</td>
<td>36</td>
</tr>
<tr>
<td>F3119DV012</td>
<td>1/2”</td>
<td>12</td>
<td>2.2</td>
<td>50</td>
<td>AC</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td>DC</td>
<td>30</td>
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<td>MK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
<td>Size</td>
<td>36</td>
</tr>
</tbody>
</table>
2-way normally closed servo-actuated piston solenoid valve for use with steam

Example: \[ F3119DW12/1 \rightarrow F3119DW12/1MG5: \]
2-way normally closed servo-actuated piston solenoid valve in brass with Connector G (ISO228) 1/2", Orifice 12 mm, Coil 24V DC (MG5, size 30).

**Pneumatic symbol**

**Diagram**

**Operational characteristic**
- Body and cover in Brass
- Guide pipe in Stainless Steel
- Mobile and fixed core in Stainless Steel
- Springs in Stainless Steel
- Piston in Stainless Steel
- Guide slide in loaded PTFE
- Sealing elements in PFTE/FPM

**Technical characteristic**
- Minimum differential pressure (bar): 0.5
- Ambient temperature: only with class H Coil (°C) -10 to +80
- Mounting position: Preferably with coil upwards
- Weight (g): 630

---

**CODE**

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection</th>
<th>Orifice (mm)</th>
<th>KV (l/min)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption (VA)</th>
<th>Coil</th>
<th>Temp. range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F3119DW12/1</td>
<td>G ISO 228</td>
<td>12</td>
<td>2,2</td>
<td>2.5</td>
<td>9</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>F3119DW12/1</td>
<td>1/2&quot;</td>
<td>12</td>
<td>2,2</td>
<td>2.5</td>
<td>9</td>
<td>20</td>
<td>15</td>
</tr>
</tbody>
</table>
2-way solenoid normally closed valve, direct plunger operation, with housing for potentially explosive environments certified: CESI 03 ATEX 344 Ex ll2G/D Eex "d" II C T6

Example: FX3106BV35

- FX3106BV35A60: 2-way solenoid normally closed valve, direct plunger operation, with housing for potentially explosive environments certified: CESI 03 ATEX 344 Ex ll2G/D Eex "d" II C T6, with Connector G (ISO228) 1/4", Seals in FPM, Orifice 3.5 mm, Coil 24V DC (A60).

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

**Operational characteristic**

- Brass Body
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM
- OPTIONS (if requested):
  - Manual operation
  - Surface treatment in chemical nickel-plating
  - Inserted stainless steel seating

**Technical characteristic**

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection</th>
<th>Orifice (mm)</th>
<th>KV (m³/h)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption</th>
<th>Temp. range (°C)</th>
<th>Coil</th>
</tr>
</thead>
<tbody>
<tr>
<td>FX3106BV35</td>
<td>G</td>
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<td>0.32</td>
<td>0</td>
<td>10</td>
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<td>FX3106BV45</td>
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<td>4.5</td>
<td>0.41</td>
<td>0</td>
<td>6.5</td>
<td>3.5</td>
<td>12</td>
</tr>
</tbody>
</table>

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
F300 Series
Solenoid valves for fluids - FX3106
Brass body, with G connector (ISO228)1/2"

2-way normally closed direct acting solenoid valve with housing for potentially explosive environments certified: CESI 03 ATEX 344 Ex12G/D Exx "d" IIC T6

Example: FX3106DV52

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

Operational characteristic
- Brass Body
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM

OPTIONS (if requested):
- Manual operation
- Surface treatment in chemical nickel-plating
- Inserted stainless steel seating

Technical characteristic
- Maximum admitted pressure (bar) 80
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature (°C) -10 +40
- Mounting position with coil upwards
- Weight (g.) 660

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
2-Way normally closed solenoid valve, servo-actuated diaphragm, with housing for potentially explosive environments certified: CESI 03 ATEX 344 Exil2G/D Eex “d” llC T6

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

Example: FX3107BV101

2-Way normally closed solenoid valve, servo-actuated diaphragm. with housing for potentially explosive environments certified: CESI 03 ATEX 344 Exil2G/D Eex “d” llC T6, with Connector G (ISO228) 1/4", Seals in FPM, Orifice 10 mm, Coil 24V DC (A60).

Pneumatic symbol

Operational characteristic
- Body and cover in Brass
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM
- OPTIONS (if requested):
  - Surface treatment in chemical nickel-plating
  - Version with slowed commutation

Diagram

Technical characteristic
- Minimum differential pressure (bar) 0,15
- Maximum admitted pressure (bar) 25
- Maximum fluid viscosity (mm²/s) 25cSt
- Ambient temperature (°C) -10 ÷ 40
- Mounting position Preferably with coil upwards

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
F300 Series

Solenoid valves for fluids - FX3110
Stainless Steel Body, with Connector G (ISO228) 1/4" ÷ 1/2"

2-Way normally closed direct acting solenoid valve with housing for potentially explosive environments certified: CESI 03 ATEX 344 Ex12G/D Ex "d" IIC T6

<table>
<thead>
<tr>
<th>CODE</th>
<th>Connection G ISO 228</th>
<th>Orifice (mm)</th>
<th>KV (m³/h)</th>
<th>Differential pressure (bar)</th>
<th>Power Consumption</th>
<th>Temp. range (°C)</th>
<th>Coil Ø AC Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>FX3110BV25</td>
<td>1/4</td>
<td>2.5</td>
<td>0.15</td>
<td>0 16 14 12 8</td>
<td>AC DC</td>
<td>-10 +130</td>
<td>ABB=24 Volt (AC 50/60Hz)</td>
</tr>
<tr>
<td>FX3110BV30</td>
<td>1/4</td>
<td>3.5</td>
<td>0.32</td>
<td>0 10 8 12 8</td>
<td>AC DC</td>
<td></td>
<td>ABB=220/230 Volt (AC 50/60Hz)</td>
</tr>
<tr>
<td>FX3110BV40</td>
<td>1/4</td>
<td>4.5</td>
<td>0.41</td>
<td>0 6.6 3.5 12 8</td>
<td>AC DC</td>
<td></td>
<td>ABB=24 Volt (DC)</td>
</tr>
<tr>
<td>FX3110CV25</td>
<td>3/8</td>
<td>3.5</td>
<td>0.32</td>
<td>0 10 8 12 8</td>
<td>AC DC</td>
<td></td>
<td>ABB=220 Volt (DC)</td>
</tr>
<tr>
<td>FX3110CV30</td>
<td>3/8</td>
<td>5.2</td>
<td>0.47</td>
<td>0 4 1.8 12 8</td>
<td>AC DC</td>
<td></td>
<td>ABB=24 Volt (DC)</td>
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<tr>
<td>FX3110CV40</td>
<td>1/2</td>
<td>3.5</td>
<td>0.32</td>
<td>0 10 8 12 8</td>
<td>AC DC</td>
<td></td>
<td>ABB=220 Volt (DC)</td>
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<tr>
<td>FX3110DS25</td>
<td>1/2</td>
<td>6.4</td>
<td>0.64</td>
<td>0 3.5 1 12 8</td>
<td>AC DC</td>
<td></td>
<td>ABB=24 Volt (DC)</td>
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</table>

N.B. The solenoid valve is suited for intercepting only fluids that are NOT potentially explosive.

Example: FX3110BV25 => FX3110BV25A60:
2-Way normally closed direct acting solenoid valve with housing for potentially explosive environments certified: CESI 03 ATEX 344 Ex12G/D Ex "d" IIC T6, with Connector G (ISO228), Orifice 2.5 mm, Coil 24V DC (A60).

Operational characteristic
- Stainless Steel Body
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM
- OPTIONS (if requested):
  - Advance ring in silver
Solenoid valves for fluids - FX3177

Body and cover in Stainless Steel, with Connector G (ISO228) 3/8" ÷ 1"

F300 Series

2-Way normally closed servo-actuated diaphragm solenoid valve in stainless steel AISI 316, with housing for potentially explosive environments certified: CESI 03 ATEX 344 ExdIIC T6

- Body and cover in Stainless Steel
- Container in light red coloured alloy
- Electrical connection 1/2" NPT
- Sealing elements in FPM

OPTIONS (if requested):
- Version with slowed commutation

Min. differential pressure (bar) 0.15
Maximum admitted pressure (bar) 25
Maximum fluid viscosity (mm²/s) 25cSt
Ambient temperature (°C) -10 ÷ +40
Mounting position Preferably with coil upwards

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
### MG Series coil (Size 30 mm), class F

<table>
<thead>
<tr>
<th>Ordering code</th>
<th>Voltage</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG</td>
<td>58=24 Volt (AC 50/60Hz)</td>
<td>Electrical connection via cables</td>
</tr>
<tr>
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<td>58=220/230 Volt (AC 50/60Hz)</td>
<td>Special voltages and powers.</td>
</tr>
</tbody>
</table>

**Operational characteristic**

<table>
<thead>
<tr>
<th>Class of insulation</th>
<th>Tolerance on AC voltage</th>
<th>Tolerance on DC voltage</th>
<th>Degree of protection with connector fitted</th>
<th>Continuous service</th>
<th>Electrical conn.</th>
<th>Connectors</th>
<th>Weight (g.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>+15% -10%</td>
<td>± 10%</td>
<td>IP65</td>
<td>ED100%</td>
<td>DIN 43650A</td>
<td>PG9 Code 10349000</td>
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</tr>
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</table>

### MI Series coil (Size 22 mm), class F

<table>
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<th>Ordering code</th>
<th>Voltage</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI</td>
<td>58=24 Volt (AC 50/60Hz)</td>
<td>Electrical connection via cables</td>
</tr>
<tr>
<td></td>
<td>58=220/230 Volt (AC 50/60Hz)</td>
<td>Special voltages and powers.</td>
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</table>

**Operational characteristic**

<table>
<thead>
<tr>
<th>Class of insulation</th>
<th>Tolerance on AC voltage</th>
<th>Tolerance on DC voltage</th>
<th>Degree of protection with connector fitted</th>
<th>Continuous service</th>
<th>Electrical conn.</th>
<th>Connectors</th>
<th>Weight (g.)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>± 10%</td>
<td>IP65</td>
<td>ED100%</td>
<td>DIN 43650A</td>
<td>PG9 Code 10349000</td>
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### MK Series coil (Size 36 mm), class H

<table>
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<th>Voltage</th>
<th>Options</th>
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<tbody>
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<td>MK</td>
<td>58=24 Volt (AC 50/60Hz)</td>
<td>Electrical connection via cables</td>
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**Operational characteristic**

<table>
<thead>
<tr>
<th>Class of insulation</th>
<th>Tolerance on AC voltage</th>
<th>Tolerance on DC voltage</th>
<th>Degree of protection without connector</th>
<th>Continuous service</th>
<th>Electrical conn.</th>
<th>Connectors</th>
<th>Weight (g.)</th>
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</thead>
<tbody>
<tr>
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### Coils 2G Ex mb IIC T4-T6; II2D Ex mb IIIC T85°C-T135°C (Size 30 mm), Class H

<table>
<thead>
<tr>
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<th>Voltage</th>
<th>Options</th>
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<tbody>
<tr>
<td>XME</td>
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<tr>
<td></td>
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<td>Special voltages and powers.</td>
</tr>
</tbody>
</table>

**Operational characteristic**

<table>
<thead>
<tr>
<th>Class of insulation</th>
<th>Tolerance on AC voltage</th>
<th>Tolerance on DC voltage</th>
<th>Degree of protection without connector</th>
<th>Continuous service</th>
<th>Electrical conn.</th>
<th>Weight (g.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>+15% -10%</td>
<td>± 10%</td>
<td>IP65</td>
<td>ED100%</td>
<td>3m cable.</td>
<td>250</td>
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Valve 2/2 N.C. - input below
Shutter seating inclined free from pipe knock

Pneumatic valve with inclined seating

Table of dimensions

<table>
<thead>
<tr>
<th>CODE</th>
<th>CODE</th>
<th>Connection</th>
<th>Actuator</th>
<th>C (mm)</th>
<th>R (mm)</th>
<th>K (mm)</th>
<th>Q (mm)</th>
<th>T (mm)</th>
<th>A (mm)</th>
<th>L (mm)</th>
<th>SW (mm)</th>
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Technical data

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<th>CODE</th>
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<th>Actuator (mm)</th>
<th>Maximum AP (bar)</th>
<th>Piloting pressure (bar)</th>
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</tbody>
</table>

Operational characteristics

- High flow rate thanks to Body configuration with inclined seating.
- Anti water hammer functioning with input below shutter.
- Pneumatically operated valve with stainless steel Body, resistant to ambient corrosion.
- Self-levelling shutter to ensure improved sealing.
- Optical position indicator.
- May be used with back pressure for gaseous fluids.
- Self-adjusting maintenance free stuffer gasket package.
- Valves may be mounted in all positions.

OPTIONS:
- Connection type: GAS ISO / NPT
- Other options:
  - Material: Stainless Steel AISI 316/304
  - Fluid temperature: -10°C to +80°C
  - Fluid viscosity: max. 600cSt.
  - Shutter: PTFE, FKM stuffer
  - Gasket packet with PTFE, FKM stuffer

Valve Body technical characteristics

- Material: Stainless Steel AISI 316/304
- Fluid temperature: -10°C to +80°C
- Fluid viscosity: max. 600cSt.
- Shutter: PTFE
- Gasket packet with PTFE, FKM stuffer

Actuator technical characteristics

- Body AISI 304
- Pilot fluid dry or lubricated Air, gas and neutral fluids.
- Temperature fluid max. + 60°C.
**T** body version Pad valves

---

### TABLE OF DIMENSIONS

<table>
<thead>
<tr>
<th>Connection</th>
<th>Non magnetic version</th>
<th>Magnetic version</th>
<th>TECHNICAL DATA</th>
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<tbody>
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<td>C</td>
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<tr>
<td>G2&quot;</td>
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<td>124</td>
<td>57</td>
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</table>

---

**Pad valves**

- Valves 2/2, made in NBR, FPM or PTFE. The barrel profile allows the use of Pneumax magnetic sensors series 1500 (see the Pneumax General catalogue, chapter 4).

---

**Operational characteristic**

- Rear eye, Piston and Rod bushing = Anodized aluminum
- Cylinder = Aluminum alloy Anodized
- Spring = Zinc plated steel
- Seals = NBR, FPM, PTFE
- Piston rod = Chromed stainless steel
- Bushing, Bushing pad, Nut pad = Brass

**Technical characteristic**

- Pneumatic cylinder fluid: Filtered and lubricated air
- Valve fluid: Compatible fluid with gasket compounds available
- Maximum working pressure (bar): 10
- Temperature °C (non magnetic piston, NBR seals): -5 / +70
- Temperature °C (non magnetic piston, FPM seals): -5 / +150
- Temperature °C (non magnetic piston, PTFE seals): -5 / +70
- Temperature °C (magnetic piston, NBR, FPM, PTFE seals): -5 / +70

---

**Actuator**

- SA=Normally open
- SC=Normally closed
- ST=Single acting (non magnetic)
- AT=Acting (magnetic)
- T=Double acting

**Seals**

- N=NBR
- F=FPM
- P=PTFE
Pad valves

**“Y” body version Pad valves**

[Diagram of Pad valves]

**TABLE OF DIMENSIONS**

<table>
<thead>
<tr>
<th>Connection (N)</th>
<th>Non magnetic version</th>
<th>Magnetic version</th>
</tr>
</thead>
<tbody>
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<td>G3/4”</td>
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<tr>
<td>G1”</td>
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<td>G2”</td>
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</table>

**TECHNICAL DATA**

- Actuator (Nominal Size): Valve (Q) Weight (gr.)

---

**Pad valves**

2-ways, are a reliable and economic solution to control fluid. Pneumatically actuated by a compact double or single acting cylinder with 360° revolving connections. Standard seals in contact with fluid are made in NBR, FPM or PTFE. The barrel profile allows the use of Pneumax magnetic sensors series 1500 (see the Pneumax General catalogue, chapter 4).

---

**Operational characteristic**

- Rear eye, Piston and Fluid bushing = Anodized aluminium
- Cylinder = Aluminium alloy Anodized
- Spring = 316c5 stainless steel
- Seals = NBR, FPM, PTFE
- Piston rod = Chromed stainless steel
- Bushing, Bushing pad, Nut pad = Brass

**Technical characteristic**

- Pneumatic cylinder fluid
- Valve fluid (F) Compatible fluid with gasket compounds available

**Pressures curves**

**DOUBLE ACTING CYLINDER**

**SINGLE ACTING CYLINDER, NORMALLY CLOSED VALVE**

**SINGLE ACTING CYLINDER, NORMALLY OPEN VALVE**

---

**Ordering code**

- **PVA.B.A.P.Y.P.P**
  - **ACTING**
    - DE=Double acting
    - SC=Normally closed
  - **PISTON**
    - N=Non magnetic
    - M=Magnetic
  - **CONNECTIONS**
    - A=G1/8”
    - C=G3/8”
    - D=G1/4”
    - S=G3/4”
    - T=G1”

---

<table>
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<tr>
<th>Seal types</th>
<th>Temperature °C (magnetic piston, NBR, FPM, PTFE seals)</th>
<th>Temperature °C (non magnetic piston, PTFE seals)</th>
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<tr>
<td>PTFE</td>
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---

Overall dimensions and information are provided solely for informative purposes and may be modified without notice.
Components for pneumatic automation

Solenoid valves for fluid

F300 Series