

2/2-WAY SOLENOID VALVE, DIRECT OPERATED, FLANGE VERSION



Description:

- 2/2-way valve in flange version
- poppet valve
- direct operated
- face-to-face length acc. to EN558-1, series 1
- female thread ISO228
- duty cycle 100% (VDE0580)
- installation position: with standing magnets
- flanges EN1092, PN16
- Cast iron and cast steel versions for corrosion protection with thick-film passivation
- Connector according to EN 175301-803 or terminal box (depending on the magnet type)

Application area:

- viscosity 22mm²/s
- media temperature -10°C to +80°C
- ambient temperature -10°C to +35°C
- operating pressure from 0 bar
- no difference pressure necessary
- IP65 (with correct installed connector plug) DIN EN 60529
- for hot and cold water, oil and air

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.

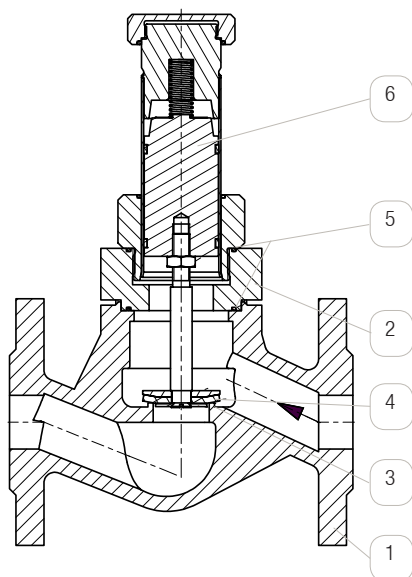
Attention! The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

Explanation:

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

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 GS 02 (28x28mm)** 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.

Thread ISO 228: The norm describes the thread connection of a parallel male thread with a parallel female thread and is marked with „G“.



| Pos. | Component | Cast iron | Cast steel | Stainless steel | Options |
|------|-----------|---|--------------------------------------|-----------------------------|-------------------|
| 1 | Body | EN-GJL-250 | L GP240GH | K 1.4581 | 0 |
| 2 | Cover | to DN40: brass from DN50: EN-GJL-250 | to DN40: brass from DN50: GP240GH | 1.4581 from DN65: 1.4408 | |
| 3+4 | Sealing | NBR | B NBR | B NBR | B FKM V EPDM E |
| 5 | O-Ring | NBR | NBR | NBR | |
| 6 | Plunger | 1.4104 | 1.4104 | 1.4104 | |

Wear parts:

- Spindle
- Valve disk
- Sealing
- Guide star
- Spindle
- Nut

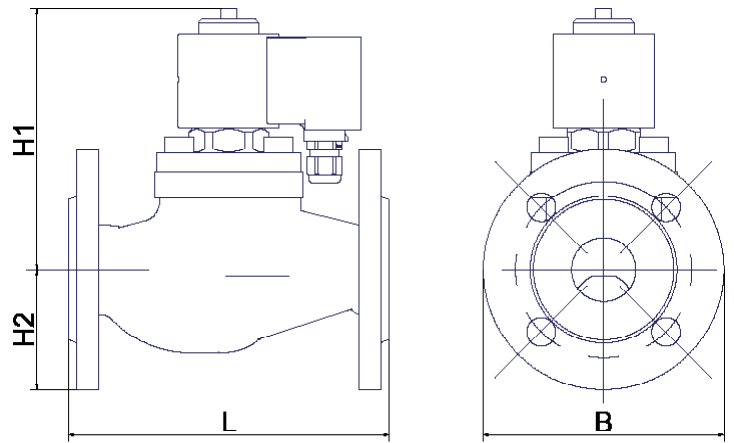
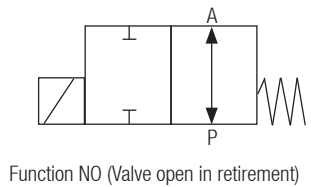
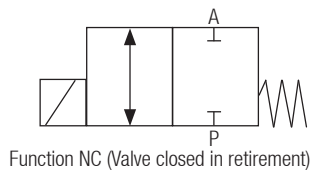
- Cap nut
- Sealing ring
- O-ring
- Pins
- Spring
- Tubus
- Coil
- Connector socket

For details about the order code see "Order information". An overview of the complete material code you can find at the beginning of each product section of the product catalogue.

Options:

- NO: opened in rest position
- HA: manual override
- TH: temperature version upto 180°C
- OF: free of oil and grease
- BU: non-ferrous metals
- PS: position indication
- EX: ATEX EXII 2G EEX md IIc T4, T5, T6
- CV: case chemical nickel-plated
- HB: semi automatic
- NPT: pipe thread ANSI B 1.20.1

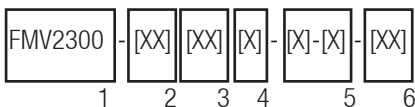
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| Matchcode | Size [inch] | Nomi- nal size [mm] | Operating pressure [bar] | | L [mm] | H1 [mm] | H2 [mm] | B [mm] | Weight [kg] | Kv* [m ³ /h] | Power coil | |
|-----------------------|----------------|---------------------------|--------------------------|------|-----------|------------|------------|-----------|----------------|----------------------------|----------------------------|------|
| | | | min. | max. | | | | | | | AC* | DC |
| FMV2300-52xx150-G07-x | DN15 | 15 | 0 | 0,4 | 130 | 165 | 47,5 | 95 | 3,6 | k.A. | | 25W |
| FMV2300-53xx150-G07-x | DN20 | 20 | 0 | 0,35 | 150 | 170 | 52,5 | 105 | 4,2 | k.A. | | 25W |
| FMV2300-54xx150-G07-x | DN25 | 25 | 0 | 0,4 | 160 | 220 | 57,5 | 115 | 6,5 | k.A. | | 30W |
| FMV2300-55xx150-G07-x | DN32 | 32 | 0 | 0,25 | 180 | 220 | 70 | 140 | 8 | k.A. | | 30W |
| FMV2300-56xx150-G07-x | DN40 | 40 | 0 | 0,1 | 200 | 230 | 75 | 150 | 10 | k.A. | | 30W |
| FMV2300-57xx150-G07-x | DN50 | 50 | 0 | 0,1 | 230 | 270 | 82,5 | 165 | 16,3 | k.A. | with sepearte rectifier | 46W |
| FMV2300-58xx150-G07-x | DN65 | 65 | 0 | 0,15 | 290 | 300 | 92,5 | 185 | 21,2 | k.A. | | 100W |
| FMV2300-59xx150-G07-x | DN80 | 80 | 0 | 0,1 | 310 | 370 | 100 | 200 | 36 | k.A. | | 100W |
| FMV2300-60xx150-G07-x | DN100 | 100 | 0 | 0,15 | 350 | 390 | 110 | 220 | 46,5 | k.A. | | 150W |
| FMV2300-61xx150-G07-x | DN125 | 125 | 0 | 0,08 | 400 | 420 | 125 | 250 | 64,5 | k.A. | | 150W |
| FMV2300-62xx150-G07-x | DN150 | 150 | 0 | 0,05 | 480 | 600 | 142,5 | 285 | 128 | k.A. | | 150W |
| FMV2300-63xx150-G07-x | DN200 | 200 | 0 | 0,1 | 600 | 610 | 170 | 340 | 210 | k.A. | | 250W |

*Power coil AC: Declared are the power suit and the holding power.

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



Appointment details:

1: Basistype: FMV2300

2: Connection size: 52-63 (see chart)

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.