

2/2-WAY SOLENOID VALVE, PILOT-OPERATED IN PISTON DESIGN



Description:

- 2/2-way valve
- piston design
- pilot-operated
- female thread acc. to ISO228
- duty cycle 100% (VDE0580)
- any installation position, upright solenoid position recommended
- connector according to EN 175301-803

Range of application:

- viscosity 22mm²/s
- media temperature -10°C to +80°C
- ambient temperature -10°C to +35°C
- working pressure 1 (0,5) - 40bar (bis 25bar with ATEX-coil)
- The minimum pressure is necessary for pressure difference
- IP65 (with a professionally installed connector socket according to DIN40050)
- 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.

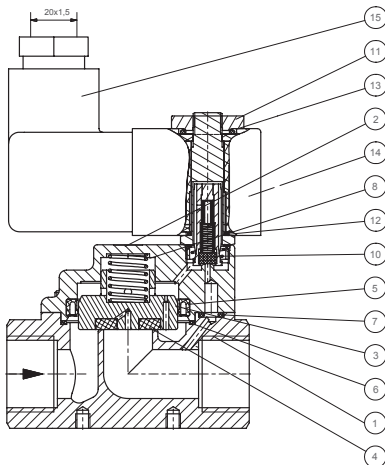
Comments:

Only minor solenoid force is required, because a pilot hole uses the pressure difference.

Smaller sizes are upgradable. **Voltage tolerance +10% / -10%** at maximum pressure and standard ambient temperature. Please note the **flow direction** (marked with arrow on the body) during installation

Types with other voltage, coil power or sealing on request! These can be found in the catalog under "spare parts and accessories". Included is the **connector socket GS02 (28x28mm)**. Further connector sockets can be found in the catalog under "square parts and accessories". **Higher protection class** than IP65 with special coils and connector sockets is possible on request.

Threads according to EN 228: It describes the threaded connection of a parallel male thread with a parallel female thread and is marked with "G".



pos.	part	brass		stainless steel		optional material	
1	body	CW617N	A	1.4581	0		
2	cover	CW617N		1.4581			
4	seat sealing	PTFE		PTFE			
6+7	O-Ring (body/cover)	NBR	B	NBR	B	FKM*	V
	O-Ring (servo hole)					EPDM*	E
						PTFE	T
12/13	O-Ring (top/under coil)	FKM		FKM		-	
-	plunger	1.4104		1.4104			
-	O-Ring (close muting)	NBR		NBR		FKM*	
						EPDM*	
						PTFE	

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.

Wear parts can vary depending on the version. Available are a **service-set** including a complete piston and a **sealing set** WITHOUT piston and seat seal.

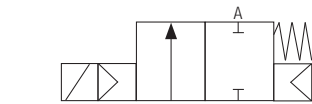
*Other medium temperature for optional sealing:

- EPDM up to max. 120°C (a high temperature solenoid may be necessary)
- FKM up to max. 130°C (a high temperature solenoid may be necessary)

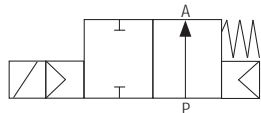
Optionen:

- NO: opened in rest position, with coil G06
- HA: manual override
- TH: high temperature design up to +130°C
- high temperature design up to +200°C
- AA: sealed plunger
- OF: free of oil and grease
- BU: free of non-ferrous metal
- PS: positioning indicator (from 3/4")
- EX: EXII 2G EEx m II T4
EXII 2G EEx em II T4
EXII 2G EEx emb II T4
- CV: chemically nickel plated body
- NPT: pipe thread ANSI B 1.20.1
- GM: basic quantity setting

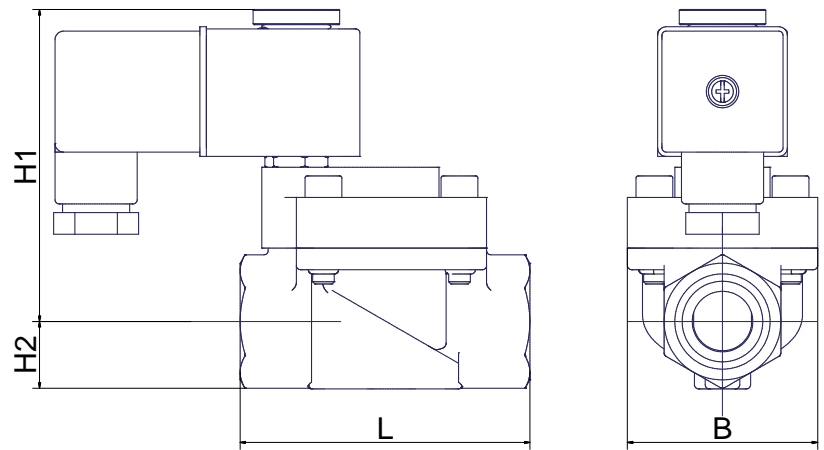
2/2-WAY SOLENOID VALVE, PILOT-OPERATED IN PISTON DESIGN



function NC (normally closed valve)



function NO (normally opened valve)



match code	size [inch]	no- nominal size [mm]	working pres- sure [bar]		coil type				L [mm]	H1 [mm]			H2 [mm]	B [mm]	weight [kg]				CV** [m³/h]
			min.*	max.	NC		NO	NC		NO	NC				NO				
					MS	VA		EX			MS	VA / EX				MS	VA / EX		
GMV5100-02xx130-Gxx-x	1/4	13,5	1 (0,5)	40	G02	G04	G20	G06	67	72	115	130	16	50	0,57	1,4	1,6	1,8	
GMV5100-03xx130-Gxx-x	3/8	13,5	1 (0,5)	40	G02	G04	G20	G06	67	72	115	130	16	50	0,57	1,4	1,6	4	
GMV5100-04xx130-Gxx-x	1/2	13,5	1 (0,5)	40	G02	G04	G20	G06	67	72	115	130	16	50	0,57	1,4	1,6	4,5	
GMV5100-05xx250-Gxx-x	3/4	27,5	1 (0,5)	40	G02	G04	G20	G06	96	87	125	140	25	70	1,3	2,8	3	11,5	
GMV5100-06xx250-Gxx-x	1	27,5	1 (0,5)	40	G02	G04	G20	G06	96	87	125	140	25	70	1,3	2,8	3	13	
GMV5100-07xx400-Gxx-x	1 1/4	40	1	40	G04	G04	G20	G06	140		140	155	32	96	3,7	3,7	3,9	29	
GMV5100-08xx400-Gxx-x	1 1/2	40	1	40	G04	G04	G20	G06	140		140	155	32	96	3,7	3,7	3,9	33	

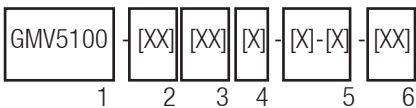
* **working pressure:** information in parentheses = minimum working pressure for brass design (with small coil G02)

****CV-value:** The nominal flow rate CVs acc. to VDI/VDE 2173 shows the water quantity in cubic meter per hour with the valve fully opened, $\Delta p=1$ and the water temperature between 5°C and 30°C.

*****solenoid power for AC:** listed are the pick-up power and the holding power..

coil type	AC***	DC
G02	7,5VA / 10,5VA	6,8W
G04	43VA / 24VA	18,5W
G06	via rectifier plug	25W
G20	9VA	10W

Order information:



1: type: GMV5100

2: connection size: 02-09 (see table)

3: materials:

- 1. digit: body material
A=brass
O=stainless steel
- 2. digit: sealing
B=NBR (standard)
E=EPDM
V=FKM

4. Stelle: nominal size in 1/10mm (see table)

5: operation:

- 1. digit (3 digits): specification solenoid type (see table / options)
- 2. digit: specification voltage:
0: 230V AC
1: 24V DC
2: 110V AC (on request)
Other voltage on request.

6: options (see „options“)

Please ask for field specifications that are not listed in this data sheet!

Before installation please consider the installation and maintenance manual, especially the safety indications!

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.