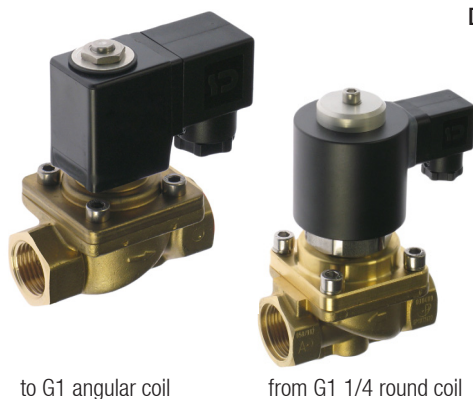


## 2/2-WAY SOLENOID VALVE, FORCE PILOT OPERATED IN DIAPHRAGM DESIGN



to G1 angular coil

from G1 1/4 round coil

**Description:**

- 2/2-way valve
- seat valve in diaphragm design
- force pilot operated
- female thread acc. to ISO228
- duty cycle 100% (VDE0580)
- installation position with upright solenoid
- high product variety
- equipped with adjustable close muting from 11/4"
- connector plug acc. to EN 175301-803 or terminal box (depending on the solenoid design)

**Range of application:**

- viscosity 22mm<sup>2</sup>/s
- high flow rate
- medium temperature -10°C up to +80°C
- ambient temperature: -10°C up to +35°C
- working pressure 0 up to 12bar (higher working pressure on request)
- IP65 (with a professionally installed connector socket) according to DIN EN 60529
- for hot and cold water, oil and air
- no pressure difference required
- also applicable in closed systems

**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.

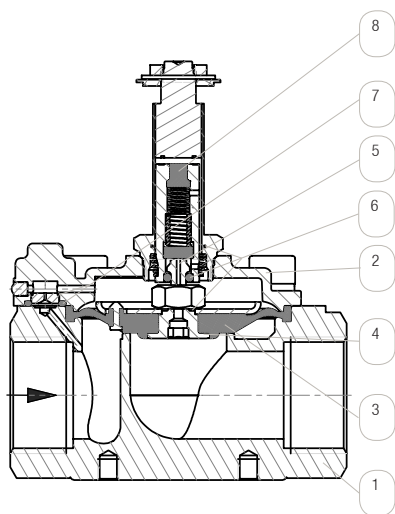
**Attention!** The conditions imposed on the Ex approvals lead to reduction of the permissible standard temperature ranges in the cases of explosion protected solenoids.

**Comments:**

The valve is equipped with an adjustable **close muting from size 1 1/4"**. Smaller sizes from 3/4" 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. A type for installation with horizontal solenoid is available on request.

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 "spare parts and accessories". **Higher protection class** than IP65 is possible with special coils and connector sockets. A Type for installation **with horizontal solenoid** is available 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	O		
2	cover	CW617N		1.4581			
3	diaphragm	NBR	B	NBR	B	EPDM* FKM*	E V
4	guide star (from 1 1/4")	CW617N		1.4571			
5	pilot spindle	1.4104		1.4571			
6	o-ring	NBR		NBR		EPDM / FKM	
7	o-ring (adj. close muting)	NBR		NBR		EPDM / FKM	
8	plunger	1.4104		1.4104			

**Wear parts (can vary depending on the valve design):**

- pilot seat
- diaphragm
- guide star
- pilot spindle
- cap nut
- o-ring
- hexagon-nut
- spring
- tube
- plunger
- plunger spring
- solenoid
- connector plug

\* **Other medium temperature** for optional sealing possible:

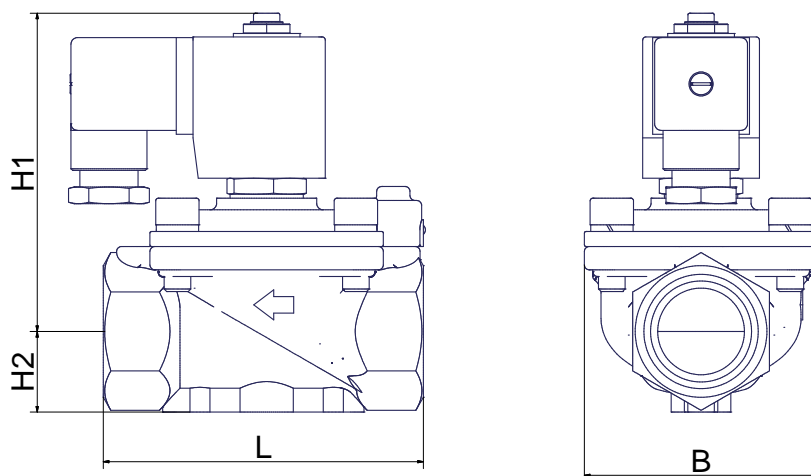
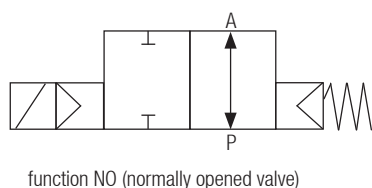
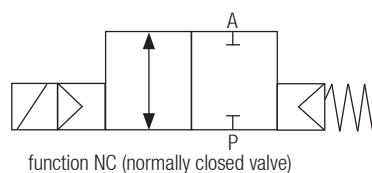
- EPDM up to max. 120°C (a high temperature solenoid may be necessary)
- FKM up to max. 130°C (a high temperature solenoid may be necessary)

**options:**

- NO: opened in rest position
- HA: manual override
- RS: adjustable close muting (1/2"-1")
- TH: high temperature design up to 130°C
- AA: sealed plunger
- OF: free of oil and grease
- BU: free of non-ferrous metal
- PS: position indicator from 3/4" with solenoid G08
- EX: explosion protection acc. to ATEX:
  - Ex II 2G EEx m II T4
  - Ex II 2G EEx em II T4
  - Ex II 2G Ex emb II T4
  - Ex II 2G EEx md IIc T4/T5
- CV: chemically nickel plated body
- NPT: pipe thread ANSI B 1.20.1

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.

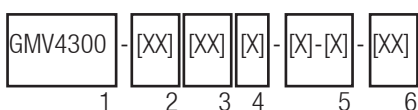
## 2/2-WAY SOLENOID VALVE, FORCE PILOT OPERATED IN DIAPHRAGM DESIGN



match code	size [inch]	nominal size [mm]	working pressure [bar]		L [mm]	H1 [mm]	H2 [mm]	B [mm]	weight [kg]	CV* [m³/h]	solenoid power	
			min.	max.							AC*	DC
GMV4300-02xx135-G04-x	1/4	13.5	0	12	67	107	15	44	1	n/a	43 / 24VA	18.5W
GMV4300-03xx135-G04-x	3/8	13.5	0	12	67	107	15	44	1	n/a	43 / 24VA	18.5W
GMV4300-04xx135-G04-x	1/2	13.5	0	12	67	107	15	44	1	n/a	43 / 24VA	18.5W
GMV4300-05xx275-G04-x	3/4	27.5	0	10	96	117	13	70	1.6	n/a	43 / 24VA	18.5W
GMV4300-06xx275-G04-x	1	27.5	0	10	96	117	13	70	1.6	n/a	43 / 24VA	18.5W
GMV4300-07xx400-G08-x	1 1/4	40	0	10	140	175	33	96	4.5	n/a	with separate rectifier	30W
GMV4300-08xx400-G08-x	1 1/2	40	0	10	140	175	33	96	4.5	n/a	with separate rectifier	30W
GMV4300-09xx500-G08-x	2	50	0	6	168	207	35	112	6.5	n/a	with separate rectifier	30W
type with working pressure 16bar:												
GMV4300-02xx135-G07-x	1/4	13.5	0	16	67	114	13	44	1	1.8		25W
GMV4300-03xx135-G07-x	3/8	13.5	0	16	67	114	13	44	1	3.6		25W
GMV4300-04xx135-G07-x	1/2	13.5	0	16	67	114	13	44	1	3.9		25W
GMV4300-05xx275-G07-x	3/4	27.5	0	16	96	122	23	70	1.8	10.8	with separate rectifier	25W
GMV4300-06xx275-G07-x	1	27.5	0	16	96	122	23	70	1.8	13	with separate rectifier	25W
GMV4300-07xx400-G09-x	1 1/4	40	0	16	140	200	33	96	6.5	22		46W
GMV4300-08xx400-G09-x	1 1/2	40	0	16	140	200	33	96	6.5	25		46W
GMV4300-09xx500-G09-x	2	50	0	16	168	207	35	112	6.5	30		46W

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

\*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.



## Order information:

1: type: GMV4300

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

5: operation

- 1. digit (3 char.): specification of solenoid type (see table / options)
- 2. digit: specification of 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.