

Diaphragm Valve, Plastic/Metal

Construction

GEMÜ S680 *SilverLine*® is a plastic or metal diaphragm valve with a motorized actuator which is used to control liquid and gaseous media in production or automated processes. The motorized actuator with its limit switches is separated from the medium wetted part of the valve via a shut off diaphragm.

The 24V DC motor is switched off internally when it is in the closed or fully open position. Its innovative design makes this valve a low cost motorized on/off valve.

Features

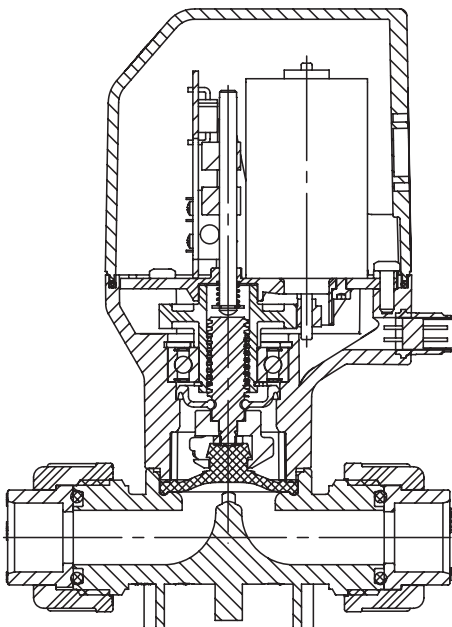
- Compact design with few components
- Low weight
- Corrosion resistant materials
- High flow rates
- Complies with the French drinking water standard ACS, medium wetted parts with PVC-U body and EPDM diaphragm
- Valve body and diaphragm available in various materials and designs

Advantages

- Excellent price-performance ratio
- Insensitive to particulate media
- Motorized diaphragm valve alternative for applications without compressed air supply
- Low energy consumption - the actuator switches off after reaching the end positions and therefore no more power is consumed
- Optional flow direction and mounting position



Sectional drawing



Technical data

Working medium

Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and diaphragm material.

Media temperature

Valve body in polypropylene, PP 0° to 60°C

Valve body in PVC-U 5° to 60°C

Valve body in brass, MS 0° to 60°C

Maximum permissible temperature of working medium see data sheet "Technical Information on Plastic Materials".

Operating conditions

Ambient temperature 0° to 40° C

Storage temperature, T_u 0° to 40° C

General information

Protection class to EN 60529 IP 65

Weight See table

Dimensions L x W x H See dimensional drawing

Flow direction Optional

Mounting position Optional

Electrical data

Power supply* 24V DC ± 15%

Power consumption acc. to VDE 0580 approx. 36 W

Rating Continuously rated

*Other voltages on request

Actuator material

Housing cover PP 30 glass reinforced

Housing base PP 30 glass reinforced

Operating time

DN 10 and 15 0.5 s

DN 20 and 25 1.0 s

Directives

EC low voltage directive 2006/95/EC

EMC directive 2004/108/EC

Interference emission EN 61000-6-4

Interference resistance EN 61000-6-2

Pressure / temperature correlation

Temperature in °C (body)		5	10	20	25	30	40	50	60
Valve body material		Permissible operating pressure in bar							
PVC-U	Code 1	10.0	10.0	10.0	10.0	8.0	6.0	3.5	1.5
PP	Code 5	10.0	10.0	10.0	10.0	8.5	7.0	5.5	4.0
Brass	Code 12	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0

Data for extended temperature ranges on request.

Please note that the ambient temperature and medium temperature generate a combined temperature at the valve body which must not exceed the above values.

DN	MG	Max. operating pressure		Kv value [m ³ /h]	Weight [kg]		
		Diaphragm material EPDM	NBR		PVC-U	PP	Brass
10	15	6 bar		4.5	0.66	0.66	-
15				4.5	0.66	0.66	0.9
20	15.5			1.30	1.30	1.8	
25	17.7			1.30	1.30	1.8	

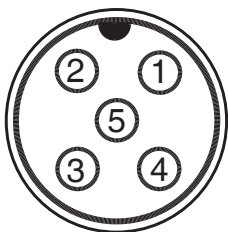
Kv values determined acc. to IEC 534 standard, PP valve body with union ends and DIN insert.

MG = diaphragm size

Seal material for valve bodies with union ends

Diaphragm material	O-ring material
EPDM	EPDM
NBR	

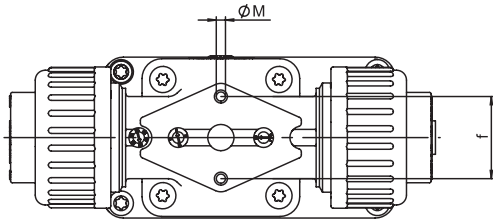
Electrical connection



Connection diagram / PIN assignment

Pin	Signal name
1	L+, direction of travel OPEN
2	GND, direction of travel OPEN
3	L+, direction of travel CLOSED
4	GND, direction of travel CLOSED
5	n.c.

Dimensions [mm]



Plastic diaphragm valve, bottom view

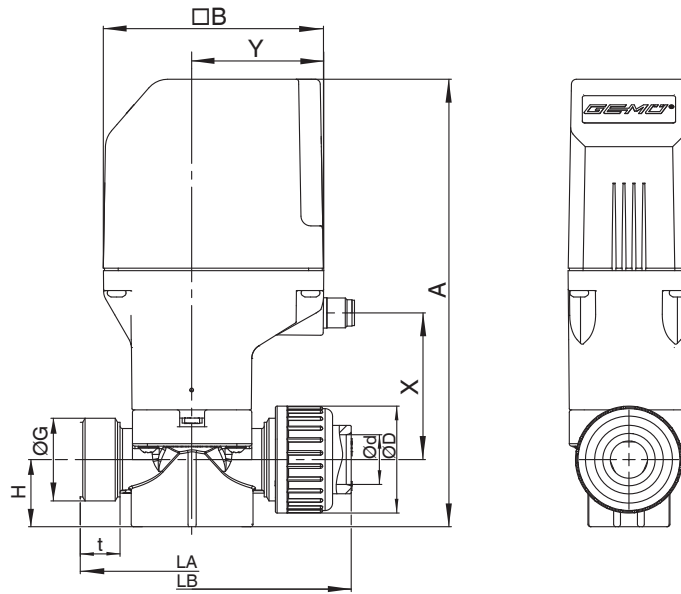
DN	f	øM
10 - 25	25	2.8

Valve body material: PVC-U (code 1), PP (code 5); connection code 7, 7X

DN	A	□ B	ød	øD	øG	t	LA	LB		X	Y
								PVC-U**	PP**		
10*	153	89 x 49	16	43	G 1	16	90	128	125	59.0	53.0
15	153	89 x 49	20	43	G 1	16	90	128	125	59.0	53.0
20*	208	111 x 68	25	60	G 1 1/2	15	116	160	154	85.2	63.8
25	208	111 x 68	32	60	G 1 1/2	15	116	166	158	85.2	63.8

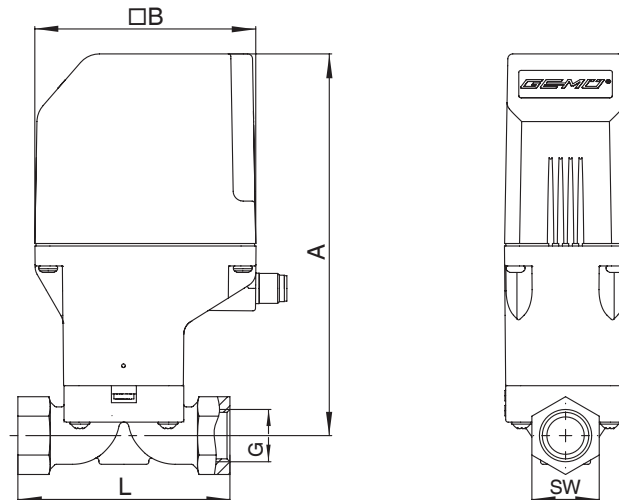
* Only available with union ends incorporating a reducing socket

**Insert material



Valve body material: Brass (code 12); connection code 1

DN	A	□ B	G	L	SW
15	153	89 x 49	G 1/2	85	27
20	208	111 x 68	G 1	110	32
25	208	111 x 68	G 1	110	41



For materials see overview on page 4

Order data

Body configuration	Code
2/2-way body	D

Connection	Code
Threaded sockets DIN ISO 228	1*
Union ends with DIN insert (socket)	7
Body with threaded spigots for unions (without union nut, insert and O-ring)	7X
* only available with valve body material code 12	

Valve body material	Code
PVC-U	1*
PP-R-GR, (reinforced polypropylene)	5*
MS, brass	12
* only with connection code 7 and 7X	

Diaphragm material	Code
NBR	2
EPDM	14
Other diaphragm materials on request	

Supply voltage	Code
24V DC	C1

Union insert material	Code
PVC-U	1
PP	5
Without insert	X
Medium wetted parts (except seal materials) are always made of the same material as the valve bodies.	

Order example	S680	15	D	7	1	14	C1	1
Type	S680							
Nominal size		15						
Body configuration (code)			D					
Connection (code)				7				
Valve body material (code)					1			
Diaphragm material (code)						14		
Supply voltage (code)							C1	
Union insert material (code)								1

Overview of valve bodies for GEMÜ S680

Connection code	1	7		7X	
Material code	12	1	5	1	5
DN 10	-	X	X	-	-
DN 15	X	X	X	X	X
DN 20*	X	X	X	-	-
DN 25*	X	X	X	X	X

SilverLine® Angle seat globe and diaphragm valves



GEMÜ S580 SilverLine®
motorized, DN 10 - 25



GEMÜ S647 SilverLine®
pneumatically operated
DN 20 - 50



GEMÜ S660 SilverLine®
pneumatically operated
DN 10 - 50



GEMÜ S670 SilverLine®
manually operated
DN 10 - 50



GEMÜ S560 SilverLine®
pneumatically operated
DN 10 - 50

Also available in PP or brass (PVC-U on request)

For further valves, accessories and other products, please see our Product Range catalogue and Price List. Contact GEMÜ.



GEMÜ® VALVES, MEASUREMENT
AND CONTROL SYSTEMS

Should there be any doubts or misunderstandings, the German version of this data sheet is the authoritative document!

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Technical data sheet