

## Diaphragm Valve, Plastic/Metal

### Construction

GEMÜ S680 *SilverLine*® is a plastic or metal diaphragm valve with a motorized actuator and optical position indicator 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 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.

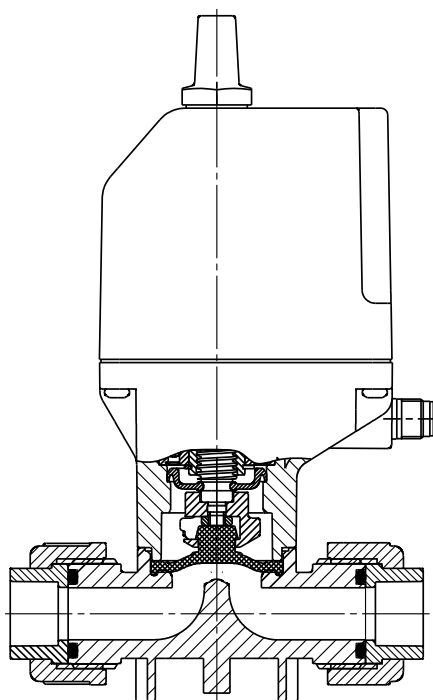
### Features

- 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
- Optical position indicator as standard

Sectional drawing



**GEMÜ® S680**  
**SilverLine®**

## 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.

### Working medium temperature

Valve body PVC-U	10 to 60 °C
Valve body PP-R-GR, (reinforced polypropylene)	5 to 60 °C
Valve body MS, brass	0 to 60 °C
The permissible operating pressure depends on the working medium temperature.	

### Ambient temperature

Valve body PVC-U	10 to 60 °C
Valve body PP-R-GR, (reinforced polypropylene)	5 to 60 °C
Valve body MS, brass	0 to 60 °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*	24 V DC ± 15 %
Rated current consumption	
DN10 and DN15	1.9 A
DN20 and DN25	1.6 A
Start-up current consumption, momentary	
DN10 and DN15	3.9 A
DN20 and DN25	3.6 A
Rating	dependent on operating conditions
Electrical connection	M12 5-pin plug (A-coded)
*Other voltages on request	

### Actuator material

Housing cover	PP 30 glass reinforced
Housing base	PP 30 glass reinforced

### Operating time

DN 10 and 15	0.3 s
DN 20 and 25	1.6 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)		0	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	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	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.

Note: The valve is not suitable for vacuum applications.

		Max. operating pressure	Kv value	Weight [kg]		
MG	DN	[bar]	[m³/h]	Valve body material		
				PVC-U	PP	Brass
15	10	6	4.5	0.66	0.66	-
	15		4.5	0.66	0.66	0.9
25	20		17.7	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.

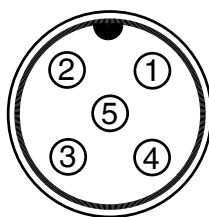
MG = diaphragm size

### Seal material for valve bodies with union ends

Diaphragm material	O-ring material
EPDM, NBR	EPDM
PTFE	FPM

## Electrical connection

### Connection diagram / PIN assignment



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

## Order data

Body configuration	Code
2/2-way body	D

Connection	Code
Threaded sockets DIN ISO 228 (brass)	1
Union ends with DIN insert (socket)	7
Union ends with inch insert (socket)	33 <sup>1</sup>
Union ends with DIN insert (for IR butt welding)	78 <sup>2</sup>
Body with threaded spigots for unions (without union nut, insert and O-ring)	7X
only for union insert material: <sup>1</sup> PVC-U, <sup>2</sup> PP	

Valve body material	Code
PVC-U	1
PP-R-GR, (reinforced polypropylene)	5
CW617N, brass (only with connection code 1)	12

Diaphragm material	Code
NBR	2
EPDM	14
PTFE (only body material PVC-U)	52

Supply voltage	Code
24 V DC	C1
Other supply voltages on request	

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

## Dimensions [mm]

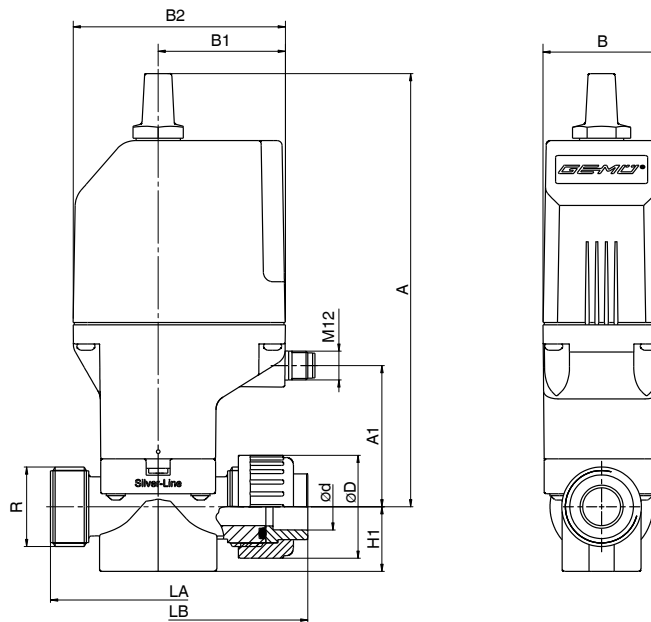
### Valve body material: PVC-U (code 1), PP (code 5); connection code 7, 7X, 33

DN	A	A1	B	B1	B2	H1	7X		7, 33		7		33
							LA	R	ød	øD	LB		
											PVC-U**	PP**	PVC-U**
10*	181	59.0	49	65.5	101	27	90	G 1	16	43	128	125	-
15	181	59.0	49	65.5	101	27	90	G 1	20	43	128	125	128
20*	230	85.2	68	75.5	123	31	116	G 1 ½	25	60	160	154	160
25	230	85.2	68	75.5	123	31	116	G 1 ½	32	60	166	158	166

\* Only available with union ends incorporating a reducing socket

\*\*Insert material

For materials see overview on page 6

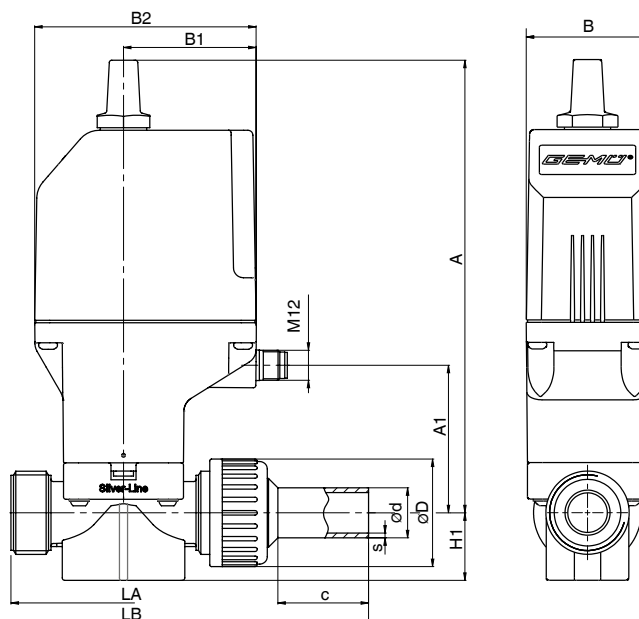


### Valve body material: PVC-U (code 1), PP (code 5); connection code 78

DN	A	A1	B	B1	B2	H1	LB	ød	øD	c	s
15	181	59.0	49	65.5	101	27	90	20	43	36	1.9
20*	230	85.2	68	75.5	123	31	234	25	60	37	2.3
25	230	85.2	68	75.5	123	31	234	32	60	39	3.0

\* Only available with union ends incorporating a reducing socket

For materials see overview on page 6

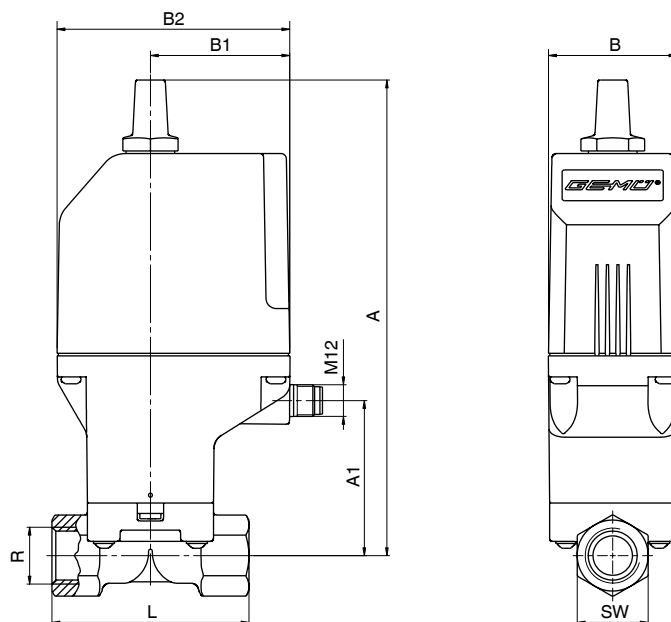


## Dimensions [mm]

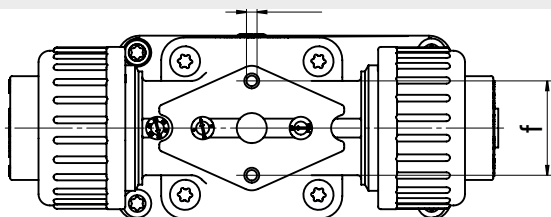
Valve body material: Brass (code 12); connection code 1

DN	A1	B	B1	B2	A	L	SW	R
15	59.0	49	65.5	101	181	75	27	G 1/2
20	88.7	68	75.5	123	234	95	32	G 3/4
25	88.7	68	75.5	123	234	110	41	G 1

For materials see overview on page 6



## Mounting dimensions [mm]



Plastic diaphragm valve, bottom view

DN	f	M
10 - 25	25	2.8

## Overview of valve bodies for GEMÜ S680

Connection code	1	7	7X	33	78
Material code	MS (Code 12)	PVC-U (Code 1), PP (Code 5)			
DN 10	-	X	-	-	-
DN 15	X	X	X	X	X
DN 20	X	X	-	X	X
DN 25	X	X	X	X	X

## Accessories



**GEMÜ 1219**  
Cable socket M12  
1219 000 Z ...



**GEMÜ 1215**  
Electrical position  
indicator with  
micro switches



**GEMÜ 1230**  
Electrical position  
indicator with  
micro switches



**GEMÜ 1235**  
Electrical position  
indicator with optical  
position feed-back  
via high visibility LEDs

## SilverLine® Angle seat globe and diaphragm valves



**GEMÜ S560 SilverLine®**  
pneumatically operated  
DN 10 - 50

**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

For further valves, accessories and other products,  
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Contact GEMÜ.

**GEMÜ®** VALVES, MEASUREMENT  
AND CONTROL SYSTEMS

