

GEMÜ SUHK SUMONDO

Manually operated single-use diaphragm valve



Features

- Tried-and-tested, reliable actuator design (remains in system)
- Hermetic separation between medium and actuator
- Impact resistant, corrosion resistant
- Continuous minimum flow regulation thanks to closing stroke limiter
- Integral optical position indicator
- Autoclavable actuator

Description

The single-use diaphragm valve body of the GEMÜ SUMONDO single-use diaphragm valve has a hermetic sealing through an internally welded diaphragm. For installation, the single-use diaphragm valve body is secured on the pneumatic stainless steel actuator or on the manual actuator and is locked using locking pins. After use, the single-use diaphragm valve body can be removed from the actuator along with the diaphragm and disposed of. The actuators can be used multiple times.

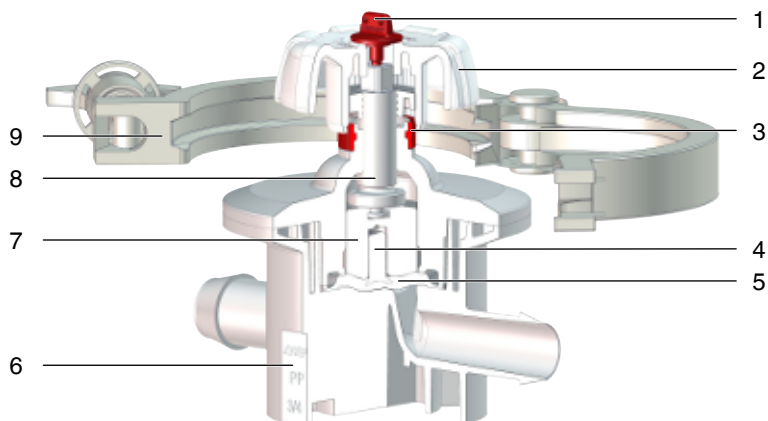
Technical specifications

- Nominal sizes : 1/4" (DN8) to 1" (DN25)
 - Media temperature: 5 to 40 °C
 - Ambient temperature: 0 to 40 °C
 - Connection types *: Clamp | Hose barb
 - Body materials: PP-R, natural
 - Diaphragm materials: TPE
 - Conformities: EAC | USP
- * depending on version and/or operating parameters
- Operating pressure*: 0 to 4,9 bar



Product description

Construction



Item	Name	Materials
1	Special screw	PVDF
2	Handwheel	PVDF
3	Optical position indicator	PES
4	Diaphragm pin	PP-R
5	Diaphragm	TPE
6	Valve body	PP-R
7	Compressor	PVDF
8	Threaded spindle	PEEK
9	Tri-clamp	PA-glass reinforced

Availability

Diaphragm size Code	2/2-way body		T body		Angle valve body, right
	Hose barb	Clamp connection	Hose barb	Clamp connection	Hose barb
B	1/4"	-	-	-	-
	3/8"	-	3/8"	-	3/8"
	1/2"	-	1/2"	-	1/2"
C	1/2"	-	-	-	-
	3/4"	3/4"	3/4"	3/4"	-
	1"	1"	1"	1"	-
D	3/4"	3/4"	-	-	-
	1"	1"	-	-	-

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Manual operator SUHK

Order codes

1 Type	Code
Manual operator, plastic version	SUHK

2 Diaphragm size	Code
Diaphragm size B	B
Diaphragm size C	C
Diaphragm size D	D

3 Diaphragm mounting	Code
Pin	G

4 Control function	Code
Manually operated	0

5 Actuator size	Code
Actuator size 1WR	1WR

Order example SUHK

Order option	Code	Description
1 Type	SUHK	Manual operator, plastic version
2 Diaphragm size	B	Diaphragm size B
3 Diaphragm mounting	G	Pin
4 Control function	0	Manually operated
5 Actuator size	1WR	Actuator size 1WR

Diaphragm valve body SUB**Order codes**

1 Type	Code
Single-use body	SUB

2 Diaphragm size	Code
Diaphragm size B	B
Diaphragm size C	C
Diaphragm size D	D

3 Connection size 1	Code
1/4" (DN 8)	8
3/8" (DN 10)	10
1/2" (DN 15)	15
3/4" (DN 20)	20
1" (DN 25)	25

4 Body configuration	Code
2/2-way body	D
Angle valve body, right	R
T body	T

5 Connection	Code
Clamp connection similar to ASME-BPE	CA
Hose barb	HB

6 Body material	Code
PP-R, natural	B8

7 Diaphragm material	Code
TPE	K8

8 Connection size 2	Code
1/4" (DN 8)	8
3/8" (DN 10)	10
1/2" (DN 15)	15
3/4" (DN 20)	20
1" (DN 25)	25

9 Connection of spigot 2	Code
Clamp connection similar to ASME-BPE	CA
Hose barb	HB

Order example SUB

Order option	Code	Description
1 Type	SUB	Single-use body
2 Diaphragm size	B	Diaphragm size B
3 Connection size 1	10	3/8" (DN 10)
4 Body configuration	T	T body
5 Connection	HB	Hose barb
6 Body material	B8	PP-R, natural
7 Diaphragm material	K8	TPE
8 Connection size 2	10	3/8" (DN 10)
9 Connection of spigot 2	HB	Hose barb

Technical data

Medium

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

Temperature

Media temperature: 5 to 40 °C

Ambient temperature: 0 to 40 °C

Storage temperature: 0 to 40 °C

Pressure

Operating pressure: 0 – 4.9 bar (Diaphragm size code B, C),
0 – 4.5 bar (Diaphragm size code D)

Kv values

NPS	MG	Connection Code ¹⁾	Body configuration Code ²⁾	Kv value	Cv value
1/4"	B	HB	D	0.47	0.54
3/8"	B	HB	D	1.08	1.25
			T	1.03	1.19
			R	1.02	1.18
1/2"	B	HB	D	1.59	1.84
			T	1.47	1.70
			R	1.44	1.67
1/2"	C	HB	D	2.17	2.51
3/4"	C	HB	D	3.29	3.81
			T	2.15	2.49
		CA	D	3.29	3.81
			T	2.15	2.49
1"	C	HB	D	4.55	5.27
			T	3.81	4.41
		CA	D	4.55	5.27
			T	3.81	4.41
3/4"	D	CA, HB	D	9.21	10.66
1"	D	CA, HB	D	12.19	14.11

1) **Connection**

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

2) **Body configuration**

Code D: 2/2-way body

Code R: Angle valve body, right

Code T: T body

Kv values determined based on standard DIN EN 60534-2-3:1998, inlet pressure 4 bar, Δp 1 bar

The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject to the influences of pressure, temperature, the process and their tightening torques. Therefore the Kv values may exceed the tolerance limits of the standard.

Kv values in m³/h (Cv values in gpm)

MG = diaphragm size

Product compliance

- Certifications:**
- USP Bacterial Endotoxins Test, USP <85>
 - USP Biological Reactivity Test in vitro, USP <87>
 - USP Biological Reactivity Tests in vivo for Class VI, USP <88>
 - USP Physicochemical Tests for Plastics, USP <661>
 - USP Particulate Matter in Injections, USP <788>, USP <790>
 - Validation guide on request

Mechanical data

- Service life:**
- | | |
|-----------------------------|--|
| Manual operator: | 3 years from date of first use |
| Diaphragm valve body (SUB): | 1000 switching cycles (according to GEMÜ product validation) or max. 4.5 years from production date (1.5 years before irradiation / 3 years after irradiation) |

Weight

Type	Con- nec- tion Code ¹⁾	Body con- figura- tion Code ²⁾	MG B			MG C			MG D	
			1/4" (DN 8)	3/8" (DN 10)	1/2" (DN 15)	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)	3/4" (DN 20)	1" (DN 25)
SUB	HB	D	36	40	42	91	94	99	80	80
		T	-	44	47	-	108	113	-	-
		R	-	43	46	-	-	-	-	-
	CA	D	-	-	-	-	97	100	99	100
		T	-	-	-	-	111	112	-	-
SUHK			186	186	186	272	272	272	326.5	326.5

Weight in g, MG = diaphragm size

1) **Connection**

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

2) **Body configuration**

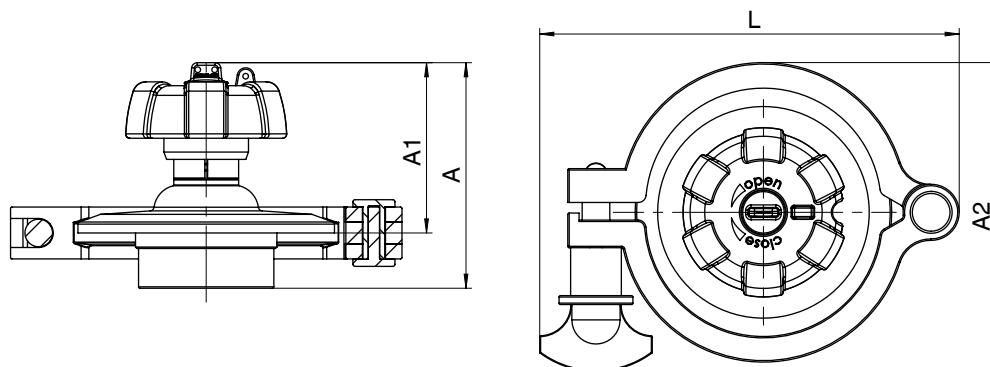
Code D: 2/2-way body

Code R: Angle valve body, right

Code T: T body

Dimensions

Actuator dimensions

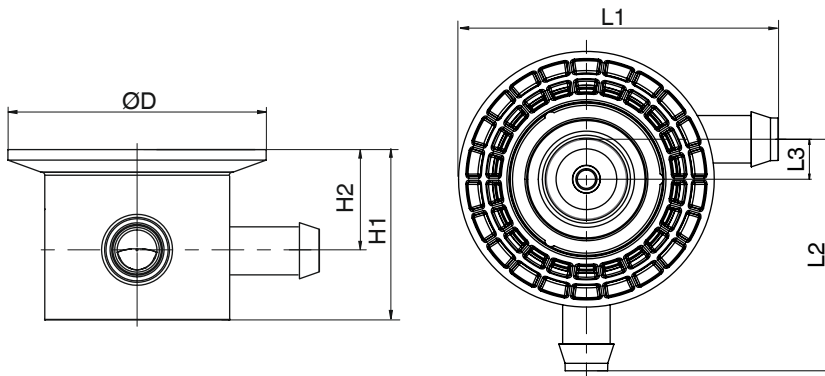


	MG B 1/4" (DN 8), 1/2" (DN 15)	MG C 3/4" (DN 20), 1" (DN 25)	MG D 3/4" (DN 20), 1" (DN 25)
A	80.5	80.0	81.2
A1	74.9	60.4	55.3
A2	86.5	109.6	109.6
L	122.5	148.8	148.8

Dimensions in mm, MG = diaphragm size

Body dimensions

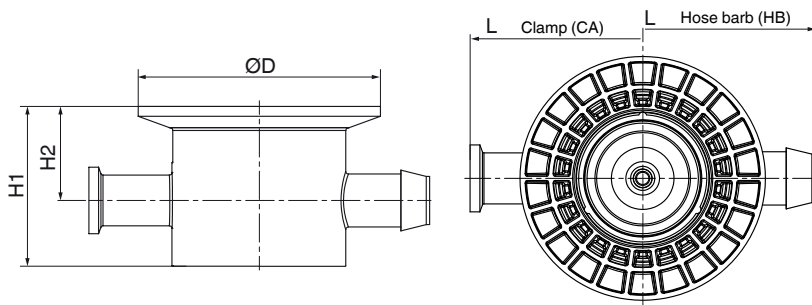
Angle valve body, right (code R)



	MG B	
	3/8" (DN 10)	1/2" (DN 15)
L1	48	55.8
L2	58	66.8
L3	10	10
H1	33.3	33.3
H2	22.3	22.3
$\varnothing D$	64	64

Dimensions in mm, MG = diaphragm size

2/2-way body (code D)



	Con- nection Code ¹⁾	MG B			MG C			MG D	
		1/4" (DN 8)	3/8" (DN 10)	1/2" (DN 15)	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)	3/4" (DN 20)	1" (DN 25)
L	CA	-	-	-	-	128	137.4	134.6	134.6
H1		-	-	-	-	60	60	58.5	58.5
H2		-	-	-	-	35.3	35.3	38	39.5
ØD		-	-	-	-	91	91	91.6	91.6
L	HB	80.6	95.9	111.5	126	128	140	139	139
H1		33.3	33.3	33.3	60	60	60	58.5	58.5
H2		22.3	22.3	22.3	35.3	35.3	35.3	38	39.5
ØD		64	64	64	91	91	91	91.6	91.6

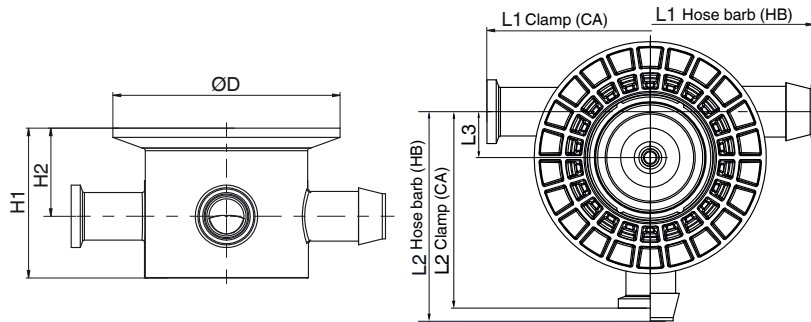
Dimensions in mm, MG = diaphragm size

1) **Connection**

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

T valve body (Code T)



	Connection Code ¹⁾	MG B		MG C	
		3/8" (DN 10)	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)
L1	CA	-	-	128	137.4
L2		-	-	82	82
L3		-	-	18	18
H1		-	-	60	60
H2		-	-	35.3	35.3
ØD		-	-	91	91
L1		HB	96	111.5	128
L2	58		65.8	82	88
L3	10		10	18	18
H1	33.3		33.3	60	60
H2	22.3		22.3	35.3	35.3
ØD	64		64	91	91

Dimensions in mm, MG = diaphragm size

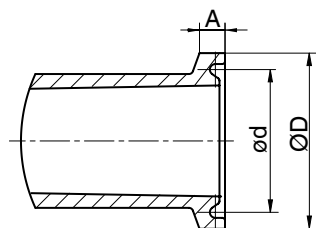
1) **Connection**

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

Connection dimensions

Clamp connection



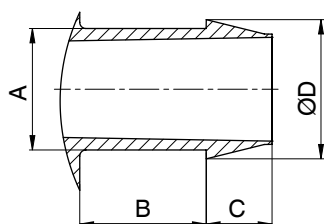
	Connection code ¹⁾	Diaphragm size C		Diaphragm size D	
		3/4" (DN 20)	1" (DN 25)	3/4" (DN 20)	1" (DN 25)
A	CA	3.6	3.6	2.85	2.85
ød		21.9	31	43.4	43.4
øD		25	34	50.5	50.5

Dimensions in mm, MG = diaphragm size
Dimension A and øD – tolerances ± 0.2 mm

1) Connection

Code CA: Clamp connection similar to ASME-BPE
Code HB: Hose barb

Hose barb



	Connection Code ¹⁾	MG B, MG C					MG D	
		1/4" (DN 8)	3/8" (DN 10)	1/2" (DN 15)	3/4" (DN 20)	1" (DN 25)	3/4" (DN 20)	1" (DN 25)
A	HB	7.9	11.9	15.9	19.9	28	22	28
B		10.6	16	21.4	20.7	24.7	21.4	22.2
C		4.5	6.7	9.1	10.8	11.5	7.5	11.5
øD		9.3	13.8	18.8	22.8	30.8	25	30.8

Dimensions in mm, MG = diaphragm size
Dimension A and øD – tolerances ± 0.2 mm

1) Connection

Code CA: Clamp connection similar to ASME-BPE
Code HB: Hose barb



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