

GEMÜ SUHK SUMONDO

Manual operator for single-use valves



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 GEMÜ SUHK manual operator of the GEMÜ SUMONDO single-use valve is joined to the valve body GEMÜ SUB with a clamp. It is equipped with an internally welded diaphragm. The valve body and the actuator are locked with a defined opening and closing procedure. After a single use, the valve body and its diaphragm are removed from the actuator and disposed of. The actuator remains in the system and can be used multiple times.

Technical specifications

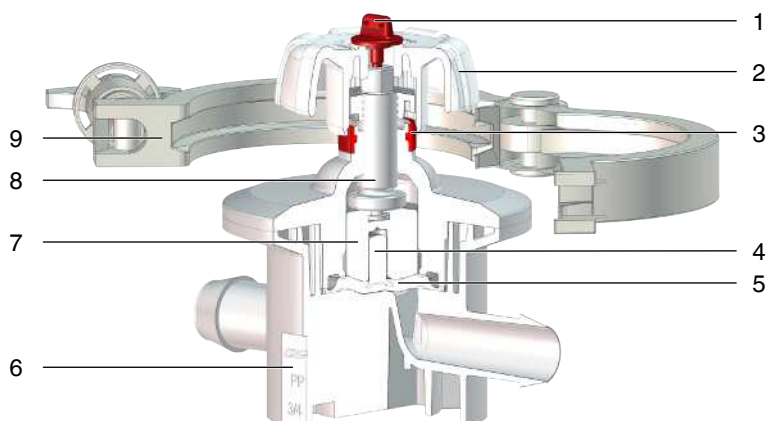
- **Media temperature:** 5 to 40 °C
- **Ambient temperature:** 0 to 40 °C
- **Operating pressure:** 0 to 4.9 bar
- **Nominal sizes:** 1/4" (DN 8) to 1" (DN 25)
- **Body configurations:** 2/2-way body | Angle valve body | T-body
- **Connection types:** Clamp | Hose barb
- **Body materials:** PP-R, natural
- **Diaphragm materials:** TPE
- **Conformities:** EAC | USP

Technical data depends on the respective configuration



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 |
|---------------------|------|
| DN 8 (1/4") | 8 |
| DN 10 (3/8") | 10 |
| DN 15 (1/2") | 15 |
| DN 20 (3/4") | 20 |
| DN 25 (1") | 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

| Ordering option | Code | Description |
|--------------------------|------|------------------|
| 1 Type | SUB | Single-use body |
| 2 Diaphragm size | B | Diaphragm size B |
| 3 Connection size 1 | 10 | DN 10 (3/8") |
| 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): | 100.000 switching cycles (according to GEMÜ product validation) or max. 4.5 years from production date (1.5 years before sterilization/3 years after sterilization) |

Weight

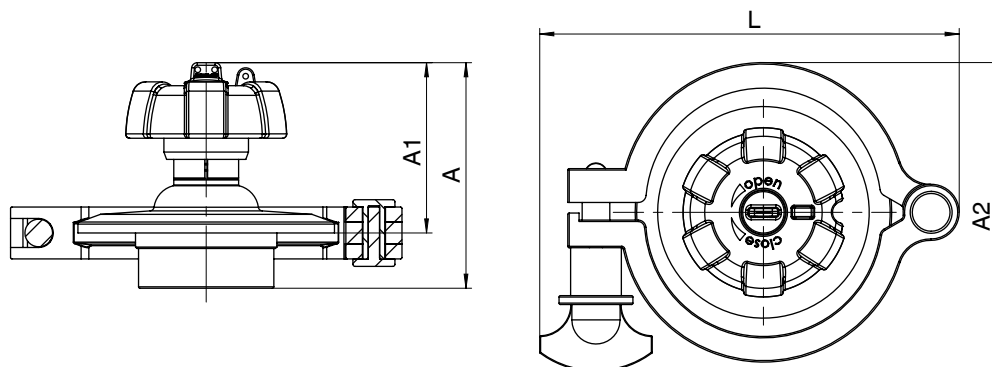
| Type | Con- nection Code ¹⁾ | Body config- uration Code ²⁾ | MG B | | | MG C | | | MG D | |
|-------------|---------------------------------------|--|----------------|-----------------|-----------------|-----------------|-----------------|---------------|-----------------|---------------|
| | | | 1/4" (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

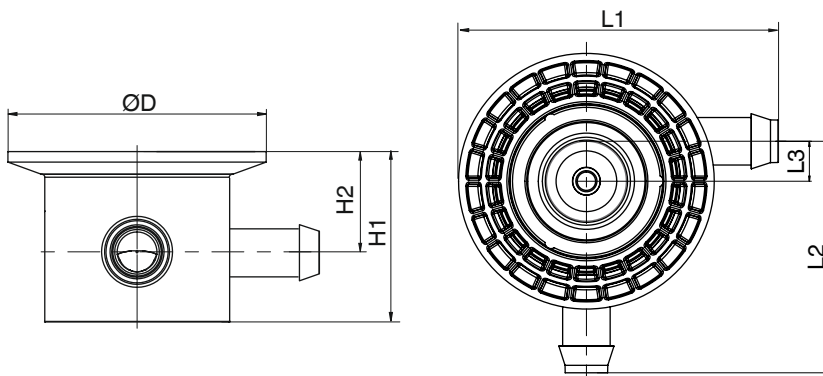


| | MG B 1/4" (DN 8), 1/2" (DN 15) | MG C 3/4" (DN 20), 1" (DN 25) | MG D 3/4" (DN 20), 1" (DN 25) |
|-----------|-----------------------------------|-------------------------------------|-------------------------------------|
| A | 80.5 | 80.0 | 81.2 |
| A1 | 74.9 | 60.4 | 55.3 |
| A2 | 86.5 | 109.6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

Dimensions in mm, MG = diaphragm size

Body dimensions

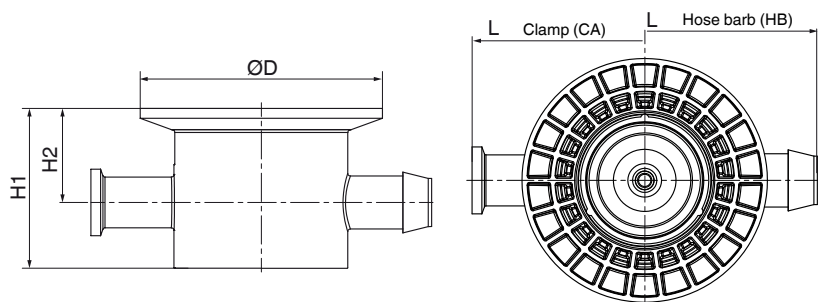
Angle valve body, right (code R)



| | MG B | |
|-----------------------------------|--------------|--------------|
| | 3/8" (DN 10) | 1/2" (DN 15) |
| L1 | 48.0 | 55.8 |
| L2 | 58.0 | 66.8 |
| L3 | 10.0 | 10.0 |
| H1 | 33.3 | 33.3 |
| H2 | 22.3 | 22.3 |
| $\varnothing D$ | 64.0 | 64.0 |

Dimensions in mm, MG = diaphragm size

2/2-way body (code D)



| | Conne- tion 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 | - | - | - | - | 128.0 | 137.4 | 134.6 | 134.6 |
| H1 | | - | - | - | - | 60.0 | 60.0 | 58.5 | 58.5 |
| H2 | | - | - | - | - | 35.3 | 35.3 | 38.0 | 39.5 |
| ØD | | - | - | - | - | 91.0 | 91.0 | 91.6 | 91.6 |
| L | HB | 80.6 | 95.9 | 111.5 | 126.0 | 128.0 | 140.0 | 139.0 | 139.0 |
| H1 | | 33.3 | 33.3 | 33.3 | 60.0 | 60.0 | 60.0 | 58.5 | 58.5 |
| H2 | | 22.3 | 22.3 | 22.3 | 35.3 | 35.3 | 35.3 | 38.0 | 39.5 |
| ØD | | 64.0 | 64.0 | 64.0 | 91.0 | 91.0 | 91.0 | 91.6 | 91.6 |

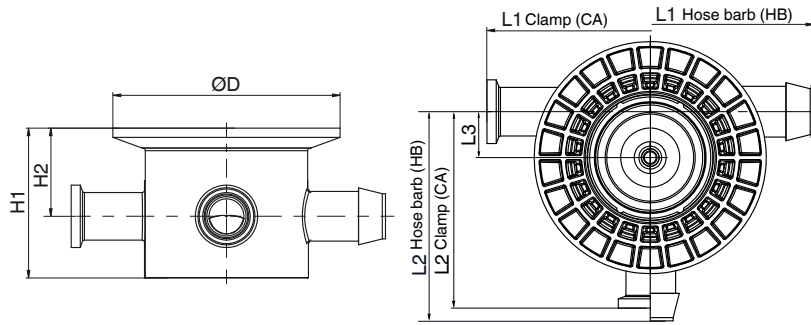
Dimensions in mm, MG = diaphragm size

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_C A | CA | - | - | 128.0 | 137.4 |
| L2_C A | | - | - | 82.0 | 82.0 |
| L3_C A | | - | - | 18.0 | 18.0 |
| H1_C A | | - | - | 60.0 | 60.0 |
| H2_C A | | - | - | 35.3 | 35.3 |
| ØD_C A | | - | - | 91.0 | 91.0 |
| L1_H B | HB | 96.0 | 111.5 | 128.0 | 140.0 |
| L2_H B | | 58.0 | 65.8 | 82.0 | 88.0 |
| L3_H B | | 10.0 | 10.0 | 18.0 | 18.0 |
| H1_H B | | 33.3 | 33.3 | 60.0 | 60.0 |
| H2_H B | | 22.3 | 22.3 | 35.3 | 35.3 |
| ØD_H B | | 64.0 | 64.0 | 91.0 | 91.0 |

Dimensions in mm, MG = diaphragm size

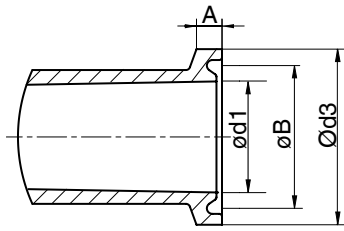
1) **Connection**

Code CA: Clamp connection similar to ASME-BPE

Code HB: Hose barb

Connection dimensions

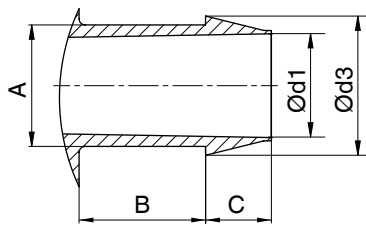
Clamp (code CA)



| MG | DN | A | øB | ød1 | ød3 |
|----|--------------|------|------|-------|------|
| C | 3/4" (DN 20) | 3.6 | 21.9 | 15.75 | 25.0 |
| | 1" (DN 25) | 3.6 | 31.0 | 22.1 | 34.0 |
| D | 3/4" (DN 20) | 2.85 | 43.4 | 19.05 | 50.5 |
| | 1" (DN 25) | 2.85 | 43.4 | 25.4 | 50.5 |

Dimensions in mm, MG = diaphragm size
Tolerance ± 0.2 mm

Hose barb (code HB)



| MG | DN | A | B | C | ød1 | ød3 |
|----|--------------|------|------|------|------|------|
| B | 1/4" (DN 8) | 7.9 | 10.6 | 4.5 | 5.9 | 9.3 |
| | 3/8" (DN 10) | 11.9 | 16.0 | 6.7 | 9.4 | 13.8 |
| | 1/2" (DN 15) | 15.9 | 21.4 | 9.1 | 12.6 | 18.8 |
| C | 1/2" (DN 15) | 15.9 | 21.4 | 9.1 | 12.6 | 18.8 |
| | 3/4" (DN 20) | 19.9 | 20.7 | 10.8 | 17.0 | 22.8 |
| | 1" (DN 25) | 28.0 | 24.7 | 11.5 | 25.3 | 30.8 |
| D | 3/4" (DN 20) | 22.0 | 21.4 | 7.5 | 19.0 | 25.0 |
| | 1" (DN 25) | 28.0 | 22.2 | 11.5 | 25.4 | 30.8 |

Dimensions in mm, MG = diaphragm size
Tolerance ± 0.2 mm



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