

Diaphragm Valve, Metal

Construction

The GEMÜ 698 motorized 2/2-way diaphragm valve has a low maintenance electric actuator with a toothed belt drive and a reversible synchronous motor. A manual override and an optical position indicator are standard.

Features

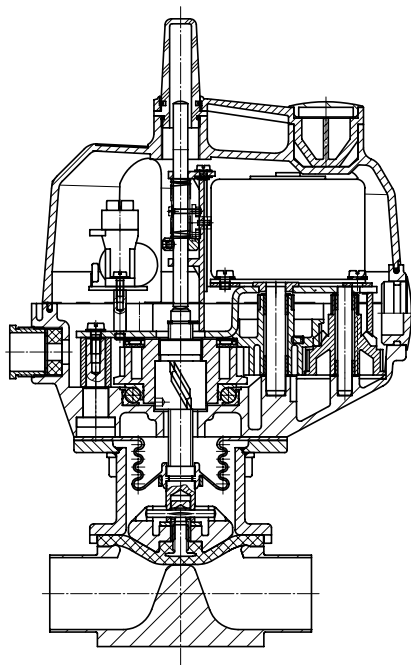
- Suitable for inert and corrosive* liquid and gaseous media
- Chemical resistance of actuator
- Stainless steel body with CIP/SIP cleaning and sterilizing capabilities
- Insensitive to particulate media
- Valve body and diaphragm available in various materials and designs
- The valve stroke can be limited by means of adjustable limit switches
- Suitable for use as a control valve (with GEMÜ 1283)

Advantages

- Hermetic separation between medium and actuator
- Optional flow direction
- Installation for an optimized draining is possible
- Consistent control system and reliable opening and closing action
- Direct 0/4 - 20 mA signal processing using the additional module GEMÜ 1283
- Electrical position feedback by means of a potentiometer available as an option

*see information on working medium on page 2

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.

Power consumption

10 VA

Operating time

Standard version

approx. 20 s

Optional position feedback

Actual value potentiometer (functional module AP) 10 kW

Protection class

IP 65 acc. to DIN 40050

Rating

Continuously rated

Cable gland

2 x PG 13.5

Temperatures

Medium temperature

| | |
|---------------------|----------------|
| FPM (code 4) | -10 ... 90 °C |
| EPDM (code 13) | -10 ... 100 °C |
| EPDM (code 29) | -10 ... 90 °C |
| EPDM (code 17) | -10 ... 100 °C |
| PTFE/EPDM (code 5M) | -10 ... 100 °C |

Sterilisation temperature ⁽¹⁾

| | |
|---------------------|--|
| FPM (code 4) | not applicable |
| EPDM (code 13) | max. 150 °C ⁽²⁾ , max. 60 min per cycle |
| EPDM (code 29) | not applicable |
| EPDM (code 17) | max. 150 °C ⁽²⁾ , max. 180 min per cycle |
| PTFE/EPDM (code 5M) | max. 150 °C ⁽²⁾ , no time limit per cycle |

¹ The sterilisation temperature is valid for steam (saturated steam) or superheated water.

² If the sterilisation temperatures listed above are applied to the EPDM diaphragms for longer periods of time, the service life of the diaphragms will be reduced. In these cases, maintenance cycles must be adapted accordingly. This also applies to PTFE diaphragms exposed to high temperature fluctuations.

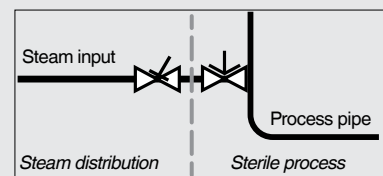
PTFE diaphragms can also be used as moisture barriers; however, this will reduce their service life.

The maintenance cycles must be adapted accordingly.

GEMÜ 555 and 505 globe valves are particularly suitable for use in the area of steam generation and distribution.

The following valve arrangement for interfaces between steam pipes and process pipes has proven itself over time:

A globe valve for shutting off steam pipes and a diaphragm valve as an interface to the process pipes.



Ambient temperature

| | |
|---------------------|----------------|
| Ambient temperature | -10 ... +55 °C |
| Storage temperature | -15 ... +55 °C |

| Diaphragm size | DN | Operating pressure [bar] | |
|----------------|------------|--------------------------|-------|
| | | EPDM / FPM | PTFE |
| 25 | 15, 20, 25 | 0 - 10 | 0 - 6 |
| 40 | 32, 40 | 0 - 6 | 0 - 6 |
| 50 | 50 | 0 - 6 | 0 - 4 |

All pressures are gauge pressures. Operating pressure values were determined with static operating pressure applied on one side of a closed valve. Sealing at the valve seat and atmospheric sealing is ensured for the given values. Information on operating pressures applied on both sides and for high purity media on request.

Technical data

Kv values [m³/h]

| Pipe standard | | DIN | EN 10357 series B (formerly DIN 11850 series 1) | EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A | DIN 11850 series 3 | SMS 3008 | ASME BPE / DIN 11866 series C | ISO 1127 / EN 10357 series C / DIN 11866 series B | DIN ISO 228 | NPT |
|-----------------|----|------|---|--|--------------------|----------|-------------------------------|---|-------------|------|
| Connection code | | 0 | 16 | 17 | 18 | 37 | 59 | 60 | 1 | 31 |
| MG | DN | | | | | | | | | |
| 25 | 15 | 4.1 | 4.7 | 4.7 | 4.7 | - | - | 7.4 | 6.5 | 6.5 |
| | 20 | 6.3 | 7.0 | 7.0 | 7.0 | - | 4.4 | 13.2 | 10.0 | 10.0 |
| | 25 | 13.9 | 15.0 | 15.0 | 15.0 | 12.6 | 12.2 | 16.2 | 14.0 | 14.0 |
| 40 | 32 | 25.3 | 27.0 | 27.0 | 27.0 | 26.2 | - | 30.0 | 26.0 | 26.0 |
| | 40 | 29.3 | 30.9 | 30.9 | 30.9 | 30.2 | 29.5 | 32.8 | 33.0 | 33.0 |
| 50 | 50 | 46.5 | 48.4 | 48.4 | 48.4 | 51.7 | 50.6 | 55.2 | 60.0 | 60.0 |
| | 65 | - | - | - | - | 62.2 | 61.8 | - | - | - |

MG = diaphragm size

Kv values determined acc. to DIN EN 60534, inlet pressure 5 bar, Δp 1 bar, stainless steel valve body (forged body) and soft elastomer diaphragm. 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.

The Kv value curve (Kv value dependent on valve stroke) can vary depending on the diaphragm material and duration of use.

Order data

| Body configuration | Code |
|---|------|
| Tank valve body | B** |
| 2/2-way body | D |
| T body | T* |
| * For dimensions see T Valves brochure | |
| ** Dimensions and versions on request or according to customer requirements | |

| Connection | Code |
|--|------|
| Butt weld spigots | |
| Spigots DIN | 0 |
| Spigots EN 10357 series B (formerly DIN 11850 series 1) | 16 |
| Spigot EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A | 17 |
| Spigots DIN 11850 series 3 | 18 |
| Spigots JIS-G 3447 | 35 |
| Spigots JIS-G 3459 | 36 |
| Spigots SMS 3008 | 37 |
| Spigots BS 4825 Part 1 | 55 |
| Spigot ASME BPE / DIN 11866 series C | 59 |
| Spigot ISO 1127 / EN 10357 series C / DIN 11866 series B | 60 |
| Spigots ANSI/ASME B36.19M Schedule 10s | 63 |
| Spigots ANSI/ASME B36.19M Schedule 40s | 65 |
| Threaded connections | |
| Threaded sockets DIN ISO 228 | 1 |
| Threaded sockets NPT | 31 |
| Threaded spigots DIN 11851 | 6 |
| One side threaded spigot, other side cone spigot and union nut, DIN 11851 | 62 |
| Aseptic unions on request | |
| Flanges | |
| Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1 | 8 |
| Flanges ANSI Class 150 RF, length MSS SP-88 | 38 |
| Flanges ANSI Class 125/150 RF, length EN 558, series 1, ISO 5752, basic series 1 | 39 |
| Clamp connections | |
| Clamps ASME BPE for pipe ASME BPE, length ASME BPE | 80 |
| Clamps DIN 32676 series B for pipe EN ISO 1127, length EN 558, series 7 | 82 |
| Clamps ASME BPE for pipe ASME BPE, length EN 558, series 7 | 88 |
| Clamps DIN 32676 series A for pipe DIN 11850, length EN 558, series 7 | 8A |
| Clamps SMS 3017 for pipe SMS 3008, length EN 558, series 7 | 8E |
| Aseptic clamps on request | |
| For overview of available valve bodies see page 13 | |

| Valve body material | Code |
|--|------|
| EN-GJL-250, (GG25) (Cast iron) | 8 |
| EN-GJS-400-18-LT (S.G. Iron 40.3), PFA lined | 17 |
| EN-GJS-400-18-LT (S.G. Iron 40.3), PP lined | 18 |
| 1.4435, investment casting | C3 |
| 1.4408, investment casting | 37 |
| 1.4408, PFA lined | 39 |
| 1.4435 (316L), forged body | 40 |
| 1.4435 (BN2), forged body Fe<0.5% | 42 |
| EN-GJS-400-18-LT (S.G. Iron 40.3), hard rubber lined | 83 |
| 1.4539, forged body | F4 |

| Diaphragm material | Code |
|---|------|
| NBR | 2 |
| FPM | 4 |
| EPDM | 13 |
| EPDM | 17 |
| EPDM | 19 |
| EPDM | 29 |
| PTFE/EPDM, two-piece | 5M |
| Material complies with FDA requirements, except codes 2, 4 and 29 | |

| Supply voltage | Code |
|----------------|------|
| 24 V ± 10% | C |
| 120 V ± 10% | G |
| 230 V ± 10% | L |

| Mains frequency | Code |
|-----------------|------|
| 50/60 Hz | 4 |

| Functional module | Code |
|--|------|
| OPEN / CLOSE control with additional end position feedback | AE |
| OPEN / CLOSE control with potentiometer output | AP |

Order data

Internal surface finishes for forged and block material bodies ¹

| Readings for Process Contact Surfaces | Mechanically polished ² | | Electropolished | |
|---------------------------------------|------------------------------------|------|--------------------------|------|
| | Hygienic class DIN 11866 | Code | Hygienic class DIN 11866 | Code |
| Ra ≤ 0.80 μm | H3 | 1502 | HE3 | 1503 |
| Ra ≤ 0.60 μm | - | 1507 | - | 1508 |
| Ra ≤ 0.40 μm | H4 | 1536 | HE4 | 1537 |
| Ra ≤ 0.25 μm ³ | H5 | 1527 | HE5 | 1516 |

| Readings for Process Contact Surfaces acc. to ASME BPE 2016 ⁴ | Mechanically polished ² | | Electropolished | |
|--|------------------------------------|------|------------------------------|------|
| | ASME BPE Surface Designation | Code | ASME BPE Surface Designation | Code |
| Ra Max. = 0.76 μm (30 μinch) | SF3 | SF3 | - | - |
| Ra Max. = 0.64 μm (25 μinch) | SF2 | SF2 | SF6 | SF6 |
| Ra Max. = 0.51 μm (20 μinch) | SF1 | SF1 | SF5 | SF5 |
| Ra Max. = 0.38 μm (15 μinch) | - | - | SF4 | SF4 |

Internal surface finishes for investment cast bodies

| Readings for Process Contact Surfaces | Mechanically polished ² | |
|---------------------------------------|------------------------------------|------|
| | Hygienic class DIN 11866 | Code |
| Ra ≤ 6.30 μm | - | 1500 |
| Ra ≤ 0.80 μm | H3 | 1502 |
| Ra ≤ 0.60 μm ⁵ | - | 1507 |

¹ Surface finishes of customized valve bodies may be limited in special cases.

² Or any other finishing method that meets the Ra value (acc. to ASME BPE).

³ The smallest possible Ra finish for pipe connections with an internal pipe diameter < 6 mm is 0.38 μm.

⁴ When using these surfaces, the bodies are marked according to the specifications of ASME BPE.

The surfaces are only available for valve bodies which are made of materials (e.g. GEMÜ material codes 40, 41, F4, 44) and use connections (e.g. GEMÜ connection codes 59, 80, 88) according to ASME BPE.

⁵ Not possible for GEMÜ connection code 59, DN 8 and GEMÜ connection code 0, DN 4.

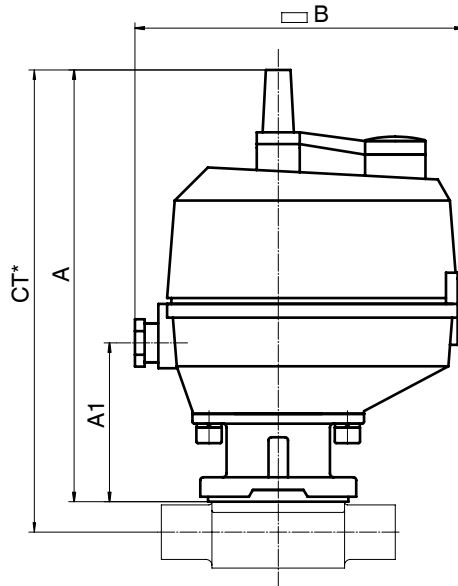
Ra acc. to DIN EN ISO 4288 and ASME B46.1

| Order example | 698 | 25 | D | 60 | C3 | 13 | L | 4 | AE | 1500 |
|----------------------------|-----|----|---|----|----|----|---|---|----|------|
| Type | 698 | | | | | | | | | |
| Nominal size | | 25 | | | | | | | | |
| Body configuration (code) | | | D | | | | | | | |
| Connection (code) | | | | 60 | | | | | | |
| Valve body material (code) | | | | | C3 | | | | | |
| Diaphragm material (code) | | | | | | 13 | | | | |
| Supply voltage (code) | | | | | | | L | | | |
| Mains frequency (code) | | | | | | | | 4 | | |
| Functional module (code) | | | | | | | | | AE | |
| Surface finish (code) | | | | | | | | | | 1500 |

Dimensions [mm]

Actuator dimensions

| Diaphragm size | DN | □B | A | A1 | Weight [kg] |
|----------------|---------|-----------|-----|-----|-------------|
| 25 | 15 - 25 | 169 x 135 | 222 | 82 | 2.35 |
| 40 | 32 - 40 | 169 x 135 | 271 | 131 | 2.90 |
| 50 | 50 | 169 x 135 | 278 | 138 | 3.30 |



* CT = A + H1 (see body dimensions)

Body dimensions [mm]

Butt weld spigots, connection code 0, 16, 17, 18 Valve body material: Investment casting (code C3), forged body (code 40, F4)

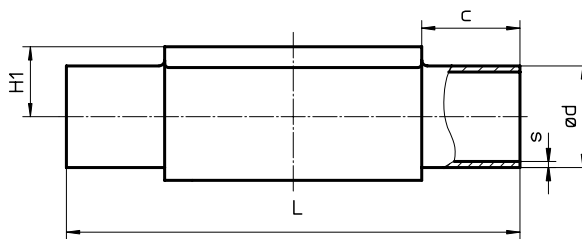
| Pipe standard | | | | | | | DIN | | EN 10357 series B (formerly DIN 11850 series 1) | | EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A | | DIN 11850 Series 3 | | Weight [kg] |
|-----------------|----|--------|-----|----|------|------|-----|-----|--|-----|--|-----|--------------------|-----|-------------|
| Connection code | | | | | | | 0 | | 16 | | 17 | | 18 | | |
| MG | DN | NPS | L | c | H1* | H1** | ød | s | ød | s | ød | s | ød | s | |
| 25 | 15 | 1/2" | 120 | 25 | 13.0 | 19.0 | 18 | 1.5 | 18 | 1.0 | 19 | 1.5 | 20 | 2.0 | 0.62 |
| | 20 | 3/4" | 120 | 25 | 16.0 | 19.0 | 22 | 1.5 | 22 | 1.0 | 23 | 1.5 | 24 | 2.0 | 0.58 |
| | 25 | 1" | 120 | 25 | 19.0 | 19.0 | 28 | 1.5 | 28 | 1.0 | 29 | 1.5 | 30 | 2.0 | 0.55 |
| 40 | 32 | 1 1/4" | 153 | 25 | 24.0 | 26.0 | 34 | 1.5 | 34 | 1.0 | 35 | 1.5 | 36 | 2.0 | 1.45 |
| | 40 | 1 1/2" | 153 | 25 | 26.0 | 26.0 | 40 | 1.5 | 40 | 1.0 | 41 | 1.5 | 42 | 2.0 | 1.32 |
| 50 | 50 | 2" | 173 | 30 | 32.0 | 32.0 | 52 | 1.5 | 52 | 1.0 | 53 | 1.5 | 54 | 2.0 | 2.25 |

* only for investment cast design ** only for forged design MG = diaphragm size
For materials see overview on page 13

Butt weld spigots, connection code 60 Valve body material: Investment casting (code C3), forged body (code 40, F4)

| Pipe standard | | | | | | | ISO 1127 / EN 10357 series C / DIN 11866 series B | | Weight [kg] |
|-----------------|----|--------|-----|----|------|------|---|-----|-------------|
| Connection code | | | | | | | 60 | | |
| MG | DN | NPS | L | c | H1* | H1** | ød | s | |
| 25 | 15 | 1/2" | 120 | 25 | 13.0 | 19.0 | 21.3 | 1.6 | 0.62 |
| | 20 | 3/4" | 120 | 25 | 16.0 | 19.0 | 26.9 | 1.6 | 0.58 |
| | 25 | 1" | 120 | 25 | 19.0 | 19.0 | 33.7 | 2.0 | 0.55 |
| 40 | 32 | 1 1/4" | 153 | 25 | 24.0 | 26.0 | 42.4 | 2.0 | 1.45 |
| | 40 | 1 1/2" | 153 | 25 | 26.0 | 26.0 | 48.3 | 2.0 | 1.32 |
| 50 | 50 | 2" | 173 | 30 | 32.0 | 32.0 | 60.3 | 2.0 | 2.25 |

* only for investment cast design ** only for forged design MG = diaphragm size
For materials see overview on page 13



Body dimensions [mm]

Butt weld spigots, connection code 35, 36, 37 Valve body material: Investment casting (code C3), forged body (code 40, F4)

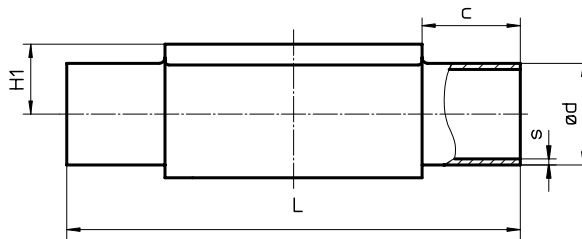
| Pipe standard | | | | | | | JIS-G 3447 | | JIS-G 3459 | | SMS 3008 | | Weight [kg] |
|-----------------|----|--------|-----|----|------|------|------------|-----|------------|------|----------|-----|-------------|
| Connection code | | | | | | | 35 | | 36 | | 37 | | |
| MG | DN | NPS | L | c | H1* | H1** | ød | s | ød | s | ød | s | |
| 25 | 15 | 1/2" | 120 | 25 | - | 19.0 | - | - | 21.7 | 2.10 | - | - | 0.62 |
| | 20 | 3/4" | 120 | 25 | - | 19.0 | - | - | 27.2 | 2.10 | - | - | 0.58 |
| | 25 | 1" | 120 | 25 | 19.0 | 19.0 | 25.4 | 1.2 | 34.0 | 2.80 | 25.0 | 1.2 | 0.55 |
| 40 | 32 | 1 1/4" | 153 | 25 | - | 26.0 | 31.8 | 1.2 | 42.7 | 2.80 | 33.7 | 1.2 | 1.45 |
| | 40 | 1 1/2" | 153 | 25 | 26.0 | 26.0 | 38.1 | 1.2 | 48.6 | 2.80 | 38.0 | 1.2 | 1.32 |
| 50 | 50 | 2" | 173 | 30 | 32.0 | 32.0 | 50.8 | 1.5 | 60.5 | 2.80 | 51.0 | 1.2 | 2.25 |
| | 65 | 2 1/2" | 173 | 30 | - | 34.0 | 63.5 | 2.0 | - | - | 63.5 | 1.6 | 2.20 |

* only for investment cast design ** only for forged design MG = diaphragm size
For materials see overview on page 13

Butt weld spigots, connection code 55, 59, 63, 65 Valve body material: Investment casting (code C3), forged body (code 40, F4)

| Pipe standard | | | | | | | BS 4825 Part 1 | | ASME BPE / DIN 11866 series C | | ANSI/ASME B36.19M Schedule 10s | | ANSI/ASME B36.19M Schedule 40s | | Weight [kg] |
|-----------------|----|--------|-----|----|------|------|----------------|-----|-------------------------------|------|--------------------------------|------|--------------------------------|------|-------------|
| Connection code | | | | | | | 55 | | 59 | | 63 | | 65 | | |
| MG | DN | NPS | L | c | H1* | H1** | ød | s | ød | s | ød | s | ød | s | |
| 25 | 15 | 1/2" | 120 | 25 | - | 19.0 | - | - | - | - | 21.3 | 2.11 | 21.3 | 2.77 | 0.62 |
| | 20 | 3/4" | 120 | 25 | 16.0 | 19.0 | 19.05 | 1.2 | 19.05 | 1.65 | 26.7 | 2.11 | 26.7 | 2.87 | 0.58 |
| | 25 | 1" | 120 | 25 | 19.0 | 19.0 | - | - | 25.40 | 1.65 | 33.4 | 2.77 | 33.4 | 3.38 | 0.55 |
| 40 | 32 | 1 1/4" | 153 | 25 | - | 26.0 | - | - | - | - | 42.2 | 2.77 | 42.2 | 3.56 | 1.45 |
| | 40 | 1 1/2" | 153 | 25 | 26.0 | 26.0 | - | - | 38.10 | 1.65 | 48.3 | 2.77 | 48.3 | 3.68 | 1.32 |
| 50 | 50 | 2" | 173 | 30 | 32.0 | 32.0 | - | - | 50.80 | 1.65 | 60.3 | 2.77 | 60.3 | 3.91 | 2.25 |
| | 65 | 2 1/2" | 173 | 30 | - | 34.0 | - | - | 63.50 | 1.65 | - | - | - | - | 2.10 |

* only for investment cast design ** only for forged design MG = diaphragm size
For materials see overview on page 13



Body dimensions [mm]

Threaded sockets, connection code 1 Valve body material: GG25 (code 8), investment casting (code 37)

| MG | DN | R | L | Material code 8 | | | | | Material code 37 | | | | | Weight [kg] |
|----|----|---------|-----|-----------------|----|----|-----|-----------------|------------------|------|----|-----|-----------------|-------------|
| | | | | H | H1 | t | SW2 | Number of flats | H | H1 | t | SW2 | Number of flats | |
| 25 | 15 | G 1/2 | 85 | 35 | 19 | 12 | 32 | 6 | 28.3 | 14.8 | 15 | 27 | 6 | 0.32 |
| | 20 | G 3/4 | 85 | 40 | 19 | 13 | 41 | 6 | 33.3 | 17.3 | 16 | 32 | 6 | 0.34 |
| | 25 | G 1 | 110 | 42 | 19 | 16 | 46 | 6 | 42.3 | 21.8 | 13 | 41 | 6 | 0.39 |
| 40 | 32 | G 1 1/4 | 120 | 56 | 28 | 16 | 55 | 6 | 51.3 | 26.3 | 20 | 50 | 8 | 0.88 |
| | 40 | G 1 1/2 | 140 | 61 | 28 | 18 | 65 | 6 | 56.3 | 28.8 | 18 | 55 | 8 | 0.93 |
| 50 | 50 | G 2 | 165 | 73 | 35 | 18 | 75 | 6 | 71.3 | 36.3 | 26 | 70 | 8 | 1.56 |

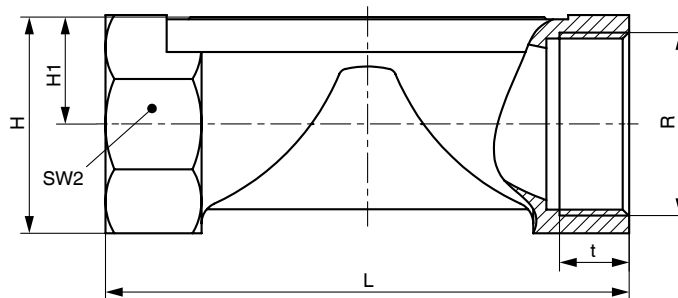
MG = diaphragm size

For materials see overview on page 13

Threaded sockets, connection code 31 Valve body material: investment casting (code 37)

| MG | DN | R | L | H | H1 | t | SW2 | Number of flats | Weight [kg] |
|----|----|-----------|-----|------|------|----|-----|-----------------|-------------|
| 25 | 15 | NPT 1/2 | 85 | 28.3 | 14.8 | 14 | 27 | 6 | 0.32 |
| | 20 | NPT 3/4 | 85 | 33.3 | 17.3 | 14 | 32 | 6 | 0.34 |
| | 25 | NPT 1 | 110 | 42.3 | 21.8 | 17 | 41 | 6 | 0.39 |
| 40 | 32 | NPT 1 1/4 | 120 | 51.3 | 26.3 | 17 | 50 | 8 | 0.88 |
| | 40 | NPT 1 1/2 | 140 | 56.3 | 28.8 | 17 | 55 | 8 | 0.93 |
| 50 | 50 | NPT 2 | 165 | 71.3 | 36.3 | 18 | 70 | 8 | 1.56 |

MG = diaphragm size



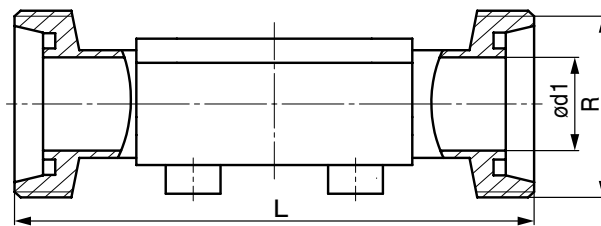
Body dimensions [mm]

Threaded connections, connection code 6, 62 Valve body material: Forged body (code 40)

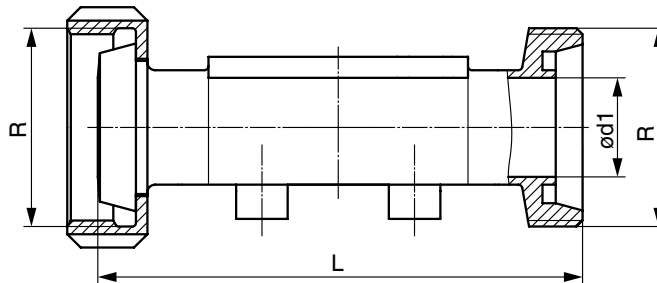
| MG | DN | H1 | ød1 | Thread to DIN 405 R | Code 6 L | Code 62 L | Weight [kg] |
|----|----|----|------|------------------------|-------------|--------------|----------------|
| 25 | 15 | 19 | 16,0 | RD 34 x 1/8 | 118 | 116 | 0,71 |
| | 20 | 19 | 20,0 | RD 44 x 1/6 | 118 | 116 | 0,78 |
| | 25 | 19 | 26,0 | RD 52 x 1/6 | 128 | 127 | 0,79 |
| 40 | 32 | 26 | 32,0 | RD 58 x 1/6 | 147 | 147 | 1,66 |
| | 40 | 26 | 38,0 | RD 65 x 1/6 | 160 | 160 | 1,62 |
| 50 | 50 | 32 | 50,0 | RD 78 x 1/6 | 191 | 191 | 2,70 |

MG = diaphragm size

Code 6



Code 62



Body dimensions [mm]

Flanges - DIN EN 1092, connection code 8

Valve body material: GG 25 (code 8), GGG 40.3 (code 17, 18, 83), investment casting (code C3), forged body (code 40), investment casting PFA lined (code 39)

| MG | DN | øD | øk | øL | Number of bolts | H1 | | | | FTF | Weight [kg] |
|----|----|-----|-----|----|-----------------|-----------------|------------------------------|------------------|------------------|------|-------------|
| | | | | | | Material code 8 | Material code 17, 18, 39, 83 | Material code C3 | Material code 40 | | |
| 25 | 15 | 95 | 65 | 14 | 4 | 19.0 | 18.0 | 13.0 | 19.0 | 130* | 1.85 |
| | 20 | 105 | 75 | 14 | 4 | 19.0 | 20.5 | 16.0 | 19.0 | 150 | 2.35 |
| | 25 | 115 | 85 | 14 | 4 | 19.0 | 23.0 | 19.0 | 19.0 | 160 | 2.85 |
| 40 | 32 | 140 | 100 | 19 | 4 | 28.0 | 28.7 | 24.0 | 26.0 | 180 | 4.90 |
| | 40 | 150 | 110 | 19 | 4 | 28.0 | 33.0 | 26.0 | 26.0 | 200 | 5.65 |
| 50 | 50 | 165 | 125 | 19 | 4 | 35.0 | 39.0 | 32.0 | 32.0 | 230 | 7.45 |

*Material code C3, 40 FTF = 150 (no DIN length)

MG = diaphragm size

For materials see overview on page 13

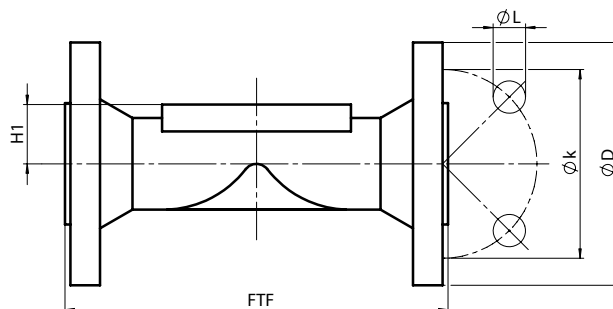
Flanges - ANSI Class 125/150 RF, connection code 38, 39

Valve body material: GG 25 (code 8), GGG 40.3 (code 17, 18, 83), investment casting (code C3), forged body (code 40), investment casting PFA lined (code 39)

| MG | DN | øD | øk | øL | Number of bolts | H1 | | | | FTF | | Weight [kg] | |
|----|----|-----|-------|------|-----------------|------------------------|-----------------------------|------------------|------------------|------------------------------|-------|-------------|---------------------------------------|
| | | | | | | Connection code 38, 39 | | | | MSS Sp-88 Connection-code 38 | | | EN 558 Series 1 Connection-code 39 |
| | | | | | | Material code 8 | Material code 17, 8, 39, 83 | Material code C3 | Material code 40 | Material code 17, 18, 39 83 | | | Material code, 17, 18, C3, 39, 40, 83 |
| 25 | 15 | 90 | 60.3 | 15.9 | 4 | 19.0 | 18.0 | 13.0 | 19.0 | - | - | 130 | 1.85 |
| | 20 | 100 | 69.9 | 15.9 | 4 | 19.0 | 20.5 | 16.0 | 19.0 | 146 | 146.4 | 150 | 2.35 |
| | 25 | 110 | 79.4 | 15.9 | 4 | 19.0 | 23.0 | 19.0 | 19.0 | 146 | 146.4 | 160 | 2.85 |
| 40 | 32 | 115 | 88.9 | 15.9 | 4 | 28.0 | 28.7 | 24.0 | 26.0 | - | - | 180 | 4.90 |
| | 40 | 125 | 98.4 | 15.9 | 4 | 28.0 | 33.0 | 26.0 | 26.0 | 175 | 171.4 | 200 | 5.65 |
| 50 | 50 | 150 | 120.7 | 19.0 | 4 | 35.0 | 39.0 | 32.0 | 32.0 | 200 | 197.4 | 230 | 7.45 |

MG = diaphragm size

For materials see overview on page 13

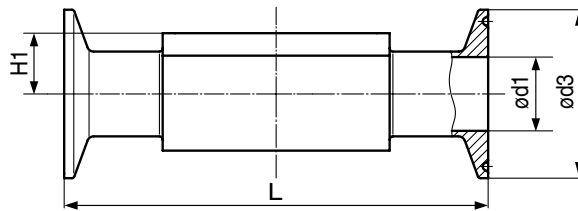


Body dimensions [mm]

Clamp connections, connection code 80, 82, 88, 8A, 8E Valve body material: Forged body (code 40, F4)

| Pipe connection for clamp | | | ASME BPE | | | | | | ISO 1127 / EN 10357 series C / DIN 11866 series B | | | EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A | | | SMS 3008 | | | Weight [kg] | |
|---------------------------|----|--------|----------|-------|------|-------|-------|------|---|------|------|--|-----|------|---------------------|------|------|-------------|------|
| Clamp connection | | | ASME BPE | | | | | | DIN 32676 series B | | | DIN 32676 series A | | | ISO 2852 / SMS 3017 | | | | |
| Clamp connection code | | | 80 | | | 88 | | | 82 | | | 8A | | | 8E | | | | |
| MG | DN | NPS | H1 | ød1 | ød3 | L | ød1 | ød3 | L | ød1 | ød3 | L | ød1 | ød3 | L | ød1 | ød3 | L | |
| 25 | 15 | 1/2" | 19.0 | - | - | - | - | - | - | 18.1 | 50.5 | 108.0 | 16 | 34.0 | 108.0 | - | - | - | 0.75 |
| | 20 | 3/4" | 19.0 | 15.75 | 25.0 | 101.6 | 15.75 | 25.0 | 117 | 23.7 | 50.5 | 117.0 | 20 | 34.0 | 117.0 | - | - | - | 0.71 |
| | 25 | 1" | 19.0 | 22.10 | 50.5 | 114.3 | 22.10 | 50.5 | 127 | 29.7 | 50.5 | 127.0 | 26 | 50.5 | 127.0 | 22.6 | 50.5 | 127 | 0.63 |
| 40 | 32 | 1 1/4" | 26.0 | - | - | - | - | - | - | 38.4 | 64.0 | 146.0 | 32 | 50.5 | 146.0 | 31.3 | 50.5 | 146 | 1.62 |
| | 40 | 1 1/2" | 26.0 | 34.80 | 50.5 | 139.7 | 34.80 | 50.5 | 159 | 44.3 | 64.0 | 159.0 | 38 | 50.5 | 159.0 | 35.6 | 50.5 | 159 | 1.50 |
| 50 | 50 | 2" | 32.0 | 47.50 | 64.0 | 158.8 | 47.50 | 64.0 | 190 | 56.3 | 77.5 | 190.0 | 50 | 64.0 | 190.0 | 48.6 | 64.0 | 190 | 2.50 |
| | 65 | 2 1/2" | 34.0 | 60.20 | 77.5 | 193.8 | 60.20 | 77.5 | 216 | - | - | - | - | - | - | 60.3 | 77.5 | 216 | 2.30 |

MG = diaphragm size



Overview of valve bodies for GEMÜ 698

| | | Spigots | | | | | | | | | | | | | | | |
|-----------------|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Connection code | | 0 | 16 | 17 | | 18 | 35 | 36 | 37 | | 55 | 59 | | 60 | | 63 | 65 |
| Material code | | 40 | 40 | C3 | 40 | 40 | 40 | 40 | C3 | 40 | 40 | C3 | 40 | C3 | 40 | 40 | 40 |
| MG | DN | | | | | | | | | | | | | | | | |
| 25 | 15 | X | X | X | X | X | - | X | - | - | - | - | - | X | X | X | X |
| | 20 | X | X | X | X | X | - | X | - | - | X | X | X | X | X | X | X |
| | 25 | X | X | X | X | X | X | X | X | X | - | X | X | X | X | X | X |
| 40 | 32 | X | X | X | X | X | X | X | - | X | - | - | - | X | X | X | X |
| | 40 | X | X | X | X | X | X | X | X | X | - | X | X | X | X | X | X |
| 50 | 50 | X | X | X | X | X | X | X | X | X | - | X | X | X | X | X | X |
| | 65 | - | - | - | - | - | X | - | - | X | - | - | X | - | - | - | - |

Availability of material code 42, F4: same as code 40

MG = diaphragm size

| | | Threaded connections | | | | Clamps | | | | | Flanges | | | | | | | | | | | | | | | | | | |
|-----------------|----|----------------------|----|----|----|--------|----|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|---|----|----|----|----|----|----|---|
| Connection code | | 1 | 31 | 6 | 62 | 80 | 82 | 88 | 8A | 8E | 8 | | | | | | 38 | | | | 39 | | | | | | | | |
| Material code | | 8 | 37 | 37 | 40 | 40 | 40 | 40 | 40 | 40 | 8 | 17 | 18 | C3 | 39 | 40 | 83 | 17 | 18 | 39 | 83 | 8 | 17 | 18 | C3 | 39 | 40 | 83 | |
| MG | DN | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 15 | X | X | X | W | W | - | W | - | K | - | X | X | X | W | X | W | X | - | - | - | - | X | X | X | W | X | W | X |
| | 20 | X | X | X | W | W | K | K | K | K | - | X | X | X | W | X | W | X | X | X* | X | X | X | X | X | W | X | W | X |
| | 25 | X | X | X | W | W | K | K | K | K | K | X | X | X | W | X | W | X | X | X* | X | X | X | X | X | W | X | W | X |
| 40 | 32 | X | X | X | W | W | - | W | - | K | K | X | X | X | W | X | W | X | - | - | - | - | X | X | X | W | X | W | X |
| | 40 | X | X | X | W | W | K | W | K | K | K | X | X | X | W | X | W | X | X | X* | X | X | X | X | X | W | X | W | X |
| 50 | 50 | X | X | X | W | W | K | W | K | K | K | X | X | X | W | X | W | X | X | X* | X | X | X | X | X | W | X | W | X |
| | 65 | - | - | - | - | - | W | - | W | - | W | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

* Connection code 38 / material code 18 on request

X = Standard

K = Connections completely machined (not welded)

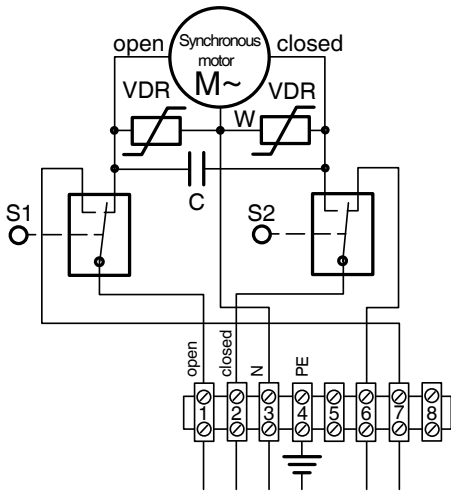
W = Welded construction

Availability of material code 42, F4: same as code 40

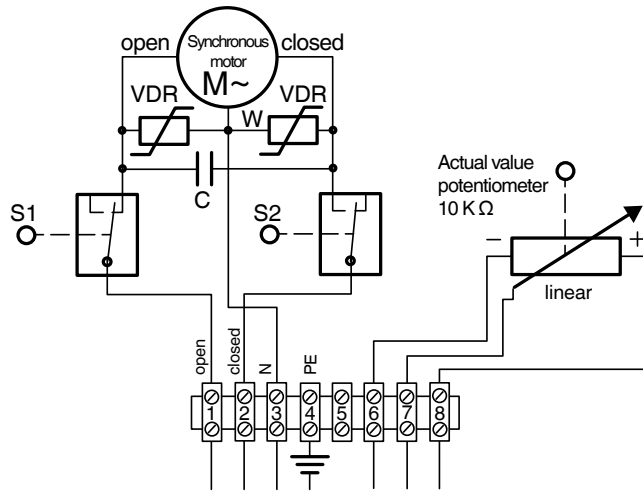
MG = diaphragm size

Connection diagram GEMÜ 698

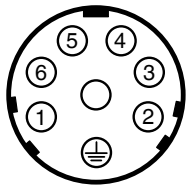
Functional module AE



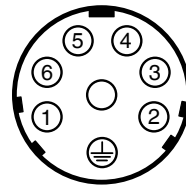
Functional module AP



Functional module AE OPEN / CLOSE control with 2 additional end position feedback signals and Hirschmann plug N 6 R AM2 (design: 6027)



Functional module AP OPEN / CLOSE control with potentiometer output and Hirschmann plug N 6 R AM2 (design: 6027)



| Pin | Designation |
|-----|--|
| 1 | L1, motor voltage for direction of travel OPEN |
| 2 | L1, motor voltage for direction of travel CLOSED |
| 3 | N, reference voltage |
| 4 | n.c. |
| 5 | Us, S2 (24) CLOSED end position [Us=Ub] |
| 6 | Us, S1 (24) OPEN end position [Us=Ub] |
| 7 | ⌚, PE |

| Pin | Designation |
|-----|--|
| 1 | L1, motor voltage for direction of travel OPEN |
| 2 | L1, motor voltage for direction of travel CLOSED |
| 3 | N, reference voltage |
| 4 | Us +, actual value potentiometer, signal voltage |
| 5 | Us -, actual value potentiometer, signal output |
| 6 | Us ~, actual value potentiometer, signal voltage |
| 7 | ⌚, PE |

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