

Construction

The GEMÜ 625 2/2-way diaphragm valve has a low maintenance piston actuator which can be controlled by inert gases. Normally Closed, Normally Open and Double Acting control functions are available. An optical position indicator is integrated as standard.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- Insensitive to particulate media
- Valve body and diaphragm available in various materials and designs
- Compact design (ideal when space is at a premium)
- CIP/SIP cleaning and sterilizing capabilities
- Versions according to ATEX on request

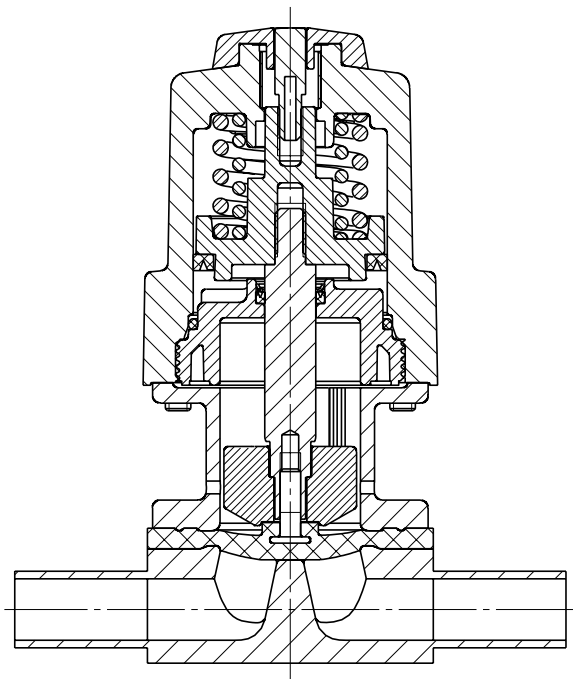
Advantages

- Hermetic separation between medium and actuator
- For sterile applications
- Optional flow direction
- Installation for an optimized draining is possible
- Optional accessories:
 - Stroke limiter
 - Electrical position indicators with microswitches or proximity switches

*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.

Temperatures

Media temperature

| | |
|----------------|----------------|
| FPM (Code 4) | -10 ... 90 °C |
| EPDM (Code 13) | -10 ... 100 °C |
| EPDM (Code 17) | -10 ... 100 °C |
| PTFE (Code 52) | -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 17) | max. 150 °C ⁽²⁾ , max. 180 min per cycle |
| PTFE (Code 52) | 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.

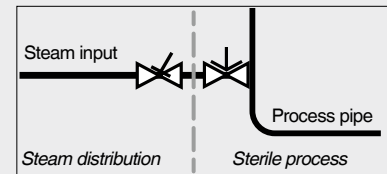
PTFE diaphragms can also be used as moisture barriers; however, this will reduce their service life.

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

0 ... 60 °C

Control medium

Inert gases

Max. perm. temperature of control medium

40 °C

Filling volume

0.02 dm³

| | | Operating pressure [bar] | Control pressure [bar] | | |
|----------------|---------|-----------------------------|------------------------|----------|----------|
| Diaphragm size | DN | | Stf. 1 | Stf. 2 | Stf. 3 |
| 10 | 10 - 20 | 0 - 6 | 5 - 7 | max. 5.5 | max. 5.0 |

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.

Kv values [m³/h]

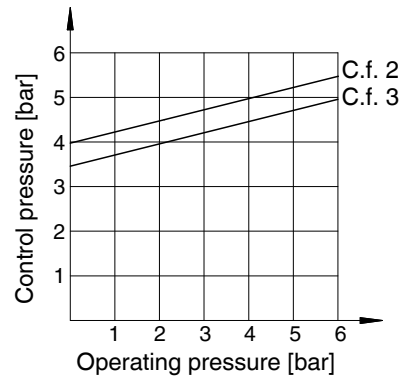
| Diaphragm size | DN | DIN | EN 10357 Series B | EN 10357 Series A | DIN 11850 Series 3 | ASME BPE | ISO 1127 / EN 10357 Series C |
|----------------|----|--------|-------------------|-------------------|--------------------|----------|------------------------------|
| | | Code 0 | Code 16 | Code 17 | Code 18 | Code 59 | Code 60 |
| 10 | 10 | - | 2.4 | 2.4 | 2.4 | 2.2 | 3.3 |
| | 15 | 3.3 | 3.8 | 3.8 | 3.8 | 2.2 | 4.0 |
| | 20 | - | - | - | - | 3.8 | - |

Kv values determined acc. to DIN EN 60534, inlet pressure 5 bar, Δp 1 bar, stainless steel valve 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.

Control pressure / operating pressure diagram

Control function 2 + 3



Order data

| Body configuration | Code |
|--|------|
| Tank valve body | B** |
| 2/2-way body | D |
| Multi-port design | M** |
| T body | T* |
| * For dimensions see T Valves brochure | |
| ** Dimensions and versions on request | |

| Valve body material | Code |
|--|------|
| 1.4435 - BN2 (CF3M), investment casting Fe<0.5% | 32 |
| 1.4435 (ASTM A 351 CF3M, \triangle 316L), investment casting | 34 |
| 1.4408, investment casting | 37 |
| 1.4435 (316 L), forged body | 40 |
| 1.4435 (BN2), forged body Fe<0.5% | 42 |
| 1.4539, forged body | F4 |

| Connection | Code |
|---|------|
| Butt weld spigots | |
| Spigots DIN | 0 |
| Spigots EN 10357 series B | 16 |
| Spigots EN 10357 series A | 17 |
| Spigots DIN 11850 series 3 | 18 |
| Spigots DIN 11866 series A | 1A |
| Spigots DIN 11866 series B | 1B |
| Spigots JIS-G 3459 | 36 |
| Spigots BS 4825 part 1 | 55 |
| Spigots ASME BPE | 59 |
| Spigots ISO 1127 / EN 10357 series C | 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 spigots DIN 11851 | 6 |
| One side threaded spigot, other side cone spigot and union nut, DIN 11851 | 62 |
| Aseptic unions on request | |
| 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 |
| Clamp 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 |
| For overview of available valve bodies for GEMÜ 625 see page 8 | |

| Diaphragm material | Code |
|---|------|
| FPM | 4 |
| EPDM | 13 |
| EPDM | 17 |
| PTFE/EPDM PTFE laminated | 52 |
| Material complies with FDA requirements, except codes 4 | |

| Control function | Code |
|----------------------|------|
| Normally closed (NC) | 1 |
| Normally open (NO) | 2 |
| Double acting (DA) | 3 |

| Actuator size | Code |
|------------------|------|
| Standard version | 1/N |

Order data

Valve body surface finish, internal contour

| | Hygienic class DIN 11866 | Designation ASME BPE (2014) | Forged body Code 40, 42, F4 | Investment casting Code 32, 34 | Code |
|--|-----------------------------|-----------------------------------|--------------------------------|--------------------------------------|------|
| Ra ≤ 6,3 µm (250 µinch) for media wetted surfaces, blasted internal/external | - | - | - | X | 1500 |
| Ra ≤ 0,8 µm (30 µinch) for media wetted surfaces, mechanically polished internal | H3 | SF3 | X | X | 1502 |
| Ra ≤ 0,8 µm (30 µinch) for media wetted surfaces, electropolished internal/external | HE3 | - | X | - | 1503 |
| Ra ≤ 0,6 µm (25 µinch) for media wetted surfaces, mechanically polished internal | - | SF2 | X* | X* | 1507 |
| Ra ≤ 0,6 µm (25 µinch) for media wetted surfaces, electropolished internal/external | - | SF6 | X* | - | 1508 |
| Ra ≤ 0,5 µm (20 µinch) for media wetted surfaces, mechanically polished internal | - | SF1 | X* | - | 1927 |
| Ra ≤ 0,5 µm (20 µinch) for media wetted surfaces, electropolished internal/external | - | SF5 | X* | - | 1928 |
| Ra ≤ 0,4 µm (15 µinch) for media wetted surfaces, mechanically polished internal | H4 | - | X* | - | 1536 |
| Ra ≤ 0,4 µm (15 µinch) for media wetted surfaces, electropolished internal/external | HE4 | - | X* | - | 1537 |
| Ra ≤ 0,4 µm (15 µinch) for media wetted surfaces, electropolished internal/external | - | SF4 | X* | - | 1929 |
| Ra ≤ 0,25 µm (10 µinch) for media wetted surfaces, electropolished internal/external | HE5 | - | X* | - | 1516 |
| Ra ≤ 0,25 µm (10 µinch) for media wetted surfaces, mechanically polished internal | H5 | - | X* | - | 1527 |

Ra acc. to DIN 4768; at defined reference points.

* For pipe inside diameter < 6 mm, the surface inside the spigot is Ra ≤ 0.8 µm.

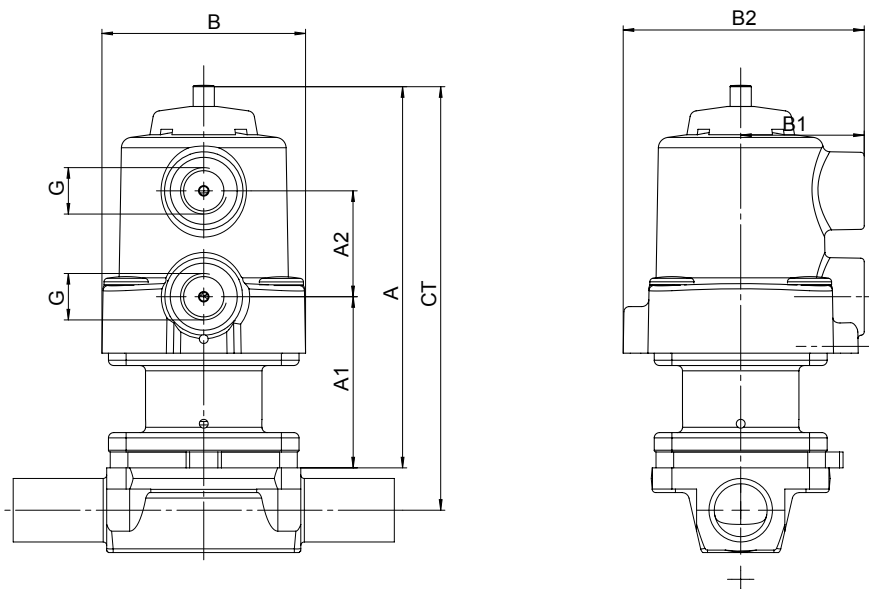
Order data

| Special function | Code |
|----------------------|------|
| 3-A compliant design | M |

| Order example | 625 | 15 | D | 60 | 34 | 52 | 1 | 1/N | 1500 | M |
|----------------------------|-----|----|---|----|----|----|---|-----|------|---|
| Type | 625 | | | | | | | | | |
| Nominal size | | 15 | | | | | | | | |
| Body configuration (code) | | | D | | | | | | | |
| Connection (code) | | | | 60 | | | | | | |
| Valve body material (code) | | | | | 34 | | | | | |
| Diaphragm material (code) | | | | | | 52 | | | | |
| Control function (code) | | | | | | | 1 | | | |
| Actuator size (code) | | | | | | | | 1/N | | |
| Surface finish (code) | | | | | | | | | 1500 | |
| Special function (code) | | | | | | | | | | M |

Dimensions [mm]

| Actuator dimensions | | | | | | | | |
|---------------------|-----|----|----|----|----|----|-------|-------------|
| Diaphragm size | A | A1 | A2 | B | B1 | B2 | G | Weight [kg] |
| 10 | 110 | 49 | 30 | 57 | 35 | 68 | G 1/4 | 0.45 |



* CT = A + H1 (see body dimensions)

Body dimensions [mm]

Butt weld spigots, connection code 0, 16, 17, 18 Valve body material: investment casting (code 34), forged body (code 40, F4)

| | | | | | | | | DIN Series 0 Code 0 | | EN 10357 Series B Code 16 | | EN 10357 Series A Code 17 | | DIN 11850 Series 3 Code 18 | | Weight [kg] |
|----|----|------|----|------|-----|----|------|---------------------|-----|---------------------------|-----|---------------------------|-----|----------------------------|-----|-------------|
| MG | DN | NPS | f* | øg* | L | c | H1 | ød | s | ød | s | ød | s | ød | s | |
| 10 | 10 | 3/8" | 30 | 13.5 | 108 | 25 | 12.5 | - | - | 12 | 1.0 | 13 | 1.5 | 14 | 2.0 | 0.30 |
| | 15 | 1/2" | 30 | 13.5 | 108 | 25 | 12.5 | 18 | 1.5 | 18 | 1.0 | 19 | 1.5 | 20 | 2.0 | 0.30 |

* only for investment cast design MG = diaphragm size For materials see overview on page 8

Butt weld spigots, connection code 1A, 1B, 60 Valve body material: investment casting (code 34), forged body (code 40, F4)

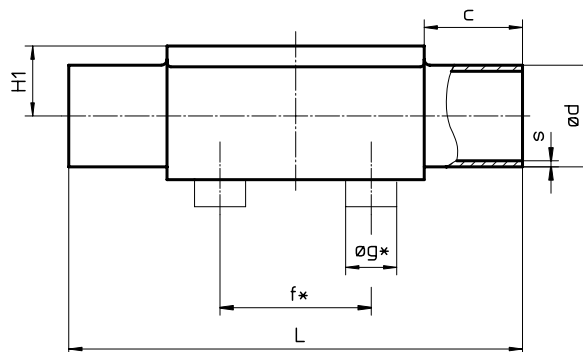
| | | | | | | | | DIN 11866 Series A Code 1A | | DIN 11866 Series B Code 1B | | ISO 1127 / EN 10357 Series C Code 60 | | Weight [kg] |
|----|----|------|----|------|-----|----|------|----------------------------|-----|----------------------------|-----|--------------------------------------|-----|-------------|
| MG | DN | NPS | f* | øg* | L | c | H1 | ød | s | ød | s | ød | s | |
| 10 | 10 | 3/8" | 30 | 13.5 | 108 | 25 | 12.5 | 13 | 1.5 | 17.2 | 1.6 | 17.2 | 1.6 | 0.30 |
| | 15 | 1/2" | 30 | 13.5 | 108 | 25 | 12.5 | 19 | 1.5 | 21.3 | 1.6 | 21.3 | 1.6 | 0.30 |

* only for investment cast design MG = diaphragm size For materials see overview on page 8

Butt weld spigots, connection code 36, 55, 59, 63, 65 Valve body material: investment casting (code 34), forged body (code 40, F4)

| | | | | | | | | JIS-G 3459 Code 36 | | BS 4825 Code 55 | | ASME BPE Code 59 | | ANSI/ASME B36.19M 10s Code 63 | | ANSI/ASME B36.19M 40s Code 65 | | Weight [kg] |
|----|----|------|----|------|-----|----|------|--------------------|------|-----------------|-----|------------------|------|-------------------------------|------|-------------------------------|------|-------------|
| MG | DN | NPS | f* | øg* | L | c | H1 | ød | s | ød | s | ød | s | ød | s | ød | s | |
| 10 | 10 | 3/8" | 30 | 13.5 | 108 | 25 | 12.5 | 17.3 | 1.65 | 9.53 | 1.2 | 9.53 | 0.89 | 17.1 | 1.65 | 17.1 | 2.31 | 0.30 |
| | 15 | 1/2" | 30 | 13.5 | 108 | 25 | 12.5 | 21.7 | 2.10 | 12.70 | 1.2 | 12.70 | 1.65 | 21.3 | 2.11 | 21.3 | 2.77 | 0.30 |
| | 20 | 3/4" | 30 | 13.5 | 108 | 25 | 12.5 | - | - | 19.05 | 1.2 | 19.05 | 1.65 | - | - | - | - | 0.30 |

* only for investment cast design MG = diaphragm size For materials see overview on page 8

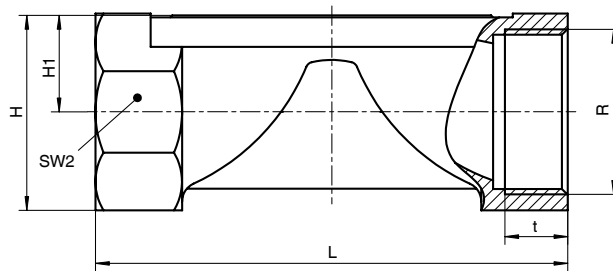


Body dimensions [mm]

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

| MG | DN | R | H | H1 | t | L | SW2 | Number of flats | Weight [kg] |
|----|----|-------|----|----|----|----|-----|-----------------|-------------|
| 10 | 12 | G 3/8 | 25 | 13 | 12 | 55 | 22 | 2 | 0.17 |
| | 15 | G 1/2 | 30 | 15 | 15 | 68 | 27 | 2 | 0.26 |

MG = diaphragm size



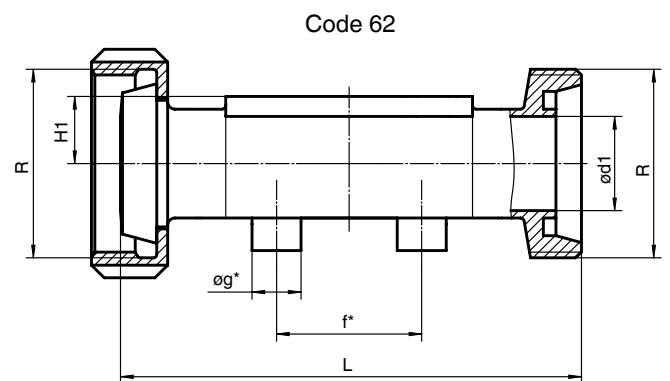
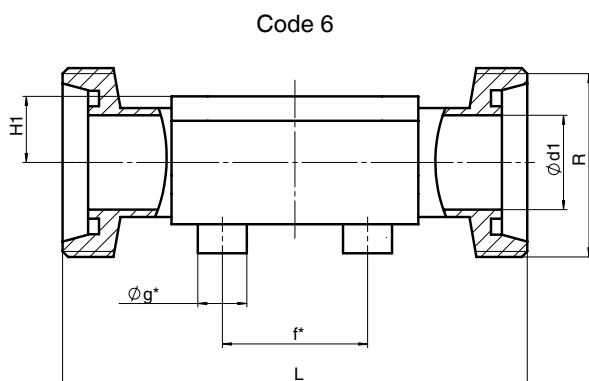
Threaded connections, connection code 6, 62 Valve body material: investment casting (code 34), forged body (code 40)

| MG | DN | H1 | f* | øg* | ød1 | Thread to DIN 405 R | Code 6 L | Code 62 L | Weight [kg] |
|----|----|------|------|------|------|---------------------|----------|-----------|-------------|
| 10 | 10 | 12.5 | 30.0 | 13.5 | 10.0 | RD 28 x 1/8 | 118 | 116 | 0.33 |
| | 15 | 12.5 | 30.0 | 13.5 | 16.0 | RD 34 x 1/8 | 118 | 116 | 0.35 |

* only for investment cast design

MG = diaphragm size

For materials see overview on page 8

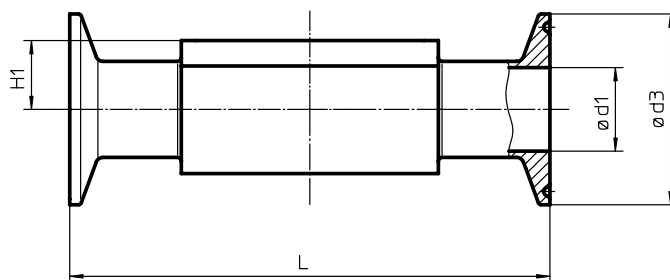


Body dimensions [mm]

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

| | | | | for pipe ASME BPE Code 80 | | | for pipe EN ISO 1127 Code 82 | | | for pipe ASME BPE Code 88 | | | for pipe DIN 11850 Code 8A | | | Weight [kg] |
|----|----|------|------|---------------------------|------|-------|------------------------------|------|-----|---------------------------|------|-----|----------------------------|------|-----|-------------|
| MG | DN | NPS | H1 | ød1 | ød3 | L | ød1 | ød3 | L | ød1 | ød3 | L | ød1 | ød3 | L | |
| 10 | 10 | 3/8" | 12.5 | - | - | - | 14.0 | 25.0 | 108 | - | - | - | 10 | 34.0 | 108 | 0.30 |
| | 15 | 1/2" | 12.5 | 9.40 | 25.0 | 88.9 | 18.1 | 50.5 | 108 | 9.40 | 25.0 | 108 | 16 | 34.0 | 108 | 0.43 |
| | 20 | 3/4" | 12.5 | 15.75 | 25.0 | 101.6 | - | - | - | 15.75 | 25.0 | 117 | - | - | - | 0.43 |

MG = diaphragm size



Overview of valve bodies for GEMÜ 625

| | | Threaded connections | | | | Spigots | | | | | | | | | | | | | | Clamps | | | | | | | | | | | |
|-----------------|----|----------------------|----|----|----|---------|----|----|----|----|----|----|----|----|----|----|----|----|----|--------|----|----|----|----|----|----|----|----|----|----|---|
| Connection code | | 1 | 6 | 62 | | 0 | 16 | 17 | 18 | 1A | 1B | 36 | 55 | 59 | 60 | 63 | 65 | 80 | 82 | 88 | 8A | | | | | | | | | | |
| Material code | | 37 | 34 | 40 | 34 | 40 | 34 | 40 | 34 | 40 | 34 | 40 | 34 | 40 | 40 | 40 | 40 | 34 | 40 | 34 | 40 | 34 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | |
| MG | DN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 10 | - | W | W | W | W | - | - | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | 12 | X | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 15 | X | W | W | W | W | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| | 20 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

X = Standard

K = Connections completely machined (not welded)

W = Welded construction

MG = diaphragm size

Availability of material code 32: same as code 34, availability of material code 42, F4: same as code 40

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

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