

## GEMÜ B54

Motorized ball valve

EN

### Operating instructions



further information  
webcode: GW-B54



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## 1 General information

### 1.1 Information

- The descriptions and instructions apply to the standard versions. For special versions not described in this document the basic information contained herein applies in combination with any additional special documentation.
- Correct installation, operation, maintenance and repair work ensure faultless operation of the product.
- Should there be any doubts or misunderstandings, the German version is the authoritative document.
- Contact us at the address on the last page for staff training information.

### 1.2 Symbols used

The following symbols are used in this document:

| Symbol | Meaning               |
|--------|-----------------------|
| ●      | Tasks to be performed |
| ▶      | Response(s) to tasks  |
| -      | Lists                 |

### 1.3 Definition of terms

#### Working medium

The medium that flows through the GEMÜ product.

#### Control medium

The medium whose increasing or decreasing pressure causes the GEMÜ product to be actuated and operated.

#### Control function

The possible actuation functions of the GEMÜ product.


### 1.4 Warning notes


Wherever possible, warning notes are organised according to the following scheme:


| SIGNAL WORD                             |  |
|---|--|
| Possible symbol for the specific danger | <p>Type and source of the danger</p> <ul style="list-style-type: none"> <li>▶ Possible consequences of non-observance.</li> <li>● Measures for avoiding danger.</li> </ul> |


Warning notes are always marked with a signal word and sometimes also with a symbol for the specific danger.

The following signal words and danger levels are used:








| ⚠ DANGER  |   |
|---|---|
|  | <p><b>Imminent danger!</b></p> <ul style="list-style-type: none"> <li>▶ Non-observance can cause death or severe injury.</li> </ul> |

| ⚠ WARNING   |   |
|---|---|
|  | <p><b>Potentially dangerous situation!</b></p> <ul style="list-style-type: none"> <li>▶ Non-observance can cause death or severe injury.</li> </ul> |

| ⚠ CAUTION   |   |
|---|---|
|  | <p><b>Potentially dangerous situation!</b></p> <ul style="list-style-type: none"> <li>▶ Non-observance can cause moderate to light injury.</li> </ul> |

| NOTICE  |   |
|---|---|
|  | <p><b>Potentially dangerous situation!</b></p> <ul style="list-style-type: none"> <li>▶ Non-observance can cause damage to property.</li> </ul> |

The following symbols for the specific dangers can be used within a warning note:

| Symbol  | Meaning                                |
|---|--|
|   | Danger of explosion!                   |
|  | The equipment is subject to pressure!  |
|  | Corrosive chemicals!                   |
|  | Hot plant components!                  |
|  | Maximum permissible pressure exceeded. |
|  | Risk of electric shock!                |
|  | Electric shock by dangerous voltage!   |

## 2 Safety information

The safety information in this document refers only to an individual product. Potentially dangerous conditions can arise in combination with other plant components, which need to be considered on the basis of a risk analysis. The operator is responsible for the production of the risk analysis and for compliance with the resulting precautionary measures and regional safety regulations.

The document contains fundamental safety information that must be observed during commissioning, operation and maintenance. Non-compliance with these instructions may cause:

- Personal hazard due to electrical, mechanical and chemical effects.
- Hazard to nearby equipment.
- Failure of important functions.
- Hazard to the environment due to the leakage of dangerous substances.

The safety information does not take into account:

- Unexpected incidents and events, which may occur during installation, operation and maintenance.
- Local safety regulations which must be adhered to by the operator and by any additional installation personnel.

### Prior to commissioning:

1. Transport and store the product correctly.
2. Do not paint the bolts and plastic parts of the product.
3. Carry out installation and commissioning using trained personnel.
4. Provide adequate training for installation and operating personnel.
5. Ensure that the contents of the document have been fully understood by the responsible personnel.
6. Define the areas of responsibility.
7. Observe the safety data sheets.
8. Observe the safety regulations for the media used.

### During operation:

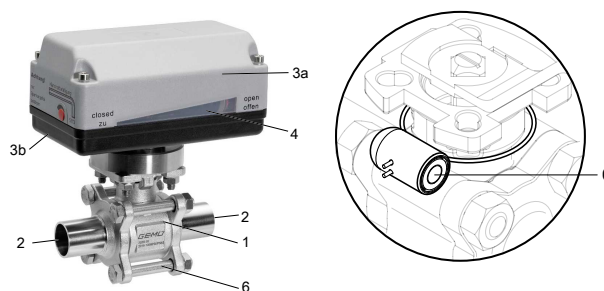
9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not described in this document without consulting the manufacturer first.

### In cases of uncertainty:

15. Consult the nearest GEMÜ sales office.

## 3 Product description

### 3.1 Construction



| Item | Name   | Materials  |
|------|--|--|
| 1    | Ball valve body  | ASTM A351/1.4435 (316L)  |
| 2    | Pipe connections   | ASTM A351/1.4435 (316L)  |
| 3a   | Actuator housing cover<br>Actuator version 1006,1015<br>Actuator version 3035, 3055<br>Actuator version 4100, 4200 | PPO (10% glass fibre reinforced)<br>PP (30% glass fibre reinforced)<br>Aluminium |
| 3b   | Actuator housing base<br>Actuator version 1006, 1015,<br>3035, 3055<br>Actuator version 4100, 4200                 | PP (30% glass fibre reinforced)<br>Aluminium                                     |
| 4    | Optical position indicator, position indicator   | PP-R natural   |
| 6    | Bolt   | A2 70  |
|      | Seals  | PTFE   |
| C    | CONEXO RFID chip   |  |

### 3.2 Description

The GEMÜ B54 three-piece 2/2-way metal ball valve is motorized. It has a plastic actuator housing and is particularly suitable for requirements in the pharmaceutical, food processing and biotechnology industries, such as water treatment or sterile steam generation. Only those plastics which are compliant with FDA, USP Class VI and EC10/2011 are used for the seals.

### 3.3 Function

The product is equipped with a top flange in stainless steel. It has an electric actuator with a powerful DC motor. The reduction gear in the motor, consisting of a threaded spindle with a lever, provides the rotation through 90°. The actuator has an optical position indicator and a manual override as standard.

## 4 GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



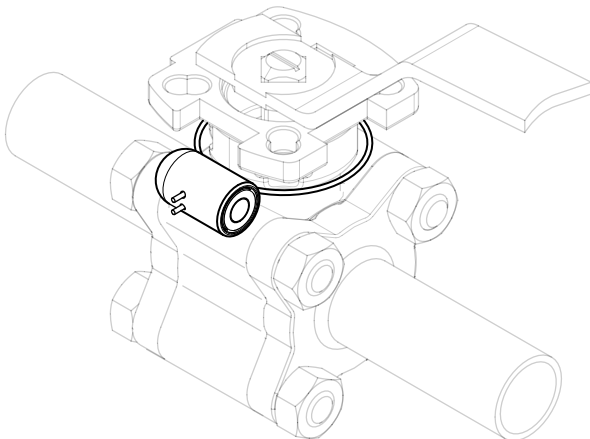
Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

**For further information on GEMÜ CONEXO please visit:**

[www.gemu-group.com/conexo](http://www.gemu-group.com/conexo)

**Installing the RFID chip**

In the corresponding design with CONEXO, this product has an RFID chip for electronic identification purposes. The position of the RFID chip can be seen below.




**5 Correct use**

Ball valves are used to isolate media flows.

Only clean, liquid or gaseous media must be used, and the body and seal materials used must be resistant to and suitable for this. Contaminated media and / or applications outside of the pressure and temperature data may lead to damage to the body and, in particular, to the seals on the ball valve.

The "Technical data" chapter describes the permissible pressure / temperature range for these ball valves.

**⚠ DANGER**

|   |  |
|---|--|
|  | <p><b>Danger of explosion!</b></p> <ul style="list-style-type: none"> <li>▶ Risk of severe injury or death</li> <li>● Do not use the product in potentially explosive zones.</li> <li>● Only use the product in potentially explosive zones confirmed in the declaration of conformity.</li> </ul> |
|---|--|

**⚠ WARNING**

|   |  |
|---|--|
| <p><b>Improper use of the product!</b></p> <ul style="list-style-type: none"> <li>▶ Risk of severe injury or death</li> <li>▶ Manufacturer liability and guarantee will be void.</li> <li>● Only use the product in accordance with the operating conditions specified in the contract documentation and in this document.</li> </ul> |  |
|---|--|

The product is suitable for installation in piping and for controlling a media flow. The operating conditions according to the technical data apply to the media to be controlled.

The product is controlled via a motorized actuator.

The product is not intended for use in potentially explosive areas.

The product must not be exposed to pressure fluctuations. If the product is to be used with pressure fluctuations, please contact GEMÜ.

Due to the design, in the open and closed position, a low volume of medium may be trapped within the ball or between the ball and the body.

Expansion of the medium due to temperature differences, change in state or a chemical response may lead to a high pressure build-up. In order to prevent unacceptable pressure increases, a special version with pressure-relief hole in the ball is available on request for this case.

**NOTICE**

|   |
|---|
| <p><b>Build-up of lint!</b></p> <ul style="list-style-type: none"> <li>▶ For soft-seated ball valves, due to the relative rotations of the stainless steel ball to the seat seal, slight wear of the PTFE seals must always be anticipated. Despite this, the safety of the ball valve is not affected by any potential build-up of lint and the seal materials are compliant in accordance with FDA directives.</li> </ul> |
|---|

## 6 Order data

### 6.1 Ball valve with GEMÜ 9428, 9468 actuator

The order data provide an overview of standard configurations.

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

Products ordered with **bold marked ordering options** are so-called preferred series. Depending on the nominal size, these are available more quickly.

#### Order codes

| 1 Type   | Code       |
|--|------------|
| Ball valve, metal, electrically operated, three-piece body, sanitary, checked delta ferrite material and media wetted surfaces according to ASME SF5, ISO 5211, top flange, lockable hand lever, low-maintenance spindle seal and blow-out proof shaft, with antistatic unit | <b>B54</b> |

| 2 DN   | Code |
|--------|------|
| DN 8   | 8    |
| DN 10  | 10   |
| DN 15  | 15   |
| DN 20  | 20   |
| DN 25  | 25   |
| DN 32  | 32   |
| DN 40  | 40   |
| DN 50  | 50   |
| DN 65  | 65   |
| DN 80  | 80   |
| DN 100 | 100  |

| 3 Body/ball configuration | Code     |
|---------------------------|----------|
| <b>2/2-way body</b>       | <b>D</b> |

| 4 Connection type  | Code      |
|--|-----------|
| Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2  | 17        |
| Spigot SMS 3008  | 37        |
| <b>Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C</b>                                  | <b>59</b> |
| Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B  | 60        |
| <b>Clamp ASME BPE</b>  | <b>80</b> |
| On one side, clamp ASME BPE corresponding to code 80, on the other side, butt weld spigot code 59, for pipe ASME BPE | 93        |

| 5 Ball valve material   | Code |
|---|------|
| 1.4435/ASTM A351, low ferrite <3% (equivalent to 316L $\Delta$ Fe<3%) (body, connection, ball), 1.4409/SS316L (spindle) | C3   |

| 6 Seal material                         | Code |
|---|------|
| PTFE (FDA certification)                | 5T   |
| PTFE (FDA certification), cavity filled | 5H   |

| 7 Voltage/Frequency | Code |
|---------------------|------|
| 12 VDC              | B1   |
| 12 V, 50/60 Hz      | B4   |
| 24 VDC              | C1   |
| 24 V, 50/60 Hz      | C4   |

| 8 Control module   | Code |
|--|------|
| ON/OFF actuator, relay, not reversible   | 00   |
| ON/OFF actuator, two additional potential-free limit switches, relay, not reversible | 0E   |
| ON/OFF actuator, potentiometer output, relay, not reversible                         | 0P   |
| ON/OFF actuator  | A0   |
| ON/OFF actuator, two additional potential-free limit switches, Class A (EN15714-2)   | AE   |

| 9 Actuator version  | Code |
|---|------|
| Actuator, motorized, operating time 4 s, torque 6 Nm, GEMUE, size 1 supply voltage B1, C1, B4, C4 | 1006 |
| Actuator, motorized, operating time 11 s, torque 15 Nm, GEMUE, size 1 supply voltage B1, C1       | 1015 |
| Actuator, motorized, operating time 15 s, torque 35 Nm, GEMUE, size 3, supply voltage C1          | 3035 |
| Actuator, motorized, operating time 15 s, torque 55 Nm, GEMUE, size 3, supply voltage C1          | 3055 |
| Actuator, motorized, operating time 20 s, torque 100 Nm, GEMUE, size 4, supply voltage C1         | 4100 |
| Actuator, motorized, operating time 16 s, torque 200 Nm, GEMUE, size 4, supply voltage C1         | 4200 |

| 10 Type of design  | Code |
|--|------|
| Standard   |      |
| Ra $\leq$ 0.4 $\mu$ m (15 $\mu$ m.) for media wetted surfaces *), in accordance with DIN 11866 HE4, electropolished internal/external, *) for inner pipe diameter $\leq$ 6 mm, in spigot Ra $\leq$ 0.8 $\mu$ m | 1537 |
| K-NO SF5, K-NO 5227, SF5 – Ra max. 0.51 $\mu$ m (20 $\mu$ m.) electropolished internal/external, 5227 – thermal separation by mounting kit   | 7138 |

| 10 Type of design  | Code |
|--|------|
| K-NO SF5, K-NO 0101,<br>SF5 – Ra max. 0.51 µm (20 µin.) electropolished<br>internal/external,<br>0101 – media wetted area cleaned to ensure suitability<br>for paint applications        | 7140 |
| K-NO SF5, K-NO 0104,<br>SF5 – Ra max. 0.51 µm (20 µin.) electropolished<br>internal/external,<br>0104 – media wetted parts cleaned for high purity<br>media<br>and packed in plastic bag | 7141 |
| K-NO SF5, K-NO 0107,<br>SF5 – Ra max. 0.51 µm (20 µin.) electropolished<br>internal/external,<br>0107 – valve free of oil and grease, media wetted area<br>cleaned                       | 7142 |

| 10 Type of design   | Code |
|---|------|
| Ra max. 0.38 µm (15 µin.) for media wetted surfaces,<br>in accordance with ASME BPE SF4, electropolished<br>internal/external | SF4  |
| Ra max. 0.51 µm (20 µin.) for media wetted surfaces,<br>in accordance with ASME BPE SF5, electropolished<br>internal/external | SF5  |

| 11 CONEXO  | Code |
|--|------|
| Without  |      |
| Integrated RFID chip for electronic identification and<br>traceability | C    |

### Order example

| Ordering option           | Code | Description  |
|---------------------------|------|--|
| 1 Type                    | B54  | Ball valve, metal, electrically operated, three-piece body, sanitary, checked delta ferrite material and media wetted surfaces according to ASME SF5, ISO 5211, top flange, lockable hand lever, low-maintenance spindle seal and blow-out proof shaft, with antistatic unit |
| 2 DN                      | 15   | DN 15  |
| 3 Body/ball configuration | D    | 2/2-way body   |
| 4 Connection type         | 59   | Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C   |
| 5 Ball valve material     | C3   | 1.4435/ASTM A351, low ferrite <3% (equivalent to 316L Δ Fe<3%) (body, connection, ball), 1.4409/SS316L (spindle)   |
| 6 Seal material           | 5T   | PTFE (FDA certification)   |
| 7 Voltage/Frequency       | C1   | 24 VDC   |
| 8 Control module          | A0   | ON/OFF actuator  |
| 9 Actuator version        | 1015 | Actuator, motorized, operating time 11 s, torque 15 Nm, GEMUE, size 1 supply voltage B1, C1  |
| 10 Type of design         |      | Standard   |
| 11 CONEXO                 |      | Without  |



## 6.2 Ball valve with J+J actuator

The order data provide an overview of standard configurations.

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

Products ordered with **bold marked ordering options** are so-called preferred series. Depending on the nominal size, these are available more quickly.

### Order codes

| 1 Type   | Code |
|--|------|
| Ball valve, metal, electrically operated, three-piece body, sanitary, checked delta ferrite material and media wetted surfaces according to ASME SF5, ISO 5211, top flange, lockable hand lever, low-maintenance spindle seal and blow-out proof shaft, with antistatic unit | B54  |

| 2 DN   | Code |
|--------|------|
| DN 8   | 8    |
| DN 10  | 10   |
| DN 15  | 15   |
| DN 20  | 20   |
| DN 25  | 25   |
| DN 32  | 32   |
| DN 40  | 40   |
| DN 50  | 50   |
| DN 65  | 65   |
| DN 80  | 80   |
| DN 100 | 100  |

| 3 Body/ball configuration | Code     |
|---------------------------|----------|
| <b>2/2-way body</b>       | <b>D</b> |

| 4 Connection type  | Code      |
|--|-----------|
| Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2  | 17        |
| Spigot SMS 3008  | 37        |
| <b>Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C</b>                                  | <b>59</b> |
| Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B  | 60        |
| <b>Clamp ASME BPE</b>  | <b>80</b> |
| On one side, clamp ASME BPE corresponding to code 80, on the other side, butt weld spigot code 59, for pipe ASME BPE | 93        |

| 5 Ball valve material   | Code |
|---|------|
| 1.4435/ASTM A351, low ferrite <3% (equivalent to 316L $\Delta$ Fe<3%) (body, connection, ball), 1.4409/SS316L (spindle) | C3   |

| 6 Seal material                         | Code |
|---|------|
| PTFE (FDA certification)                | 5T   |
| PTFE (FDA certification), cavity filled | 5H   |

| 7 Voltage/Frequency                                 | Code |
|---|------|
| 24 V–240 V AC/DC for model 20, 35, 55, 85, 140, 300 | U5   |

| 8 Control module  | Code |
|---|------|
| ON/OFF actuator, three-position actuator, additional potential-free limit switches  | A3   |
| ON/OFF actuator, two additional potential-free limit switches, Class A (EN15714-2)  | AE   |
| ON/OFF actuator, two additional potential-free limit switches, BSR battery pack (NC)  | AE1  |
| ON/OFF actuator, two additional potential-free limit switches, BSR battery pack (NO)  | AE2  |
| ON/OFF actuator, potentiometer output, Class A (EN15714-2)  | AP   |
| ON/OFF actuator, two additional potential-free limit switches, potentiometer output 5 kOhm, FailSafe battery pack (NC), preferred direction is adjustable | AP1  |
| Control actuator, external set value 0–10 VDC   | E1   |
| DPS positioner, external set value 0–10 V, BSR battery pack (NC)  | E11  |
| Control actuator, external set value 0/4–20 mA  | E2   |
| DPS positioner, external set value 4–20 mA, BSR battery pack (NO)   | E22  |

| 9 Actuator version   | Code  |
|--|-------|
| Actuator, motorized, operating time 9 s, torque 20 Nm, J+J, type J4, heating, IP67   | J4C20 |
| Actuator, motorized, operating time 9 s, torque 35 Nm, J+J, type J4, heating, IP67   | J4C35 |
| Actuator, motorized, operating time 13 s, torque 55 Nm, J+J, type J4, heating, IP67  | J4C55 |
| Actuator, motorized, operating time 34 s, torque 140 Nm, J+J, type J4, heating, IP67 | J4C14 |
| Actuator, motorized, operating time 58 s, torque 300 Nm, J+J, type J4, heating, IP67 | J4C30 |

| 10 Type of design   | Code |
|---|------|
| Standard  |      |
| Ra ≤ 0.4 μm (15 μin.) for media wetted surfaces *), in accordance with DIN 11866 HE4, electropolished internal/external, *) for inner pipe diameter ≤ 6 mm, in spigot Ra ≤ 0.8 μm | 1537 |

| 10 Type of design  | Code |
|--|------|
| K-NO SF5, K-NO 5227,<br>SF5 – Ra max. 0.51 µm (20 µin.) electropolished<br>internal/external,<br>5227 – thermal separation by mounting kit   | 7138 |
| K-NO SF5, K-NO 0101,<br>SF5 – Ra max. 0.51 µm (20 µin.) electropolished<br>internal/external,<br>0101 – media wetted area cleaned to ensure suitability<br>for paint applications        | 7140 |
| K-NO SF5, K-NO 0104,<br>SF5 – Ra max. 0.51 µm (20 µin.) electropolished<br>internal/external,<br>0104 – media wetted parts cleaned for high purity<br>media<br>and packed in plastic bag | 7141 |

| 10 Type of design  | Code |
|--|------|
| K-NO SF5, K-NO 0107,<br>SF5 – Ra max. 0.51 µm (20 µin.) electropolished<br>internal/external,<br>0107 – valve free of oil and grease, media wetted area<br>cleaned | 7142 |
| Ra max. 0.38 µm (15 µin.) for media wetted surfaces,<br>in accordance with ASME BPE SF4, electropolished<br>internal/external                                      | SF4  |
| Ra max. 0.51 µm (20 µin.) for media wetted surfaces,<br>in accordance with ASME BPE SF5, electropolished<br>internal/external                                      | SF5  |

| 11 CONEXO  | Code |
|--|------|
| Without  |      |
| Integrated RFID chip for electronic identification and<br>traceability | C    |

**Order example**

| Ordering option           | Code  | Description  |
|---------------------------|-------|--|
| 1 Type                    | B54   | Ball valve, metal, electrically operated, three-piece body, sanitary, checked delta ferrite material and media wetted surfaces according to ASME SF5, ISO 5211, top flange, lockable hand lever, low-maintenance spindle seal and blow-out proof shaft, with antistatic unit |
| 2 DN                      | 15    | DN 15  |
| 3 Body/ball configuration | D     | 2/2-way body   |
| 4 Connection type         | 59    | Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C   |
| 5 Ball valve material     | C3    | 1.4435/ASTM A351, low ferrite <3% (equivalent to 316L Δ Fe<3%) (body, connection, ball), 1.4409/SS316L (spindle)   |
| 6 Seal material           | 5T    | PTFE (FDA certification)   |
| 7 Voltage/Frequency       | U5    | 24 V–240 V AC/DC<br>for model 20, 35, 55, 85, 140, 300   |
| 8 Control module          | AE    | ON/OFF actuator, two additional potential-free limit switches, Class A (EN15714-2)   |
| 9 Actuator version        | J4C20 | Actuator, motorized, operating time 9 s, torque 20 Nm, J+J, type J4, heating, IP67   |
| 10 Type of design         |       | Standard   |
| 11 CONEXO                 |       | Without  |

## 7 Ball valve technical data

### 7.1 Medium

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

### 7.2 Temperature with note

**Media temperature:** -10 – 220 °C

For media temperatures > 100 °C, we recommend using a mounting kit with adapter between the ball valve and the actuator.

**Ambient temperature:** -20 – 60 °C

**Storage temperature:** 5 – 40 °C

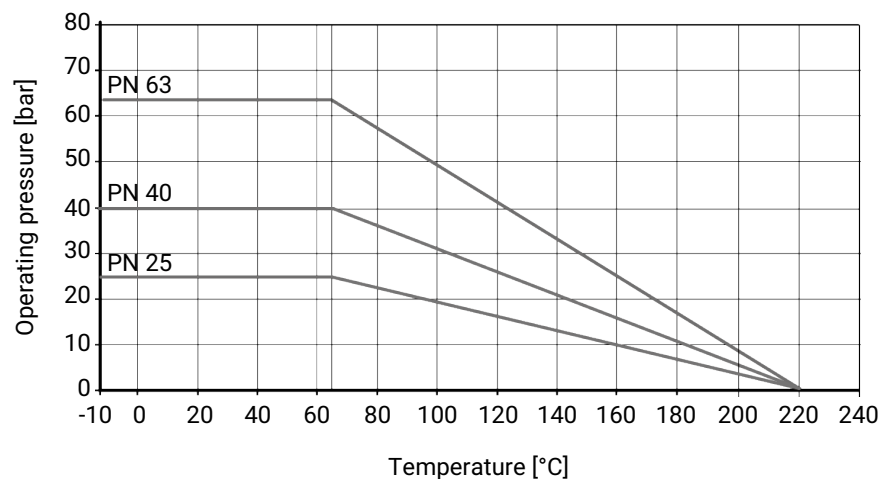
### 7.3 Pressure

**Operating pressure:** 0 – 63 bar

**Vacuum:** Can be used up to a vacuum of 50 mbar (absolute)

These values apply to room temperature and air. The values may deviate for other media and other temperatures.

**Pressure/temperature diagram:**



Pressure/temperature data in accordance with diagram refers to static operating conditions.

Strongly fluctuating or fast-changing parameters can lead to a reduction of the service life. Special applications must be talked through with your technical contact person in advance.

Use the clamped union with the correct pressure rating for a safe and correct pipeline design. Pressure ratings of the clamp alone are generally higher, but do not take into account the fully clamped assembly with gasket

**Leakage rate:**

Leakage rate according to ANSI FCI70 – B16.104

Leakage rate according to EN12266, 6 bar air, leakage rate A

**Cv values:**

| DN  | NPS  | Connection type (code) |                |        |
|-----|------|------------------------|----------------|--------|
|     |      | 17                     | 37, 59, 80, 93 | 60     |
| 8   | 1/4" | 7.0                    | -              | 7.0    |
| 10  | 3/8" | 7.0                    | -              | 7.0    |
| 15  | 1/2" | 18.0                   | 9.0            | 18.0   |
| 20  | 3/4" | 43.0                   | 26.0           | 43.0   |
| 25  | 1"   | 77.0                   | 56.0           | 77.0   |
| 32  | 1¼"  | 95.0                   | -              | 95.0   |
| 40  | 1½"  | 206.0                  | 172.0          | 206.0  |
| 50  | 2"   | 344.0                  | 327.0          | 344.0  |
| 65  | 2½"  | 602.0                  | 516.0          | 602.0  |
| 80  | 3"   | 844.0                  | 817.0          | 844.0  |
| 100 | 4"   | 1462.0                 | 1376.0         | 1462.0 |

Cv values in m<sup>3</sup>/h**Pressure rating:**

| DN  | Connection type (code) |        |      |        |
|-----|------------------------|--------|------|--------|
|     | 17                     | 37, 59 | 60   | 80, 93 |
| 8   | -                      | -      | PN63 | -      |
| 10  | PN63                   | -      | PN63 | -      |
| 15  | PN63                   | PN63   | PN63 | PN25   |
| 20  | PN63                   | PN63   | PN63 | PN25   |
| 25  | PN63                   | PN63   | PN63 | PN25   |
| 32  | PN63                   | -      | PN63 | -      |
| 40  | PN63                   | PN63   | PN63 | PN25   |
| 50  | PN63                   | PN63   | PN63 | PN16   |
| 65  | PN40                   | PN40   | PN40 | PN16   |
| 80  | PN40                   | PN40   | PN40 | PN10   |
| 100 | PN25                   | PN25   | PN25 | PN10   |

For clamp connections, the permissible pressures are designed for a temperature of -10 to 140 °C when using suitable clamps and sealing materials.

**7.4 Product conformities****Machinery Directive:** 2006/42/EC**Pressure Equipment Directive:** 2014/68/EU

**Food:** FDA  
Regulation (EC) No. 1935/2004  
Regulation (EC) No. 10/2011

**Low Voltage Directive:** 2014/35/EU**Explosion protection:** ATEX (2014/34/EU), order code Special version X

**ATEX marking:** The ATEX marking of the product depends on the respective product configuration with valve body and actuator. It can be found in the product-specific ATEX documentation and the ATEX type plate.

**EMC Directive:** 2014/30/EU**RoHS Directive:** 2011/65/EU

**7.5 Mechanical data****Torques:**

| DN  | NPS  | Seal material (code) |     |
|-----|------|----------------------|-----|
|     |      | 5T                   | 5H  |
| 8   | 1/4" | 4                    | 4   |
| 10  | 3/8" | 4                    | 4   |
| 15  | 1/2" | 8                    | 12  |
| 20  | 3/4" | 8                    | 12  |
| 25  | 1"   | 13                   | 19  |
| 32  | 1¼"  | 16                   | 22  |
| 40  | 1½"  | 32                   | 47  |
| 50  | 2"   | 34                   | 51  |
| 65  | 2½"  | 91                   | 105 |
| 80  | 3"   | 104                  | 120 |
| 100 | 4"   | 140                  | 209 |

Free of oil and grease incl. 25% safety  
Torques in Nm

**Weight:****Ball valve**

| DN  | NPS  | Connection type (code) |        |      |        |
|-----|------|------------------------|--------|------|--------|
|     |      | 17                     | 37, 59 | 60   | 80, 93 |
| 8   | 1/4" | -                      | -      | 0.5  | -      |
| 10  | 3/8" | -                      | -      | 0.5  | -      |
| 15  | 1/2" | 0.8                    | 0.5    | 0.5  | 0.5    |
| 20  | 3/4" | 0.8                    | 0.5    | 0.8  | 0.5    |
| 25  | 1"   | 1.1                    | 1.0    | 1.1  | 1.1    |
| 32  | 1¼"  | 1.6                    | -      | 1.6  | -      |
| 40  | 1½"  | 2.7                    | 2.1    | 2.7  | 2.2    |
| 50  | 2"   | 4.2                    | 3.5    | 4.2  | 3.5    |
| 65  | 2½"  | 8.2                    | 7.0    | 8.2  | 7.1    |
| 80  | 3"   | 11.6                   | 11.0   | 11.6 | 11.8   |
| 100 | 4"   | 24.0                   | 20.0   | 24.0 | 20.5   |

Weights in kg

## 8 Technical data of actuator

### 8.1 GEMÜ 9428, 9468 actuators

#### 8.1.1 Mechanical data

Weight:

#### GEMÜ 9428

|                             |        |
|-----------------------------|--------|
| Supply voltage 12 V / 24 V: | 1.0 kg |
| Actuator version 3055:      | 2.8 kg |

#### Actuator type 9468

|                              |         |
|------------------------------|---------|
| Actuator version 2070:       | 4.6 kg  |
| Actuator version 4100, 4200: | 11.6 kg |

#### 8.1.2 Product compliance

Machinery Directive: 2006/42/EC

EMC Directive: 2014/30/EU

Low Voltage Directive: 2014/35/EU

RoHS Directive: 2011/65/EU (GEMÜ 9428)

#### 8.1.3 Electrical data

Rated voltage: 12 V / 24 V AC or DC ( $\pm 10\%$ )

Rated frequency: 50/60 Hz (at AC rated voltage)

Electrical protection class: I (DIN EN 61140)

Power consumption:

| Actuator version (code) | Control module (code) | 12 V DC (code B1) | 12 V AC (code B4) | 24 V DC (code C1) | 24 V AC (code C4) |
|-------------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|
| <b>1006</b>             | <b>A0, AE</b>         | 30.0              | 30.0              | 30.0              | 30.0              |
| <b>1015</b>             | <b>A0, AE</b>         | 30.0              | -                 | 30.0              | -                 |
| <b>2070</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 63.0              | -                 |
| <b>4100</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 105.0             | -                 |
| <b>4200</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 90.0              | -                 |

Power consumption in W

Current consumption:

| Actuator version (code) | Control module (code) | 12 V DC (code B1) | 12 V AC (code B4) | 24 V DC (code C1) | 24 V AC (code C4) |
|-------------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|
| <b>1006</b>             | <b>A0, AE</b>         | 2.2               | 2.0               | 1.20              | 1.5               |
| <b>1015</b>             | <b>A0, AE</b>         | 2.2               | -                 | 1.20              | -                 |
| <b>2070</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 2.60              | -                 |
| <b>4100</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 4.40              | -                 |
| <b>4200</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 3.60              | -                 |

Current data in A

| Max. switching current: | Actuator version (code) | Control module (code) | 12 V DC (code B1) | 12 V AC (code B4) | 24 V DC (code C1) | 24 V AC (code C4) |
|-------------------------|-------------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|
|                         | <b>1006</b>             | <b>A0, AE</b>         | 6.3               | 2.4               | 4.0               | 1.8               |
|                         | <b>1015</b>             | <b>A0, AE</b>         | 9.2               | -                 | 3.8               | -                 |
|                         | <b>2070</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 14.0              |                   |
|                         | <b>4100</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 35.0              | -                 |
|                         | <b>4200</b>             | <b>00, 0E, 0P</b>     | -                 | -                 | 35.0              |                   |

Current data in A

**Input signal:** 24 V DC, 24 V AC, 120 V AC, 230 V AC  
dependent on rated voltage

**Duty cycle:** Continuous duty

**Electrical protection:** **GEMÜ 9428**  
Motor protective system by customer

#### **GEMÜ 9468**

Internal for functional module 0x

Actuator version 2070: MT 6.3 A

Actuator version 4100, 4200: MT 10.0 A

Motor protective system by customer, see "Recommended motor protection"

**Recommended motor protection:**

#### **GEMÜ 9428**

| Voltage                             | 12 V DC                | 24 V DC                |
|-------------------------------------|------------------------|------------------------|
| <b>Motor protection switch type</b> | Siemens 3RV 1011-1CA10 | Siemens 3RV 1011-1BA10 |
| <b>Set current</b>                  | 2.20                   | 1.70                   |

Current data in A

#### **GEMÜ 9468**

Motor protection switch type: Siemens 3RV 1011-1FA10

Set current: 4.0 A

## **8.2 Bernard, J+J actuators**

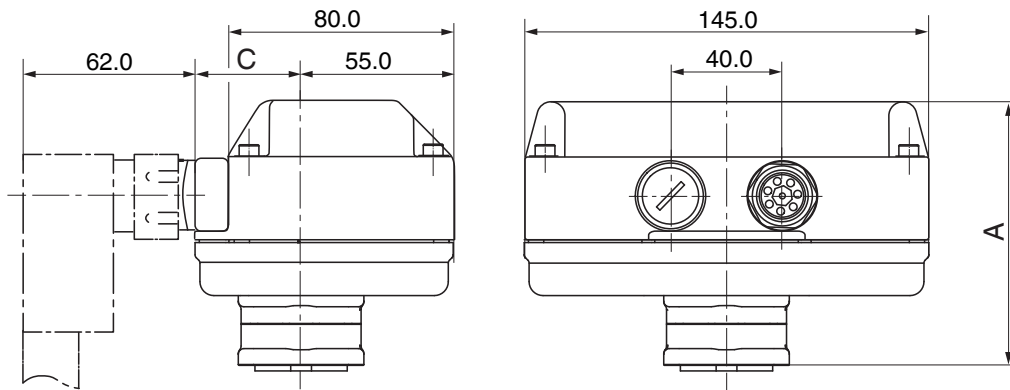
Note: For technical data see manufacturer's original datasheets

## 9 Dimensions

### 9.1 Actuator dimensions

#### 9.1.1 GEMÜ 9428, 9468 actuators

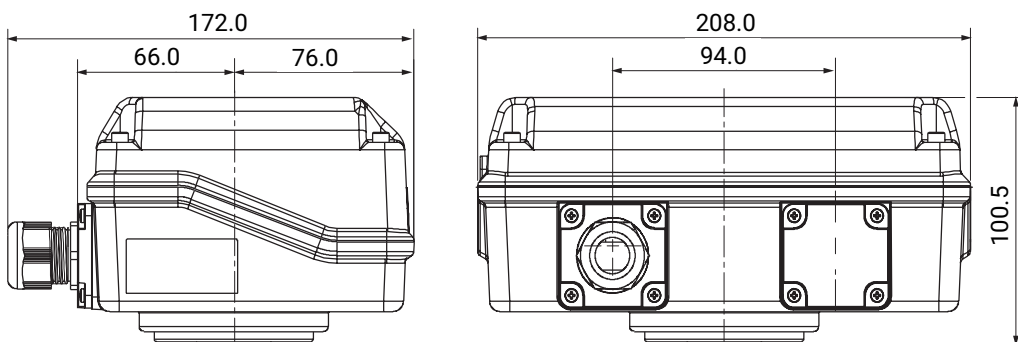
##### 9.1.1.1 Actuator version 1006, 1015, 2015



| Actuator version  | A     | C    |
|-------------------|-------|------|
| <b>1006, 1015</b> | 94.0  | 49.0 |
| <b>2015</b>       | 122.0 | 53.0 |

Dimensions in mm

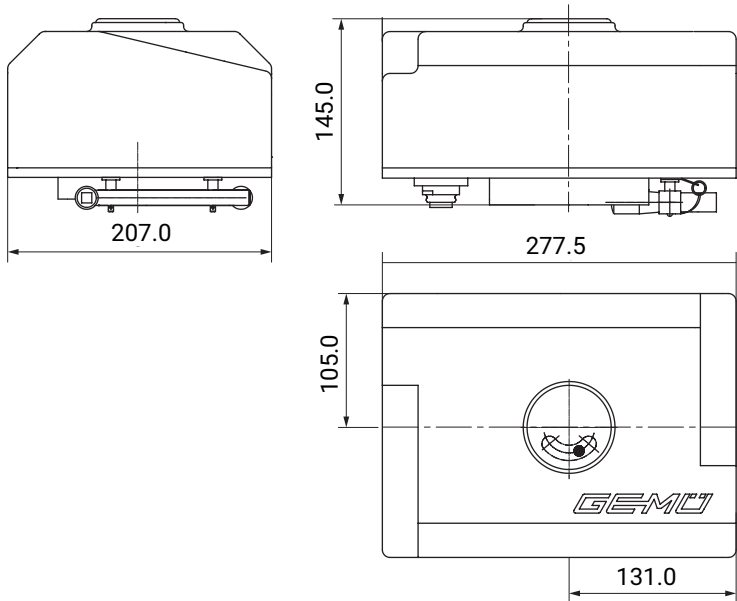
##### 9.1.1.2 Actuator version 3035, 3055



Dimensions in mm



**9.1.1.3 Actuator version 4100, 4200**



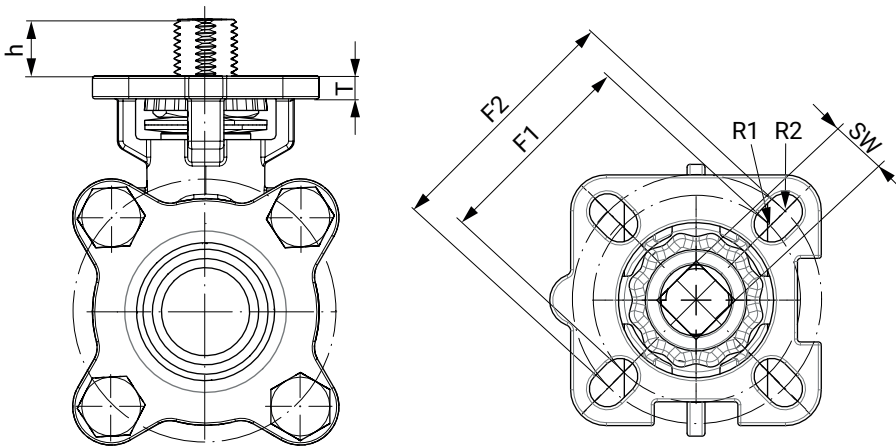
Dimensions in mm

**9.1.2 Bernard, AUMA, J+J actuators**

For more detailed information on third-party actuators, refer to the manufacturers' documentation

**9.2 Ball valve**

**9.2.1 Actuator flange**



| DN | G      | F1   | ISO 5211 (F1) | R1  | F2    | ISO 5211 (F2) | R2  | SW   | h    | T    |
|----|--------|------|---------------|-----|-------|---------------|-----|------|------|------|
| 8  | 1/4"   | 36.0 | F03           | 3.0 | 42.0  | F04           | 3.0 | 9.0  | 9.0  | 5.0  |
| 10 | 3/8"   | 36.0 | F03           | 3.0 | 42.0  | F04           | 3.0 | 9.0  | 9.0  | 5.0  |
| 15 | 1/2"   | 36.0 | F03           | 3.0 | 42.0  | F04           | 3.0 | 9.0  | 9.0  | 5.0  |
| 20 | 3/4"   | 36.0 | F03           | 3.0 | 42.0  | F04           | 3.0 | 9.0  | 7.5  | 5.0  |
| 25 | 1"     | 42.0 | F04           | 3.0 | 50.0  | F05           | 3.5 | 11.0 | 13.0 | 7.0  |
| 32 | 1 1/4" | 42.0 | F04           | 3.0 | 50.0  | F05           | 3.5 | 11.0 | 13.0 | 7.0  |
| 40 | 1 1/2" | 50.0 | F05           | 3.5 | 70.0  | F07           | 4.5 | 14.0 | 15.0 | 9.0  |
| 50 | 2"     | 50.0 | F05           | 3.5 | 70.0  | F07           | 4.5 | 14.0 | 16.0 | 9.0  |
| 65 | 2 1/2" | 50.0 | F07           | 3.5 | 70.0  | F10           | 4.5 | 17.0 | 18.0 | 10.5 |
| 80 | 3"     | 70.0 | F07           | 4.5 | 102.0 | F10           | 5.5 | 17.0 | 18.0 | 10.5 |

## 9 Dimensions

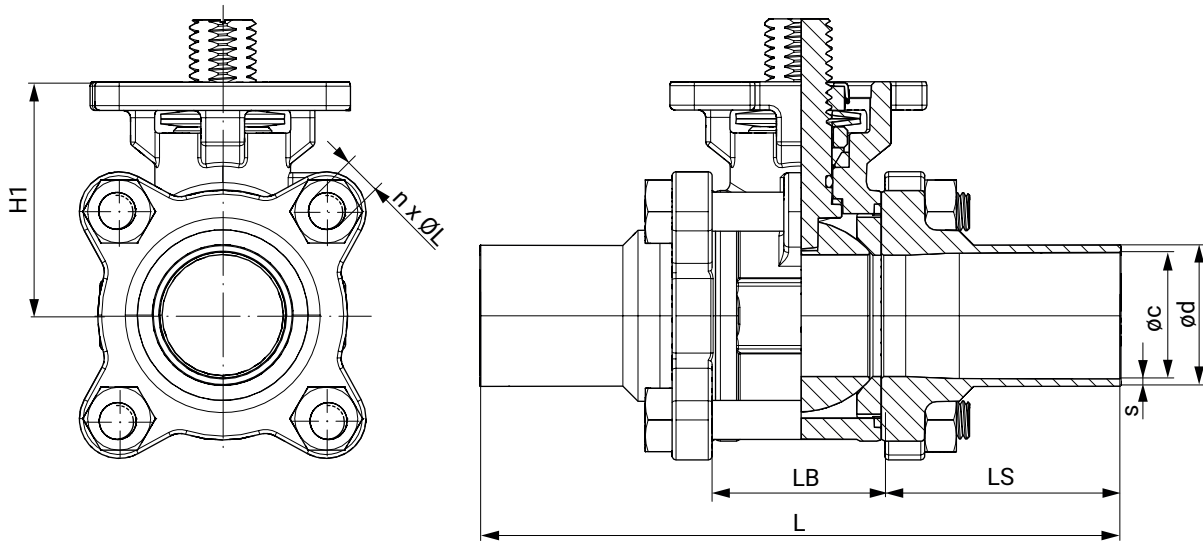
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| DN         | G         | F1    | ISO 5211<br>(F1) | R1  | F2    | ISO 5211<br>(F2) | R2  | SW   | h    | T    |
|------------|-----------|-------|------------------|-----|-------|------------------|-----|------|------|------|
| <b>100</b> | <b>4"</b> | 102.0 | F10              | 4.5 | 125.0 | F12              | 5.5 | 22.0 | 26.0 | 10.5 |

Dimensions in mm

## 9.2.2 Body dimensions

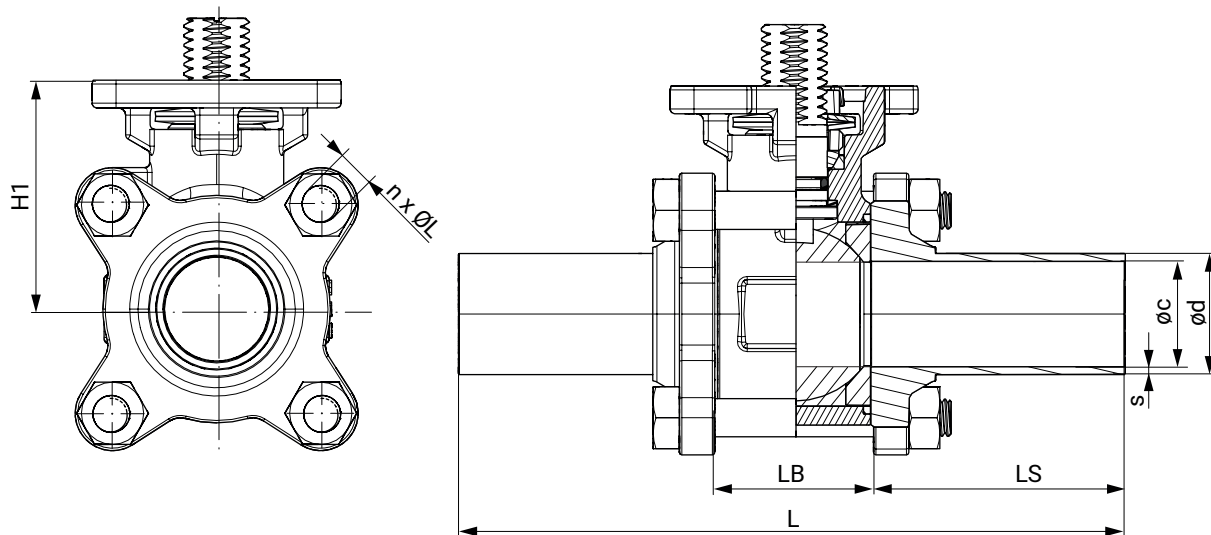
### 9.2.2.1 Spigot DIN EN 10357 (connection code 17)



| DN  | $\varnothing c$ | $\varnothing d$ | L     | LB    | LS   | H1    | n x $\varnothing L$ | s   |
|-----|-----------------|-----------------|-------|-------|------|-------|---------------------|-----|
| 10  | 10.0            | 13.0            | 120.1 | 24.3  | 47.9 | 37.0  | 4 x M6              | 1.5 |
| 15  | 16.0            | 19.0            | 140.1 | 24.3  | 57.9 | 37.0  | 4 x M6              | 1.5 |
| 20  | 20.0            | 23.0            | 140.0 | 31.2  | 54.4 | 40.0  | 4 x M8              | 1.5 |
| 25  | 26.0            | 29.0            | 152.0 | 34.0  | 59.0 | 48.0  | 4 x M8              | 1.5 |
| 32  | 32.0            | 35.0            | 165.0 | 44.0  | 60.5 | 53.0  | 4 x M10             | 1.5 |
| 40  | 38.0            | 41.0            | 190.0 | 55.0  | 67.5 | 63.0  | 4 x M12             | 1.5 |
| 50  | 50.0            | 53.0            | 203.0 | 68.9  | 67.0 | 72.0  | 4 x M14             | 1.5 |
| 65  | 66.0            | 70.0            | 254.0 | 82.0  | 86.0 | 92.0  | 4 x M14             | 2.0 |
| 80  | 81.0            | 85.0            | 280.0 | 96.0  | 92.0 | 102.0 | 4 x M16             | 2.0 |
| 100 | 100.0           | 104.0           | 308.0 | 122.0 | 93.0 | 132.0 | 6 x M20             | 2.0 |

Dimensions in mm  
n = number of bolts

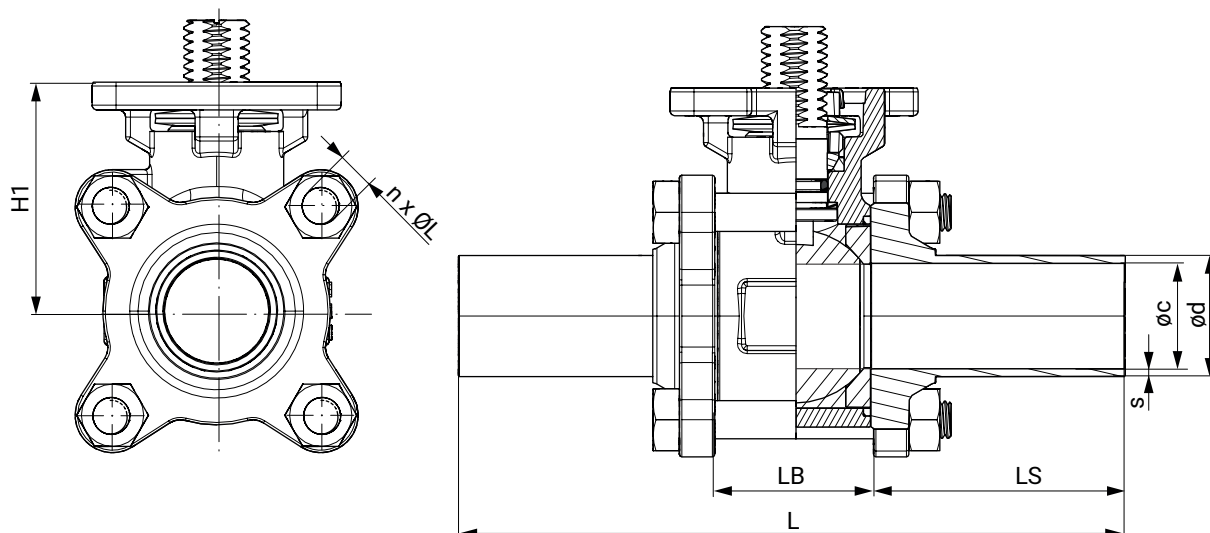
## 9.2.2.2 Spigot SMS 3008 (connection code 37)



| DN  | øc   | ød    | s   | t    | L     | LB    | LS   | H1    | n x ØL  |
|-----|------|-------|-----|------|-------|-------|------|-------|---------|
| 20  | 16.0 | 18.0  | 1.0 | 6.1  | 142.2 | 28.0  | 58.6 | 38.0  | 4 x M6  |
| 25  | 22.6 | 25.0  | 1.2 | 7.4  | 162.3 | 32.1  | 65.1 | 48.0  | 4 x M8  |
| 40  | 35.6 | 38.0  | 1.2 | 8.3  | 182.2 | 46.0  | 68.1 | 60.0  | 4 x M12 |
| 50  | 48.6 | 51.0  | 1.2 | 10.2 | 193.0 | 59.6  | 66.7 | 69.0  | 4 x M14 |
| 65  | 60.3 | 63.5  | 1.6 | 12.5 | 254.1 | 77.1  | 88.5 | 89.0  | 4 x M14 |
| 80  | 72.9 | 76.1  | 1.6 | 14.0 | 276.9 | 91.7  | 92.6 | 98.0  | 4 x M16 |
| 100 | 97.6 | 101.6 | 2.0 | 14.5 | 304.9 | 118.3 | 93.3 | 130.0 | 6 x M16 |

Dimensions in mm  
n = number of bolts

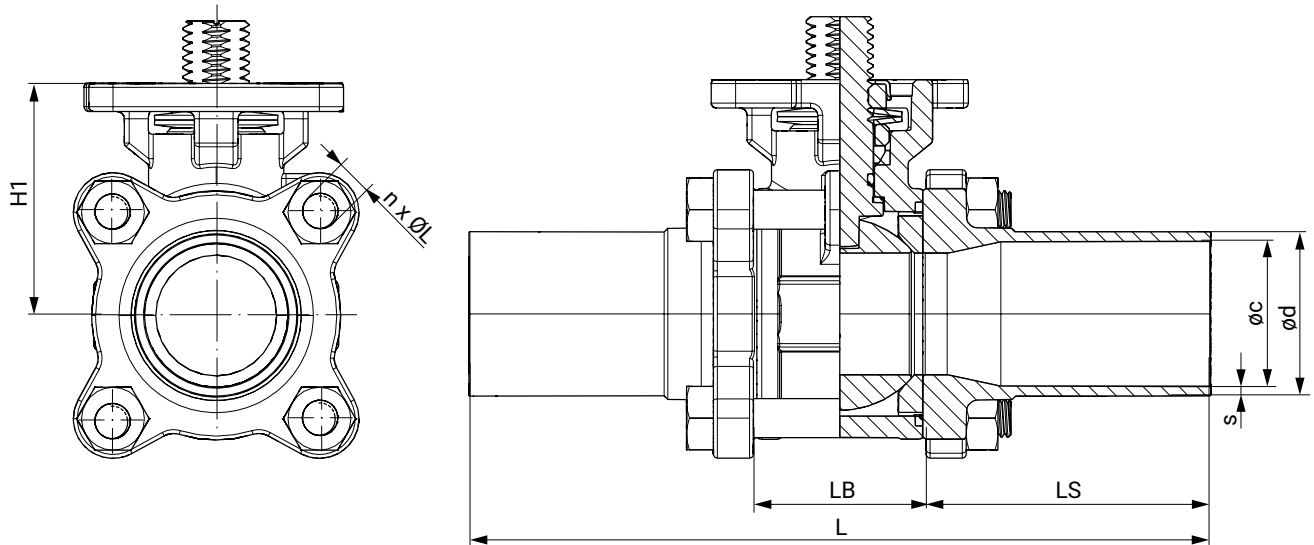
## 9.2.2.3 Spigot ASME BPE (connection code 59)



| DN  | øc    | ød     | s    | L      | LB     | LS    | H1     | n x ØL  |
|-----|-------|--------|------|--------|--------|-------|--------|---------|
| 15  | 9.40  | 12.70  | 1.65 | 124.40 | 25.00  | 49.70 | 38.00  | 4 x M6  |
| 20  | 15.70 | 19.05  | 1.65 | 142.20 | 28.00  | 58.60 | 38.00  | 4 x M6  |
| 25  | 22.10 | 25.40  | 1.65 | 162.30 | 32.10  | 65.10 | 48.00  | 4 x M8  |
| 40  | 34.80 | 38.10  | 1.65 | 182.20 | 46.00  | 68.10 | 60.00  | 4 x M12 |
| 50  | 47.50 | 50.80  | 1.65 | 193.00 | 59.60  | 66.70 | 69.00  | 4 x M14 |
| 65  | 60.20 | 63.50  | 1.65 | 254.10 | 77.10  | 88.50 | 89.00  | 4 x M14 |
| 80  | 72.90 | 76.20  | 1.65 | 276.90 | 91.70  | 92.60 | 98.00  | 4 x M16 |
| 100 | 97.40 | 101.60 | 2.10 | 304.90 | 118.30 | 93.30 | 130.00 | 6 x M16 |

Dimensions in mm  
n = number of bolts

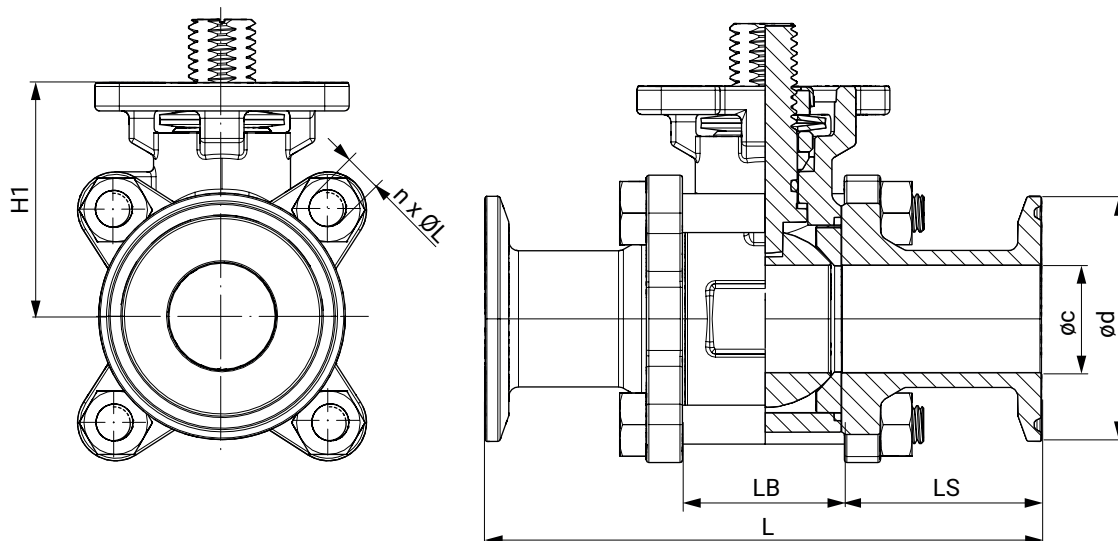
## 9.2.2.4 Spigot ISO 1127 / EN 10357 (connection code 60)



| DN  | øc    | ød    | s   | L     | LB    | LS   | H1    | n x ØL  |
|-----|-------|-------|-----|-------|-------|------|-------|---------|
| 8   | 10.3  | 13.5  | 1.6 | 120.1 | 24.3  | 47.9 | 37.0  | 4 x M6  |
| 10  | 14.0  | 17.2  | 1.6 | 120.1 | 24.3  | 47.9 | 37.0  | 4 x M6  |
| 15  | 18.1  | 21.3  | 1.6 | 140.1 | 24.3  | 57.9 | 37.0  | 4 x M6  |
| 20  | 23.7  | 26.9  | 1.6 | 140.0 | 31.2  | 54.4 | 40.0  | 4 x M8  |
| 25  | 29.7  | 33.7  | 2.0 | 152.0 | 34.0  | 59.0 | 48.0  | 4 x M8  |
| 32  | 38.4  | 42.4  | 2.0 | 165.0 | 44.0  | 60.5 | 53.0  | 4 x M10 |
| 40  | 44.3  | 48.3  | 2.0 | 190.0 | 55.0  | 67.5 | 63.0  | 4 x M12 |
| 50  | 56.3  | 60.3  | 2.0 | 203.0 | 68.9  | 67.0 | 72.0  | 4 x M14 |
| 65  | 72.1  | 76.1  | 2.0 | 254.0 | 82.0  | 86.0 | 92.0  | 4 x M14 |
| 80  | 84.3  | 88.9  | 2.3 | 280.0 | 96.0  | 92.0 | 102.0 | 4 x M16 |
| 100 | 109.7 | 114.3 | 2.3 | 308.0 | 122.0 | 93.0 | 132.0 | 6 x M20 |

Dimensions in mm  
n = number of bolts

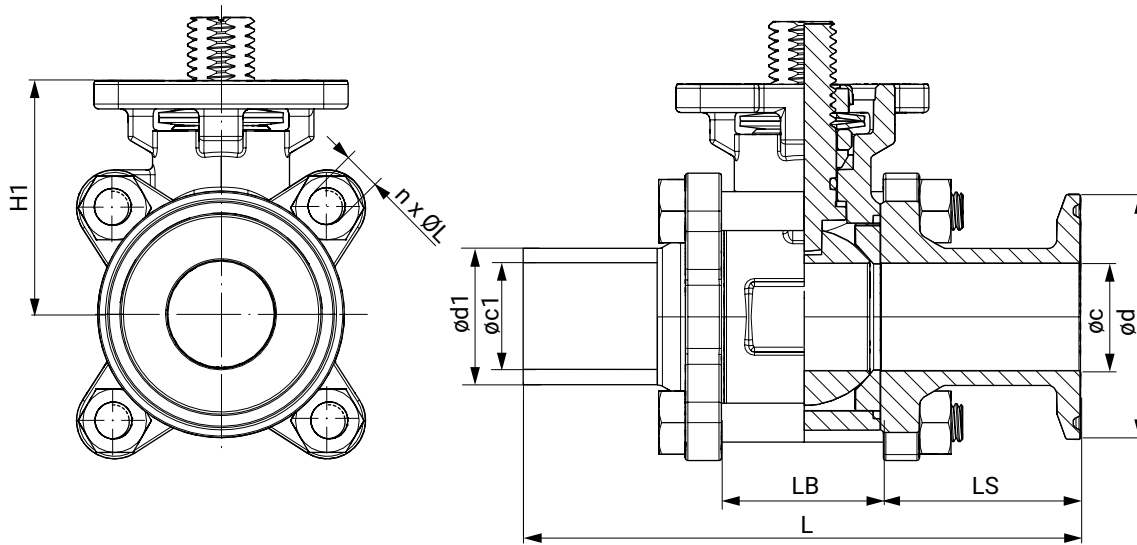
## 9.2.2.5 Clamp ASME BPE (connection code 80)



| DN  | øc   | ød    | s    | L     | LB    | LS   | H1    | n x ØL  |
|-----|------|-------|------|-------|-------|------|-------|---------|
| 15  | 9.4  | 25.0  | 1.65 | 88.8  | 25.0  | 31.9 | 38.0  | 4 x M6  |
| 20  | 15.8 | 25.0  | 1.65 | 101.6 | 25.0  | 38.3 | 38.0  | 4 x M6  |
| 25  | 22.1 | 50.4  | 1.65 | 114.3 | 32.1  | 41.1 | 48.0  | 4 x M8  |
| 40  | 34.8 | 50.4  | 1.65 | 139.8 | 46.0  | 46.9 | 60.0  | 4 x M12 |
| 50  | 47.5 | 63.9  | 1.65 | 158.8 | 59.6  | 49.6 | 69.0  | 4 x M14 |
| 65  | 60.2 | 77.4  | 1.65 | 171.5 | 77.1  | 47.2 | 89.0  | 4 x M14 |
| 80  | 72.9 | 90.9  | 1.65 | 196.3 | 91.7  | 52.3 | 98.0  | 4 x M16 |
| 100 | 97.4 | 118.9 | 2.1  | 241.3 | 118.3 | 61.5 | 130.0 | 6 x M16 |

Dimensions in mm  
n = number of bolts

## 9.2.2.6 Mixed ends ASME BPE (connection code 93)



| DN  | Øc   | Ød    | Øc1  | Ød1   | s    | t    | L     | LB    | LS   | H1    | n x ØL  |
|-----|------|-------|------|-------|------|------|-------|-------|------|-------|---------|
| 15  | 9.4  | 25.0  | 9.4  | 12.7  | 1.65 | 6.1  | 106.6 | 25.0  | 49.7 | 38.0  | 4 x M6  |
| 20  | 15.8 | 25.0  | 15.8 | 19.0  | 1.65 | 6.1  | 121.9 | 28.0  | 58.6 | 38.0  | 4 x M6  |
| 25  | 22.1 | 50.4  | 22.1 | 25.4  | 1.65 | 7.4  | 138.3 | 32.1  | 65.1 | 48.0  | 4 x M8  |
| 40  | 34.8 | 50.4  | 34.8 | 38.1  | 1.65 | 8.3  | 161.0 | 46.0  | 68.1 | 60.0  | 4 x M12 |
| 50  | 47.5 | 63.9  | 47.5 | 50.8  | 1.65 | 10.2 | 175.9 | 59.6  | 66.7 | 69.0  | 4 x M14 |
| 65  | 60.2 | 77.4  | 60.2 | 63.5  | 1.65 | 12.5 | 212.8 | 77.1  | 88.5 | 89.0  | 4 x M14 |
| 80  | 72.9 | 90.9  | 72.9 | 76.2  | 1.65 | 14.0 | 236.6 | 91.7  | 92.6 | 98.0  | 4 x M16 |
| 100 | 97.4 | 118.9 | 97.4 | 101.6 | 2.10 | 14.5 | 273.1 | 118.3 | 93.3 | 130.0 | 6 x M16 |

Dimensions in mm  
n = number of bolts



## 10 Manufacturer's information

### 10.1 Delivery

- Check that all parts are present and check for any damage immediately upon receipt.

The product's performance is tested at the factory. The scope of delivery is apparent from the dispatch documents and the design from the order number.

### 10.2 Packaging

The product is packaged in a cardboard box which can be recycled as paper.

### 10.3 Transport

1. Only transport the product by suitable means. Do not drop. Handle carefully.
2. After the installation dispose of transport packaging material according to relevant local or national disposal regulations / environmental protection laws.

### 10.4 Storage

1. Store the product free from dust and moisture in its original packaging.
2. Avoid UV rays and direct sunlight.
3. Do not exceed the maximum storage temperature (see chapter "Technical data").
4. Do not store solvents, chemicals, acids, fuels or similar fluids in the same room as GEMÜ products and their spare parts.
5. Close the compressed air connections with protection caps or sealing plugs.
6. Store the ball valves in the "open" position.

## 11 Installation in piping

### 11.1 Preparing for installation

#### WARNING



#### The equipment is subject to pressure!

- ▶ Risk of severe injury or death
- Depressurize the plant or plant component.
- Completely drain the plant or plant component.

#### WARNING



#### Corrosive chemicals!

- ▶ Risk of caustic burns
- Wear appropriate protective gear.
- Completely drain the plant.

#### CAUTION



#### Hot plant components!

- ▶ Risk of burns
- Only work on plant that has cooled down.

#### CAUTION



#### Maximum permissible pressure exceeded.

- ▶ Damage to the product!
- Provide for precautionary measures against exceeding the maximum permissible pressure that may be caused by pressure surges (water hammer).

#### CAUTION

#### Use as step!

- ▶ Damage to the product
- ▶ Risk of slipping-off
- Choose the installation location so that the product cannot be used as a foothold.
- Do not use the product as a step or a foothold.

#### NOTICE

#### Suitability of the product!

- ▶ The product must be appropriate for the piping system operating conditions (medium, medium concentration, temperature and pressure) and the prevailing ambient conditions.

**NOTICE**

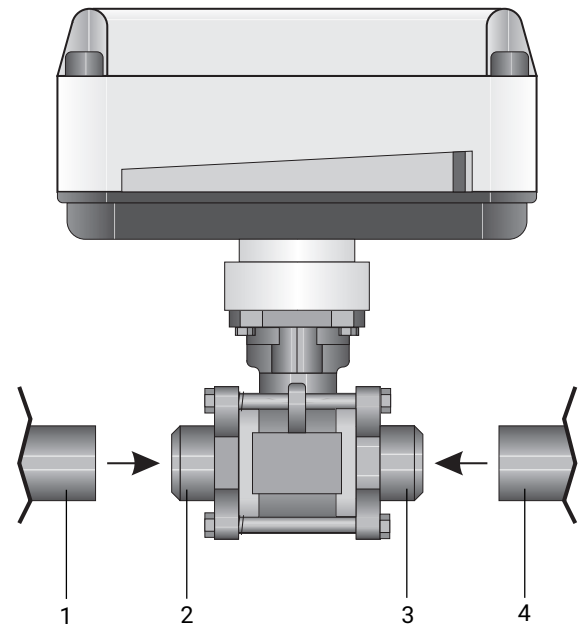
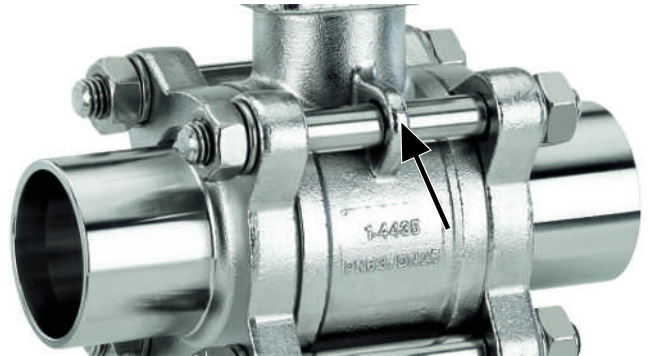
**Tools!**

- ▶ The tools required for installation and assembly are not included in the scope of delivery.
  - Use appropriate, functional and safe tools.
1. Ensure the product is suitable for the relevant application.
  2. Check the technical data of the product and the materials.
  3. Keep appropriate tools ready.
  4. Wear appropriate protective gear, as specified in the plant operator's guidelines.
  5. Observe appropriate regulations for connections.
  6. Have installation work carried out by trained personnel.
  7. Shut off plant or plant component.
  8. Secure plant or plant component against recommissioning.
  9. Depressurize the plant or plant component.
  10. Completely drain the plant (or plant component) and let it cool down until the temperature is below the media vaporization temperature and cannot cause scalding.
  11. Decontaminate, rinse and ventilate the plant or plant component properly.
  12. Lay piping so that the product is protected against transverse and bending forces, and also from vibrations and tension.
  13. Only mount the product between matching aligned pipes (see following chapters).
  14. Flow direction and installation position are optional.

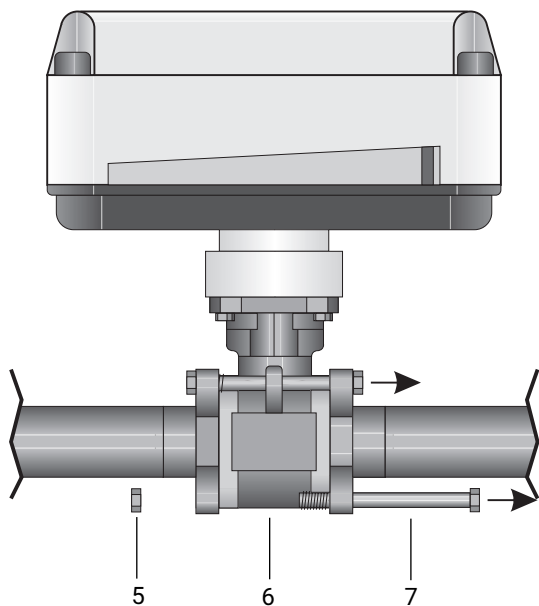
**11.2 Installation with butt weld spigots**

**NOTICE**

- ▶ Adhere to good welding practices!
1. **Installation variant:**  
Undo one bolt, remove the other bolts and swivel the centre section aside instead of removing it.



2. Align the pipes **1** and **4** on the left and right with the butt weld spigots **2** and **3**, and attach them to the spigots.



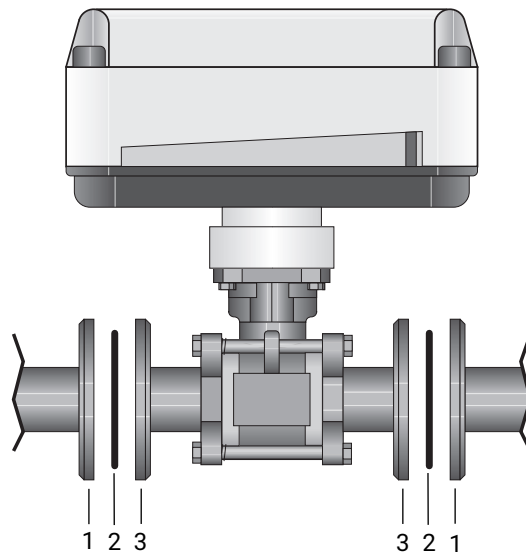
3. Fully unscrew the nuts **5**. With the bolt that goes through the tab, only loosen the nut **5**.
4. Pull out the bolts **7**.
5. Swivel out the ball valve **6** with seat seals and flange seals.
6. Weld the pipes **1** and **4** on the left and right to the butt weld spigots **2** and **3**.
7. Allow the butt weld spigots to cool down.
8. Reinstall the ball valve between the butt weld spigots. Take care that the seat seal and flange seal are correctly positioned. Align the centre section **6** concentrically with butt weld spigots **2** and **3**.
9. Tighten the nuts diagonally, counterhold with a wrench.

| Nominal size | Torque |
|--------------|--------|
| DN8          | 8      |
| DN10         | 8      |
| DN15         | 8      |
| DN20         | 14     |
| DN25         | 14     |
| DN32         | 20     |
| DN40         | 23     |
| DN50         | 28     |
| DN65         | 45     |
| DN80         | 60     |
| DN100        | 75     |

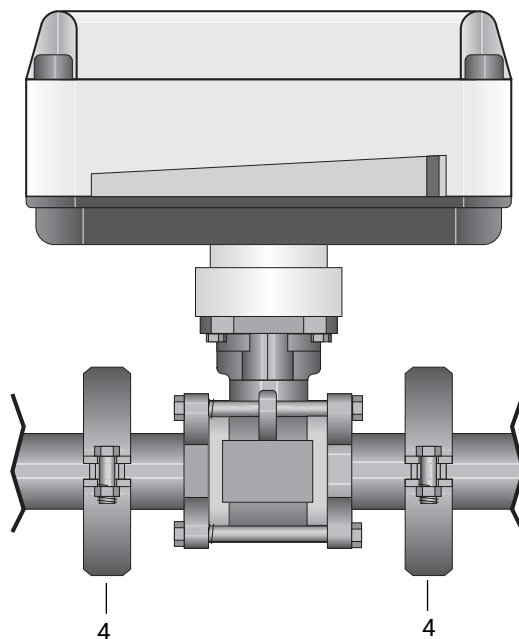
Torques in Nm

### 11.3 Installation with clamp connections

1. Ensure sealing surfaces on the connection clamps are clean and undamaged.



2. Carefully align connection clamps **1** and **3** before connecting.
3. Centre the seals **2** accurately.



4. Connect the clamp of the ball valve and the clamp of the piping with the appropriate sealing clamp **4**.
5. Only use connector elements made of approved materials!

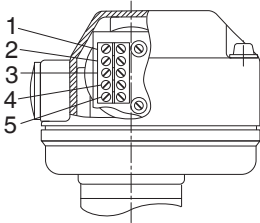
## 12 Electrical connection

### 12.1 Connection and wiring diagram – actuator version 1015, 3035, 3055

#### 12.1.1 ON/OFF actuator (code A0)

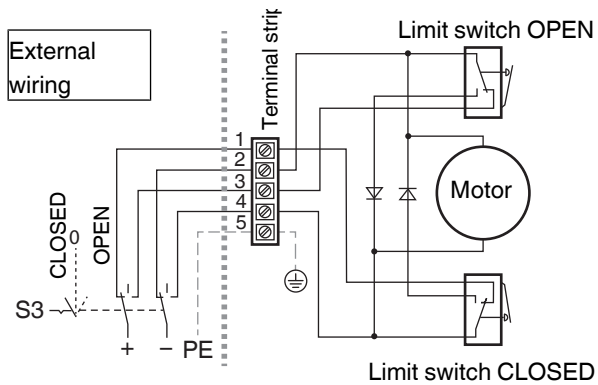
12 V DC (code B1) / 24 V DC (code C1)

#### Assignment of the terminal strips

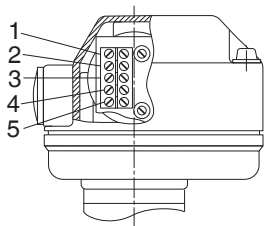


| Item | Description                     |
|------|---------------------------------|
| 1    | Uv+, direction of travel CLOSED |
| 2    | Uv-, direction of travel CLOSED |
| 3    | Uv+, direction of travel OPEN   |
| 4    | Uv-, direction of travel OPEN   |
| 5    | PE, protective earth conductor  |

#### Connection diagram

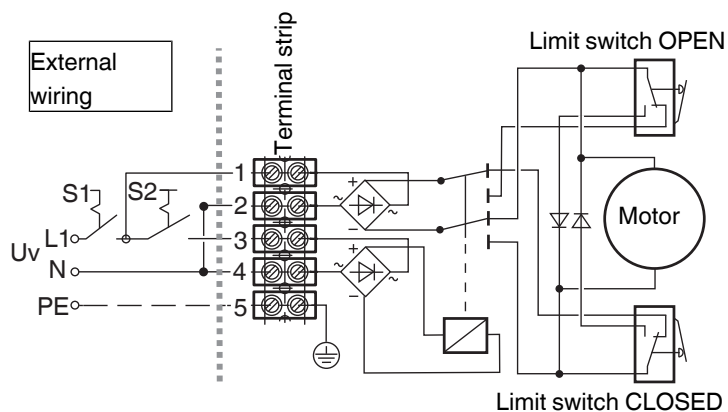


| S3     | Actuator                   |
|--------|----------------------------|
| CLOSED | Direction of travel CLOSED |
| 0      | OFF                        |
| OPEN   | Direction of travel OPEN   |

**12 V AC (code B4) / 24 V AC (code C4)****Assignment of the terminal strips**

| Item | Description                    |
|------|--------------------------------|
| 1    | L1, supply voltage             |
| 2    | N, supply voltage              |
| 3    | L1, change-over (OPEN/CLOSED)  |
| 4    | N, change-over (OPEN/CLOSED)   |
| 5    | PE, protective earth conductor |

Preferred direction -OPEN- when all signals are present

**Connection diagram**

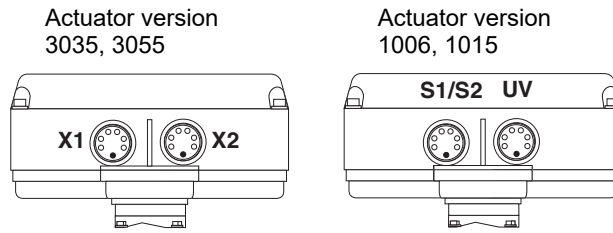
| S1 | Actuator |
|----|----------|
| 0  | OFF      |
| 1  | ON       |

| S2 | Direction of travel |
|----|---------------------|
| 0  | CLOSED              |
| 1  | OPEN                |

**12.1.2 ON/OFF actuator with 2 potential-free limit switches (code AE)**

**12 V DC (code B1) / 24 V DC (code C1)**

**Position of the connectors**

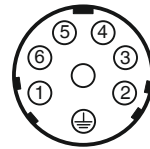


**Electrical connection**



Plug assignment X1, UV

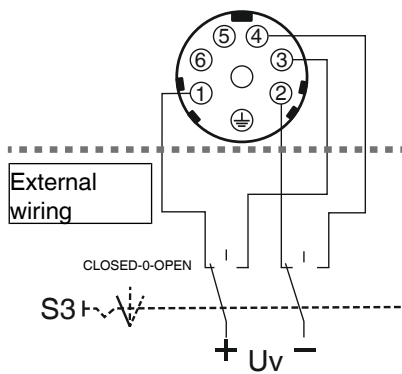
| Pin | Description                     |
|-----|---------------------------------|
| 1   | Uv+, direction of travel CLOSED |
| 2   | Uv-, direction of travel CLOSED |
| 3   | Uv+, direction of travel OPEN   |
| 4   | Uv-, direction of travel OPEN   |
| 5   | n.c.                            |
| 6   | n.c.                            |
| ⊕   | PE, protective earth conductor  |



Plug assignment X2, S1/S2

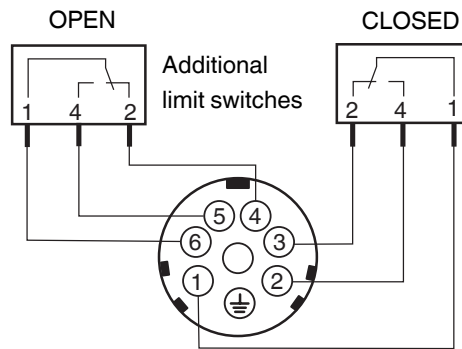
| Pin | Description                             |
|-----|---|
| 1   | Change-over contact limit switch CLOSED |
| 2   | Make contact limit switch CLOSED        |
| 3   | Break contact limit switch CLOSED       |
| 4   | Break contact limit switch OPEN         |
| 5   | Make contact limit switch OPEN          |
| 6   | Change-over contact limit switch OPEN   |
| ⊕   | PE, protective earth conductor          |

**Connection diagram**



Connection assignment X1, UV

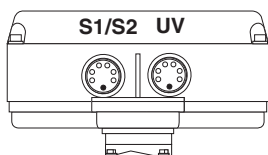
| S3     | Actuator                   |
|--------|----------------------------|
| CLOSED | Direction of travel CLOSED |
| 0      | OFF                        |
| OPEN   | Direction of travel OPEN   |



**12 V AC (code B4) / 24 V AC (code C4)**

**Position of the connectors**

Actuator version 1006



**Electrical connection**



Plug assignment UV

| Pin | Description                    |
|-----|--------------------------------|
| 1   | L1, supply voltage             |
| 2   | N, supply voltage              |
| 3   | L1, change-over (OPEN/CLOSED)  |
| 4   | N, change-over (OPEN/CLOSED)   |
| 5   | n.c.                           |
| 6   | n.c.                           |
| ⊕   | PE, protective earth conductor |

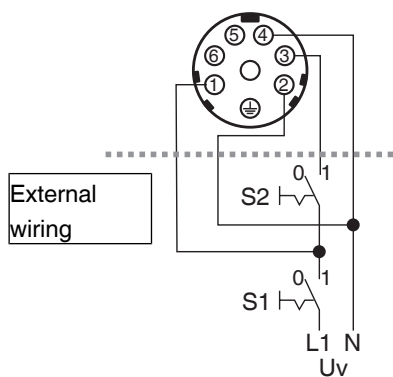


Plug assignment S1/S2

| Pin | Description                             |
|-----|---|
| 1   | Change-over contact limit switch CLOSED |
| 2   | Make contact limit switch CLOSED        |
| 3   | Break contact limit switch CLOSED       |
| 4   | Break contact limit switch OPEN         |
| 5   | Make contact limit switch OPEN          |
| 6   | Change-over contact limit switch OPEN   |
| ⊕   | PE, protective earth conductor          |

Preferred direction -OPEN- when all signals are present

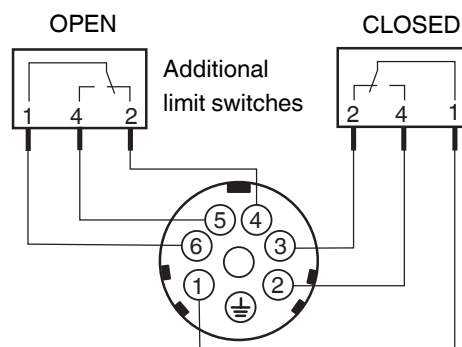
**Connection diagram**



Connection diagram X1, UV

| S1 | Actuator |
|----|----------|
| 0  | OFF      |
| 1  | ON       |

| S2 | Direction of travel |
|----|---------------------|
| 0  | CLOSED              |
| 1  | OPEN                |

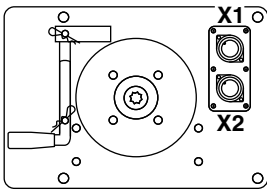


**12.2 Connection/wiring diagram – actuator version 4100, 4200**

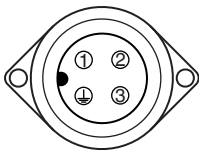
**12.2.1 On/Off actuator with relay (code 00), 24 V DC (code C1)**

**12.2.1.1 Position of the connectors**

Actuator version 4100, 4200



**12.2.1.2 Electrical connection**



Plug assignment X1

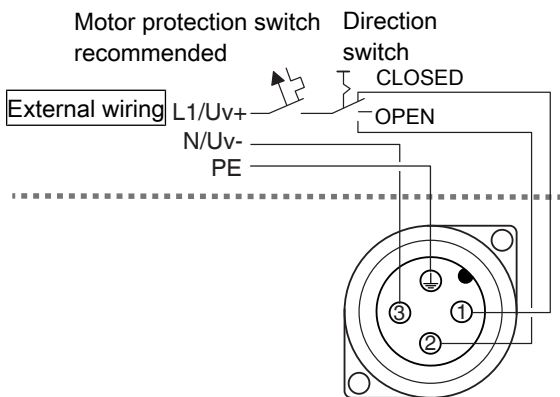
| Pin | Description                          |
|-----|--------------------------------------|
| 1   | L1 / Uv+, direction of travel CLOSED |
| 2   | L1 / Uv+, direction of travel OPEN   |
| 3   | N / Uv-, neutral conductor           |
|     | PE, protective earth conductor       |

N / L- signals in the unit are separated.

The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

**12.2.1.3 Connection diagram**



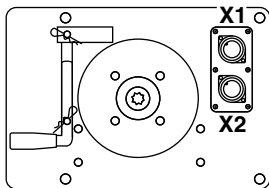
Connection assignment X1



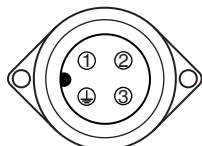
**12.2.2 On/Off actuator with 2 additional potential-free limit switches, with relay (code 0E), 24 V DC (code C1)**

**12.2.2.1 Position of the connectors**

Actuator version 4100, 4200

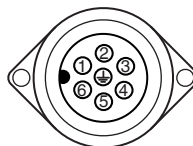


**12.2.2.2 Electrical connection**



Plug assignment X1

| Pin | Description                          |
|-----|--------------------------------------|
| 1   | L1 / Uv+, direction of travel CLOSED |
| 2   | L1 / Uv+, direction of travel OPEN   |
| 3   | N / Uv-, neutral conductor           |
| ⊕   | PE, protective earth conductor       |
|     |                                      |
|     |                                      |



Plug assignment X2

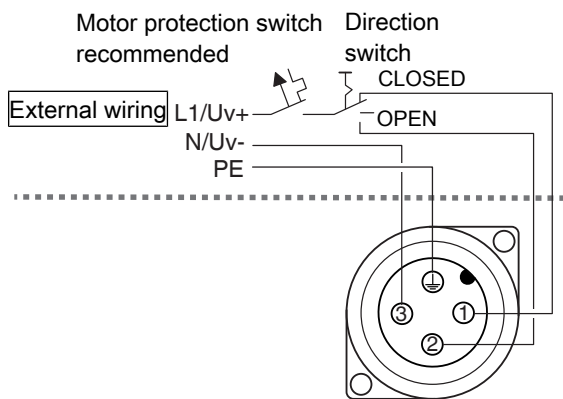
| Pin | Description                             |
|-----|---|
| 1   | Change-over contact limit switch CLOSED |
| 2   | Make contact limit switch CLOSED        |
| 3   | Break contact limit switch CLOSED       |
| 4   | Break contact limit switch OPEN         |
| 5   | Make contact limit switch OPEN          |
| 6   | Change-over contact limit switch OPEN   |
| ⊕   | PE, protective earth conductor          |

N / L- signals in the unit are separated.

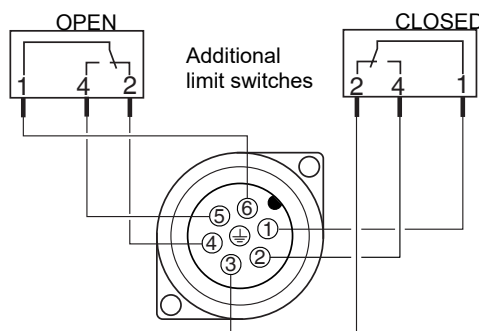
The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

**12.2.2.3 Connection diagram**



Connection assignment X1

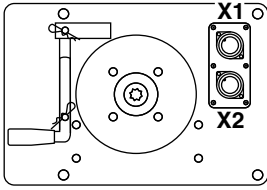


Connection assignment X2

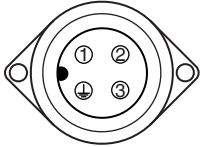
**12.2.3 On/Off actuator with potentiometer output, with relay (code 0P), 24 V DC (code C1)**

**12.2.3.1 Position of the connectors**

Actuator version 4100, 4200

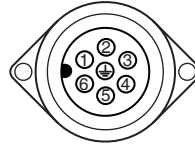


**12.2.3.2 Electrical connection**



Plug assignment X1

| Pin | Description                          |
|-----|--------------------------------------|
| 1   | L1 / Uv+, direction of travel CLOSED |
| 2   | L1 / Uv+, direction of travel OPEN   |
| 3   | N / Uv-, neutral conductor           |
| ⊕   | PE, protective earth conductor       |
|     |                                      |
|     |                                      |

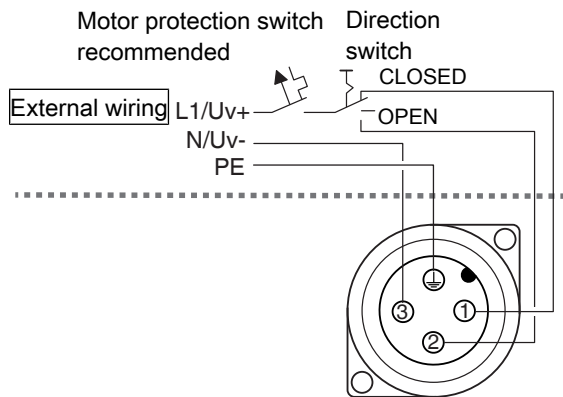


Plug assignment X2

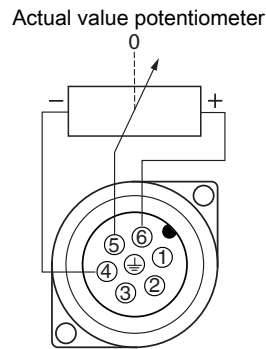
| Pin | Description                             |
|-----|---|
| 1   | Change-over contact limit switch CLOSED |
| 2   | Make contact limit switch CLOSED        |
| 3   | Break contact limit switch CLOSED       |
| 4   | Break contact limit switch OPEN         |
| 5   | Make contact limit switch OPEN          |
| 6   | Change-over contact limit switch OPEN   |
| ⊕   | PE, protective earth conductor          |

N / L- signals in the unit are separated.  
 The potential must be assigned by the user.  
 When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

**12.2.3.3 Connection diagram**



Connection assignment X1



Connection assignment X2

## 13 Limit switches

### DANGER



#### Risk of electric shock!

- ▶ Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- ▶ Adjustments are made with the actuator cover removed.
- ▶ Electric shock can cause severe burns and fatal injury.
- **Always** disconnect the product from power supply!
- Therefore, have all work performed only by qualified electricians.

### CAUTION

#### Incorrectly adjusted limit switch!

- ▶ Actuator continues running.
- ▶ Damage to the actuator.
- Do not move the limit switch too far outwards.

### NOTICE

#### Tools required for setting the limit switches:

- Allen key SW3
- Small Philips head screw driver

### NOTICE

- Always switch the limit switch for signal so that the motor switch is actuated first.
- ⇒ Limit switches for signal and motor are already preset.

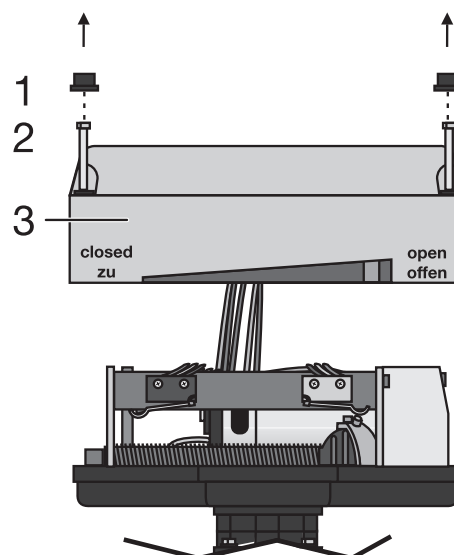
### 13.1 Setting the limit switch for 1015, 2015 and 3035

The motorized actuator versions 1015, 2015 and 3035 are supplied in the open position.

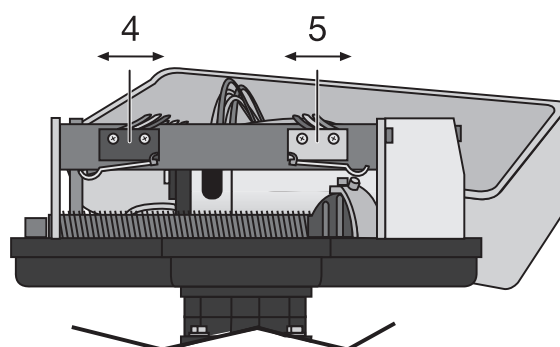
The "OPEN" and "CLOSED" end positions are set using limit switches. These are actuated using the levers and can be adjusted by loosening the 2 screws.

**The following drawings differ depending on the actuator version!**

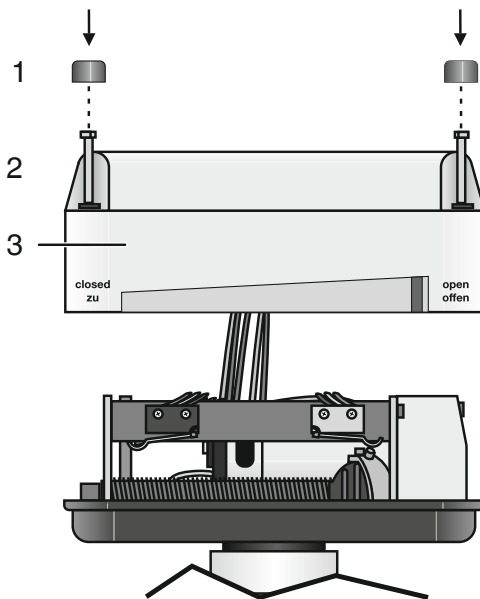
1. Disconnect the plant from power supply and secure against recommissioning.



2. Remove the protective caps 1.
3. Undo screws 2.
4. Remove the cover of the actuator 3.



5. Undo the screws on the corresponding limit switch (4 = "CLOSED", 5 = "OPEN").
6. Move limit switches to the desired position.
7. Tighten limit switch screws.



8. Put on cover of actuator 3.
  9. Tighten cover 3.
  10. Put on protective caps 1.
- ⇒ Limit switches are set.

### 13.2 Setting the limit switch for 2070, 4100, 4200

The motorized actuator versions 2070, 4100 and 4200 are supplied in the open position.

The "OPEN" and "CLOSED" end positions are set using limit switches. These are actuated using the levers and can be adjusted by loosening the 2 screws.

#### ⚠ CAUTION

##### Incorrectly adjusted limit switch!

- ▶ Actuator continues running.
- ▶ Damage to the actuator.
- Do not move the limit switch too far outwards.

##### Versions 00, 0E, 0P:

- The actuator is not reversible, i.e. it must be stopped briefly when switching over from "OPEN" to "CLOSED" or "CLOSED" to "OPEN".
- For the above actuator types, overall height 1 applies.

##### Versions A0, AE, AP, E1, E2:

- The actuator is reversible, i.e. it can be switched directly from "OPEN" to "CLOSED". To this end, a dead zone of 200 ms is integrated into the electronic system, i.e. when switching over, the actuator does not run for this time.
- Independent of the supply voltage, the OPEN/CLOSE control is freely selectable via a mains supply of 24 V DC, 24 V AC up to 250 V AC or operated directly via a PLC.
- An electronic current limitation limits the torque.
- For the above actuator types (except for code 2070), overall height 2 applies.

#### ⚠ DANGER



##### Risk of electric shock!

- ▶ Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- ▶ Adjustments are made with the actuator cover removed.
- ▶ Electric shock can cause severe burns and fatal injury.
- **Always** disconnect the product from power supply!
- Therefore, have all work performed only by qualified electricians.

### 14 Commissioning

#### ⚠ WARNING



##### Corrosive chemicals!

- ▶ Risk of caustic burns
- Wear appropriate protective gear.
- Completely drain the plant.

#### ⚠ CAUTION

##### Leakage!

- ▶ Emission of dangerous materials
- Provide precautionary measures against exceeding the maximum permitted pressures caused by pressure surges (water hammer).

1. Check the tightness and the function of the product (close and reopen the product).
2. Flush the piping system of new plant and following repair work (the product must be fully open).
  - ⇒ Harmful foreign matter has been removed.
  - ⇒ The product is ready for use.
3. Commission the product.

## 15 Operation

### ⚠ CAUTION

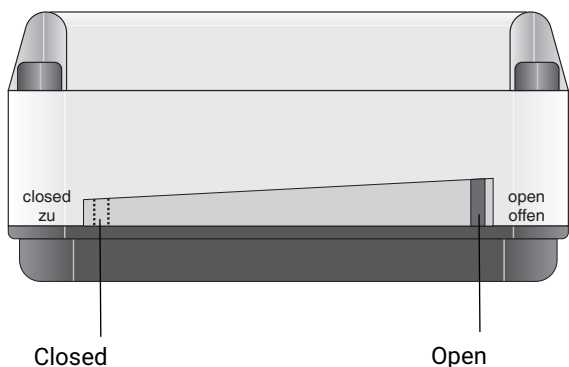
#### OPEN/CLOSE control

- OPEN/CLOSE control does not allow direct switching (reversing).
- First move the system to the stop position.
- Move from OPEN to CLOSED position only via OFF position (time > 1 sec in OFF position).

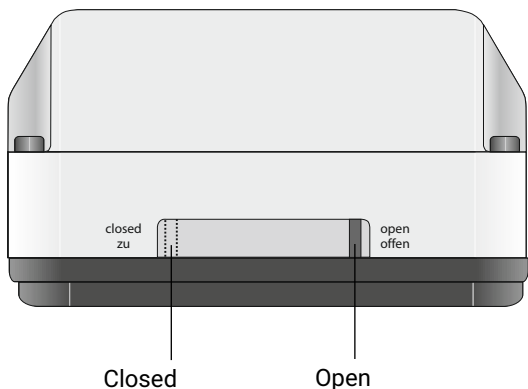
### 15.1 Optical position indicator

The actuator has an optical position indicator which indicates the position of the actuator.

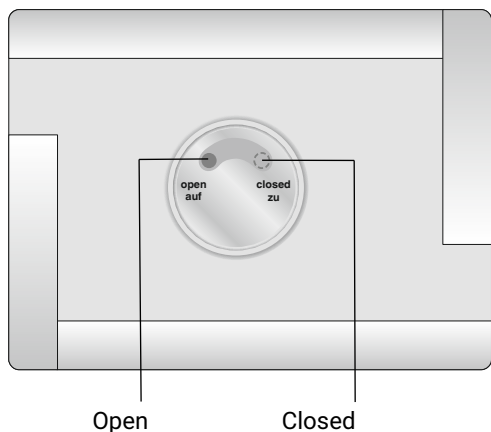
#### Actuator versions 1015, 2015, 3035



#### Actuator version 2070



#### Actuator versions 4100, 4200



## 15.2 Manual override

### ⚠ DANGER



#### Electric shock by dangerous voltage!

- ▶ Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- Switch off power to the actuator before using the manual override.

### ⚠ CAUTION

**Only actuate the manual override when the power is switched off.**

- ▶ Damage to the actuator!

### ⚠ CAUTION

**Set the actuator position to "centred" after using the manual override!**

- ▶ Trip cams may be outside the limit switches as the limit switch position was manually exceeded by the manual override.
- ▶ Damage to the actuator.
- Set the actuator position to "centred" before electrical operation.

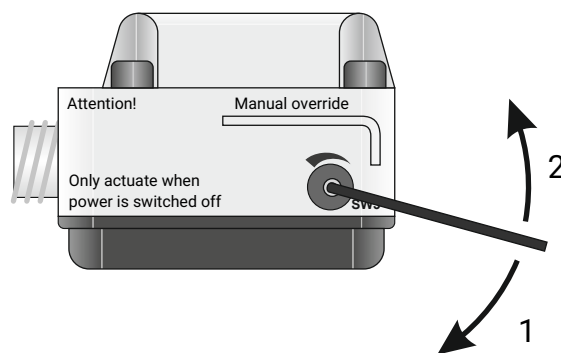
#### 15.2.1 Actuator versions 1015, 2015, 3035

### NOTICE

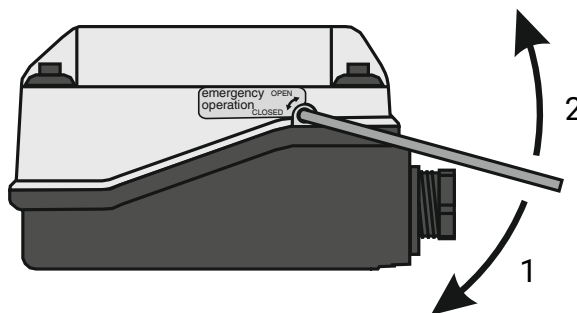
**For manual override the following is required:**

- Allen key WAF 3
- Screw driver

On the side of the actuator there is a red protective cap below which is the manual override.



Actuator versions 1015, 2015



Actuator version 3035

If manual override is required, take the following steps:

1. Remove red protective cap with a screw driver.
2. To open the ball valve, turn the Allen key clockwise **1** until the position indicator shows "open".
3. To close the ball valve, turn the Allen key anticlockwise **2** until the position indicator shows "closed".
4. Reinsert red protective cap.

**15.2.2 Actuator versions 2070, 4100, 4200**

**NOTICE**

**For manual override the following is required:**

- Screw driver

On the side of the actuator there is a black protective cap below which is the manual override. The crank handle for manual override is located on the base of the actuator. Actuation of the manual override additionally actuates a switch that shuts off power to the actuator.



Actuator version 2070 (example)

If manual override is required, take the following steps:

1. Remove black protective cap **1** using a screw driver.
2. Insert crank handle **2** and crank into the desired valve position manually (direction according to imprint).
3. Reinsert black protective cap **1**.

**15.3 Setting the limit switches**

**⚠ DANGER**

**Risk of electric shock!**

- ▶ Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- ▶ Adjustments are made with the actuator cover removed.
- ▶ Electric shock can cause severe burns and fatal injury.
- **Always** disconnect the product from power supply!
- Therefore, have all work performed only by qualified electricians.

**⚠ CAUTION**

**Destruction of the actuator!**

▶ Do not move the right limit switch too far to the right and the left limit switch too far to the left, otherwise the actuator will continue running in the end position (i.e. the limit switch cannot be actuated by the lever and the actuator continues to run).

**NOTICE**

**Tools required for setting the limit switches:**

- Allen key SW3
- Small Philips head screw driver

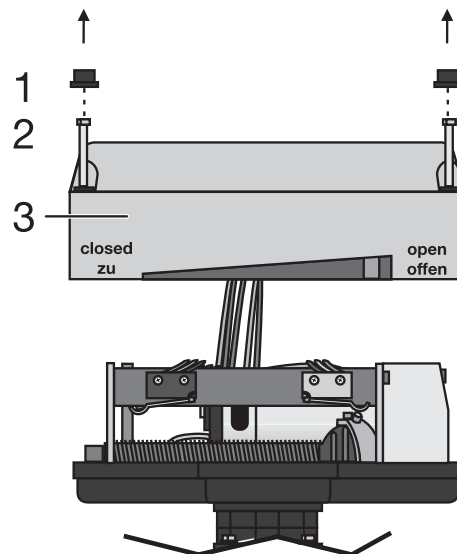
**NOTICE**

- Always switch the limit switch for signal so that the motor switch is actuated first.
- ⇒ Limit switches for signal and motor are already preset.

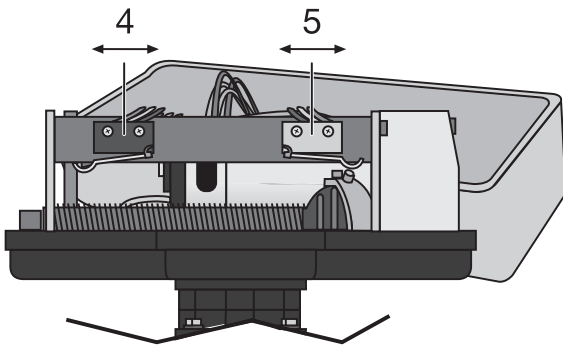
The GEMÜ 9428 motorized actuator is delivered in open position.

**The following drawings differ depending on the actuator version!**

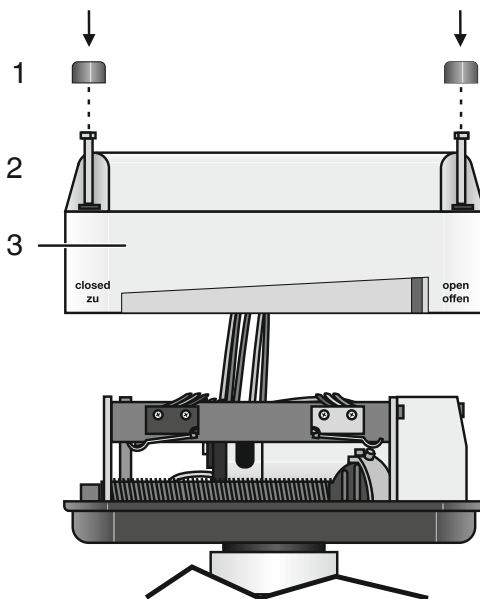
1. Disconnect the plant from power supply and secure against recommissioning.



2. Remove the protective caps **1**.
3. Undo screws **2**.
4. Disassemble the cover of the actuator **3**.



5. Undo screws at the respective limit switch (**4** = "CLOSED", **5** = "OPEN").
6. Move limit switches to the desired position.
7. Tighten limit switch screws.



8. Put on cover of actuator **3**.
  9. Tighten cover **3**.
  10. Put on protective caps **1**.
- ⇒ Limit switches are set.

**16 Troubleshooting**

| Error   | Possible cause                                | Troubleshooting  |
|---|---|--|
| Valve does not open/close or does not open/close fully  | Actuator defective                            | Replace the actuator   |
|   | Operating pressure too high                   | Operate the product with operating pressure specified in datasheet |
|   | Voltage is not connected                      | Connect voltage  |
|   | Cable ends incorrectly wired                  | Wire cable ends correctly  |
|   | End positions incorrectly set                 | Correctly set the end positions                                    |
|   | Foreign matter in the product                 | Remove and clean the product                                       |
| The product is leaking between actuator and valve body, medium is escaping at the valve spindle | Spindle nut or spacer bolt loosened           | Tighten spindle nut or spacer bolt                                 |
|   | Wearing parts of spindle seal faulty          | Replace wearing parts  |
| The product is leaking between actuator and valve body  | Bolting between valve body and actuator loose | Tighten bolting between valve body and actuator                    |
|   | Actuator/valve body damaged                   | Replace actuator/valve body  |
| Connection between valve body and piping leaking  | Incorrect installation                        | Check installation of valve body in piping                         |
|   | For clamp connections: Sealing clamp is loose | Retighten sealing clamp  |
|   | For clamp connections: Gasket faulty          | Replace gasket   |
| Valve body leaking  | Valve body leaking or corroded                | Check valve body for damage, replace valve body if necessary       |
|   | Bolts of the ball valve body are loose        | Retighten bolts  |
| No flow   | Ball incorrectly adjusted                     | Turn ball to the correct position                                  |



## 17 Inspection/maintenance

### WARNING



#### The equipment is subject to pressure!

- ▶ Risk of severe injury or death
- Depressurize the plant or plant component.
- Completely drain the plant or plant component.

### CAUTION



#### Hot plant components!

- ▶ Risk of burns
- Only work on plant that has cooled down.

### CAUTION

- Servicing and maintenance work must only be performed by trained personnel.
- Do not extend hand lever. GEMÜ shall assume no liability whatsoever for damages caused by improper handling or third-party actions.
- In case of doubt, contact GEMÜ prior to commissioning.

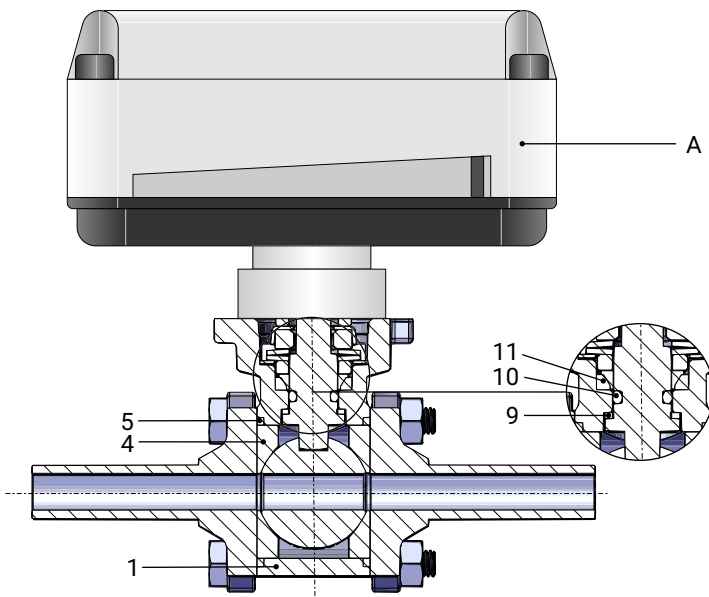
1. Use appropriate protective gear as specified in plant operator's guidelines.
2. Shut off plant or plant component.
3. Secure against recommissioning.
4. Depressurize the plant or plant component.

Ball valves are maintenance-free. No lubrication or routine maintenance of the ball valve shaft is required. The shaft is guided through a PTFE gland packing in the ball valve body. The shaft seal is pretensioned and self-adjusting. However, the operator must carry out regular visual examinations of the ball valves, dependent on the operating conditions and the potential danger in order to prevent leakage and damage.

If there is a leakage at the spindle nut, this can generally be rectified by retightening the spindle nut. However, overtightening the spindle nut must be avoided.

Usually, retightening by between 30° and 60° will be sufficient to rectify the leakage.

**17.1 Spare parts**



| Item | Name                   | Order designation  |
|------|------------------------|--|
| 1    | Ball valve body        | BB04   |
| 4    | Seat seal (2 x)        | BB04 SDS   |
| 5    | Flange seals (2x)      |  |
| 9    | Sealing washer spindle |  |
| 10   | O-ring                 | BB04 SDS   |
| 11   | V-ring spindle packing |  |
| A    | Actuator               | See actuator designation. Dependent on the actuator version. |

## 17.2 Replacing the actuator

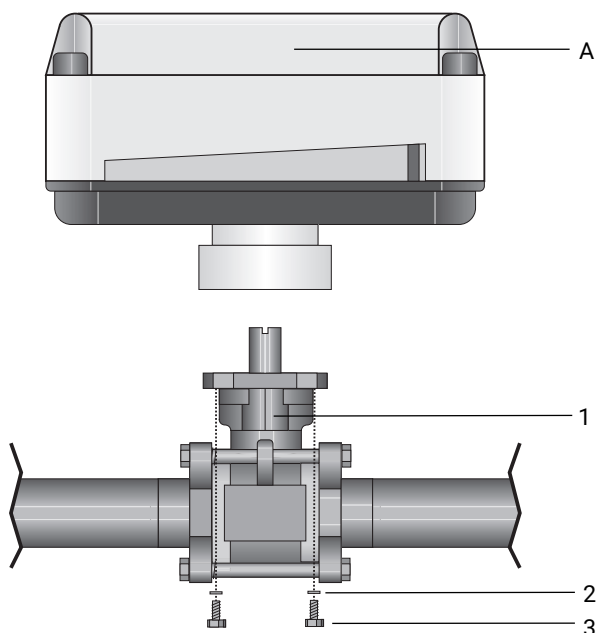
### DANGER



#### Risk of electric shock!

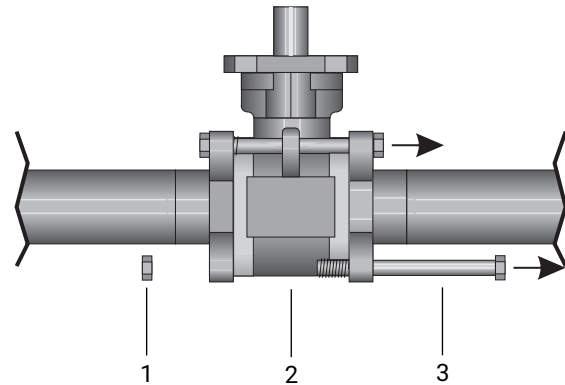
- ▶ Risk of injury or death (if operating voltage is higher than safe extra low voltage).
- ▶ Adjustments are made with the actuator cover removed.
- ▶ Electric shock can cause severe burns and fatal injury.
- **Always** disconnect the product from power supply!
- Therefore, have all work performed only by qualified electricians.

### 17.2.1 Removing the actuator from the ball valve body



1. Disconnect the actuator **A** from power supply .
2. Unscrew the hexagon screws **3**.
3. Do not lose the washers **2**.
4. Remove the actuator **A** from the ball valve body **1**.

### 17.2.2 Disassembling the ball valve body



1. Use appropriate protective gear as specified in plant operator's guidelines.
2. Shut off plant or plant component.
3. Secure against recommissioning.
4. Depressurize the plant or plant component.
5. Fully unscrew the nuts **1**.
6. Pull out the bolts **3**.
7. Remove the ball valve **2**.

### NOTICE

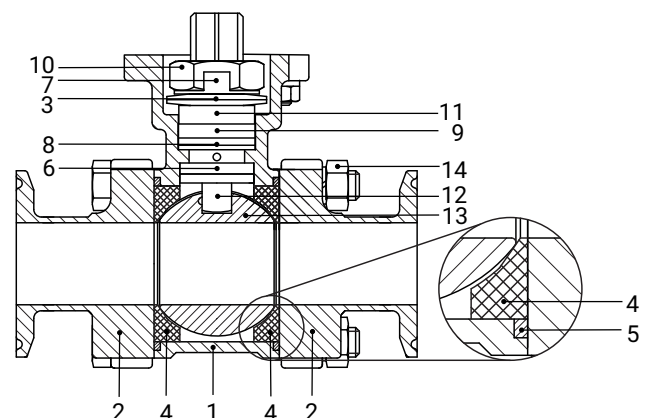
#### Important:

- ▶ Clean all parts of contamination (do not damage the parts during cleaning) following removal. Check parts for potential damage; replace if necessary (only use genuine parts from GEMÜ).

### 17.2.3 Replacement of spare parts

### NOTICE

- If a spare part must be replaced, it is recommended to likewise replace all spare parts included in the wearing parts kit.



1. Remove the actuator (see chapter "Removing the actuator from the ball valve body").
2. Bend the tab of the lock washer **7**.

3. Unscrew the spindle nut **10**.
4. Remove the spring washers (2 x) **3** and the stainless steel sleeve **11**.
5. Unscrew the nuts **14** from the flange connecting bolts.
6. Remove the lock washers, pull out the bolts, and carefully remove the flange **2** from the ball valve body **1**.
7. Remove the flange seals **5** and seat seals **4** from the ball valve body.
8. Turn the ball **13** with the spindle **12** to the "closed" position and remove the ball from the ball valve body with a slight rotating movement.
9. Press spindle **12** carefully from outside into ball valve body and remove it.
10. Remove the V-ring spindle packings **8** (2x) and **9**.
11. Replace the conical spindle seal **6** and reinsert the spindle **12** into the ball valve body.
12. Place the new V-ring spindle packings **8** (2x) and **9**, the stainless steel sleeve **11**, the spring washers **3** and the lock washer **7** on the spindle **12** and hand-tighten the spindle nut **10**.
13. Bend the tab of lock washer **7** upwards.
14. Turn the spindle so that the ball actuator runs alongside the direction of piping, and push the ball **13** onto the ball actuator with a slight rotating movement.
15. Insert the seat seals **4** and flange seals **5** from both sides.
16. Position the flange **2** on both sides, push the flange connecting bolts through the flange holes, attach the lock washers and tighten the nuts evenly (diagonally in several cycles).
17. Mount actuator **A** (see chapter "Actuator mounting on the ball valve body"). When doing so, ensure that the ball position and actuator position are in correct alignment with the initial position before disassembly.

**Tightening torques for upper spindle nut item 10**

| Nominal size | Torque |
|--------------|--------|
| DN8          | 9      |
| DN10         | 9      |
| DN15         | 9      |
| DN20         | 9      |
| DN25         | 15     |
| DN32         | 15     |
| DN40         | 25     |
| DN50         | 25     |
| DN65         | 30     |
| DN80         | 30     |
| DN100        | 40     |

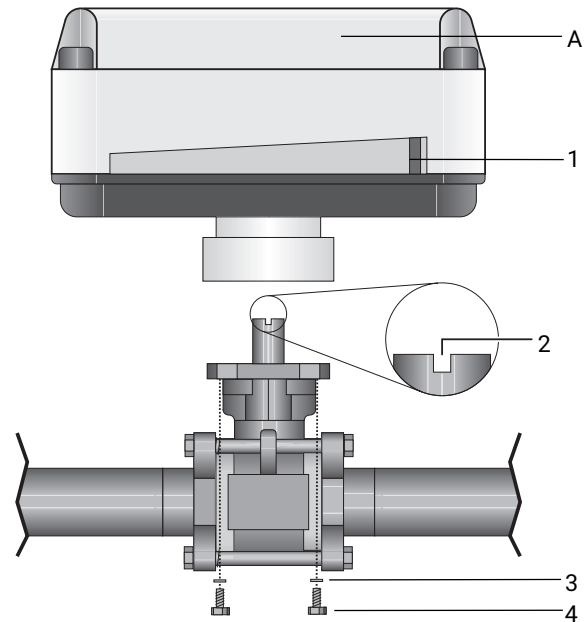
Torques in Nm

**17.2.4 Installing the ball valve body**

**NOTICE**

► Installation is performed in reverse order as for disassembly (see chapter "Disassembling the ball valve body").

**17.2.5 Mounting the actuator on the ball valve body**



1. Ensure that the groove at the square **2** of the ball valve is in correct alignment with the marking **1** of the position indicator, if necessary rotate the square to the correct position.
2. Place the actuator **A** on the square and align, if necessary.
3. Hand-tighten the screws **4** with their washers **3**.
4. Diagonally hand-tighten the screws **4** evenly.

### **18 Removal from piping**

1. Remove the clamp or screw connections in reverse order to installation.
2. Remove welded or solvent cemented connections using a suitable cutting tool.
3. Observe the safety information and accident prevention regulations.

### **19 Disposal**

1. Pay attention to adhered residual material and gas diffusion from penetrated media.
2. Dispose of all parts in accordance with the disposal regulations/environmental protection laws.

### **20 Returns**

Legal regulations for the protection of the environment and personnel require that the completed and signed return delivery note is included with the dispatch documents. Returned goods can be processed only when this note is completed. If no return delivery note is included with the product, GEMÜ cannot process credits or repair work but will dispose of the goods at the operator's expense.

1. Clean the product.
2. Request a return delivery note from GEMÜ.
3. Complete the return delivery note.
4. Send the product with a completed return delivery note to GEMÜ.

**21 EU Declaration of Incorporation according to the EC Machinery Directive 2006/42/EC, Annex II B**



## EU Declaration of Incorporation

*according to the EC Machinery Directive 2006/42/EC, Annex II B*

We, the company GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Strasse 6-8  
74653 Ingelfingen  
Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the relevant essential health and safety requirements in accordance with Annex I of the above-mentioned Directive.

**Product:** GEMÜ B54  
**Product name:** Motorized ball valve  
**The following essential health and safety requirements of the EC Machinery Directive 2006/42/EC, Annex I have been applied or adhered to:** 1.1.2.; 1.1.3.; 1.1.5.; 1.3.2.; 1.3.4.; 1.3.7.; 1.3.8.; 1.5.1.; 1.5.13.; 1.5.2.; 1.5.4.; 1.5.6.; 1.5.7.; 1.5.8.; 1.6.1.; 1.6.3.; 1.6.5.; 1.7.1.; 1.7.1.1.; 1.7.2.; 1.7.3.; 1.7.4.; 1.7.4.1.; 1.7.4.2.; 1.7.4.3.  
**The following harmonized standards (or parts thereof) have been applied:** EN ISO 12100:2010

We also declare that the specific technical documents have been created in accordance with part B of Annex VII.

The manufacturer undertakes to transmit relevant technical documents on the partly completed machinery to the national authorities in response to a reasoned request. This communication takes place electronically.

This does not affect the industrial property rights.

**The partly completed machinery may be commissioned only if it has been determined, if necessary, that the machinery into which the partly completed machinery is to be installed meets the provisions of the Machinery Directive 2006/42/EC.**

M. Barghoorn  
Head of Global Technics

Ingelfingen, 29/01/2024

**22 EU Declaration of Conformity in accordance with 2014/68/EU (Pressure Equipment Directive)**



**EU Declaration of Conformity**  
**in accordance with 2014/68/EU (Pressure Equipment Directive)**

We, the company GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Strasse 6-8  
74653 Ingelfingen  
Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

**Product:** GEMÜ B54  
**Product name:** Motorized ball valve  
**Notified body:** TÜV Rheinland Industrie Service GmbH  
Am Grauen Stein 1  
51105 Cologne, Germany  
**ID number of the notified body:** 0035  
**No. of the QA certificate:** 01 202 926/Q-02 0036  
**Conformity assessment procedure(s) applied:** Module H  
**The following harmonized standards (or parts thereof) have been applied:** EN ISO 1983:2013

**Information for products with a nominal size  $\leq$  DN 25:**

The products are developed and produced according to GEMÜ's in-house process instructions and standards of quality which comply with the requirements of ISO 9001 and ISO 14001. According to Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU, these products must not be identified by a CE-marking.

**Other applied technical standards / Remarks:**

- DIN EN 558; AD 2000

M. Barghoorn  
Head of Global Technics  
Ingelfingen, 29/01/2024

**23 EU Declaration of Conformity in accordance with 2014/30/EU (EMC Directive)**



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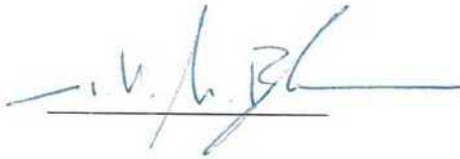
## **EU Declaration of Conformity**

***in accordance with 2014/30/EU (EMC Directive)***

We, the company GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Strasse 6-8  
74653 Ingelfingen-Criesbach, Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

**Product:** GEMÜ B54  
**Product name:** Motorized ball valve  
**The following harmonized standards (or parts thereof) have been applied:** EN 61000-6-4:2007/A1:2011; EN 61000-6-4:2007



M. Barghoorn  
Head of Global Technics  
Ingelfingen, 29/01/2024



**24 EU Declaration of Conformity in accordance with 2014/35/EU (Low Voltage Directive)**



**EU Declaration of Conformity**  
*in accordance with 2014/35/EU (Low Voltage Directive)*

We, the company  
GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Strasse 6-8  
74653 Ingelfingen  
Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

**Product:** GEMÜ B54  
**Product name:** Motorized ball valve  
**Product version:** Control module code AE (230 V)  
**The following harmonized standards (or parts thereof) have been applied:** EN 61010-1:2010/A1:2019/AC:2019-04

M. Barghoorn  
Head of Global Technics  
Ingelfingen, 29/01/2024

**25 EU Declaration of Conformity in accordance with 2011/65/EU (RoHS Directive)**



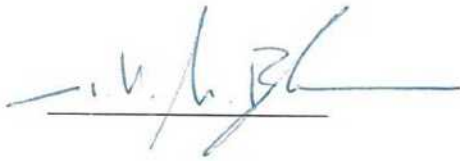
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**EU Declaration of Conformity**  
**in accordance with 2011/65/EU (RoHS Directive)**

We, the company GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Strasse 6-8  
74653 Ingelfingen-Criesbach, Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

**Product:** GEMÜ B54  
**Product name:** Motorized ball valve  
**The following harmonized standards (or parts thereof) have been applied:** EN IEC 63000:2018



M. Barghoorn  
Head of Global Technics  
Ingelfingen, 29/01/2024



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany  
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www.gemu-group.com

Subject to alteration

05.2024 | 88736569