

# **GEMÜ B54**

## **Motorized ball valve**



### **Features**

- Checked delta ferrite material < 3% (1.4435)
- Material certificates for media wetted components
- Media wetted surfaces according to ASME SF5 (Ra 0.51 µm)
- Suitable for vacuum applications
- Optionally available with cavity-filled seat
- Butt weld spigots in extended orbital welding design
- Ball valve body assembled free of oil and grease

### **Description**

The GEMÜ B54 3-piece 2/2-way metal ball valve is motorized. Various on/off or control actuators are available. The 1.4435 stainless steel alloy material composition used for the ball valve body (compliant with 316L) with a low delta ferrite proportion of < 3% is particularly suited to applications in the supply sector for the pharmaceutical, foodstuffs processing and biotechnology (such as water treatment and sterile steam generation) industries. Only those plastics which are compliant with FDA, USP Class VI and Regulation (EU) No.10/2011 are used for the seals.

### **Technical specifications**

- **Media temperature:** 14 to 428 °F
- **Ambient temperature:** -4 to 140 °F
- **Operating pressure:** 0 to 913.8 psi
- **Nominal sizes:** 1/4" (DN 8) to 4" (DN 100)
- **Body configurations:** 2/2-way body
- **Connection standards:** ASME | DIN | ISO | SMS
- **Body materials:** 1.4435 (316L), investment casting material
- **Seal materials:** PTFE TFM™
- **Supply voltage:** 12 V AC, 50/60 Hz | 12 V DC | 24 - 240 V AC/DC | 24 V AC, 50/60 Hz | 24 V DC
- **Operating time 90°:** 4 to 58 s
- **Protection class:** IP 65. IP 67. IP 68

Technical data depends on the respective configuration



further information  
webcode: GW-B54



## Product line

|                           |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|---------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                           |  |  |  |  |
|                           | <b>GEMÜ BB04</b>                                                                  | <b>GEMÜ B24</b>                                                                   | <b>GEMÜ B44</b>                                                                    | <b>GEMÜ B54</b>                                                                     |
| <b>Operation</b>          |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| With bare shaft           | ●                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   |
| Manual                    | -                                                                                 | ●                                                                                 | -                                                                                  | -                                                                                   |
| pneumatic                 | -                                                                                 | -                                                                                 | ●                                                                                  | -                                                                                   |
| Motorized                 | -                                                                                 | -                                                                                 | -                                                                                  | ●                                                                                   |
| <b>Nominal sizes</b>      | 1/4" (DN 8) to 4" (DN 100)                                                        | 1/4" (DN 8) to 4" (DN 100)                                                        | 1/4" (DN 8) to 4" (DN 100)                                                         | 1/4" (DN 8) to 4" (DN 100)                                                          |
| <b>Media temperature</b>  | 14 to 428 °F                                                                      | 14 to 428 °F                                                                      | 14 to 428 °F                                                                       | 14 to 428 °F                                                                        |
| <b>Operating pressure</b> | 0 to 913,8 psi                                                                    | 0 to 913,8 psi                                                                    | 0 to 913,8 psi                                                                     | 0 to 913,8 psi                                                                      |
| <b>Connection types</b>   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| Clamp                     | ●                                                                                 | ●                                                                                 | ●                                                                                  | ●                                                                                   |
| Spigot                    | ●                                                                                 | ●                                                                                 | ●                                                                                  | ●                                                                                   |

## Elektromotorische Antriebe GEMÜ, J+J, Bernard, Auma

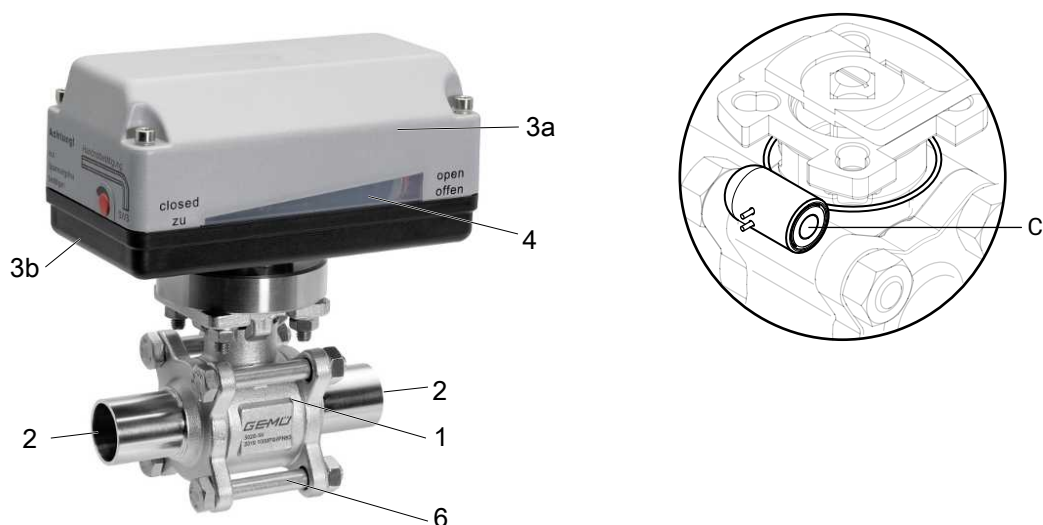


|                               | GEMÜ 9428    | GEMÜ 9468                                         | GEMÜ J4C     |
|-------------------------------|--------------|---------------------------------------------------|--------------|
| <b>Manufacturer</b>           | GEMÜ         | GEMÜ                                              | J+J          |
| <b>Manufacturer type</b>      | 9428         | 9468                                              | J4C          |
| <b>Torques</b>                | 6 to 55 Nm   | 70 to 200 Nm                                      | 20 to 300 Nm |
| <b>Duty cycle</b>             | 100 %        | 30 % (ON/OFF actuator)<br>50 % (control actuator) | 75 %         |
| <b>Heating</b>                | No           | No                                                | Yes          |
| <b>Voltage</b>                |              |                                                   |              |
| 12 V AC, 50/60 Hz             | ●            | -                                                 | -            |
| 12 V DC                       | ●            | -                                                 | ●            |
| 24 - 240 V AC/DC              | -            | -                                                 | ●            |
| 24 V AC, 50/60 Hz             | ●            | -                                                 | -            |
| 24 V DC                       | ●            | ●                                                 | -            |
| <b>Protection class</b>       | IP 65, IP 67 | IP 65                                             | IP 67        |
| <b>Ambient temperature</b>    | -10 to 60 °C | -10 to 60 °C                                      | -20 to 70 °C |
| <b>Housing materials</b>      |              |                                                   |              |
| ABS                           | -            | ●                                                 | -            |
| Aluminium                     | -            | ●                                                 | -            |
| Polyamide (PA6)               | -            | -                                                 | ●            |
| PP                            | ●            | -                                                 | -            |
| <b>Versions</b>               |              |                                                   |              |
| Limit switches                | ●            | ●                                                 | ●            |
| ON/OFF actuator               | ●            | ●                                                 | -            |
| Optional battery pack         | -            | -                                                 | ●            |
| Optional positioner           | -            | -                                                 | ●            |
| Optional positioning actuator | -            | ●                                                 | ●            |
| Optional potentiometer        | -            | ●                                                 | -            |
| Optionally 3 positions        | -            | -                                                 | ●            |

## Elektromotorische Antriebe GEMÜ, J+J, Bernard, Auma

|                                              |                                                                                    |           |          |
|----------------------------------------------|------------------------------------------------------------------------------------|-----------|----------|
|                                              |  |           |          |
|                                              | GEMÜ 9428                                                                          | GEMÜ 9468 | GEMÜ J4C |
| <b>Range of functions</b>                    |                                                                                    |           |          |
| Use in non-aggressive environment (up to C3) | ●                                                                                  | ●         | ●        |
| Use in aggressive environment (C5)           | ●                                                                                  | ●         | ●        |
| Use in protected outdoor areas               | ●                                                                                  | ●         | ●        |
| Use in unprotected outdoor areas             | ●                                                                                  | ●         | ●        |
| Applications with many/frequent cycle duties | ●                                                                                  | ●         | ●        |
| Fail-safe option                             | ●                                                                                  | ●         | ●        |
| Positioning application                      | ●                                                                                  | ●         | ●        |
| <b>Industrial sectors</b>                    |                                                                                    |           |          |
| Chemical processes                           | ●                                                                                  | ●         | ●        |
| Surface finishing                            | ●                                                                                  | ●         | ●        |
| Water treatment                              | ●                                                                                  | ●         | ●        |
| Mechanical engineering                       | ●                                                                                  | ●         | ●        |
| Power generation and environmental systems   | ●                                                                                  | ●         | ●        |
| Food processing technology                   | ●                                                                                  | ●         | ●        |
| Semiconductor                                | ●                                                                                  | ●         | ●        |
| Medical systems                              | ●                                                                                  | ●         | ●        |
| Pharmaceutical industry                      | ●                                                                                  | ●         | ●        |

## Product description



| 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, 3035, 3055<br>Actuator version 4100, 4200                     | PP (30% glass fibre reinforced)<br>Aluminium                                     |
| 4    | Optical position indicator                                                                                          | PP-R natural                                                                     |
| 6    | Bolt                                                                                                                | A2 70                                                                            |
|      | Seals                                                                                                               | TFM                                                                              |
| C    | CONEXO RFID chip (see "GEMÜ CONEXO", page 38)                                                                       |                                                                                  |

### ***Cavity-filled PTFE TFM seat (code 5H)***

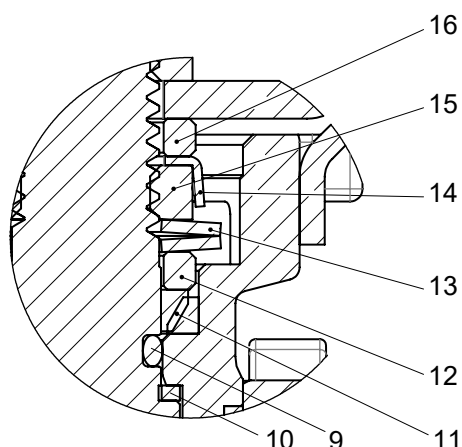


- The cavity-filled seat, which is made of PTFE TFM, is specially designed to reduce excess volumes in the ball cavity.
- Media that remains in the valve's dead spaces is unwanted during food production, for example, and may decontaminate this.
- These deposits accumulate and contaminate the entire process. Thanks to this special seal variant, the volume in the ball cavity is reduced to a minimum.

### ***Application***

- Water treatment
- Steam processing
- CIP/SIP
- Waste water treatment
- Storage and distribution
- Drying

## The spindle seal system



| Item | Name                   | Material       |
|------|------------------------|----------------|
| 9    | O-ring                 | Viton          |
| 10   | Seal                   | TFM            |
| 11   | V-ring                 | TFM            |
| 12   | Stainless steel sleeve | SS304 – 1.4301 |
| 13   | Spring washer          | SS304 – 1.4301 |
| 14   | Cap                    | SS304 – 1.4301 |
| 15   | Spindle nut            | A2 70          |
| 16   | Washer                 | SS304 – 1.4301 |

### Long service life due to double spindle seal

#### - Conical spindle seal:

The seal **10** arranged at an angle of 45° effectively prevents the leakage of medium when operating the spindle

#### - Pretensioned self-adjusting spindle seal:

The spindle packing consists of several V-rings **11**, a spring washer **13** and a stainless steel sleeve **12**. The spring washer **13** is pretensioned via the spindle nut **14**. The pretension force is distributed to the V-rings **11** via the stainless steel sleeve **12**, thereby preventing the leakage of media. The pretension provides low maintenance and reliable spindle sealing even after a long service life.

**Availability**

| DN  | NPS  | Connection type code <sup>1)</sup> |    |    |    |    |    |
|-----|------|------------------------------------|----|----|----|----|----|
|     |      | 17                                 | 37 | 59 | 60 | 80 | 93 |
| 8   | 1/4" | -                                  | -  | -  | X  | -  | -  |
| 10  | 3/8" | X                                  | -  | -  | X  | -  | -  |
| 15  | 1/2" | X                                  | -  | X  | X  | X  | X  |
| 20  | 3/4" | X                                  | X  | X  | X  | X  | X  |
| 25  | 1"   | X                                  | X  | X  | X  | X  | X  |
| 32  | 1¼"  | X                                  | -  | -  | X  | -  | -  |
| 40  | 1½"  | X                                  | X  | X  | X  | X  | X  |
| 50  | 2"   | X                                  | X  | X  | X  | X  | X  |
| 65  | 2½"  | X                                  | X  | X  | X  | X  | X  |
| 80  | 3"   | X                                  | X  | X  | X  | X  | X  |
| 100 | 4"   | X                                  | X  | X  | X  | X  | X  |

**1) Connection type**

Code 17: Spigot EN 10357 series A / DIN 11866 series A formerly DIN 11850 series 2

Code 37: Spigot SMS 3008

Code 59: Spigot ASME BPE/DIN 11866 series C

Code 60: Spigot ISO 1127/EN 10357 series C/DIN 11866 series B

Code 80: Clamp ASME BPE

Code 93: One side clamp ASME BPE corresponding to code 80, other side butt weld spigot code 59, for pipe ASME BPE

## Actuator assignment

### GEMÜ actuator

| Antriebsausführung | Regelmodul    | Spannung / Frequenz  |                      |                      |                      |                           |
|--------------------|---------------|----------------------|----------------------|----------------------|----------------------|---------------------------|
|                    |               | 12 V DC<br>(Code B1) | 12 V AC<br>(Code B4) | 24 V DC<br>(Code C1) | 24 V AC<br>(Code C4) | 100-250 V AC<br>(Code O4) |
| A3                 | A0, AE        | X                    | X                    | X                    | X                    | -                         |
| A4                 | A0, AE        | X                    | -                    | X                    | -                    | -                         |
| A5                 | A0, AE        | -                    | -                    | -                    | -                    | -                         |
| A6                 | A0, AE        | -                    | X                    | -                    | X                    | -                         |
| A7                 | A0, AE        | -                    | -                    | X                    | -                    | -                         |
| A9                 | 00, 0E,<br>0P | -                    | -                    | X                    | -                    | -                         |
| A10                | 00, 0E,<br>0P | -                    | -                    | X                    | -                    | -                         |
| A11                | 00, 0E,<br>0P | -                    | -                    | X                    | -                    | -                         |

#### TFM 1600 (FDA certification), cavity-filled (code 5H)

| DN  | NPS  | Actuator version (code) |      |      |      |      |      |
|-----|------|-------------------------|------|------|------|------|------|
|     |      | 1006                    | 1015 | 3035 | 3055 | 4100 | 4200 |
| 8   | 1/4" | X                       | -    | -    | -    | -    | -    |
| 10  | 3/8" | X                       | -    | -    | -    | -    | -    |
| 15  | 1/2" | -                       | X    | -    | -    | -    | -    |
| 20  | 3/4" | -                       | X    | -    | -    | -    | -    |
| 25  | 1"   | -                       | -    | X    | -    | -    | -    |
| 32  | 1¼"  | -                       | -    | X    | -    | -    | -    |
| 40  | 1½"  | -                       | -    | -    | X    | -    | -    |
| 50  | 2"   | -                       | -    | -    | X    | -    | -    |
| 65  | 2½"  | -                       | -    | -    | -    | X    | -    |
| 80  | 3"   | -                       | -    | -    | -    | X    | -    |
| 100 | 4"   | -                       | -    | -    | -    | -    | X    |

#### Seal material TFM 1600 (FDA certification) (code 5T)

| DN  | NPS  | Actuator version (code) |      |      |      |      |
|-----|------|-------------------------|------|------|------|------|
|     |      | 1006                    | 1015 | 3035 | 4100 | 4200 |
| 8   | 1/4" | X                       | -    | -    | -    | -    |
| 10  | 3/8" | X                       | -    | -    | -    | -    |
| 15  | 1/2" | -                       | X    | -    | -    | -    |
| 20  | 3/4" | -                       | X    | -    | -    | -    |
| 25  | 1"   | -                       | X    | -    | -    | -    |
| 32  | 1¼"  | -                       | X    | -    | -    | -    |
| 40  | 1½"  | -                       | -    | X    | -    | -    |
| 50  | 2"   | -                       | -    | X    | -    | -    |
| 65  | 2½"  | -                       | -    | -    | X    | -    |
| 80  | 3"   | -                       | -    | -    | X    | -    |
| 100 | 4"   | -                       | -    | -    | -    | X    |

## See also

 GEMÜ actuator [► 9]

## J+J actuator

### J+J - Voltage/Frequency

| Voltage/Fre-<br>quency       | Code      | Actuator version (code) |       |       |       |       |
|------------------------------|-----------|-------------------------|-------|-------|-------|-------|
|                              |           | J4C20                   | J4C35 | J4C55 | J4C14 | J4C30 |
| <b>24 – 240 V AC/<br/>DC</b> | <b>U5</b> | X                       | X     | X     | X     | X     |

### J+J - Control module

| Control module    | Code <sup>1)</sup> | Actuator version (code) |       |       |       |       |
|-------------------|--------------------|-------------------------|-------|-------|-------|-------|
|                   |                    | J4C20                   | J4C35 | J4C55 | J4C14 | J4C30 |
| <b>Open/close</b> | <b>A3</b>          | X                       | X     | X     | X     | X     |
|                   | <b>AE</b>          | X                       | X     | X     | X     | X     |
|                   | <b>AE1</b>         | X                       | X     | X     | X     | X     |
|                   | <b>AE2</b>         | X                       | X     | X     | X     | X     |
|                   | <b>AP</b>          | X                       | X     | X     | X     | X     |
|                   | <b>AP1</b>         | X                       | X     | X     | -     | -     |
| <b>Positioner</b> | <b>E1</b>          | X                       | X     | X     | X     | X     |
|                   | <b>E11</b>         | X                       | X     | X     | -     | -     |
|                   | <b>E2</b>          | X                       | X     | X     | X     | X     |
|                   | <b>E22</b>         | X                       | X     | X     | -     | -     |

#### 1) Control module

Code A3: ON/OFF actuator, 3-position actuator, additional potential-free limit switches

Code AE: ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)

Code AE1: ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NC)

Code AE2: ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NO)

Code AP: ON/OFF actuator, potentiometer output, Class A (EN15714-2)

Code AP1: ON/OFF actuator, 2 additional potential-free limit switches, potentiometer output 5 kOhm, Failsafe battery pack (NC), preferred direction adjustable

Code E1: Control actuator, external set value 0-10 VDC

Code E11: Positioner DPS, external set value 0-10V, BSR battery pack (NC)

Code E2: Control actuator, external set value 0/4-20 mA

Code E22: Positioner DPS, external set value 4-20mA, BSR battery pack (NO)

### TFM 1600 (FDA certification), cavity-filled (code 5H)

| DN         | NPS         | Actuator version (code) |       |       |       |
|------------|-------------|-------------------------|-------|-------|-------|
|            |             | J4C20                   | J4C55 | J4C14 | J4C30 |
| <b>8</b>   | <b>1/4"</b> | X                       | -     | -     | -     |
| <b>10</b>  | <b>3/8"</b> | X                       | -     | -     | -     |
| <b>15</b>  | <b>1/2"</b> | X                       | -     | -     | -     |
| <b>20</b>  | <b>3/4"</b> | X                       | -     | -     | -     |
| <b>25</b>  | <b>1"</b>   | X                       | -     | -     | -     |
| <b>32</b>  | <b>1¼"</b>  | X                       | -     | -     | -     |
| <b>40</b>  | <b>1½"</b>  | -                       | X     | -     | -     |
| <b>50</b>  | <b>2"</b>   | -                       | X     | -     | -     |
| <b>65</b>  | <b>2½"</b>  | -                       | -     | X     | -     |
| <b>80</b>  | <b>3"</b>   | -                       | -     | X     | -     |
| <b>100</b> | <b>4"</b>   | -                       | -     | -     | X     |

## Seal material TFM 1600 (FDA certification) (code 5T)

| DN  | NPS  | Actuator version (code) |       |       |
|-----|------|-------------------------|-------|-------|
|     |      | J4C20                   | J4C35 | J4C14 |
| 8   | 1/4" | X                       | -     | -     |
| 10  | 3/8" | X                       | -     | -     |
| 15  | 1/2" | X                       | -     | -     |
| 20  | 3/4" | X                       | -     | -     |
| 25  | 1"   | X                       | -     | -     |
| 32  | 1¼"  | X                       | -     | -     |
| 40  | 1½"  | -                       | X     | -     |
| 50  | 2"   | -                       | X     | -     |
| 65  | 2½"  | -                       | -     | X     |
| 80  | 3"   | -                       | -     | X     |
| 100 | 4"   | -                       | -     | X     |

## Order data

### 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, controlled 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 anti-static 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 11866 series C</b>                                                                | <b>59</b> |
| Spigot ISO 1127/EN 10357 series C/DIN 11866 series B                                                     | 60        |
| <b>Clamp ASME BPE</b>                                                                                    | <b>80</b> |
| One side clamp ASME BPE corresponding to code 80, 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 Δ Fe<3%) (body, connection, ball), 1.4409 / SS316L (spindle) | C3   |

| 6 Seal material                             | Code |
|---------------------------------------------|------|
| TFM 1600 (FDA certification)                | 5T   |
| TFM 1600 (FDA certification), cavity filled | 5H   |

| 7 Voltage/Frequency | Code |
|---------------------|------|
| 12 VDC              | B1   |
| 12 V 50/60 Hz       | B4   |

| 7 Voltage/Frequency | Code |
|---------------------|------|
| 24 VDC              | C1   |
| 24 V 50/60 Hz       | C4   |

| 8 Control module                                                                   | Code |
|------------------------------------------------------------------------------------|------|
| ON/OFF actuator, relay, not reversible                                             | 00   |
| ON/OFF actuator, 2 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, 2 additional potential-free limit switches, Class A (EN15714-2)   | AE   |

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

| 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 spigots Ra ≤ 0.8 μm | 1537 |
| K-no. SF5, K-no. 5227, SF5 - Ra max. 0.51 μm (20 μin.) electropolished internal/external, 5227 - Thermal separation via 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 media                          | 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 |
| 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**

| Order option              | Code | Description                                                                                                                                                                                                                                                                      |
|---------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Type                    | B54  | Ball valve, metal, electrically operated, three-piece body, Sanitary, controlled 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 anti-static unit |
| 2 DN                      | 15   | DN 15                                                                                                                                                                                                                                                                            |
| 3 Body/ball configuration | D    | 2/2-way body                                                                                                                                                                                                                                                                     |
| 4 Connection type         | 59   | Spigot ASME BPE/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   | TFM 1600 (FDA certification)                                                                                                                                                                                                                                                     |
| 7 Voltage/Frequency       | C1   | 24 VDC                                                                                                                                                                                                                                                                           |
| 8 Control module          | A0   | ON/OFF actuator                                                                                                                                                                                                                                                                  |
| 9 Actuator version        | 1015 | Actuator, motorized, operating time 11s, torque 15Nm, GEMUE, size 1 supply voltage B1, C1                                                                                                                                                                                        |
| 10 Type of design         |      | Standard                                                                                                                                                                                                                                                                         |
| 11 CONEXO                 |      | Without                                                                                                                                                                                                                                                                          |

## 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, controlled 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 anti-static 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 11866 series C</b>                                                                | <b>59</b> |
| Spigot ISO 1127/EN 10357 series C/DIN 11866 series B                                                     | 60        |
| <b>Clamp ASME BPE</b>                                                                                    | <b>80</b> |
| One side clamp ASME BPE corresponding to code 80, 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 Δ Fe<3%)<br>(body, connection, ball), 1.4409 / SS316L (spindle) | <b>C3</b> |

| 6 Seal material                             | Code |
|---------------------------------------------|------|
| TFM 1600 (FDA certification)                | 5T   |
| TFM 1600 (FDA certification), cavity filled | 5H   |

| 7 Voltage/Frequency                                               | Code      |
|-------------------------------------------------------------------|-----------|
| 24 - 240 V AC 24 - 135 V DC<br>for model 20, 35, 55, 85, 140, 300 | <b>U5</b> |

| 8 Control module                                                                                                                                           | Code |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| ON/OFF actuator, 3-position actuator, additional potential-free limit switches                                                                             | A3   |
| ON/OFF actuator, 2 additional potential-free limit switches,<br>Class A (EN15714-2)                                                                        | AE   |
| ON/OFF actuator, 2 additional potential-free limit switches,<br>BSR battery pack (NC)                                                                      | AE1  |
| ON/OFF actuator, 2 additional potential-free limit switches,<br>BSR battery pack (NO)                                                                      | AE2  |
| ON/OFF actuator, potentiometer output, Class A (EN15714-2)                                                                                                 | AP   |
| ON/OFF actuator, 2 additional potential-free limit switches,<br>potentiometer output 5 kOhm, Failsafe battery pack (NC),<br>preferred direction adjustable | AP1  |
| Control actuator, external set value 0-10 VDC                                                                                                              | E1   |
| Positioner DPS, external set value 0-10V, BSR battery pack (NC)                                                                                            | E11  |
| Control actuator, external set value 0/4-20 mA                                                                                                             | E2   |
| Positioner DPS, external set value 4-20mA, BSR battery pack (NO)                                                                                           | E22  |

| 9 Actuator version                                                                | Code  |
|-----------------------------------------------------------------------------------|-------|
| Actuator, motorized, operating time 9s, torque 20Nm, J+J, type J4 heating, IP67   | J4C20 |
| Actuator, motorized, operating time 9s, torque 35Nm, J+J, type J4 heating, IP67   | J4C35 |
| Actuator, motorized, operating time 13s, torque 55Nm, J+J, type J4 heating, IP67  | J4C55 |
| Actuator, motorized, operating time 34s, torque 140Nm, J+J, type J4 heating, IP67 | J4C14 |
| Actuator, motorized, operating time 58s, torque 300Nm, 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,<br>*) for inner pipe diameter ≤ 6 mm, in spigots 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 via 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 media                          | 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 |
| 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**

| Order option              | Code  | Description                                                                                                                                                                                                                                                                      |
|---------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Type                    | B54   | Ball valve, metal, electrically operated, three-piece body, Sanitary, controlled 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 anti-static unit |
| 2 DN                      | 15    | DN 15                                                                                                                                                                                                                                                                            |
| 3 Body/ball configuration | D     | 2/2-way body                                                                                                                                                                                                                                                                     |
| 4 Connection type         | 59    | Spigot ASME BPE/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    | TFM 1600 (FDA certification)                                                                                                                                                                                                                                                     |
| 7 Voltage/Frequency       | U5    | 24 - 240 V AC 24 - 135 V DC<br>for model 20, 35, 55, 85, 140, 300                                                                                                                                                                                                                |
| 8 Control module          | AE    | ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)                                                                                                                                                                                                 |
| 9 Actuator version        | J4C20 | Actuator, motorized, operating time 9s, torque 20Nm, J+J, type J4 heating, IP67                                                                                                                                                                                                  |
| 10 Type of design         |       | Standard                                                                                                                                                                                                                                                                         |
| 11 CONEXO                 |       | Without                                                                                                                                                                                                                                                                          |

## Ball valve technical data

### 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.

### Temperature with note

**Media temperature:** 14 – 428 °F

For media temperatures > 212 °F, we recommend using a mounting kit with adapter between the ball valve and the actuator.

**Ambient temperature:** -4 – 140 °F

**Storage temperature:** 41 – 104 °F

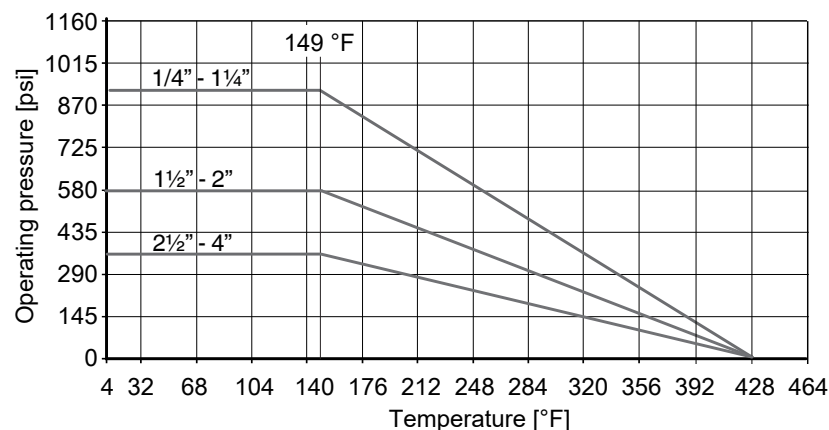
### Pressure

**Operating pressure:** 0 – 913.8 psi

**Vacuum:** Can be used up to a vacuum of 1.5 inHg (absolute)

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

**Pressure/temperature diagram:**



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

**Leakage rate:**

| DN  | NPS  | Connection type (code) |                |         |
|-----|------|------------------------|----------------|---------|
|     |      | 17                     | 37, 59, 80, 93 | 60      |
| 8   | 1/4" | 8.19                   | -              | 8.19    |
| 10  | 3/8" | 8.19                   | -              | 8.19    |
| 15  | 1/2" | 21.06                  | 10.53          | 21.06   |
| 20  | 3/4" | 50.31                  | 30.42          | 50.31   |
| 25  | 1"   | 90.09                  | 65.52          | 90.09   |
| 32  | 1¼"  | 111.15                 | -              | 111.15  |
| 40  | 1½"  | 241.02                 | 201.24         | 241.02  |
| 50  | 2"   | 402.48                 | 382.59         | 402.48  |
| 65  | 2½"  | 704.34                 | 603.72         | 704.34  |
| 80  | 3"   | 987.48                 | 955.89         | 987.48  |
| 100 | 4"   | 1710.54                | 1609.92        | 1710.54 |

Cv values in gpm

**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 14 to 284 °F when using suitable clamps and sealing materials.

**Product conformities**

**Pressure Equipment Directive:** 2014/68/EU

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

**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.

**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" | -                      | -      | 1.10  | -      |
| 10  | 3/8" | -                      | -      | 1.10  | -      |
| 15  | 1/2" | 1.76                   | 1.10   | 1.10  | 1.10   |
| 20  | 3/4" | 1.76                   | 1.10   | 1.76  | 1.10   |
| 25  | 1"   | 2.43                   | 2.20   | 2.43  | 2.43   |
| 32  | 1¼"  | 3.53                   | -      | 3.53  | -      |
| 40  | 1½"  | 5.95                   | 4.63   | 5.95  | 4.85   |
| 50  | 2"   | 9.26                   | 7.72   | 9.26  | 7.72   |
| 65  | 2½"  | 18.08                  | 15.43  | 18.08 | 15.65  |
| 80  | 3"   | 25.57                  | 24.25  | 25.57 | 26.01  |
| 100 | 4"   | 52.91                  | 44.09  | 52.91 | 45.19  |

Weight in lb

## Technische Daten Antrieb

### Antriebe GEMÜ 9428, 9468

#### Mechanische Daten

**Weight:** **GEMÜ 9428**

|                             |          |
|-----------------------------|----------|
| Supply voltage 12 V / 24 V: | 2.20 lbs |
| Actuator version 3055:      | 6.17 lbs |

#### Actuator type 9468

|                              |           |
|------------------------------|-----------|
| Actuator version 2070:       | 10.14 lbs |
| Actuator version 4100, 4200: | 25.57 lbs |

#### Product compliance

**Machinery Directive:** 2006/42/EC

**EMC Directive:** 2014/30/EU

**Low Voltage Directive:** 2014/35/EU

#### Elektrische Daten

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

**Electrical protection class:** I (DIN EN 61140)

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

**Duty cycle:** Supply voltage 12 V / 24 V: Continuous duty  
Supply voltage 100 - 250 V: 40 % duty  
Actuator version 2070: 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"

### Antriebe Bernard, AUMA, J+J

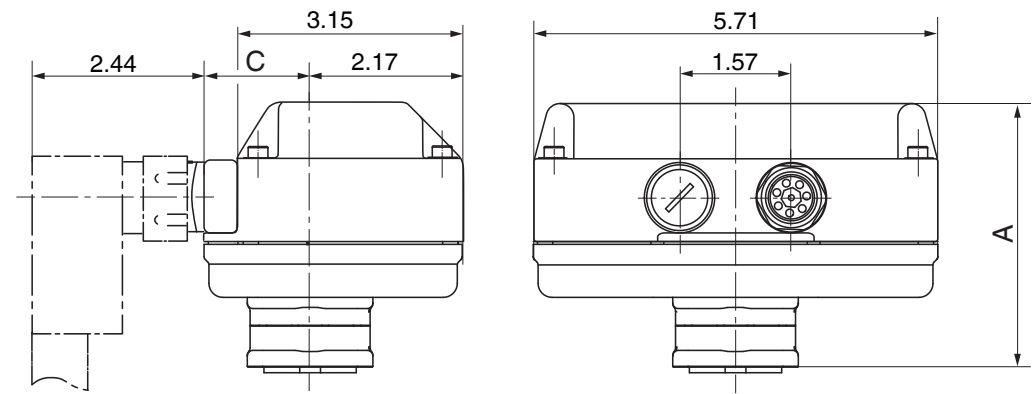
Note: For technical data see manufacturer's original datasheets

Dimensions

Actuator dimensions

Antrieb GEMÜ

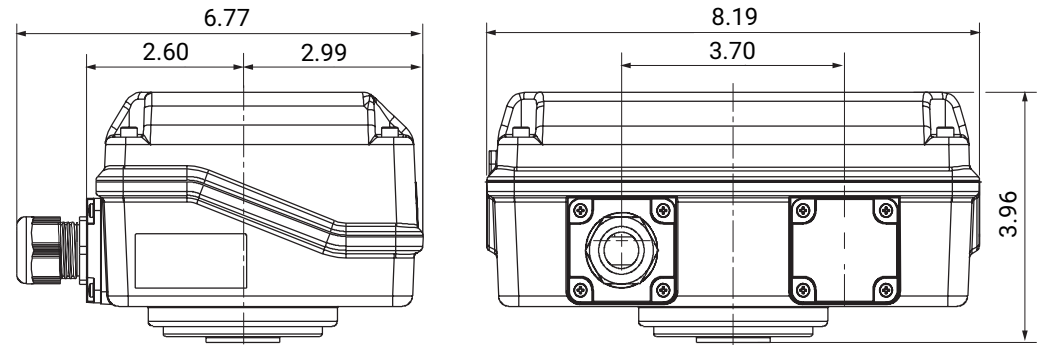
Actuator version 1006, 1015, 2015



| Actuator ver-<br>sion | A    | C    |
|-----------------------|------|------|
| 1006, 1015            | 3.70 | 1.93 |
| 2015                  | 4.80 | 2.09 |

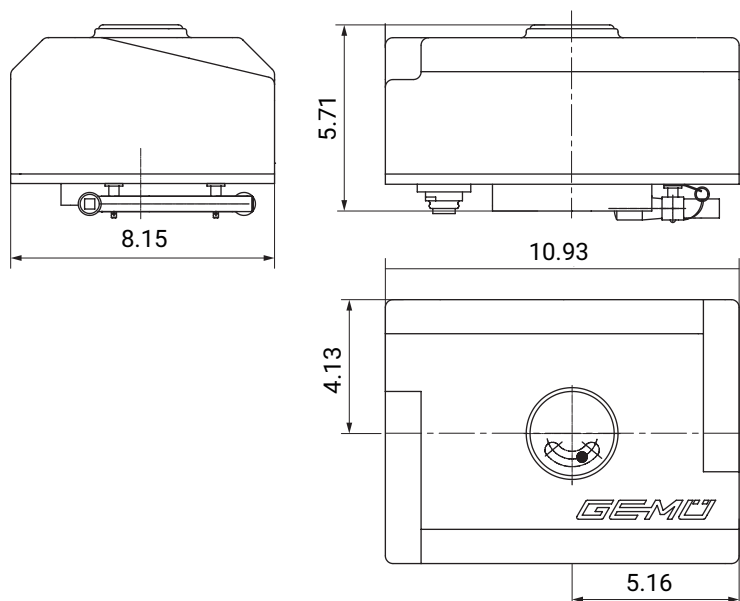
Dimensions in inch

Actuator version 3035, 3055



| Voltages      | B    |
|---------------|------|
| 24 V          | 3.96 |
| 100 V - 250 V | 4.90 |

Dimensions in inch

**Actuator version 4100, 4200**

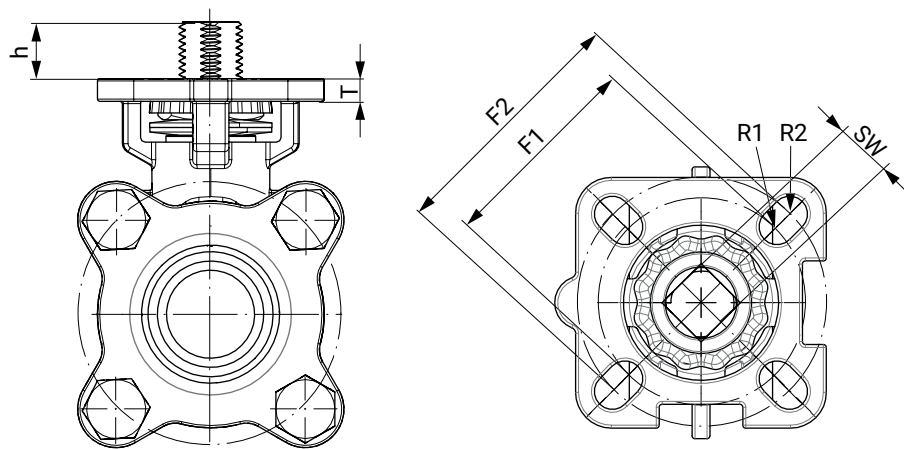
Dimensions in inch

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

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

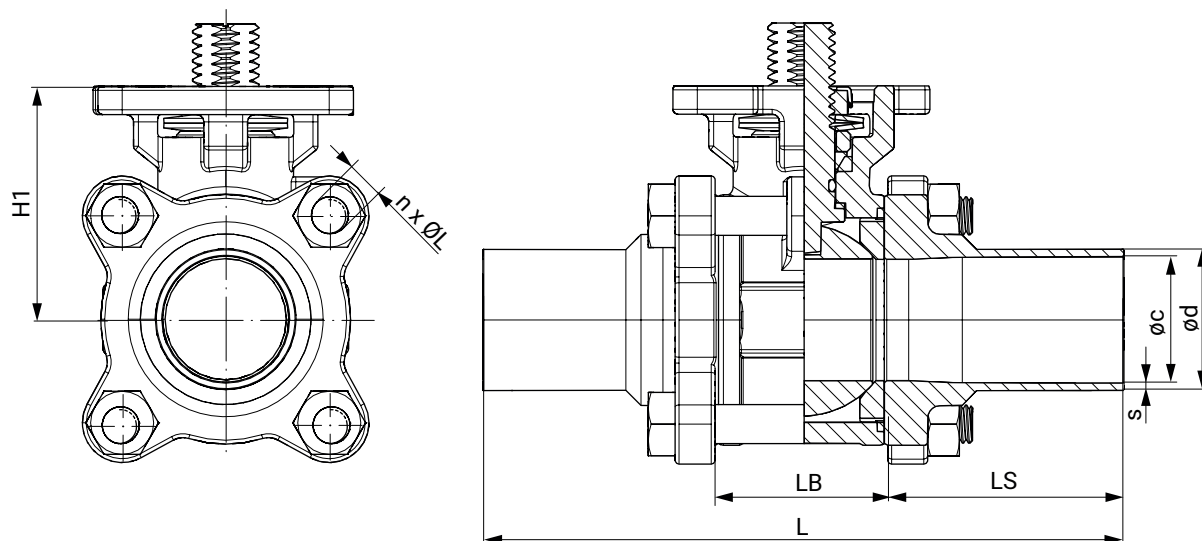
## Ball valve

### Actuator flange



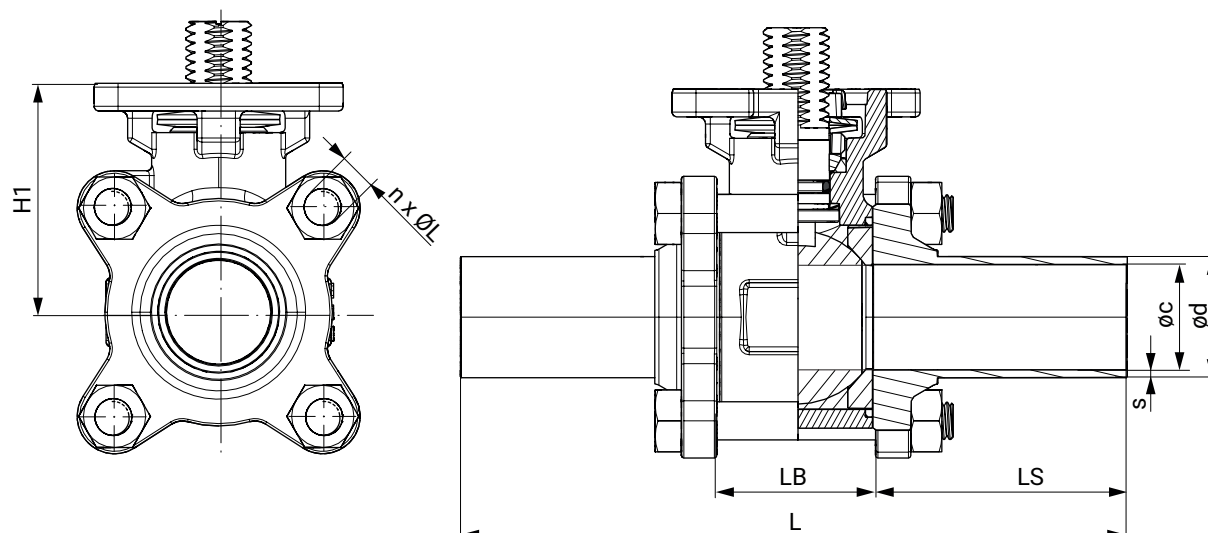
| DN  | G      | F1   | ISO 5211 (F1) | R1   | F2   | ISO 5211 (F2) | R2   | SW [mm] | h    | T    |
|-----|--------|------|---------------|------|------|---------------|------|---------|------|------|
| 8   | 1/4"   | 1.42 | F03           | 0.12 | 1.65 | F04           | 0.12 | 9.0     | 0.35 | 0.20 |
| 10  | 3/8"   | 1.42 | F03           | 0.12 | 1.65 | F04           | 0.12 | 9.0     | 0.35 | 0.20 |
| 15  | 1/2"   | 1.42 | F03           | 0.12 | 1.65 | F04           | 0.12 | 9.0     | 0.35 | 0.20 |
| 20  | 3/4"   | 1.42 | F03           | 0.12 | 1.65 | F04           | 0.12 | 9.0     | 0.30 | 0.20 |
| 25  | 1"     | 1.65 | F04           | 0.12 | 1.97 | F05           | 0.14 | 11.0    | 0.51 | 0.28 |
| 32  | 1 1/4" | 1.65 | F04           | 0.12 | 1.97 | F05           | 0.14 | 11.0    | 0.51 | 0.28 |
| 40  | 1 1/2" | 1.97 | F05           | 0.14 | 2.76 | F07           | 0.18 | 14.0    | 0.59 | 0.35 |
| 50  | 2"     | 1.97 | F05           | 0.14 | 2.76 | F07           | 0.18 | 14.0    | 0.63 | 0.35 |
| 65  | 2 1/2" | 1.97 | F07           | 0.14 | 2.76 | F10           | 0.18 | 17.0    | 0.71 | 0.41 |
| 80  | 3"     | 2.76 | F07           | 0.18 | 4.02 | F10           | 0.22 | 17.0    | 0.71 | 0.41 |
| 100 | 4"     | 4.02 | F10           | 0.18 | 4.92 | F12           | 0.22 | 22.0    | 1.02 | 0.41 |

Dimensions in inch

**Body dimensions****Spigot DIN EN 10357 (connection code 17)**

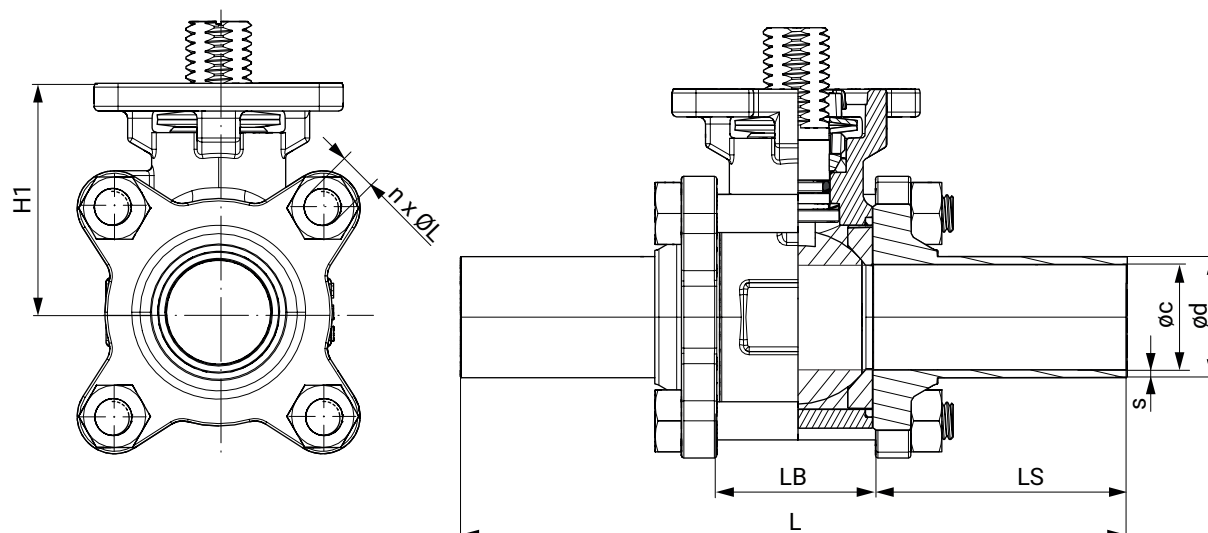
| DN         | øc   | ød   | L     | LB   | LS   | H1   | n x ØL  | s    |
|------------|------|------|-------|------|------|------|---------|------|
| <b>10</b>  | 0.39 | 0.51 | 4.73  | 0.96 | 1.89 | 1.46 | 4 x M6  | 0.06 |
| <b>15</b>  | 0.63 | 0.75 | 5.52  | 0.96 | 2.28 | 1.46 | 4 x M6  | 0.06 |
| <b>20</b>  | 0.79 | 0.91 | 5.51  | 1.23 | 2.14 | 1.57 | 4 x M8  | 0.06 |
| <b>25</b>  | 1.02 | 1.14 | 5.98  | 1.34 | 2.32 | 1.89 | 4 x M8  | 0.06 |
| <b>32</b>  | 1.26 | 1.38 | 6.50  | 1.73 | 2.38 | 2.09 | 4 x M10 | 0.06 |
| <b>40</b>  | 1.50 | 1.61 | 7.48  | 2.17 | 2.66 | 2.48 | 4 x M12 | 0.06 |
| <b>50</b>  | 1.97 | 2.09 | 7.99  | 2.71 | 2.64 | 2.83 | 4 x M14 | 0.06 |
| <b>65</b>  | 2.60 | 2.76 | 10.00 | 3.23 | 3.39 | 3.62 | 4 x M14 | 0.08 |
| <b>80</b>  | 3.19 | 3.35 | 11.02 | 3.78 | 3.62 | 4.02 | 4 x M16 | 0.08 |
| <b>100</b> | 3.94 | 4.09 | 12.13 | 4.80 | 3.66 | 5.20 | 6 x M20 | 0.08 |

Dimensions in inch

**Spigot SMS 3008 (connection code 37)**


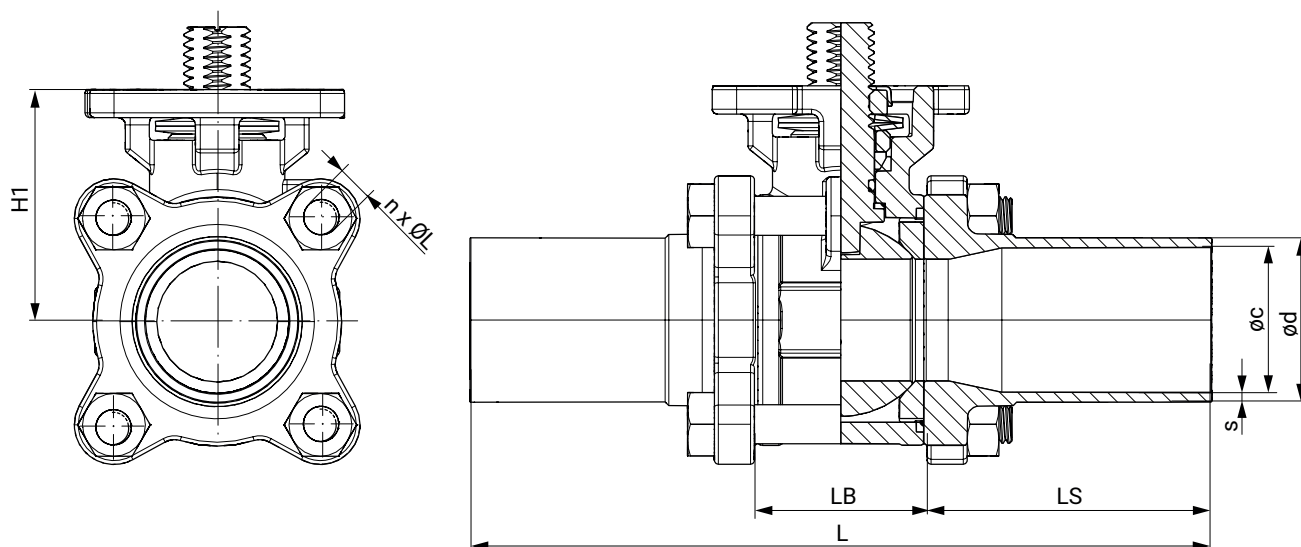
| DN  | $\varnothing c$ | $\varnothing d$ | s    | t    | L     | LB   | LS   | H1   | $n \times \varnothing L$ |
|-----|-----------------|-----------------|------|------|-------|------|------|------|--------------------------|
| 20  | 0.63            | 0.71            | 0.04 | 0.24 | 5.60  | 1.10 | 2.31 | 1.50 | 4 x M6                   |
| 25  | 0.89            | 0.98            | 0.05 | 0.29 | 6.39  | 1.26 | 2.56 | 1.89 | 4 x M8                   |
| 40  | 1.40            | 1.50            | 0.05 | 0.33 | 7.17  | 1.81 | 2.68 | 2.36 | 4 x M12                  |
| 50  | 1.91            | 2.01            | 0.05 | 0.40 | 7.60  | 2.35 | 2.63 | 2.72 | 4 x M14                  |
| 65  | 2.37            | 2.50            | 0.06 | 0.49 | 10.00 | 3.04 | 3.48 | 3.50 | 4 x M14                  |
| 80  | 2.87            | 3.00            | 0.06 | 0.55 | 10.90 | 3.61 | 3.65 | 3.86 | 4 x M16                  |
| 100 | 3.84            | 4.00            | 0.08 | 0.57 | 12.00 | 4.66 | 3.67 | 5.12 | 6 x M16                  |

Dimensions in inch

**Spigot ASME BPE (connection code 59)**

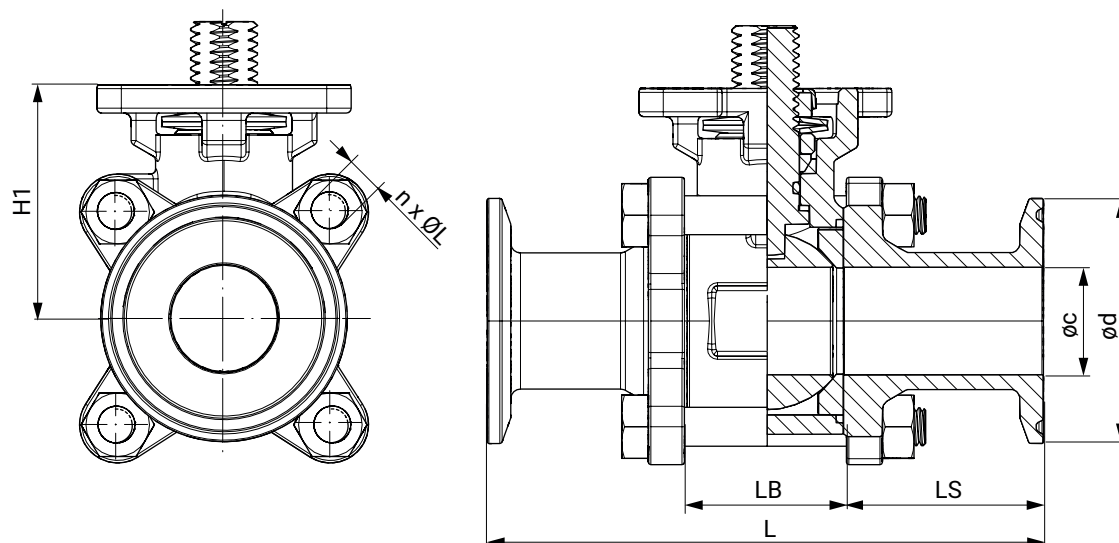
| DN  | Øc   | Ød   | s    | L     | LB   | LS   | H1   | n x ØL  |
|-----|------|------|------|-------|------|------|------|---------|
| 15  | 0.37 | 0.50 | 0.06 | 4.90  | 0.98 | 1.96 | 1.50 | 4 x M6  |
| 20  | 0.62 | 0.75 | 0.06 | 5.60  | 1.10 | 2.31 | 1.50 | 4 x M6  |
| 25  | 0.87 | 1.00 | 0.06 | 6.39  | 1.26 | 2.56 | 1.89 | 4 x M8  |
| 40  | 1.37 | 1.50 | 0.06 | 7.17  | 1.81 | 2.68 | 2.36 | 4 x M12 |
| 50  | 1.87 | 2.00 | 0.06 | 7.60  | 2.35 | 2.63 | 2.72 | 4 x M14 |
| 65  | 2.37 | 2.50 | 0.06 | 10.00 | 3.04 | 3.48 | 3.50 | 4 x M14 |
| 80  | 2.87 | 3.00 | 0.06 | 10.90 | 3.61 | 3.65 | 3.86 | 4 x M16 |
| 100 | 3.83 | 4.00 | 0.08 | 12.00 | 4.66 | 3.67 | 5.12 | 6 x M16 |

Dimensions in inch

**Spigot ISO 1127 / EN 10357 (connection code 60)**


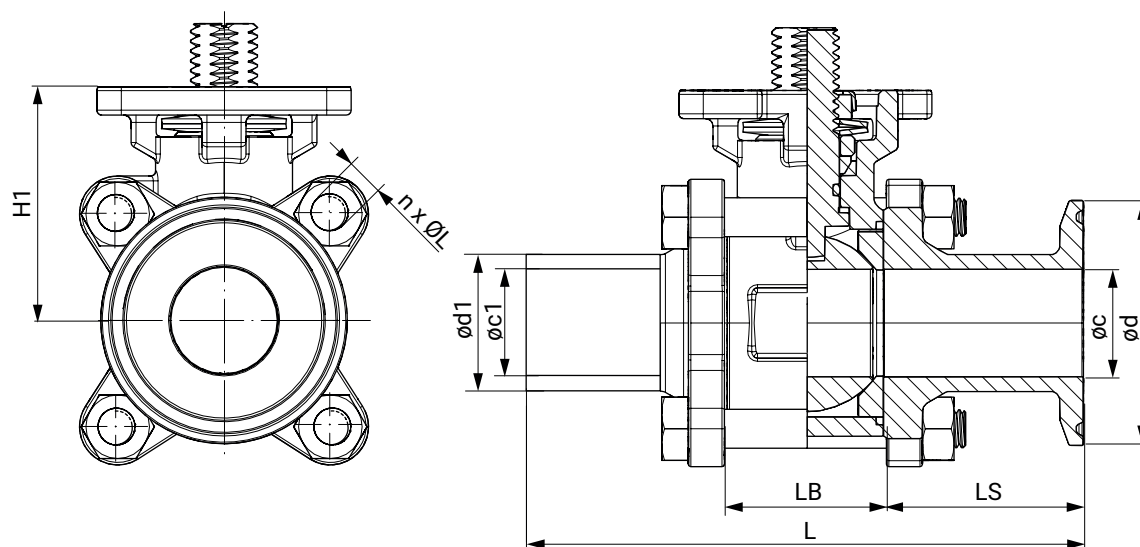
| DN  | Øc   | Ød   | s    | L     | LB   | LS   | H1   | n x ØL  |
|-----|------|------|------|-------|------|------|------|---------|
| 8   | 0.41 | 0.53 | 0.06 | 4.73  | 0.96 | 1.89 | 1.46 | 4 x M6  |
| 10  | 0.55 | 0.68 | 0.06 | 4.73  | 0.96 | 1.89 | 1.46 | 4 x M6  |
| 15  | 0.71 | 0.84 | 0.06 | 5.52  | 0.96 | 2.28 | 1.46 | 4 x M6  |
| 20  | 0.93 | 1.06 | 0.06 | 5.51  | 1.23 | 2.14 | 1.57 | 4 x M8  |
| 25  | 1.17 | 1.33 | 0.08 | 5.98  | 1.34 | 2.32 | 1.89 | 4 x M8  |
| 32  | 1.51 | 1.67 | 0.08 | 6.50  | 1.73 | 2.38 | 2.09 | 4 x M10 |
| 40  | 1.74 | 1.90 | 0.08 | 7.48  | 2.17 | 2.66 | 2.48 | 4 x M12 |
| 50  | 2.22 | 2.37 | 0.08 | 7.99  | 2.71 | 2.64 | 2.83 | 4 x M14 |
| 65  | 2.84 | 3.00 | 0.08 | 10.00 | 3.23 | 3.39 | 3.62 | 4 x M14 |
| 80  | 3.32 | 3.50 | 0.09 | 11.02 | 3.78 | 3.62 | 4.02 | 4 x M16 |
| 100 | 4.32 | 4.50 | 0.09 | 12.13 | 4.80 | 3.66 | 5.20 | 6 x M20 |

Dimensions in inch

**Clamp ASME BPE (connection code 80)**

| DN  | Øc   | Ød   | s    | L    | LB   | LS   | H1   | n x ØL  |
|-----|------|------|------|------|------|------|------|---------|
| 15  | 0.37 | 0.98 | 0.06 | 3.50 | 0.98 | 1.26 | 1.50 | 4 x M6  |
| 20  | 0.62 | 0.98 | 0.06 | 4.00 | 0.98 | 1.51 | 1.50 | 4 x M6  |
| 25  | 0.87 | 1.98 | 0.06 | 4.50 | 1.26 | 1.62 | 1.89 | 4 x M8  |
| 40  | 1.37 | 1.98 | 0.06 | 5.50 | 1.81 | 1.85 | 2.36 | 4 x M12 |
| 50  | 1.87 | 2.52 | 0.06 | 6.25 | 2.35 | 1.95 | 2.72 | 4 x M14 |
| 65  | 2.37 | 3.05 | 0.06 | 6.75 | 3.04 | 1.86 | 3.50 | 4 x M14 |
| 80  | 2.87 | 3.58 | 0.06 | 7.73 | 3.61 | 2.06 | 3.86 | 4 x M16 |
| 100 | 3.83 | 4.68 | 0.08 | 9.50 | 4.66 | 2.42 | 5.12 | 6 x M16 |

Dimensions in inch

**Mixed ends ASME BPE (connection code 93)**


| DN  | Øc   | Ød   | Øc1  | Ød1  | s    | t    | L     | LB   | LS   | H1   | n x ØL  |
|-----|------|------|------|------|------|------|-------|------|------|------|---------|
| 15  | 0.37 | 0.98 | 0.37 | 0.50 | 0.06 | 0.24 | 4.20  | 0.98 | 1.96 | 1.50 | 4 x M6  |
| 20  | 0.62 | 0.98 | 0.62 | 0.75 | 0.06 | 0.24 | 4.80  | 1.10 | 2.31 | 1.50 | 4 x M6  |
| 25  | 0.87 | 1.98 | 0.87 | 1.00 | 0.06 | 0.29 | 5.44  | 1.26 | 2.56 | 1.89 | 4 x M8  |
| 40  | 1.37 | 1.98 | 1.37 | 1.50 | 0.06 | 0.33 | 6.34  | 1.81 | 2.68 | 2.36 | 4 x M12 |
| 50  | 1.87 | 2.52 | 1.87 | 2.00 | 0.06 | 0.40 | 6.93  | 2.35 | 2.63 | 2.72 | 4 x M14 |
| 65  | 2.37 | 3.05 | 2.37 | 2.50 | 0.06 | 0.49 | 8.38  | 3.04 | 3.48 | 3.50 | 4 x M14 |
| 80  | 2.87 | 3.58 | 2.87 | 3.00 | 0.06 | 0.55 | 9.31  | 3.61 | 3.65 | 3.86 | 4 x M16 |
| 100 | 3.83 | 4.68 | 3.83 | 4.00 | 0.08 | 0.57 | 10.75 | 4.66 | 3.67 | 5.12 | 6 x M16 |

Dimensions in inch

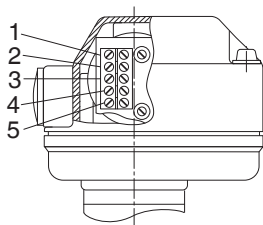
## Electrical connection

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

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

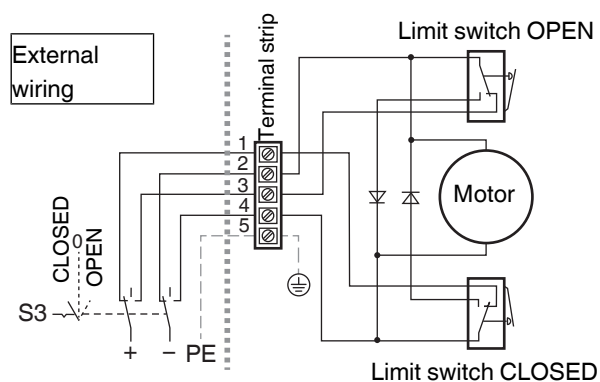
12 V DC (code B1) / 24 V DC (code C1)

#### 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  |

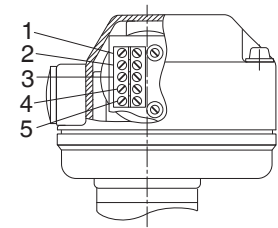
#### Connection diagram



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

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

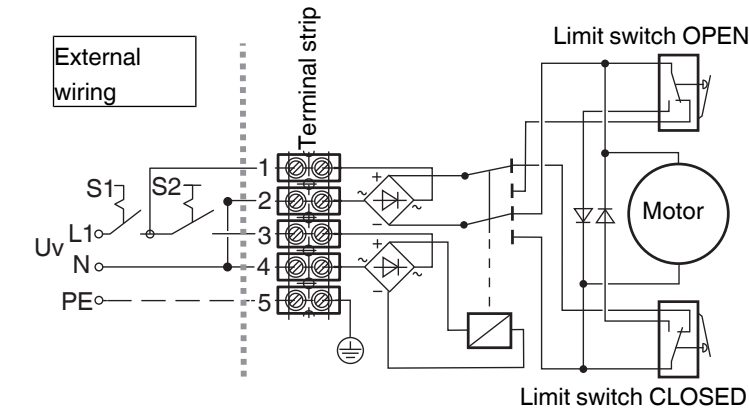
Assignment of the terminal strips



| 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

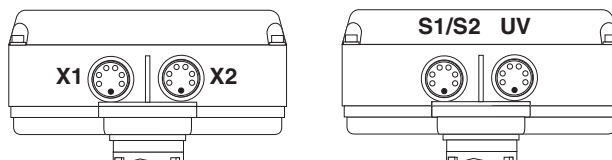


| S1 | Actuator |
|----|----------|
| 0  | OFF      |
| 1  | ON       |

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

**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**

Actuator version 3035, 3055    Actuator version 1006, 101

**Electrical connection**

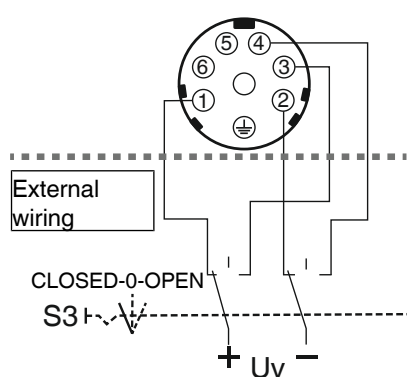
Plug assignment X1, UV

| 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  |



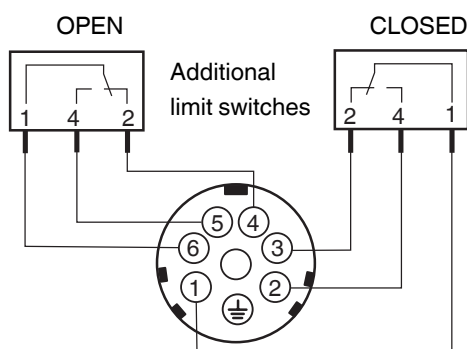
Plug assignment X2, S1/S2

| 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

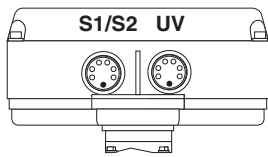
| S3         | Actuator                   |
|------------|----------------------------|
| CLOS<br>ED | Direction of travel CLOSED |
| 0          | OFF                        |
| OPEN       | Direction of travel OPEN   |



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 |

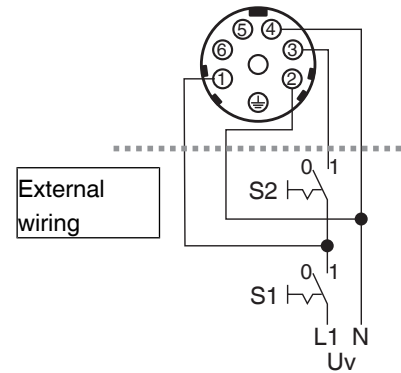


Plug assignment S1/S2

| 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

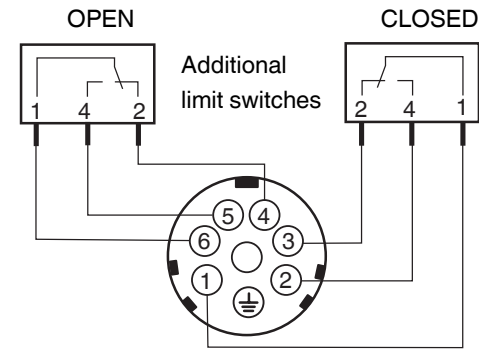
Connection diagram



Connection diagram X1, UV

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

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

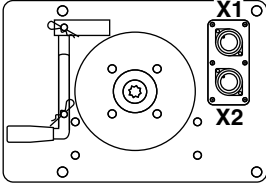


## Connection and wiring diagram – actuator version 4100, 4200

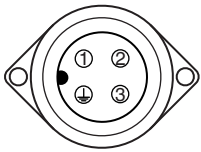
### On/Off actuator with relay (code 00), 24 V DC (code C1)

#### Position of the connectors

Actuator version 4100, 4200



#### Electrical connection



Plug assignment X1

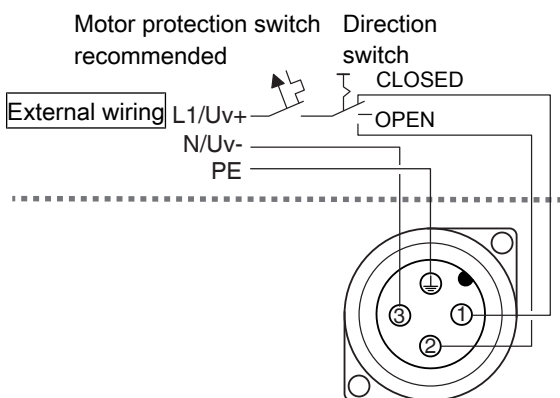
| Pin | Description                          |
|-----|--------------------------------------|
| 1   | L1 / Uv+, direction of travel CLOSED |
| 2   | L1 / Uv+, direction of travel OPEN   |
| 3   | N / Uv-, neutral conductor           |
|     | PE, protective earth conductor       |

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".

#### Connection diagram

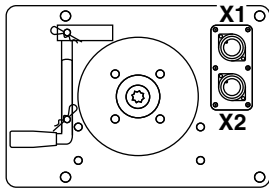


Connection assignment X1

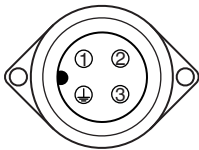
**On/Off actuator with 2 additional potential-free limit switches, with relay (code 0E), 24 V DC (code C1)**

**Position of the connectors**

Actuator version 4100, 4200

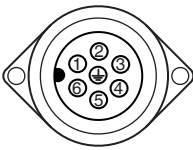


**Electrical connection**



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       |
|     |                                      |
|     |                                      |
|     |                                      |

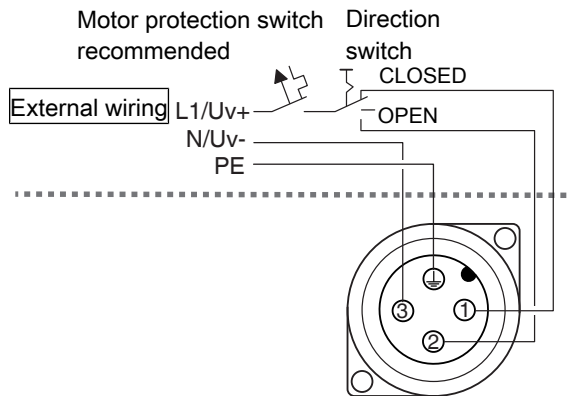


Plug assignment X2

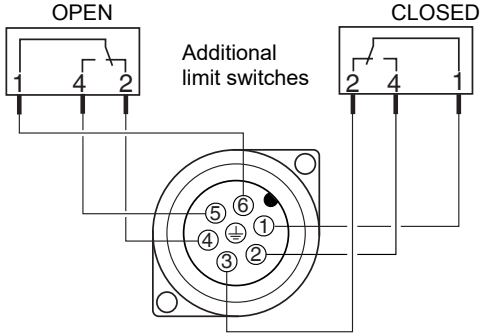
| Pin | Description                             |
|-----|-----------------------------------------|
| 1   | Change-over contact limit switch CLOSED |
| 2   | Make contact limit switch CLOSED        |
| 3   | Break contact limit switch CLOSED       |
| 4   | Break contact limit switch OPEN         |
| 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".

**Connection diagram**



Connection assignment X1

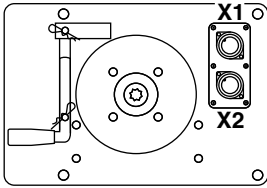


Connection assignment X2

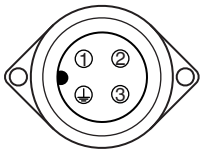
## On/Off actuator with potentiometer output, with relay (code 0P), 24 V DC (code C1)

### Position of the connectors

Actuator version 4100, 4200

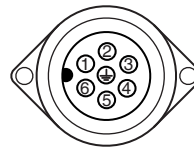


### Electrical connection



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

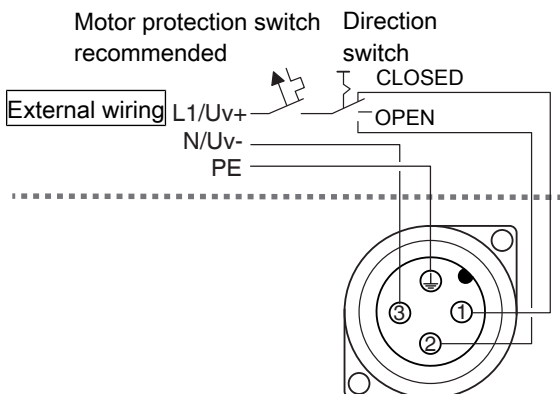
| Pin | Description                             |
|-----|-----------------------------------------|
| 1   | Change-over contact limit switch CLOSED |
| 2   | Make contact limit switch CLOSED        |
| 3   | Break contact limit switch CLOSED       |
| 4   | Break contact limit switch OPEN         |
| 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.

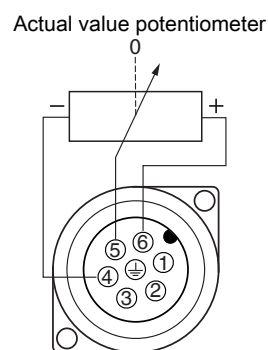
The potential must be assigned by the user.

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

### Connection diagram



Connection assignment X1



Connection assignment X2

## GEMÜ CONEXO

The interaction between valve components equipped with RFID chips and the corresponding IT infrastructure actively increases process reliability.



Thanks to serialization, every valve and every relevant valve component, such as the body, actuator, diaphragm or even automation components, can be clearly traced and read at any time using the RFID reader – the CONEXO pen. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the servicing 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)

## Certificates

| Certificate                       | Standard              | Item number |
|-----------------------------------|-----------------------|-------------|
| 2.2 Ferrite content measurement   |                       | 88081058    |
| 2.2 Surface roughness measurement | EN10204 - EN ISO 4288 | 88079146    |
| 3.1 Surface roughness measurement |                       | 88094384    |
| 3.1 Material                      | EN 10204              | 88333336    |



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