

GEMÜ B27

Manually operated 3/2-way ball valve



Features

- With T- or L-ball selectable
- Large selection of lockable hand levers available
- Available in different thread variants
- Suitable for vacuum applications
- Antistatic device
- High flow rate
- Compact design

Description

The GEMÜ B27 3/2-way metal ball valve is manually operated. It has a plastic sleeved hand lever with a locking device. The seat seal is made of PTFE.

Technical specifications

- **Media temperature:** -40 to 180 °C
- **Ambient temperature:** -40 Up to 60 °C
- **Operating pressure :** 0 Up to 40 bar
- **Nominal sizes:** DN 8 to 50
- **Body configurations:** Multi-port body
- **Ball configurations:** L-port | T-port
- **Connection types:** thread
- **Connection standards :** DIN | NPT
- **Body materials:** 1.4408, investment casting material
- **Seal materials:** PTFE
- **Conformities:** FDA | Functional safety | Reg. (EU) No. 10/2011 | Regulation (EC) No. 1935/2004 | Regulation (EC) No. 2023/2006

Technical data depends on the respective configuration



further information
webcode: GW-B27



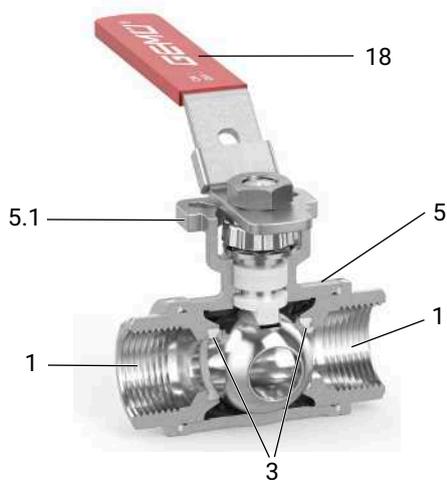
Product line



| | GEMÜ BB07 | GEMÜ B27 | GEMÜ B47 | GEMÜ B57 |
|---------------------------|---------------|---------------|---------------|---------------|
| Operation | | | | |
| With bare shaft | ● | - | - | - |
| manually | - | ● | - | - |
| Pneumatic | - | - | ● | - |
| Motorized | - | - | - | ● |
| Nominal sizes | DN 8 to 50 |
| Media temperature | -40 to 180 °C |
| Operating pressure | 0 to 40 bar |
| Connection types | | | | |
| thread | ● | ● | ● | ● |

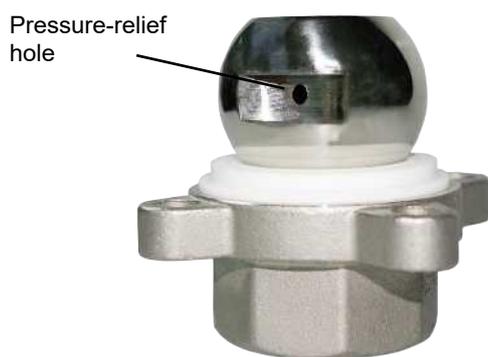
Product description

Construction

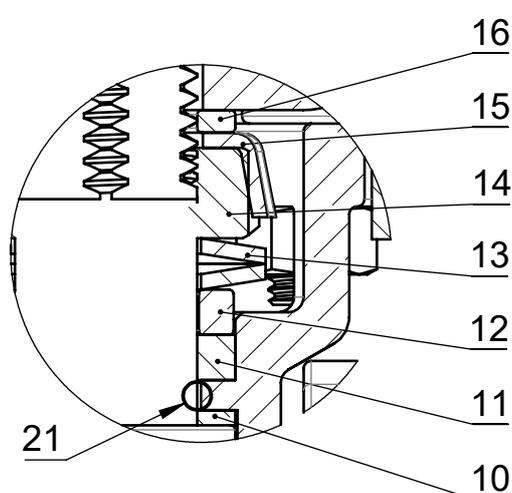


| Item | Name | Materials |
|------|--------------------------|---------------|
| 5 | Ball valve body | 1.4408 / CF8M |
| 1 | Pipe connections | 1.4408 / CF8M |
| 5.1 | Mounting flange ISO 5211 | 1.4408 / CF8M |
| 18 | Hand lever | 304 |
| 3 | Seal | PTFE |

Pressure-relief hole



The spindle seal system



| Item | Name | Material |
|------|------------------------|--------------|
| 10 | Seal | PTFE |
| 11 | V-ring | PTFE |
| 12 | Stainless steel sleeve | SS304-1.4301 |
| 13 | Spring washer | SS304-1.4301 |
| 14 | Spindle nut | A2 70 |
| 15 | Cap | SS304-1.4301 |
| 16 | Washer | SS304-1.4301 |
| 21 | O-ring (spindle seal) | FKM |

Long service life due to triple spindle seal

- Conical spindle seal:

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

- O-ring:

Stabilising spindle seal **21** with low wear and long service life

- 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.

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:

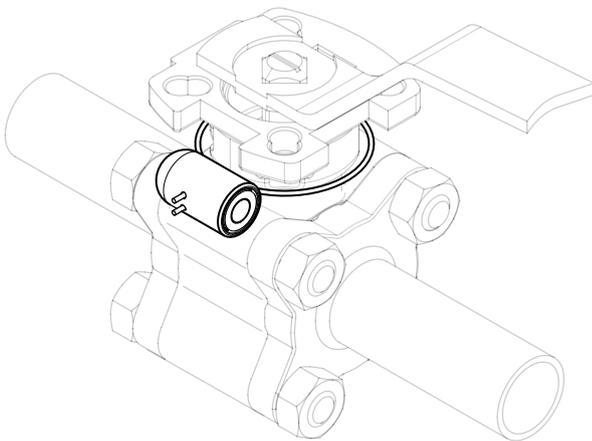
www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "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.



Port positions

T-port

| | CLOSED end position | OPEN end position | Condition as supplied to customer OPEN |
|---|---------------------|-------------------|---|
| Delivery condition | | | |
| Code T | | | |
| Optional port positions, can be user adjusted | | | |
| Code 2 | | | |
| Code 3 | | | |
| Code 4 | | | |

L-port

| | CLOSED end position | OPEN end position | Condition as supplied to customer OPEN |
|---|---------------------|-------------------|---|
| Delivery condition | | | |
| Code L | | | |
| Optional port positions, can be user adjusted | | | |
| Code 6 | | | |

Application

- Heating systems
- Beverage industry
- Foodstuff industry
- Chemical industry
- Drinking water installations
- Processing industry
- HVAC

Order data

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, manually operated, multi-port, thread, ISO 5211, top flange, lockable hand lever, low-maintenance spindle seal and blow-out proof shaft, with antistatic unit | B27 |

| 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 |

| 3 Body/ball configuration | Code |
|--|----------|
| Multi-port design, T-port, end position "Open", connection 1 and 3 open, T-port, end position "Closed", connection 1 and 2 open (for port position, see datasheet) | 2 |
| Multi-port design, T-port, end position "Open", connection 1 and 2 open, T-port, end position "Closed", connection 2 and 3 open (for port position, see datasheet) | 3 |
| Multi-port design, T-port, end position "Open", connection 2 and 3 open, T-port, end position "Closed", connection 1, 2 and 3 open (for port position, see datasheet) | 4 |
| Multi-port design, L-port, end position "Open", connection 1 and 3 open, L-port, end position "Closed", connection 1 open (for port position, see datasheet) | 6 |
| Multi-port design, L-port, standard end position "Open", connection 2 and 3 open, L-port, standard end position "Closed", connection 1 and 3 open (for port position, see datasheet) | L |
| Multi-port design, T-port, standard end position "Open", connection 1, 2 and 3 open, T-port, standard end position "Closed", connection 1 and 3 open (for port position, see datasheet) | T |

| 4 Connection type | Code |
|------------------------------------|----------|
| Threaded socket DIN ISO 228 | 1 |
| NPT female thread | 31 |

| 5 Ball valve material | Code |
|---|-----------|
| 1.4408/CF8M (body, connection), 1.4401/SS316 (ball, shaft) | 37 |

| 6 Seal material | Code |
|----------------------------|----------|
| PTFE FKM O-ring | 5 |

| 7 Control function | Code |
|-------------------------------------|------|
| Manually operated, toggle, lockable | L |

| 8 Type of design | Code |
|--|------|
| Standard | |
| Thermal separation between actuator and valve body by mounting kit, mounting kit and mounting parts in stainless steel | 5227 |
| K-no. 5227, K-no. 7056, 5227 – thermal separation by mounting kit, 7056 – drilled shaft, shortened toggle | 5237 |
| Shortened toggle for construction of feedback units. Shaft face drilled for mounting kit: DN8-DN20 M5 x 12.5/depth of thread 9.0 mm, DN25-DN100 M6 x 15/depth of thread 10.0 mm | 7056 |

| 9 Special version | Code |
|--|------|
| Without | |
| Special version for oxygen Maximum temperature for medium: 100 °C, Operating pressure limited in accordance with product label data Media-wetted materials cleaned, and grease and seal tested in accordance with DIN EN 1797/ISO 21010 | O |
| Explosion protection | X |

| 10 CONEXO | Code |
|---|------|
| Without | |
| Integrated RFID chip for electronic identification and traceability | C |

Order example

| Ordering option | Code | Description |
|---------------------------|------|---|
| 1 Type | B27 | Ball valve, metal, manually operated, multi-port, thread, 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 | T | Multi-port design, T-port, standard end position "Open", connection 1, 2 and 3 open, T-port, standard end position "Closed", connection 1 and 3 open (for port position, see datasheet) |
| 4 Connection type | 1 | Threaded socket DIN ISO 228 |
| 5 Ball valve material | 37 | 1.4408/CF8M (body, connection), 1.4401/SS316 (ball, shaft) |
| 6 Seal material | 5 | PTFE FKM O-ring |
| 7 Control function | L | Manually operated, toggle, lockable |
| 8 Type of design | | Standard |
| 9 Special version | | Without |
| 10 CONEXO | C | Integrated RFID chip for electronic identification and traceability |

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.
For special version for oxygen (code O): Only gaseous oxygen.

Temperature

Media temperature: -40 – 180 °C
For media temperatures > 100 °C, we recommend using a mounting kit with adapter between the ball valve and the actuator.
For the medium gaseous oxygen (special version code O): Media temperature max. 100 °C.

Ambient temperature: -40 – 60 °C

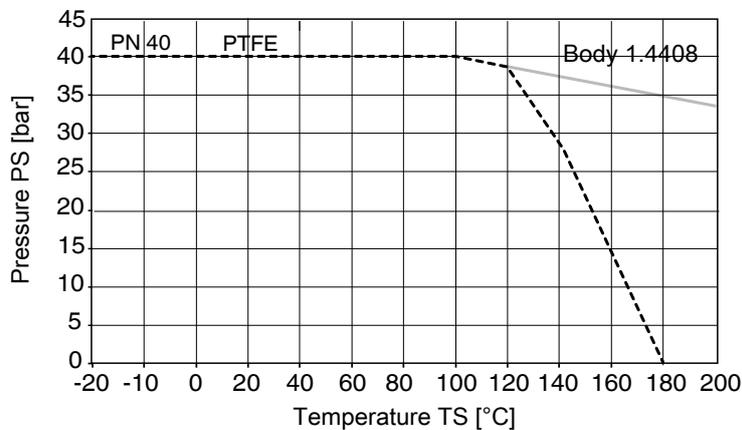
Storage temperature: 0 – 40 °C

Pressure

Operating pressure: 0 – 40 bar
For the medium gaseous oxygen (special version code O): Operating pressure limited in accordance with product label data.

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:



Observe the media temperature

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.

Leakage rate: Leakage rate according to ANSI FCI70 – B16.104
Leakage rate according to EN12266, 6 bar air, leakage rate A

Kv values:

| DN | NPS | Kv value | |
|----|------|----------|--------|
| | | T-port | L-port |
| 8 | 1/4" | 8.8 | 6.0 |
| 10 | 3/8" | 8.8 | 6.0 |
| 15 | 1/2" | 8.8 | 6.0 |
| 20 | 3/4" | 11.5 | 7.0 |
| 25 | 1" | 16.5 | 9.7 |
| 32 | 1¼" | 29.6 | 19.0 |
| 40 | 1½" | 46.4 | 35.3 |
| 50 | 2" | 71.5 | 45.7 |

Kv values in m³/h

Product conformity

Pressure Equipment Directive: 2014/68/EU

Oxygen: Testing of the seal material based on DIN EN 1797 and ISO 21010:2017 (special version code O)

Mechanical data

Torques:

| DN | NPS | Torques |
|----|------|---------|
| 8 | 1/4" | 8.0 |
| 10 | 3/8" | 8.0 |
| 15 | 1/2" | 10.0 |
| 20 | 3/4" | 13.0 |
| 25 | 1" | 19.0 |
| 32 | 1¼" | 29.0 |
| 40 | 1½" | 51.0 |
| 50 | 2" | 62.0 |

Torques in Nm

A safety factor of 1.2 is included

With dry, non-lubricating media the breakaway torque may be increased.

Valid for clean, non-particulate and oil-free media (water, alcohol, etc.), gas or saturated steam (clean and wet). PTFE seal.

Weight:
Body

| DN | NPS | Weight |
|----|------|--------|
| 8 | 1/4" | 0.55 |
| 10 | 3/8" | 0.55 |
| 15 | 1/2" | 0.55 |
| 20 | 3/4" | 0.85 |
| 25 | 1" | 1.20 |
| 32 | 1¼" | 2.20 |
| 40 | 1½" | 3.40 |
| 50 | 2" | 4.63 |

Weights in kg

Weight:

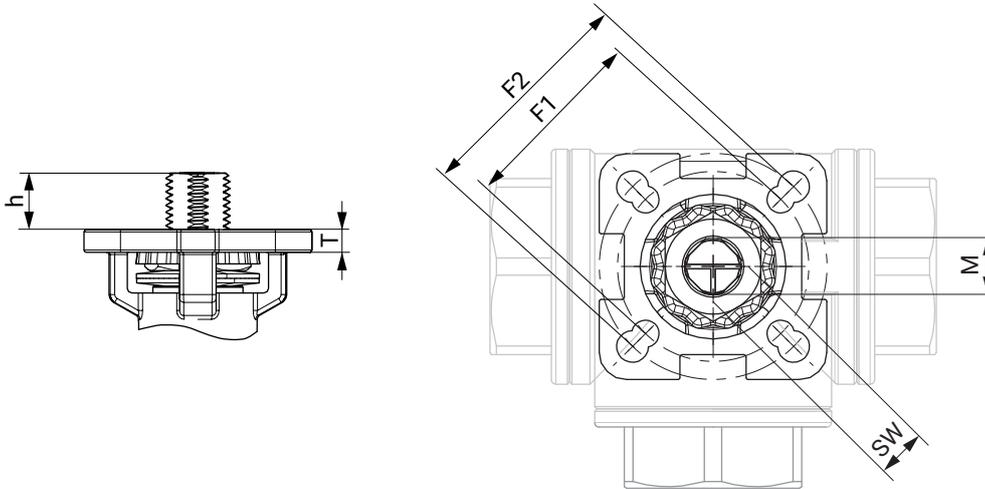
Hand lever

| DN | Designation | Weight |
|-------------------|-------------|--------|
| DN 8 - 20 | AB26 20D | 0.122 |
| DN 25 - 32 | AB26 32D | 0.165 |
| DN 40 - 50 | AB26 50D | 0.398 |

Weights in kg

Dimensions

Actuator flange

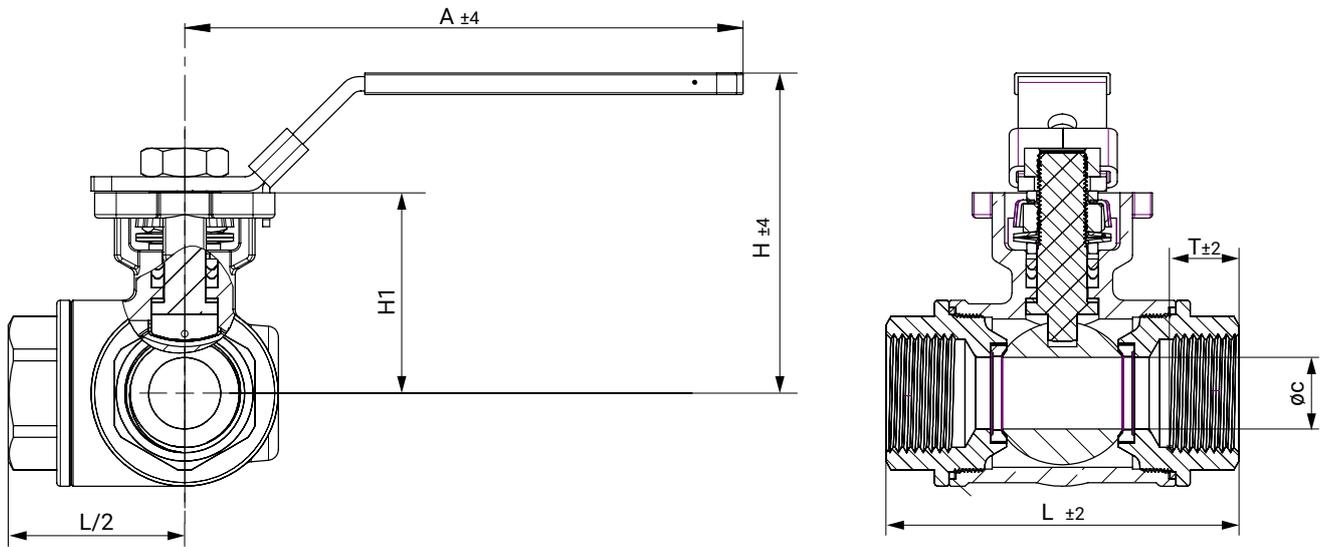


| DN | G | F1 | ISO 5211 | F2 | ISO 5211 | SW | h | T | M |
|----|--------|------|----------|------|----------|------|------|-----|-----|
| 8 | 1/4" | 36.0 | F03 | 42.0 | F04 | 9.0 | 9.0 | 6.5 | M12 |
| 10 | 3/8" | 36.0 | F03 | 42.0 | F04 | 9.0 | 9.0 | 6.5 | M12 |
| 15 | 1/2" | 36.0 | F03 | 42.0 | F04 | 9.0 | 9.0 | 6.5 | M12 |
| 20 | 3/4" | 36.0 | F03 | 42.0 | F04 | 9.0 | 8.5 | 6.0 | M12 |
| 25 | 1" | 42.0 | F04 | 50.0 | F05 | 11.0 | 11.5 | 7.0 | M14 |
| 32 | 1 1/4" | 42.0 | F04 | 50.0 | F05 | 11.0 | 11.5 | 7.0 | M14 |
| 40 | 1 1/2" | 50.0 | F05 | 70.0 | F07 | 14.0 | 14.0 | 8.5 | M18 |
| 50 | 2" | 50.0 | F05 | 70.0 | F07 | 14.0 | 14.0 | 8.5 | M18 |

Dimensions in mm

Body dimensions

Threaded socket (connection code 1, 31)



| DN | G | $\varnothing c$ | A | H | H1 | L | T |
|----|--------|-----------------|-------|-------|------|-------|------|
| 8 | 1/4" | 12.0 | 125.0 | 71.4 | 40.9 | 74.0 | 14.6 |
| 10 | 3/8" | 12.0 | 125.0 | 73.5 | 43.0 | 74.0 | 14.6 |
| 15 | 1/2" | 12.0 | 125.0 | 72.5 | 43.0 | 74.0 | 14.7 |
| 20 | 3/4" | 15.0 | 125.0 | 75.5 | 45.0 | 86.0 | 16.7 |
| 25 | 1" | 20.0 | 155.0 | 89.5 | 56.0 | 98.0 | 19.9 |
| 32 | 1 1/4" | 25.0 | 155.0 | 95.5 | 62.0 | 118.0 | 21.9 |
| 40 | 1 1/2" | 32.0 | 190.0 | 108.4 | 74.0 | 130.0 | 22.4 |
| 50 | 2" | 38.0 | 190.0 | 111.4 | 78.0 | 149.0 | 26.9 |

Dimensions in mm

Accessories



GEMÜ LSF

Inductive dual sensor for quarter turn valves

The GEMÜ LSF inductive dual sensor is suitable for mounting to manually and pneumatically operated quarter turn valves. It is also fitted with an optical position indicator for visual confirmation of position.

| Nominal size | Item no. | Designation |
|--------------|----------|----------------|
| DN8-DN20 | 88470175 | LSFS01Z BV F04 |
| DN25-DN32 | 88470177 | LSFS01Z BV F05 |
| DN40-DN50 | 88470178 | LSFS01Z BV F07 |

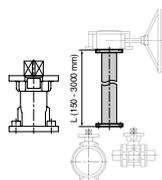


GEMÜ LSC

Limit switch box for quarter turn actuators

The GEMÜ LSC limit switch box is suitable for mounting to manually and pneumatically operated quarter turn valves. It is also fitted with an optical position indicator for visual confirmation of position.

| Nominal size | Item no. | Designation |
|--------------|----------|----------------|
| DN8-DN20 | 88494998 | LSCS01Z BV F04 |
| DN25-DN32 | 88495013 | LSCS01Z BV F05 |
| DN40-DN50 | 88495019 | LSCS01Z BV F07 |



GEMÜ RC0

Shaft extension

The RC0 shaft extension for quarter turn valves is a distance piece between manually, pneumatically or electrically operated valves. This means that valves can be protected from flooding or better access for operation of the valve can be ensured (also for manual override).

| Nominal sizes | Item no. | Designation | Height |
|---------------|----------|-----------------------------|--------|
| DN 8 - 20 | 88742081 | RC0VAF04 D09KF04 D09 60 M12 | 60 mm |
| DN 25 - 32 | 88742082 | RC0VAF05 D11KF05 D11 65 M14 | 65 mm |
| DN 40 - 50 | 88742083 | RC0VAF07 D14KF07 D14 80 M18 | 80 mm |

Certificates

| Certificate | Standard | Item number |
|--------------|----------|-------------|
| 3.1 Material | EN 10204 | 88333336 |



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