

## **GEMÜ BB07**

### **3/2-way ball valve with bare shaft**



### **Features**

- Suitable for vacuum applications
- Low maintenance and reliable spindle sealing
- Antistatic device

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### **Description**

The GEMÜ BB07 stainless steel 3/2-way ball valve has a bare shaft. Thanks to the top flange according to ISO 5211, easy actuator mounting is possible.





### **Technical specifications**

- **Media temperature:** -20 to 180 °C
- **Ambient temperature:** -20 to 60 °C
- **Operating pressure :** 0 to 40 bar
- **Nominal sizes:** DN 8 to 50
- **Body configurations:** Multi-port body
- **Ball configurations:** L-port | T-port
- **Connection types:** Threaded connection
- **Connection standards:** DIN | NPT
- **Body materials:** 1.4408, investment casting material
- **Seal materials:** PTFE
- **Conformities:** ATEX

Technical data depends on the respective configuration

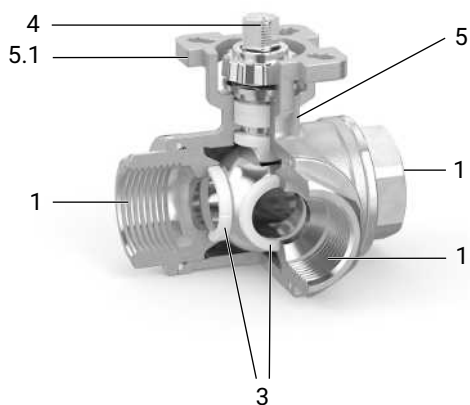


## Product line

				
	GEMÜ BB07	GEMÜ B27	GEMÜ B47	GEMÜ B57
<b>Operation</b>				
With bare shaft	●	-	-	-
Manual	-	●	-	-
Pneumatic	-	-	●	-
Motorized	-	-	-	●
<b>Nominal sizes</b>	DN 8 to 50	DN 8 to 50	DN 8 to 50	DN 8 to 50
<b>Media temperature</b>	-20 to 180 °C	-20 to 180 °C	-20 to 180 °C	-20 to 180 °C
<b>Operating pressure</b>	0 to 40 bar	0 to 40 bar	0 to 40 bar	0 to 40 bar
<b>Connection types</b>				
Threaded connection	●	●	●	●

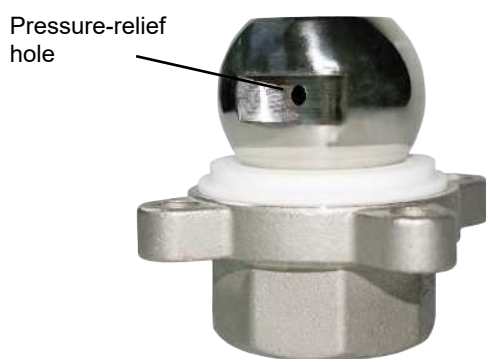
## Product description

### Construction

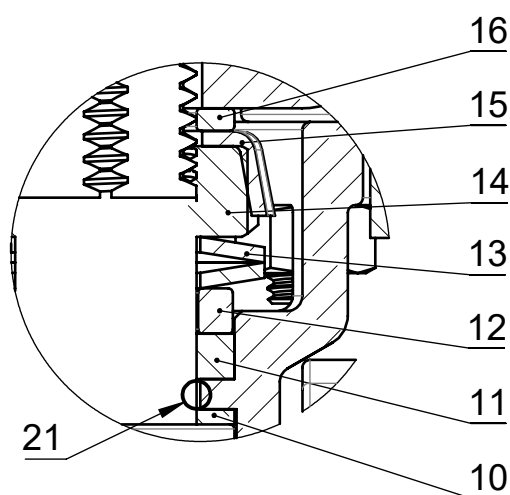


Item	Name	Materials
5	Ball valve body	1.4408 / CF8M
1	Pipe connections	1.4408 / CF8M
5.1	Mounting flange ISO 5211	1.4408 / CF8M
4	Ball valve shaft	1.4401 / SS316
3	Seal	PTFE

## 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)	Viton

### 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:**

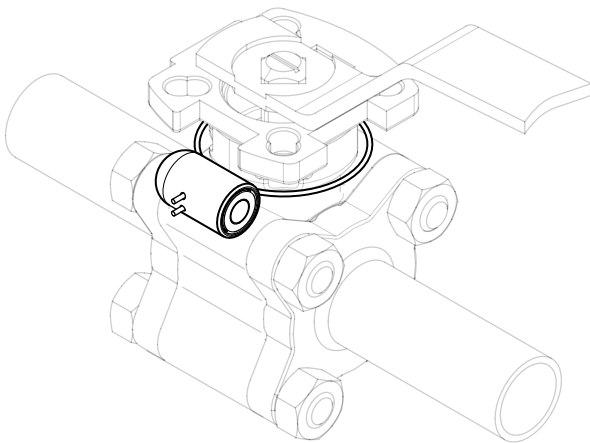
[www.gemu-group.com/conexo](http://www.gemu-group.com/conexo)

### 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 (1) for electronic recognition. 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			
<b>Code T</b>			
Optional port positions, can be user adjusted			
<b>Code 2</b>			
<b>Code 3</b>			
<b>Code 4</b>			

### L-port

	CLOSED end position	OPEN end position	Condition as supplied to customer OPEN
Delivery condition			
<b>Code L</b>			
Optional port positions, can be user adjusted			
<b>Code 6</b>			

## 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 body, metal, multi-port, threaded connection, ISO 5211, top flange, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit	BB07

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 ball 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 ball 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 ball position see datasheet)	4
Multi-port design, T-port, end position "Open", connection 1 and 3 open, T-port, end position "Closed", connection 1 open (For ball position see datasheet)	6
<b>Multi-port design, T-port, end position "Open", connection 2 and 3 open, T-port, end position "Closed", connection 1 and 3 open (For ball position see datasheet)</b>	<b>L</b>
<b>Multi-port design, T-port, end position "Open", connection 1, 2 and 3 open, T-port, end position "Closed", connection 1 and 3 open (For ball position see datasheet)</b>	<b>T</b>

4 Connection type	Code
<b>Threaded socket DIN ISO 228</b>	<b>1</b>
Threaded socket NPT	31

5 Ball valve material	Code
<b>1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)</b>	<b>37</b>

6 Seal material	Code
<b>PTFE</b>	<b>5</b>

7 Special version	Code
Without	
ATEX version	X

8 Type of design	Code
Standard	
Media wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	0101
Media wetted parts cleaned for high purity media and packed in plastic bag	0104
Valve free of oil and grease, media wetted area cleaned and packed in PE bag	0107
Thermal separation between actuator and valve body via mounting kit	5222
Thermal separation between actuator and valve body via mounting kit, mounting kit and mounting parts made from stainless steel	5227
Hand lever cropped to set up feedback units. Shaft face drilled for mounting kit: DN8-DN20 M5 X 12,5 / depth of thread 9.0mm, DN25-DN50 M6 x 15 / depth of thread 10.0mm, DN65-DN100 M8 x 20 / depth of thread 14.0mm	7056
K-no. 7056, K-no. 0101, 7056 - shaft face drilled for mounting kit M6 x15, hand lever shortened for mounting feedback units, 0101 - media wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	7097

9 CONEXO	Code
Without	
Integrated RFID chip for electronic identification and traceability	C

**Order example**

Ordering option	Code	Description
1 Type	BB07	Ball valve body, metal, multi-port, threaded connection, ISO 5211, top flange, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit
2 DN	15	DN 15
3 Body/ball configuration	T	Multi-port design, T-port, end position "Open", connection 1, 2 and 3 open, T-port, end position "Closed", connection 1 and 3 open (For ball 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
7 Special version		Without
8 Type of design		Standard
9 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.

### Temperature

**Media temperature:** Connection code 17, 19, 59, -10 – 180 °C  
 60: Connection code 1, 31, 8, 11: -20 – 180 °C  
 For media temperatures > 100 °C, we recommend using a mounting kit with adapter between the ball valve and the actuator.

**Ambient temperature:** -20 – 60 °C

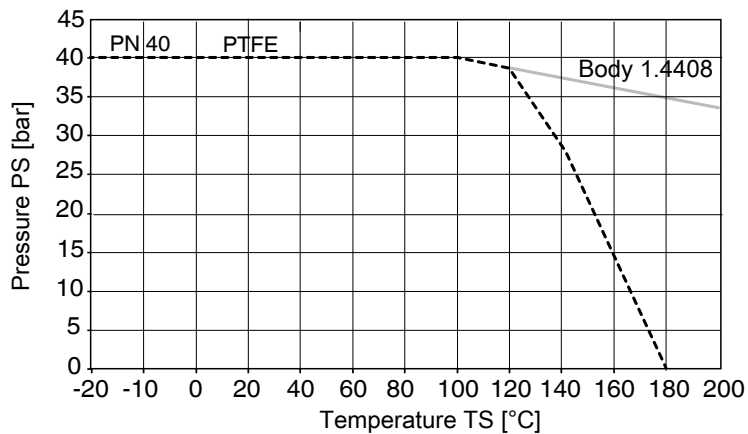
**Storage temperature:** 0 – 40 °C

### Pressure

**Operating pressure:** 0 – 40 bar

**Vacuum:** Can be used up to a vacuum of 50 mbar (absolute)  
 These values apply to room temperature and air. The values may deviate for other media and other temperatures.

**Pressure/temperature diagram:**



Note media temperature

**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 values
8	1/4"	8.0
10	3/8"	8.0
15	1/2"	17.0
20	3/4"	34.0
25	1"	60.0
32	1¼"	94.0
40	1½"	213.0
50	2"	366.0



Kv values in m³/h



## Product conformity

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

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

**ATEX marking:** Gas:  II 2G Ex h IIC T6 ... T2 Gb X  
Dust:  II -/2D Ex h -/IIIC T180 °C -/Db X

## 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:**

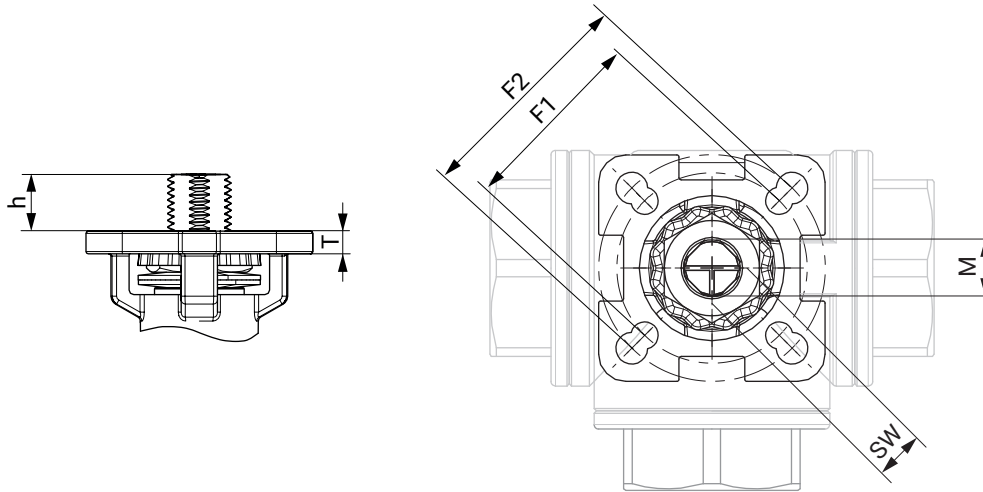
**Body**

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

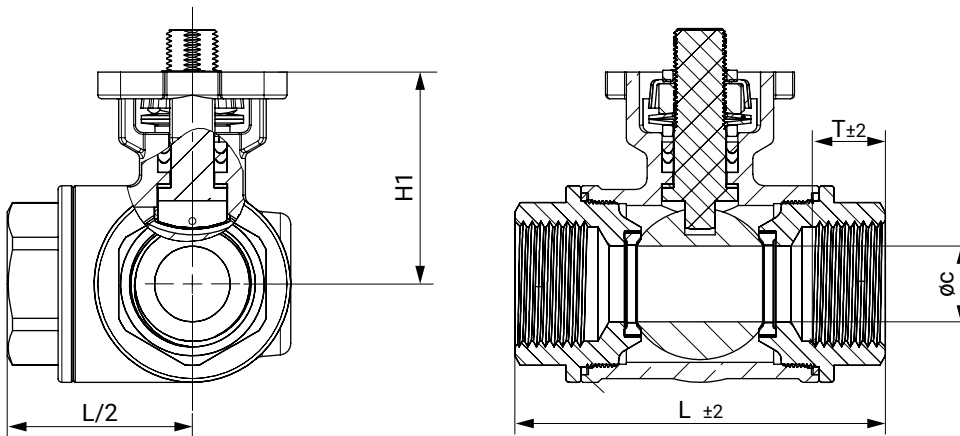
## Dimensions

### 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	øc	H1	L	T
8	1/4"	12.0	40.9	74.0	14.6
10	3/8"	12.0	43.0	74.0	14.6
15	1/2"	12.0	43.0	74.0	14.7
20	3/4"	15.0	45.0	86.0	16.7
25	1"	20.0	56.0	98.0	19.9
32	1¼"	25.0	62.0	118.0	21.9
40	1½"	32.0	74.0	130.0	22.4
50	2"	38.0	78.0	149.0	26.9

Dimensions in mm

## Add-on components



### GEMÜ ADA

#### Pneumatic quarter turn actuator

GEMÜ ADA is a pneumatic double acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



### GEMÜ ASR

#### Pneumatic quarter turn actuator

GEMÜ ASR is a pneumatic single acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



### GEMÜ GDR

#### Pneumatic basic quarter turn actuator, double acting

The GEMÜ GDR pneumatic basic actuator is a double acting, clockwise rotation quarter turn actuator for Open/Close applications. With its standardized connection for pilot valve, position feedback and flanged connection according to ISO 5211, it is suitable for mounting to butterfly valves and ball valves.



### GEMÜ GSR

#### Pneumatic basic quarter turn actuator, single acting

The GEMÜ GSR pneumatic basic actuator is a single acting, clockwise rotation quarter turn actuator for Open/Close applications. With its standardized connection for pilot valve, position feedback and flanged connection according to ISO 5211, it is suitable for mounting to butterfly valves and ball valves.



### GEMÜ DR

#### Pneumatic quarter turn actuator

GEMÜ DR is a pneumatic double acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



### GEMÜ SC

#### Pneumatic quarter turn actuator

GEMÜ SC is a pneumatic single acting quarter turn actuator. It works according to the double piston rack and pinion principle and is suitable for mounting to butterfly valves or ball valves.



### GEMÜ 9428

#### Motorized quarter turn actuator

The product is a motorized quarter turn actuator. The actuator is designed for DC or AC operating voltages. A manual override and an optical position indicator are integrated as standard. The torque in the end positions is increased. This enables a closing curve matched to the valves.

**GEMÜ 9468****Motorized quarter turn actuator**

GEMÜ 9468 is a motorized quarter turn actuator. A manual override and an optical position indicator are integrated as standard. The torque in the end positions is increased. This enables a closing curve matched to the valves.

**GEMÜ BC****Motorized quarter turn actuator**

GEMÜ BC is a motorized quarter turn actuator. The weather-proof actuator has an aluminium housing and is available with different supply voltages and frequencies. The LOGIC version has a display and an on-site control. A manual override and an optical position indicator are integrated as standard. The actuator has adjustable potential-free limit switches and an integrated heating.

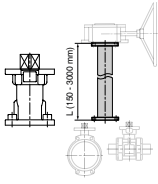
**GEMÜ J4C****Motorized quarter turn actuator**

The J4C actuator is a motorized quarter turn actuator. The motor is designed for DC and AC operating voltages. A manual override and an optical position indicator are integrated as standard. The end positions are potential-free and adjustable.

**GEMÜ AB22****Hand lever**

Hand lever with standard flange according to EN ISO 5211 for the manual operation of quarter turn valves.

## Accessories



### GEMÜ RCO

#### Shaft extension

The RCO 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).

#### Ordering information

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



### GEMÜ MSC

#### Mounting kit

The MSC mounting kit is an interface, for the same and different ends, to join flange designs according to ISO 5211. This mounting kit ensures thermal separation of actuator and valve body. It can also be used as height compensation for insulated pipelines. The mounting kit is available in steel, electrogalvanized and stainless steel in an open or closed design.

### GEMÜ ADH

#### Mounting sleeve

The mounting sleeve accessories are available in the square and star geometry designs. These are used for the shaft and hub support for quarter turn actuators. Both sleeves have an internal square drive (please observe stated measurement dimensions here). The sleeve material is sintered metal and they are chemically nickel plated with a surface of 25 µm.

## Certificates

Certificate	Standard	Item number
3.1 Material	EN 10204	88333336



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG  
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany  
Phone +49 (0) 7940 1230 · info@gemue.de  
www.gemu-group.com