

# GEMÜ B24

## Manually operated 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)
- Butt weld spigots in extended orbital welding design
- Option with cavity filled seat
- Suitable for vacuum applications
- Option: ATEX version

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### Description

The GEMÜ B24 3-piece 2/2-way metal ball valve is manually operated. It is particularly suitable for requirements in the pharmaceutical, food processing and biotechnology industries, such as water treatment or sterile steam generation. Only those plastics which are compliant with FDA, USP Class VI and EC10/2011 are used for the seals.

### Technical specifications

- Media temperature: -10 to 220 °C
- Ambient temperature: 0 to 60 °C
- Operating pressure : 0 to 63 bar
- Nominal sizes: DN 8 to 100
- Body configurations: 2/2-way body
- Connection types: Clamp | Spigot
- Connection standards: ASME | DIN | ISO
- Body materials: 1.4435 (316L), investment casting material
- Seal materials: PTFE TFM™
- Conformities: ATEX | FDA | Reg. (EU) No. 10/2011 | Regulation (EC) No. 1935/2004 | USP

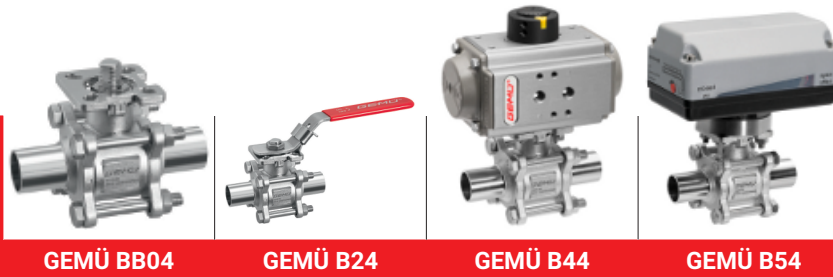
Technical data depends on the respective configuration



further information  
webcode: GW-B24



## Product line

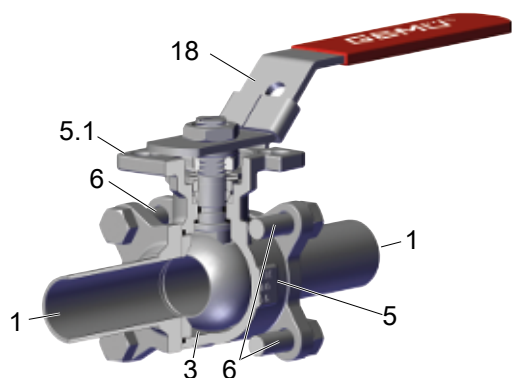


<b>Operation</b>				
With bare shaft	●	-	-	-
Manual	-	●	-	-
Pneumatic	-	-	●	-
Motorized	-	-	-	●
<b>Nominal sizes</b>	DN 8 to 100	DN 8 to 100	DN 8 to 100	DN 8 to 100
<b>Media temperature</b>	-10 to 220 °C	-10 to 220 °C	-10 to 220 °C	-10 to 220 °C
<b>Operating pressure</b>	0 to 63 bar	0 to 63 bar	0 to 63 bar	0 to 63 bar
<b>Connection types</b>				
Clamp	●	●	●	●
Spigot	●	●	●	●

\* depending on version and/or operating parameters

## Product description

### Construction

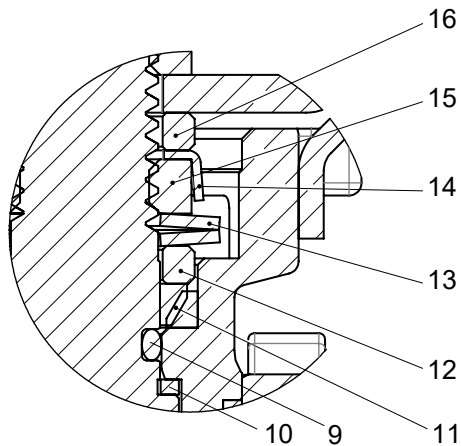


Item	Name	Materials
5	Ball valve body	ASTM A351/1.4435 (316L)
1	Pipe connections	ASTM A351/1.4435 (316L)
5.1	ISO 5211 mounting flange	ASTM A351/CF3M
18	Hand lever	1.4301
6	Bolt	A2 70
3	Seal	PTFE, TFM 1600

### 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.

## 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:**

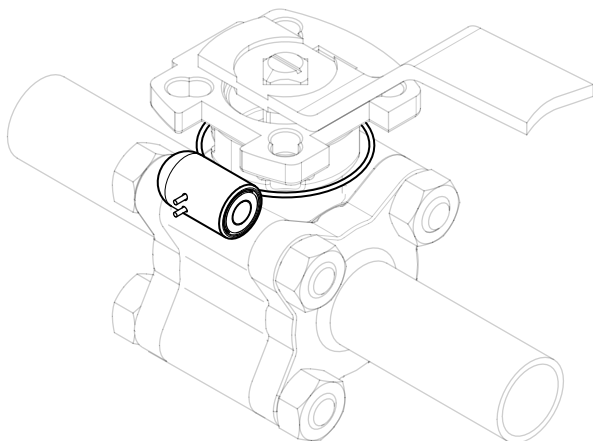
[www.gemu-group.com/conexo](http://www.gemu-group.com/conexo)

### Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO" (see order data).

### 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.



**Availability**

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

1) **Connection type**

Code 17: Spigot EN 10357, series A

Code 59: Spigot ASME BPE

Code 60: Spigot ISO 1127 / EN 10357, series C

Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE

## Order data

The order data provide an overview of standard configurations.

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

## Order codes

1 Type	Code
Ball valve, metal, manually operated, 3-piece body, sanitary, ISO 5211, top flange, lockable hand lever	B24

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
2/2-way body	D

4 Connection type	Code
Spigot EN 10357, series A	17
Spigot ASME BPE	59

4 Continuation of Connection type	Code
Spigot ISO 1127 / EN 10357, series C	60
Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80

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 Control function	Code
Manually operated, hand lever, lockable	L

8 Special version	Code
Without	
ATEX version	X

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

## Order example

Order option	Code	Description
1 Type	B24	Ball valve, metal, manually operated, 3-piece body, sanitary, ISO 5211, top flange, lockable hand lever
2 DN	15	DN 15
3 Body/ball configuration	D	2/2-way body
4 Connection type	60	Spigot ISO 1127 / EN 10357, 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 Control function	L	Manually operated, hand lever, lockable
8 Special version		Without
9 CONEXO		without

## 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:** -10 to 220 °C

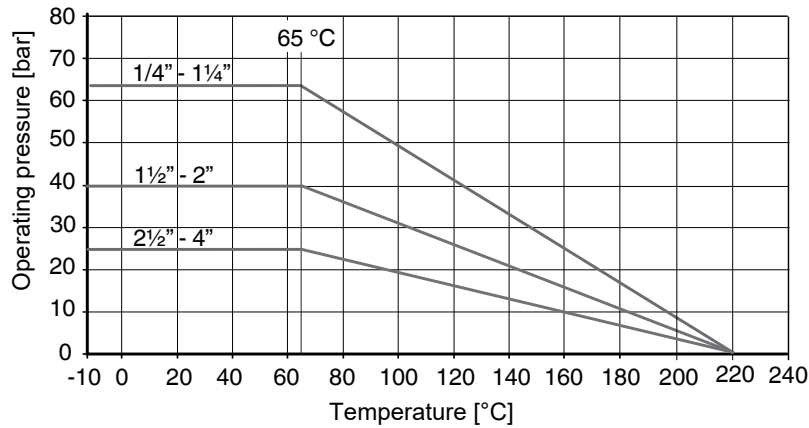
**Ambient temperature:** 0 to 60 °C

**Storage temperature:** 0 to 40 °C

### Pressure

**Operating pressure:** 0 to 63 bar

**Pressure/temperature diagram:**



**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	Connection code <sup>1)</sup>		
		59, 80	60	17
8	1/4"	-	7	7
10	3/8"	-	7	7
15	1/2"	9	18	18
20	3/4"	26	43	43
25	1"	56	77	77
32	1 1/4"	-	95	95
40	1 1/2"	172	206	206
50	2"	327	344	344
65	2 1/2"	516	602	602
80	3"	817	844	844
100	4"	1376	1462	1462

Kv values in m<sup>3</sup>/h

1) **Connection type**

Code 17: Spigot EN 10357, series A

Code 59: Spigot ASME BPE

Code 60: Spigot ISO 1127 / EN 10357, series C

Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE



**Pressure rating:**

DN	Connection type code <sup>1)</sup>			
	60	17	80	59
8	PN63	-	-	-
10	PN63	PN63	-	-
15	PN63	PN63	PN63	PN63
20	PN63	PN63	PN63	PN63
25	PN63	PN63	PN63	PN63
32	PN63	PN63	-	-
40	PN63	PN63	PN63	PN63
50	PN63	PN63	PN63	PN63
65	PN40	PN40	PN40	PN40
80	PN40	PN40	PN40	PN40
100	PN25	PN25	PN25	PN25

1) **Connection type**

Code 17: Spigot EN 10357, series A

Code 59: Spigot ASME BPE

Code 60: Spigot ISO 1127 / EN 10357, series C





Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE

**Product conformities**

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

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

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

**ATEX marking:**  
**Up to DN 65**  
Gas:  II 2G Ex h IIC T6 ... T2 Gb X  
Dust:  II -/2D Ex h -/IIIC T180 °C -/Db X  
**DN 80 and 100**  
Gas:  II 2G Ex h IIB T6 ... T2 Gb X  
Dust:  II -/2D Ex h -/IIIC T180 °C -/Db X

## Mechanical data

### Torques:

DN	NPS	Seal material code <sup>1)</sup>	
		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"	56	83
80	3"	78	117
100	4"	140	209

Free of oil and grease incl. 25% safety

Torques in Nm

#### 1) Seal material

Code 5H: TFM 1600 (FDA certification), cavity filled

Code 5T: TFM 1600 (FDA certification)

### Weight:

#### Body

DN	NPS	Connection code <sup>1)</sup>			
		59	80	60	17
8	1/4"	-	-	0.5	-
10	3/8"	-	-	0.5	-
15	1/2"	0.5	0.5	0.5	0.8
20	3/4"	0.5	0.5	0.8	0.8
25	1"	1	1.1	1.1	1.1
32	1¼"	-	-	1.6	1.6
40	1½"	2.1	2.2	2.7	2.7
50	2"	3.5	3.5	4.2	4.2
65	2½"	7	7.1	8.2	8.2
80	3"	11	11.8	11.6	11.6
100	4"	20	20.5	24	24

Weights in kg

#### 1) Connection type

Code 17: Spigot EN 10357, series A

Code 59: Spigot ASME BPE

Code 60: Spigot ISO 1127 / EN 10357, series C

Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE

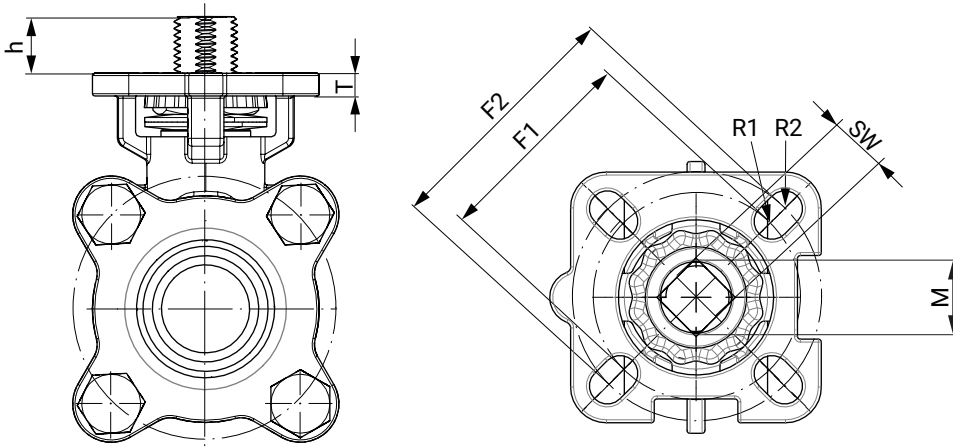
#### Hand lever

DN	Designation	Weight
DN 8 - 20	AB24 20D	0.122
DN 25 - 32	AB24 32D	0.165
DN 40 - 50	AB24 50D	0.398
DN 65 - 80	AB24 80D	0.78
DN 100	AB24100D	0.96

Weights in kg

## Dimensions

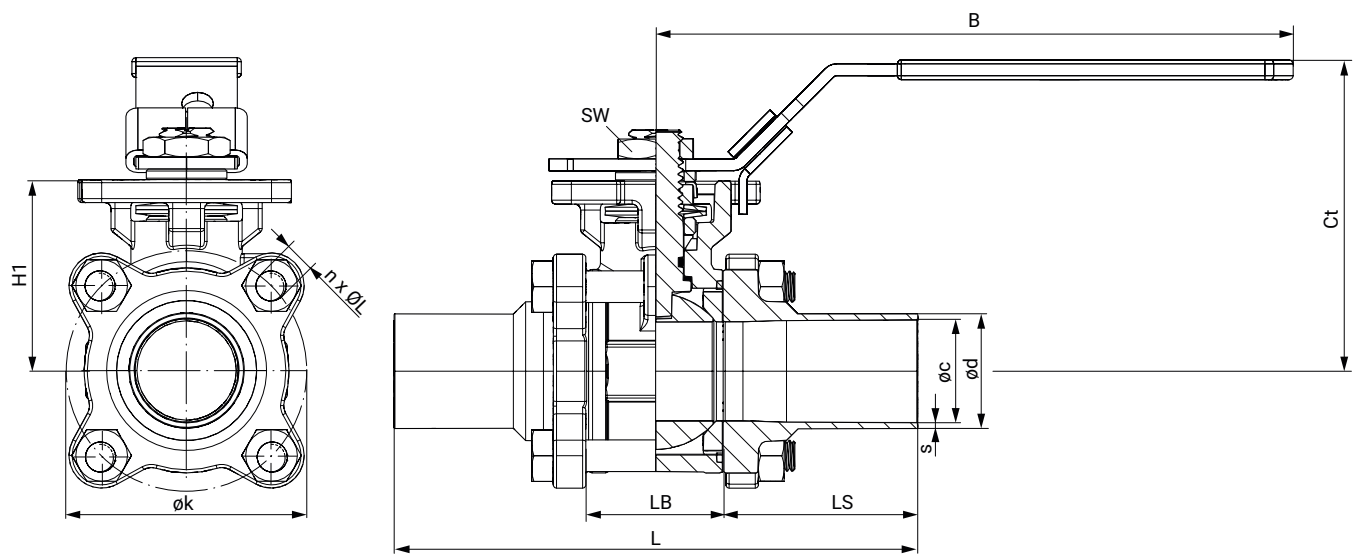
### Actuator flange



	G	F1	ISO 5211	R1	F2	ISO 5211	R2	SW	h	T	M
<b>8</b>	<b>1/4"</b>	36	F03	3.0	42	F04	3.0	9	9.5	5.5	M12
<b>10</b>	<b>3/8"</b>	36	F03	3.0	42	F04	3.0	9	9.5	5.5	M12
<b>15</b>	<b>1/2"</b>	36	F03	3.0	42	F04	3.0	9	9.5	5.5	M12
<b>20</b>	<b>3/4"</b>	36	F03	3.0	42	F04	3.0	9	7.5	5.5	M12
<b>25</b>	<b>1"</b>	42	F04	3.5	50	F05	3.5	11	13.0	7.0	M14
<b>32</b>	<b>1¼"</b>	42	F04	3.5	50	F05	3.5	11	13.0	6.5	M14
<b>40</b>	<b>1½"</b>	50	F05	4.5	70	F07	3.5	14	15.0	7.5	M18
<b>50</b>	<b>2"</b>	50	F05	4.5	70	F07	3.5	14	16.0	8.5	M18
<b>65</b>	<b>2½"</b>	50	F07	4.5	70	F10	3.5	17	18.0	8.5	M22
<b>80</b>	<b>3"</b>	70	F07	5.5	102	F10	4.5	17	18.0	10.5	M22
<b>100</b>	<b>4"</b>	102	F10	5.5	125	F12	4.5	17	18.0	10.5	M22

Dimensions in mm

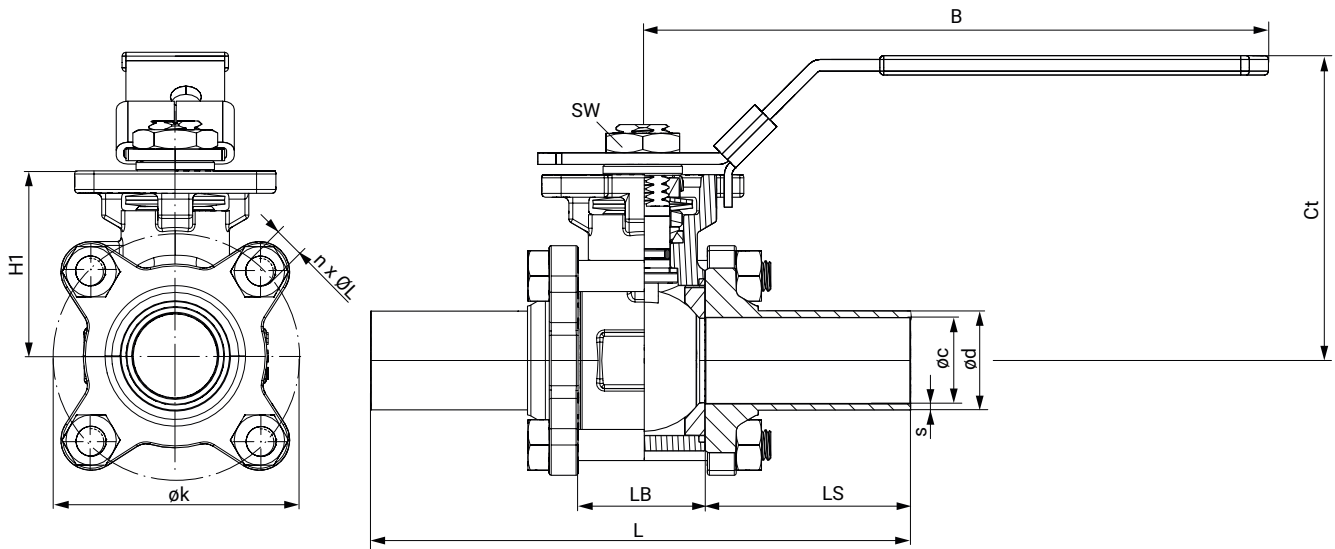
**Spigot DIN EN 10357 (connection code 17)**



DN	$\phi c$	$\phi d$	$\phi k$	L	LB	LS	H1	n x $\phi l$	s	SW	Ct	B
10	10	13	42.5	120.1	24.3	47.9	37	4 x M6	1.5	19	58	130
15	16	19	42.5	140.1	24.3	57.9	37	4 x M6	1.5	19	58	130
20	20	23	54.5	140	31.2	54.4	40	4 x M8	1.5	19	64	130
25	26	29	60.4	152	34	59	48	4 x M8	1.5	22	77	155
32	32	35	75	165	44	60.5	53	4 x M10	1.5	22	83	155
40	38	41	86.5	190	55	67.5	63	4 x M12	1.5	27	92	205
50	50	53	107	203	68.9	67	72	4 x M14	1.5	27	100	205
65	66	70	131.5	254	82	86	92	4 x M14	2	32	140	300
80	81	85	158	280	96	92	102	4 x M16	2	32	150	300
100	100	104	198.5	308	122	93	132	6 x M20	2	38	195	350

Dimensions in mm

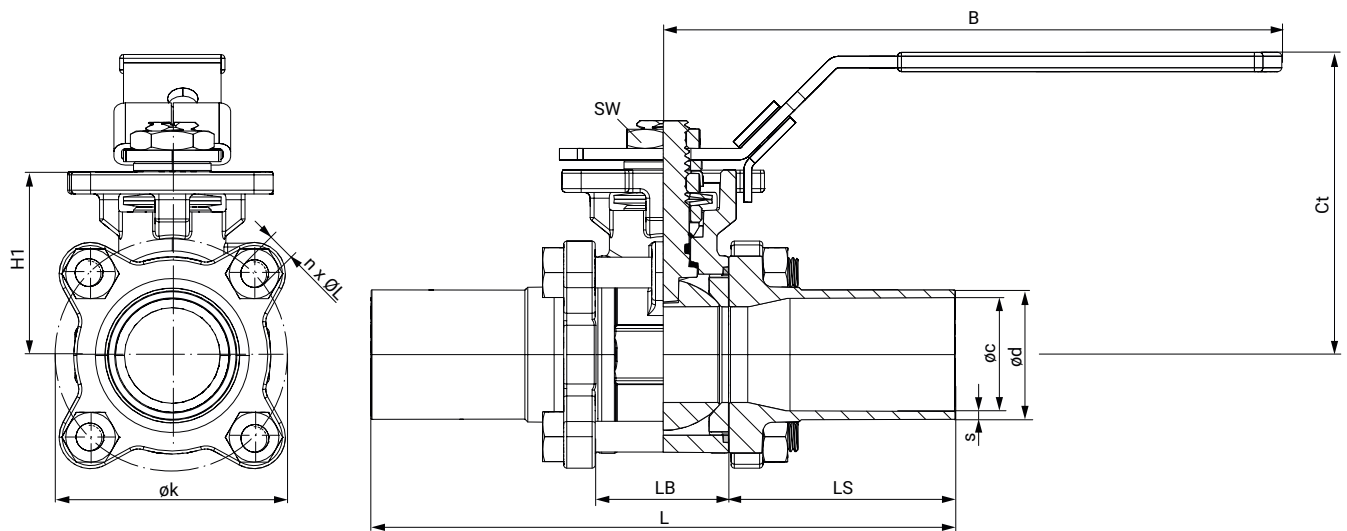
**Spigot ASME BPE (connection code 59)**



DN	øc	ød	s	øk	L	LB	LS	H1	n x ØL	Ct	B	SW
15	9.4	12.7	1.65	44.6	124.4	25	49.7	38	4 x M6	57	130	19
20	15.7	19	1.65	44.6	142.2	28	58.6	38	4 x M6	66	130	19
25	22.1	25.4	1.65	61.5	162.3	32.1	65.1	48	4 x M8	77	155	22
40	34.8	38.1	1.65	78.5	182.2	46	68.1	60	4 x M12	95	205	27
50	47.5	50.8	1.65	100.4	193	59.6	66.7	69	4 x M14	103	205	27
65	60.2	63.5	1.65	126	254.1	77.1	88.5	89	4 x M14	143	300	32
80	72.9	76.2	1.65	150	276.9	91.7	92.6	98	4 x M16	154	300	32
100	97.4	101.6	2.1	187.5	304.9	118.3	93.3	130	6 x M16	197	350	38

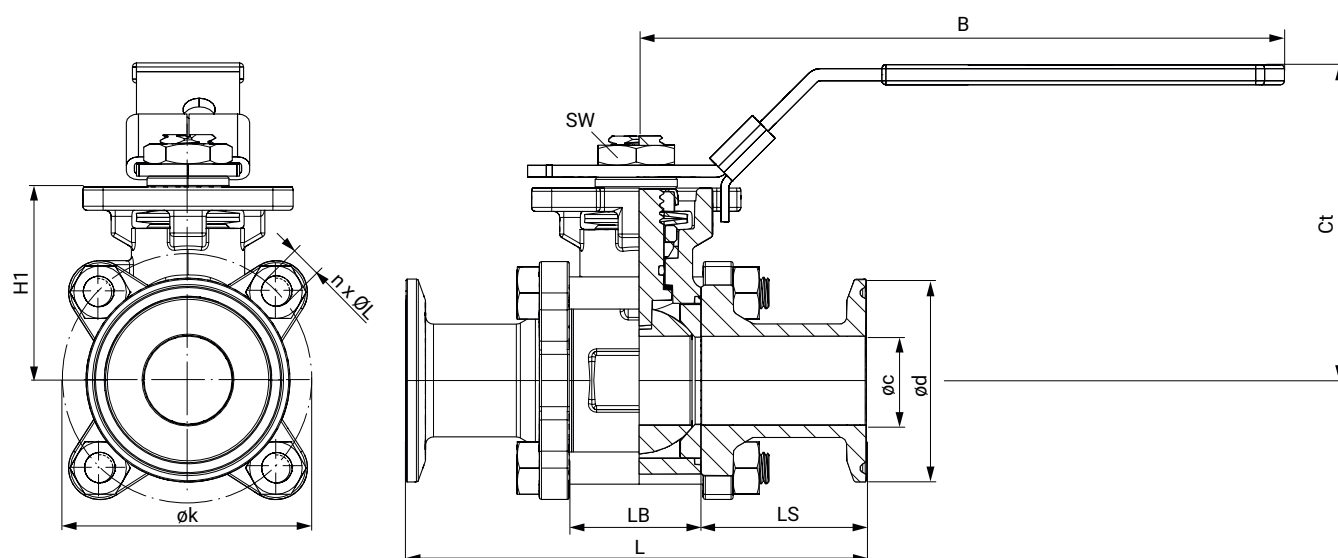
Dimensions in mm

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



DN	øc	ød	s	øk	L	LB	LS	H1	n x ØL	Ct	B	SW
<b>8</b>	10.3	13.5	1.6	42.5	120.1	24.3	47.9	37	4 x M6	58	130	19
<b>10</b>	14	17.2	1.6	42.5	120.1	24.3	47.9	37	4 x M6	58	130	19
<b>15</b>	18.1	21.3	1.6	42.5	140.1	24.3	57.9	37	4 x M6	58	130	19
<b>20</b>	23.7	26.9	1.6	54.5	140	31.2	54.4	40	4 x M8	64	130	19
<b>25</b>	29.7	33.7	2	60.4	152	34	59	48	4 x M8	77	155	22
<b>32</b>	38.4	42.4	2	75	165	44	60.5	53	4 x M10	83	155	22
<b>40</b>	44.3	48.3	2	86.5	190	55	67.5	63	4 x M12	92	205	27
<b>50</b>	56.3	60.3	2	107	203	68.9	67	72	4 x M14	100	205	27
<b>65</b>	72.1	76.1	2	131.5	254	82	86	92	4 x M14	140	300	32
<b>80</b>	84.3	88.9	2.3	158	280	96	92	102	4 x M16	150	300	32
<b>100</b>	109.7	114.3	2.3	198.5	308	122	93	132	6 x M20	195	350	38

Dimensions in mm

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

DN	$\phi c$	$\phi d$	s	$\phi k$	L	LB	LS	H1	n x $\phi L$	Ct	B	SW
15	9.4	25	1.65	44.6	88.8	25	31.9	38	4 x M6	57	130	19
20	15.8	25	1.65	44.6	101.6	25	38.3	38	4 x M6	66	130	19
25	22.1	50.4	1.65	61.5	114.3	32.1	41.1	48	4 x M8	77	155	22
40	34.8	50.4	1.65	78.5	139.8	46	46.9	60	4 x M12	95	205	27
50	47.5	63.9	1.65	100.4	158.8	59.6	49.6	69	4 x M14	103	205	27
65	60.2	77.4	1.65	126	171.5	77.1	47.2	89	4 x M14	143	300	32
80	72.9	90.9	1.65	150	196.3	91.7	52.3	98	4 x M16	154	300	32
100	97.4	118.9	2.1	187.5	241.3	118.3	61.5	130	6 x M16	197	350	38

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.

#### Ordering information

Nominal size	Item no.	Designation
DN8–DN20	88470175	LSFS01Z BV F04
DN25–DN32	88470177	LSFS01Z BV F05
DN40–DN50	88470178	LSFS01Z BV F07
DN65–DN100	88470181	LSFS01Z BV F10



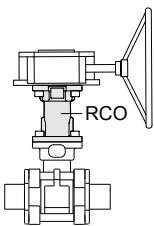
### GEMÜ LSC

#### 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.

#### Ordering information

Nominal size	Item no.	Designation
DN8–DN20	88494998	LSCS01Z BV F04
DN25–DN32	88495013	LSCS01Z BV F05
DN40–DN50	88495019	LSCS01Z BV F07
DN65–DN100	88495024	LSCS01Z BV F10



### GEMÜ RC0

#### Shaft extension

GEMÜ RC0 is a shaft extension for quarter turn valves. Available for various flange types and shaft connections.

#### Ordering information

See data sheet





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