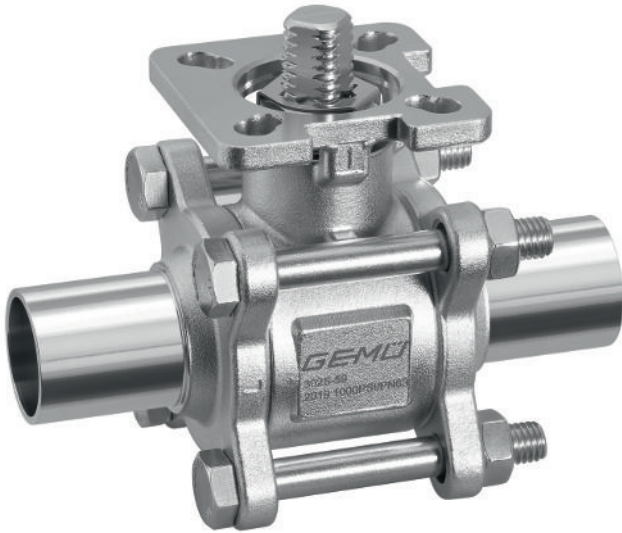


GEMÜ BB04

Ball valve with bare shaft



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
- Optionally available with cavity-filled seat
- Suitable for vacuum applications
- Option: ATEX version
- Ball valve body assembled free of oil and grease

Description

The three-piece 2/2-way GEMÜ BB04 metal ball valve with a bare shaft and an actuator flange in accordance with DIN ISO 5211 for simple mounting of various actuator types is particularly suited to applications in the supply sector for the pharmaceutical, foodstuffs processing and biotechnology (such as water treatment and steam generation) industries thanks to the 1.4435 stainless steel alloy material composition used (compliant with 316L) with a low delta ferrite proportion of < 3%. 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:** -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

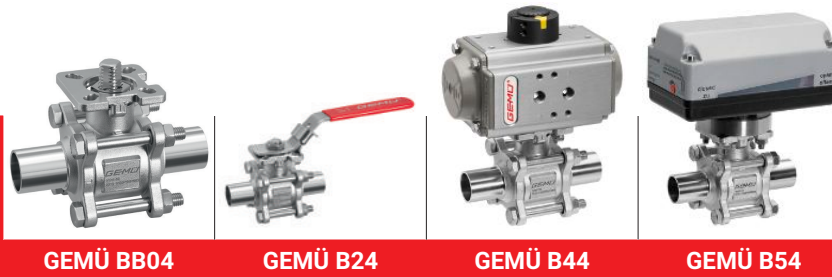
Technical data depends on the respective configuration



further information
webcode: GW-BB04



Product line

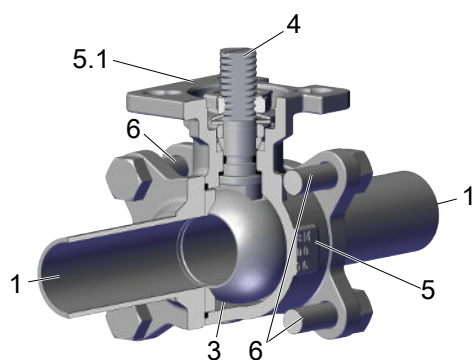


	GEMÜ BB04	GEMÜ B24	GEMÜ B44	GEMÜ B54
Operation				
With bare shaft	●	-	-	-
Manual	-	●	-	-
Pneumatic	-	-	●	-
Motorized	-	-	-	●
Nominal sizes	DN 8 to 100	DN 8 to 100	DN 8 to 100	DN 8 to 100
Media temperature	-10 to 220 °C	-10 to 220 °C	-10 to 220 °C	-10 to 220 °C
Operating pressure *	0 to 63 bar	0 to 63 bar	0 to 63 bar	0 to 63 bar
Connection types				
Clamp	●	●	●	●
Spigot	●	●	●	●

* depending on version and/or operating parameters

Product description

Construction

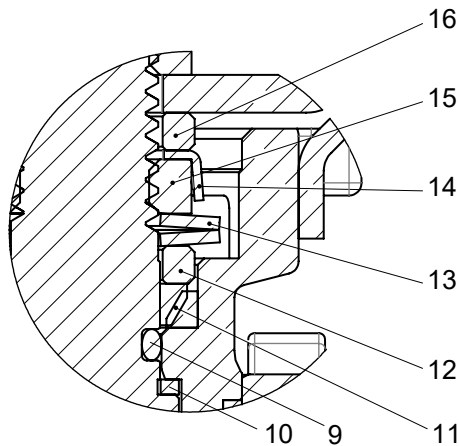


Item	Name	Materials
5	Ball valve body	ASTM A351 / 1.4435 (316L)
1	Pipe connections	ASTM A351 / 1.4435 (316L)
5.1	Mounting flange ISO 5211	ASTM A351 / 1.4435 (316L)
4	Ball valve shaft	1.4409 (SS316L)
6	Bolts	A2 70
3	Seals	PTFE, TFM

Application

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

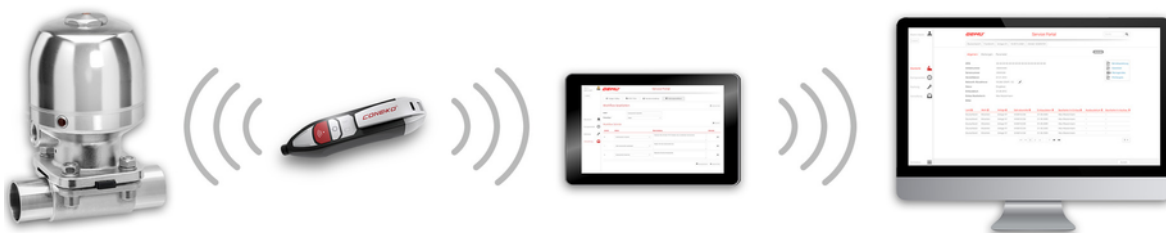
The spindle seal system



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

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:

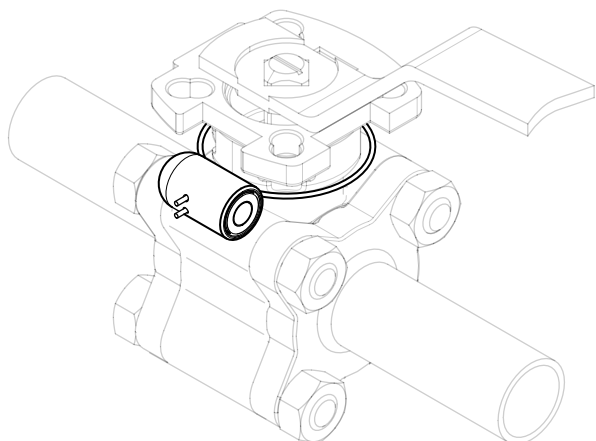
www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO" (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 ¹⁾			
		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 (formerly DIN 11850 series 2)/DIN 11866 series A

Code 59: Spigot ASME BPE

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

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	4 Continuation of Connection type	Code
Ball valve body, metal, 3-piece, Sanitary/Hygienic, ISO 5211, top flange	BB04	Spigot ASME BPE	59
		Spigot ISO 1127/EN 10357 series C/DIN 11866 series B	60
		Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80
2 DN	Code	5 Ball valve material	Code
DN 8	8	1.4435 / ASTM A351, low ferrite <3% (equivalent to 316L Δ Fe<3%) (body, connection, ball), 1.4409 / SS316L (spindle)	C3
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	6 Seal material	Code
2/2-way body	D	TFM 1600 (FDA certification)	5T
		TFM 1600 (FDA certification), cavity filled	5H
4 Connection type	Code	7 Special version	Code
Spigot EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A	17	Without	
		ATEX version	X
		8 CONEXO	Code
		without	
		Integrated RFID chip for electronic identification and traceability	C

Order example

Order option	Code	Description
1 Type	BB04	Ball valve body, metal, 3-piece, Sanitary/Hygienic, ISO 5211, top flange
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/DIN 11866 series B
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 Special version		Without
8 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 – 220 °C

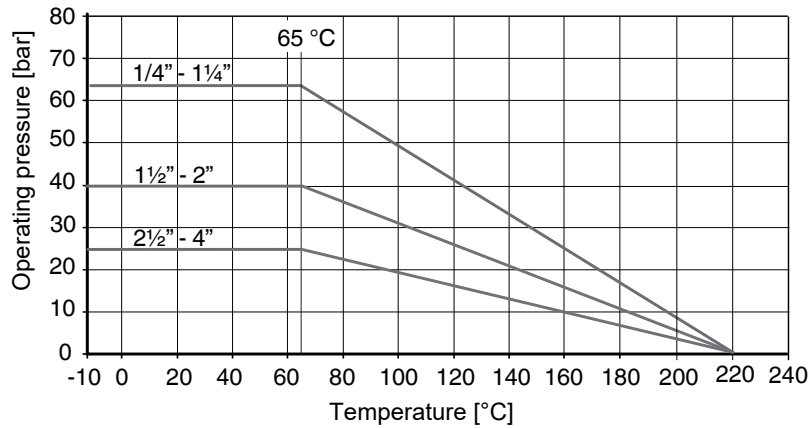
Ambient temperature: 0 – 60 °C

Storage temperature: -60 – 60 °C

Pressure

Operating pressure: 0 to 63 bar

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

Kv values:

DN	NPS	Connection code ¹⁾		
		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 m³/h

 1) **Connection type**

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

Code 59: Spigot ASME BPE

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

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

Pressure rating:

DN	Connection type code ¹⁾			
	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 (formerly DIN 11850 series 2)/DIN 11866 series A

Code 59: Spigot ASME BPE

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

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 ¹⁾)	
		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	1 1/4"	16	22
40	1 1/2"	32	47
50	2"	34	51
65	2 1/2"	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:

DN	NPS	Connection code ¹⁾			
		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	1 1/4"	-	-	1.6	1.6
40	1 1/2"	2.1	2.2	2.7	2.7
50	2"	3.5	3.5	4.2	4.2
65	2 1/2"	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 (formerly DIN 11850 series 2)/DIN 11866 series A

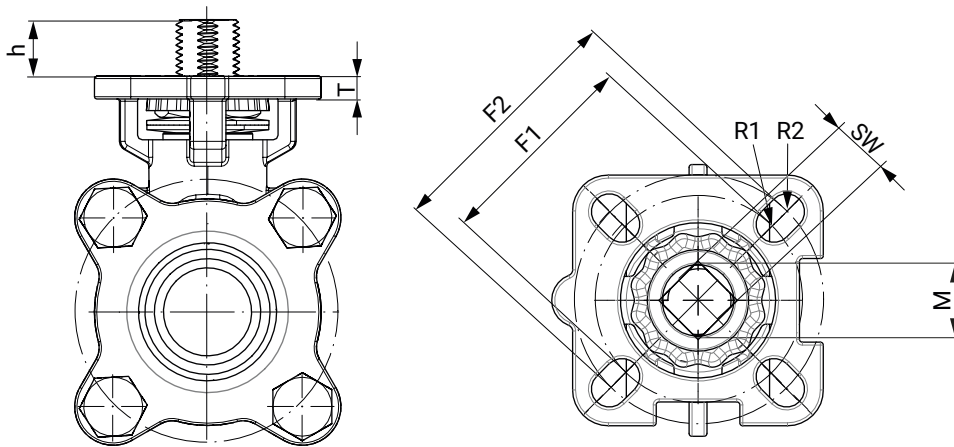
Code 59: Spigot ASME BPE

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

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

Dimensions

Actuator flange

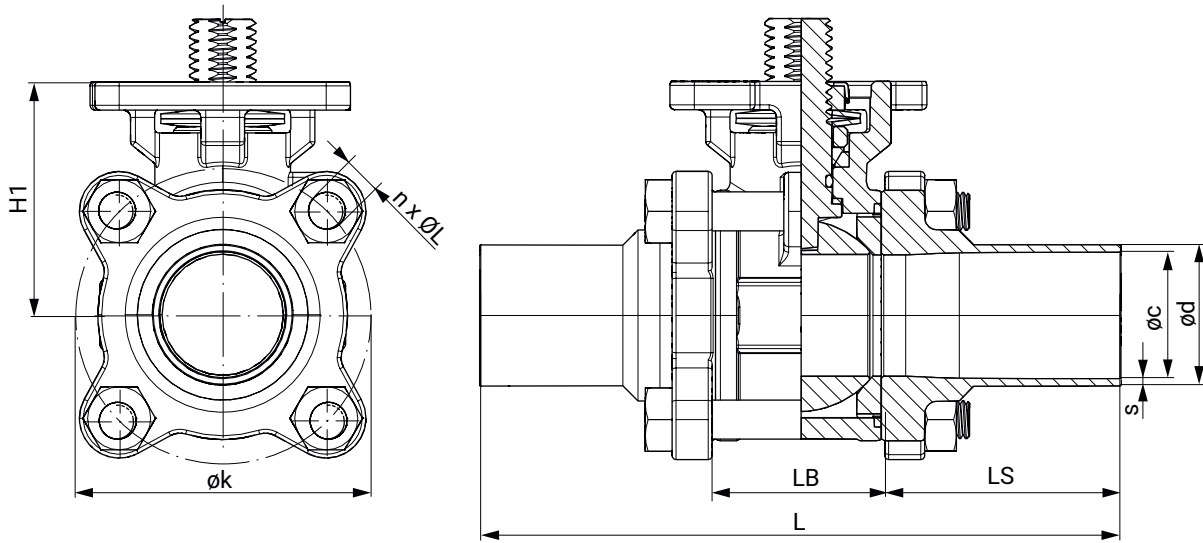


	G	F1	ISO 5211	R1	F2	ISO 5211	R2	SW	h	T	M
8	1/4"	36.0	F03	3.0	42.0	F04	3.0	9.0	9.5	5.5	M12
10	3/8"	36.0	F03	3.0	42.0	F04	3.0	9.0	9.5	5.5	M12
15	1/2"	36.0	F03	3.0	42.0	F04	3.0	9.0	9.5	5.5	M12
20	3/4"	36.0	F03	3.0	42.0	F04	3.0	9.0	7.5	5.5	M12
25	1"	42.0	F04	3.5	50.0	F05	3.5	11.0	13.0	7.0	M14
32	1¼"	42.0	F04	3.5	50.0	F05	3.5	11.0	13.0	6.5	M14
40	1½"	50.0	F05	4.5	70.0	F07	3.5	14.0	15.0	7.5	M18
50	2"	50.0	F05	4.5	70.0	F07	3.5	14.0	16.0	8.5	M18
65	2½"	50.0	F07	4.5	70.0	F10	3.5	17.0	18.0	8.5	M22
80	3"	70.0	F07	5.5	102.0	F10	4.5	17.0	18.0	10.5	M22
100	4"	102.0	F10	5.5	125.0	F12	4.5	17.0	18.0	10.5	M22

Dimensions in mm

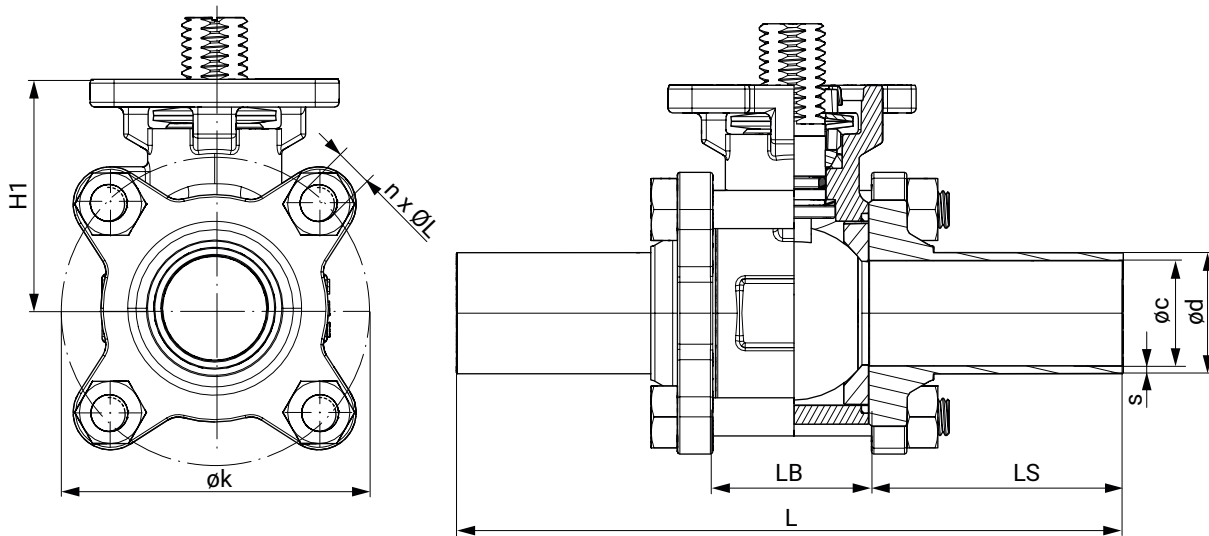
Body dimensions

Spigot DIN EN 10357 (connection code 17)



DN	øc	ød	øk	L	LB	LS	H1	n x øL	s
10	10.0	13.0	42.5	120.1	24.3	47.9	37.0	4 x M6	1.5
15	16.0	19.0	42.5	140.1	24.3	57.9	37.0	4 x M6	1.5
20	20.0	23.0	54.5	140.0	31.2	54.4	40.0	4 x M8	1.5
25	26.0	29.0	60.4	152.0	34.0	59.0	48.0	4 x M8	1.5
32	32.0	35.0	75.0	165.0	44.0	60.5	53.0	4 x M10	1.5
40	38.0	41.0	86.5	190.0	55.0	67.5	63.0	4 x M12	1.5
50	50.0	53.0	107.0	203.0	68.9	67.0	72.0	4 x M14	1.5
65	66.0	70.0	131.5	254.0	82.0	86.0	92.0	4 x M14	2.0
80	81.0	85.0	158.0	280.0	96.0	92.0	102.0	4 x M16	2.0
100	100.0	104.0	198.5	308.0	122.0	93.0	132.0	6 x M20	2.0

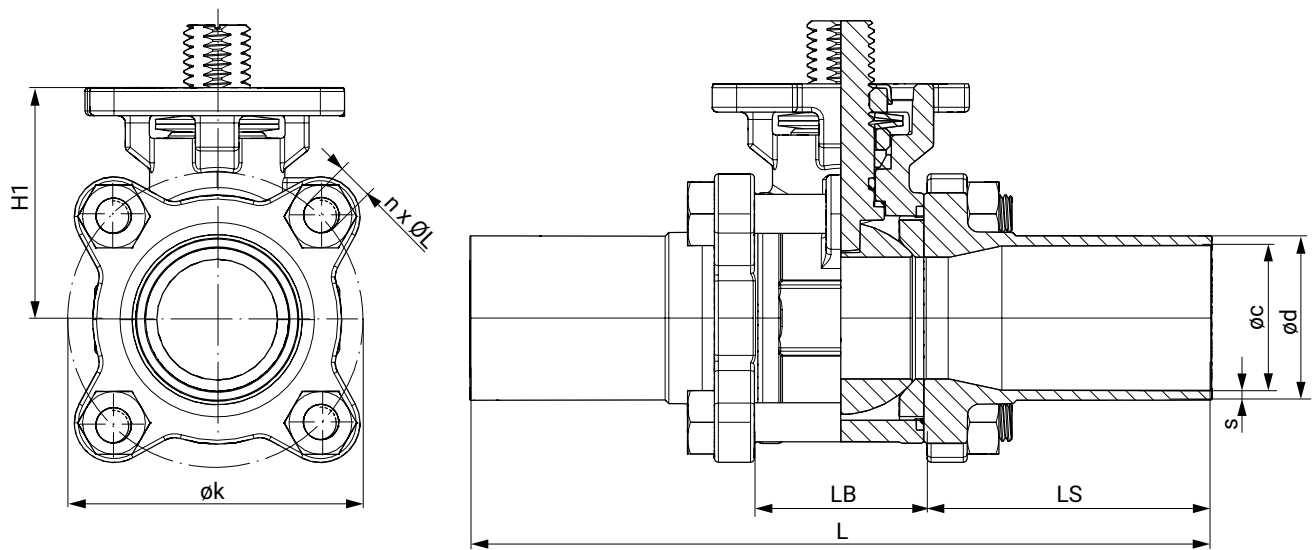
Dimensions in mm

Spigot ASME BPE (connection code 59)

DN	øc	ød	s	øk	L	LB	LS	H1	n x ØL
15	9.4	12.7	1.65	44.6	124.4	25.0	49.7	38.0	4 x M6
20	15.7	19.0	1.65	44.6	142.2	28.0	58.6	38.0	4 x M6
25	22.1	25.4	1.65	61.5	162.3	32.1	65.1	48.0	4 x M8
40	34.8	38.1	1.65	78.5	182.2	46.0	68.1	60.0	4 x M12
50	47.5	50.8	1.65	100.4	193.0	59.6	66.7	69.0	4 x M14
65	60.2	63.5	1.65	126.0	254.1	77.1	88.5	89.0	4 x M14
80	72.9	76.2	1.65	150.0	276.9	91.7	92.6	98.0	4 x M16
100	97.4	101.6	2.1	187.5	304.9	118.3	93.3	130.0	6 x M16

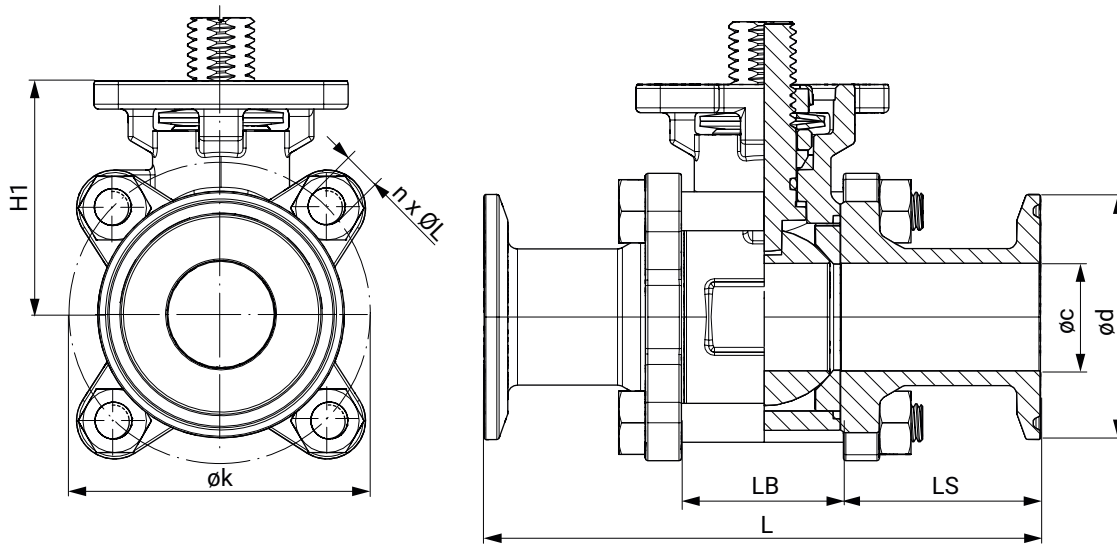
Dimensions in mm

Spigot ISO 1127 / EN 10357 (connection code 60)



DN	øc	ød	s	øk	L	LB	LS	H1	n x ØL
8	10.3	13.5	1.6	42.5	120.1	24.3	47.9	37.0	4 x M6
10	14.0	17.2	1.6	42.5	120.1	24.3	47.9	37.0	4 x M6
15	18.1	21.3	1.6	42.5	140.1	24.3	57.9	37.0	4 x M6
20	23.7	26.9	1.6	54.5	140.0	31.2	54.4	40.0	4 x M8
25	29.7	33.7	2.0	60.4	152.0	34.0	59.0	48.0	4 x M8
32	38.4	42.4	2.0	75.0	165.0	44.0	60.5	53.0	4 x M10
40	44.3	48.3	2.0	86.5	190.0	55.0	67.5	63.0	4 x M12
50	56.3	60.3	2.0	107.0	203.0	68.9	67.0	72.0	4 x M14
65	72.1	76.1	2.0	131.5	254.0	82.0	86.0	92.0	4 x M14
80	84.3	88.9	2.3	158.0	280.0	96.0	92.0	102.0	4 x M16
100	109.7	114.3	2.3	198.5	308.0	122.0	93.0	132.0	6 x M20

Dimensions in mm

Clamp ASME BPE (connection code 80)

DN	øc	ød	s	øk	L	LB	LS	H1	n x ØL
15	9.4	25.0	1.65	44.6	88.8	25.0	31.9	38.0	4 x M6
20	15.8	25.0	1.65	44.6	101.6	25.0	38.3	38.0	4 x M6
25	22.1	50.4	1.65	61.5	114.3	32.1	41.1	48.0	4 x M8
40	34.8	50.4	1.65	78.5	139.8	46.0	46.9	60.0	4 x M12
50	47.5	63.9	1.65	100.4	158.8	59.6	49.6	69.0	4 x M14
65	60.2	77.4	1.65	126.0	171.5	77.1	47.2	89.0	4 x M14
80	72.9	90.9	1.65	150.0	196.3	91.7	52.3	98.0	4 x M16
100	97.4	118.9	2.1	187.5	241.3	118.3	61.5	130.0	6 x M16

Dimensions in mm

Add-on components



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 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 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 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 AB24

Hand lever or gearbox with handwheel

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





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