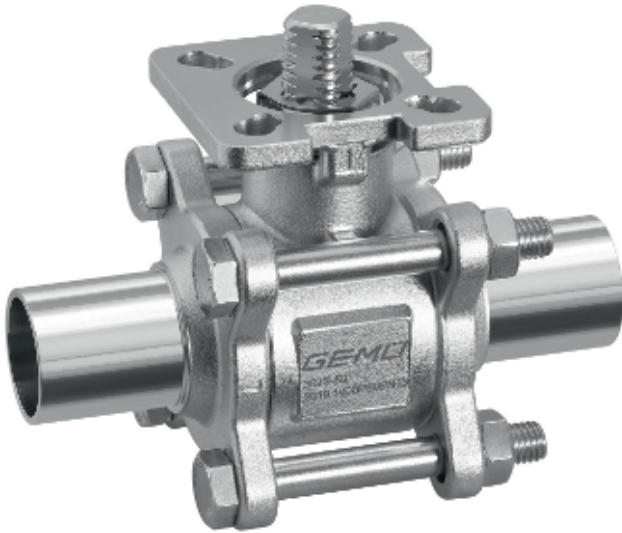


GEMÜ BB04

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
- Option with cavity filled seat
- Suitable for vacuum applications
- Option: ATEX version

Description

The GEMÜ BB04 2/2-way metal ball valve with a 3-piece body, bare shaft and ISO top flange for simple automation is particularly suitable for requirements in the pharmaceutical, food processing and biotechnology industries, such as water treatment or sterile steam generation. Only those plastics that are compliant with FDA, USP Class VI and EC10/2011 are used for the seals.

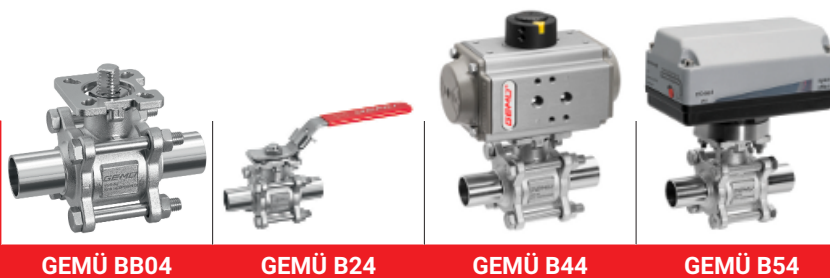
Technical specifications

- 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



Product line

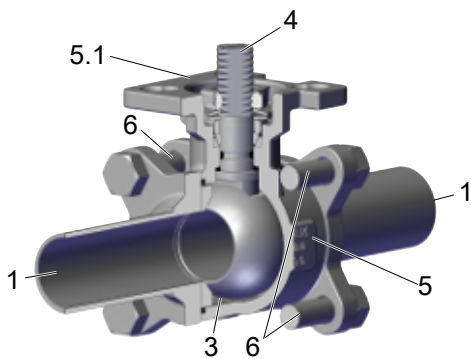


Operation				
With bare shaft	●	-	-	-
Manual	-	●	-	-
Pneumatic	-	-	●	-
Motorized	-	-	-	●
Nominal sizes	DN 8 to 100	DN 8 to 100	DN 8 to 100	DN 8 to 100
Media temperature	-10 to 220 °C	-10 to 220 °C	-10 to 220 °C	-10 to 220 °C
Operating pressure	0 to 63 bar	0 to 63 bar	0 to 63 bar	0 to 63 bar
Connection 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	Seal	TFM 1600

Application

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

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:

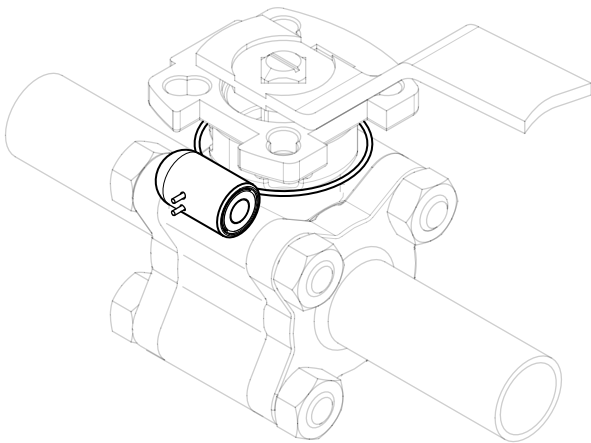
www.gemu-group.com/conexo

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

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 body, metal, 3-piece, Sanitary/Hygienic, ISO 5211, top flange	BB04

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

4 Continuation of Connection type	Code
Spigot ASME BPE	59
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 Special version	Code
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
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 to 220 °C

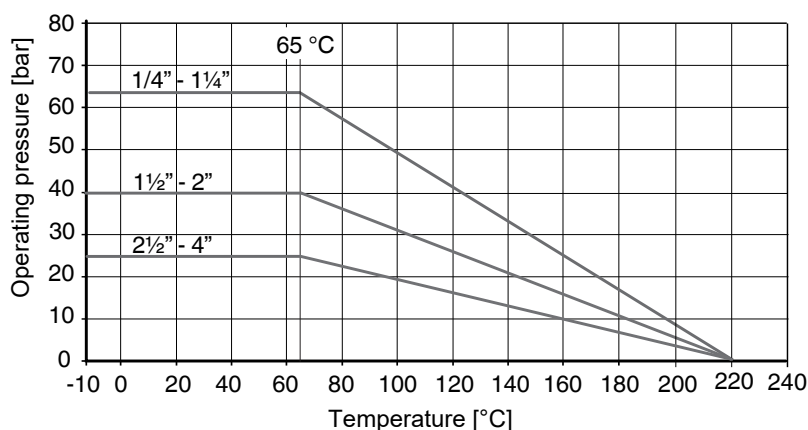
Ambient temperature: 0 to 60 °C

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 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

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 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

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 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:

Body

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

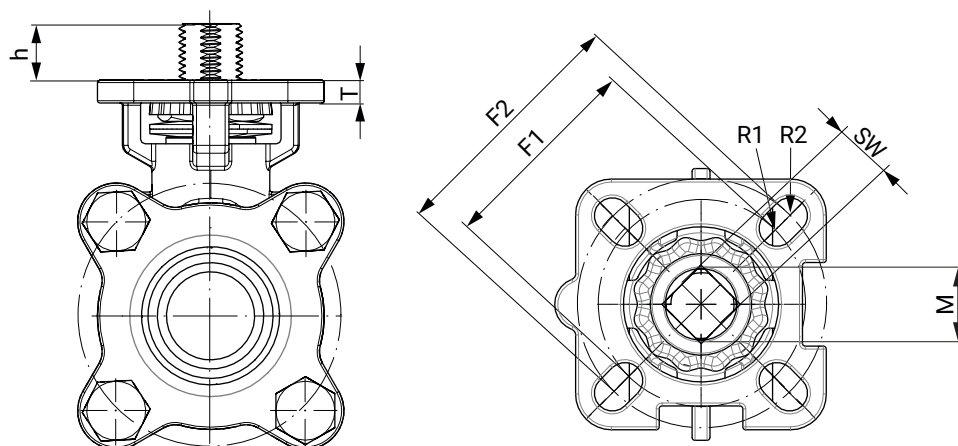
Code 59: Spigot ASME BPE

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

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

Dimensions

Actuator flange

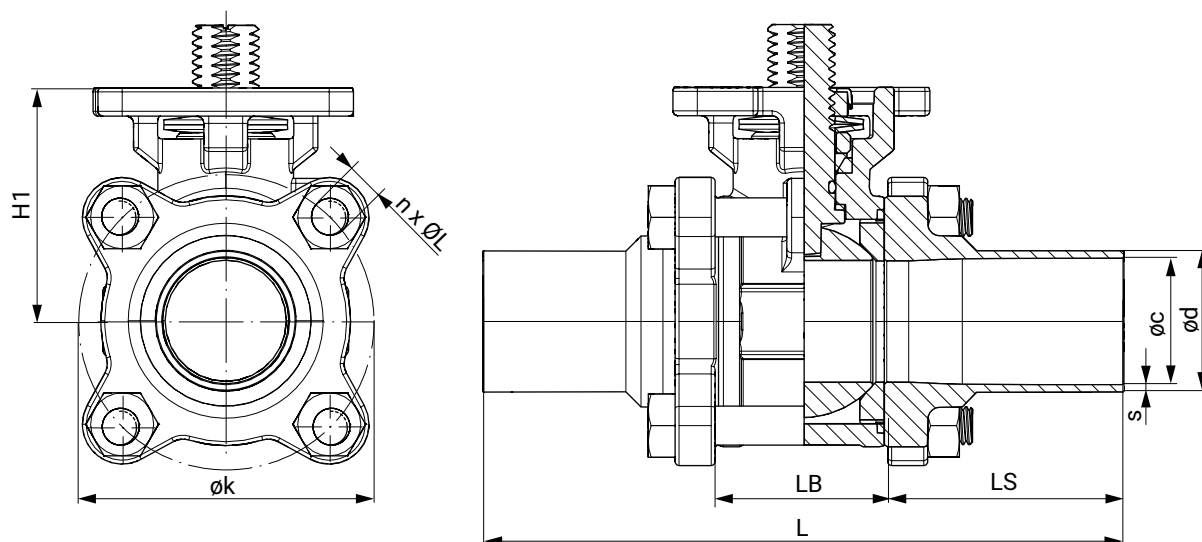


	G	F1	ISO 5211	R1	F2	ISO 5211	R2	SW	h	T	M
8	1/4"	36	F03	3.0	42	F04	3.0	9	9.5	5.5	M12
10	3/8"	36	F03	3.0	42	F04	3.0	9	9.5	5.5	M12
15	1/2"	36	F03	3.0	42	F04	3.0	9	9.5	5.5	M12
20	3/4"	36	F03	3.0	42	F04	3.0	9	7.5	5.5	M12
25	1"	42	F04	3.5	50	F05	3.5	11	13.0	7.0	M14
32	1 1/4"	42	F04	3.5	50	F05	3.5	11	13.0	6.5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

Dimensions in mm

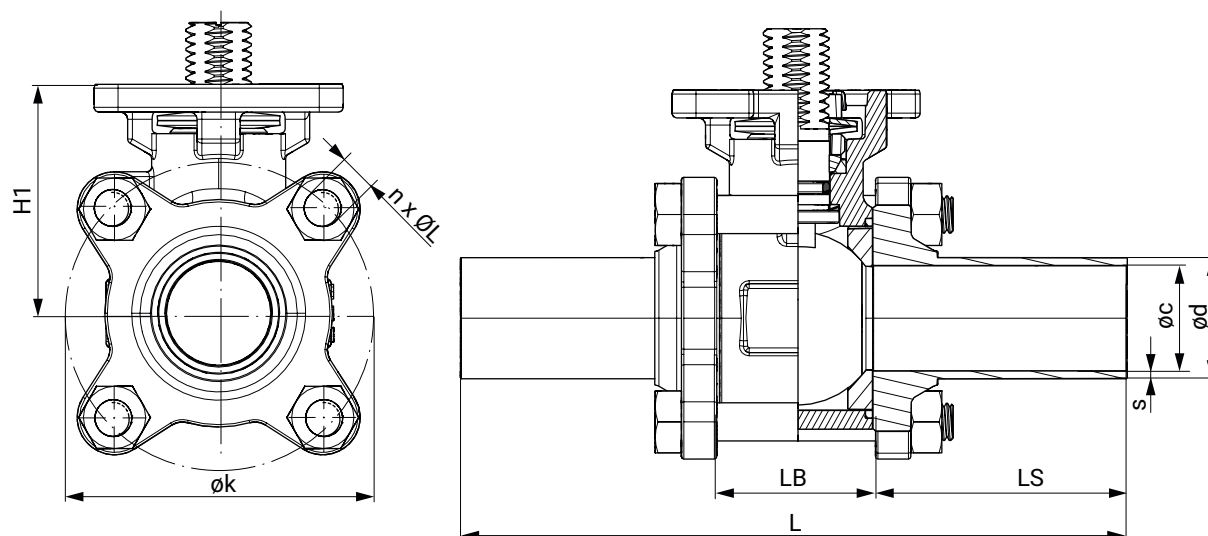
Body dimensions

Spigot DIN EN 10357 (connection code 17)



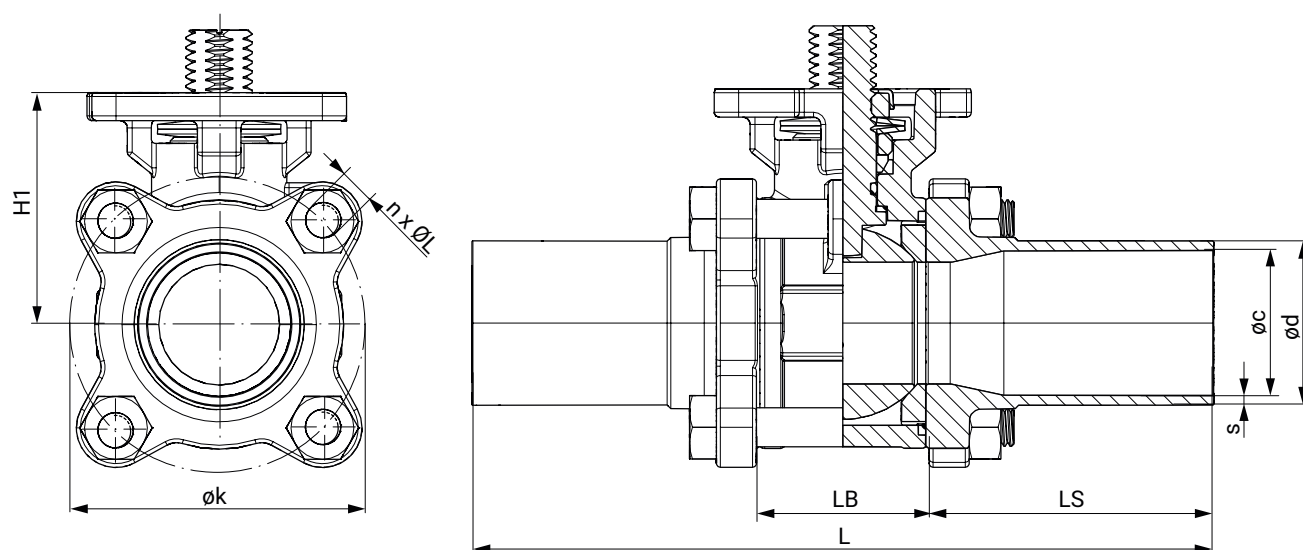
DN	ϕc	ϕd	ϕk	L	LB	LS	H1	$n \times \phi l$	s
10	10	13	42.5	120.1	24.3	47.9	37	4 x M6	1.5
15	16	19	42.5	140.1	24.3	57.9	37	4 x M6	1.5
20	20	23	54.5	140	31.2	54.4	40	4 x M8	1.5
25	26	29	60.4	152	34	59	48	4 x M8	1.5
32	32	35	75	165	44	60.5	53	4 x M10	1.5
40	38	41	86.5	190	55	67.5	63	4 x M12	1.5
50	50	53	107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

Dimensions in mm

Spigot ASME BPE (connection code 59)


DN	ϕc	ϕd	s	ϕk	L	LB	LS	H1	$n \times \phi L$
15	9.4	12.7	1.65	44.6	124.4	25	49.7	38	4 x M6
20	15.7	19	1.65	44.6	142.2	28	58.6	38	4 x M6
25	22.1	25.4	1.65	61.5	162.3	32.1	65.1	48	4 x M8
40	34.8	38.1	1.65	78.5	182.2	46	68.1	60	4 x M12
50	47.5	50.8	1.65	100.4	193	59.6	66.7	69	4 x M14
65	60.2	63.5	1.65	126	254.1	77.1	88.5	89	4 x M14
80	72.9	76.2	1.65	150	276.9	91.7	92.6	98	4 x M16
100	97.4	101.6	2.1	187.5	304.9	118.3	93.3	130	6 x M16

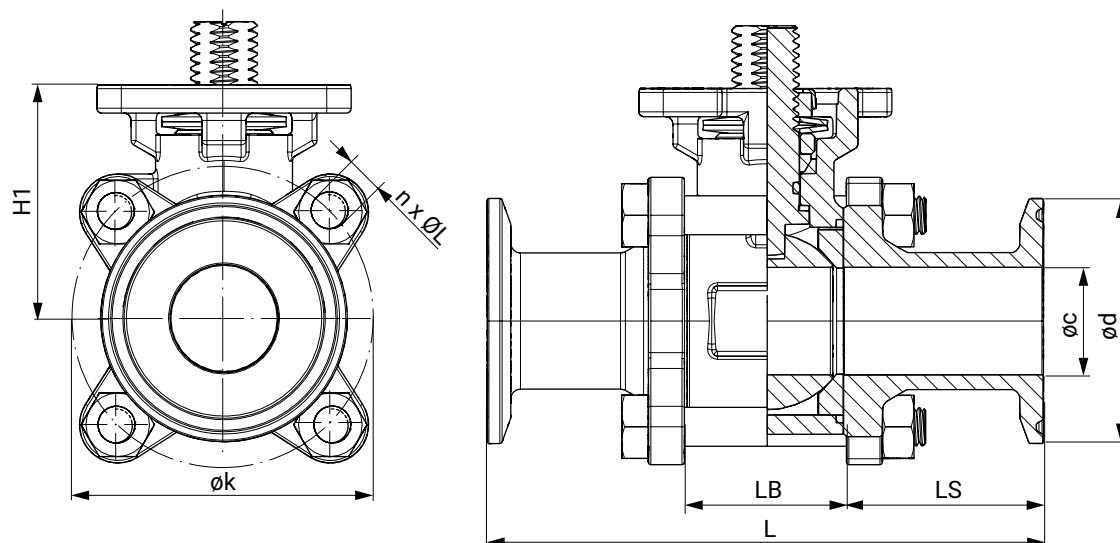
Dimensions in mm

Spigot ISO 1127 / EN 10357 (connection code 60)

DN	ϕc	ϕd	s	ϕk	L	LB	LS	H1	$n \times \phi l$
8	10.3	13.5	1.6	42.5	120.1	24.3	47.9	37	4 x M6
10	14	17.2	1.6	42.5	120.1	24.3	47.9	37	4 x M6
15	18.1	21.3	1.6	42.5	140.1	24.3	57.9	37	4 x M6
20	23.7	26.9	1.6	54.5	140	31.2	54.4	40	4 x M8
25	29.7	33.7	2	60.4	152	34	59	48	4 x M8
32	38.4	42.4	2	75	165	44	60.5	53	4 x M10
40	44.3	48.3	2	86.5	190	55	67.5	63	4 x M12
50	56.3	60.3	2	107	203	68.9	67	72	4 x M14
65	72.1	76.1	2	131.5	254	82	86	92	4 x M14
80	84.3	88.9	2.3	158	280	96	92	102	4 x M16
100	109.7	114.3	2.3	198.5	308	122	93	132	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	1.65	44.6	88.8	25	31.9	38	4 x M6
20	15.8	25	1.65	44.6	101.6	25	38.3	38	4 x M6
25	22.1	50.4	1.65	61.5	114.3	32.1	41.1	48	4 x M8
40	34.8	50.4	1.65	78.5	139.8	46	46.9	60	4 x M12
50	47.5	63.9	1.65	100.4	158.8	59.6	49.6	69	4 x M14
65	60.2	77.4	1.65	126	171.5	77.1	47.2	89	4 x M14
80	72.9	90.9	1.65	150	196.3	91.7	52.3	98	4 x M16
100	97.4	118.9	2.1	187.5	241.3	118.3	61.5	130	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 or gearbox with handwheel with standard flange acc. to EN ISO 5211 for the manual operation of butterfly valves.



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