

GEMÜ B52

Motorized ball valve



Features

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

Description

The GEMÜ B52 3-piece 2/2-way metal ball valve is motorized. It has a plastic actuator housing. A manual override and an optical position indicator are integrated as standard. The seat seal is made of PTFE.

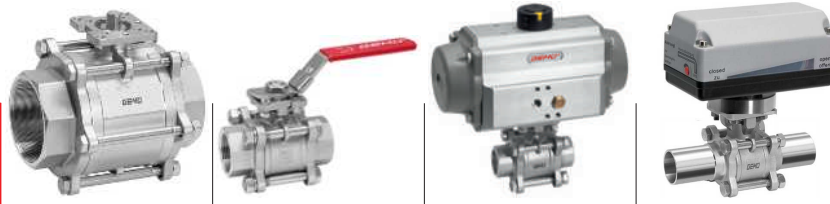
Technical specifications

- **Media temperature:** -4 to 356 °F
- **Ambient temperature:** -4 to 140 °F
- **Operating pressure:** 0 to 914 psi
- **Nominal sizes:** 1/4" (DN 8) to 4" (DN 100)
- **Body configurations:** 2/2-way body
- **Ball configurations:** Control ball
- **Connection standards:** ASME | DIN | EN | ISO | NPT
- **Body materials:** 1.4408, investment casting material
- **Seal materials:** PTFE
- **Supply voltage:** 12 V AC, 50/60 Hz | 12 V DC | 24 - 240 V AC/DC | 24 V AC/DC | 24 V DC
- **Operating time 90°:** 4 to 34 s
- **Protection class:** IP 65. IP 67. IP 68

Technical data depends on the respective configuration



Product line



GEMÜ BB02

GEMÜ B22

GEMÜ B42

GEMÜ B52

Operation

With bare shaft	●	-	-	-
Manual	-	●	-	-
pneumatic	-	-	●	-
Motorized	-	-	-	●
Nominal sizes	1/4" (DN 8) to 4" (DN 100)	1/4" (DN 8) to 4" (DN 100)	1/4" (DN 8) to 4" (DN 100)	1/4" (DN 8) to 4" (DN 100)
Media temperature	-4 to 356 °F	-4 to 356 °F	-4 to 356 °F	-4 to 356 °F
Operating pressure	0 to 914 psi	0 to 914 psi	0 to 914 psi	0 to 914 psi
Connection types				
Flange	●	●	●	●
Spigot	●	●	●	●
Threaded connection	●	●	●	●
Conformities				
ASME GEMÜ B31.3	●	●	●	●
ATEX	●	●	●	●
EAC	●	●	●	●
FDA	●	●	●	●
Reg. (EU) No. 10/2011	●	●	●	●
Regulation (EC) No. 1935/2004	●	●	●	●
Regulation (EC) No. 2023/2006	●	●	●	●
TA Luft (German Clean Air Act)	●	●	●	●

Elektromotorische Antriebe GEMÜ, J+J, Bernard, Auma



	GEMÜ 9428	GEMÜ 9468	GEMÜ J4C
Manufacturer	GEMÜ	GEMÜ	J+J
Manufacturer type	9428	9468	J4C
Torques	6 to 55 Nm	70 to 200 Nm	20 to 300 Nm
Duty cycle	100 %	30 % (ON/OFF actuator) 50 % (control actuator)	75 %
Heating	No	No	Yes
Voltage			
12 V AC, 50/60 Hz	●	-	-
12 V DC	●	-	●
24 - 240 V AC/DC	-	-	●
24 V AC, 50/60 Hz	●	-	-
24 V DC	●	●	-
Protection class	IP 65, IP 67	IP 65	IP 67
Ambient temperature	-10 to 60 °C	-10 to 60 °C	-20 to 70 °C
Housing materials			
ABS	-	●	-
Aluminium	-	●	-
Polyamide (PA6)	-	-	●
PP	●	-	-
Versions			
Limit switches	●	●	●
ON/OFF actuator	●	●	-
Optional battery pack	-	-	●
Optional positioner	-	-	●
Optional positioning actuator	-	●	●
Optional potentiometer	-	●	-
Optionally 3 positions	-	-	●

Elektromotorische Antriebe GEMÜ, J+J, Bernard, Auma



GEMÜ 9428

GEMÜ 9468

GEMÜ J4C

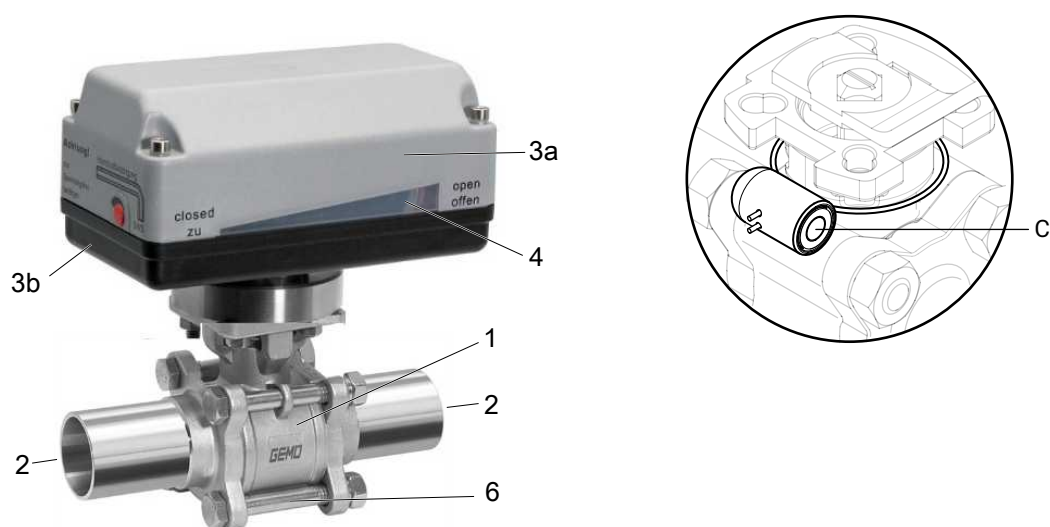
Range of functions

Use in non-aggressive environment (up to C3)	●	●	●
Use in aggressive environment (C5)	●	●	●
Use in protected outdoor areas	●	●	●
Use in unprotected outdoor areas	●	●	●
Applications with many/frequent cycle duties	●	●	●
Fail-safe option	●	●	●
Positioning application	●	●	●

Industrial sectors

Chemical processes	●	●	●
Surface finishing	●	●	●
Water treatment	●	●	●
Mechanical engineering	●	●	●
Power generation and environmental systems	●	●	●
Food processing technology	●	●	●
Semiconductor	●	●	●
Medical systems	●	●	●
Pharmaceutical industry	●	●	●

Product description

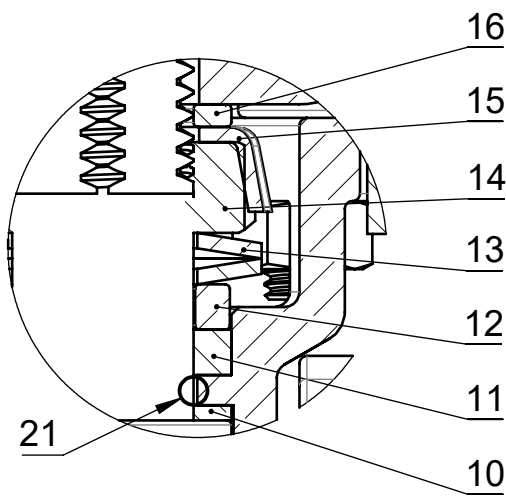


Item	Name	Materials
1	Ball valve body	1.4408 / CF8M
2	Pipe connections	1.4408 / CF8M, 1.4409 / CF3M butt weld connections
3a	Actuator housing cover Actuator version 1006,1015 Actuator version 2070 Actuator version 4100, 4200	PPO (10% glass fibre reinforced) ABS Aluminium
3b	Actuator housing base Actuator version 1006, 1015 Actuator version 2070 Actuator version 4100, 4200	PP (30% glass fibre reinforced) ABS Aluminium
4	Optical position indicator	PP-R natural
6	Bolts	A2 70
	Seal	PTFE
C	CONEXO RFID chip	

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.

Application

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

Availabilities

Connection types ¹⁾	Body materials ²⁾	
	Code 37	Code C7
Spigot (code 17, 19, 59, 60)	-	X
Threaded socket (code 1, 31)	X	-
Flange (code 8, 11)	X	-

1) **Connection type**

Code 1: Threaded socket DIN ISO 228

Code 31: NPT female thread

Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

Code 11: Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

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

Code 19: Spigot DIN EN 12627

Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C

Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

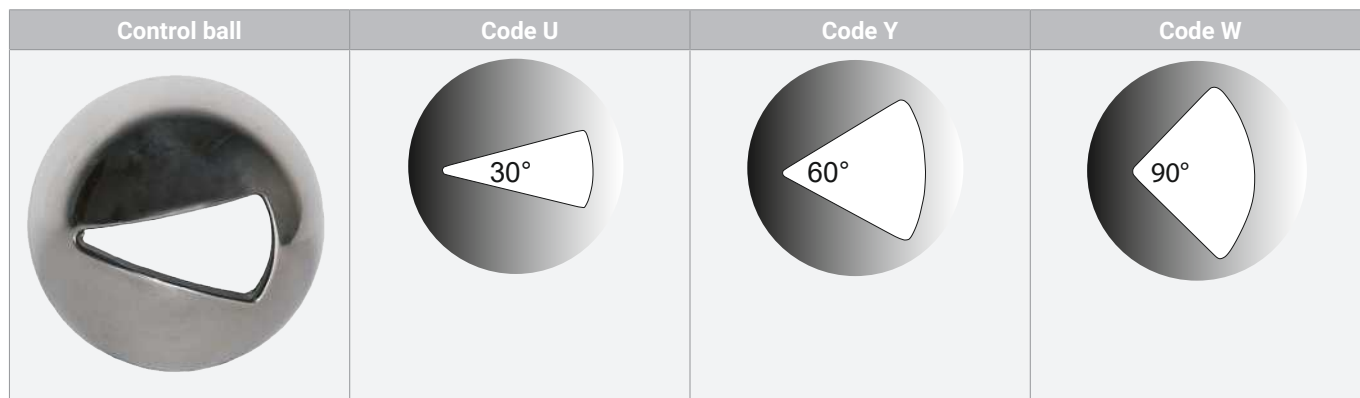
2) **Ball valve material**

Code 37: 1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)

Code C7: 1.4408 / CF8M (body), 1.4409 / CF3M (connection), 1.4401 / SS316 (ball, shaft)

Control ball

DN 15 to DN 100



Note: The control ball cannot be retrofitted to standard 2/2-way bodies at a later date.

Actuator assignment

GEMÜ actuator

Antriebsausführung	Regelmodul	Spannung / Frequenz					
		Code	12 V DC (Code B1)	12 V AC (Code B4)	24 V DC (Code C1)	24 V AC (Code C4)	100-250 V AC (Code O4)
A3	A0, AE		X	X	X	X	-
A4	A0, AE		X	-	X	-	-
A5	A0, AE		-	-	-	-	-
A6	A0, AE		-	X	-	X	-
A7	A0, AE		-	-	X	-	-
A9	00, 0E, 0P		-	-	X	-	-
A10	00, 0E, 0P		-	-	X	-	-
A11	00, 0E, 0P		-	-	X	-	-

DN	NPS	Actuator version (code)				
		1006	1015	2070	4100	4200
8	1/4"	X	X	-	-	-
10	3/8"	X	X	-	-	-
15	1/2"	X	X	-	-	-
20	3/4"	-	X	-	-	-
25	1"	-	X	-	-	-
32	1¼"	-	-	X	-	-
40	1½"	-	-	X	-	-
50	2"	-	-	X	-	-
65	2½"	-	-	-	X	-
80	3"	-	-	-	X	-
100	4"	-	-	-	-	X

See also

 [GEMÜ actuator \[▶ 9\]](#)

J+J actuator

J+J - Voltage/Frequency

Voltage/Fre- quency	Code	Actuator version (code)				
		J4C20	J4C35	J4C55	J4C85	J4C14
12 V DV	B1	X	X	X	X	X
24 – 240 V AC/ DC	U5	X	X	X	X	X

J+J - Control module

Control module	Code ¹⁾	Actuator version (code)				
		J4C20	J4C35	J4C55	J4C14	J4C30
Open/close	A3	X	X	X	X	X
	AE	X	X	X	X	X
	AE1	X	X	X	X	X
	AE2	X	X	X	X	X
	AP	X	X	X	X	X
	AP1	X	X	X	-	-
Positioner	E1	X	X	X	X	X
	E11	X	X	X	-	-
	E2	X	X	X	X	X
	E22	X	X	X	-	-

1) Control module

Code A3: ON/OFF actuator, 3-position actuator, additional potential-free limit switches

Code AE: ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)

Code AE1: ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NC)

Code AE2: ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NO)

Code AP: ON/OFF actuator, potentiometer output, Class A (EN15714-2)

Code AP1: ON/OFF actuator, 2 additional potential-free limit switches, potentiometer output 5 kOhm, Failsafe battery pack (NC), preferred direction adjustable

Code E1: Control actuator, external set value 0-10 VDC

Code E11: Positioner DPS, external set value 0-10V, BSR battery pack (NC)

Code E2: Control actuator, external set value 0/4-20 mA

Code E22: Positioner DPS, external set value 4-20mA, BSR battery pack (NO)

DN	NPS	Actuator version (code)				
		J4C20	J4C35	J4C55	J4C85	J4C14
8	1/4"	X	-	-	-	-
10	3/8"	X	-	-	-	-
15	1/2"	X	-	-	-	-
20	3/4"	X	-	-	-	-
25	1"	X	-	-	-	-
32	1¼"	X	-	-	-	-
40	1½"	-	X	-	-	-
50	2"	-	-	X	-	-
65	2½"	-	-	-	X	-
80	3"	-	-	-	-	X
100	4"	-	-	-	-	X

Order data

Ball valve with GEMÜ 9428, 9468 actuator

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, electrically operated, three-piece body, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit	B52

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
2/2-way body, V-ball 30° (for Kv value see datasheet)	U
2/2-way body, V-ball 90° (for Kv value see datasheet)	W
2/2-way body, V-ball 60° (for Kv value see datasheet)	Y

4 Connection type	Code
Spigot	
Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2	17
Spigot DIN EN 12627	19
Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C	59
Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B	60
Threaded socket	
Threaded socket DIN ISO 228	1
NPT female thread	31
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8
Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	11

5 Ball valve material	Code
1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)	37
1.4408 / CF8M (body), 1.4409 / CF3M (connection), 1.4401 / SS316 (ball, shaft)	C7

6 Seal material	Code
PTFE	5

7 Voltage/Frequency	Code
12 VDC	B1
12 V 50/60 Hz	B4
24 VDC	C1
24 V 50/60 Hz	C4

8 Control module	Code
ON/OFF actuator, relay, not reversible	00
ON/OFF actuator, 2 additional potential-free limit switches, relay, not reversible	0E
ON/OFF actuator, potentiometer output, relay, not reversible	0P
ON/OFF actuator	A0
ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)	AE

9 Actuator version	Code
Actuator, motorized, operating time 4s, torque 6Nm, GEMUE, size 1 supply voltage B1, C1, B4, C4	1006
Actuator, motorized, operating time 11s, torque 15Nm, GEMUE, size 1 supply voltage B1, C1	1015
Actuator, motorized, operating time 15s, torque 70Nm, GEMUE, size 2 supply voltage C1	2070
Actuator, motorized, operating time 20s, torque 100Nm, GEMUE, size 4 supply voltage C1	4100
Actuator, motorized, operating time 16s, torque 200Nm, GEMUE, size 4 supply voltage C1	4200

10 Type of design	Code
Standard	
Media wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	0101

Ball valve with GEMÜ 9428, 9468 actuator

10 Type of design	Code
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

10 Type of design	Code
K-no. SF5, K-no. 5222, SF5 - Ra max. 0.51 µm (20 µin.) electropolished internal/external, 5222 - Thermal separation via mounting kit	7143

11 Special version	Code
Without	
ASME B31.3	P

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

Order example

Order option	Code	Description
1 Type	B52	Ball valve, metal, electrically operated, three-piece body, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit
2 DN	15	DN 15
3 Body/ball configuration	D	2/2-way body
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 Voltage/Frequency	C1	24 VDC
8 Control module	A0	ON/OFF actuator
9 Actuator version	1015	Actuator, motorized, operating time 11s, torque 15Nm, GEMUE, size 1 supply voltage B1, C1
10 Type of design		Standard
11 Special version		Without
12 CONEXO		Without

Ball valve with J+J actuator

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, electrically operated, three-piece body, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit	B52

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
2/2-way body, V-ball 30° (for Kv value see datasheet)	U
2/2-way body, V-ball 90° (for Kv value see datasheet)	W
2/2-way body, V-ball 60° (for Kv value see datasheet)	Y

4 Connection type	Code
Spigot	
Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2	17
Spigot DIN EN 12627	19
Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C	59
Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B	60
Threaded socket	
Threaded socket DIN ISO 228	1
NPT female thread	31
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8
Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	11

5 Ball valve material	Code
1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)	37
1.4408 / CF8M (body), 1.4409 / CF3M (connection), 1.4401 / SS316 (ball, shaft)	C7

6 Seal material	Code
PTFE	5

7 Voltage/Frequency	Code
12 VDC	B1
24 - 240 V AC 24 - 135 V DC for model 20, 35, 55, 85, 140, 300	U5

8 Control module	Code
ON/OFF actuator, 3-position actuator, additional potential-free limit switches	A3
ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)	AE
ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NC)	AE1
ON/OFF actuator, 2 additional potential-free limit switches, BSR battery pack (NO)	AE2
ON/OFF actuator, potentiometer output, Class A (EN15714-2)	AP
ON/OFF actuator, 2 additional potential-free limit switches, potentiometer output 5 kOhm, Failsafe battery pack (NC), preferred direction adjustable	AP1
Control actuator, external set value 0-10 VDC	E1
Control actuator, external set value 0/4-20 mA	E2
Positioner DPS, external set value 0-10V, BSR battery pack (NC)	E11
Positioner DPS, external set value 4-20mA, BSR battery pack (NO)	E22

9 Actuator version	Code
Actuator, motorized, operating time 9s, torque 20Nm, J+J, type J4 heating, IP67	J4C20
Actuator, motorized, operating time 9s, torque 35Nm, J+J, type J4 heating, IP67	J4C35
Actuator, motorized, operating time 13s, torque 55Nm, J+J, type J4 heating, IP67	J4C55

Ball valve with J+J actuator

9 Actuator version	Code
Actuator, motorized, operating time 29s, torque 85Nm, J+J, type J4 heating, IP67	J4C85
Actuator, motorized, operating time 34s, torque 140Nm, J+J, type J4 heating, IP67	J4C14

10 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

10 Type of design	Code
Thermal separation between actuator and valve body via mounting kit, mounting kit and mounting parts made from stainless steel	5227
K-no. SF5, K-no. 5222, SF5 - Ra max. 0.51 µm (20 µin.) electropolished internal/external, 5222 - Thermal separation via mounting kit	7143

11 Special version	Code
Without	
ASME B31.3	P

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

Order example

Order option	Code	Description
1 Type	B52	Ball valve, metal, electrically operated, three-piece body, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit
2 DN	15	DN 15
3 Body/ball configuration	D	2/2-way body
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 Voltage/Frequency	B1	12 VDC
8 Control module	AE	ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)
9 Actuator version	J4C20	Actuator, motorized, operating time 9s, torque 20Nm, J+J, type J4 heating, IP67
10 Type of design		Standard
11 CONEXO		Without
12 Special version		Without

Ball valve 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 19, 59, 60: 14 – 356 °F
 Connection code 1, 31, 8, 11: -4 – 356 °F
 For media temperatures > 212 °F, we recommend using a mounting kit with adapter between the ball valve and the actuator.

Ambient temperature: -4 – 140 °F

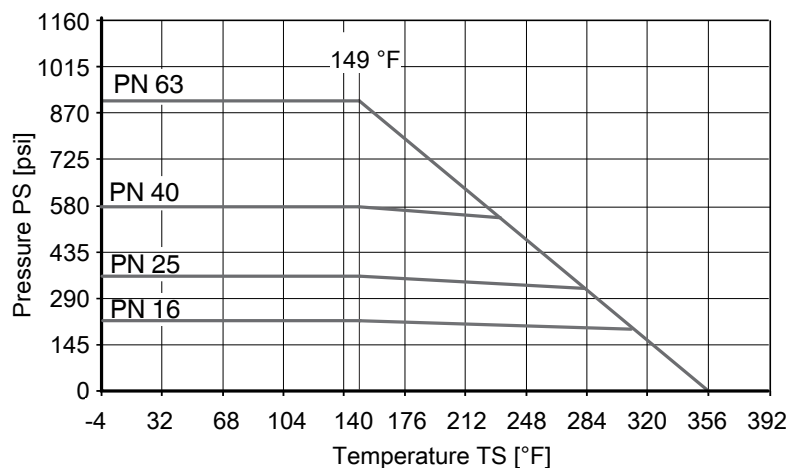
Storage temperature: 41 – 104 °F

Pressure

Operating pressure: 0 – 914 psi

Vacuum: Can be used up to a vacuum of 1.5 inhg (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

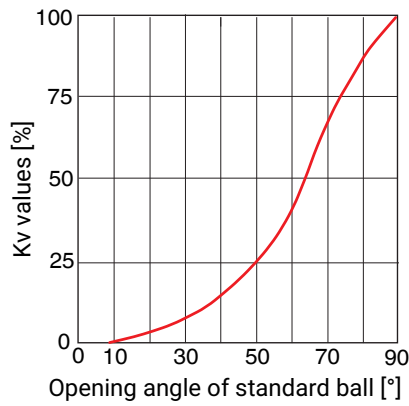
Cv values:

Standard ball (code D)

DN	NPS	Kv values
8	1/4"	9.36
10	3/8"	9.36
15	1/2"	19.89
20	3/4"	39.78
25	1"	70.20
32	1¼"	109.98
40	1½"	249.21
50	2"	428.22
65	2½"	696.15
80	3"	1093.95
100	4"	1989.00

Cv values in gpm

Diagrammatic view



V-ball 30° (code U)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
8	1/4"	0	0.02	0.05	0.10	0.18	0.27	0.38	0.52	0.67	0.85	1.04
10	3/8"	0	0.02	0.06	0.12	0.20	0.31	0.44	0.60	0.77	0.97	1.18
15	1/2"	0	0.10	0.10	0.20	0.30	0.50	0.80	1.09	1.59	2.19	2.59
20	3/4"	0	0.10	0.20	0.50	0.70	1.09	1.79	2.39	3.28	4.48	5.37
25	1"	0	0.10	0.30	0.80	1.29	2.29	3.48	5.07	6.97	9.51	9.94
32	1¼"	0	0.20	0.40	1.09	1.99	3.68	5.47	7.96	9.94	12.93	14.92
40	1½"	0	0.30	0.60	1.59	2.98	4.97	7.46	10.94	13.92	16.91	19.89
50	2"	0	0.40	1.19	3.78	5.97	9.94	14.92	22.87	30.83	42.76	59.67
65	2½"	0	0.40	0.99	3.98	7.96	11.93	17.90	27.85	36.80	61.66	74.59
80	3"	0	0.50	1.19	3.98	7.96	13.92	22.87	32.82	45.75	64.64	81.55
100	4"	0	0.60	1.99	5.97	14.92	28.84	47.74	70.61	99.45	129.28	158.18

Cv values in gpm

Cv values:

V-ball 60° (code Y)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
8	1/4"	0	0.03	0.07	0.16	0.29	0.44	0.63	0.89	1.21	1.61	2.16
10	3/8"	0	0.04	0.08	0.19	0.33	0.50	0.72	1.02	1.38	1.85	2.47
15	1/2"	0	0.10	0.10	0.30	0.50	0.90	1.39	1.99	3.28	4.38	5.97
20	3/4"	0	0.10	0.20	0.70	0.99	1.69	2.78	3.98	6.46	8.95	11.93
25	1"	0	0.20	0.40	1.09	1.79	3.38	5.27	7.86	12.24	15.22	20.88
32	1 1/4"	0	0.20	0.60	1.79	2.98	5.47	9.45	12.73	18.90	25.86	38.79
40	1 1/2"	0	0.40	0.80	2.49	3.98	7.96	12.93	18.90	26.85	39.78	51.71
50	2"	0	0.40	1.49	4.57	8.95	16.42	26.85	38.79	54.70	82.54	109.40
65	2 1/2"	0	0.40	1.49	4.97	9.94	20.88	33.81	52.71	74.59	102.43	149.17
80	3"	0	0.50	2.49	5.97	13.92	24.86	39.78	64.64	90.50	127.30	164.15
100	4"	0	0.70	2.98	10.94	24.86	39.78	58.68	89.50	140.28	210.83	354.04

Cv values in gpm

V-ball 90° (code W)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
8	1/4"	0	0.04	0.10	0.25	0.46	0.77	1.18	1.63	2.15	2.73	3.52
10	3/8"	0	0.05	0.11	0.28	0.52	0.88	1.35	1.86	2.46	3.12	4.03
15	1/2"	0	0.10	0.20	0.40	0.60	0.90	1.49	2.19	3.78	5.37	6.86
20	3/4"	0	0.20	0.40	0.80	1.19	1.99	3.08	4.57	7.96	11.24	13.92
25	1"	0	0.20	0.60	1.79	3.38	5.07	8.06	11.34	15.91	20.88	28.84
32	1 1/4"	0	0.30	0.80	1.99	4.97	7.96	13.92	18.90	27.85	38.79	54.70
40	1 1/2"	0	0.50	0.90	3.48	6.96	12.93	19.89	30.83	41.77	62.65	77.57
50	2"	0	0.70	1.99	5.97	11.93	21.88	34.81	44.75	69.61	104.42	134.32
65	2 1/2"	0	0.50	1.69	6.96	13.92	27.85	47.74	69.61	105.42	159.12	216.80
80	3"	0	0.70	3.48	7.96	17.90	34.81	59.67	89.50	134.32	203.93	308.29
100	4"	0	0.99	3.48	15.91	39.78	74.59	124.37	188.96	293.44	439.57	666.32

Cv values in gpm

Pressure rating:

DN	Spigot				Threaded socket		Flange	
	Connection type code ¹⁾							
	17	19	59	60	1	31	8	11
8	-	PN63	-	PN63	PN63	PN63	-	-
10	PN63	PN63	-	PN63	PN63	PN63	-	-
15	PN63	PN63	PN63	PN63	PN63	PN63	-	PN40
20	PN63	PN63	PN63	PN63	PN63	PN63	-	PN40
25	PN63	PN63	PN63	PN63	PN63	PN63	-	PN40
32	PN63	PN63	-	PN63	PN63	PN63	-	PN40
40	PN63	PN63	PN63	PN63	PN63	PN63	-	PN40
50	PN63	PN63	PN63	PN63	PN63	PN63	-	PN40
65	PN40	PN40	PN40	PN40	PN40	PN40	PN16	PN40*
80	PN40	PN40	PN40	PN40	PN40	PN40	PN16	-
100	PN25	PN25	PN25	PN25	PN25	PN25	PN16	-

* on request

1) **Connection type**

Code 1: Threaded socket DIN ISO 228

Code 31: NPT female thread

Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

Code 11: Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

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

Code 19: Spigot DIN EN 12627

Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C

Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

Product conformity

Pressure equipment standards: ASME GEMÜ B31.3 (DN 15 – 100)
2014/68/EU

Food: FDA
Regulation (EC) No. 10/2011
Regulation (EC) No. 1935/2006

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

ATEX marking: The ATEX marking of the product depends on the respective product configuration with valve body and actuator. It can be found in the product-specific ATEX documentation and the ATEX type plate.

Mechanical data**Torques:**

DN	NPS	Breakaway torque
8	1/4"	6.0
10	3/8"	6.0
15	1/2"	6.0
20	3/4"	10.0
25	1"	11.0
32	1¼"	17.0
40	1½"	28.0
50	2"	53.0
65	2½"	76.0
80	3"	89.0
100	4"	138.0

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:**Ball valve**

DN	NPS	Threaded connection, spigot	Flange
8	1/4"	1.21	2.54
10	3/8"	1.21	2.54
15	1/2"	1.32	2.98
20	3/4"	1.54	3.20
25	1"	1.76	3.97
32	1¼"	2.65	5.29
40	1½"	5.07	7.72
50	2"	7.72	10.80
65	2½"	15.21	20.50
80	3"	25.79	32.41
100	4"	42.55	49.16

Weight in lb

Technische Daten Antrieb

Antriebe GEMÜ 9428, 9468

Mechanische Daten

Weight:

GEMÜ 9428

Supply voltage 12 V / 24 V:	2.20 lbs
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Actuator type 9468

Actuator version 2070:	10.14 lbs
Actuator version 4100, 4200:	25.57 lbs

Product compliance

Machinery Directive: 2006/42/EC

EMC Directive: 2014/30/EU

Low Voltage Directive: 2014/35/EU

Elektrische Daten

Rated voltage: 24 V AC or DC (+10/-15 %)
12 V / 24 V AC or DC ($\pm 10\%$)

Rated frequency: 50/60 Hz (at AC rated voltage)

Electrical protection class: I (DIN EN 61140)

Input signal: 24 V DC, 24 V AC, 120 V AC, 230 V AC
dependent on rated voltage

Duty cycle: Supply voltage 12 V / 24 V: Continuous duty
Supply voltage 100 - 250 V: 40 % duty
Actuator version 2070: Continuous duty

Electrical protection: **GEMÜ 9428**
Motor protective system by customer

GEMÜ 9468

Internal for functional module 0x

Actuator version 2070: MT 6.3 A

Actuator version 4100, 4200: MT 10.0 A

Motor protective system by customer, see "Recommended motor protection"

Antriebe Bernard, AUMA, J+J

Note: For technical data see manufacturer's original datasheets

Dimensions

Actuator dimensions

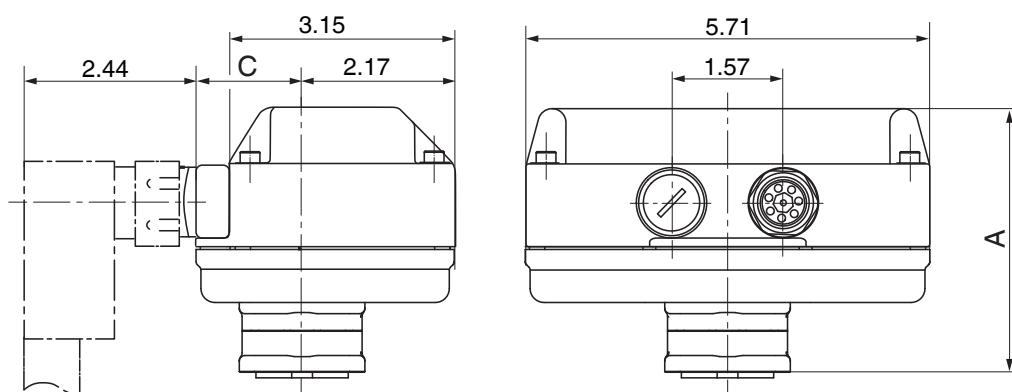
GEMÜ 9428, 9468 actuators

Note on actuator mounting:

Standard mounting orientation – actuator positioned in-line with piping

Only with flanged connections the actuator is mounted across the piping

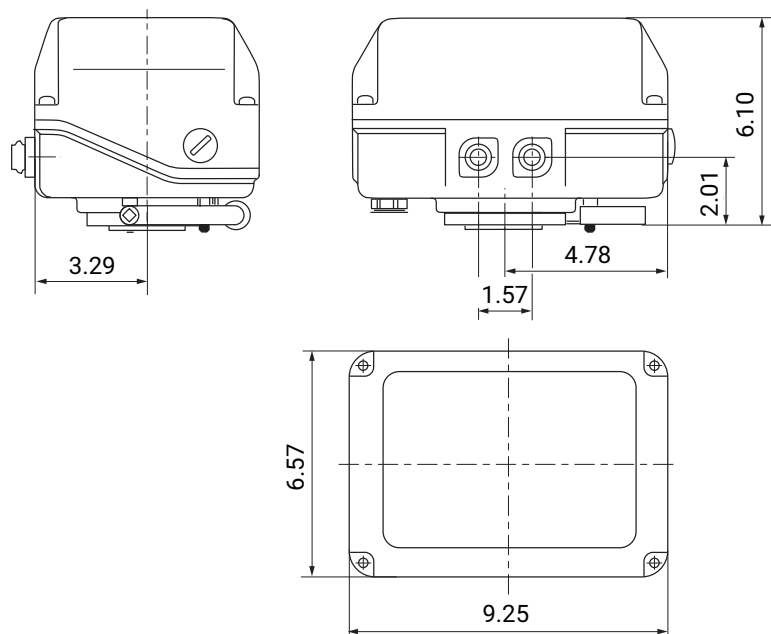
Actuator version 1006, 1015



Actuator version	A	C
1006, 1015	3.70	1.93

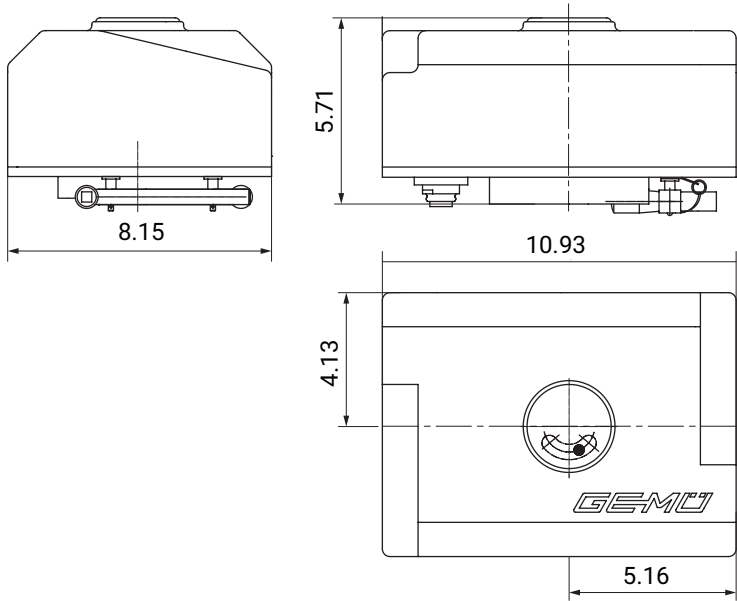
Dimensions in inch

Actuator version 2070



Dimensions

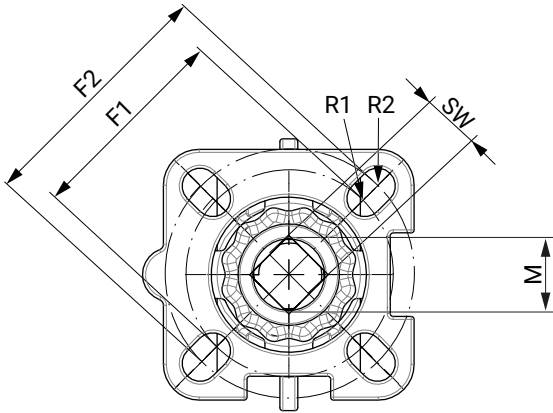
Actuator version 4100, 4200



Dimensions in inch

Bernard, AUMA, J+J actuators

For more detailed information on third-party actuators, refer to the manufacturers' documentation

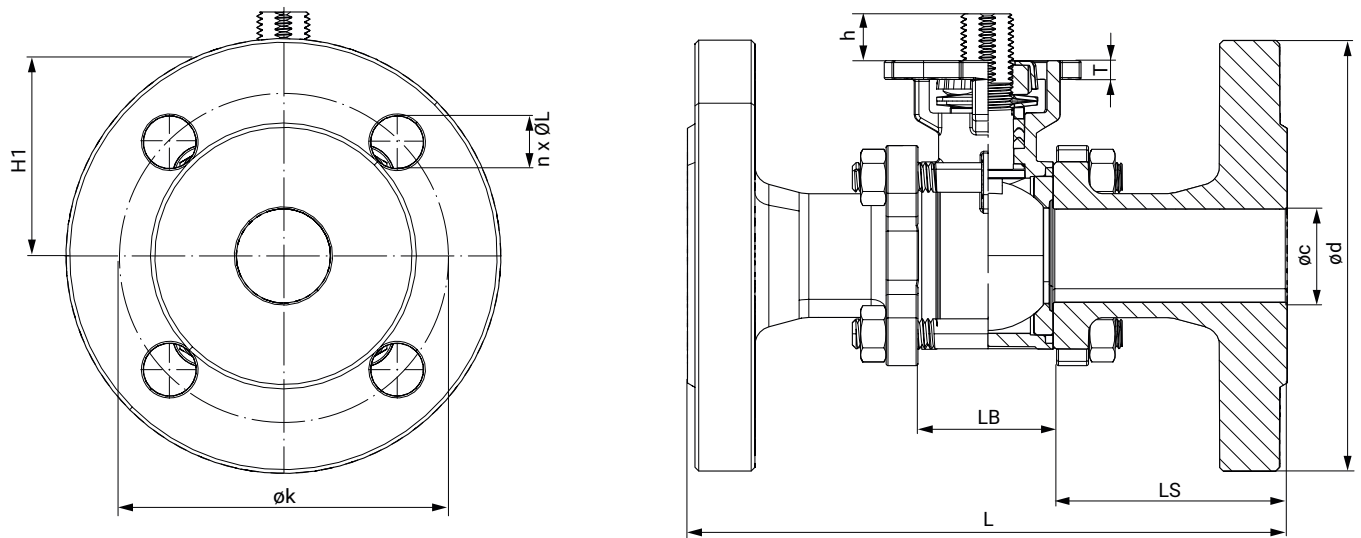
Ball valve**Actuator flange**

DN	G	F1	ISO 5211	R1	F2	ISO 5211	R2	SW [mm]	M
8	1/4"	1.42	F03	0.12	1.65	F04	0.12	9.0	M12
10	3/8"	1.42	F03	0.12	1.65	F04	0.12	9.0	M12
15	1/2"	1.42	F03	0.12	1.65	F04	0.12	9.0	M12
20	3/4"	1.42	F03	0.12	1.65	F04	0.12	9.0	M12
25	1"	1.65	F04	0.12	1.97	F05	0.14	11.0	M14
32	1 1/4"	1.65	F04	0.12	1.97	F05	0.14	11.0	M14
40	1 1/2"	1.97	F05	0.14	2.76	F07	0.18	14.0	M18
50	2"	1.97	F05	0.14	2.76	F07	0.18	14.0	M18
65	2 1/2"	1.97	F05	0.14	2.76	F07	0.18	14.0	M18
80	3"	2.76	F07	0.20	4.02	F10	0.24	17.0	M22
100	4"	2.76	F07	0.20	4.02	F10	0.24	17.0	M22

Dimensions in inch

Body dimensions

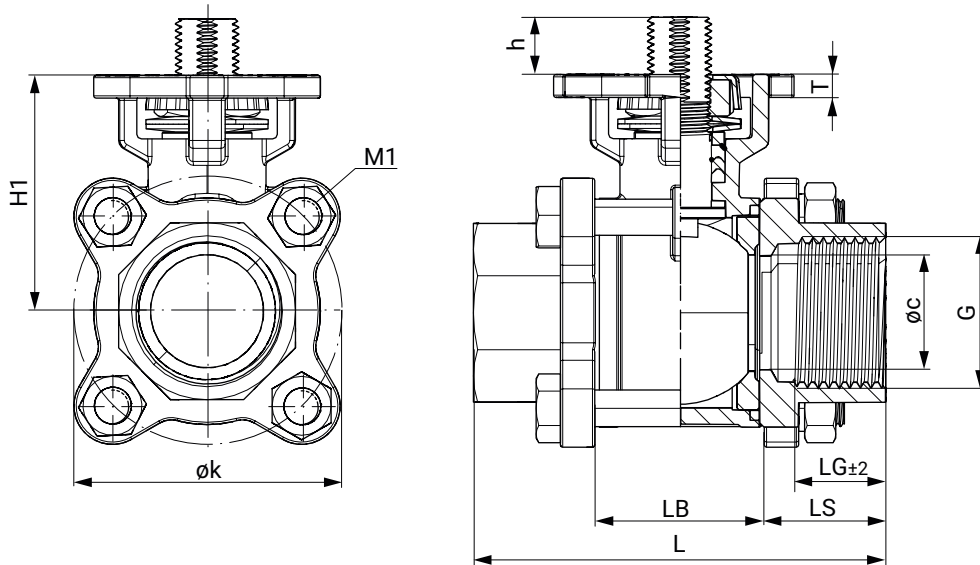
Flange (connection code 8, 11)



DN	Conne- tion code	øc	ød	øk	h	L	LB	LS	H1	T	n x øL
15	11	0.59	3.74	2.56	0.35	5.12	0.94	2.09	1.59	0.22	4 x 5.51
20	11	0.79	4.13	2.95	0.41	5.91	1.14	2.38	1.77	0.22	4 x 5.51
25	11	0.98	4.53	3.35	0.49	6.30	1.38	2.46	2.05	0.20	4 x 5.51
32	11	1.26	5.51	3.94	0.49	7.09	1.73	2.68	2.24	0.26	4 x 7.09
40	11	1.50	5.91	4.33	0.63	7.87	2.09	2.89	2.72	0.30	4 x 7.09
50	11	1.93	6.50	4.92	0.63	9.06	2.56	3.25	3.03	0.33	4 x 7.09
65	8	2.56	7.28	5.71	0.59	11.42	3.19	4.11	3.54	0.33	4 x 7.09
80	8	2.99	7.87	6.30	0.71	12.20	3.78	4.21	4.25	0.39	8 x 7.09
100	8	3.94	8.66	7.09	0.71	13.78	4.88	4.45	4.84	0.39	8 x 7.09

Dimensions in inch

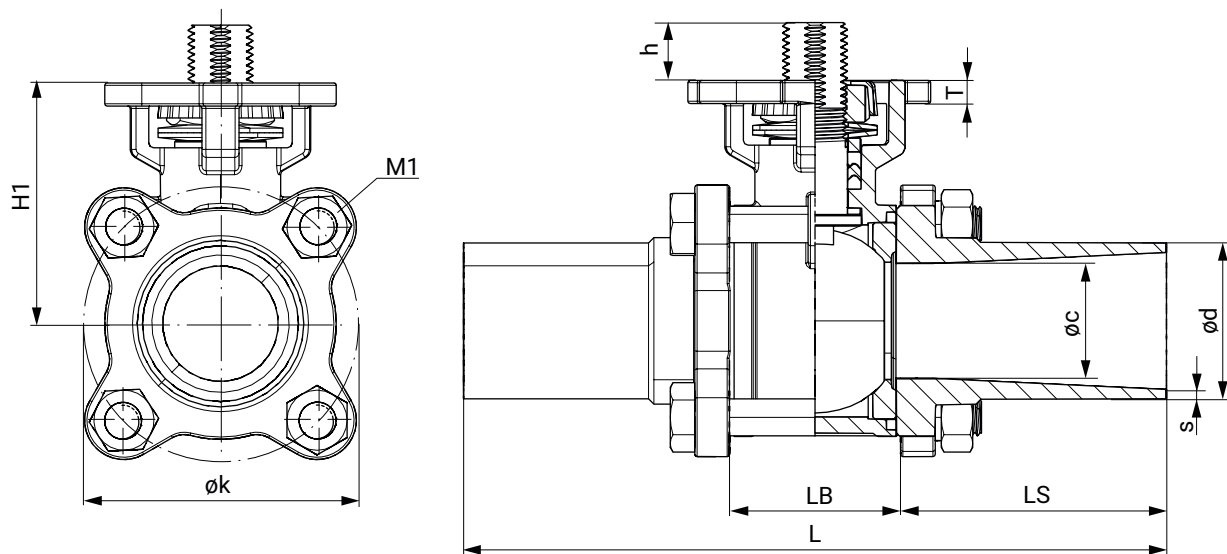
Threaded socket (connection code 1, 31)



DN	G	øc	øk	h	LG	L	LB	LS	H1	M1	T
8	1/4"	0.39	1.81	0.35	0.47	2.17	0.94	0.61	1.59	M8	0.47
10	3/8"	0.47	1.81	0.35	0.47	2.36	0.94	0.71	1.59	M8	0.55
15	1/2"	0.59	1.81	0.35	0.63	2.95	0.94	1.00	1.59	M8	0.63
20	3/4"	0.79	2.01	0.41	0.63	3.15	1.14	1.00	1.77	M8	0.63
25	1"	0.98	2.40	0.49	0.67	3.54	1.38	1.08	2.05	M8	0.67
32	1¼"	1.26	2.87	0.49	0.79	4.33	1.73	1.30	2.24	M10	0.79
40	1½"	1.50	3.27	0.63	0.87	4.72	2.09	1.32	2.72	M10	0.87
50	2"	1.93	3.98	0.63	0.94	5.51	2.56	1.48	3.03	M12	0.94
65	2½"	2.52	5.12	0.59	1.10	7.28	3.19	2.05	3.54	M12	1.10
80	3"	2.99	6.10	0.71	1.26	8.07	3.78	2.15	4.25	M14	1.26
100	4"	3.94	7.36	0.71	1.57	9.45	4.88	2.28	4.84	M14	1.57

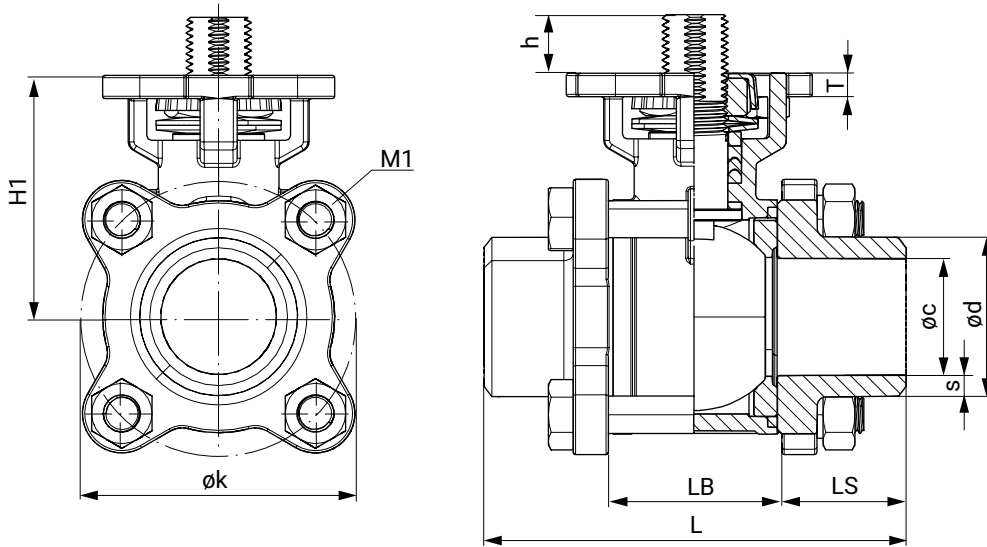
Dimensions in inch

Spigot EN 10357 series A (connection code 17)



DN	øc	ød	h	øk	s	L	LB	LS	H1	M1	SW [mm]	T
10	0.39	0.51	0.35	1.81	0.06	4.72	0.94	1.89	1.59	M8	18.0	0.22
15	0.59	0.75	0.35	1.81	0.06	5.52	0.94	2.28	1.59	M8	18.0	0.22
20	0.79	0.91	0.41	2.01	0.06	5.51	1.14	2.19	1.77	M8	18.0	0.22
25	0.98	1.14	0.49	2.40	0.06	5.99	1.38	2.30	2.05	M8	21.0	0.20
32	1.26	1.38	0.49	2.87	0.06	6.50	1.73	2.38	2.24	M10	21.0	0.26
40	1.50	1.61	0.63	3.27	0.06	7.50	2.09	2.70	2.72	M10	27.0	0.30
50	1.97	2.09	0.63	3.98	0.06	7.99	2.56	2.72	3.03	M12	27.0	0.33
65	2.56	2.76	0.59	5.12	0.08	10.00	3.19	3.41	3.54	M12	27.0	0.33
80	3.15	3.35	0.71	6.10	0.08	11.03	3.78	3.62	4.25	M14	-	0.39
100	3.94	4.09	0.71	7.36	0.08	12.48	4.88	3.80	4.84	M14	-	0.39

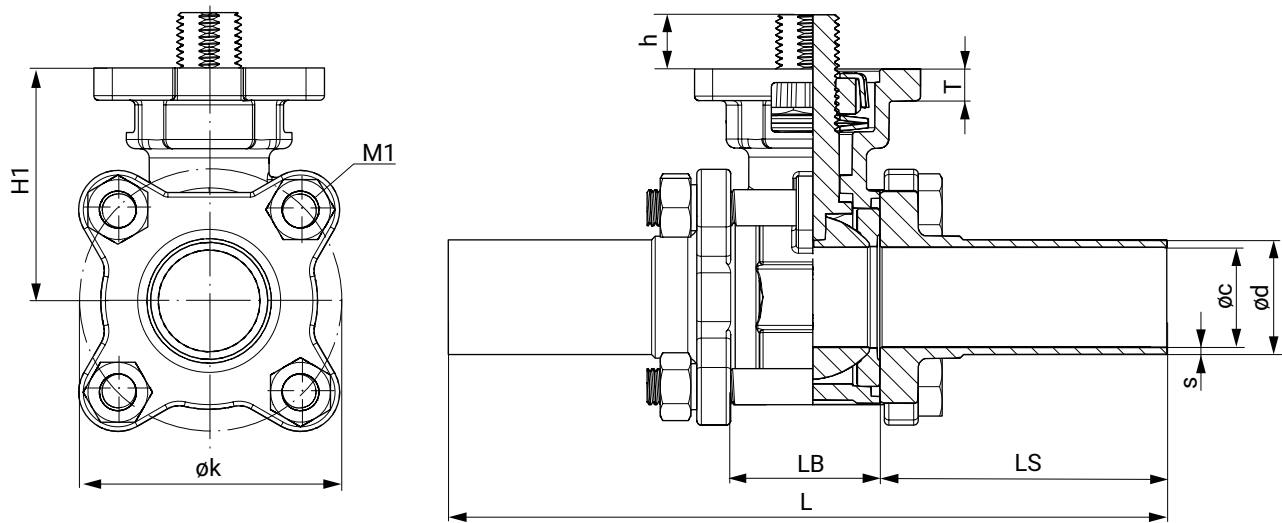
Dimensions in inch

Spigot DIN EN 12627 (connection code 19)

DN	øc	ød	øk	h	s	L	LB	LS	H1	M1	T
8	0.46	0.64	1.81	0.35	0.09	2.36	0.94	0.71	1.59	M8	0.22
10	0.50	0.69	1.81	0.35	0.09	2.36	0.94	0.71	1.59	M8	0.22
15	0.59	0.85	1.81	0.35	0.13	2.95	0.94	1.00	1.59	M8	0.22
20	0.79	1.07	2.01	0.41	0.14	3.15	1.14	1.00	1.77	M8	0.22
25	0.98	1.34	2.40	0.49	0.18	3.54	1.38	1.08	2.05	M8	0.20
32	1.26	1.68	2.87	0.49	0.21	4.33	1.73	1.30	2.24	M10	0.26
40	1.50	1.91	3.27	0.63	0.21	4.72	2.09	1.32	2.72	M10	0.30
50	1.97	2.38	3.98	0.63	0.21	5.51	2.56	1.48	3.03	M12	0.33
65	2.48	3.00	5.12	0.59	0.26	7.30	3.19	2.06	3.54	M12	0.33
80	2.99	3.50	6.10	0.71	0.26	8.07	3.78	2.15	4.25	M14	0.39
100	3.94	4.57	7.36	0.71	0.31	9.45	4.88	2.28	4.84	M14	0.39

Dimensions in inch

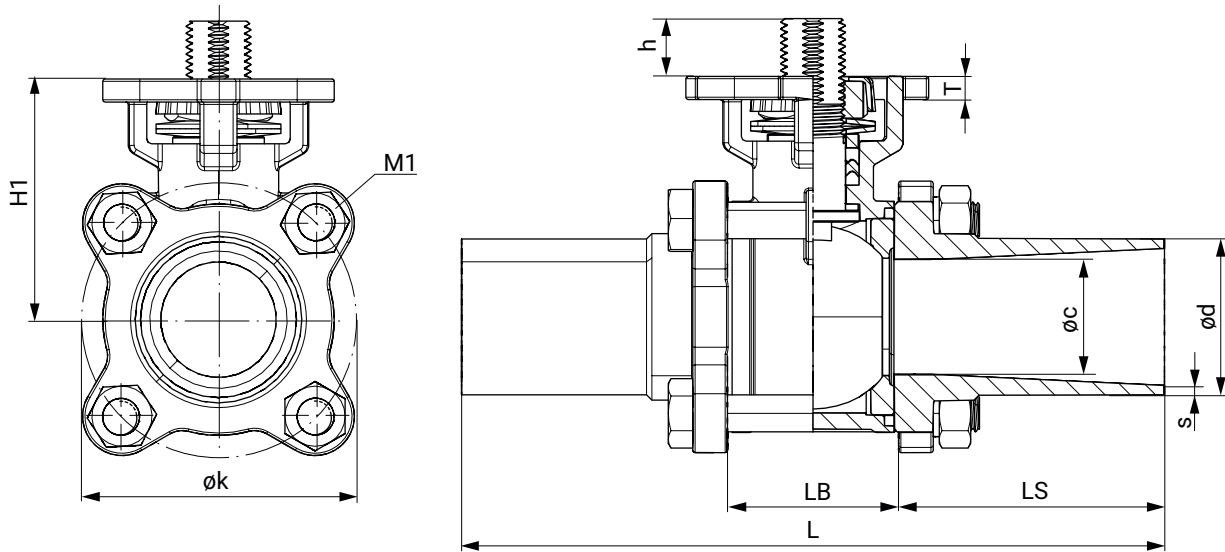
Spigot ASME (connection code 59)



DN	øc	ød	h	øk	s	L	LB	LS	H1	M1	T
15	0.37	0.50	0.33	1.81	0.06	5.51	0.98	2.26	1.59	M8	0.20
20	0.62	0.75	0.41	1.85	0.06	5.75	1.10	2.32	1.71	M8	0.20
25	0.87	1.00	0.47	2.20	0.06	6.26	1.26	2.50	1.99	M8	0.28
40	1.37	1.50	0.57	3.11	0.06	7.52	1.89	2.81	2.66	M10	0.31
50	1.87	2.00	0.57	3.88	0.06	8.50	2.44	3.03	2.97	M12	0.31
65	2.37	2.50	0.57	4.96	0.06	9.76	3.15	3.31	3.46	M12	0.31
80	2.87	3.00	0.69	5.75	0.06	10.51	3.54	3.48	4.13	M14	0.39
100	3.83	4.00	0.69	7.09	0.08	12.52	4.65	3.94	4.72	M14	0.39

Dimensions in inch

Spigot ISO (connection code 60)



DN	øc	ød	h	øk	s	L	LB	LS	H1	M1	T
8	0.41	0.53	0.35	1.81	0.06	4.72	0.94	1.89	1.59	M8	0.22
10	0.47	0.68	0.35	1.81	0.06	4.72	0.94	1.89	1.59	M8	0.22
15	0.59	0.84	0.35	1.81	0.06	5.52	0.94	2.28	1.59	M8	0.22
20	0.79	1.06	0.41	2.01	0.06	5.51	1.14	2.19	1.77	M8	0.22
25	0.98	1.33	0.49	2.32	0.08	5.99	1.38	2.30	2.05	M8	0.20
32	1.26	1.67	0.49	2.87	0.08	6.50	1.73	2.38	2.24	M10	0.26
40	1.50	1.90	0.63	3.27	0.08	7.50	2.09	2.70	2.72	M10	0.30
50	1.93	2.37	0.63	4.06	0.08	7.99	2.56	2.72	3.03	M12	0.33
65	2.52	3.00	0.59	5.12	0.08	10.00	3.19	3.41	3.54	M12	0.33
80	2.99	3.50	0.71	6.10	0.09	11.03	3.78	3.62	4.25	M14	0.39
100	3.94	4.50	0.71	7.36	0.09	12.48	4.88	3.80	4.84	M14	0.39

Dimensions in inch

Electrical connection

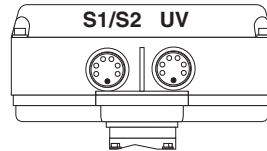
Connection and wiring diagram – actuator version 1006, 1015

ON/OFF actuator (code A0)

12 V DC (code B1) / 24 V DC (code C1)

Position of the connectors

Actuator version 1006, 1015

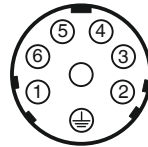


Electrical connection



Plug assignment X1, UV

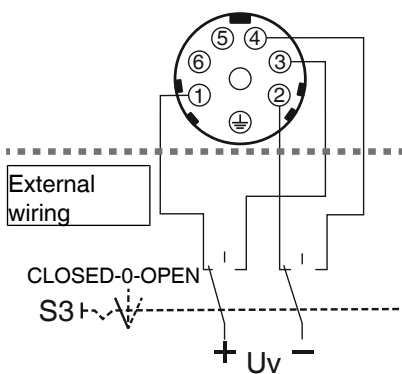
Pin	Description
1	Uv+, direction of travel CLOSED
2	Uv-, direction of travel CLOSED
3	Uv+, direction of travel OPEN
4	Uv-, direction of travel OPEN
5	n.c.
6	n.c.
⊕	PE, protective earth conductor



Plug assignment X2, S1/S2

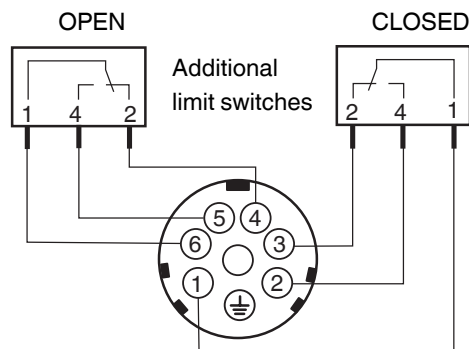
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⊕	PE, protective earth conductor

Connection diagram



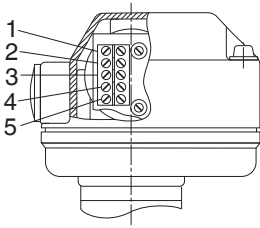
Connection assignment X1, UV

S3	Actuator
CLOS	Direction of travel CLOSED
ED	
0	OFF
OPEN	Direction of travel OPEN



12 V AC (code B4) / 24 V AC (code C4)

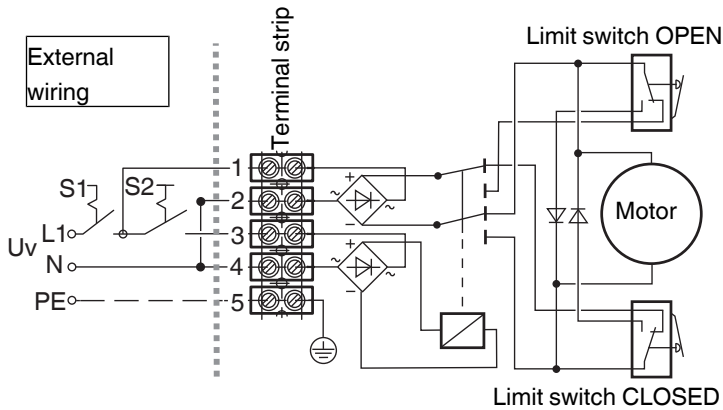
Assignment of the terminal strips



Item	Description
1	L1, supply voltage
2	N, supply voltage
3	L1, change-over (OPEN/CLOSED)
4	N, change-over (OPEN/CLOSED)
5	PE, protective earth conductor

Preferred direction -OPEN- when all signals are present

Connection diagram



S1	Actuator
0	OFF
1	ON

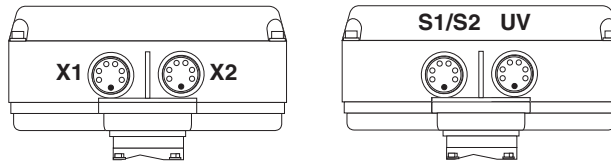
S2	Direction of travel
0	CLOSED
1	OPEN

ON/OFF actuator with 2 potential-free limit switches (code AE)

12 V DC (code B1) / 24 V DC (code C1)

Position of the connectors

Actuator version 3035, 3055 Actuator version 1006, 101

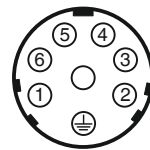


Electrical connection



Plug assignment X1, UV

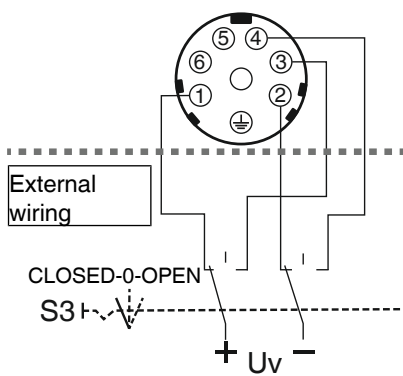
Pin	Description
1	Uv+, direction of travel CLOSED
2	Uv-, direction of travel CLOSED
3	Uv+, direction of travel OPEN
4	Uv-, direction of travel OPEN
5	n.c.
6	n.c.
⊕	PE, protective earth conductor



Plug assignment X2, S1/S2

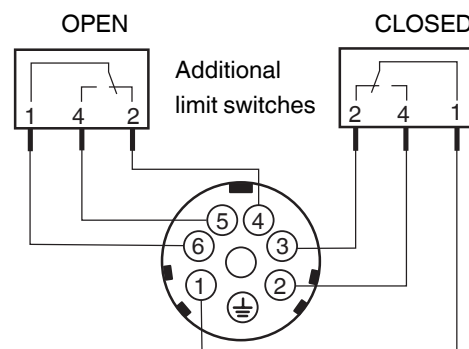
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⊕	PE, protective earth conductor

Connection diagram



Connection assignment X1, UV

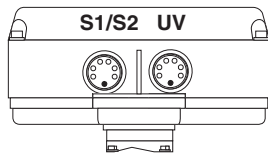
S3	Actuator
CLOS ED	Direction of travel CLOSED
0	OFF
OPEN	Direction of travel OPEN



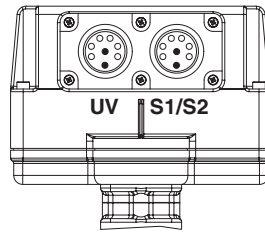
12 V AC (code B4) / 24 V AC (code C4)

Position of the connectors

Actuator version 1006



Actuator version 2015

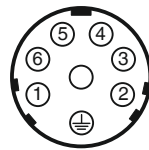


Electrical connection



Plug assignment UV

Pin	Description
1	L1, supply voltage
2	N, supply voltage
3	L1, change-over (OPEN/CLOSED)
4	N, change-over (OPEN/CLOSED)
5	n.c.
6	n.c.
⊕	PE, protective earth conductor

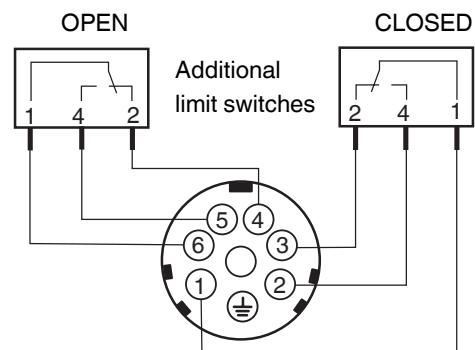
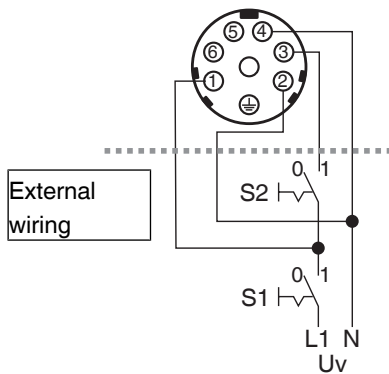


Plug assignment S1/S2

Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⊕	PE, protective earth conductor

Preferred direction -OPEN- when all signals are present

Connection diagram



Connection diagram X1, UV

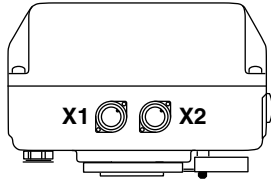
S1	Actuator
0	OFF
1	ON
S2	Direction of travel
0	CLOSED
1	OPEN

Connection and wiring diagram – actuator version 2070, 4100, 4200

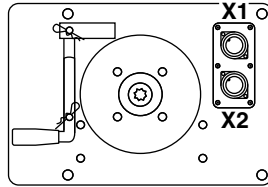
Connection/wiring diagram

On/Off actuator with relay (code 00), 24 V DC (code C1)

Position of the connectors

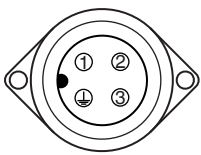


Actuator version 2070



Actuator version 4100, 4200

Electrical connection



Plug assignment X1

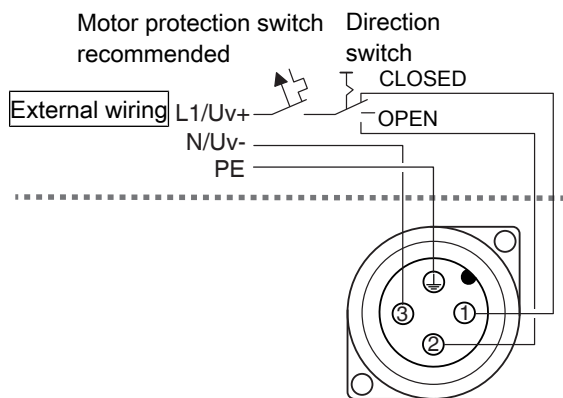
Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
⊕	PE, protective earth conductor

N / L- signals in the unit are separated.

The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

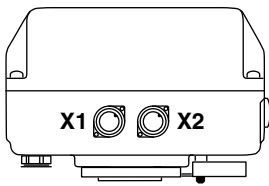
Connection diagram



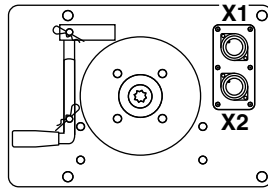
Connection assignment X1

On/Off actuator with 2 additional potential-free limit switches, with relay (code 0E), 24 V DC (code C1)

Position of the connectors

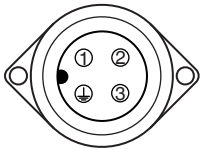


Actuator version 2070



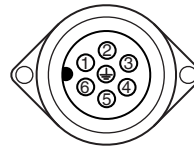
Actuator version 4100, 4200

Electrical connection



Plug assignment X1

Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
⊕	PE, protective earth conductor



Plug assignment X2

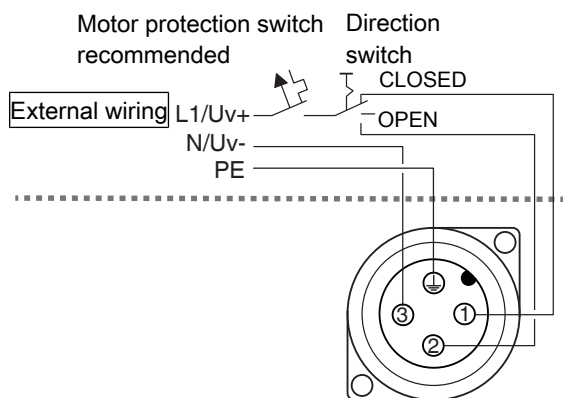
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⊕	PE, protective earth conductor

N / L- signals in the unit are separated.

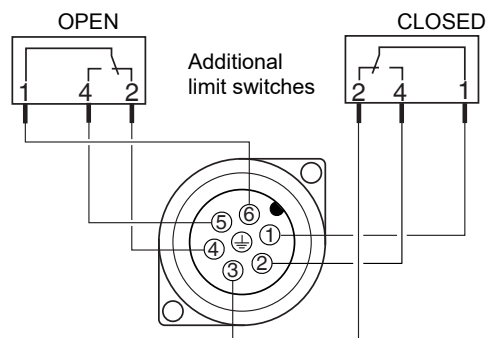
The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

Connection diagram



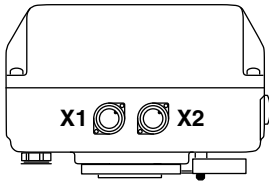
Connection assignment X1



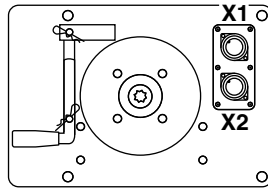
Connection assignment X2

On/Off actuator with potentiometer output, with relay (code 0P), 24 V DC (code C1)

Position of the connectors

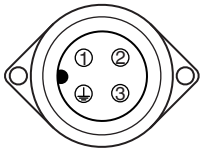


Actuator version 2070



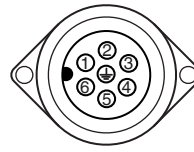
Actuator version 4100, 4200

Electrical connection



Plug assignment X1

Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
⊕	PE, protective earth conductor



Plug assignment X2

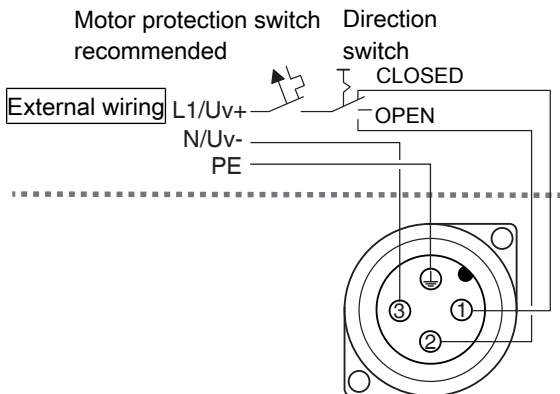
Pin	Description
1	n. c.
2	n. c.
3	n. c.
4	Us-, actual value potentiometer signal voltage minus
5	Us ⊥, actual value potentiometer signal output
6	Us+, actual value potentiometer signal voltage plus
⊕	PE, protective earth conductor

N / L- signals in the unit are separated.

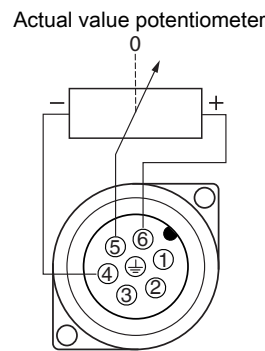
The potential must be assigned by the user.

When the OPEN and CLOSED switches are operated simultaneously the actuator "CLOSES".

Connection diagram



Connection assignment X1



Connection assignment X2

Certificates

Certificate	Standard	Item number
3.1 Material	EN 10204	88333336

GEMÜ CONEXO

The interaction between valve components equipped with RFID chips and the corresponding IT infrastructure actively increases process reliability.



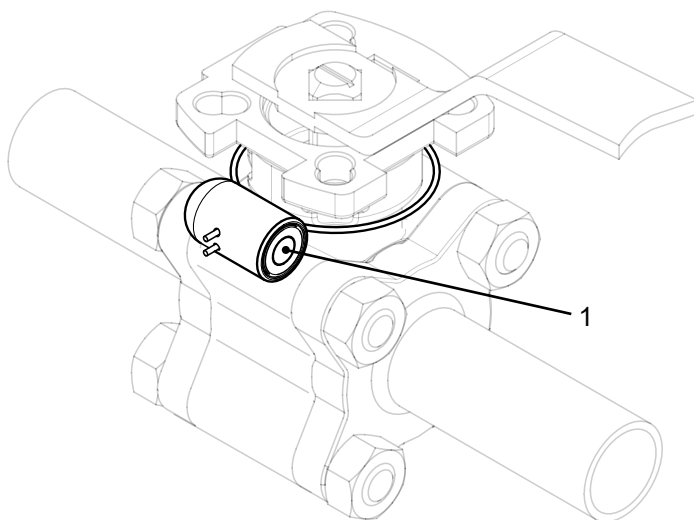
Thanks to serialization, every valve and every relevant valve component, such as the body, actuator, diaphragm or even automation components, can be clearly traced and read at any time using the RFID reader – the CONEXO pen. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the servicing 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

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.





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