

GEMÜ B56

Motorized compact flanged ball valve



Features

- High flow rate
- Full-flow bore
- Compact design
- ATEX version available as an option

Description

The GEMÜ B56 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 580 psi
- **Nominal sizes:** 1/2" (DN 15) to 4" (DN 100)
- **Body configurations:** 2/2-way body
- **Connection standards:** ANSI | EN
- **Body materials:** 1.4408, investment casting material
- **Seal materials:** PTFE
- **Supply voltage:** 12 V DC | 230 V AC, 50 Hz | 24 - 240 V AC/DC | 24 V DC
- **Operating time 90°:** 10 to 58 s
- **Protection class:** IP 65. IP 67. IP 68
- **Conformities:** ATEX | EAC | FDA | Reg. (EU) No. 10/2011 | Regulation (EC) No. 1935/2004 | Regulation (EC) No. 2023/2006 | TA Luft (German Clean Air Act)

Technical data depends on the respective configuration



further information
webcode: GW-B56



Product line



GEMÜ BB06

GEMÜ B26

GEMÜ B46

GEMÜ B56

Operation

With bare shaft	●	-	-	-
Manual	-	●	-	-
pneumatic	-	-	●	-
Motorized	-	-	-	●
Nominal sizes	1/2" (DN 15) to 4" (DN 100)	1/2" (DN 15) to 4" (DN 100)	1/2" (DN 15) to 4" (DN 100)	1/2" (DN 15) 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 580 psi	0 to 104 psi	0 to 580 psi	0 to 580 psi
Connection types				
Flange	●	●	●	●

GEMÜ, J+J motorized actuators

	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	-	-	●

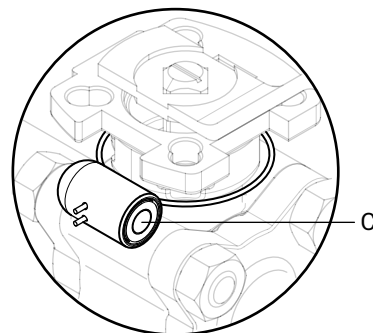
Elektromotorische Antriebe GEMÜ, J+J, Bernard, Auma



	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

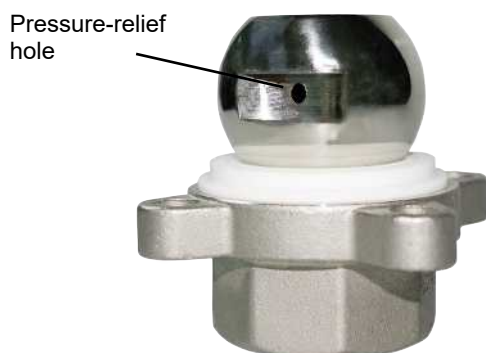
Construction



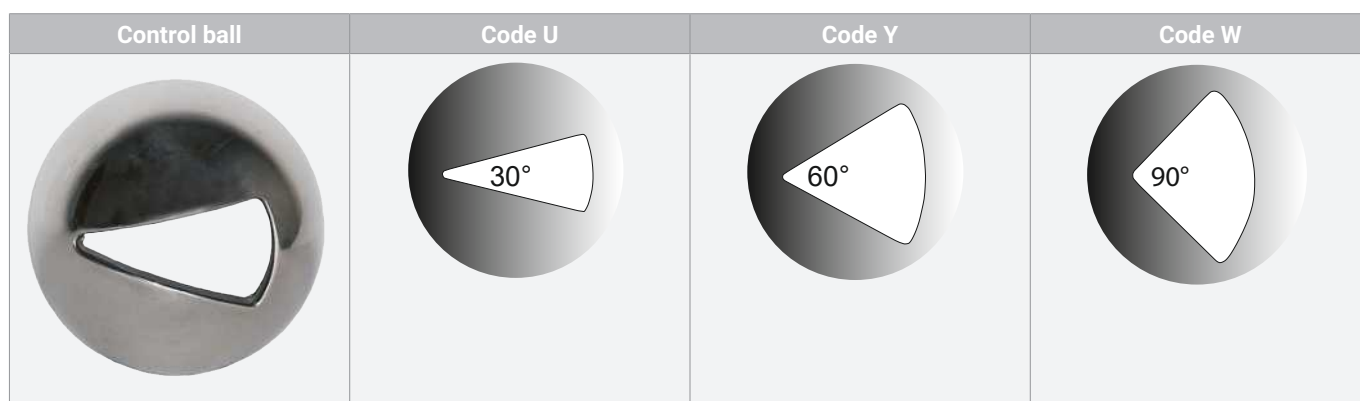
Item	Name	Materials
1	Ball valve body	1.4408 / CF8M

Item	Name	Materials
2	Pipe connections	1.4408 / CF8M
3	Mounting flange ISO 5211	1.4408 / CF8M
3a	Actuator housing cover Actuator version 1015 Actuator version 2070 Actuator version 4100, 4200	PPO (10% glass fibre reinforced) ABS Aluminium
3b	Actuator housing base Actuator version 1015 Actuator version 2070 Actuator version 4100, 4200	PP (30% glass fibre reinforced) ABS Aluminium
4	Optical position indicator	PP-R natural
	Seal	PTFE
5	Anti-static unit	1.4408
C	CONEXO RFID chip (see "GEMÜ CONEXO", page 32)	

Pressure-relief hole

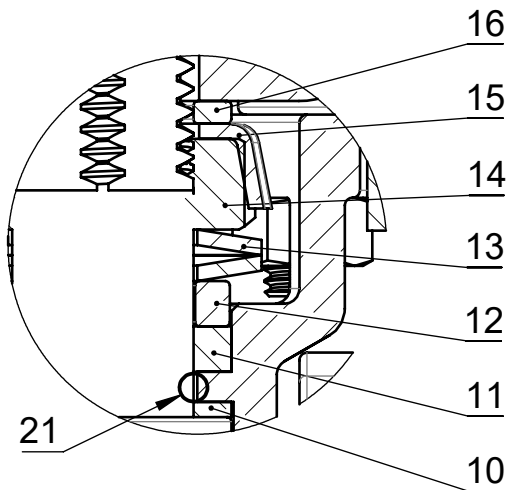


Control ball



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

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

Actuator assignment

GEMÜ actuator

Antriebsausführung	Regelmodul	Spannung / Frequenz						
		Code	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)			
		1015	2070	4100	4200
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

See also

 GEMÜ actuator [▶ 8]

J+J actuator**J+J - Voltage/Frequency**

Voltage/Fre- quency	Code	Actuator version (code)				
		J4C20	J4C35	J4C85	J4C14	J4C30
24 – 240 V AC/ DC	U5	X	X	X	X	X

J+J - Control module

Control module	Code ¹⁾	Actuator version (code)				
		J4C20	J4C35	J4C85	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 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	J4C85	J4C14	J4C30
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

Bernard BC actuator**Bernard Controls BC - Spannung / Frequenz**

Spannung / Frequenz	Code	Antriebsausführung Code								
		BC05	BC10	BC15	BC25	BC30	BC50	BC1L	BC3L	BC7L
24 V DC	C1	X	X	X	X	-	-	-	-	-
230 V / 50 Hz	L2	X	X	X	X	X	X	-	-	-
230 V / 60 Hz	L3	X	X	X	X	X	X	-	-	-
400 V / 50 Hz	N2	X	X	X	X	X	X	-	-	-
24 V DC oder 230 V 50/60 Hz	Y5	-	-	-	-	-	-	X	X	X

Bernard Controls BC - Regelmodule

Regelmodul Code	Antriebsausführung Code								
	BC05	BC10	BC15	BC25	BC30	BC50	BC1L	BC3L	BC7L
AB	-	-	-	X	X	X	-	-	-
AE	X	X	X	-	-	-	X	X	X
AP	X	X	X	X	X	X	X	X	X
AT	X	X	X	X	X	X	X	X	X
E2	X	X	X	X	X	X	X	X	X
ALS	X	X	X	X	X	X	-	-	-
ELS	X	X	X	X	X	X	-	-	-

DN	NPS	Actuator version (code)				
		BC1L	BC3L	BC7L	BC15	BC25
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

See also

 Bernard BC actuator [▶ 10]

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, one-piece body, compact flange, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit	B56

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

4 Connection type	Code
Flange ANSI Class 125/150 RF	39
Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only	68

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

6 Seal material	Code
PTFE	5

7 Voltage/Frequency	Code
12 VDC	B1
24 VDC	C1

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

8 Control module	Code
ON/OFF actuator, 2 additional potential-free limit switches, relay, not reversible	0E
ON/OFF actuator, potentiometer output, relay, not reversible	0P

9 Actuator version	Code
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	
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

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

Order example

Order option	Code	Description
1 Type	B56	Ball valve, metal, electrically operated, one-piece body, compact flange, 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	39	Flange ANSI Class 125/150 RF
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 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	8 Control module	Code
Ball valve, metal, electrically operated, one-piece body, compact flange, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit	B56	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
		Positioner DPS, external set value 0-10V, BSR battery pack (NC)	E11
		Control actuator, external set value 0/4-20 mA	E2
		Positioner DPS, external set value 4-20mA, BSR battery pack (NO)	E22
2 DN	Code	9 Actuator version	Code
DN 15	15	Actuator, motorized, operating time 10s, torque 20Nm, J+J, type J4 heating, IP67	J4C20
DN 20	20	Actuator, motorized, operating time 10s, torque 35Nm, J+J, type J4 heating, IP67	J4C35
DN 25	25	Actuator, motorized, operating time 29s, torque 85Nm, J+J, type J4 heating, IP67	J4C85
DN 32	32	Actuator, motorized, operating time 34s, torque 140Nm, J+J, type J4 heating, IP67	J4C14
DN 40	40	Actuator, motorized, operating time 58s, torque 300Nm, J+J, type J4 heating, IP67	J4C30
DN 50	50		
DN 65	65		
DN 80	80		
DN 100	100		
3 Body/ball configuration	Code	10 Type of design	Code
2/2-way body	D	Standard	
2/2-way body, V-ball 30° (for Kv value see datasheet)	U	Thermal separation between actuator and valve body via mounting kit	5222
2/2-way body, V-ball 60° (for Kv value see datasheet)	Y	Thermal separation between actuator and valve body via mounting kit, mounting kit and mounting parts made from stainless steel	5227
2/2-way body, V-ball 90° (for Kv value see datasheet)	W		
4 Connection type	Code	11 CONEXO	Code
Flange ANSI Class 125/150 RF	39	Without	
Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only	68	Integrated RFID chip for electronic identification and traceability	C
5 Ball valve material	Code		
1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)	37		
6 Seal material	Code		
PTFE	5		
7 Voltage/Frequency	Code		
24 - 240 V AC 24 - 135 V DC for model 20, 35, 55, 85, 140, 300	U5		
8 Control module	Code		
ON/OFF 3-position actuator, additional potential-free limit switches	A3		
ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)	AE		

Order example

Order option	Code	Description
1 Type	B56	Ball valve, metal, electrically operated, one-piece body, compact flange, 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	39	Flange ANSI Class 125/150 RF
5 Ball valve material	37	1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)
6 Seal material	5	PTFE
7 Voltage/Frequency	U5	24 - 240 V AC 24 - 135 V DC for model 20, 35, 55, 85, 140, 300
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 10s, torque 20Nm, J+J, type J4 heating, IP67
10 Type of design		Standard
11 CONEXO		Without

Ball valve with Bernard 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, one-piece body, compact flange, low-maintenance spindle seal and blow-out proof shaft, with anti-static unit	B56

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

4 Connection type	Code
Flange ANSI Class 125/150 RF	39
Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only	68

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

6 Seal material	Code
PTFE	5

7 Voltage/Frequency	Code
230V 50Hz	L2
24VDC 85-260VAC	Y5

8 Control module	Code
ON/OFF actuator, 2 additional potential-free limit switches, additional potential-free torque switches, Class A (EN15714-2)	AB
ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)	AE

8 Control module	Code
ON/OFF actuator, potentiometer output, Class A (EN15714-2)	AP
ON/OFF actuator, analogue position feedback, external set value 0/4-20mA, 2 additional potential-free limit switches	AT
Control actuator, external set value 0/4-20 mA	E2
ON/OFF actuator, on-site control, 2 additional potential-free limit switches, Basic (Logic ON/OFF), (S4 30% duty, 120 starts/hour, actuator class A/B)	ALS
Position control, external set value 4-20mA, input and output, on-site control, 2 additional potential-free limit switches, Basic (Logic Positioner), (S4 50% duty, 360 starts/hour, actuator class C)	ELS

9 Actuator version	Code
Actuator, motorized, operating time 13s, torque 15Nm, BERNARD, type AQ 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP67	BC1L
Actuator, motorized, operating time 15s, torque 30Nm, BERNARD, type AQ 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP67	BC3L
Actuator, motorized, operating time 15s, torque 70Nm, BERNARD, type AQ 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP67	BC7L
Actuator, motorized, operating time 30s, torque 150Nm, BERNARD, type AQ 2 additional limit switches, heating, manual override, aluminium housing, RAL1014, IP68	BC15
Actuator, motorized, operating time 30s, torque 250Nm, BERNARD, type AQ 2 additional limit switches, heating, manual override, aluminium housing, RAL1014, IP68	BC25

10 Type of design	Code
Standard	
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

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

Order example

Order option	Code	Description
1 Type	B56	Ball valve, metal, electrically operated, one-piece body, compact flange, 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	39	Flange ANSI Class 125/150 RF
5 Ball valve material	37	1.4408 / CF8M (body, connection), 1.4401 / SS316 (ball, shaft)
6 Seal material	5	PTFE
7 Voltage/Frequency	Y5	24VDC 85-260VAC
8 Control module	AE	ON/OFF actuator, 2 additional potential-free limit switches, Class A (EN15714-2)
9 Actuator version	BC1L	Actuator, motorized, operating time 13s, torque 15Nm, BERNARD, type AQ 2 additional limit switches, heating, manual override, aluminium housing, RAL5002, IP67
10 Type of design		Standard
11 CONEXO		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: -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
Higher temperatures on request

Storage temperature: 41 – 104 °F

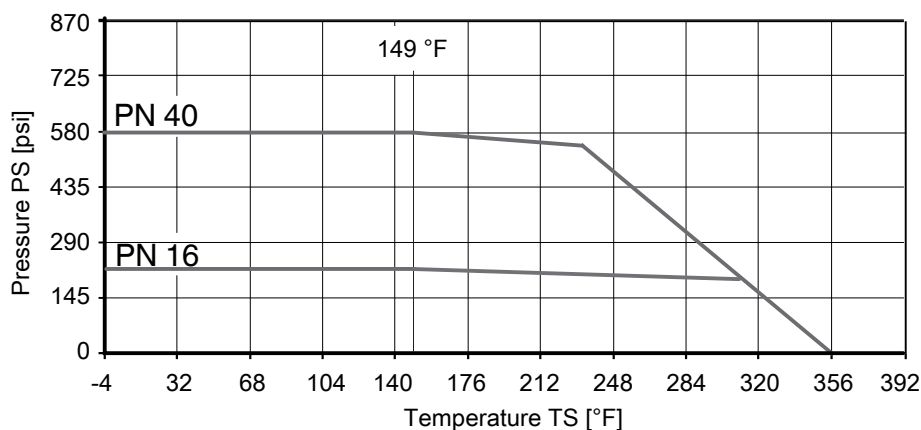
Pressure

Operating pressure: 0 – 580 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.

Leakage rate: Leakage rate according to ANSI FCI70 – B16.104
Leakage rate according to EN12266, 6 bar air, leakage rate A

Pressure/temperature diagram:



Pressure rating: DN 15 – 50: PN40
DN 65 – 100: PN16

Cv values:

DN	NPS	Kv values
15	1/2"	15.21
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

V-ball 30° (code U)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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

V-ball 60° (code Y)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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	1¼"	0	0.20	0.60	1.79	2.98	5.47	9.45	12.73	18.90	25.86	38.79
40	1½"	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	2½"	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

Cv values:

V-ball 90° (code W)

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
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	1¼"	0	0.30	0.80	1.99	4.97	7.96	13.92	18.90	27.85	38.79	54.70
40	1½"	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	2½"	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

Product conformities

Pressure Equipment Directive: 2014/68/EU

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

Explosion protection: ATEX (2014/34/EU) and IECEx, 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
15	1/2"	7
20	3/4"	8
25	1"	10
32	1¼"	14
40	1½"	29
50	2"	58
65	2½"	62
80	3"	120
100	4"	174

Torques in Nm

Weight:

Ball valve

DN	NPS	Weight
15	1/2"	1.3
20	3/4"	2.0
25	1"	2.8
32	1¼"	4.2
40	1½"	5.3
50	2"	6.7
65	2½"	11.9
80	3"	14.9
100	4"	20.4

Weight in lb

Technical data of actuator

GEMÜ 9428, 9468 actuators

Mechanical data

Weight:

Actuator type 9468

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

GEMÜ 9428

Supply voltage 12 V / 24 V:	2.20 lbs
-----------------------------	----------

Product compliance

Machinery Directive: 2006/42/EC

EMC Directive: 2014/30/EU

Low Voltage Directive: 2014/35/EU

Electrical data

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

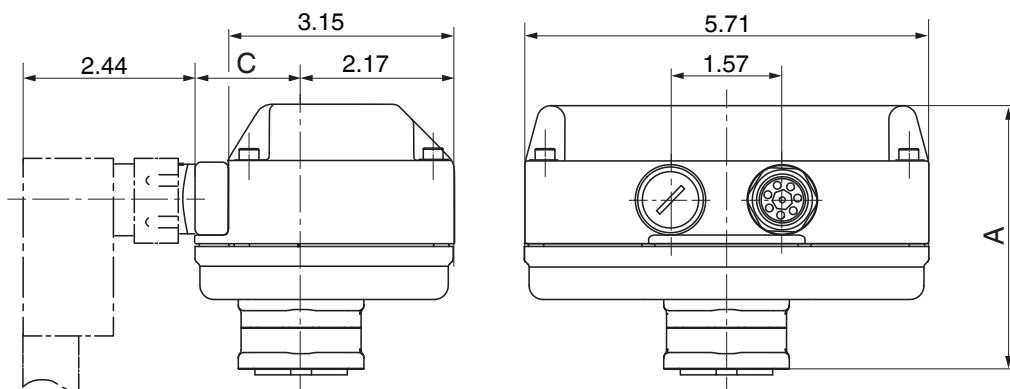
GEMÜ 9428, 9468 actuators

Note on actuator mounting:

Standard mounting orientation – actuator positioned in-line with piping

Only with flanged connections the actuator is mounted across the piping

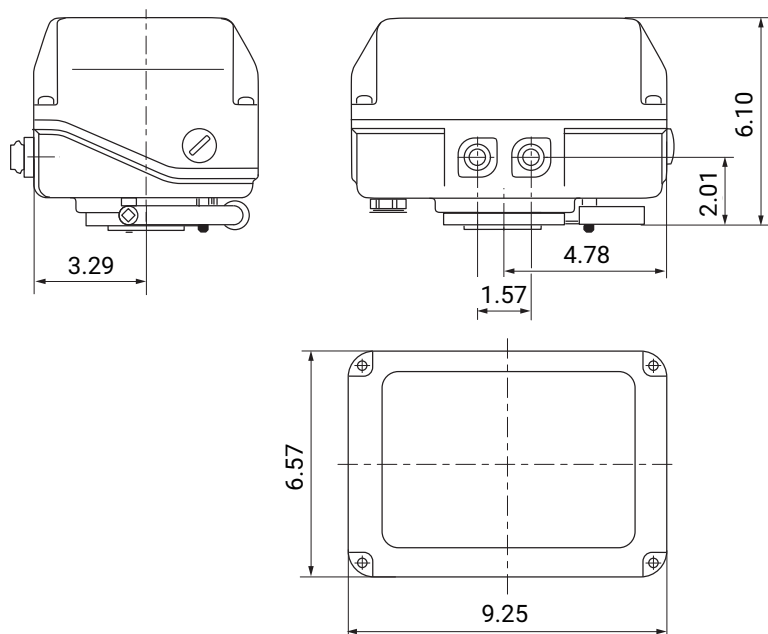
Actuator version 1015



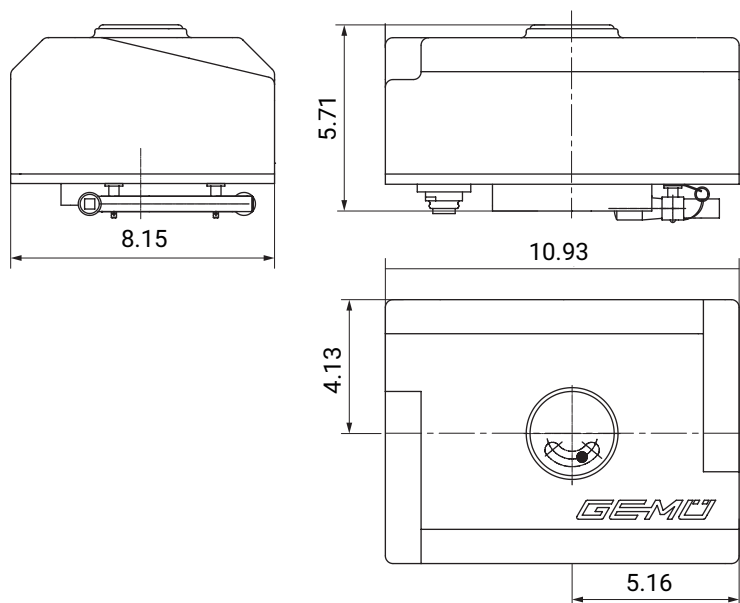
Actuator version	A	C
1015	3.70	1.93

Dimensions in inch

Actuator version 2070



Dimensions in inch

Actuator version 4100, 4200

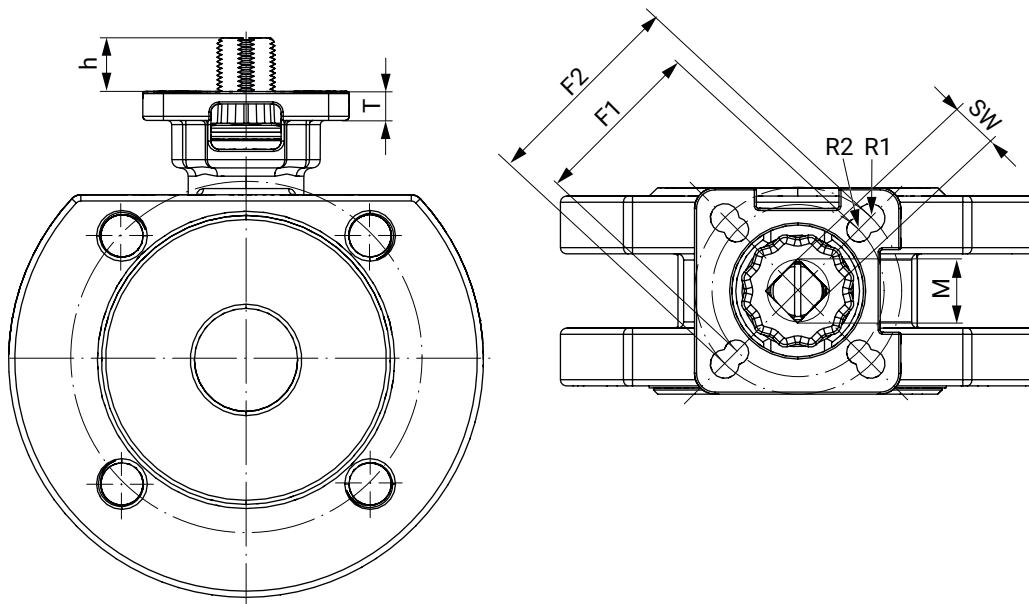
Dimensions in inch

Bernard, AUMA, J+J actuators

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

Ball valve

Actuator flange

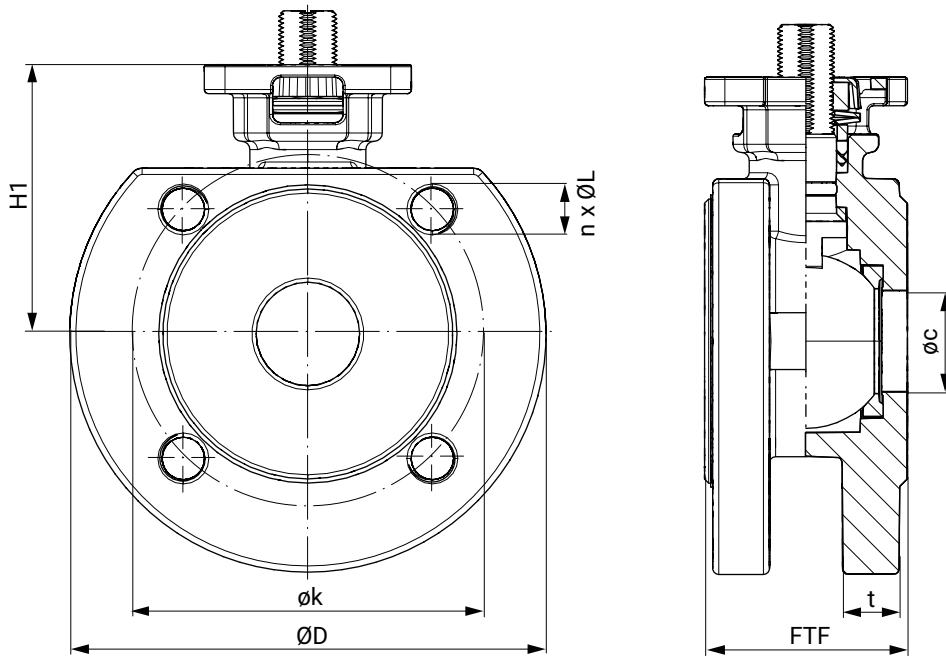


DN	G	F1	R1	F2	R2	SW [mm]	h	T	M
15	1/2"	1.42	0.12	1.65	0.12	9.0	0.35	0.20	M12
20	3/4"	1.42	0.12	1.65	0.12	9.0	0.30	0.20	M12
25	1"	1.65	0.12	1.97	0.14	11.0	0.51	0.28	M14
32	1 1/4"	1.65	0.12	1.97	0.14	11.0	0.51	0.28	M14
40	1 1/2"	1.97	0.14	2.76	0.18	14.0	0.59	0.35	M18
50	2"	1.97	0.14	2.76	0.18	14.0	0.63	0.35	M18
65	2 1/2"	2.76	0.20	4.02	0.24	17.0	0.71	0.41	M22
80	3"	2.76	0.20	4.02	0.24	17.0	0.71	0.41	M22
100	4"	2.76	0.20	4.02	0.24	17.0	0.71	0.41	M22

Dimensions in inch

Body dimensions

Flange (connection code 39)

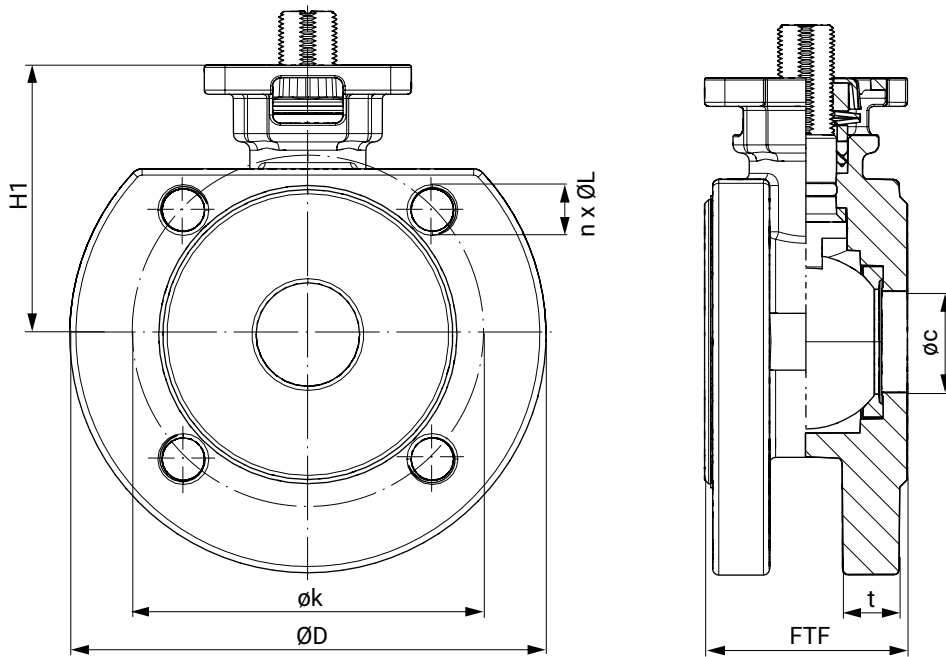


DN	ϕc	ϕD	ϕk	t	FTF	H1	n x ϕL
15	0.59	3.50	2.38	0.36	1.50	1.91	4x1/2-13UNC
20	0.79	3.90	2.75	0.43	1.57	2.13	4x1/2-13UNC
25	0.98	4.25	3.12	0.53	1.81	2.56	4x1/2-13UNC
32	1.26	4.61	3.50	0.55	2.20	3.07	4x1/2-13UNC
40	1.50	5.00	3.88	0.61	2.56	3.35	4x1/2-13UNC
50	1.97	5.98	4.75	0.67	3.07	3.66	4x5/8-11UNC
65	2.56	7.01	5.50	0.81	3.90	4.21	4x5/8-11UNC
80	2.99	7.48	6.00	0.87	4.57	4.69	4x5/8-11UNC
100	3.94	9.02	7.50	0.87	5.87	5.20	8x5/8-11UNC

Dimensions in inch

Dimensions

Flange (connection code 68)



DN	ϕc	ϕD	ϕk	t	FTF	H1	n x ϕL
15	0.59	3.23	2.56	0.55	1.65	1.91	4 x M12
20	0.79	3.86	2.95	0.55	1.73	2.13	4 x M12
25	0.98	4.53	3.35	0.55	1.97	2.56	4 x M12
32	1.26	5.51	3.94	0.63	2.36	3.07	4 x M16
40	1.50	5.91	4.33	0.59	2.72	3.35	4 x M16
50	1.97	6.50	4.92	0.61	3.23	3.66	4 x M16
65	2.56	7.28	5.71	0.61	4.06	4.21	4 x M16
80	2.99	7.87	6.30	0.67	4.69	4.69	8 x M16
100	3.94	8.66	7.09	0.67	5.91	5.20	8 x M16

Dimensions in inch

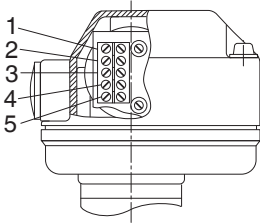
Electrical connection

Connection and wiring diagram – actuator version 1015

ON/OFF actuator (code A0)

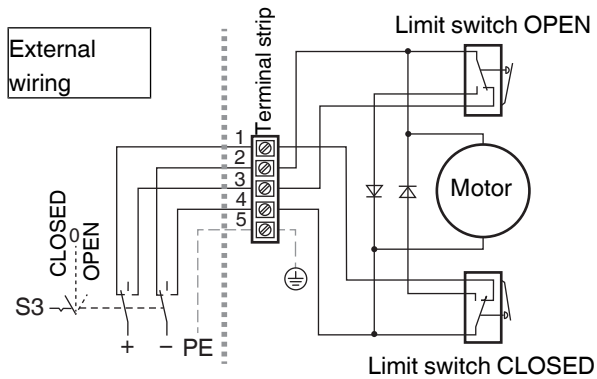
12 V DC (code B1) / 24 V DC (code C1)

Assignment of the terminal strips



Item	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	PE, protective earth conductor

Connection diagram



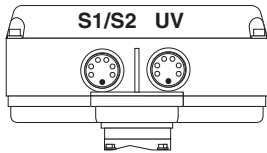
S3	Actuator
CLOSED	Direction of travel CLOSED
0	OFF
OPEN	Direction of travel OPEN

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 1015

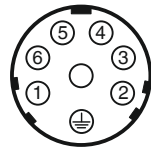


Electrical connection



Plug assignment X1, UV

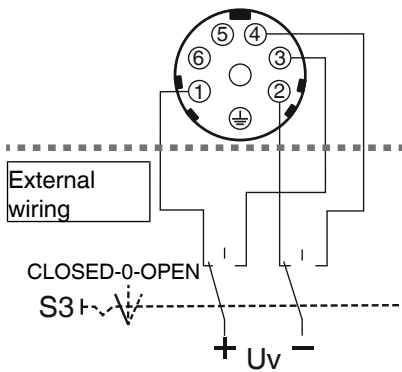
Pin	Description
1	Uv+, direction of travel CLOSED
2	Uv-, direction of travel CLOSED
3	Uv+, direction of travel OPEN
4	Uv-, direction of travel OPEN
5	n.c.
6	n.c.
⊕	PE, protective earth conductor



Plug assignment X2, S1/S2

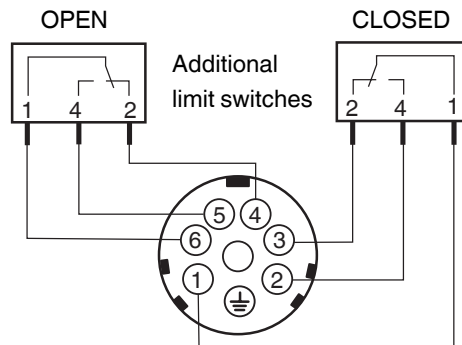
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⊕	PE, protective earth conductor

Connection diagram



Connection assignment X1, UV

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

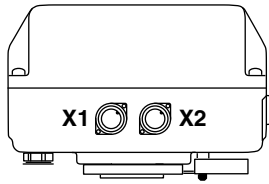


Connection and wiring diagram – actuator version 2070, 4100, 4200

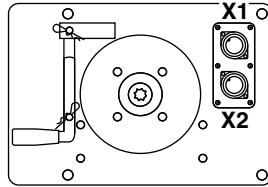
Connection/wiring diagram

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

Position of the connectors

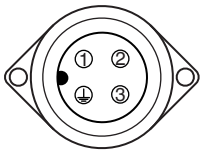


Actuator version 2070



Actuator version 4100, 4200

Electrical connection



Plug assignment X1

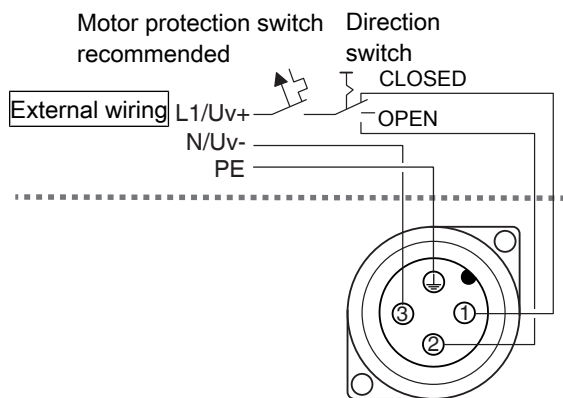
Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
	PE, protective earth conductor

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".

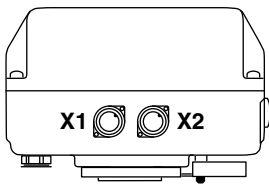
Connection diagram



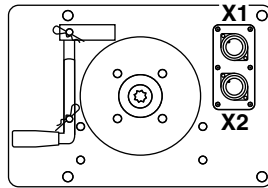
Connection assignment X1

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

Position of the connectors

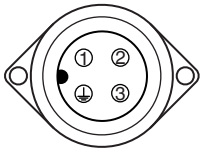


Actuator version 2070



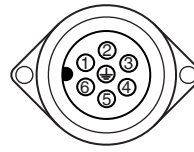
Actuator version 4100, 4200

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

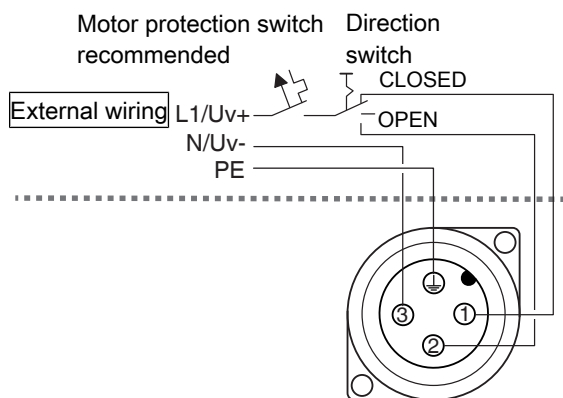
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⊕	PE, protective earth conductor

N / L- signals in the unit are separated.

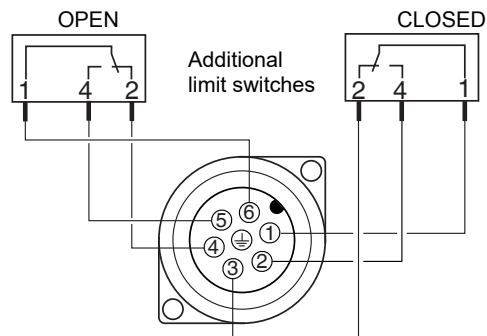
The potential must be assigned by the user.

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

Connection diagram



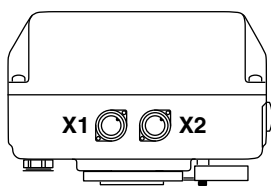
Connection assignment X1



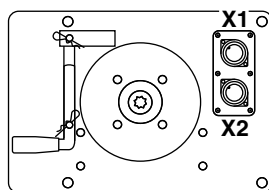
Connection assignment X2

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

Position of the connectors

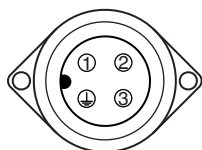


Actuator version 2070



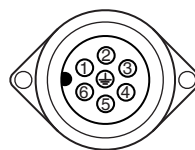
Actuator version 4100, 4200

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

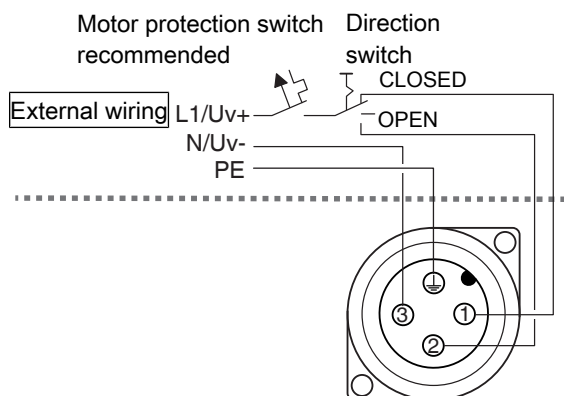
Pin	Description
1	n. c.
2	n. c.
3	n. c.
4	Us-, actual value potentiometer signal voltage minus
5	Us ⊥, actual value potentiometer signal output
6	Us+, actual value potentiometer signal voltage plus
⊕	PE, protective earth conductor

N / L- signals in the unit are separated.

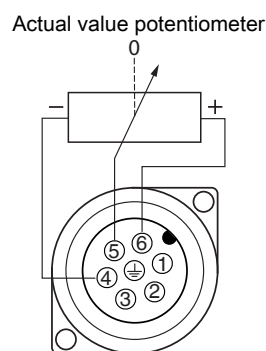
The potential must be assigned by the user.

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



GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany
Tel. +49 (0)7940 123-0 · info@gemue.de
www.gemu-group.com