

# 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:** -20 to 180 °C
- **Ambient temperature:** -20 to 60 °C
- **Operating pressure :** 0 to 40 bar
- **Nominal sizes:** DN 15 to 100
- **Body configurations:** 2/2-way body
- **Connection types:** Flange
- **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	-	-	-	●
<b>Nominal sizes</b>	DN 15 to 100	DN 15 to 100	DN 15 to 100	DN 15 to 100
<b>Media temperature</b>	-20 to 180 °C	-20 to 180 °C	-20 to 180 °C	-20 to 180 °C
<b>Operating pressure</b>	0 to 40 bar	0 to 40 bar	0 to 40 bar	0 to 40 bar
<b>Connection types</b>				
Flange	●	●	●	●

## GEMÜ, J+J motorized actuators



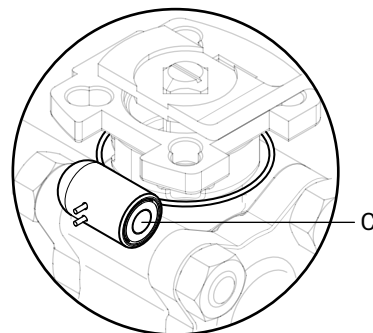
	GEMÜ 9428	GEMÜ 9468	GEMÜ J4C
<b>Manufacturer</b>	GEMÜ	GEMÜ	J+J
<b>Manufacturer type</b>	9428	9468	J4C
<b>Torques</b>	6 to 55 Nm	70 to 200 Nm	20 to 300 Nm
<b>Duty cycle</b>	100 %	30 % (ON/OFF actuator) 50 % (control actuator)	75 %
<b>Heating</b>	No	No	Yes
<b>Voltage</b>			
12 V AC, 50/60 Hz	●	-	-
12 V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

## Comparison of areas of application for GEMÜ, J+J actuators

			
	GEMÜ 9428	GEMÜ 9468	GEMÜ J4C
<b>Range of functions</b>			
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	●	●	●
<b>Industrial sectors</b>			
Chemical processes	●	●	●
Surface finishing	●	●	●
Water treatment	●	●	●
Mechanical engineering	●	●	●
Power generation and environmental systems	●	●	●
Food processing technology	●	●	●
Semiconductor	●	●	●
Medical systems	●	●	●
Pharmaceutical industry	●	●	●

## Product description

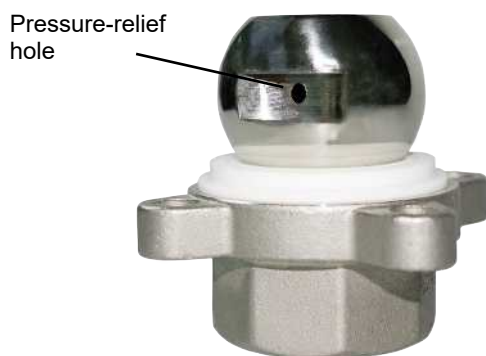
### Construction



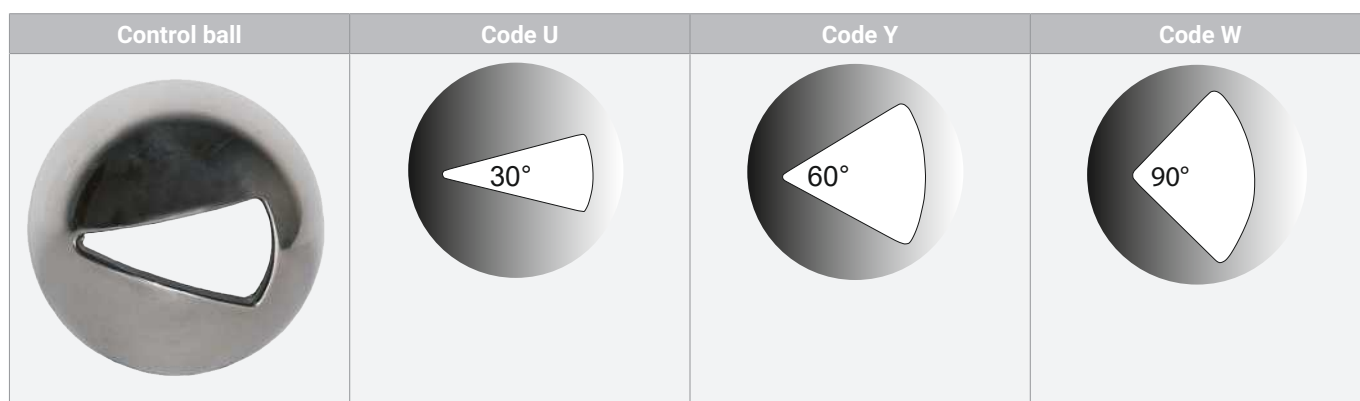
Item	Name	Materials
1	Ball valve body	1.4408 / CF8M

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 33)	

### Pressure-relief hole

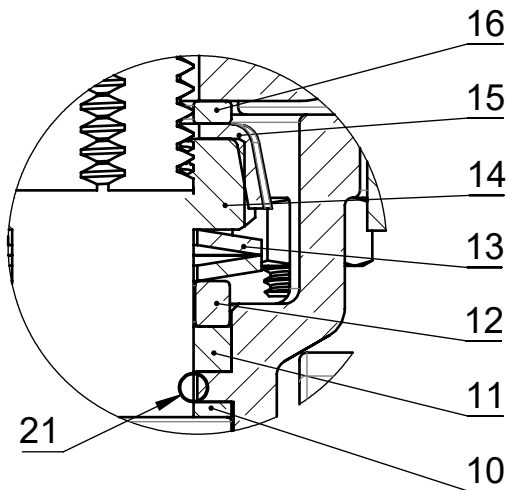


### Control ball



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

GEMÜ type	Actuator version (code)	Control module (code) <sup>1)</sup>	Voltage/Frequency	
			12 V DC (code B1)	24 V DC (code C1)
<b>9428</b>	<b>1015, 3015</b>	<b>A0, AE</b>	X	X
<b>9468</b>	<b>2070</b>	<b>00, 0E, 0P</b>	-	X
	<b>4100</b>		-	X
	<b>4200</b>		-	X

1) **Control module**

Code 00: ON/OFF actuator, relay, not reversible

Code 0E: ON/OFF actuator, 2 additional potential-free limit switches, relay, not reversible

Code 0P: ON/OFF actuator, potentiometer output, relay, not reversible

Code A0: ON/OFF actuator

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

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



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

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

**J+J - Control module**

Control module	Code <sup>1)</sup>	Actuator version (code)				
		J4C20	J4C35	J4C85	J4C14	J4C30
<b>Open/close</b>	<b>A3</b>	X	X	X	X	X
	<b>AE</b>	X	X	X	X	X
	<b>AE1</b>	X	X	X	X	X
	<b>AE2</b>	X	X	X	X	X
	<b>AP</b>	X	X	X	X	X
	<b>AP1</b>	X	X	X	-	-
<b>Positioner</b>	<b>E1</b>	X	X	X	X	X
	<b>E11</b>	X	X	X	-	-
	<b>E2</b>	X	X	X	X	X
	<b>E22</b>	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
<b>15</b>	<b>1/2"</b>	X	-	-	-	-
<b>20</b>	<b>3/4"</b>	X	-	-	-	-
<b>25</b>	<b>1"</b>	X	-	-	-	-
<b>32</b>	<b>1¼"</b>	X	-	-	-	-
<b>40</b>	<b>1½"</b>	-	X	-	-	-
<b>50</b>	<b>2"</b>	-	-	X	-	-
<b>65</b>	<b>2½"</b>	-	-	X	-	-
<b>80</b>	<b>3"</b>	-	-	-	X	-
<b>100</b>	<b>4"</b>	-	-	-	-	X

**Bernard BC actuator****Bernard Controls BC - Voltage/Frequency**

Voltage/Fre- quency	Code	Actuator version (code)				
		BC1L	BC3L	BC7L	BC15	BC25
<b>230 V / 50 Hz</b>	<b>L2</b>	-	-	-	X	X
<b>24 V DC or 230 V 50/60 Hz</b>	<b>Y5</b>	X	X	X	-	-

**Bernard Controls BC - Control modules**

Control module (code <sup>1)</sup> )	Actuator version (code)				
	BC1L	BC3L	BC7L	BC15	BC25
<b>AB</b>	-	-	-	-	X
<b>AE</b>	X	X	X	X	-
<b>AP</b>	X	X	X	X	X
<b>AT</b>	X	X	X	X	X
<b>E2</b>	X	X	X	X	X
<b>ALS</b>	-	-	-	X	X
<b>ELS</b>	-	-	-	X	X

**1) Control module**

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

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

Code ALS: 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)

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

Code AT: ON/OFF actuator, analogue position feedback, external set value 0/4-20mA, 2 additional potential-free limit switches

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

Code ELS: 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)

DN	NPS	Actuator version (code)				
		BC1L	BC3L	BC7L	BC15	BC25
<b>15</b>	<b>1/2"</b>	X	-	-	-	-
<b>20</b>	<b>3/4"</b>	X	-	-	-	-
<b>25</b>	<b>1"</b>	X	-	-	-	-
<b>32</b>	<b>1¼"</b>	X	-	-	-	-
<b>40</b>	<b>1½"</b>	-	X	-	-	-
<b>50</b>	<b>2"</b>	-	-	X	-	-
<b>65</b>	<b>2½"</b>	-	-	X	-	-
<b>80</b>	<b>3"</b>	-	-	-	X	-
<b>100</b>	<b>4"</b>	-	-	-	-	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, 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
<b>2/2-way body</b>	<b>D</b>
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
<b>Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only</b>	<b>68</b>

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

6 Seal material	Code
<b>PTFE</b>	<b>5</b>

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**

Ordering 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
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
<b>2/2-way body</b>	<b>D</b>
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
<b>Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only</b>	<b>68</b>

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

6 Seal material	Code
<b>PTFE</b>	<b>5</b>

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

8 Control module	Code
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

9 Actuator version	Code
Actuator, motorized, operating time 10s, torque 20Nm, J+J, type J4 heating, IP67	J4C20
Actuator, motorized, operating time 10s, torque 35Nm, J+J, type J4 heating, IP67	J4C35
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
Actuator, motorized, operating time 58s, torque 300Nm, J+J, type J4 heating, IP67	J4C30

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**

Ordering 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
<b>2/2-way body</b>	<b>D</b>
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
<b>Flange EN 1092, PN 16/PN40, form B DN 15 to DN 80, flange EN 1092, PN 16, form B DN 100 only</b>	<b>68</b>

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

6 Seal material	Code
<b>PTFE</b>	<b>5</b>

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**

Ordering 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:** -20 – 180 °C  
For media temperatures > 100 °C, we recommend using a mounting kit with adapter between the ball valve and the actuator.

**Ambient temperature:** -20 – 60 °C  
Higher temperatures on request

**Storage temperature:** 5 – 40 °C

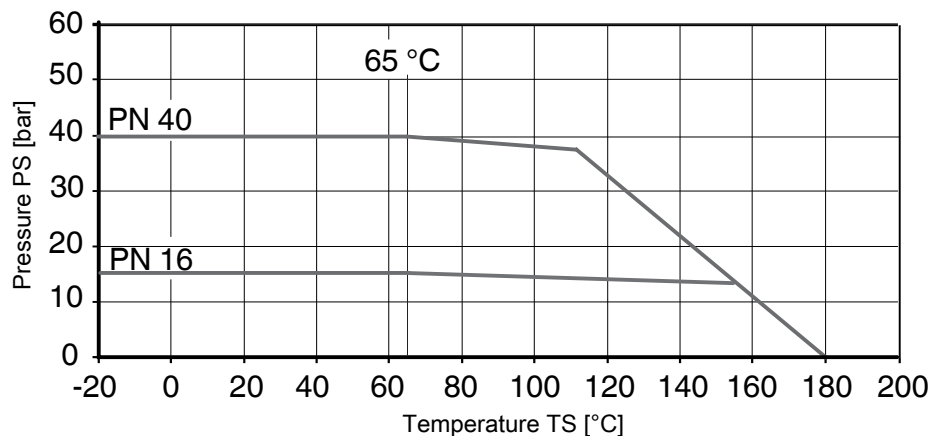
### Pressure

**Operating pressure:** 0 – 40 bar

**Vacuum:** Can be used up to a vacuum of 50 mbar (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

**Kv values:**

DN	NPS	Kv values
15	1/2"	13.0
20	3/4"	34.0
25	1"	60.0
32	1¼"	94.0
40	1½"	213.0
50	2"	366.0
65	2½"	595.0
80	3"	935.0
100	4"	1700.0

Kv values in m³/h

**V-ball 30° (code U)**

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
15	1/2"	0	0.085	0.085	0.17	0.255	0.425	0.68	0.935	1.36	1.87	2.21
20	3/4"	0	0.085	0.17	0.425	0.595	0.935	1.53	2.04	2.805	3.825	4.59
25	1"	0	0.085	0.255	0.68	1.105	1.955	2.975	4.335	5.961	8.128	8.5
32	1¼"	0	0.17	0.34	0.935	1.7	3.145	4.675	6.8	8.5	11.05	12.75
40	1½"	0	0.255	0.51	1.36	2.55	4.25	6.375	9.35	11.9	14.45	17.0
50	2"	0	0.34	1.02	3.23	5.1	8.5	12.75	19.55	26.35	36.55	51.0
65	2½"	0	0.34	0.85	3.4	6.8	10.2	15.3	23.8	31.45	52.7	63.75
80	3"	0	0.425	1.02	3.4	6.8	11.9	19.55	28.05	39.1	55.25	69.7
100	4"	0	0.51	1.7	5.1	12.75	24.65	40.8	60.35	85.0	110.5	135.2

Kv values in m³/h

**V-ball 60° (code Y)**

DN	NPS	Opening angle										
		0	15%	20%	30%	40%	50%	60%	70%	80%	90%	100%
15	1/2"	0	0.085	0.085	0.255	0.425	0.765	1.19	1.7	2.805	3.74	5.1
20	3/4"	0	0.085	0.17	0.595	0.85	1.445	2.38	3.4	5.525	7.65	10.2
25	1"	0	0.17	0.34	0.935	1.53	2.89	4.505	6.715	10.46	13.01	17.85
32	1¼"	0	0.17	0.51	1.53	2.55	4.675	8.075	10.88	16.15	22.1	33.15
40	1½"	0	0.34	0.68	2.125	3.4	6.8	11.05	16.15	22.95	34.0	44.2
50	2"	0	0.34	1.275	3.91	7.65	14.03	22.95	33.15	46.75	70.55	93.5
65	2½"	0	0.34	1.275	4.25	8.5	17.85	28.9	45.05	63.75	87.55	127.5
80	3"	0	0.425	2.125	5.1	11.9	21.25	34.0	55.25	77.35	108.8	140.3
100	4"	0	0.595	2.55	9.35	21.25	34.0	50.15	76.5	119.9	180.2	302.6

Kv values in m³/h

## Kv 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	0.085	0.17	0.34	0.51	0.765	1.275	1.87	3.23	4.59	5.865
20	3/4"	0	0.17	0.34	0.68	1.02	1.7	2.635	3.91	6.8	9.605	11.9
25	1"	0	0.17	0.51	1.53	2.89	4.335	6.885	9.69	13.6	17.85	24.65
32	1¼"	0	0.255	0.68	1.7	4.25	6.8	11.9	16.15	23.8	33.15	46.75
40	1½"	0	0.425	0.765	2.975	5.95	11.05	17.0	26.35	35.7	53.55	66.3
50	2"	0	0.595	1.7	5.1	10.2	18.7	29.75	38.25	59.5	89.25	114.8
65	2½"	0	0.425	1.445	5.95	11.9	23.8	40.8	59.5	90.1	136.0	185.3
80	3"	0	0.595	2.975	6.8	15.3	29.75	51.0	76.5	114.8	174.3	263.5
100	4"	0	0.85	2.975	13.6	34.0	63.75	106.3	161.5	250.8	375.7	569.5

Kv values in m³/h

## 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

Weights in kg

## Technical data of actuator

### GEMÜ 9428, 9468 actuators

#### Mechanical data

Weight:

**GEMÜ 9428**

Supply voltage 12 V / 24 V:	1.0 kg
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**Actuator type 9468**

Actuator version 2070:	4.6 kg
Actuator version 4100, 4200:	11.6 kg

#### Product compliance

Machinery Directive: 2006/42/EC

EMC Directive: 2014/30/EU

Low Voltage Directive: 2014/35/EU

#### Electrical data

Rated voltage: 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)

Power consumption:

Actuator version (code)	Control module (code)	12 V DC (code B1)	24 V DC (code C1)
<b>1015, 3015</b>	<b>A0, AE</b>	30.0	30.0
<b>2070</b>	<b>00, 0E, 0P</b>	-	63.0
<b>4100</b>	<b>00, 0E, 0P</b>	-	105.0
<b>4200</b>	<b>00, 0E, 0P</b>	-	90.0

Power consumption in W

Current consumption:

Actuator version (code)	Control module (code)	12 V DC (code B1)	24 V DC (code C1)
<b>1015, 3015</b>	<b>A0, AE</b>	2.2	1.20
<b>2070</b>	<b>00, 0E, 0P</b>	-	2.60
<b>4100</b>	<b>00, 0E, 0P</b>	-	4.40
<b>4200</b>	<b>00, 0E, 0P</b>	-	3.60

Current data in A

Max. switching current:

Actuator version (code)	Control module (code)	12 V DC (code B1)	24 V DC (code C1)
<b>1015, 3015</b>	<b>A0, AE</b>	9.2	3.8
<b>2070</b>	<b>00, 0E, 0P</b>	-	14.0
<b>4100</b>	<b>00, 0E, 0P</b>	-	35.0
<b>4200</b>	<b>00, 0E, 0P</b>	-	35.0

Current data in A

## Technical data of actuator

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

**Duty cycle:** 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"

### **Recommended motor protection:**

#### **GEMÜ 9428**

Voltage	12 V DC	24 V DC
<b>Motor protection switch type</b>	Siemens 3RV 1011-1CA10	Siemens 3RV 1011-1BA10
<b>Set current</b>	2.20	1.70

Current data in A

#### **GEMÜ 9468**

Motor protection switch Siemens 3RV 1011-1FA10

type:

Set current: 4.0 A

## **Bernard, J+J actuators**

Note: For technical data see manufacturer's original datasheets

## Dimensions

### Actuator dimensions

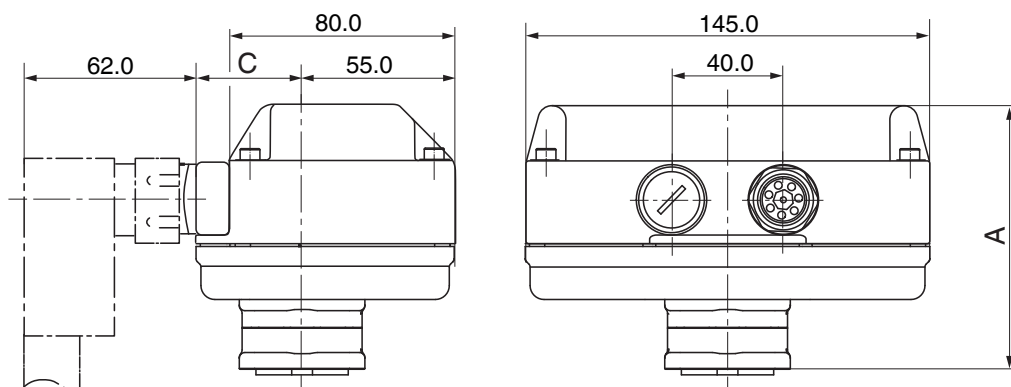
#### GEMÜ 9428, 9468 actuators

Note on actuator mounting:

Standard mounting orientation – actuator positioned in-line with piping

Only with flanged connections the actuator is mounted across the piping

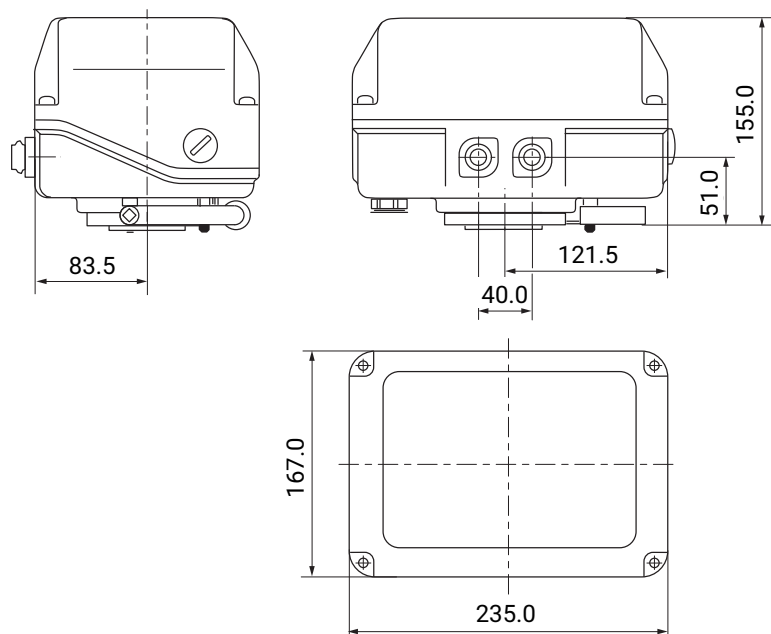
#### Actuator version 1015



Actuator version	A	C
1015	94.0	49.0

Dimensions in mm

#### Actuator version 2070

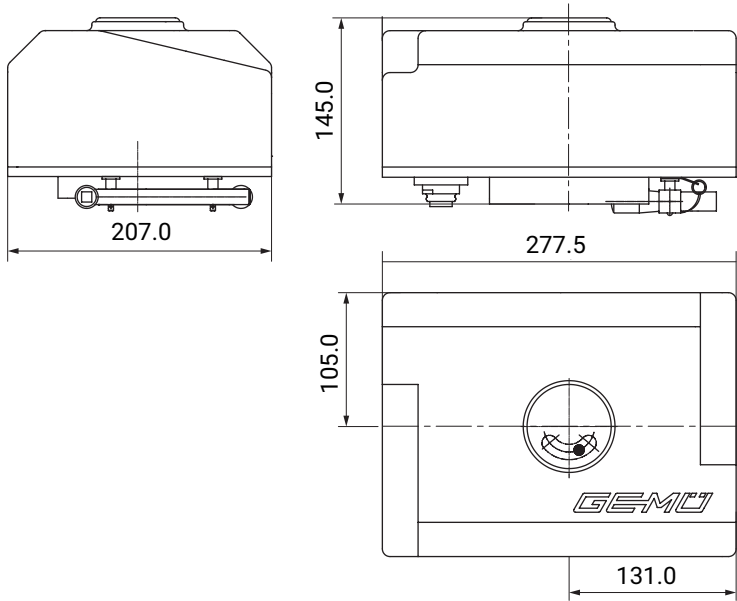


Dimensions in mm

## Dimensions

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### **Actuator version 4100, 4200**

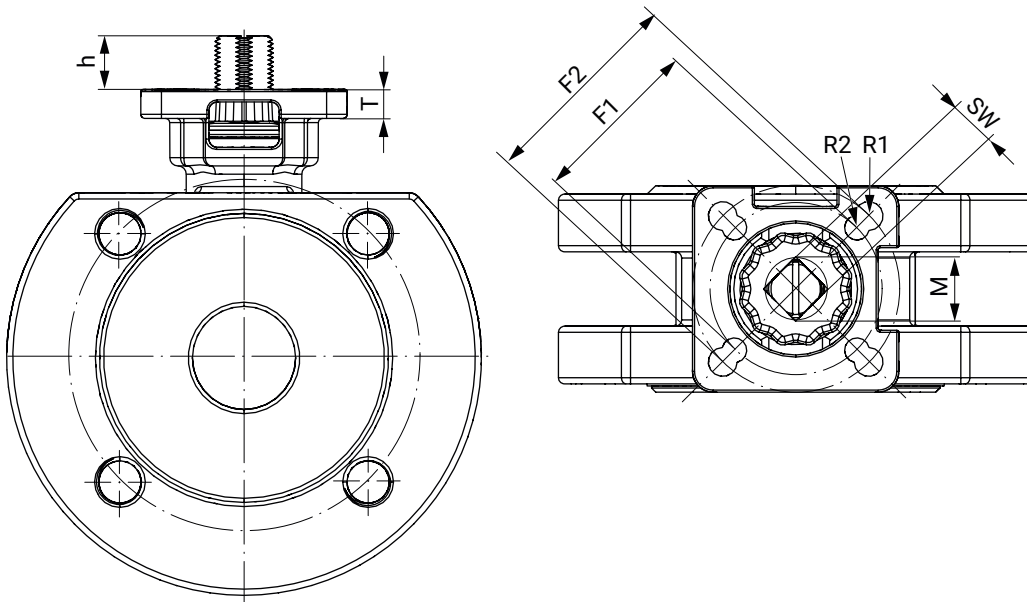


Dimensions in mm

### **Bernard, AUMA, J+J actuators**

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



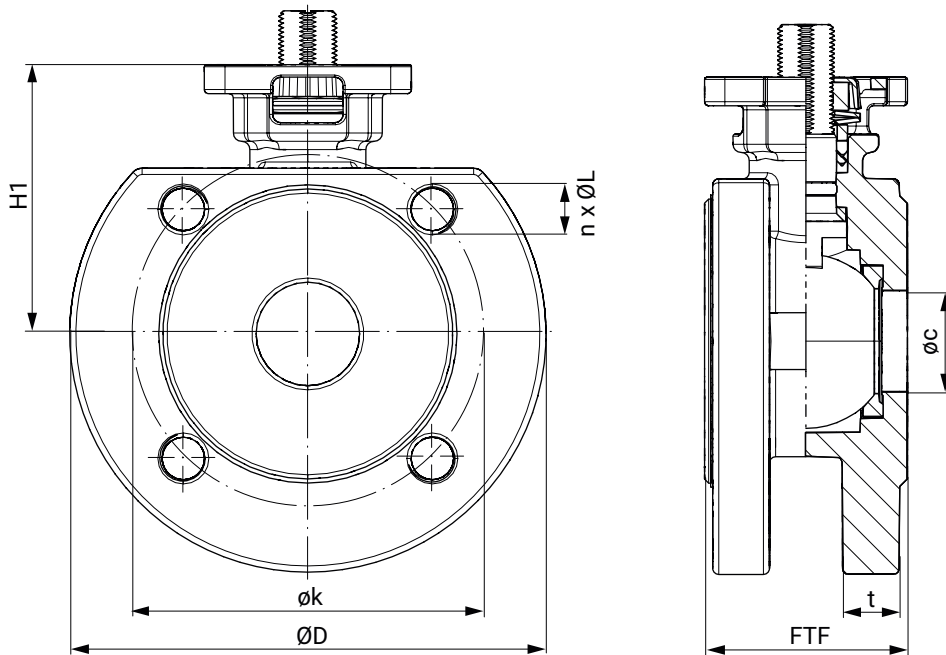
**Ball valve****Actuator flange**

DN	G	F1	R1	F2	R2	SW	h	T	M
15	1/2"	36.0	3.0	42.0	3.0	9.0	9.0	5.0	M12
20	3/4"	36.0	3.0	42.0	3.0	9.0	7.5	5.0	M12
25	1"	42.0	3.0	50.0	3.5	11.0	13.0	7.0	M14
32	1¼"	42.0	3.0	50.0	3.5	11.0	13.0	7.0	M14
40	1½"	50.0	3.5	70.0	4.5	14.0	15.0	9.0	M18
50	2"	50.0	3.5	70.0	4.5	14.0	16.0	9.0	M18
65	2½"	70.0	5.0	102.0	6.0	17.0	18.0	10.5	M22
80	3"	70.0	5.0	102.0	6.0	17.0	18.0	10.5	M22
100	4"	70.0	5.0	102.0	6.0	17.0	18.0	10.5	M22

Dimensions in mm

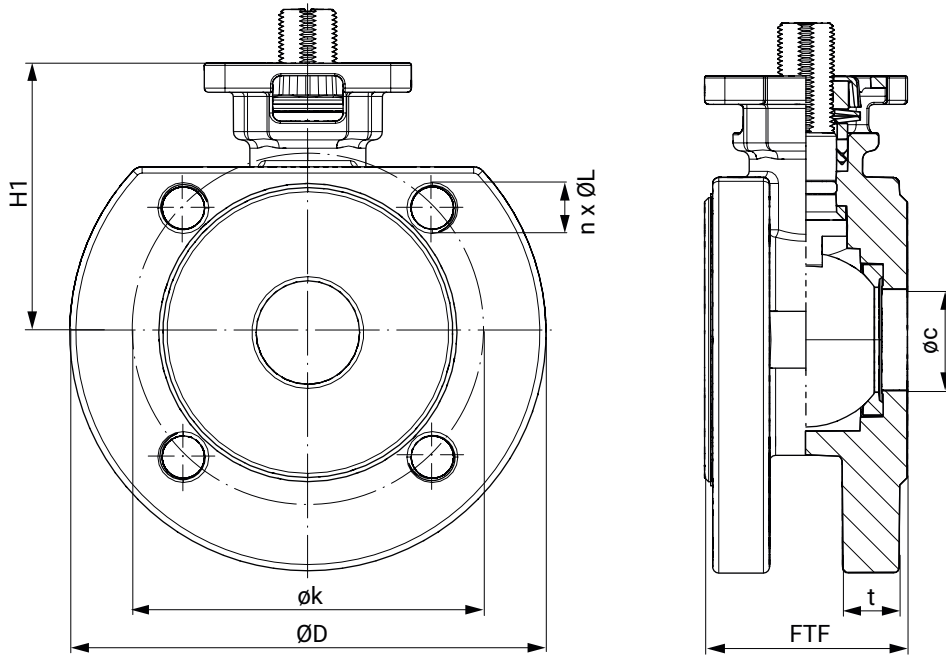
**Body dimensions**

**Flange (connection code 39)**



DN	$\phi c$	$\phi D$	$\phi k$	t	FTF	H1	$n \times \phi L$
15	15.0	89.0	60.5	9.2	38.0	48.5	4x1/2-13UNC
20	20.0	99.0	69.8	11.0	40.0	54.0	4x1/2-13UNC
25	25.0	108.0	79.2	13.5	46.0	65.0	4x1/2-13UNC
32	32.0	117.0	88.9	14.0	56.0	78.0	4x1/2-13UNC
40	38.0	127.0	98.6	15.5	65.0	85.0	4x1/2-13UNC
50	50.0	152.0	120.6	17.0	78.0	93.0	4x5/8-11UNC
65	65.0	178.0	139.7	20.5	99.0	107.0	4x5/8-11UNC
80	76.0	190.0	152.4	22.0	116.0	119.0	4x5/8-11UNC
100	100.0	229.0	190.5	22.0	149.0	132.0	8x5/8-11UNC

Dimensions in mm

**Flange (connection code 68)**

DN	$\phi c$	$\phi D$	$\phi k$	t	FTF	H1	$n \times \phi L$
15	15.0	82.0	65.0	14.0	42.0	48.5	4 x M12
20	20.0	98.0	75.0	14.0	44.0	54.0	4 x M12
25	25.0	115.0	85.0	14.0	50.0	65.0	4 x M12
32	32.0	140.0	100.0	16.0	60.0	78.0	4 x M16
40	38.0	150.0	110.0	15.0	69.0	85.0	4 x M16
50	50.0	165.0	125.0	15.5	82.0	93.0	4 x M16
65	65.0	185.0	145.0	15.5	103.0	107.0	4 x M16
80	76.0	200.0	160.0	17.0	119.0	119.0	8 x M16
100	100.0	220.0	180.0	17.0	150.0	132.0	8 x M16

Dimensions in mm

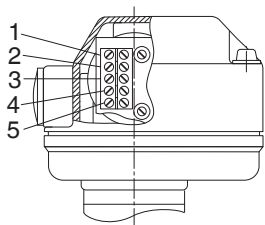
## Electrical connection

### Connection and wiring diagram – actuator version 1015

#### ON/OFF actuator (code A0)

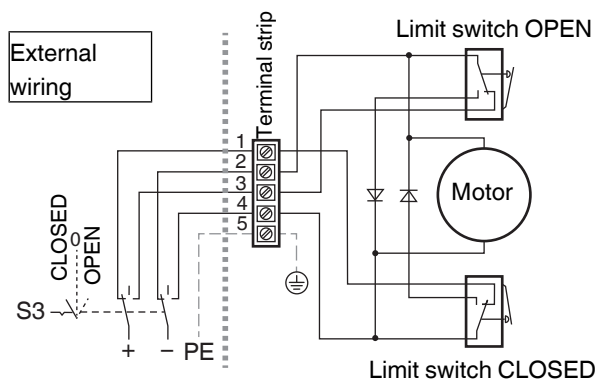
12 V DC (code B1) / 24 V DC (code C1)

#### 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



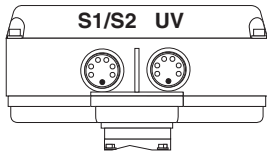
S3	Actuator
CLOSED	Direction of travel CLOSED
0	OFF
OPEN	Direction of travel OPEN

**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

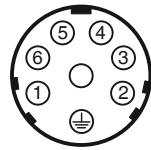


**Electrical connection**



Plug assignment X1, UV

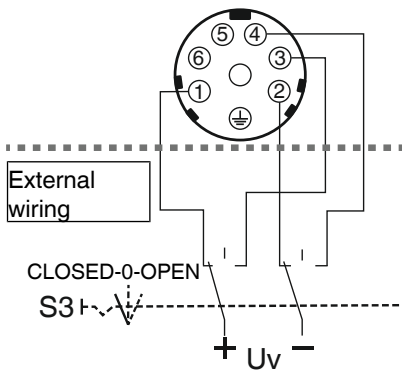
Pin	Description
1	Uv+, direction of travel CLOSED
2	Uv-, direction of travel CLOSED
3	Uv+, direction of travel OPEN
4	Uv-, direction of travel OPEN
5	n.c.
6	n.c.
⊕	PE, protective earth conductor



Plug assignment X2, S1/S2

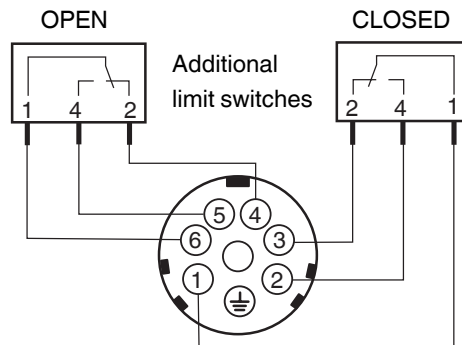
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⊕	PE, protective earth conductor

**Connection diagram**



Connection assignment X1, UV

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

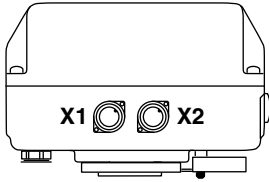


## Connection and wiring diagram – actuator version 2070, 4100, 4200

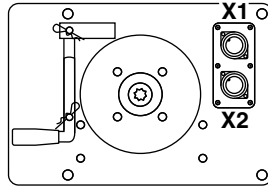
### Connection/wiring diagram

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

#### Position of the connectors

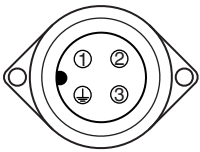


Actuator version 2070



Actuator version 4100, 4200

#### Electrical connection



Plug assignment X1

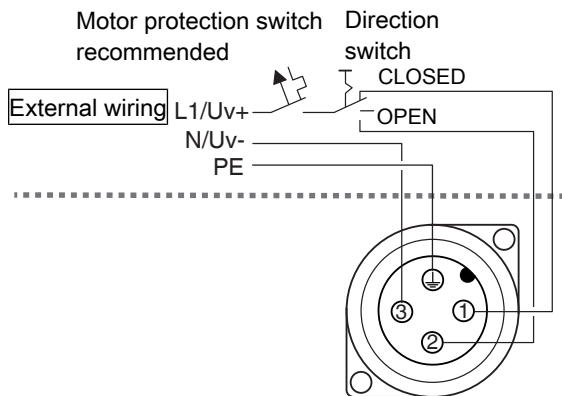
Pin	Description
1	L1 / Uv+, direction of travel CLOSED
2	L1 / Uv+, direction of travel OPEN
3	N / Uv-, neutral conductor
	PE, protective earth conductor

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".

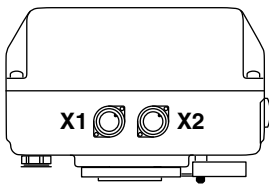
#### Connection diagram



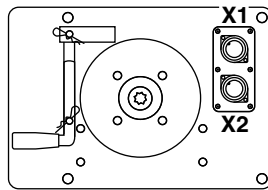
Connection assignment X1

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

**Position of the connectors**

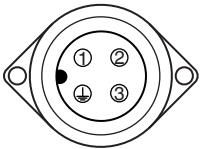


Actuator version 2070



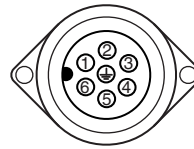
Actuator version 4100, 4200

**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

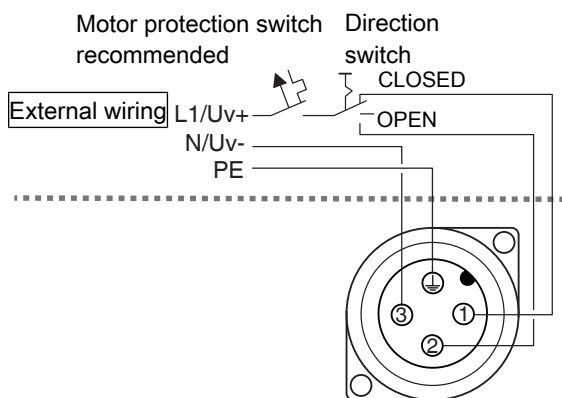
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
	PE, protective earth conductor

N / L- signals in the unit are separated.

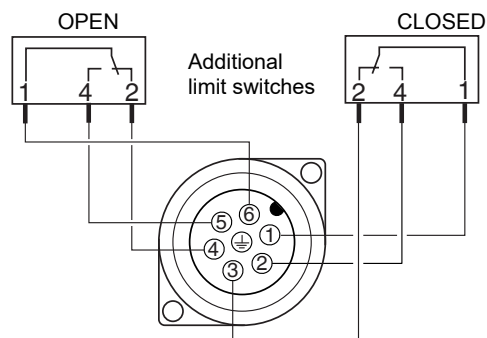
The potential must be assigned by the user.

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

**Connection diagram**



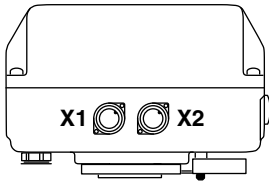
Connection assignment X1



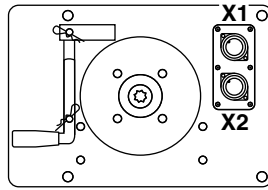
Connection assignment X2

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

**Position of the connectors**

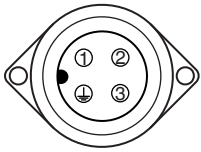


Actuator version 2070



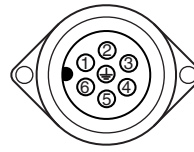
Actuator version 4100, 4200

**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

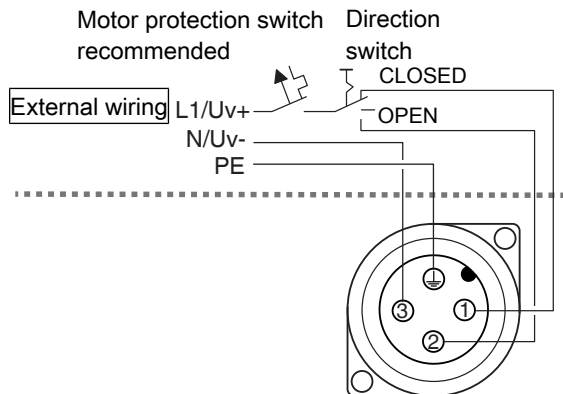
Pin	Description
1	n. c.
2	n. c.
3	n. c.
4	Us-, actual value potentiometer signal voltage minus
5	Us ⊥, actual value potentiometer signal output
6	Us+, actual value potentiometer signal voltage plus
⊕	PE, protective earth conductor

N / L- signals in the unit are separated.

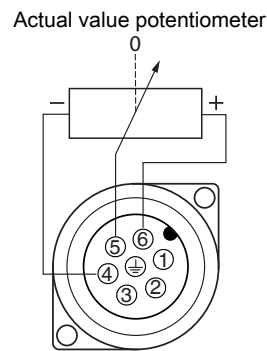
The potential must be assigned by the user.

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 of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

**For further information on GEMÜ CONEXO please visit:**

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

### Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".



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