GEMÜ 723

Motorized ball valve

Features

- High flow rate
- Low weight
- Choice of various body materials and connection types
- Available as shut-off or control valve
- 2/2 and 3/2-way versions available

Description

The 2/2 and/or 3/2-way GEMÜ 723 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 from PTFE and the O-ring seals can be made from either EPDM or FKM.

Technical specifications

- **Media temperature:** -20 to 100 °C
- **Ambient temperature:** -10 to 50 °C
- **Operating pressure :** 0 to 16 bar
- **Nominal sizes:** DN 10 to 100
- **Body configurations:** 2/2-way body I Multi-port body
- **Ball configurations:** Control ball I L-port I T-port
- **Connection types:** Flange I Solvent cement socket I Spigot I Threaded connection I Union end
- **Connection standards:** ANSI I BS I DIN I EN I ISO I JIS
- **Body materials:** ABS I PP-H, grey I PVC-C, chlorinated I PVC-U, grey I PVDF
- **Seal materials:** EPDM I FKM
- **Supply voltage:** 12 V AC, 50/60 Hz I 12 V DC I 24 - 240 V AC/DC I 24 V AC, 50/60 Hz I 24 V DC
- **Operating time 90°:** 4 to 30 s
- **Protection class:** IP 65. IP 67

Technical data depends on the respective configuration

EAC

further information
webcode: GW-723

Product line

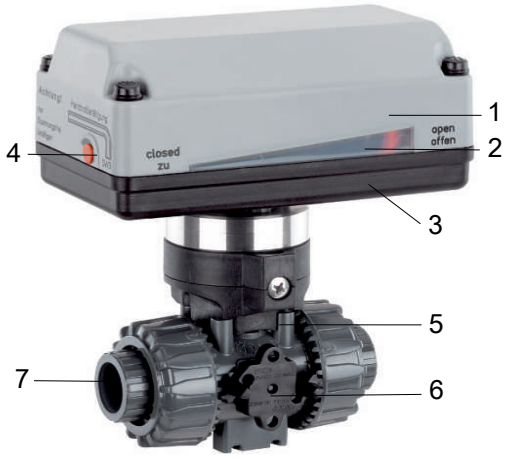
			
	GEMÜ 710	**GEMÜ 717**	**GEMÜ 723**
Operation			
Manual	-	●	-
Pneumatic	●	-	-
Motorized	-	-	●
Nominal sizes	DN 10 to 100	DN 10 to 100	DN 10 to 100
Media temperature *	-20 to 100 °C	-20 to 100 °C	-20 to 100 °C
Operating pressure *	0 to 16 bar	0 to 16 bar	0 to 16 bar
Connection types			
Flange	●	●	●
Solvent cement socket	●	●	●
Spigot	●	●	●
Threaded connection	●	●	●
Union end	●	●	●

* depending on version and/or operating parameters

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	-	-	●

Product description



Item	Name	Materials
1	Housing cover	Actuator versions 1006, 1015, 2015: PPE + 30 % glass fibre reinforced Actuator version 3035: PP + 20 % glass bead reinforced Actuator version 2070: ABS
2	Optical position indicator	PP-R natural
3	Housing base	Actuator versions 1006, 1015, 2015: PP + 30 % glass fibre reinforced Actuator version 3035: PP + 20 % glass bead reinforced Actuator version 2070: ABS
4	Connection for manual override	-
5	Ball valve body	PVC-U, PVC-C, ABS, PP-H or PVDF
6	Anti-twist protection	POM
7	Pipe connections	PVC-U, PVC-C, ABS, PP-H or PVDF
	Ball valve seals	FPM, EPDM
	Ball valve seat seals	PTFE

GEMÜ CONEXO

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

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

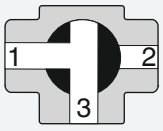
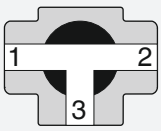
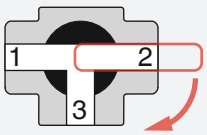
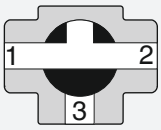
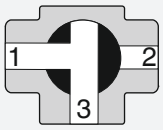
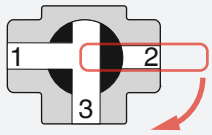
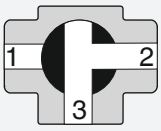
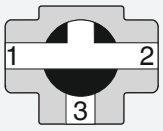
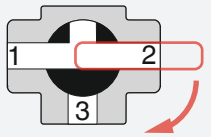
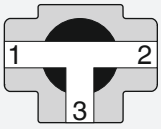
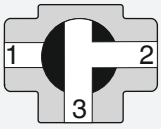
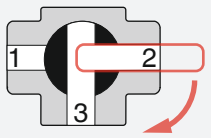
For further information on GEMÜ CONEXO please visit:
www.gemu-group.com/conexo

Ordering

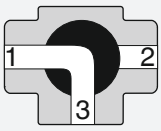
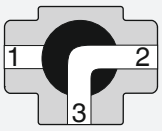
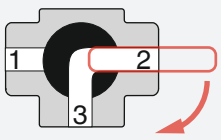
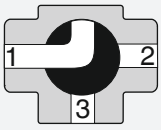
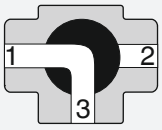
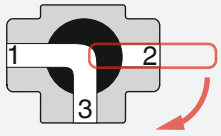
GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".

Port positions

T-port

	CLOSED end position	OPEN end position	Condition as supplied to customer OPEN
Delivery condition			
Code T			
Optional port positions, can be user adjusted			
Code 2			
Code 3			
Code 4			

L-port

	CLOSED end position	OPEN end position	Condition as supplied to customer OPEN
Delivery condition			
Code L			
Optional port positions, can be user adjusted			
Code 6			

Control ball

	Control ball	Scale
Code R		

For 0°- 90° control range, linear control characteristic between port position and percentage flow rate.
NOTE: Ball configuration (R) cannot be retrofitted to standard 2/2-way bodies at a later date.

Availability

2/2-way body (code D)

DN	Connection type code [1]								
	2	4	33	39	3M	3T	78*	7R, 31	7R, 31
	Material code [2]								
	1, 2, 4, 5, 20	1, 2, 5, 20	1, 4	1, 2, 5, 20	1, 2	1	1, 5, 20	1	5
10	X	-	X	-	-	-	-	-	-
15	X	X	X	X	X	X	X	X	X
20	X	X	X	X	X	X	X	X	X
25	X	X	X	X	X	X	X	X	X
32	X	X	X	X	X	X	X	X	X
40	X	X	X	X	X	X	X	X	X
50	X	X	X	X	X	X	X	X	X
65	X	X	X	X	X	X	X	X	-
80	X	X	X	X	X	X	X	X	-
100	X	X	X	X	X	X	X	X	-

* Inserts according to valve body material,
special version: PE insert, design code 1187

1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 4: Union end with flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 33: Union end with inch insert - BS (socket)
Code 39: Union end with flange ANSI Class 125/150 RF
Code 3M: Union end with inch insert – ASTM (socket)
Code 3T: Union end with JIS insert (socket)
Code 78: Union end with insert (for IR butt welding) - DIN
Code 7R: Union end with insert (Rp threaded socket) - DIN
Code 31: Threaded socket NPT

2) **Ball valve material**
Code 1: PVC-U, grey
Code 2: PVC-C
Code 4: ABS
Code 5: PP-H, grey
Code 20: PVDF

Multi-port design (code M)

DN	Connection type code [1]								
	2		4	33	39	3M	3T	78*	7R
	Material code [2]								
	1, 2	5	1, 5	1	1	1, 2	1	1, 5	1, 5
10	X	-	-	-	-	-	-	-	-
15	X	X	X	X	X	X	X	X	X
20	X	X	X	X	X	X	X	X	X
25	X	X	X	X	X	X	X	X	X
32	X	X	X	X	X	X	X	X	X
40	X	X	X	X	X	X	X	X	X
50	X	X	X	X	X	X	X	X	X
65	-	-	-	-	-	-	-	-	-
80	-	-	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-	-	-

* Inserts according to valve body material,
special version: PE insert, design code 1187

1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 4: Union end with flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 33: Union end with inch insert - BS (socket)
Code 39: Union end with flange ANSI Class 125/150 RF
Code 3M: Union end with inch insert – ASTM (socket)
Code 3T: Union end with JIS insert (socket)
Code 78: Union end with insert (for IR butt welding) - DIN
Code 7R: Union end with insert (Rp threaded socket) - DIN

2) **Ball valve material**
Code 1: PVC-U, grey
Code 2: PVC-C
Code 5: PP-H, grey

Actuator assignment

GEMÜ actuator

DN	Actuator version code [1]				
	1006	1015	2015	3035	2070
10	X	X	X	-	-
15	X	X	X	-	-
20	X	X	X	-	-
25	X	X	X	-	-
32	-	X	X	-	-
40	-	X	X	-	-
50	-	-	-	X	X
65	-	-	-	X	X
80	-	-	-	-	X

1) **Actuator version**
Code 1006: Actuator, motorized, operating time 4s, torque 6Nm, GEMUE, size 1 supply voltage B1, C1, B4, C4
Code 1015: Actuator, motorized, operating time 11s, torque 15Nm, GEMUE, size 1 supply voltage B1, C1
Code 2015: Actuator, motorized, operating time 11s, torque 15Nm, GEMUE, size 2 supply voltage B4, C4
Code 3035: Actuator, motorized, operating time 15s, torque 35Nm, GEMUE, size 3 supply voltage C1
Code 2070: Actuator, motorized, operating time 15s, torque 70Nm, GEMUE, size 2 supply voltage C1

Voltage/Frequency

Actuator version Code	Control module Code [1]	12 V DC (code B1)	12 V AC (code B4)	24 V DC (code C1)	24 V AC (code C4)
1006	**A0, AE**	X	X	X	X
1015	**A0, AE**	X	-	X	-
2015	**A0, AE**	-	X	-	X
3035	**A0, AE**	-	-	X	-
2070	**00, 0E, 0P**	-	-	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: OPEN/CLOSE control, 2 additional potential-free limit switches, Class A (EN15714-2)

J+J actuator

DN	Actuator version [1]			
	J4C20	J4C35	J4C55	J4C85
	Voltage/Frequency			
	12 V DC (code B1), 24-240 V AC/DC (code U5)			
10	X	-	-	-
15	X	-	-	-
20	X	-	-	-
25	X	-	-	-
32	X	-	-	-
40	X	-	-	-
50	X	-	-	-
65	-	X	-	-
80	-	-	X	-
100	-	-	-	X

1) **Actuator version**
Code J4C20: Actuator, motorized, operating time 10s, torque 20Nm, J+J, type J4 heating, IP67
Code J4C35: Actuator, motorized, operating time 10s, torque 35Nm, J+J, type J4 heating, IP67
Code J4C55: Actuator, motorized, operating time 13s, torque 55Nm, J+J, type J4 heating, IP67
Code J4C85: Actuator, motorized, operating time 29s, torque 85Nm, J+J, type J4 heating, IP67

J+J - Control module

Control module	Code [1]	Actuator version (code)			
		J4C20	J4C35	J4C55	J4C85
Open/close	**A3**	X	X	X	X
	AE	X	X	X	X
	AE1	X	X	X	X
	AE2	X	X	X	X
	AP	X	X	X	X
	AP1	X	X	X	X
Positioner	**E1**	X	X	X	X
	E11	X	X	X	X
	E2	X	X	X	X
	E21	X	X	X	X

1) **Control module**
Code A3: Open/Close control with 2 additional, potential-free limit switches, 3-position actuator
Code AE: Open/Close control with 2 additional, potential-free limit switches
Code AE1: Open/Close control with 2 additional, potential-free limit switches, with BSR accupack (NC)
Code AE2: Open/Close control with 2 additional, potential-free limit switches, with BSR accupack (NO)
Code AP: Open/Close control, with 5 kOhm potentiometer output
Code AP1: Open/Close control, with 5 kOhm potentiometer output, with BSR accupack (NC)
Code E1: Positioner DPS, 0 - 10 V
Code E11: Positioner DPS, 0 - 10 V, with BSR accupack (NC)
Code E2: Positioner DPS 4 - 20 mA
Code E21: Positioner DPS 4 - 20 mA with BSR accupack (NC)

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Ball valve, plastic, electrically operated	723

2 DN	Code
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 configuration	Code
2/2-way body	D
Multi-port design	M

4 Connection type	Code
Union end with insert (solvent cement or weld socket) – DIN	2
Union end with flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	4
Union end with inch insert – BS (socket)	33
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Union end with inch insert – ASTM (socket)	3M
Union end with JIS insert (sockets)	3T
Union end with insert (for IR butt welding) – DIN	78
Union end with insert (Rp threaded socket) – DIN	7R
NPT female thread	31

5 Ball valve material	Code
PVC-U, grey	1
PVC-C	2
PVDF	20
ABS	4
PP-H, grey	5

6 Seal material	Code
FKM	4
EPDM	14

7 Voltage/Frequency	Code
12 VDC	B1
12 V, 50/60 Hz	B4

7 Voltage/Frequency	Code
24 VDC	C1
24 V, 50/60 Hz	C4
24 V–240 V AC/DC for model 20, 35, 55, 85, 140, 300	U5

8 Control module	Code
ON/OFF actuator, relay, not reversible	00
ON/OFF actuator, two 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, three-position actuator, additional potential-free limit switches	A3
ON/OFF actuator, two additional potential-free limit switches, Class A (EN15714-2)	AE
ON/OFF actuator, two additional potential-free limit switches, BSR battery pack (NC)	AE1
ON/OFF actuator, two additional potential-free limit switches, BSR battery pack (NO)	AE2
ON/OFF actuator, potentiometer output, Class A (EN15714-2)	AP
ON/OFF actuator, two additional potential-free limit switches, potentiometer output 5 kOhm, FailSafe battery pack (NC), preferred direction is adjustable	AP1
Control actuator, external set value 0–10 VDC	E1
DPS positioner, external set value 0–10 V, BSR battery pack (NC)	E11
Control actuator, external set value 0/4–20 mA	E2
DPS positioner, external set value 4–20 mA, BSR battery pack (NC)	E21

9 Actuator version	Code
Actuator, motorized, operating time 4 s, torque 6 Nm, GEMÜ, size 1 supply voltage B1, C1, B4, C4	1006
Actuator, motorized, operating time 11 s, torque 15 Nm, GEMÜ, size 1 supply voltage B1, C1	1015
Actuator, motorized, operating time 11 s, torque 15 Nm, GEMÜ, size 2 supply voltage B4, C4	2015
Actuator, motorized, operating time 15 s, torque 35 Nm, GEMÜ, size 3 supply voltage C1	3035

9 Actuator version	Code
Actuator, motorized, operating time 15 s, torque 70 Nm, GEMÜ, size 2 supply voltage C1	2070
Actuator, motorized, operating time 9 s, torque 20 Nm, J+J, type J4, heating, IP67	J4C20
Actuator, motorized, operating time 9 s, torque 35 Nm, J+J, type J4, heating, IP67	J4C35
Actuator, motorized, operating time 13 s, torque 55 Nm, J+J, type J4, heating, IP67	J4C55
Actuator, motorized, operating time 29 s, torque 85 Nm, J+J, type J4, heating, IP67	J4C85

10 Ball config./port position	Code
2/2-way body	
R-port (control ball) for control range of 0°–90° Linear control characteristic between port position and percentage flow rate	R
Multi-port version	
L-port, standard end position "Open", connection 2 and 3 open, L-port, standard end position "Closed", connection 1 and 3 open	L

10 Ball config./port position	Code
T-port, standard end position "Open", connection 1, 2 and 3 open, T-port, standard end position "Closed", connection 1 and 3 open	T
T-port, end position "Open", connection 1 and 3 open, T-port, end position "Closed", connection 1 and 2 open	2
T-port, end position "Open", connection 1 and 2 open, T-port, end position "Closed", connection 2 and 3 open	3
T-port, end position "Open", connection 2 and 3 open, T-port, end position "Closed", connection 1, 2 and 3 open	4
L-port, end position "Open", connection 1 and 3 open, L-port, end position "Closed", connection 1 open	6

11 Special specification	Code
Without	
Insert made of PE	1187

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

Order example

Ordering option	Code	Description
1 Type	723	Ball valve, plastic, electrically operated
2 DN	15	DN 15
3 Body configuration	M	Multi-port design
4 Connection type	33	Union end with inch insert – BS (socket)
5 Ball valve material	1	PVC-U, grey
6 Seal material	14	EPDM
7 Voltage/Frequency	C1	24 VDC
8 Control module	A0	ON/OFF actuator
9 Actuator version	1006	Actuator, motorized, operating time 4 s, torque 6 Nm, GEMÜ, size 1 supply voltage B1, C1, B4, C4
10 Ball config./port position	T	T-port, standard end position "Open", connection 1, 2 and 3 open, T-port, standard end position "Closed", connection 1 and 3 open
11 Special specification		Without
12 CONEXO		Without

Technical data

Ball valve

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: see Pressure / temperature diagram

Seal material: FPM: -15 – 210 °C
EPDM: -20 – 95 °C

Ambient temperature: Valve body ABS: -20 to 60 °C

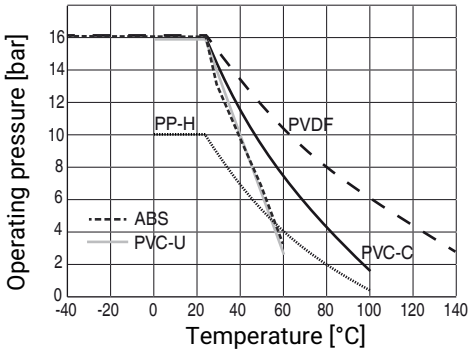
Valve body PP-H: 5 to 60 °C

Valve body PVC-U, PVC-C: 10 to 50 °C

Valve body PVDF: -5 to 50 °C

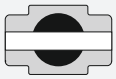
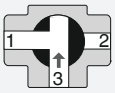
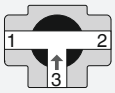
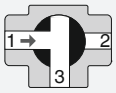
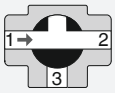
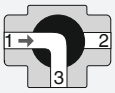
Pressure

Operating pressure: Pressure/temperature diagram



Pressure/temperature data in accordance with diagram refers to static operating conditions. Strongly fluctuating or fast-changing parameters can lead to a reduction of the service life. Special applications must be talked through with your technical contact person in advance.
Data for extended temperature ranges on request. Please note that the ambient temperature and media temperature generate a combined temperature at the valve body which must not exceed the above values.

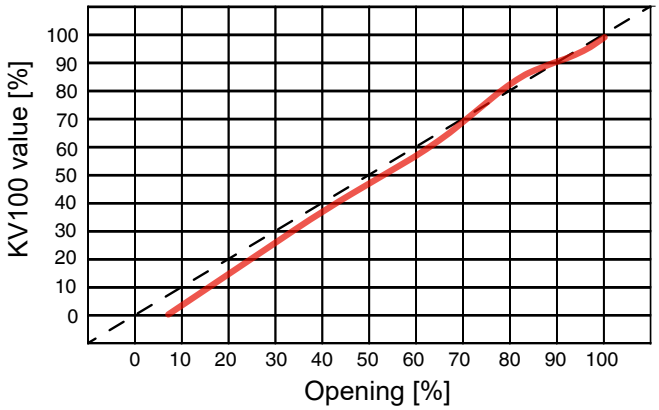
Kv values:

DN	Body configuration						
	2/2-way		Multi-port (code M)				
	(code D)	(code R)	T-port	T-port	T-port	T-port	L-port
							
10	4.8	4.98	2.2	1.5	2.4	4.7	2.9
15	12.0	5.28	3.3	2.1	3.9	11.7	4.4
20	23.1	8.10	8.1	5.7	8.7	22.8	9.0
25	46.2	15.36	12.3	8.4	14.7	45.6	15.9
32	66.0	28.68	23.4	16.2	27.6	63.0	28.5
40	105.0	35.52	28.5	19.8	36.0	102.0	37.2
50	204.0	64.08	54.0	37.2	72.0	192.0	73.2
65	315.0	-	-	-	-	-	-
80	426.0	-	-	-	-	-	-
100	570.0	-	-	-	-	-	-

Kv values in m³/h

Control diagram:

With control ball (code R)



For 0°- 90° control range, linear control characteristic between port position and percentage flow rate.

NOTE: Ball configuration (R) cannot be retrofitted to standard 2/2-way bodies at a later date.

Mechanical data

Torques:

DN	2/2-way code D				Multi-port code M		
	Optional	Standard		Optional	Optional	Standard	
	PS 6	PS 10	PS 16	PS 16	PS 10	PS 10	PS 16
	Material code [1]						
	1, 2, 4, 5, 20	5	1, 2, 20	4	1, 2	5	1, 2
10	-	2.4	3.6	3.0	-	-	-
15	-	2.4	3.6	3.0	2.4	2.4	3.6
20	-	3.6	4.0	4.0	3.6	3.6	4.8
25	-	4.8	6.0	6.0	5.0	5.0	5.4
32	-	7.2	7.2	7.2	7.2	7.2	11.5
40	-	8.6	10.0	10.0	9.6	10.0	14.8
50	-	12.4	16.0	16.0	14.8	14.8	23.3
65	20.0	25.0	30.0	30.0	-	-	-
80	25.0	35.0	45.0	45.0	-	-	-
100	40.0	55.0	65.0	65.0	-	-	-

Torques in Nm

1) **Ball valve material**
Code 1: PVC-U, grey
Code 2: PVC-C
Code 4: ABS
Code 5: PP-H, grey
Code 20: PVDF

GEMÜ 9428, 9468 actuators

Product compliance

Machinery Directive: 2006/42/EC

EMC Directive: 2014/30/EU

Low Voltage Directive: 2014/35/EU

RoHS Directive: 2011/65/EU (GEMÜ 9428)

Electrical data

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

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

Power consumption:

Actuator version (code)	Control module (code)	12 V DC (code B1)	12 V AC (code B4)	24 V DC (code C1)	24 V AC (code C4)
1006	**A0, AE**	30.0	30.0	30.0	30.0
1015	**A0, AE**	30.0	-	30.0	-
2015	**A0, AE**	-	30.0	-	30.0
3035	**A0, AE**	-	-	30.0	-
2070	**00, 0E, 0P**	-	-	63.0	-

Power consumption in W

Current consumption:

Actuator version (code)	Control module (code)	12 V DC (code B1)	12 V AC (code B4)	24 V DC (code C1)	24 V AC (code C4)
1006	**A0, AE**	2.2	2.0	1.20	1.5
1015	**A0, AE**	2.2	-	1.20	-
2015	**A0, AE**	-	2.0	-	1.2
3035	**A0, AE**	-	-	1.30	-
2070	**00, 0E, 0P**	-	-	2.60	-

Current data in A

Max. switching current:

Actuator version (code)	Control module (code)	12 V DC (code B1)	12 V AC (code B4)	24 V DC (code C1)	24 V AC (code C4)
1006	**A0, AE**	6.3	2.4	4.0	1.8
1015	**A0, AE**	9.2	-	3.8	-
2015	**A0, AE**	-	2.3	-	1.8
3035	**A0, AE**	-	-	3.3	-
2070	**00, 0E, 0P**	-	-	14.0	

Current data in A

Duty cycle: Continuous duty

Electrical protection:

GEMÜ 9428

Motor protective system by customer

GEMÜ 9468

Internal for functional module 0x

Actuator version 2070: MED 6.3 A

Actuator version 4100, 4200: MED 10.0 A

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

Recommended motor protection:

GEMÜ 9428

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

Current data in A

GEMÜ 9468

Motor protection switch type	Siemens 3RV 1011-1FA10
Set current	4.0 A

Current data in A

Mechanical data

Nominal travel: 90°
Max. travel: 93°
Setting range: 0 to 20° (limit switch Min.)
70 to 93° (limit switch Max.)

Installation position: Optional

Protection class: IP 65 acc. to EN 60529

Weight:

Actuator

Actuator version 1006, 1015, 2015:	1.0
Actuator version 3035:	2.4
Actuator version 2070:	4.6

Weights in kg

Operating time:

Actuator version 1006:	4.0
Actuator version 1015, 2015:	11.0
Actuator version 2070, 3035:	15.0

Operating times in s

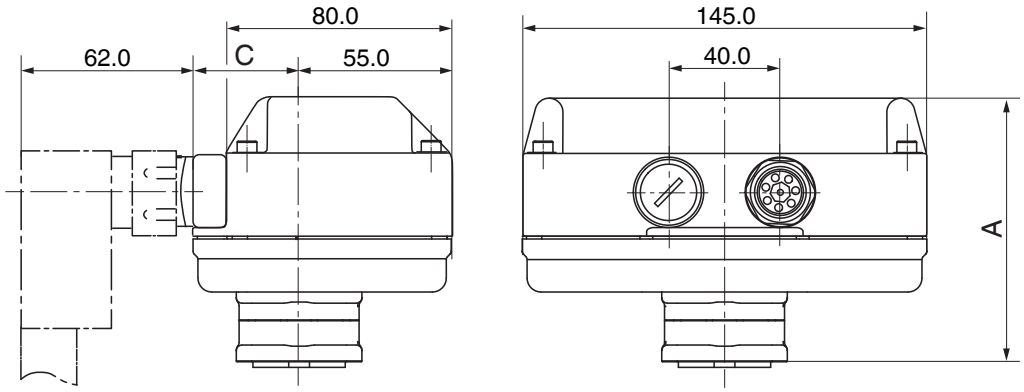
J+J actuators

Note: For technical data see manufacturer's original datasheets

Dimensions

GEMÜ 9428, 9468 actuators

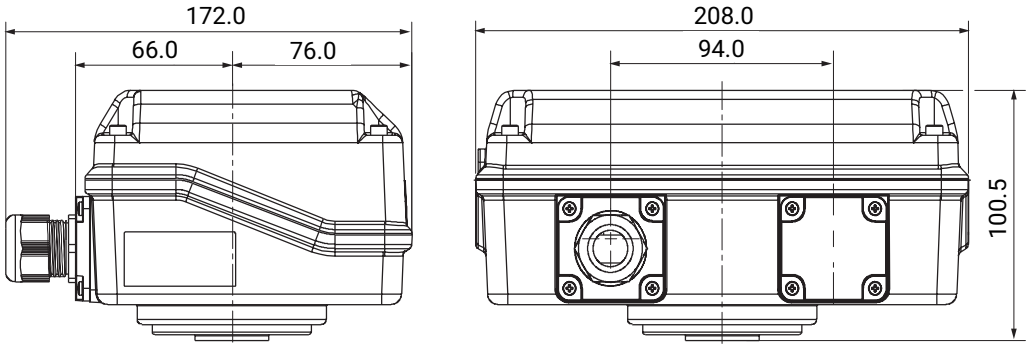
Actuator version 1006, 1015, 2015



Actuator version	A	C
1006, 1015	94.0	49.0
2015	122.0	53.0

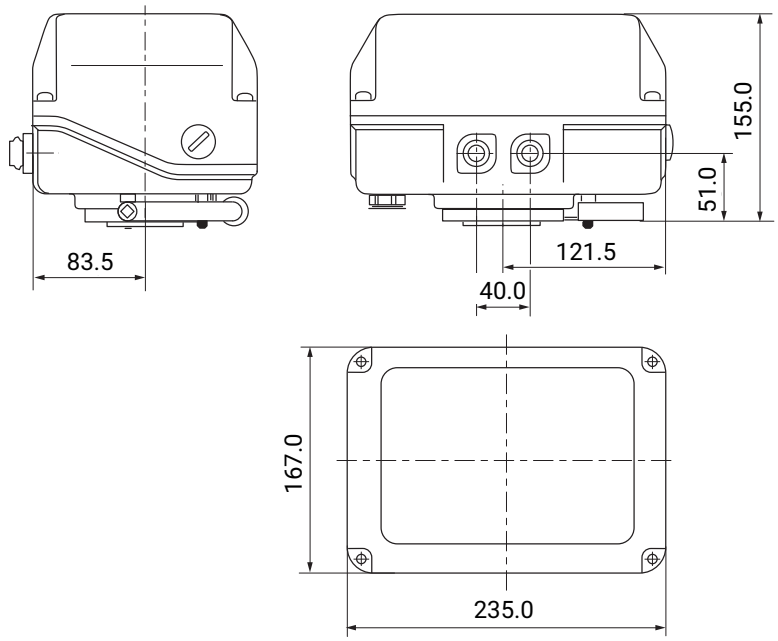
Dimensions in mm

Actuator version 3035



Dimensions in mm

Actuator version 2070

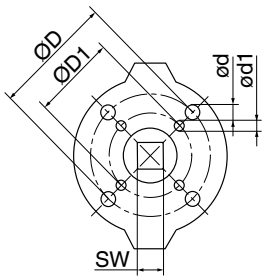


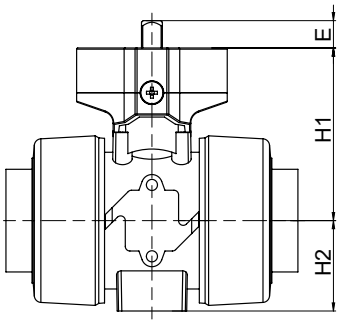
Dimensions in mm

J+J actuators

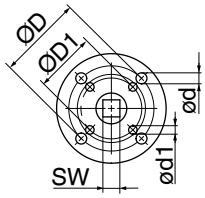
For more detailed information on third-party actuators, refer to the manufacturers' documentation

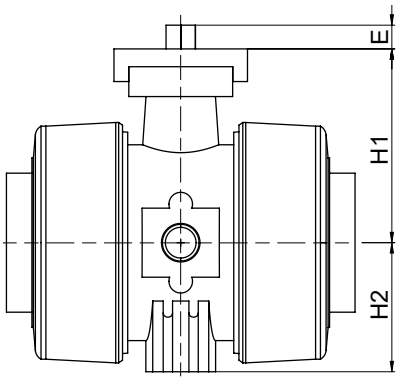
Connection flange





DN 10 - 50





DN 65 - 100

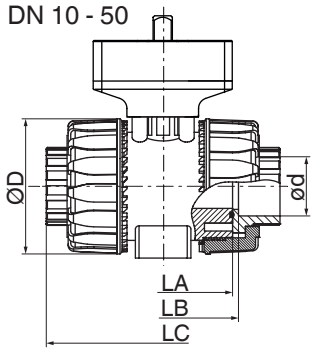
DN	SW	E	H1	H2	ØD x ød	ØD1 x ød1
10	11.0	12.0	58.0	29.0	F03 x 5.5	F04 x 5.5
15	11.0	12.0	58.0	29.0	F03 x 5.5	F04 x 5.5
20	11.0	12.0	69.0	35.0	F03 x 5.5	F05 x 6.5
25	11.0	12.0	74.0	39.0	F03 x 5.5	F05 x 6.5
32	14.0	16.0	91.0	46.0	F05 x 6.5	F07 x 8.5
40	14.0	16.0	97.0	52.0	F05 x 6.5	F07 x 8.5
50	14.0	16.0	114.0	62.0	F05 x 6.5	F07 x 8.5
65	14.0	16.0	131.0	87.0	F07 x 9.0	F05 x 6.5
80	14.0	16.0	131.0	105.0	F07 x 9.0	F05 x 6.5
100	17.0	19.0	149.0	129.0	F07 x 9.0	F05 x 6.5

Dimensions in mm

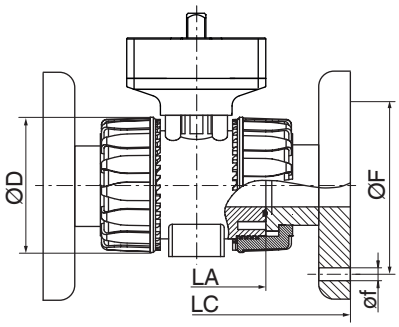
Body dimensions

Valve body material PVC-U (code 1), body configuration D

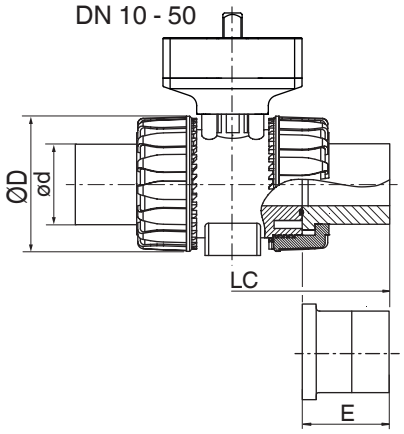
Socket
Connection type code 2, 31, 33, 3M, 3T, 7R



Flange
Connection type code 4, 39



Butt weld spigot
Connection type code 78, 78*



DN	NPS	ød	ØD	A	LA	Connection type code [1]							
						4	39	78*	4	39	4	39	78*
						LC			øf		ØF		E
15	1/2"	20.0	54.0	40.0	65.0	130.0	143.0	175.0	14.0	15.9	65.0	60.3	55.0
20	3/4"	25.0	65.0	49.0	70.0	150.0	172.0	210.0	14.0	15.9	75.0	69.9	70.0
25	1"	32.0	73.0	49.0	78.0	160.0	187.0	226.0	14.0	15.9	85.0	79.4	74.0
32	1 ¼"	40.0	86.0	64.0	88.0	180.0	190.0	243.0	18.0	15.9	100.0	88.9	78.0
40	1 ½"	50.0	98.0	64.0	93.0	200.0	212.0	261.0	18.0	15.9	110.0	98.4	84.0
50	2"	63.0	122.0	76.0	111.0	230.0	234.0	293.0	18.0	19.1	125.0	120.7	91.0
65	2 ½"	75.0	164.0	175.0	133.0	290.0	290.0	356.0	17.0	18.0	145.0	139.7	111.0
80	3"	90.0	203.0	272.0	149.0	310.0	310.0	390.0	17.0	18.0	160.0	152.4	118.0
100	4"	110.0	238.0	330.0	167.0	350.0	350.0	431.0	17.0	18.0	180.0	190.5	132.0

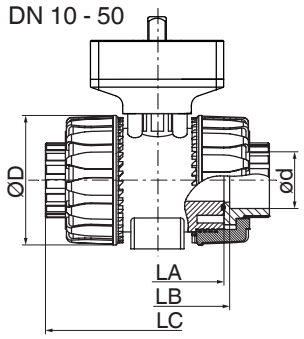
Dimensions in mm

* Inserts according to valve body material,
special version: PE insert, design code 1187

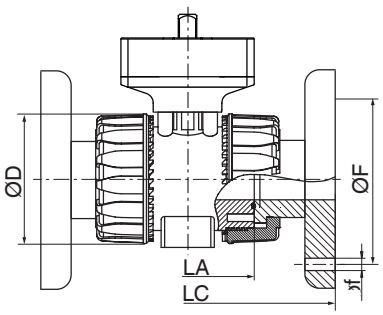
1) **Connection type**
Code 4: Union end with flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 39: Union end with flange ANSI Class 125/150 RF
Code 78: Union end with insert (for IR butt welding) - DIN

Valve body material PVC-U (code 1), body configuration D

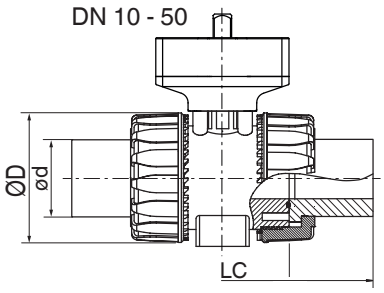
Socket
Connection type code 2, 31, 33, 3M, 3T, 7R



Flange
Connection type code 4, 39



Butt weld spigot
Connection type code 78, 78*



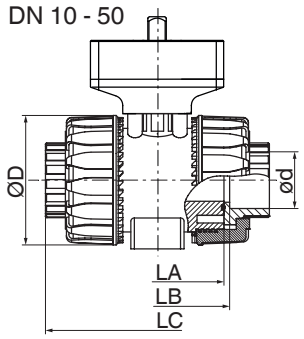
DN	NPS	ød	ØD	A	LA	Connection type code [1]										
						3M	2	33	3M	3T	7R	2	33	3M	3T	7R
						ød	LB					LC				
10	3/8“	16.0	54.0	40.0	65.0	-	75.0	74.0	-	-	-	103.0	103.0	-	-	-
15	1/2“	20.0	54.0	40.0	65.0	21.5	71.0	70.0	72.0	71.0	80.0	103.0	103.0	117.0	131.0	110.0
20	3/4“	25.0	65.0	49.0	70.0	26.9	77.0	77.0	78.0	77.0	83.5	115.0	115.0	129.0	147.0	116.0
25	1“	32.0	73.0	49.0	78.0	33.7	84.0	83.0	84.6	84.0	96.0	128.0	128.0	142.0	164.0	134.0
32	1 ¼“	40.0	86.0	64.0	88.0	42.4	94.0	94.0	98.0	94.0	110.0	146.0	146.0	162.0	182.0	153.0
40	1 ½“	50.0	98.0	64.0	93.0	48.4	102.0	104.0	102.0	102.0	113.0	164.0	164.0	172.0	212.0	156.0
50	2“	63.0	122.0	76.0	111.0	60.5	123.0	127.0	122.6	122.0	134.5	199.0	199.0	199.0	248.0	186.0
65	2 ½“	75.0	164.0	175.0	133.0	75.3	147.0	147.0	146.0	145.0	174.5	235.0	235.0	235.0	267.0	235.0
80	3“	90.0	203.0	272.0	149.0	89.1	168.0	168.0	174.0	165.0	203.5	270.0	270.0	270.0	294.0	270.0
100	4“	110.0	238.0	330.0	167.0	114.5	186.0	182.0	193.0	202.0	229.5	308.0	308.0	308.0	370.0	308.0

Dimensions in mm

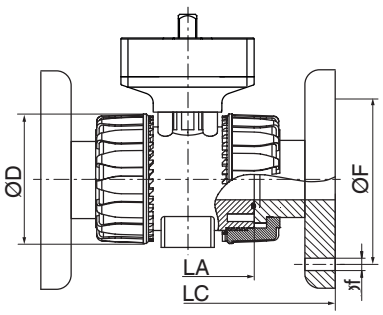
1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 33: Union end with inch insert - BS (socket)
Code 3M: Union end with inch insert – ASTM (socket)
Code 3T: Union end with JIS insert (socket)
Code 7R: Union end with insert (Rp threaded socket) - DIN

Valve body material PVC-C (code 2), body configuration D

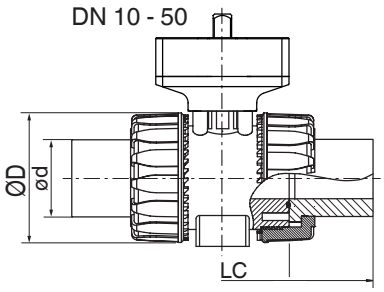
Socket
Connection type code 2, 31, 33, 3M, 3T, 7R



Flange
Connection type code 4, 39



Butt weld spigot
Connection type code 78, 78*



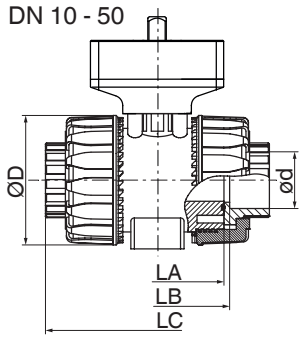
DN	NPS	ød	øD	A	LA	Connection type code [1]										
						3M	2	3M	2	4	39	3M	4	39	4	39
						ød	LB		LC				øf		ØF	
10	3/8“	16.0	54.0	40.0	65.0	-	75.0	-	103.0	-	-	-	-	-	-	-
15	1/2“	20.0	54.0	40.0	65.0	21.5	71.0	72.0	103.0	130.0	143.0	117.0	14.0	15.9	65.0	60.3
20	3/4“	25.0	65.0	49.0	70.0	26.9	77.0	78.0	115.0	150.0	172.0	129.0	14.0	15.9	75.0	69.9
25	1“	32.0	73.0	49.0	78.0	33.7	84.0	84.6	128.0	160.0	187.0	142.0	14.0	15.9	85.0	79.4
32	1 ¼“	40.0	86.0	64.0	88.0	42.4	94.0	98.0	146.0	180.0	190.0	162.0	18.0	15.9	100.0	88.9
40	1 ½“	50.0	98.0	64.0	93.0	48.4	102.0	102.0	164.0	200.0	212.0	172.0	18.0	15.9	110.0	98.4
50	2“	63.0	122.0	76.0	111.0	60.5	123.0	122.6	199.0	230.0	234.0	199.0	18.0	19.1	125.0	120.7
65	2 ½“	75.0	164.0	175.0	133.0	75.3	147.0	146.0	235.0	290.0	290.0	235.0	17.0	18.0	145.0	139.7
80	3“	90.0	203.0	272.0	149.0	89.1	168.0	174.0	270.0	310.0	310.0	270.0	17.0	18.0	160.0	152.4
100	4“	110.0	238.0	330.0	167.0	114.5	186.0	193.0	308.0	350.0	350.0	308.0	17.0	18.0	180.0	190.5

Dimensions in mm

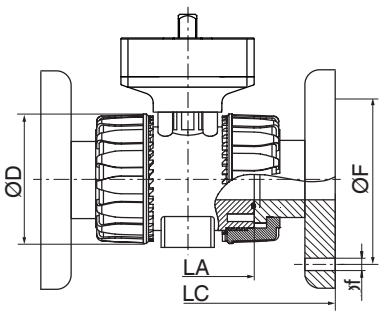
1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 4: Union end with flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 39: Union end with flange ANSI Class 125/150 RF
Code 3M: Union end with inch insert – ASTM (socket)

Valve body material ABS (code 4), body configuration D

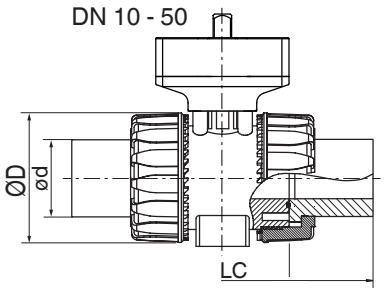
Socket
Connection type code 2, 31, 33, 3M, 3T, 7R



Flange
Connection type code 4, 39



Butt weld spigot
Connection type code 78, 78*



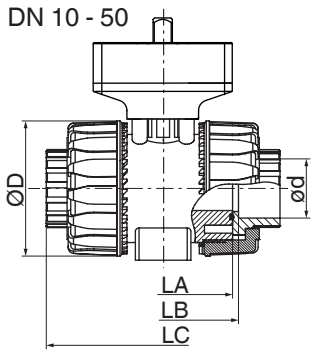
DN	NPS	ød	øD	A	LA	H	Connection type code [1]				
							2	7R	33	2, 33	7R
							LB			LC	
10	3/8"	15.0	55.0	40.0	65.0	49.0	75.0	-	75.0	103.0	-
15	1/2“	20.0	55.0	40.0	65.0	49.0	71.0	80.0	71.0	103.0	110.0
20	3/4“	25.0	66.0	49.0	70.0	59.0	77.0	83.4	77.0	115.0	116.0
25	1“	32.0	75.0	49.0	78.0	66.0	84.0	95.8	84.0	128.0	134.0
32	1 ¼“	40.0	87.0	64.0	88.0	75.0	94.0	110.2	94.0	146.0	153.0
40	1 ½“	50.0	100.0	64.0	93.0	87.0	102.0	113.2	102.0	164.0	156.0
50	2“	63.0	122.0	76.0	111.0	101.0	123.0	134.6	123.0	199.0	186.0
65	2 ½“	75.0	164.0	175.0	133.0	164.0	147.0	-	147.0	235.0	-
80	3“	90.0	203.0	272.0	149.0	177.0	168.0	-	168.0	270.0	-
100	4“	110.0	238.0	330.0	167.0	195.0	186.0	-	186.0	308.0	-

Dimensions in mm

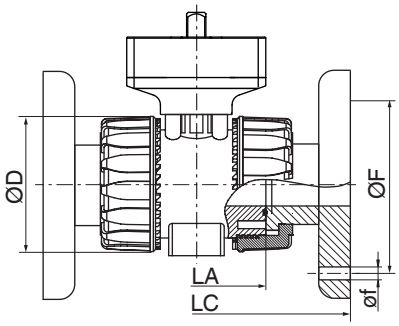
1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 33: Union end with inch insert - BS (socket)
Code 7R: Union end with insert (Rp threaded socket) - DIN

Valve body material PP-H (code 5), body configuration D

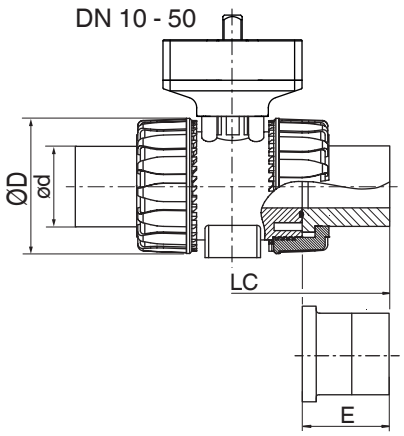
Socket
Connection type code 2, 31, 33, 3M, 3T, 7R



Flange
Connection type code 4, 39



Butt weld spigot
Connection type code 78, 78*



DN	NPS	ød	øD	A	LA	Connection type code [1]											
						2	7R	2	4	39	78/78 *	7R	78/78 *	4	39	4	39
						LB		LC					E	øf		ØF	
10	3/8"	16.0	54.0	40.0	65.0	75.0	-	102.0	-	-	-	-	-	-	-	-	-
15	1/2"	20.0	54.0	40.0	65.0	73.0	80.0	102.0	130.0	143.0	175.0	110.0	55.0	14.0	15.9	65.0	60.3
20	3/4"	25.0	65.0	49.0	70.0	82.0	83.0	114.0	150.0	172.0	210.0	116.0	70.0	14.0	15.9	75.0	69.9
25	1"	32.0	73.0	49.0	78.0	90.0	96.0	126.0	160.0	187.0	226.0	134.0	77.0	14.0	15.9	85.0	79.4
32	1 ¼"	40.0	86.0	64.0	88.0	100.0	110.0	141.0	180.0	190.0	243.0	153.0	78.0	18.0	15.9	100.0	88.9
40	1 ½"	50.0	98.0	64.0	93.0	117.0	113.0	164.0	200.0	212.0	261.0	156.0	84.0	18.0	15.9	110.0	98.4
50	2"	63.0	122.0	76.0	111.0	144.0	134.0	199.0	230.0	234.0	293.0	186.0	91.0	18.0	15.9	125.0	120.7
65	2 ½"	75.0	164.0	175.0	133.0	153.0	-	213.0	290.0	290.0	356.0	-	111.0	17.0	18.0	145.0	139.7
80	3"	90.0	203.0	272.0	149.0	173.0	-	239.0	310.0	310.0	390.0	-	118.0	17.0	18.0	160.0	152.4
100	4"	110.0	238.0	330.0	167.0	199.0	-	268.0	350.0	350.0	431.0	-	132.0	17.0	18.0	180.0	190.5

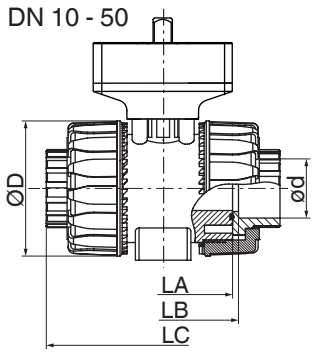
Dimensions in mm

* Inserts according to valve body material,
special version: PE insert, design code 1187

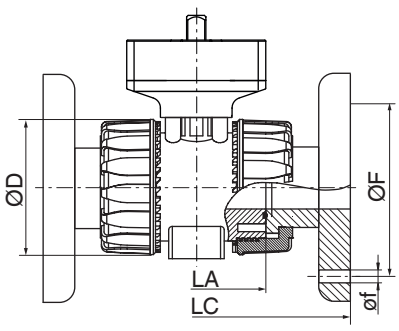
1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 4: Union end with flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 39: Union end with flange ANSI Class 125/150 RF
Code 78: Union end with insert (for IR butt welding) - DIN
Code 7R: Union end with insert (Rp threaded socket) - DIN

Valve body material PVDF (code 20), body configuration D

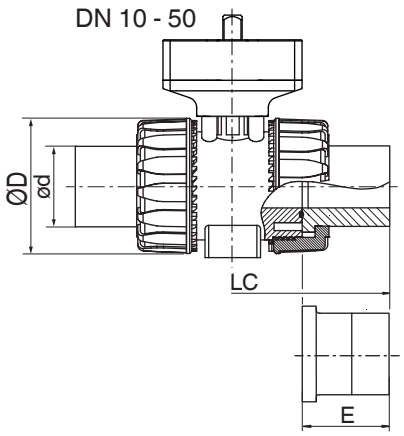
Socket
Connection type code 2, 31, 33, 3M, 3T, 7R



Flange
Connection type code 4, 39



Butt weld spigot
Connection type code 78, 78*



DN	NPS	ød	øD	A	LA	Connection type code [1]								
						2	2	4	78	4	39	4	39	78*
						LB	LC			øf		ØF		E
10	3/8“	16.0	54.0	40.0	65.0	74.5	102.0	-	-	-	-	-	-	-
15	1/2“	20.0	54.0	40.0	65.0	73.0	102.0	130.0	124.0	14.0	15.9	65.0	60.5	30.0
20	3/4“	25.0	65.0	49.0	70.0	82.0	114.0	150.0	144.0	14.0	15.9	75.0	70.0	37.0
25	1“	32.0	73.0	49.0	78.0	90.0	126.0	160.0	154.0	14.0	15.9	85.0	79.5	39.5
32	1 ¼“	40.0	86.0	64.0	88.0	100.0	141.0	180.0	174.0	18.0	15.9	100.0	89.0	44.5
40	1 ½“	50.0	98.0	64.0	93.0	117.0	164.0	200.0	194.0	18.0	15.9	110.0	98.5	51.5
50	2“	63.0	122.0	76.0	111.0	144.0	199.0	230.0	224.0	18.0	19.1	134.0	121.0	58.0
65	2 ½“	75.0	164.0	175.0	133.0	147.0	235.0	290.0	355.0	18.0	18.0	145.0	140.0	110.5
80	3“	90.0	203.0	272.0	149.0	173.0	239.0	310.0	389.0	18.0	18.0	160.0	152.5	118.5
100	4“	110.0	238.0	330.0	167.0	186.0	308.0	350.0	427.0	18.0	18.0	180.0	190.5	130.5

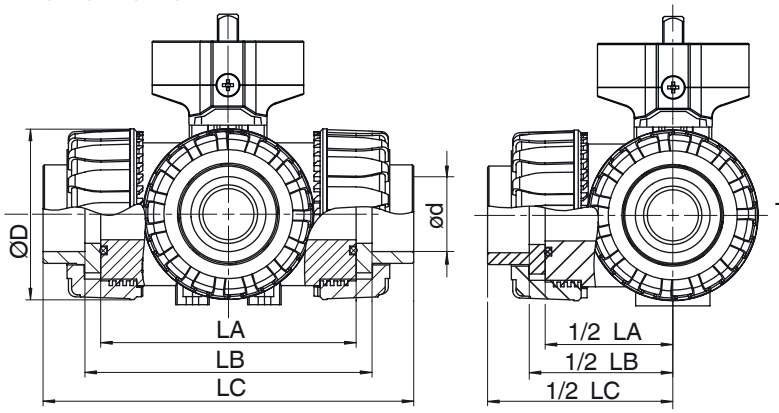
Dimensions in mm

* Inserts according to valve body material,
special version: PE insert, design code 1187

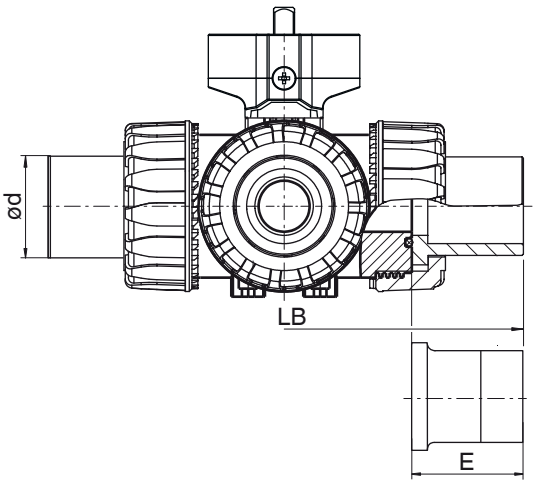
1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 4: Union end with flange EN 1092, PN 10, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 39: Union end with flange ANSI Class 125/150 RF
Code 78: Union end with insert (for IR butt welding) - DIN

Valve body material PVC-U (code 1), body configuration M

Connection type
code 2, 33, 3M, 3T, 7R



Connection type
code 78, 78*



DN	NPS	ød	ØD	A	LA	Connection type code [1]											
						3M	2	33	3M	3T	7R	2, 33	3M	3T	7R	78*	78*
						ød	LB					LC					E
10	3/8“	16.0	54.0	40.0	80.0	-	90.0	-	-	-	-	118.0	-	-	-	-	-
15	1/2“	20.0	54.0	40.0	80.0	21.5	86.0	85.0	87.2	86.0	95.0	118.0	132.2	146.0	125.0	190.0	55.0
20	3/4“	25.0	65.0	49.0	100.0	26.9	107.0	106.8	108.2	107.0	114.0	145.0	159.2	177.0	146.0	240.0	70.0
25	1“	32.0	73.0	49.0	110.0	33.7	116.0	115.0	116.6	116.0	129.0	160.0	174.0	196.0	166.0	258.0	74.0
32	1 ¼“	40.0	86.0	64.0	131.0	42.4	136.5	136.6	141.0	137.0	151.0	188.5	205.0	225.0	195.5	287.0	78.0
40	1 ½“	50.0	98.0	64.0	148.0	48.4	157.0	159.0	157.6	157.2	166.0	219.0	227.6	267.2	211.0	316.0	84.0
50	2“	63.0	122.0	76.0	179.0	60.5	190.5	194.2	190.6	190.0	199.0	266.5	267.0	316.0	253.5	361.0	91.0

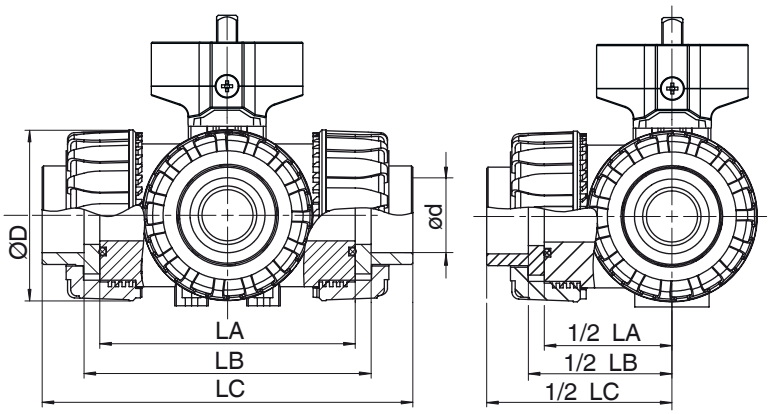
Dimensions in mm

* Inserts according to valve body material,
special version: PE insert, design code 1187

1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 33: Union end with inch insert - BS (socket)
Code 3M: Union end with inch insert – ASTM (socket)
Code 3T: Union end with JIS insert (socket)
Code 78: Union end with insert (for IR butt welding) - DIN
Code 7R: Union end with insert (Rp threaded socket) - DIN

Valve body material PVC-C (code 2), body configuration M

Connection type
code 2, 33, 3M, 3T, 7R



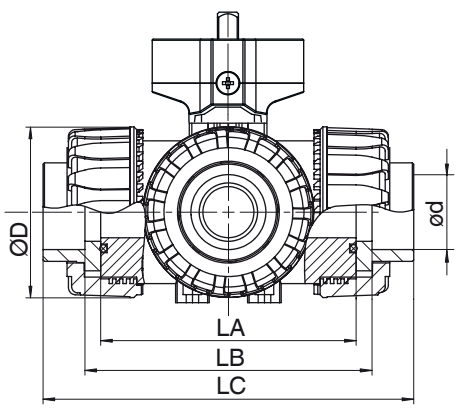
DN	NPS	ØD	A	LA	Connection type code [1]					
					2	3M	2	3M	2	3M
					ød		LB		LC	
10	3/8“	54.0	40.0	80.0	16.0	-	90.0	-	118.0	-
15	1/2“	54.0	40.0	80.0	20.0	21.5	86.0	87.2	118.0	132.2
20	3/4“	65.0	49.0	100.0	25.0	26.9	107.0	108.2	145.0	159.2
25	1“	73.0	49.0	110.0	32.0	33.7	116.0	116.6	160.0	174.0
32	1 ¼“	86.0	64.0	131.0	40.0	42.4	136.5	141.0	188.5	205.0
40	1 ½“	98.0	64.0	148.0	50.0	48.,4	157.0	157.6	219.0	227.6
50	2“	122.0	76.0	179.0	63.0	60.5	190.5	190.6	266.5	267.0

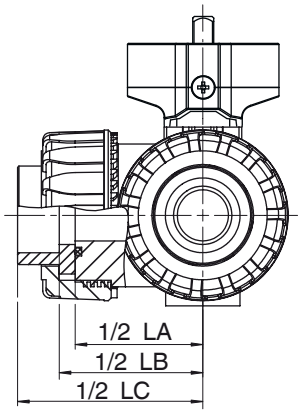
Dimensions in mm

1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 3M: Union end with inch insert – ASTM (socket)

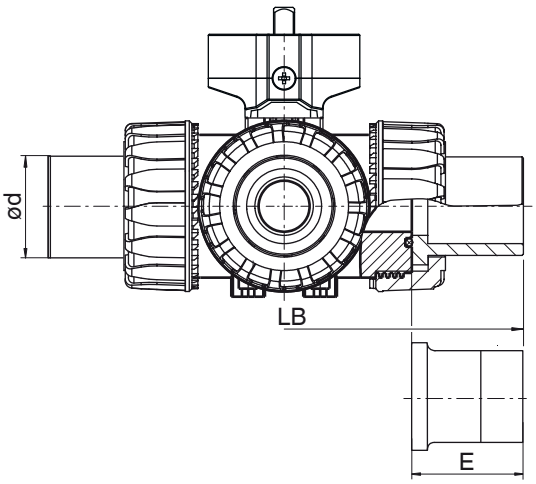
Valve body material PP-H (code 5), body configuration M

Connection type
code 2, 33, 3M, 3T, 7R





Connection type
code 78, 78*



DN	NPS	ød	ØD	A	LA	Connection type code [1]					
						2	7R	2	7R	78, 78*	78, 78*
						LB 1		LC			E
15	1/2“	20.0	54.0	40.0	80.0	88.0	87.0	117.0	117.0	190.0	55.0
20	3/4“	25.0	65.0	49.0	100.0	112.0	114.0	144.0	143.0	240.0	70.0
25	1“	32.0	69.5	49.0	110.0	122.0	120.0	158.0	157.0	258.0	74.0
32	1 ¼“	40.0	82.5	64.0	131.0	142.5	140.0	183.5	184.5	287.0	78.0
40	1 ½“	50.0	89.0	64.0	148.0	172.0	172.0	216.0	217.0	316.0	84.0
50	2“	63.0	108.0	76.0	179.0	211.5	211.0	266.5	265.5	361.0	91.0

Dimensions in mm

1) **Connection type**
Code 2: Union end with insert (solvent cement or weld socket) - DIN
Code 78: Union end with insert (for IR butt welding) - DIN
Code 7R: Union end with insert (Rp threaded socket) - DIN

Electrical connection

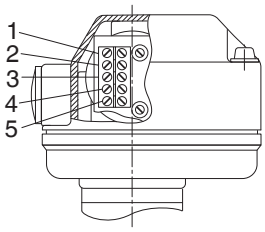
GEMÜ 9428, 9468 actuators

Connection/wiring diagram

ON/OFF actuator (code A0)

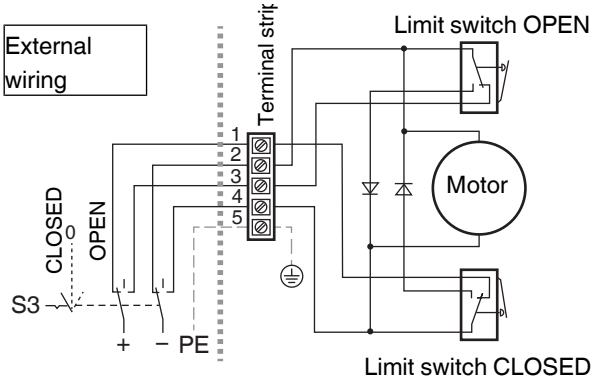
12 V DC (code B1) / 24 V DC (code C1)

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

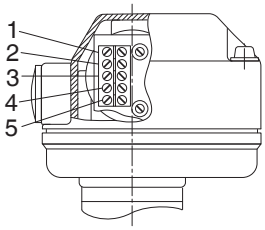
Connection diagram



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

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

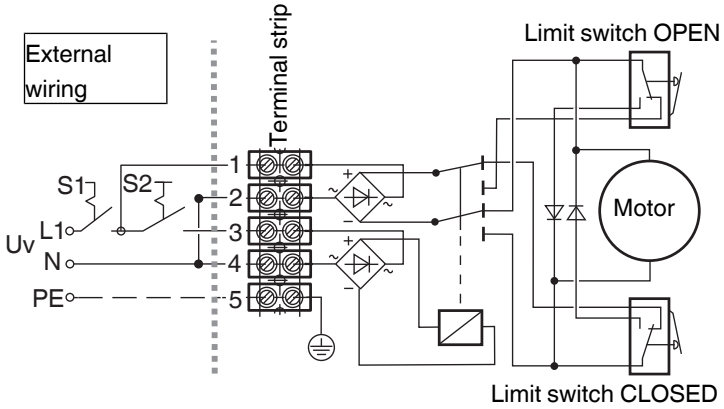
Assignment of the terminal strips



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



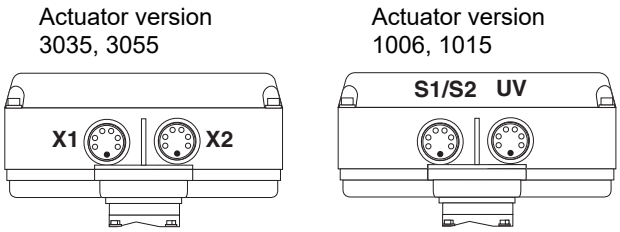
S1	Actuator
0	OFF
1	ON

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



Electrical connection

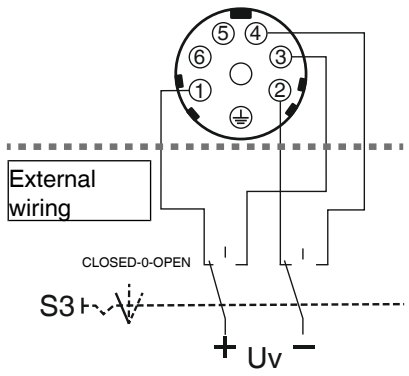
Plug assignment X1, UV

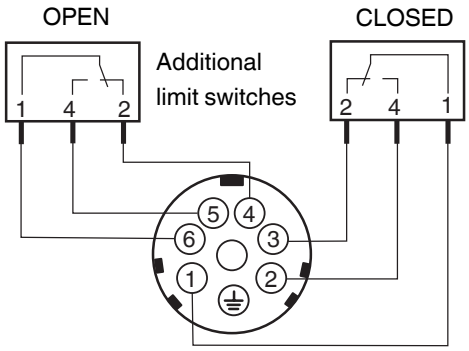
Pin	Description
1	Uv+, direction of travel CLOSED
2	Uv-, direction of travel CLOSED
3	Uv+, direction of travel OPEN
4	Uv-, direction of travel OPEN
5	n.c.
6	n.c.
⏚	PE, protective earth conductor

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





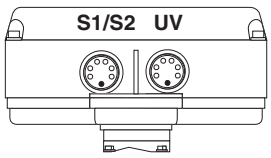
Connection assignment X1, UV

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

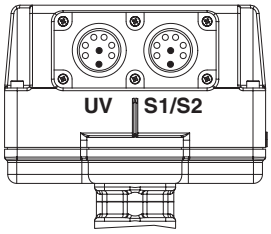
12 V AC (code B4) / 24 V AC (code C4)

Position of the connectors

Actuator version 1006



Actuator version 2015



Electrical connection

Plug assignment UV

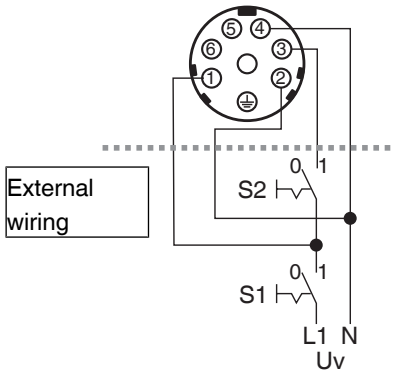
Pin	Description
1	L1, supply voltage
2	N, supply voltage
3	L1, change-over (OPEN/CLOSED)
4	N, change-over (OPEN/CLOSED)
5	n.c.
6	n.c.
⏚	PE, protective earth conductor

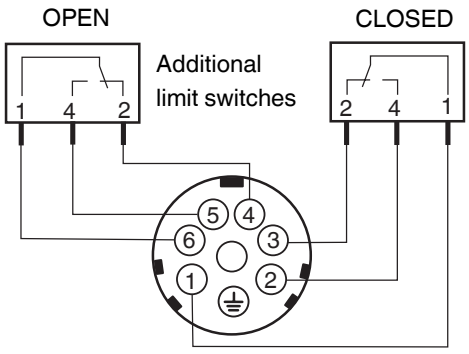
Plug assignment S1/S2

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





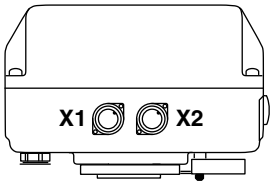
Connection diagram X1, UV

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

Connection/wiring diagram

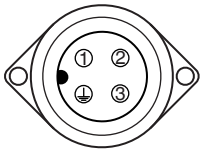
On/Off actuator with relay (code 00), 24 V DC (code C1)

Position of the connectors



Actuator version 2070

Electrical connection

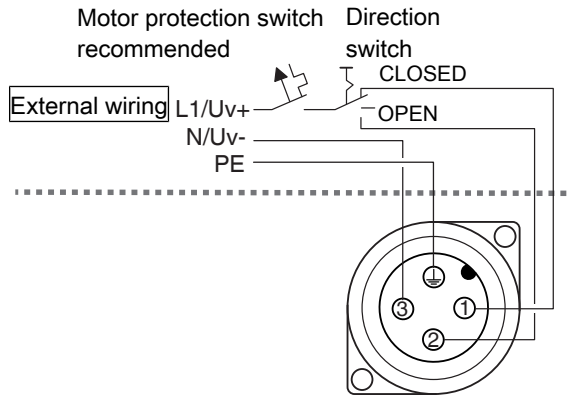


Plug assignment X1

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".

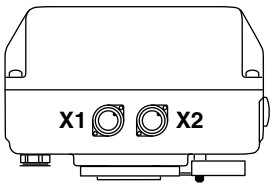
Connection diagram



Connection assignment X1

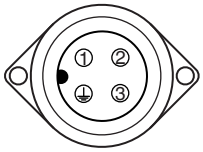
On/Off actuator with 2 additional potential-free limit switches, with relay (code 0E), 24 V DC (code C1)

Position of the connectors



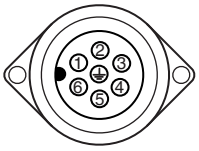
Actuator version 2070

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

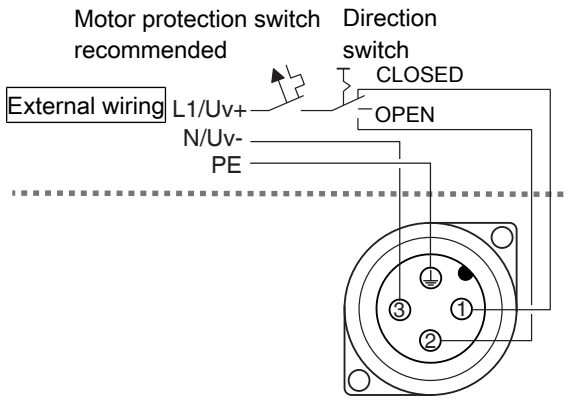


Plug assignment X2

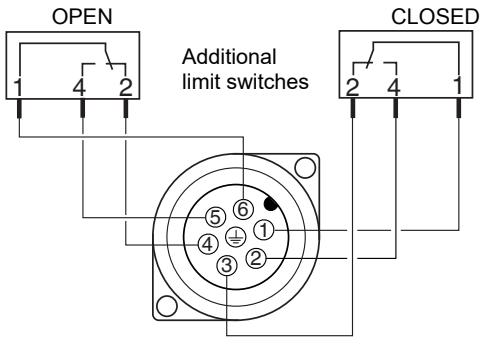
Pin	Description
1	Change-over contact limit switch CLOSED
2	Make contact limit switch CLOSED
3	Break contact limit switch CLOSED
4	Break contact limit switch OPEN
5	Make contact limit switch OPEN
6	Change-over contact limit switch OPEN
⏚	PE, protective earth conductor

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



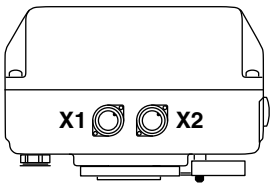
Connection assignment X1



Connection assignment X2

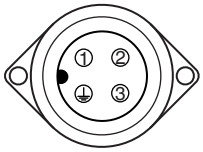
On/Off actuator with potentiometer output, with relay (code 0P), 24 V DC (code C1)

Position of the connectors



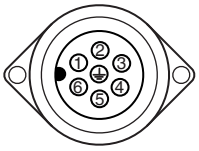
Actuator version 2070

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

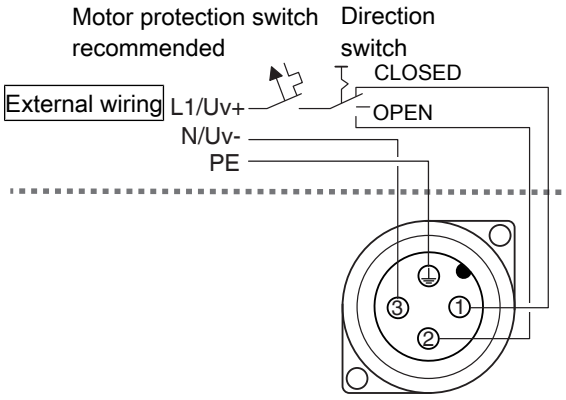


Plug assignment X2

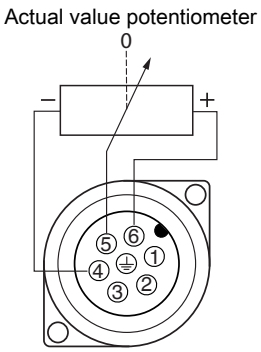
Pin	Description
1	n. c.
2	n. c.
3	n. c.
4	Us-, actual value potentiometer signal voltage minus
5	Us ⌐, actual value potentiometer signal output
6	Us+, actual value potentiometer signal voltage plus
⏚	PE, protective earth conductor

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

J+J actuators

Note: For technical data see manufacturer's original datasheets

Certificates

Certificate	Standard	Item number
2.2 Supplier's certificate of compliance with the order	EN 10204	88363493
3.1 Material analysis	EN 10204	88363494

Accessories

GEMÜ 717 MPL

Mounting plate

Only for 2-way ball valves. The spacer plate kit includes a spacer plate (PP, glass fibre reinforced), screws (stainless steel), threaded inserts (brass). For the nominal sizes DN 65 - 100, the mounting plate is integrated into the ball valve.

Nominal size	Item number	Designation	Order designation
DN 10 - 25	88290237	Threaded insert M4 x 6	717 25MPL
DN 32 - 50	88290238	Threaded insert M6 x 10	717 50MPL

GEMÜ 710 SMK

Mounting kit for ball valve 710, 717, 723

The mounting kit can be used to mount electric or pneumatic actuators on the ball valve.

Nominal size	Item number	Order description
DN 10 - 15	88353335	710 15SMK
DN 20	88351044	710 20SMK
DN 25	88353770	710 25SMK
DN 32	88353388	710 32SMK
DN 40	88353778	710 40SMK
DN 50	88353779	710 50SMK
DN 65 - 100	88441143	710 100SMK

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8, 74653 Ingelfingen-Criesbach, Germany
Phone +49 (0) 7940 1230 · info@gemue.de
www.gemu-group.com