GEMÜ 529 eSyLite

Motorized angle seat globe valve

EN **Operating instructions**

FDA

further information
webcode: GW-529

Contents

1 General information

1.1 Information

- The descriptions and instructions apply to the standard versions. For special versions not described in this document the basic information contained herein applies in combination with any additional special documentation.
- Correct installation, operation, maintenance and repair work ensure faultless operation of the product.
- Should there be any doubts or misunderstandings, the German version is the authoritative document.
- Contact us at the address on the last page for staff training information.

1.2 Symbols used

The following symbols are used in this document:

Symbol	Meaning
●	Tasks to be performed
▶	Response(s) to tasks
–	Lists

1.3 Definition of terms

Working medium

The medium that flows through the GEMÜ product.

Control function

The possible actuation functions of the GEMÜ product.

1.4 Warning notes

Wherever possible, warning notes are organised according to the following scheme:

SIGNAL WORD	
Possible symbol for the specific danger	Type and source of the danger ▶Possible consequences of non-observance. ●Measures for avoiding danger.

Warning notes are always marked with a signal word and sometimes also with a symbol for the specific danger.

The following signal words and danger levels are used:

⚠ DANGER

Imminent danger!

▶ Non-observance can cause death or severe injury.

⚠ WARNING

Potentially dangerous situation!

▶ Non-observance can cause death or severe injury.

⚠ CAUTION

Potentially dangerous situation!

▶ Non-observance can cause moderate to light injury.

NOTICE

Potentially dangerous situation!

▶ Non-observance can cause damage to property.

The following symbols for the specific dangers can be used within a warning note:

Symbol	Meaning
	Danger of explosion!
	The equipment is subject to pressure!
	Corrosive chemicals!
	Hot plant components!
	Maximum permissible pressure exceeded!
	Damage to the product!

2 Safety information

The safety information in this document refers only to an individual product. Potentially dangerous conditions can arise in combination with other plant components, which need to be considered on the basis of a risk analysis. The operator is responsible for the production of the risk analysis and for compliance with the resulting precautionary measures and regional safety regulations.

The document contains fundamental safety information that must be observed during commissioning, operation and maintenance. Non-compliance with these instructions may cause:

- Personal hazard due to electrical, mechanical and chemical effects.
- Hazard to nearby equipment.
- Failure of important functions.
- Hazard to the environment due to the leakage of dangerous substances.

The safety information does not take into account:

- Unexpected incidents and events, which may occur during installation, operation and maintenance.
- Local safety regulations which must be adhered to by the operator and by any additional installation personnel.

Prior to commissioning:

1. Transport and store the product correctly.
2. Do not paint the bolts and plastic parts of the product.
3. Carry out installation and commissioning using trained personnel.
4. Provide adequate training for installation and operating personnel.
5. Ensure that the contents of the document have been fully understood by the responsible personnel.
6. Define the areas of responsibility.
7. Observe the safety data sheets.
8. Observe the safety regulations for the media used.

During operation:

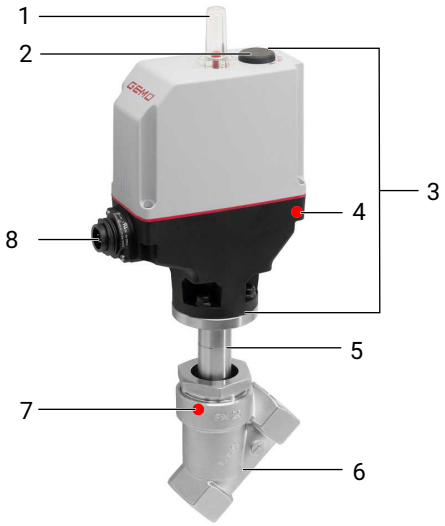
9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not described in this document without consulting the manufacturer first.

In cases of uncertainty:

15. Consult the nearest GEMÜ sales office.

3 Product description

3.1 Construction



Position	Name	Materials
1	Transparent cap for optical position indicator	PA 12
2	Manual override	
3	Motorized actuator	Reinforced polyamide
4	CONEXO actuator RFID chip	
5	Distance piece with leak detection hole	1.4305 / 1.4408
6	Valve body	1.4435, investment casting 1.4408, investment casting CC499K, cast bronze
7	CONEXO body RFID chip	
8	Electrical connection	

3.2 Description

The GEMÜ 529 eSyLite 2/2-way angle seat globe valve is motorized. It is available as an Open/Close version. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage. An integrated optical position indicator is standard. The self-locking actuator holds its position in a stable manner in the event of power supply failure.

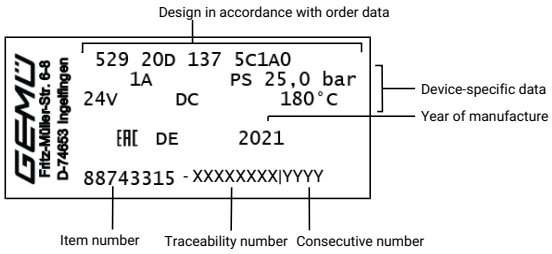
3.3 Function

The product controls a flowing medium by being closed or opened by a motorised actuator. The product is designed as an OPEN/CLOSED valve and is not intended for control applications.

The product has an optical position indicator as standard. The optical position indicator indicates the OPEN and CLOSED positions.

3.4 Product label

The product label is located on the actuator. Product label data (example):



The month of manufacture is encoded in the traceability number and can be obtained from GEMÜ. The product was manufactured in Germany.

The operating pressure stated on the product label applies to a media temperature of 20 °C. The product can be used up to the maximum stated media temperature. You can find the pressure/temperature correlation in the technical data.

4 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

5 Correct use

⚠ DANGER

Danger of explosion!

- ► Risk of death or severe injury
- ● Do **not** use the product in potentially explosive zones.

⚠ WARNING

Improper use of the product!

- ► Risk of severe injury or death
- ► Manufacturer liability and guarantee will be void.
- ● Only use the product in accordance with the operating conditions specified in the contract documentation and in this document.

The product is designed for installation in piping systems and for controlling a working medium.

The product is not intended for use in potentially explosive areas.

1. Use the product in accordance with the technical data.
2. The product is designed as an OPEN/CLOSED valve and is not intended for control applications. Due to the minimum actuation time, sufficiently accurate control is not possible.

6 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
Angle seat globe valve, motorized, eSyLite	529

2 DN	Code
DN 6	6
DN 8	8
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80

3 Housing configuration	Code
2/2-way body	D
Angle valve body	E

4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot DIN EN 10357 series B (2014 issue; formerly DIN 11850 series 1)	16
Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2	17
Spigot SMS 3008	37
Spigot ASME BPE/DIN EN 10357 series C (from 2022 issue)/DIN 11866 series C	59
Spigot ISO 1127/DIN EN 10357 series C (2014 issue)/ DIN 11866 series B	60
Spigot ANSI/ASME B36.19M schedule 10s	63
Spigot ANSI/ASME B36.19M schedule 40s	65
Threaded connection	
Threaded socket DIN ISO 228	1
Threaded socket Rc ISO 7-1, EN 10226-2, JIS B 0203, BS 21, end-to-end dimension ETE DIN 3202-4 series M8	3C
Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8	3D
Threaded spigot DIN ISO 228	9
Flange	
Flange EN 1092, PN 25, form B	13
Flange ANSI Class 150 RF	47
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80

4 Connection type	Code
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 1	82
Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 1	86
Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 1	88

5 Valve body material	Code
Investment casting material	
1.4435, investment casting	34
1.4408, investment casting	37
1.4435, investment casting	C2
Cast bronze	
CC499K, cast bronze	9
1.4435 (F316L), forged body	40

6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
1.4404	10

7 Voltage/Frequency	Code
24 V DC	C1

8 Control module	Code
ON/OFF actuator (economy)	A0
ON/OFF actuator (economy) Emergency power supply module (NC)	A1
ON/OFF actuator (economy) Emergency power supply module (NO)	A2
OPEN/CLOSE control with mounted GEMÜ 1215 position indicator	Z0
OPEN/CLOSE control with mounted GEMÜ 1215 position indicator Emergency power supply module (NC)	Z1
OPEN/CLOSE control with mounted GEMÜ 1215 position indicator Emergency power supply module (NO)	Z2
OPEN/CLOSE control with mounted GEMÜ 1235 position indicator	Y0
OPEN/CLOSE control with mounted GEMÜ 1235 position indicator Emergency power supply module (NC)	Y1
OPEN/CLOSE control with mounted GEMÜ 1235 position indicator Emergency power supply module (NO)	Y2

9 Actuator version	Code
Actuator size 0 Seat diameter 9 mm	0E
Actuator size 1	1A

9 Actuator version	Code
Actuator size 3	3A

10 Type of design	Code
Standard	
PTFE-PTFE spindle seal	2013

11 Special version	Code
Standard	

11 Special version	Code
Special version for oxygen, (max. temperature 60 °C; max. operating pressure 10 bar), media wetted seal materials and auxiliary materials with BAM testing	S

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

Order example

Ordering option	Code	Description
1 Type	529	Angle seat globe valve, motorized, eSyLite
2 DN	25	DN 25
3 Housing configuration	D	2/2-way body
4 Connection type	1	Threaded socket DIN ISO 228
5 Valve body material	37	1.4408, investment casting
6 Seat seal	5	PTFE
7 Voltage/Frequency	C1	24 V DC
8 Control module	A0	ON/OFF actuator (economy)
9 Actuator version	1A	Actuator size 1
10 Type of design		Standard
11 Special version		Standard
12 CONEXO		Without

7 Technical data

7.1 Medium

Working medium: Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and seal material.

Max. permissible viscosity: 600 mm²/s

Other versions for lower / higher temperatures and higher viscosities on request.

7.2 Temperature

Media temperature: -10 — 180 °C

Ambient temperature: -10 — 60 °C

depending on version and/or operating parameters (see chapter Duty cycle and service life)

If the emergency power supply module (control module code A1, A2, Y1, Y2, Z1, Z2) is used, the maximum ambient temperature is reduced to 40 °C.

For actuator size 0 (**AG0**), the ambient temperature is 0 to 60 °C.

Storage temperature: -25 — 60 °C

7.3 Pressure

Operating pressure:

DN	Actuator version 0E	Actuator version 1A	Actuator version 3A
6	25	-	-
8	25	-	-
10	25	-	-
15	25	25	-
20	-	25	-
25	-	25	-
32	-	22	25
40	-	13	25
50	-	8	17

All pressures are gauge pressures.
For max. operating pressures the pressure / temperature correlation must be observed.
Higher operating pressures on request
DN 65 and DN 80 available on request

Leakage rate: Leakage rate A to P11/P12 EN 12266-1

Pressure/temperature correlation:

Connection types code [1]	Material code [2]	Max. allowable operating pressures in bar at temperature in °C			
		RT	100	150	200
1, 9, 17, 37, 60, 63, 3C, 3D	**37**	25.0	23.8	21.4	18.9
0, 16, 17, 37, 59, 60, 65	**34**	25.0	24.5	22.4	20.3
13 (DN 15 - 50)	**34**	25.0	23.6	21.5	19.8
80, 88 (DN 15 - 40)	**34**	25.0	21.2	19.3*	-
80, 88 (DN 50 - 80)	**34**	16.0	16.0	16.0*	-
82 (DN 15 - 32)	**34**	25.0	21.2	19.3*	-
82 (DN 40 - 65)	**34**	16.0	16.0	16.0*	-
86 (DN 15 - 40)	**34**	25.0	21.2	19.3*	-
86 (DN 50 - 65)	**34**	16.0	16.0	16.0*	-
47 (DN 15 - 50)	**34**	15.9	13.3	12.0	11.1
17, 59, 60	**C2**	25.0	21.2	19.3	17.9

* max. temperature 140 °C

1) **Connection type**
Code 0: Spigot DIN
Code 1: Threaded socket DIN ISO 228
Code 3C: Threaded socket Rc ISO 7-1, EN 10226-2, JIS B 0203, BS 21, end-to-end dimension ETE DIN 3202-4 series M8
Code 3D: Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8
Code 9: Threaded spigot DIN ISO 228
Code 13: Flange EN 1092, PN 25, form B
Code 16: Spigot DIN EN 10357 series B (2014 issue; formerly DIN 11850 series 1)
Code 17: Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2
Code 37: Spigot SMS 3008
Code 47: Flange ANSI Class 150 RF
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 issue)/DIN 11866 series C
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 issue)/DIN 11866 series B
Code 63: Spigot ANSI/ASME B36.19M schedule 10s
Code 65: Spigot ANSI/ASME B36.19M schedule 40s
Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE
Code 82: Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 1
Code 86: Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 1
Code 88: Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 1

2) **Valve body material**
Code 34: 1.4435, investment casting
Code 37: 1.4408, investment casting
Code C2: 1.4435, investment casting

Kv values:

DN	Butt weld spigot DIN 11866	Threaded socket DIN ISO 228
DN 6	1.6	-
DN 8	2.2	-
DN 10	2.4	-
DN 15	5.5	4.5
DN 20	11.7	10.0
DN 25	20.9	15.6
DN 32	33.0	23.0
DN 40	51.0	41.0
DN 50	61.0	68.0
DN 65	110.0	95.0
DN 80	117.0	130.0

Kv values in m^3/h
Kv values determined in accordance with DIN EN 60534. The Kv value specifications refer to the largest actuator for the respective nominal size. The Kv values for other product configurations (e.g. other connections or body materials) may differ.

7.4 Product conformity

Machinery Directive:	2006/42/EC
Pressure Equipment Directive:	2014/68/EU
Food:	Regulation (EC) No. 1935/2004* Regulation (EC) No. 10/2011* FDA* * depending on version and/or operating parameters
EMC Directive:	2014/30/EU
RoHS Directive:	2011/65/EU

7.5 Mechanical data

Protection class: IP 65 acc. to EN 60529

Actuating speed: Max. 3 mm/s

Installation position: Optional

Weight:

Actuator

DN	Actuator size	Weight without valve body
6	0E	0.41
8	0E	0.41
10	0E	0.41
15	0E	0.41
15	1A	1.20
20	1A	1.21
25	1A	1.22
32	1A	1.48
40	1A	1.75
40	3A	2.25
50	1A	2.00
50	3A	2.50
65	3A	-
80	3A	-

Weights in kg
DN 65 and DN 80 available on request

Valve body

DN	Spigot K514	Threaded socket	Threaded spigot	Flange K514	Clamp
	Connection type code				
	0, 16, 17, 37, 59, 60	1, 3D, 3C	9	13, 47	80, 82, 86, 88
6	0.12	-	0.14	-	-
8	0.12	0.25	0.12	-	-
10	0.12	0.25	0.14	-	-
15	0.24	0.35	0.31	1.80	0.37
20	0.50	0.35	0.50	2.50	0.63
25	0.50	0.35	0.65	3.10	0.63
32	0.90	0.75	1.00	4.60	1.08
40	1.10	0.98	1.30	5.10	1.28
50	1.80	1.70	1.80	7.20	2.07
65	3.40	3.20	3.40	-	3.69
80	4.20	4.10	4.40	-	4.60

Weights in kg

Mechanical environmental conditions: Class 4M8 acc. to EN 60721-3-4:1998

Vibration: 5g acc. to IEC 60068-2-6 Test Fc

Shock: 25g acc. to 60068-2-27 Test Ea

7.6 Actuator duty cycle and service life

Service life: Class A acc. to EN 15714-2
Minimum 100,000 switching cycles at room temperature and permissible duty cycle.

Duty cycle: max. 30% duty

7.7 Electrical data

Supply voltage: 24 V DC
Tolerance ± 10 %

Close tight current / rated current: Actuator size 0E: 0.4 A
Actuator size 1A: 1.1 A
Actuator size 3A: 2.3 A

Starting current / maximum current: Actuator size 0E: 0.7 A
Actuator size 1A: 2.4 A
Actuator size 3A: 4.5 A

Standby current consumption: approx. 10 mA

7.7.1 Digital input signals

Input voltage: max. 30 V DC
≥ 56 kΩ

High level: ≥ 18 V DC

Low level: ≤ 5 V DC

Minimum actuation duration: 600 ms

Input current: < 0.6 mA

7.7.2 Emergency power supply module

Charging current: Actuator size 0E: Max. 0.10 A
Actuator size 1A: Max. 0.16 A
Actuator size 3A: Not available

Charging time: approx. 13 min

Service life: **For actuator size 1 (AG1) and actuator size 3 (AG3):**
Guide value for an ambient temperature of 25 °C, approx. three years

For actuator size 0 (AG0):

Ambient temperature of actuator AG0	Emergency power supply module service life
60 °C	Approx. 2.5 years
50 °C	Approx. 6 years
40 °C and lower	Over 10 years

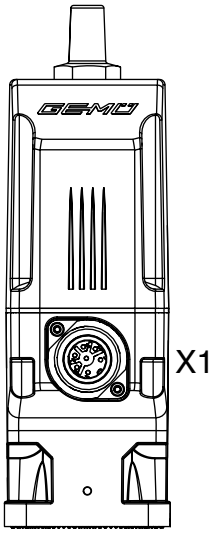
8 Electrical connection

NOTICE

Appropriate cable socket/appropriate mating connector

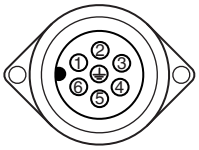
► The appropriate connector is included for X1.

8.1 Position of the connectors



8.2 Electrical connection

Connection X1



7-pin plug, Binder, type 693

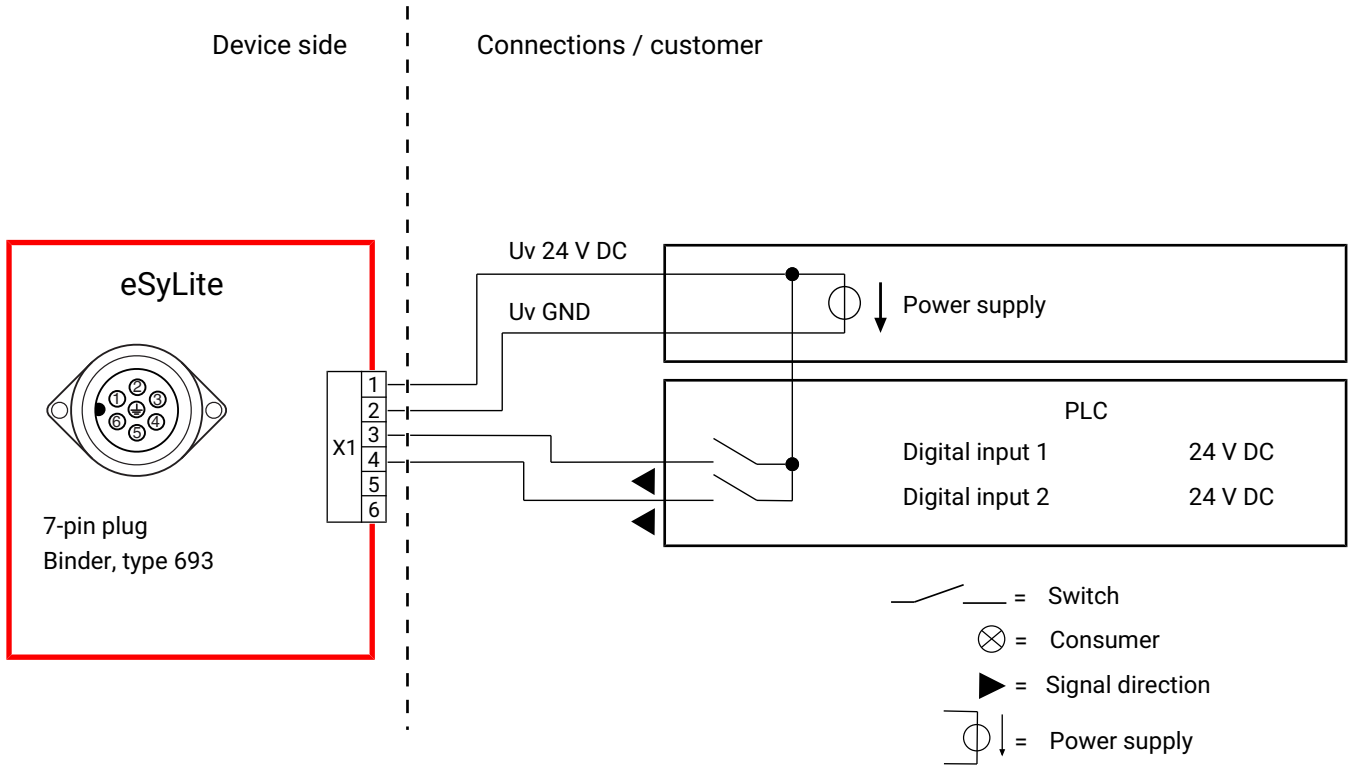
Pin	Signal name
1	24 V supply voltage
2	GND
3	Digital input OPEN
4	Digital input CLOSED
5	n.c.
6	n.c.
7	n.c.

Preferred direction if both digital inputs are present for device version 00 (see operating instructions – Product label)	
Control module ordering option	Preferred direction
A0, Y0, Z0	OPEN
A1, Y1, Z1	CLOSED

Preferred direction if both digital inputs are present for device version 00 (see operating instructions – Product label)	
A2, Y1, Z2	OPEN

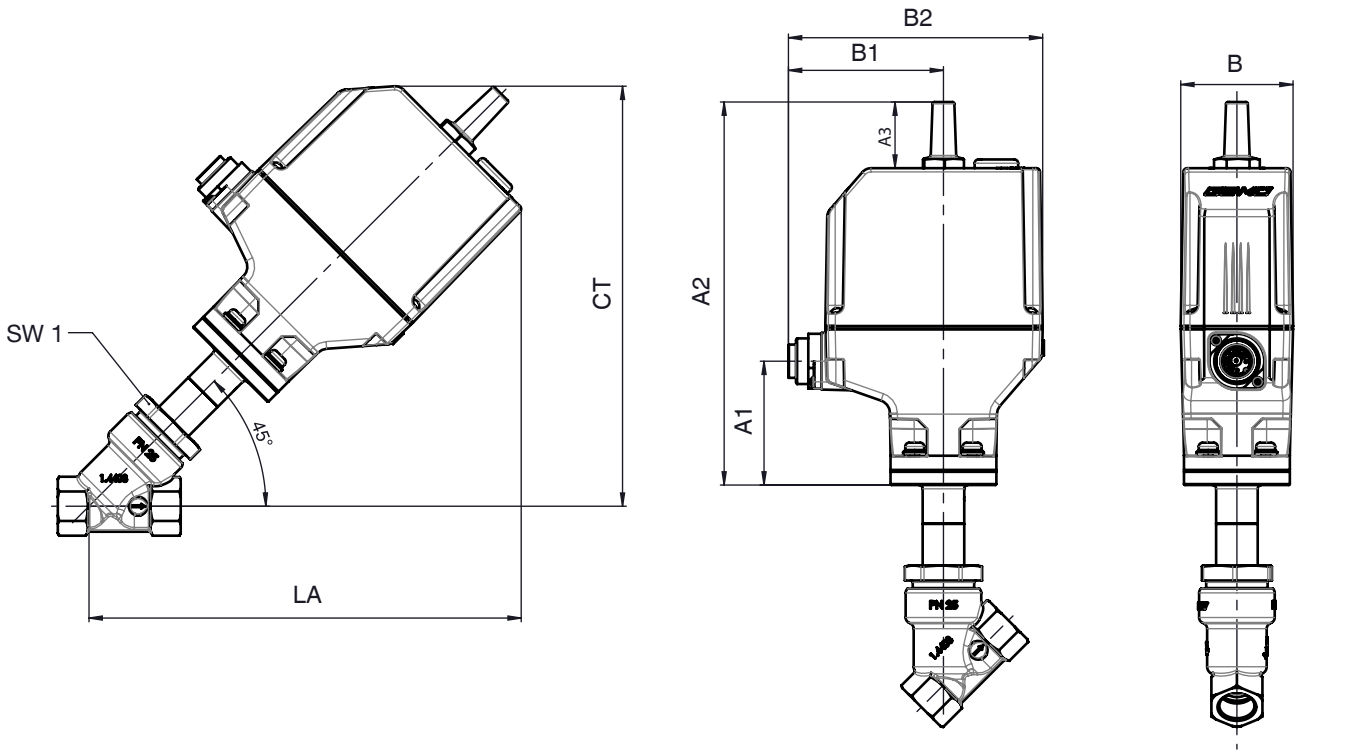
Preferred direction if both digital inputs are present for device version 01 (see operating instructions – Product label)	
Control module ordering option	Preferred direction
A0, Y0, Z0	OPEN
A1, Y1, Z1	OPEN
A2, Y2, Z2	CLOSED

8.3 Connection diagram



9 Dimensions

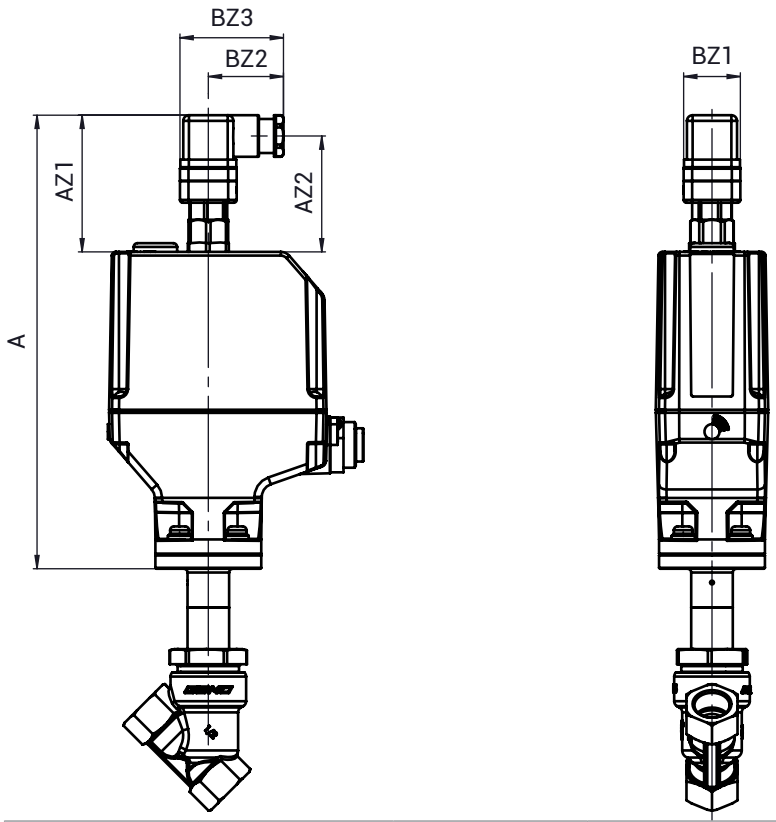
9.1 Installation and actuator dimensions of valve with 2/2-way body without electrical position indicator



DN	Actuator version	A1	A2	A3	B	B1	B2	CT	LA	SW1
6	**0E**	46.5	160.0	27.0	43.0	72.5	113.0	170	171	24
8	**0E**	46.5	160.0	27.0	43.0	72.5	113.0	170	171	24
10	**0E**	46.5	160.0	27.0	43.0	72.5	113.0	170	171	24
15	**0E**	46.5	160.0	27.0	43.0	72.5	113.0	170	171	24
15	**1A**	65.5	203.0	35.0	59.5	82.0	134.5	222.0	229.0	36
20	**1A**	65.5	203.0	35.0	59.5	82.0	134.5	228.0	234.0	41
25	**1A**	65.5	203.0	35.0	59.5	82.0	134.5	232.0	239.0	46
32	**1A**	65.5	203.0	35.0	59.5	82.0	134.5	239.0	246.0	55
40	**1A**	65.5	203.0	35.0	59.5	82.0	134.5	251.0	257.0	60
40	**3A**	72.0	232.0	50.0	80.0	94.5	167.0	273.0	281.0	60
50	**1A**	65.5	203.0	35.0	59.5	82.0	134.5	259.0	265.0	75
50	**3A**	72.0	232.0	50.0	80.0	94.5	167.0	281.0	289.0	75
65	**3A**	72.0	232.0	50.0	80.0	94.5	167.0	295.0	304.0	75
80	**3A**	72.0	232.0	50.0	80.0	94.5	167.0	310.0	318.0	75

Dimensions in mm

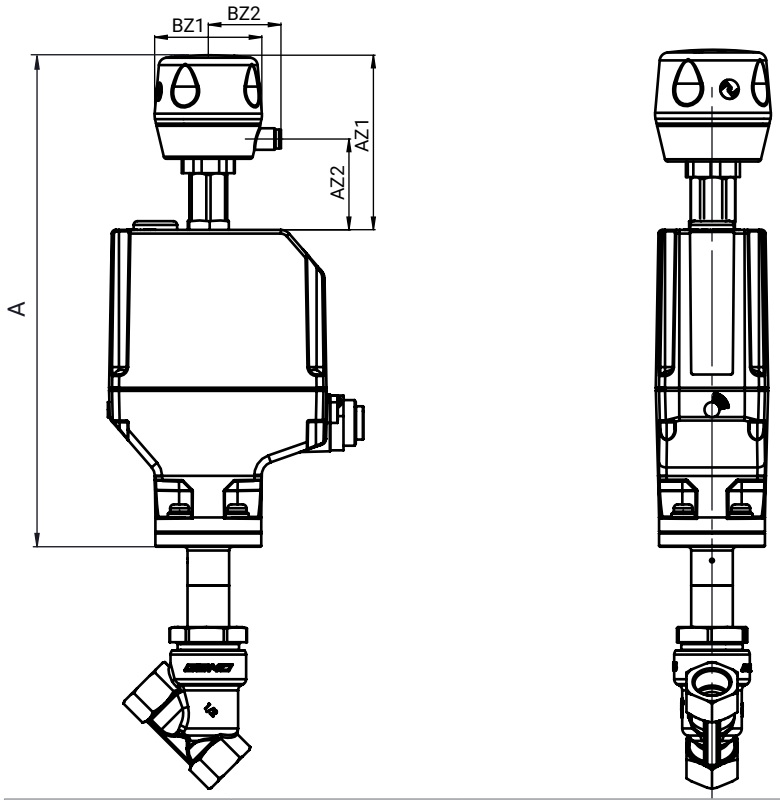
9.2 Installation and actuator dimensions of valve with 2/2-way body with 1215 electrical position indicator



Actuator version	A	AZ1	AZ2	BZ1	BZ2	BZ3
0E	206.0	72.0	61.0	30.0	40.0	55.0
1A	240.0	72.0	61.0	30.0	40.0	55.0
3A	269.0	72.0	61.0	30.0	40.0	55.0

Dimensions in mm

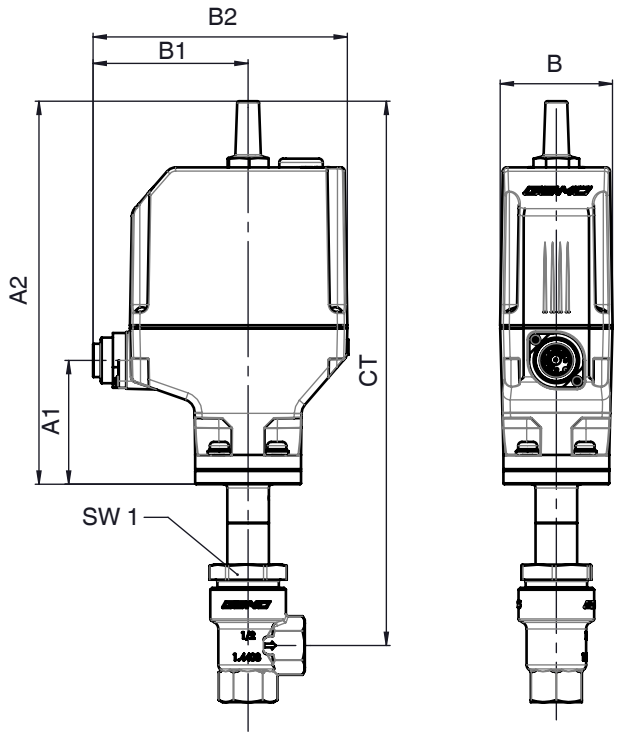
9.3 Installation and actuator dimensions of valve with 2/2-way body with 1235 electrical position indicator

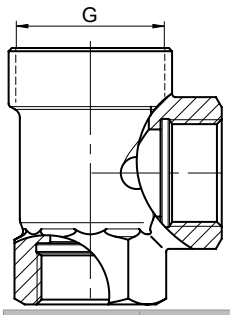


Actuator version	A	AZ1	AZ2	Dia. BZ1	BZ2
0E	225.0	92.0	45.0	60.0	40.5
1A	260.0	92.0	45.0	60.0	40.5
3A	274.0	92.0	45.0	60.0	40.5

Dimensions in mm

9.4 Installation and actuator dimensions - Valve with angle body



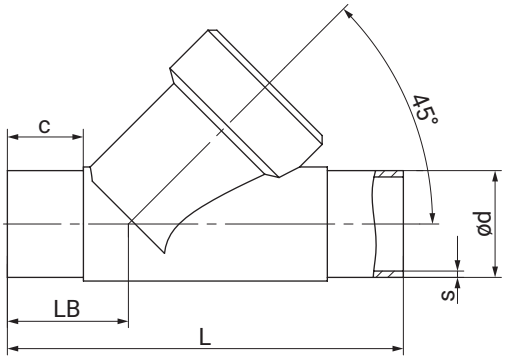


DN	Actuator version	A1	A2	B	B1	B2	CT	G	SW1
15	**1A**	65.5	203.0	59.5	82.0	134.5	288.0	M35x1.5	36
20	**1A**	65.5	203.0	59.5	82.0	134.5	291.0	M40x1.5	41
25	**1A**	65.5	203.0	59.5	82.0	134.5	295.0	M45x1.5	46
32	**1A**	65.5	203.0	59.5	82.0	134.5	298.0	M52x1.5	55
40	**1A**	65.5	203.0	59.5	82.0	134.5	311.0	M60x2	60
40	**3A**	72.0	232.0	80.0	94.5	167.0	341.0	M60x2	60
50	**1A**	65.5	203.0	59.5	82.0	134.5	316.0	M72x2	75
50	**3A**	72.0	232.0	80.0	94.5	167.0	346.0	M72x2	75

Dimensions in mm

9.5 Body dimensions

9.5.1 Spigot DIN/EN/ISO/ASME (code 0, 16, 17, 59, 60), actuator size 0



Connection type spigot DIN/EN/ISO/ASME (code 0, 16, 17, 59, 60) [1], forged material (code 40) [2]

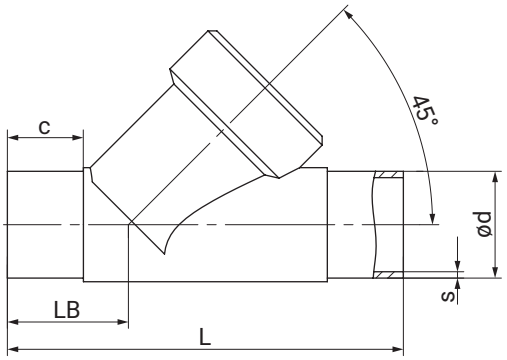
DN	NPS	c (min)					ød					L	LB	s				
		Connection type												Connection type				
		0	16	17	59	60	0	16	17	59	60			0	16	17	59	60
6	**1/8"**	20	-	-	-	20	8.0	-	-	-	-	80.0	26.5	1.0	-	-	-	-
8	**1/4"**	20	-	20	10	-	10.0	-	-	-	13.5	80.0	26.5	1.0	-	-	-	1.6
10	**3/8"**	-	20	20	20	-	-	12.0	13.0	9.53	-	80.0	26.5	-	1.0	1.5	0.89	-
15	**1/2"**	-	-	-	20	-	-	-	-	12.70	-	80.0	26.5	-	-	-	1.65	-

Dimensions in mm

1) **Connection type**
Code 0: Spigot DIN
Code 16: Spigot DIN EN 10357 series B (2014 issue; formerly DIN 11850 series 1)
Code 17: Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 issue)/DIN 11866 series C
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 issue)/DIN 11866 series B

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body

9.5.2 Spigot DIN/EN/ISO/ASME/SMS (code 0, 16, 17, 37, 59, 60, 65), actuator size 1, 3



Connection type spigot DIN/EN/ISO (code 0, 16, 17, 60) [1], investment casting material (code 34) [2]

DN	NPS	c (min)				ød				L	LB	s			
		Connection type										Connection type			
		0	16	17	60	0	16	17	60			0	16	17	60
15	**1/2"**	20	20	20	20	18.0	18.0	19.0	21.3	105.0	35.5	1.5	1.0	1.5	1.6
20	**3/4"**	25	25	25	25	22.0	22.0	23.0	26.9	120.0	39.0	1.5	1.0	1.5	1.6
25	**1"**	24.5	24.5	24.5	24.5	28.0	28.0	29.0	33.7	125.0	38.5	1.5	1.0	1.5	2.0
32	**1¼"**	-	26	27	29	-	34.0	35.0	42.4	155.0	48.0	-	1.0	1.5	2.0
40	**1½"**	24	24	24	43.7	40.0	40.0	41.0	48.3	160.0	47.0	1.5	1.0	1.5	2.0
50	**2"**	29	29	29	29	52.0	52.0	53.0	60.3	180.0	48.0	1.5	1.0	1.5	2.0

Connection type spigot ANSI/ASME/SMS (code 37, 59, 65) [1], investment casting material (code 34) [2]

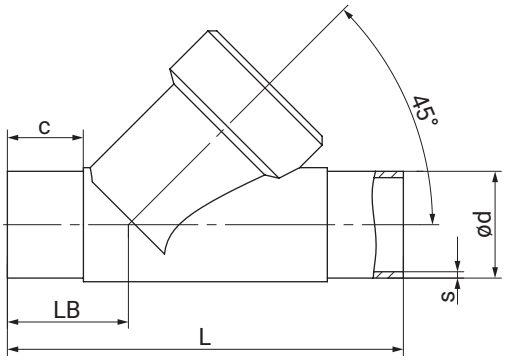
DN	NPS	c (min)			ød			L	LB	s		
		Connection type								Connection type		
		37	59	65	37	59	65			37	59	65
15	**1/2"**	-	20	20	-	12.70	21.3	105.0	35.5	-	1.65	2.77
20	**3/4"**	-	25	25	-	19.05	26.7	120.0	39.0	-	1.65	2.87
25	**1"**	24.5	24.5	24.5	25.0	25.40	33.4	125.0	38.5	1.2	1.65	3.88
32	**1¼"**	-	-	-	-	-	42.4	155.0	48.0	-	-	3.56
40	**1½"**	24	24	42	38.0	38.10	48.3	160.0	47.0	1.2	1.65	3.68
50	**2"**	29	29	29	51.0	50.80	60.3	180.0	48.0	1.2	1.65	3.91

Dimensions in mm

1) **Connection type**
Code 0: Spigot DIN
Code 16: Spigot DIN EN 10357 series B (2014 issue; formerly DIN 11850 series 1)
Code 17: Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2
Code 37: Spigot SMS 3008
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 issue)/DIN 11866 series C
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 issue)/DIN 11866 series B
Code 65: Spigot ANSI/ASME B36.19M schedule 40s

2) **Valve body material**
Code 34: 1.4435, investment casting

9.5.3 Spigot EN/ISO/ASME/SMS (code 17, 37, 59, 60, 63)



Connection type spigot EN/ISO/ASME (code 17, 60), investment casting material (code 37) [1)]

DN	NPS	c (min)		ød		L	LB	s	
		Connection type						Connection type	
		17	60	17	60			17	60
15	**1/2"**	18.0	18.0	19.0	21.3	100.0	33.0	1.5	1.6
20	**3/4"**	18.0	18.0	23.0	26.9	108.0	33.0	1.5	1.6
25	**1"**	18.0	18.0	29.0	33.7	112.0	32.0	1.5	2.0
32	**1¼"**	18.0	18.0	35.0	42.4	137.0	39.0	1.5	2.0
40	**1½"**	19.0	18.0	41.0	48.3	146.0	40.0	1.5	2.0
50	**2"**	20.0	20.0	53.0	60.3	160.0	38.0	1.5	2.0
65	**2½"**	52.5	47.0	70.0	76.1	290.0	96.0	2.0	2.0
80	**3"**	50.0	46.5	85.0	88.9	310.0	95.0	2.0	2.3

Connection type spigot ASME/SMS (code 37, 59) [2)]**, investment casting material (code 37)** [1)]

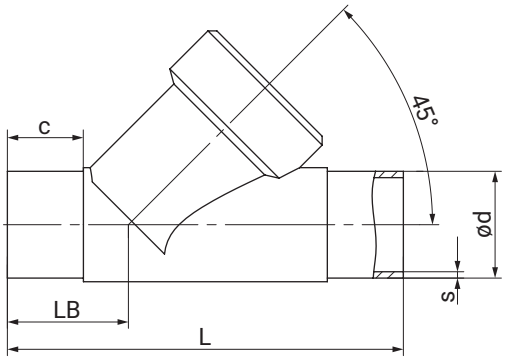
DN	NPS	c (min)		ød		L	LB	s	
		Connection type						Connection type	
		37	59	37	59			37	59
65	**2½"**	58	58	63.5	63.5	290.0	96.0	1.6	1.65
80	**3"**	58	58	76.1	76.0	310.0	95.0	1.6	1.65

Dimensions in mm

1) **Valve body material**
Code 37: 1.4408, investment casting

2) **Connection type**
Code 17: Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2
Code 37: Spigot SMS 3008
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 issue)/DIN 11866 series C
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 issue)/DIN 11866 series B
Code 63: Spigot ANSI/ASME B36.19M schedule 10s

9.5.4 Spigot EN/ISO/ASME (code 17, 59, 60)



Connection type spigot EN/ISO/ASME (code 17, 59, 60) [1], investment casting material (code C2) [2]

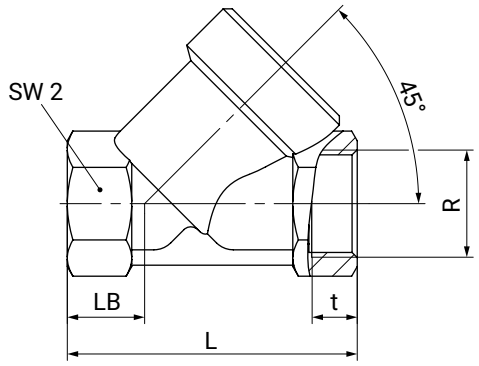
DN	NPS	c (min)			ød			L	LB	s		
		Connection type								Connection type		
		17	59	60	17	59	60			17	59	60
15	**1/2"**	20	15	20	19.0	12.70	21.3	105.0	35.5	1.5	1.65	1.6
20	**3/4"**	25	25	25	23.0	19.05	26.9	120.0	39.0	1.5	1.65	1.6
25	**1"**	24	24	24	29.0	25.40	33.7	125.0	39.5	1.5	1.65	2.0
32	**1¼"**	27	-	26.1	35.0	-	42.4	155.0	48.0	1.5	-	2.0
40	**1½"**	24	23	28.9	41.0	38.10	48.3	160.0	47.0	1.5	1.65	2.0
50	**2"**	28.23	28.23	48	53.0	50.80	60.3	180.0	48.0	1.5	1.65	2.0
65	**2½"**	52.5	58	52.5	70.0	63.50	76.1	290.0	96.0	2.0	1.65	2.0
80	**3"**	50.2	58	46.82	85.0	76.20	88.9	310.0	95.0	2.0	1.65	2.3

Dimensions in mm

1) **Connection type**
Code 17: Spigot EN 10357 series A/DIN 11866 series A, formerly DIN 11850 series 2
Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 issue)/DIN 11866 series C
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 issue)/DIN 11866 series B

2) **Valve body material**
Code C2: 1.4435, investment casting

9.5.5 Threaded socket DIN/NPT body configuration D (code 1, 3C, 3D) actuator size 0



Connection type threaded socket DIN/NPT (code 1, 3C, 3D) [1], investment casting material (code 37) [2]

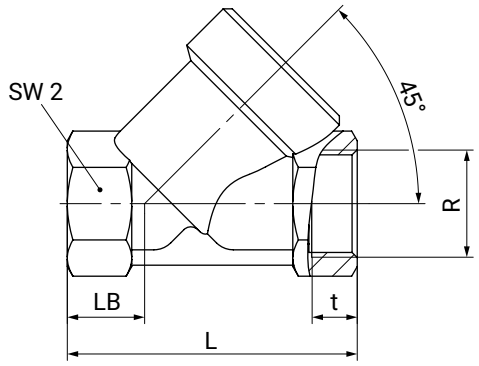
DN	NPS	L	LB			R			SW2	t		
			Connection type			Connection type				Connection type		
			1	3C	3D	1	3C	3D		1	3C	3D
8	**1/4"**	65.0	19.0	-	19.0	G 1/4	-	1/4" NPT	17	12.0	-	10.1
10	**3/8"**	65.0	19.0	27.0	27.0	G 3/8	G 3/8	3/8" NPT	24	12.0	11.4	10.4
15	**1/2"**	65.0	19.0	-	27.0	G 1/2	-	1/2" NPT	24	11.4	-	13.6

Dimensions in mm

1) **Connection type**
Code 1: Threaded socket DIN ISO 228
Code 3C: Threaded socket Rc ISO 7-1, EN 10226-2, JIS B 0203, BS 21, end-to-end dimension ETE DIN 3202-4 series M8
Code 3D: Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8

2) **Valve body material**
Code 37: 1.4408, investment casting

9.5.6 Threaded socket DIN/Rc/NPT body configuration D (code 1, 3C, 3D) actuator size 1, 3



Connection type threaded socket DIN (code 1) [1], investment casting material (code 37) [2]

DN	NPS	L	LB	R	SW2	t
15	**1/2"**	65.0	16.5	G 1/2	27	15.0
20	**3/4"**	75.0	17.5	G 3/4	32	16.3
25	**1"**	90.0	24.0	G 1	41	19.1
32	**1¼"**	110.0	33.0	G 1¼	50	21.4
40	**1½"**	120.0	30.0	G 1½	55	21.4
50	**2"**	150.0	40.0	G 2	70	25.7
65	**2½"**	190.0	46.0	G 2½	85	30.2
80	**3"**	220.0	50.0	G 3	100	33.3

Connection type threaded socket Rc/NPT (code 3C, 3D) [1], investment casting material (code 37) [2]

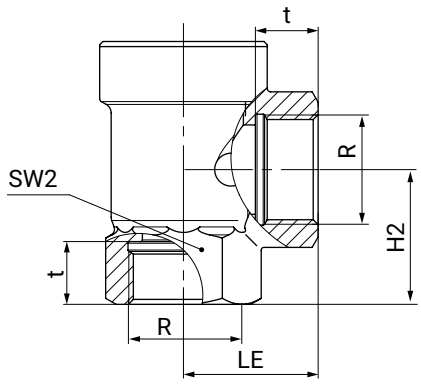
DN	NPS	L	LB	R		SW2	t	
				Connection type			Connection type	
				3C	3D		3C	3D
15	**1/2"**	65.0	16.5	Rc 1/2	1/2" NPT	27	15.0	13.6
20	**3/4"**	75.0	17.5	Rc 3/4	3/4" NPT	32	16.3	14.1
25	**1"**	90.0	24.0	Rc 1	1" NPT	41	19.1	17.0
32	**1¼"**	110.0	33.0	Rc 1¼	1¼" NPT	50	21.4	17.5
40	**1½"**	120.0	30.0	Rc 1½	1½" NPT	55	21.4	17.3
50	**2"**	150.0	40.0	Rc 2	2" NPT	70	25.7	17.8
65	**2½"**	190.0	46.0	Rc 2½	2½" NPT	85	30.2	23.7
80	**3"**	220.0	50.0	Rc 3	3" NPT	100	33.3	25.8

Dimensions in mm

1) **Connection type**
Code 1: Threaded socket DIN ISO 228
Code 3C: Threaded socket Rc ISO 7-1, EN 10226-2, JIS B 0203, BS 21, end-to-end dimension ETE DIN 3202-4 series M8
Code 3D: Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8

2) **Valve body material**
Code 37: 1.4408, investment casting

9.5.7 Threaded socket DIN/NPT body configuration E (code 1, 3D)



Connection type threaded socket DIN/NPT (code 1, 3D) [1], investment casting material (code 37) [2]

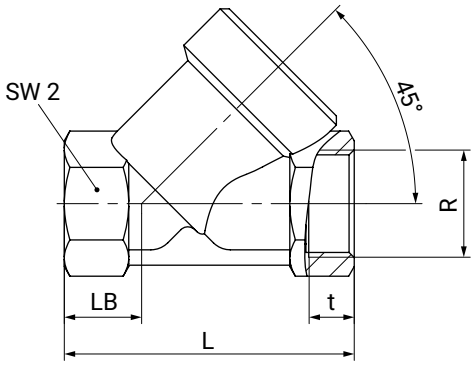
DN	NPS	H2	LE	SW2	R		t	
					Connection type		Connection type	
					1	3D	1	3D
15	**1/2"**	30.0	30.0	27	G 1/2	1/2" NPT	15.0	13.6
20	**3/4"**	37.5	35.0	32	G 3/4	3/4 " NPT	16.3	14.1
25	**1"**	41.0	41.0	41	G 1	1" NPT	19.1	17.0
32	**1¼"**	48.0	50.0	50	G 1¼	1¼" NPT	21.4	17.5
40	**1½"**	55.0	50.0	55	G 1½	1½" NPT	21.4	17.3
50	**2"**	62.0	60.0	70	G 2	2" NPT	25.7	17.8

Dimensions in mm

1) **Connection type**
Code 1: Threaded socket DIN ISO 228
Code 3D: Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8

2) **Valve body material**
Code 37: 1.4408, investment casting

9.5.8 Threaded socket DIN/NPT (code 1, 3D)



Connection type threaded socket DIN/NPT (code 1, 3D) [1], block material (code 9) [2]

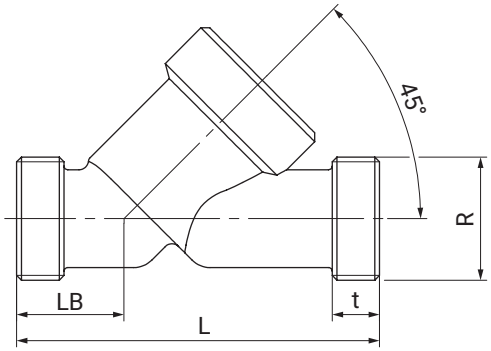
DN	NPS	L	LB	R		SW2	t	
				Connection type			Connection type	
				1	3D		1	3D
15	**1/2"**	65.0	16.5	G 1/2	1/2" NPT	27	15.0	13.6
20	**3/4"**	75.0	17.5	G 3/4	3/4" NPT	32	16.3	14.1
25	**1"**	90.0	24.0	G 1	1" NPT	41	19.1	17.0
32	**1¼"**	110.0	33.0	G 1¼	1¼" NPT	50	21.4	17.5
40	**1½"**	120.0	30.0	G 1½	1½" NPT	55	21.4	17.3
50	**2"**	150.0	40.0	G 2	2" NPT	70	25.7	17.8
65	**2½"**	190.0	46.0	G 2½	2½" NPT	85	30.2	23.7
80	**3"**	220.0	50.0	G 3	3" NPT	100	33.3	25.8

Dimensions in mm

1) **Connection type**
Code 1: Threaded socket DIN ISO 228
Code 3D: Threaded socket NPT, end-to-end dimension ETE DIN 3202-4 series M8

2) **Valve body material**
Code 9: CC499K, cast bronze

9.5.9 Threaded spigot DIN (code 9), actuator size 0



Connection type threaded spigot DIN (code 9) [1], forged material (code 40) [2]

DN	L	LB	R	t
6	65.0	19.0	G 1/4	12.0

Connection type threaded spigot DIN (code 9) [1], investment casting material (code 37) [2]

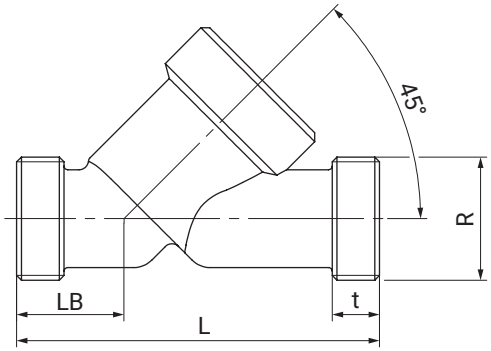
DN	L	LB	R	t
8	65.0	19.0	G 3/8	12.0
10	65.0	19.0	G 1/2	12.0
15	65.0	19.0	G 3/4	12.0

Dimensions in mm

1) **Connection type**
Code 9: Threaded spigot DIN ISO 228

2) **Valve body material**
Code 37: 1.4408, investment casting
Code 40: 1.4435 (F316L), forged body

9.5.10 Threaded spigot DIN (code 9) actuator size 1, 3



Connection type threaded spigot DIN (code 9) [1], block material (code 9) [2]

DN	L	LB	R	t
15	90.0	25.0	G 3/4	12.0
20	110.0	30.0	G 1	15.0
25	118.0	30.0	G 1¼	15.0
40	140.0	35.0	G 1¾	13.0
50	175.0	50.0	G 2⅜	15.0
65	216.0	52.0	G 3	15.0
80	254.0	64.0	G 3½	18.0

Connection type threaded spigot DIN (code 9) [1], investment casting material (code 37) [3]

DN	L	LB	R	t
15	90.0	25.0	G 3/4	12.0
20	110.0	30.0	G 1	15.0
25	118.0	30.0	G 1¼	15.0
32	130.0	38.0	G 1½	13.0
40	140.0	35.0	G 1¾	13.0
50	175.0	50.0	G 2⅜	15.0
65	216.0	52.0	G 3	15.0
80	254.0	64.0	G 3½	18.0

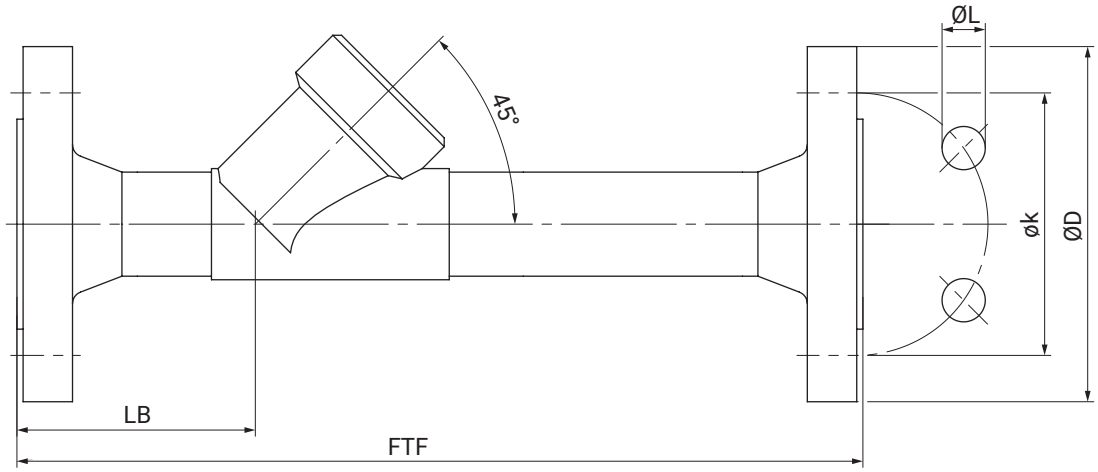
Dimensions in mm

1) **Connection type**
Code 9: Threaded spigot DIN ISO 228

2) **Valve body material**
Code 9: CC499K, cast bronze

3) **Valve body material**
Code 9: CC499K, cast bronze
Code 37: 1.4408, investment casting

9.5.11 Flange, special length EN/ANSI (code 13, 47)



Connection type flange, special length EN/ANSI (code 13, 47) [1], investment casting material (code 34) [2]

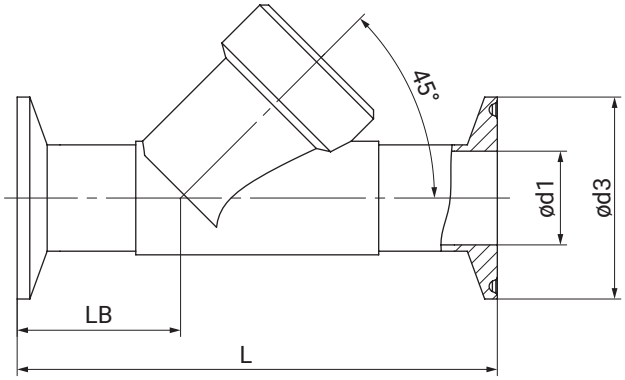
DN	NPS	ØD		FTF	øk		ØL		LB	n
		Connection type			Connection type		Connection type			
		13	47		13	47	13	47		
15	**1/2"**	95.0	89.0	210.0	65.0	60.5	14.0	15.7	72.0	4
20	**3/4"**	105.0	98.6	280.0	75.0	69.8	14.0	15.7	78.0	4
25	**1"**	115.0	108.0	280.0	85.0	79.2	14.0	15.7	77.0	4
32	**1¼"**	140.0	117.3	310.0	100.0	88.9	18.0	15.7	89.0	4
40	**1½"**	150.0	127.0	320.0	110.0	98.6	18.0	15.7	91.0	4
50	**2"**	165.0	152.4	330.0	125.0	120.7	18.0	19.1	95.0	4

Dimensions in mm
n = number of bolts

1) **Connection type**
Code 13: Flange EN 1092, PN 25, form B
Code 47: Flange ANSI Class 150 RF

2) **Valve body material**
Code 34: 1.4435, investment casting

9.5.12 Clamp DIN/ASME (code 80, 82, 86, 88)



Connection type clamp DIN/ASME (code 80, 82, 86, 88) [1], investment casting material (code 34) [2]

DN	NPS	ød1				ød3				L				LB			
		Connection type				Connection type				Connection type				Connection type			
		80	82	86	88	80	82	86	88	80	82	86	88	80	82	86	88
15	**1/2"**	9.40	18.1	16.0	9.40	25.0	50.5	34.0	25.0	101.6	130.0	130.0	130.0	33.5	47.5	47.5	47.5
20	**3/4"**	15.75	23.7	20.0	15.75	25.0	50.5	34.0	25.0	101.6	150.0	150.0	150.0	30.0	54.0	54.0	54.0
25	**1"**	22.10	29.7	26.0	22.10	50.5	50.5	50.5	50.5	114.3	160.0	160.0	160.0	33.0	56.0	56.0	56.0
32	**1¼"**	-	38.4	32.0	-	-	64.0	50.5	-	-	180.0	180.0	-	-	62.0	62.0	-
40	**1½"**	34.80	44.3	38.0	34.80	50.5	64.0	50.5	50.5	139.7	200.0	200.0	200.0	37.0	67.0	67.0	67.0
50	**2"**	47.50	56.3	50.0	47.50	64.0	77.5	64.0	64.0	158.8	230.0	230.0	230.0	36.5	73.0	73.0	73.0

Dimensions in mm

1) **Connection type**
Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE
Code 82: Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 1
Code 86: Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 1
Code 88: Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 1

2) **Valve body material**
Code 34: 1.4435, investment casting

10 Manufacturer's information

10.1 Delivery

- Check that all parts are present and check for any damage immediately upon receipt.

The product's performance is tested at the factory. The scope of delivery is apparent from the dispatch documents and the design from the order number.

10.2 Transport

1. Only transport the product by suitable means. Do not drop. Handle carefully.
2. After the installation dispose of transport packaging material according to relevant local or national disposal regulations / environmental protection laws.

10.3 Storage

1. Store the product free from dust and moisture in its original packaging.
2. Avoid UV rays and direct sunlight.
3. Do not exceed the maximum storage temperature (see chapter "Technical data").
4. Do not store solvents, chemicals, acids, fuels or similar fluids in the same room as GEMÜ products and their spare parts.
5. Close the compressed air connections with protection caps or sealing plugs.

11 Installation in piping

11.1 Preparing for installation

⚠ WARNING

The equipment is subject to pressure!

► Risk of severe injury or death
- Depressurize the plant or plant component.
- Completely drain the plant or plant component.

⚠ WARNING

Corrosive chemicals!

► Risk of caustic burns
- Wear appropriate protective gear.
- Completely drain the plant.

⚠ CAUTION

Hot plant components!

► Risk of burns
- Only work on plant that has cooled down.

⚠ CAUTION

Maximum permissible pressure exceeded!

► Damage to the product!
- Provide for precautionary measures against exceeding the maximum permissible pressure that may be caused by pressure surges (water hammer).

⚠ CAUTION

Use as step!

► Damage to the product
► Risk of slipping-off
- Choose the installation location so that the product cannot be used as a foothold.
- Do not use the product as a step or a foothold.

NOTICE

Suitability of the product!

► The product must be appropriate for the piping system operating conditions (medium, medium concentration, temperature and pressure) and the prevailing ambient conditions.

NOTICE

Tools!

► The tools required for installation and assembly are not included in the scope of delivery.
- Use appropriate, functional and safe tools.

1. Ensure the product is suitable for the relevant application.
2. Check the technical data of the product and the materials.
3. Keep appropriate tools ready.
4. Wear appropriate protective gear as specified in the plant operator's guidelines.
5. Comply with appropriate regulations for the connections.
6. Installation work must be performed by trained personnel.
7. Shut off the plant or plant component.
8. Secure the plant or plant component against recommissioning.
9. Depressurize the plant or plant component.
10. Completely drain the plant or plant component and allow it to cool down until the temperature is below the media vaporization temperature and cannot cause scalding.
11. Correctly decontaminate, rinse and ventilate the plant or plant component.
12. Lay piping so that the product is protected against transverse and bending forces, and also vibrations and tension.
13. Only install the product between matching aligned pipes (see chapters below).
14. Pay attention to the installation position (see "Installation position" chapter).

11.2 Installation position

The installation position of the product is optional.

11.3 Installation with clamp connections

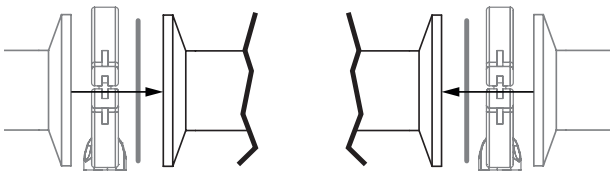


Fig. 1: Clamp connection

NOTICE

Gasket and clamp!

► The gasket and clamps for clamp connections are not included in the scope of delivery.

1. Keep ready gasket and clamp.
2. Carry out preparation for installation (see chapter "Preparing for installation").
3. Insert the corresponding gasket between the body of the product and the pipe connection.
4. Connect the gasket between the body of the product and the pipe connection using clamps.
5. Re-attach or reactivate all safety and protective devices.

11.4 Installation with threaded sockets

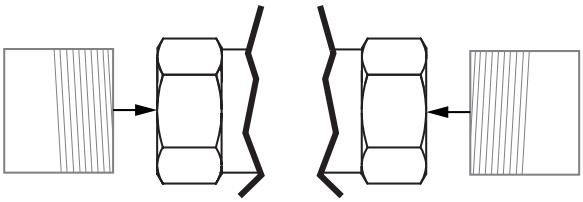


Fig. 2: Threaded socket

NOTICE

Sealing material!

► The sealing material is not included in the scope of delivery.

● Only use appropriate sealing material.

1. Keep thread sealant ready.
2. Carry out preparations for installation (see chapter "Preparing for installation").
3. Screw the threaded connections into the pipe in accordance with valid standards.
4. Screw the body of the product onto the piping using appropriate thread sealant.
5. Re-attach or reactivate all safety and protective devices.

11.5 Installation with threaded spigots

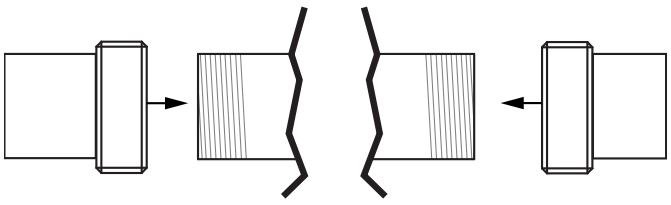


Fig. 3: Threaded spigots

NOTICE

Thread sealant!

► The thread sealant is not included in the scope of delivery.

● Only use appropriate thread sealant.

1. Keep thread sealant ready.
2. Carry out preparations for installation (see chapter "Preparing for installation").
3. Screw the pipe into the threaded connection of the valve body in accordance with valid standards.

   ⇨ Use appropriate thread sealant.
4. Re-attach or reactivate all safety and protective devices.

11.6 Installation with flanged connection

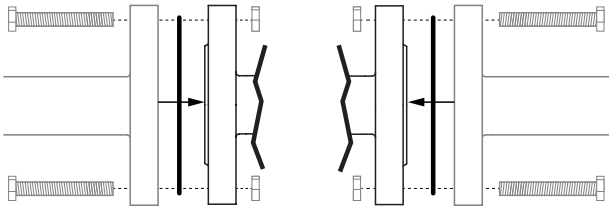


Fig. 4: Flanged connection

NOTICE

Sealing material!

► The sealing material is not included in the scope of delivery.

● Only use appropriate sealing material.

NOTICE

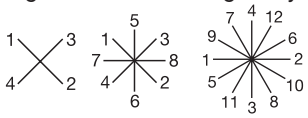
Connector elements!

► The connector elements are not included in the scope of delivery.

● Only use connector elements made of approved materials.

● Observe permissible tightening torque of the bolts.

1. Keep sealing material ready.
2. Carry out preparations for installation (see chapter "Preparing for installation").
3. Ensure clean, undamaged sealing surfaces on the connection flanges.
4. Align flanges carefully before installing them.
5. Clamp the product centrally between the piping with flanges.
6. Centre the gaskets.
7. Connect the valve flange and the piping flange using appropriate sealing materials and matching bolting.
8. Use all flange holes.
9. Tighten the bolts diagonally.



10. Re-attach or reactivate all safety and protective devices.

12 Operation

12.1 Manual override

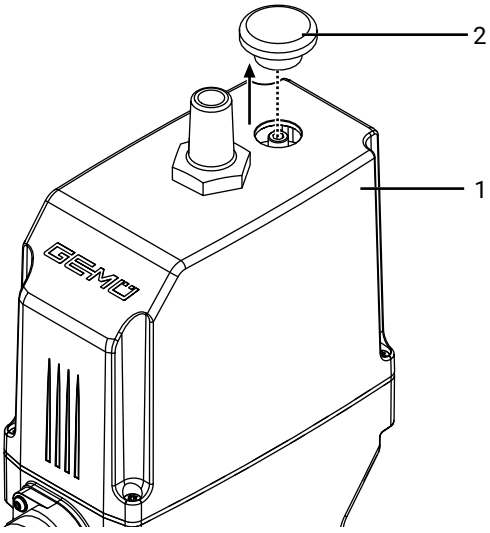
⚠ WARNING

Damage to the product!

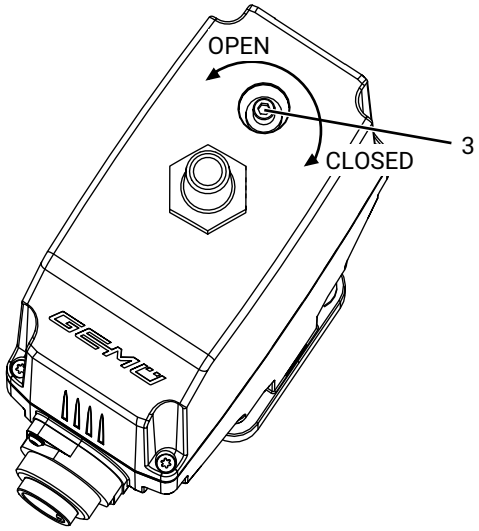
- ► Risk of damage to the product
- ► Manufacturer liability and guarantee will be void.
- ● Only operate the manual override **by hand**, because there is no mechanical stop.

NOTICE

- ► Manual override may only be used in extreme emergencies as there is a risk of damaging the valve drive.
  Use of the manual override voids the manufacturer's liability.



1. Remove the sealing plug **2** from the actuator cover **1** using an appropriate tool.



2. Operate the manual override **3** with the hexagon socket (WAF3).
   - ⇨ Turn clockwise to close the valve.
   - ⇨ Turn anticlockwise to open the valve.
3. After actuation, the plug must be reinserted, otherwise the IP protection is no longer guaranteed and the actuator may be damaged.

13 Troubleshooting

Error	Possible cause	Troubleshooting
The product is leaking downstream (does not close or does not close fully)	Operating pressure too high	Operate the product with operating pressure specified in datasheet
	Valve body leaking or damaged	Carry out initialisation, check valve body for damage, replace valve body if necessary.
	Foreign matter between seat seal and seat	Remove actuator, remove foreign matter, check seat seal for damage and replace seat seal if necessary
	Seat seal faulty	Check seat seal for damage and replace seat seal if necessary
The product does not open or does not open fully	Actuator defective	Replace the actuator
	Operating pressure too high	Operate the product with operating pressure specified in datasheet
	Foreign matter in the product	Remove and clean the product
	The actuator design is not suitable for the operating conditions	Use an actuator that is designed for the operating conditions
	Voltage is not connected	Connect voltage
	Cable ends incorrectly wired	Wire cable ends correctly
The product does not close or does not close fully	The actuator design is not suitable for the operating conditions	Use an actuator that is designed for the operating conditions
	Foreign matter in the product	Remove and clean the product
	Voltage is not connected	Connect voltage
The product is leaking between actuator and valve body	Bolting between valve body and actuator loose	Tighten bolting between valve body and actuator
	Actuator/valve body damaged	Replace actuator/valve body
	Sealing washer faulty	Check sealing washer and associated sealing surfaces for potential damage and replace parts if necessary
The product is leaking between actuator flange and valve body	Mounting parts loose	Retighten mounting parts
	Valve body / actuator damaged	Replace valve body/actuator
Valve body of the GEMÜ product is leaking	Valve body of the GEMÜ product is faulty or corroded	Check valve body of the GEMÜ product for potential damage, replace valve body if necessary
Body of the GEMÜ product is leaking	Incorrect installation	Check installation of valve body in piping
Valve body connection to piping leaking	Incorrect installation	Check installation of valve body in piping

14 Inspection and maintenance

⚠ WARNING

The equipment is subject to pressure!

- ► Risk of severe injury or death
- ● Depressurize the plant or plant component.
- ● Completely drain the plant or plant component.

NOTICE

Use of incorrect spare parts!

- ► Damage to the GEMÜ product
- ► The manufacturer liability and guarantee will be void.
- ● Use only genuine parts from GEMÜ.

⚠ CAUTION

Hot plant components!

- ► Risk of burns
- ● Only work on plant that has cooled down.

NOTICE

Exceptional maintenance work!

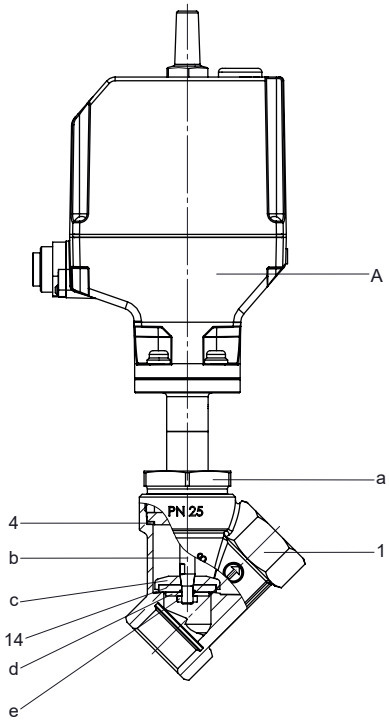
- ► Damage to the GEMÜ product
- ● Any maintenance work and repairs not described in these operating instructions must not be performed without consulting the manufacturer first.

The operator must carry out regular visual examination of the GEMÜ products dependent on the operating conditions and the potential danger in order to prevent leakage and damage.

The product also must be disassembled and checked for wear in the corresponding intervals.

1. Have servicing and maintenance work performed by trained personnel.
2. Wear appropriate protective gear as specified in plant operator's guidelines.
3. Shut off plant or plant component.
4. Secure the plant or plant component against recommissioning.
5. Depressurize the plant or plant component.
6. Actuate GEMÜ products which are always in the same position four times a year.
7. If necessary, the end position counter **User** can be reset after maintenance or other changes under parameter Cycle Counter.

14.1 Spare parts



Item	Name	Order designation
A	Actuator	9529...
1	Valve body	K514...
4	Sealing washer	529...SVS...
14	Shut-off seal	529...SVS...

14.2 Removing the actuator

1. Move the actuator **A** to the open position.
2. Actuator sizes 1A and 3A: Undo union nut **a**.
3. Remove actuator **A** from valve body **1**.
4. Clean all parts of contamination (do not damage parts during cleaning).
5. Check parts for potential damage, replace if necessary (only use genuine parts from GEMÜ).

14.3 Replacing the seals

NOTICE

Sealing washer!

- Replace sealing washer **4** each time the actuator is disassembled/assembled.

1. Remove actuator **A** (see chapter "Removing the actuator").
2. Remove sealing washer **4** from the valve body.
3. Loosen nut **e** on spindle **b** (hold spindle **b** with appropriate tool that will not damage the spindle surfaces).
4. Remove seat seal **14**.
5. Clean all parts; do not scratch or damage the parts during cleaning.
6. Insert new seat seal **14**.
7. Apply appropriate thread locking compound on the thread of spindle **b**.
8. Fix spindle **b** in place with nut **e** (hold spindle **b** in place with appropriate tools which do not damage the spindle surfaces).
9. Insert new sealing washer **4** in valve body **1**.
10. Mount actuator **A** (see chapter "Mounting the actuator").

14.4 Mounting the actuator

1. Move the actuator **A** to the open position.
2. Lubricate the thread of union nut **a** using a suitable lubricant.
3. Place actuator **A** on valve body **1** approx. 90° in front of the end position (orientation of the connections) and screw hand tight with union nut **a**.
4. Tighten union nut **a** with an open-end wrench (for torques, see table).

   ⇨ This rotates the actuator clockwise approx. 90° to the desired position.

Actuator sizes 1A and 3A

Nominal size	Torque
DN 10	90 Nm
DN 15	90 Nm
DN 20	100 Nm
DN 25	120 Nm
DN 32	120 Nm
DN 40	150 Nm
DN 50	200 Nm
DN 65	260 Nm
DN 80	280 Nm

5. Move the actuator **A** to the closed position.
6. With the valve fully assembled, check the function and tightness.

15 Removal from piping

1. Remove in reverse order to installation.
2. Unscrew the electrical wiring.
3. Disassemble the product. Observe warning notes and safety information.

16 Disposal

- The product must not be disposed of. The product must be sent back to GEMÜ.

17 Returns

Legal regulations for the protection of the environment and personnel require that the completed and signed return delivery note is included with the dispatch documents. Returned goods can be processed only when this note is completed. If no return delivery note is included with the product, GEMÜ cannot process credits or repair work but will dispose of the goods at the operator's expense.

1. Clean the product.
2. Request a return delivery note from GEMÜ.
3. Complete the return delivery note.
4. Send the product with a completed return delivery note to GEMÜ.

18 EU Declaration of Incorporation according to the EC Machinery Directive 2006/42/EC

EU Declaration of Incorporation

according to the EC Machinery Directive 2006/42/EC, Annex II B

We, the company

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Strasse 6–8
74653 Ingelfingen-Criesbach, Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the relevant essential health and safety requirements in accordance with Annex I of the above-mentioned Directive.

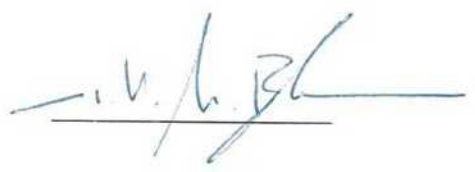
Product:	GEMÜ 529
Product name:	Motorized angle seat globe valve
The following essential health and safety requirements of the EC Machinery Directive 2006/42/EC, Annex I have been applied or adhered to:	1.1.2.; 1.1.3.; 1.1.5.; 1.3.2.; 1.3.4.; 1.3.7.; 1.3.8.; 1.5.1.; 1.5.13.; 1.5.2.; 1.5.4.; 1.5.6.; 1.5.7.; 1.5.8.; 1.6.1.; 1.6.3.; 1.6.5.; 1.7.1.; 1.7.1.1.; 1.7.2.; 1.7.3.; 1.7.4.; 1.7.4.1.; 1.7.4.2.; 1.7.4.3.
The following harmonized standards (or parts thereof) have been applied:	EN ISO 12100:2010

We also declare that the specific technical documents have been created in accordance with part B of Annex VII.

The manufacturer undertakes to transmit relevant technical documents on the partly completed machinery to the national authorities in response to a reasoned request. This communication takes place electronically.

This does not affect the industrial property rights.

The partly completed machinery may be commissioned only if it has been determined, if necessary, that the machinery into which the partly completed machinery is to be installed meets the provisions of the Machinery Directive 2006/42/EC.



M. Barghoorn
Head of Global Technics

Ingelfingen, 17/07/2023

19 EU Declaration of Conformity in accordance with 2014/68/EU (Pressure Equipment Directive)

EU Declaration of Conformity

in accordance with 2014/68/EU (Pressure Equipment Directive)

We, the company	GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG Fritz-Müller-Strasse 6–8 74653 Ingelfingen-Criesbach, Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

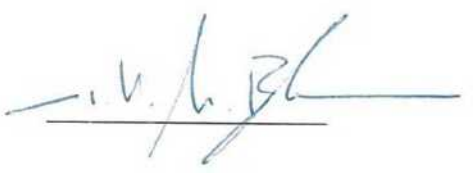
Product:	GEMÜ 529
Product name:	Motorized angle seat globe valve
Notified body:	TÜV Rheinland Industrie Service GmbH Am Grauen Stein 1 51105 Cologne, Germany
ID number of the notified body:	0035
No. of the QA certificate:	01 202 926/Q-02 0036
Applied conformity assessment procedure(s):	Module H
The following harmonized standards (or parts thereof) have been applied:	EN 12516-3:2002/AC:2003

Information for products with a nominal size ≤ DN 25:

The products are developed and produced according to GEMÜ's in-house process instructions and standards of quality which comply with the requirements of ISO 9001 and ISO 14001. According to Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU, these products must not be identified by a CE-marking.

Other applied technical standards / Remarks:

- AD 2000



M. Barghoorn
Head of Global Technics

Ingelfingen, 17/07/2023

20 EU Declaration of Conformity in accordance with 2014/30/EU (EMC Directive)

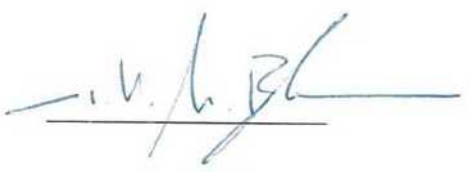
EU Declaration of Conformity

in accordance with 2014/30/EU (EMC Directive)

We, the company	GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG Fritz-Müller-Strasse 6–8 74653 Ingelfingen-Criesbach, Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

Product:	GEMÜ 529
Product name:	Motorized angle seat globe valve
The following harmonized standards (or parts thereof) have been applied:	EN 61000-6-4:2007/A1:2011; EN 61000-6-2:2005/AC:2005



M. Barghoorn
Head of Global Technics

Ingelfingen, 17/07/2023

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8 D-74653 Ingelfingen-Criesbach
www.gemu-group.com
info@gemue.de

21 EU Declaration of Conformity In accordance with 2011/65/EU (RoHS Directive)

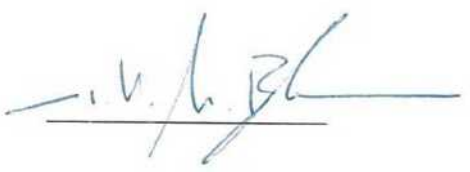
EU Declaration of Conformity

In accordance with 2011/65/EU (RoHS Directive)

We, the company	GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG Fritz-Müller-Strasse 6–8 74653 Ingelfingen-Criesbach, Germany

hereby declare under our sole responsibility that the below-mentioned product complies with the regulations of the above-mentioned Directive.

Product:	GEMÜ 529
Product name:	Motorized angle seat globe valve
The following harmonized standards (or parts thereof) have been applied:	EN IEC 63000:2018



M. Barghoorn
Head of Global Technics

Ingelfingen, 17/07/2023

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