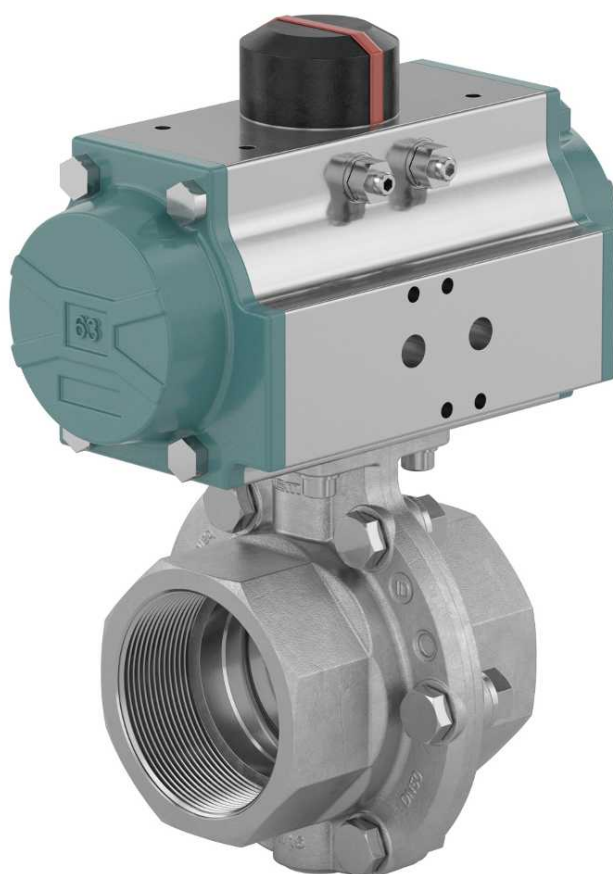


GEMÜ 415

Pneumatically operated butterfly valve

EN

Operating instructions



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16.03.2026

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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.
- A supplement to Directive 2014/34/EU (ATEX Directive) is included with the product, provided that it was ordered in accordance with ATEX.

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.

Control medium

The medium whose increasing or decreasing pressure causes the GEMÜ product to be actuated and operated.

1.4 Warning notes

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

SIGNAL WORD	
Possible symbol for the specific danger	Type and source of the danger ►Possible consequences in case of non-compliance ●Measures for avoiding danger

Warning notes are always labelled 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!
	Risk of crushing!
	Leakage!
	Do not open the actuator!

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 materials

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:

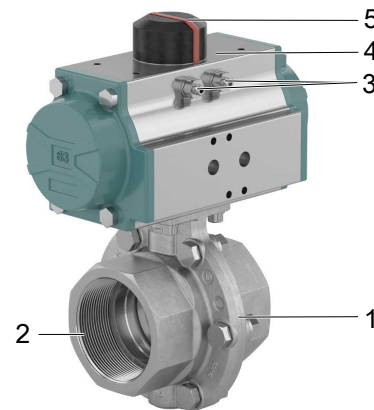
9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not 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



Item	Name	Material
1	Butterfly valve body	Investment casting (1.4408)
2	Pipe connections	Investment casting (1.4408)
3	Control air connectors	PP, glass fibre reinforced
4	Actuator housing	PP, glass fibre reinforced
5	Connection facility for position indicator	PP, glass fibre reinforced

3.2 Description

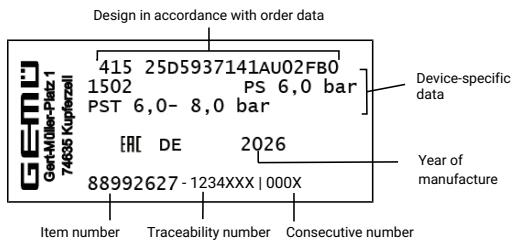
The GEMÜ 415 soft-seated, centric butterfly valve made of stainless steel is pneumatically operated via a space-saving piston actuator. The "Normally Closed", "Normally Open" and "Double Acting" control functions are available. A low-cost rack and pinion actuator can also be fitted. With its rounded and polished disc edges, the butterfly valve is optimized for frequent cycle duties. The surface of the butterfly valve can be further finished.

3.3 Function

The product controls a flowing medium by being closed or opened by a control medium.

3.4 Product label

The product label is located on the body of the product.



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.

The control pressure is the minimum required control pressure. NCP (normal control pressure) is for normal applications. HCP (high control pressure) is for more difficult applications.

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

There is a clearly assigned serial number as a QR code on the product.

4 Intended use

⚠ DANGER

Danger of explosion!

- Risk of severe injury or death
- If there is no corresponding declaration of conformity, the product must not be used in potentially explosive atmospheres!
- Only use the product in potentially explosive zones confirmed in the declaration of conformity.

⚠ 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.

1. Use the product in accordance with the technical data.
2. Please note the flow direction on the valve body.

5 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
Butterfly valve, pneumatically operated	415
2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
3 Body configuration	Code
2/2-way body	D
4 Connection type	Code
Spigot	
Spigot DIN	0
Spigot DIN EN 10357 series B (2014 edition; 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 edition)/DIN 11866 series C	59
Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B	60
Threaded socket	
Threaded socket DIN ISO 228	1
NPT female thread	31
Clamp	
Clamp DIN 32676 series A, face-to-face dimension FTF EN 558 series 14	86
Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 14	88
5 Body material	Code
1.4408, investment casting	37
6 Shut-off seal material	Code
FKM	4
Silicone (MVQ)	9
EPDM	14
7 Control function	Code
Actuator GEMÜ 9415	
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3
GEMÜ ADA/ASR, DR/SC, GDR/GSR actuators	
Normally closed (NC)	1

7 Control function	Code
Normally open (NO)	2
Double acting (DA)	3
Normally closed (NC), actuator mounted across the piping	Q
Double acting (DA), actuator mounted across the piping	T
Normally open (NO), actuator mounted across the piping	U
8 Actuator version	Code
Actuator GEMÜ 9415	
GEMÜ actuator, pneumatic, size 0, piston diameter 50 mm	0
GEMÜ actuator, pneumatic, size 1, piston diameter 70 mm	1
Actuator GEMÜ DR and SC	
Actuator, pneumatic, DA – at 6 bar, 19.9 Nm, 2.5–8.0 bar DR0015U F03/05 S11	DU01AW
Actuator, pneumatic, DA – at 6 bar, 35.2 Nm, 2.5–8.0 bar DR0030U F05/07 S14	DU03AP
Actuator, pneumatic, single acting, clockwise rotation, spring closing, SC0015U 6F03/05 S11	SU01KW
Actuator, pneumatic, SA – at 0°, 13.3 Nm, 5.5–8.0 bar SC0030U 6F05/07 S14	SU03KP
Actuator, pneumatic, SA – at 0°, 26.5 Nm, 5.5–8.0 bar SC0060U 6F05/07 S14	SU06KP
Actuator GEMÜ ADA and ASR	
Actuator, pneumatic, DA – at 6 bar, 19.5 Nm, 3.0–10 bar ADA0020U F05 S14S11	BU02AB
Actuator, pneumatic, DA – at 6 bar, 41.0 Nm, 3.0–10 bar ADA0040U F05 S14S11	BU04AB
Actuator, pneumatic, SA – 0°, 9.0 Nm, 5.5–8.0 bar ASR0020US08F05 S14S11	AU02FB
Actuator, pneumatic, SA – 0°, 17.0 Nm, 5.5–8.0 bar ASR0040US14F05 S14S11	AU04KB
Actuator GEMÜ GDR and GSR	
Actuator, pneumatic, DA – at 6 bar, 20.6 Nm GDR0050 F03/05 S11 2.5–8.0 bar	HR05AW
Actuator, pneumatic, SA – at 0°, 7.9 Nm GSR0050 SC5F03/05 S11 4.5–8.0 bar	GR05SW
Actuator, pneumatic, SA – at 0°, 20.2 Nm GSR0075 SC5F05/07 S14 4.5–8.0 bar	GR07SP
9 Type of design	Code
Without	

9 Type of design	Code
Media-wetted area cleaned to ensure suitability for paint applications, parts sealed in plastic bag	0101
Valve free of oil and grease, media-wetted area cleaned and packed in PE bag	0107

10 Special version	Code
Without	
ATEX certification	X

Order example

Ordering option	Code	Description
1 Type	415	Butterfly valve, pneumatically operated
2 DN	25	DN 25
3 Body configuration	D	2/2-way body
4 Connection type	1	Threaded socket DIN ISO 228
5 Body material	37	1.4408, investment casting
6 Shut-off seal material	14	EPDM
7 Control function	1	Normally closed (NC)
8 Actuator version	0	GEMÜ actuator, pneumatic, size 0, piston diameter 50 mm
9 Type of design		Without
10 Special version		Without

6 Technical data

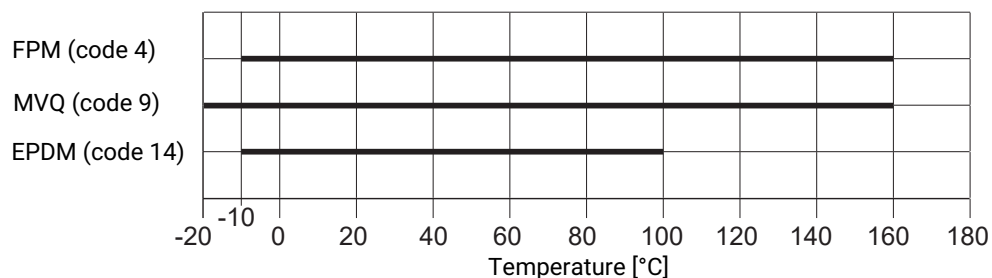
6.1 Medium

Working medium: Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body, disc and seal material. The product is only suitable for use with fluids of group 2 according to the Pressure Equipment Directive.

Control medium: Inert gases

6.2 Temperature

Media temperature: Shut-off seal



For media temperatures above 100 °C additionally use mounting kit GEMÜ MSC (see accessories).

Ambient temperature: 0 – 60 °C

Storage temperature: -20 – 40 °C

Control medium temperature: max. 60 °C

6.3 Pressure

Operating pressure: 0 – 10 bar

Note: Cannot be used as an end-of-line valve

Control pressure: 4 Up to 6 bar

Pressure rating: PN 10

Kv values:

DN	Body material
	Code 37
15	7
20	15
25	20
32	55
40	90
50	140

Kv values in m³/h

Filling volume: GEMÜ 9415 actuator

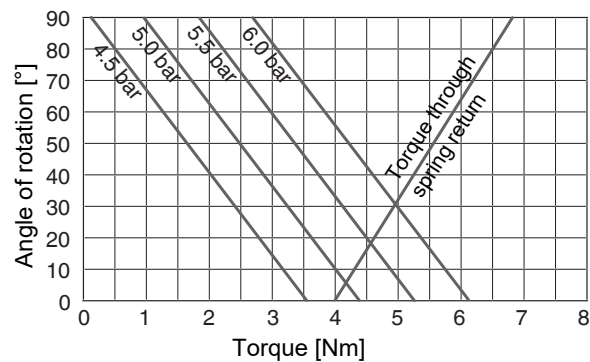
Actuator size 0: 0.05 NI

Actuator size 1: 0.20 NI

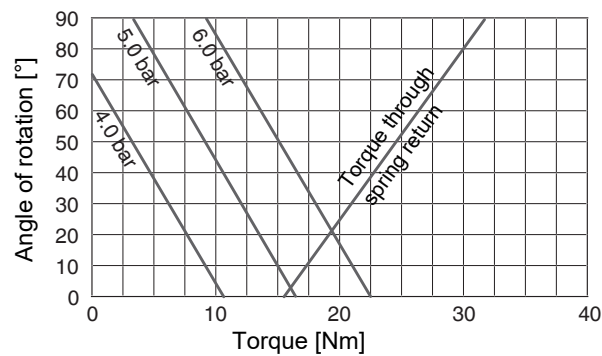
**Control pressure-Torque
diagram:**

GEMÜ 9415 actuator

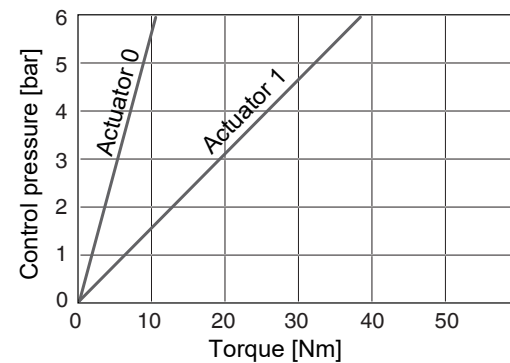
Actuator size 0, control function 1



Actuator size 1, control function 1



Actuator size 0 and 1, control function 3



6.4 Product compliance

Machinery Directive: 2006/42/EC

Pressure Equipment Directive: 2014/68/EU

Approvals: FDA

Explosion protection: ATEX (2014/34/EU) on request

ATEX marking: The product's ATEX marking is dependent on the respective product configuration. This can be found in the product-specific ATEX documentation and the ATEX product label.

ATEX marking:**Assessment of the body**

Gas:  II -/2 G
Ex h -/IIC T6 ... T3 -/Gb X
II -/2 D
Ex h -/IIIC T150°C -/Db X

Dust:  II 2 G
Ex h IIB T6 ... T3 GbX
II -/2 D
Ex h -/IIIC T150 °C -/Db X

Actuator type ADA/ASR

Gas:  II 2 G
Ex h IIC T6 Gb

Dust:  II 2 D
Ex h IIIC T60°C Db

Actuator type DR/SC

Gas:  II 2 G
Ex h IIC T6...T3 Gb X

Dust:  II 2 D
Ex h IIIC T85°C ... T165°C Db X

6.5 Mechanical data**Torques:**

DN	Torques
15	6.0
20	6.0
25	6.0
32	8.0
40	20.0
50	21.0

Torques in Nm

Weight:**Body**

DN	Body material
	Code 37
15	900
20	940
25	1020
32	1100
40	1500
50	1950

Weight in g

Actuator 9415

Actuator size 0: Control function 1: 435 g
Control function 3: 325 g

Actuator size 1: Control function 1: 1470 g
Control function 3: 1100 g

Actuator ADA / ASR

Type	ADA	ASR
0020U	1.4	1.5
0040U	2.1	2.3

Weights in kg

Weight:**Actuator DR/SC**

Type	DR	SC
0015U	1.0	1.1
0030U	1.6	1.7
0060U	2.7	3.1

Weights in kg

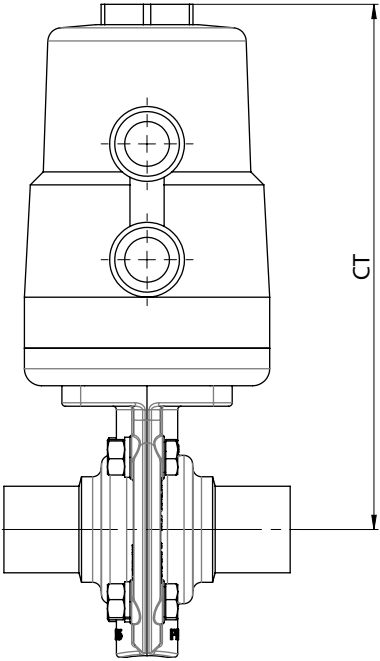
Actuator GDA/GSR

Type	GDA	GSR
0050	1.05	1.22
0065	1.50	1.80

Weights in kg

7 Dimensions

7.1 Mounting height

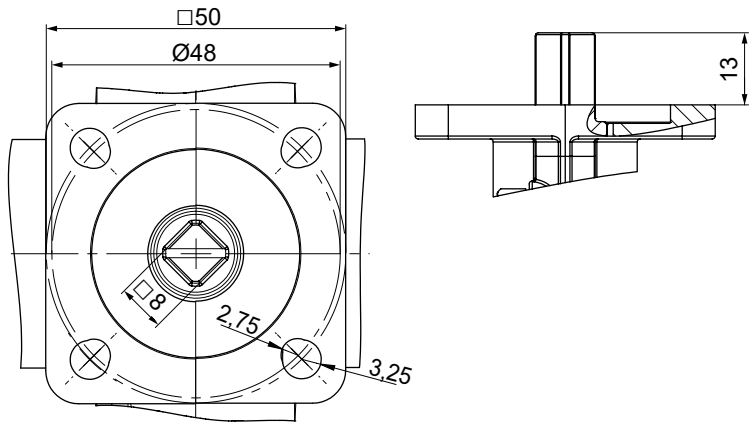


DN	CT	
	Actuator size	
	0	1
15	153.5	-
20	153.5	-
25	153.5	-
32	-	225.0
40	-	233.0
50	-	242.0

Dimensions in mm

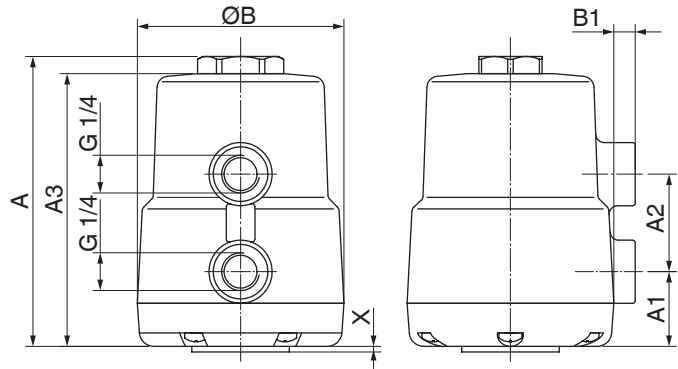
7.2 Actuator

7.2.1 Actuator flange F05/G05



Dimensions in mm

7.2.2 GEMÜ 9415



Actuator size	A	A1	A2	A3	ØB	B1	X
0	112.0	37.0	34.0	106.0	72.0	7.0	2.0
1	177.0	41.0	65.0	171.0	97.0	3.0	2.0

Dimensions in mm

7.2.3 ADA/ASR

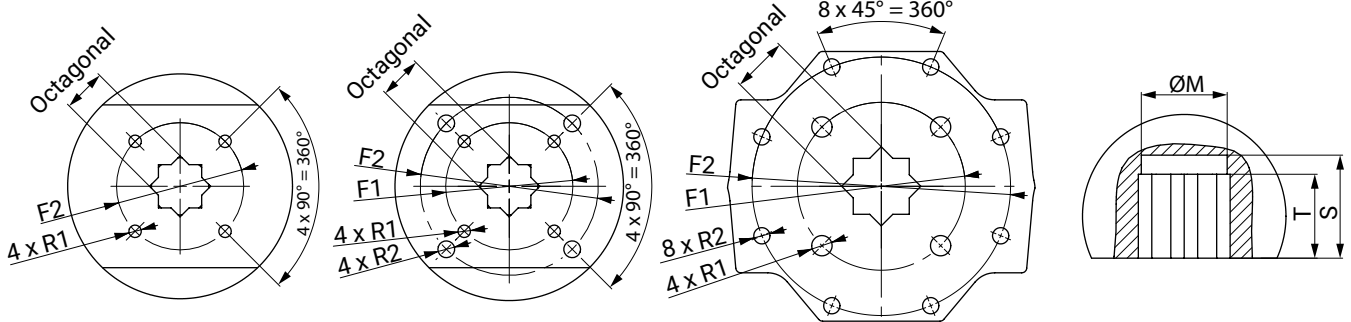
Actuator flange ISO5211

Type 00010, 0020U, 0040U,
0500U, 0750U, 2100U, 2500U

Type 0020U, 0080U, 0130U,
0300U, 0850U, 1200U

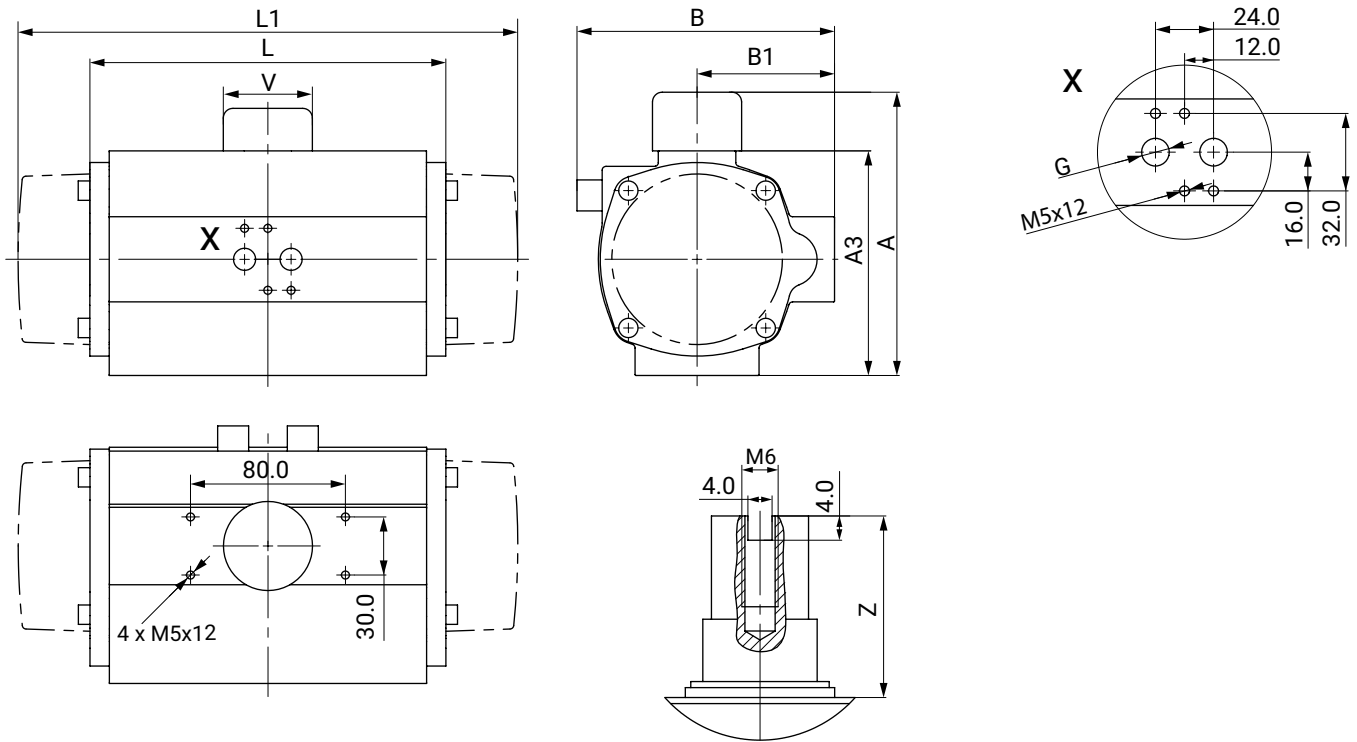
Type 4000U

Type 00010 - 4000U



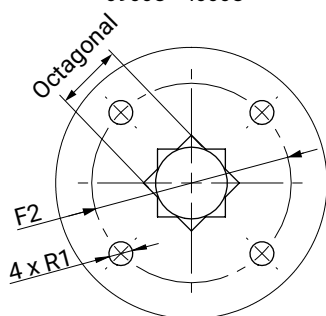
Type	Actuator flange	Octagonal	M	T	S	F1	R1	F2	R2
0020U	F05	14.0	18.1	12.0	16.0	50.0	M6 x 10.0	-	-
0040U	F05	14.0	18.1	12.0	16.0	50.0	M6 x 10.0	-	-

Dimensions in mm

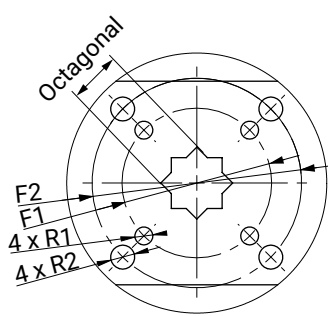


Type	A	A3	B	B1	G	L	L1	V	Z
0020U	96.0	66.0	76.0	48.0	G1/4"	145.0	163.0	40.0	30.0
0040U	115.0	85.0	91.0	56.0	G1/4"	158.0	195.0	40.0	30.0

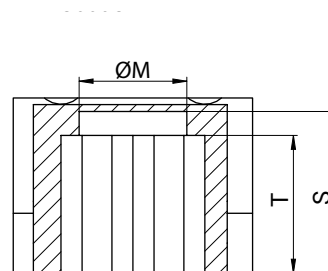
Dimensions in mm

7.2.4 DR/SCType 0010U - 0030U
0900U - 4000U

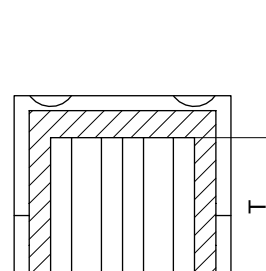
Type 0030U - 1200U, 5000U



Type 0010U - 1200U, 5000U

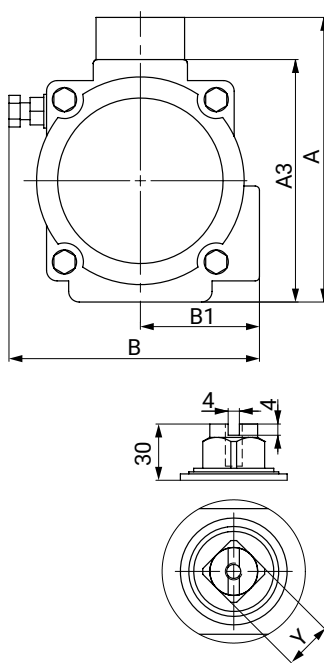
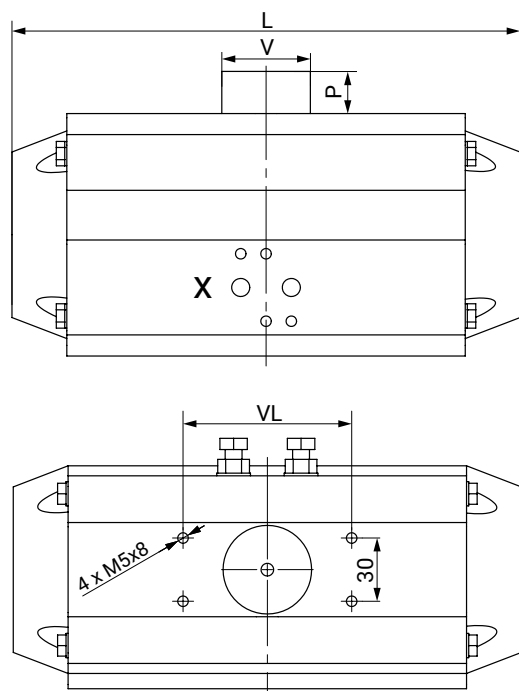


Type 2000U - 4000U

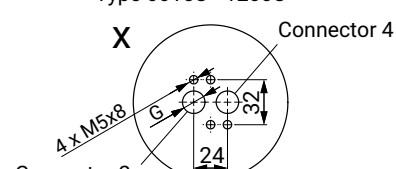


Type	ISO flange	Octagonal	M	T	S	F1	R1	F2	R2
0015U	F04	11.0	15.5	11.5	13.5	42.0	M5	-	-
0030U	F05/F07	14.0	18.6	14.5	16.5	50.0	M6	70.0	M8
0060U	F05/F07	17.0	22.7	17.5	20.0	50.0	M6	70.0	M8

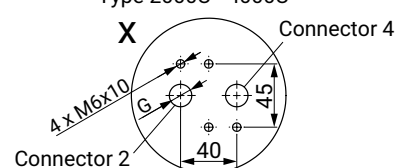
Dimensions in mm



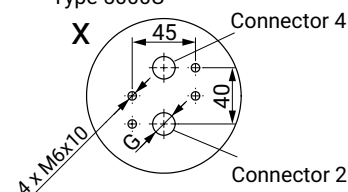
Type 0015U - 1200U



Type 2000U - 4000U



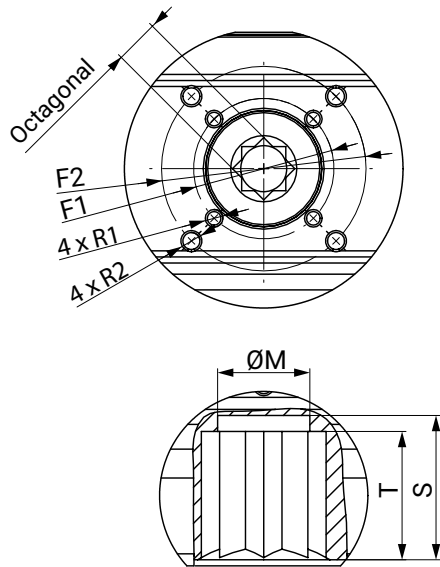
Type 5000U



Type	A	A3	B	B1	V	VL	G	P	L	Y
0015U	89.0	69.0	72.0	43.0	42.0	80.0	G1/8"	20.0	136.0	11.0
0030U	105.0	85.0	84.5	48.5	42.0	80.0	G1/8"	20.0	153.5	11.0
0060U	122.0	102.0	93.0	50.5	42.0	80.0	G1/8"	20.0	203.5	17.0

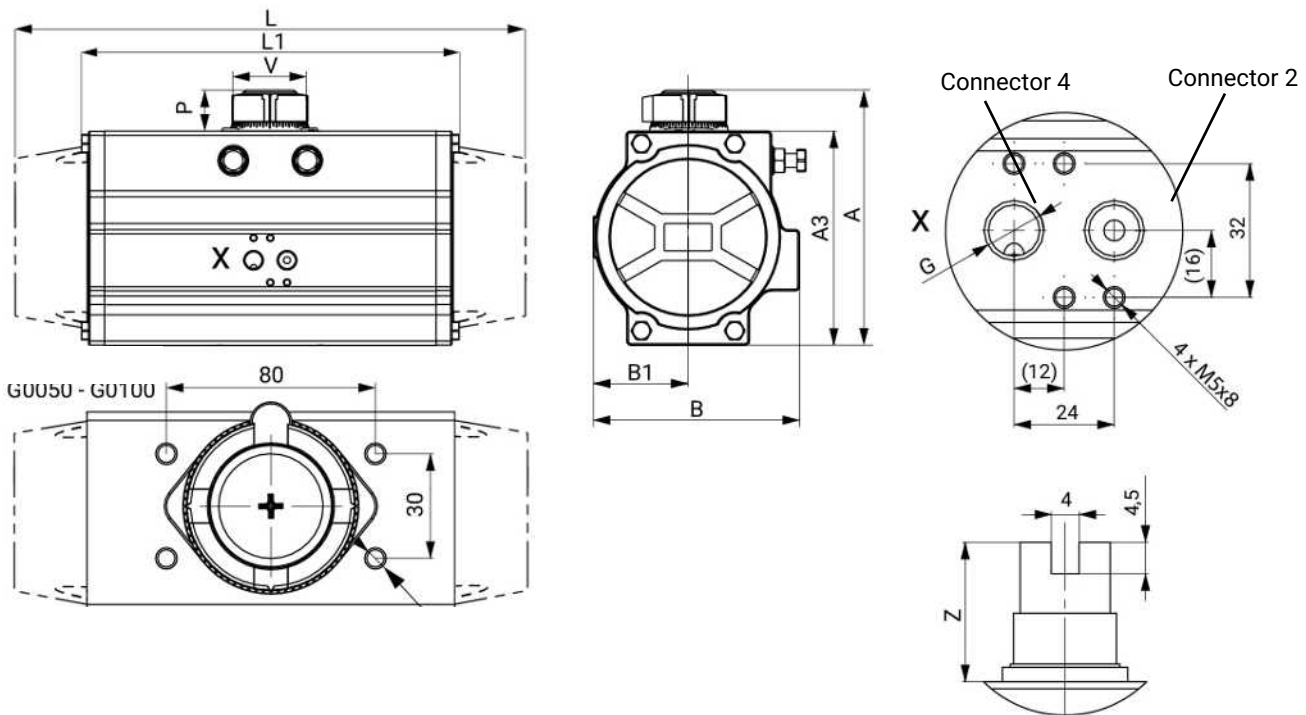
Dimensions in mm

7.2.5 GDR/GSR



Type	Actuator flange	Octagonal	M	T	S	F1	R1	F2	R2
G0050	F03/F05	11.0	11.8	12.0	20.0	36.0	M5 x 7,5	50.0	M6 x 8
G0065	F05/F07	14.0	14.5	16.0	20.0	50.0	M6 x 8	70.0	M8 x 12

Dimensions in mm

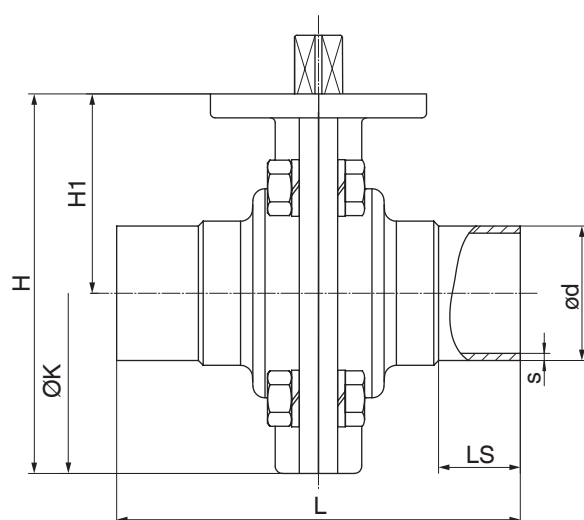


Type	A	A3	B	B1	V	G	P	VL	Z	L
G0050	92.00	70.00	71.00	30.00	40.00	G1/8"	22.00	80.00	20.00	142.00
G0065	102.50	80.50	80.50	35.50	40.00	G1/8"	22.00	80.00	20.00	162.00

Dimensions in mm

7.3 Body

7.3.1 Butt weld spigot (connection type code 0, 16, 17, 37, 59, 60)

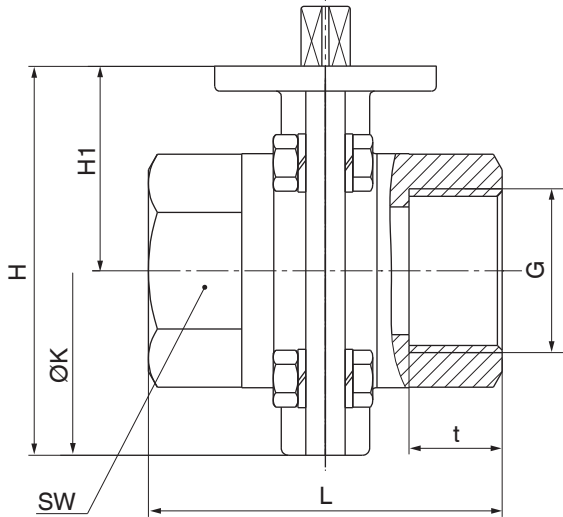


							DIN		EN 10357			
							Code 0		Code 16		Code 17	
DN	NPS	L	H	H1	ØK	LS	Ød	s	Ød	s	Ød	s
15	1/2"	80.0	79.0	41.5	75.0	20.0	18.0	1.5	18.0	1.0	19.0	1.5
20	3/4"	84.0	79.0	41.5	75.0	22.0	22.0	1.5	22.0	1.0	23.0	1.5
25	1"	84.0	79.0	41.5	75.0	22.0	28.0	1.5	28.0	1.0	29.0	1.5
32	1¼"	88.0	91.0	48.0	85.0	25.0	34.0	1.5	34.0	1.0	35.0	1.5
40	1½"	96.0	108.0	56.0	103.0	25.0	40.0	1.5	40.0	1.0	41.0	1.5
50	2"	110.0	123.0	65.0	116.0	30.0	52.0	1.5	52.0	1.0	53.0	1.5

							SMS 3008		EN ISO 1127		ASME BPE	
							Code 37		Code 60		Code 59	
DN	NPS	L	H	H1	ØK	LS	Ød	s	Ød	s	Ød	s
15	1/2"	80.0	79.0	41.5	75.0	20.0	-	-	21.3	1.6	12.7	1.65
20	3/4"	84.0	79.0	41.5	75.0	22.0	-	-	26.9	1.6	19.1	1.65
25	1"	84.0	79.0	41.5	75.0	22.0	25.0	1.2	33.7	2.0	25.4	1.65
32	1¼"	88.0	91.0	48.0	85.0	25.0	33.7	1.2	42.4	2.0	-	-
40	1½"	96.0	108.0	56.0	103.0	25.0	38.0	1.2	48.3	2.0	38.1	1.65
50	2"	110.0	123.0	65.0	116.0	30.0	51.0	1.2	60.3	2.0	50.8	1.65

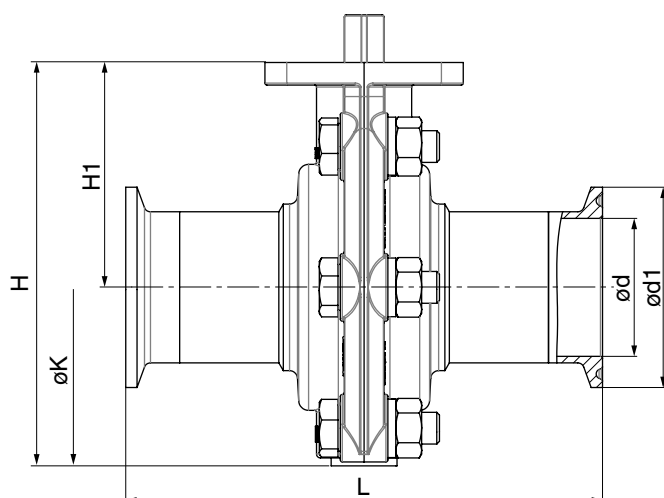
Dimensions in mm

7.3.2 Threaded socket (connection type code 1, 31)



DN	G/NPT	L	H	H1	t	ØK	SW	n
15	1/2"	72.0	79.0	41.5	15.0	75.0	27.0	6
20	3/4"	72.0	79.0	41.5	16.0	75.0	32.0	6
25	1"	72.0	79.0	41.5	19.0	75.0	41.0	6
32	1¼"	72.0	91.0	48.0	21.4	85.0	50.0	8
40	1½"	83.0	108.0	56.0	21.4	103.0	55.0	8
50	2"	88.0	123.0	65.0	25.7	116.0	70.0	8

Dimensions in mm
n = number of flats

7.3.3 Clamp (connection type code 86, 88)

						DIN 32676 series A		ASME BPE	
						Code 86		Code 88	
DN	NPS	L	H	H1	øK	ød	ød1	ød	ød1
15	1/2"	115.0	79.0	41.5	75.0	16.0	34.0	9.4	25.0
20	3/4"	120.0	79.0	41.5	75.0	20.0	34.0	15.8	25.0
25	1"	125.0	79.0	41.5	75.0	26.0	50.5	22.1	50.5
32	1¼"	130.0	91.0	48.0	85.0	32.0	50.5	-	-
40	1½"	140.0	108.0	56.0	103.0	38.0	50.5	34.8	50.5
50	2	150.0	123.0	65.0	116.0	50.0	50.5	47.5	64.0

Dimensions in mm

8 Manufacturer's information

8.1 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.

8.2 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.

8.3 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.

9 Installation in piping

9.1 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!

- Burns
- Only work on plant that has cooled down.
- Wear protective gear.

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



Risk of crushing!

- There is a risk of crushing when reaching into the valve.
- Installation and removal of the valve may only be performed by suitable/trained personnel.
- Install only if the valve is deenergized (without control energy).
- When used as an end-of-line valve, a mating flange must be used.
- The operator must ensure that the valve is adequately secured by piping, e.g. pipe bends or grids.

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.

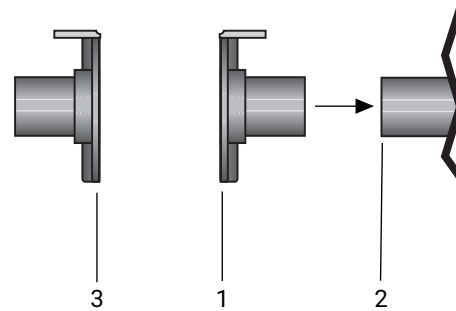
NOTICE**Tools!**

- 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. Observe appropriate regulations for connections.
6. Have installation work carried out by trained personnel.
7. Shut off plant or plant component.
8. Secure plant or plant component against recommissioning.
9. Depressurize the plant or plant component.
10. Completely drain the plant (or plant component) and let it 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 from vibrations and tension.
13. Only install the product between matching aligned pipes (see chapters below).

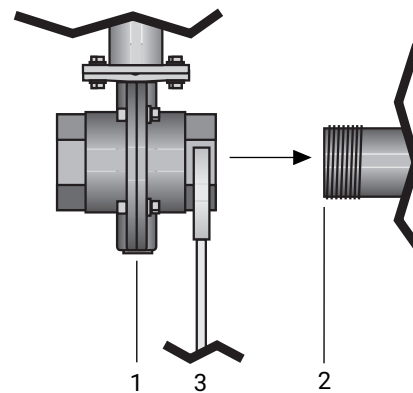
9.2 Installation position

GEMÜ recommends a vertically upright installation position of the actuator.

9.3 Installation with butt weld spigots

Installation - Butt weld spigots

1. Carry out preparations for installation (see chapter "Preparing for installation").
2. Adhere to good welding practices!
3. Disassemble the butterfly valve (see chapter "Butterfly valve disassembly (removing the actuator from the body)").
4. Remove the protection caps.
5. Weld the butterfly body half **1** to the piping **2**.
6. Connect the butterfly body half **3** with the other side of the piping.
7. Reassemble the butterfly valve (see chapter "Assembling the shut-off seal").

9.4 Installation with threaded connections

Installation - Threaded connections

1. Screw the butterfly valve body **1** onto the piping **2** using a suitable thread sealant. The thread sealant is not included in the scope of delivery.
2. Hold with an open-end wrench **3**.
3. Connect the other side of the butterfly valve body **1** with the piping in a like manner.

10 Pneumatic connections

10.1 Control function

The following control functions are available:

Control function 1

Normally closed (NC):

Valve resting position: Closed by spring force. Activation of the actuator (connector 2) opens the valve. When the actuator is vented, the valve is closed by spring force.

Control function 2

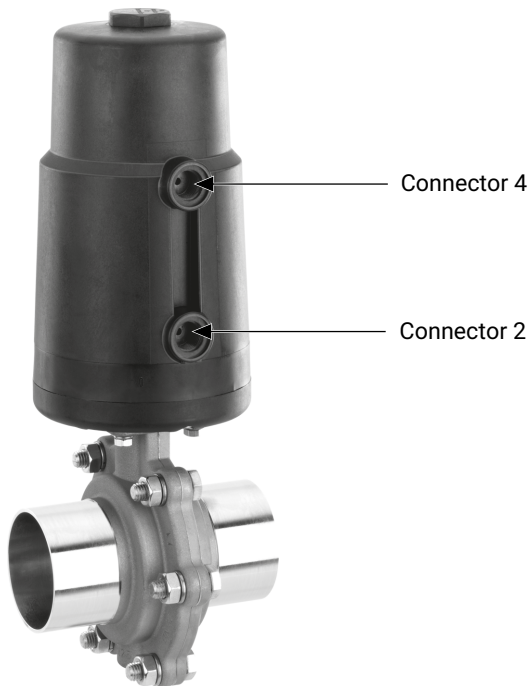
Normally open (NO):

Valve resting position: Opened by spring force. Activation of the actuator (connector 4) closes the valve. When the actuator is vented, the valve is opened by spring force.

Control function 3

Double acting (DA):

Valve resting position: No defined normal position. The valve is opened and closed by activating the respective control medium connectors (connector 2: Open/connector 4: Close).



Control function	Connections	
	2	4
1 (NC)	+	-
2 (NO)	-	+
3 (DA)	+	+

+ = available / - = not available
(see figures for connectors 2/4)

10.2 Connecting the control medium

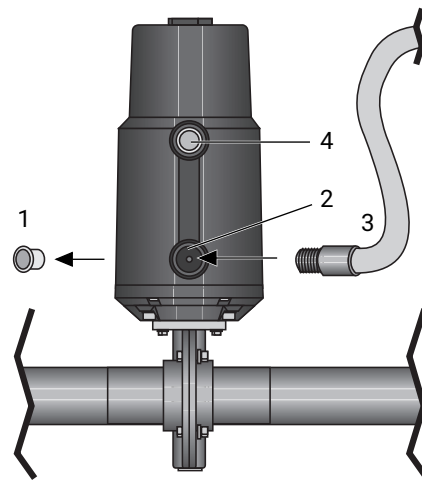
1. Use suitable connectors.
2. Connect the control medium lines tension-free and without any bends or knots.

Thread size of the control medium connectors:

G1/4

Control function		Connections
1	Normally closed (NC)	2: Control medium (open)
2	Normally open (NO)	4: Control medium (close)
3	Double acting (DA)	2: Control medium (open) 4: Control medium (close)

See figures for connectors 2/4 on the left



Connecting the control medium

3. Remove the blanking plug 1.
4. Screw the control medium line 3 (G 1/4) for control function 1 and 2 into actuator control medium connector 2.
5. For control function 3, also screw the second control medium line (G 1/4) into actuator control medium connector 4.

11 Commissioning

⚠ WARNING



Corrosive chemicals!

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

⚠ CAUTION



Leakage!

- Emission of dangerous materials
- Provide for precautionary measures against exceeding the maximum permissible pressure that may be caused by pressure surges (water hammer).

 CAUTION

Cleaning agent!

- ▶ Damage to the GEMÜ product
 - The plant operator is responsible for selecting the cleaning material and performing the procedure.
1. Check the tightness and the function of the product (close and reopen the product).
 2. Flush the piping system of new plant and following repair work (the product must be fully open).
 - ⇒ Harmful foreign matter has been removed.
 - ⇒ The product is ready for use.
 3. Commission the product.
 4. Commissioning of actuators in accordance with the enclosed instructions.

12 Operation

The product is pneumatically operated.

- Observe the enclosed actuator instructions.

13 Troubleshooting

Error	Possible cause	Troubleshooting
The product does not open or does not open fully	Control pressure too low (for control function NC)	Operate the product with the control pressure specified in the datasheet
	Control medium not connected	Connect control medium
	Actuator defective	Replace the actuator
	Foreign matter in the product	Remove and clean the product
The product does not close or does not close fully	Operating pressure too high	Operate the product with operating pressure specified in datasheet
	Foreign matter in the product	Remove and clean the product
	Shut-off seal incorrectly mounted or incorrect shut-off seal mounted	Replace or correctly mount the shut-off seal
	Control pressure too low (for control function NO and control function DA)	Operate product at specified control pressure
	Actuator defective	Replace the actuator
The product is leaking between actuator and valve body	Seals faulty	Replace seals
	Bolting between valve body and actuator loose	Tighten bolting between valve body and actuator
	Actuator/valve body damaged	Replace actuator/valve body
Connection between valve body and piping leaking	Incorrect installation	Check installation of valve body in piping
	Sealing material faulty	Replace sealing material
	Threaded connections / unions loose	Tighten threaded connections / unions
Valve body leaking	Valve body leaking or corroded	Check valve body for damage, replace valve body if necessary
	Seals faulty	Replace the seals
	Seal incorrectly mounted or incorrect seal mounted	Replace or correctly mount the seal

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.

⚠ CAUTION



Hot plant components!

- ▶ Burns
- Only work on plant that has cooled down.
- Wear protective gear.

⚠ CAUTION



Risk of crushing!

- ▶ There is a risk of crushing when reaching into the valve.
- Installation and removal of the valve may only be performed by suitable/trained personnel.
- Install only if the valve is deenergized (without control energy).
- When used as an end-of-line valve, a mating flange must be used.
- The operator must ensure that the valve is adequately secured by piping, e.g. pipe bends or grids.

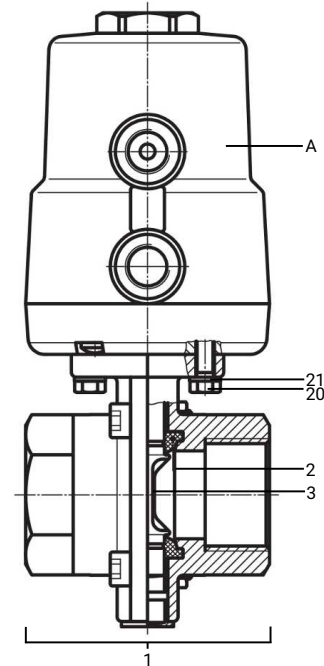
⚠ CAUTION

- Servicing and maintenance work must only be performed by trained personnel.
- Do not extend hand lever. GEMÜ shall assume no liability for damages caused by improper handling or third-party actions.
- In case of doubt, contact GEMÜ prior to commissioning.

1. Wear appropriate protective gear in accordance with the plant operator's guidelines.
2. Shut off the plant or plant component.
3. Secure against recommissioning.
4. Depressurize the plant or plant component.

The operator must carry out regular visual examinations of the valves, depending on the operating conditions and the potentially hazardous situations, in order to prevent leakage and damage. The valve also has to be disassembled in corresponding intervals and checked for wear (see "Fitting/removing spare parts").

14.1 Spare parts



Item	Name	Order designation
A	Actuator	9415
1	Body	K415
2	Shut-off seal	415 SLN
3	Disc	415 SDS
20, 21	Mounting set	415 SVK

14.2 Fitting/removing spare parts

14.2.1 Butterfly valve disassembly (removing the actuator from the body)

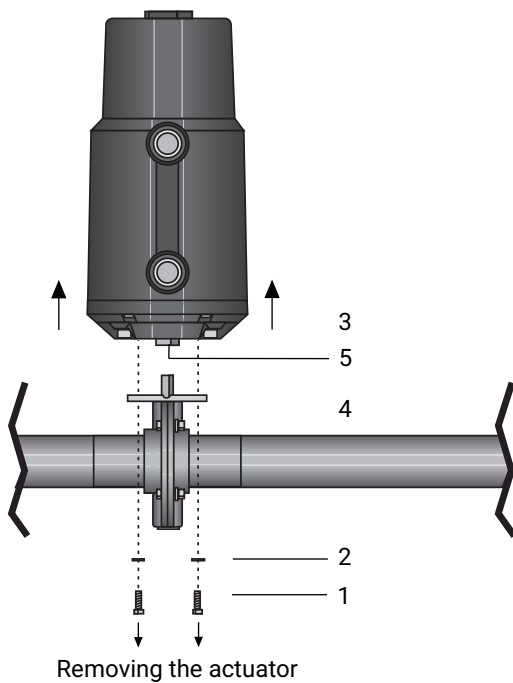
⚠ DANGER



Do not open the actuator!

- ▶ Risk of severe injury or death!
- ▶ Manufacturer's warranty will be voided.

1. Depressurize the plant or plant component.
2. Pneumatic actuator: Depressurize the control medium.
3. Pneumatic actuator: Remove the control medium line(s) on the actuator.



4. Unscrew the hexagon screws 1.
5. Do not lose the washers 2.
6. The actuator 3 can be pulled off the butterfly valve body 4.
7. The adapter sleeve 5 can be removed.

NOTICE

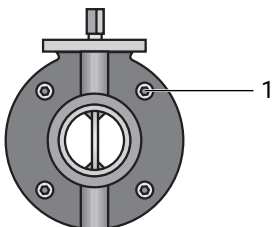
- Clean all parts of contamination (do not damage the parts during cleaning) following removal. Check parts for potential damage, replace if necessary (only use genuine parts from GEMÜ).

14.2.2 Removing the shut-off seal

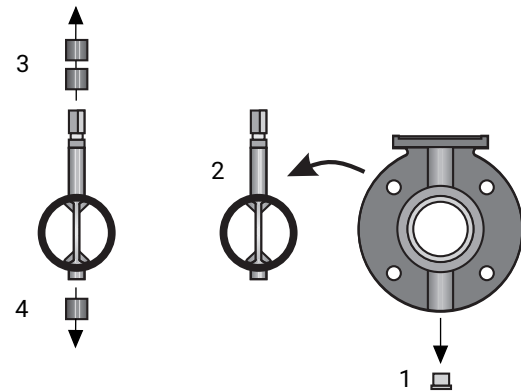
NOTICE

- Before removing the shut-off seal, remove the actuator; see "Removing the shut-off seal (removing the actuator from the body)".

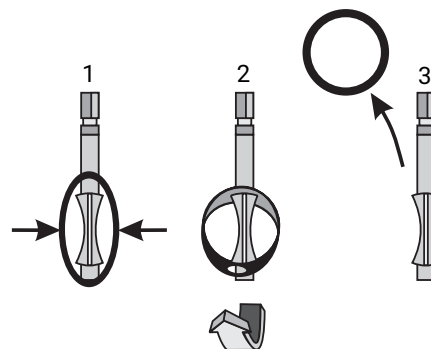
1. Remove the actuator (see chapter "Removing the butterfly valve")
2. Undo screws 1.



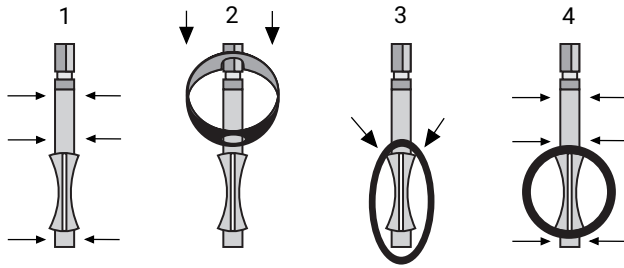
3. Do not lose the nuts and washers.
4. Press the two valve halves apart.
5. Do not lose the protective cap 1.
6. Remove the disc 2 with shut-off seal.



7. Do not lose the bushings 3 and 4.
8. Squeeze the shut-off seal (1) and pull it down over the short part of the shaft towards the front (2).

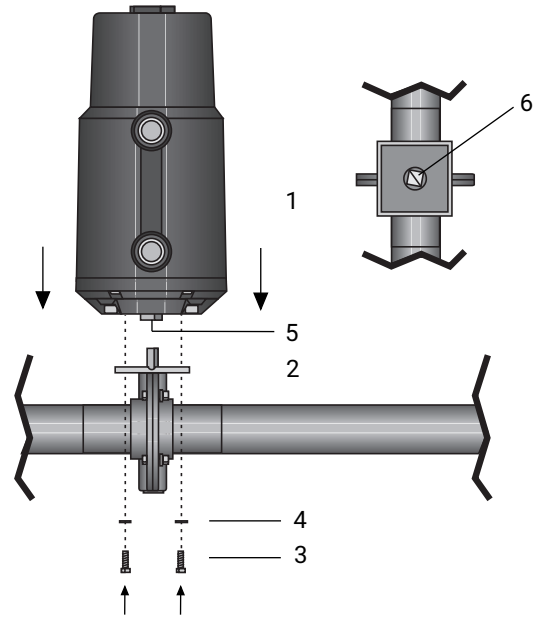


9. Pull off the shut-off seal upwards over the long part of the shaft (3).

14.2.3 Installing the shut-off seal

Assembling a new shut-off seal

1. Lubricate the shaft of the valve disc above and below the disc (1).
2. Lubricate the shut-off seal in the axis/shaft area.
3. Push on the new shut-off seal with a hole over the long part of the shaft (2).
4. Squeeze the shut-off seal and slip it over the short part of the shaft (3).
5. Click the shut-off seal into position.
6. Lubricate the disc shaft above and below the shut-off seal (4).
7. Press the two valve halves apart.
8. Position the disc with shut-off seal between the two valve halves.
9. Push the two valve halves together.
10. Insert the screws and tighten them diagonally with nuts and washers until they are hand tight.
11. Insert the protective cap into the bottom of the butterfly valve body.

14.2.4 Mounting the actuator on the butterfly valve body

Mounting the actuator

1. Insert the adapter sleeve **5** as far as it will go into the actuator base.
2. Read off the position of the butterfly disc at groove **6** and compare it with the position indicator (optional); if necessary, turn the butterfly disc to the correct position.
3. Put the new actuator **1** on the butterfly valve body **2**.
4. Turn the actuator **1** until the hexagon screws **3** can be inserted.
5. Tighten the hexagon screws **3** with their washers **4** until hand tight.
6. Tighten the hexagon screws **3** diagonally until they are hand tight.

15 Removal from piping

1. Remove in reverse order to installation.
2. Deactivate the control medium.
3. Disconnect the control medium line(s).
4. Disassemble the product. Observe warning notes and safety information.

16 Disposal

1. Pay attention to adhered residual material and gas diffusion from penetrated media.
2. Dispose of all parts in accordance with the disposal regulations/environmental protection laws.

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

Version 1



Original EU-Einbauerklärung EU Declaration of Incorporation

Wir, die Firma

We, the company

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Gert-Müller-Platz 1
74635 Kupferzell
Deutschland

erklären hiermit in alleiniger Verantwortung, dass die nachfolgend bezeichneten Produkte den Vorschriften der genannten Richtlinien entspricht.

hereby declare under our sole responsibility that the below-mentioned products complies with the regulations of the mentioned Directives.

Produkt: GEMÜ 415

Product: GEMÜ 415

Produktname: Pneumatisch betätigte Absperrklappe

Product name: Pneumatically operated butterfly valve

Inbetriebnahme der unvollständigen Maschine ist nur zulässig, wenn die Gesamtmaschine den Anforderungen der Maschinenrichtlinie 2006/42/EG entspricht.

Commissioning of the incomplete machine is only permitted if the complete machine complies with the requirements of the Machinery Directive 2006/42/EC.

Richtlinien/Verordnungen:

Directives/Regulations:

MD 2006/42/EG¹⁾

Folgende harmonisierte Normen (oder Teile hieraus) wurden angewandt:

The following harmonized standards (or parts thereof) have been applied:

EN ISO 12100:2010

Folgende grundlegenden Sicherheits- und Gesundheitsschutzanforderungen der EG-Maschinenrichtlinie 2006/42/EG, Anhang I wurden angewandt und eingehalten:

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.; 1.3.3.; 1.3.4.; 1.3.7.; 1.5.3.; 1.5.4.; 1.5.5.; 1.5.6.; 1.6.1.; 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.

¹⁾ MD 2006/42/EG

Bemerkungen:

Ferner wird erklärt, dass die speziellen technischen Unterlagen gemäß Anhang VII Teil B erstellt wurden.

Der Hersteller verpflichtet sich, einzelstaatlichen Stellen auf begründetes Verlangen die speziellen technischen Unterlagen zu der unvollständigen Maschine zu übermitteln. Diese Übermittlung erfolgt elektronisch.

Die gewerblichen Schutzrechte bleiben hiervon unberührt!

¹⁾ MD 2006/42/EG

Remarks:

It is also declared that the specific technical documentation has been prepared in accordance with Annex VII, Part B.

The manufacturer undertakes to provide national authorities with the specific technical documentation relating to the partly completed machinery upon reasoned request. This documentation shall be provided electronically.

Industrial property rights remain unaffected by this.!

i.V. M. Barghoorn
Leiter Globale Technik
Kupferzell, 24.02.2026

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Gert-Müller-Platz 1, 74635 Kupferzell, Deutschland

www.gemu-group.com
info@gemu.de

19 EU Declaration of Conformity



Version 1



EU-Konformitätserklärung

EU Declaration of Conformity

Wir, die Firma

We, the company

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Gert-Müller-Platz 1
74635 Kupferzell
Deutschland

erklären hiermit in alleiniger Verantwortung, dass die nachfolgend bezeichneten Produkte den Vorschriften der genannten Richtlinien entspricht.

hereby declare under our sole responsibility that the below-mentioned products complies with the regulations of the mentioned Directives.

Produkt: GEMÜ 415**Product:** GEMÜ 415**Produktname:** Pneumatisch betätigte Absperrklappe**Product name:** Pneumatically operated butterfly valve**Richtlinien/Verordnungen:****Directives/Regulations:**PED 2014/68/EU¹⁾**Weitere angewandte Normen:****Further applied norms:**

EN ISO 5211; DIN EN 558; AD 2000

¹⁾ PED 2014/68/EU

Notifizierte Stelle:
TUV Rheinland Industrie Service GmbH
Am Grauen Stein 1
51105 Köln

Kennnummer der notifizierten Stelle: 0035**Nr. des QS-Zertifikats:** 01 202 926/Q-02 0036**Angewandte(s) Konformitätsbewertungsverfahren:** Modul H**Hinweis für Produkte mit einer Nennweite ≤ DN 25:**

Die Produkte werden entwickelt und produziert nach GEMÜ eigenen Verfahrensanweisungen und Qualitätsstandards, welche die Forderungen der ISO 9001 und der ISO 14001 erfüllen. Die Produkte dürfen gemäß Artikel 4, Absatz 3 der Druckgeräterichtlinie 2014/68/EU keine CE-Kennzeichnung tragen.

Bemerkungen:

Der Einsatz des Produkts in Kategorie III gemäß Druckgeräterichtlinie 2014/68/EU sowie die Verwendung mit instabilen Gasen ist nicht zulässig.

¹⁾ PED 2014/68/EU

Notified body:
TUV Rheinland Industrie Service GmbH
Am Grauen Stein 1
51105 Cologne

Identification number of the notified body: 0035**QA certificate number:** 01 202 926/Q-02 0036**Applied conformity assessment procedures:** Module H**Note for products with a nominal size ≤ DN 25:**

The products are developed and manufactured in accordance with GEMÜ's own process instructions and quality standards, which meet the requirements of ISO 9001 and ISO 14001. In accordance with Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU, the products are not permitted to bear the CE mark.

Remarks:

The use of the product in category III in accordance with the Pressure Equipment Directive 2014/68/EU and its use with unstable gases is not permitted.

i.V. M. Barghoorn
Leiter Globale Technik
Kupferzell, 24.02.2026

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Gert-Müller-Platz 1, 74635 Kupferzell, Deutschland

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www.gemu-group.com

Subject to alteration

03.2026 | 89006147