

GEMÜ 611/671

Manually operated diaphragm valve

EN

Operating instructions



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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.

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.



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!
	Corrosive chemicals!
	Hot plant components!
	Handwheel can become hot during operation!
	Risk of crushing due to rising handwheel!
	Damage to the diaphragm if the compressor is unscrewed too far!

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.

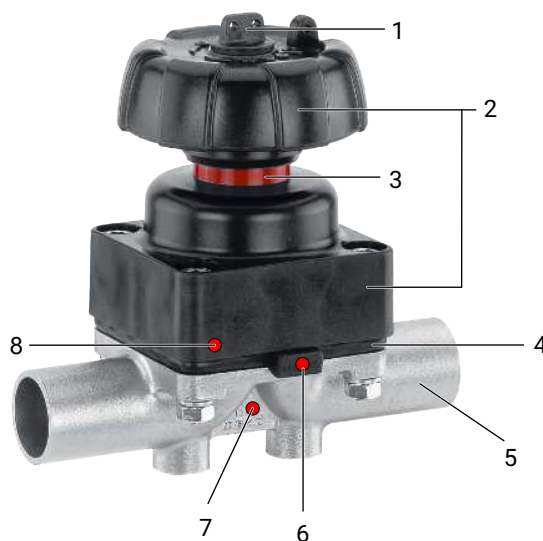
In cases of uncertainty:

15. Consult the nearest GEMÜ sales office.

3 Product description

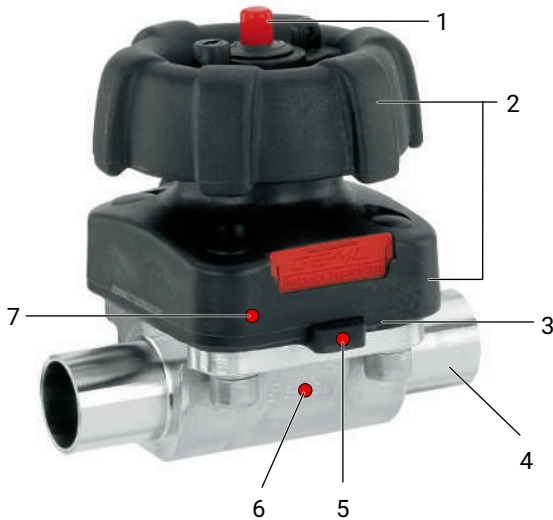
3.1 Construction

GEMÜ 611



Item	Name	Materials
1	Seal adjuster	
2	Manual actuator	
3	Position indicator	
4	Diaphragm	EPDM FKM PTFE/EPDM (one-piece)
5	Valve body	1.4408, investment casting 1.4435, investment casting 1.4435 (F316L), forged body 1.4435 (BN2), forged body, Δ Fe < 0.5 % 1.4539, forged body CW617N (brass)
6	CONEXO diaphragm RFID chip (see Conexo information)	
7	CONEXO body RFID chip (see Conexo information)	
8	CONEXO actuator RFID chip (see Conexo information)	

GEMÜ 671



Item	Name	Materials
1	Position indicator	
2	Manual actuator	
3	Diaphragm	EPDM FKM PTFE/EPDM (one-piece) PTFE/EPDM (two-piece) PTFE/PVDF/EPDM (three-piece)
4	Valve body	1.4408, investment casting 1.4408, investment casting PFA lined 1.4435, investment casting 1.4435 (F316L), forged body 1.4435 (BN2), forged body, Δ Fe < 0.5 % 1.4539, forged body CW617N (brass) EN-GJS-400-18-LT (GGG 40.3) EN-GJS-400-18-LT (GGG 40.3) PFA lined EN-GJS-400-18-LT (GGG 40.3) PP lined
5	CONEXO diaphragm RFID chip (see Conexo information)	
6	CONEXO body RFID chip (see Conexo information)	
7	CONEXO actuator RFID chip (see Conexo information)	

3.2 Description

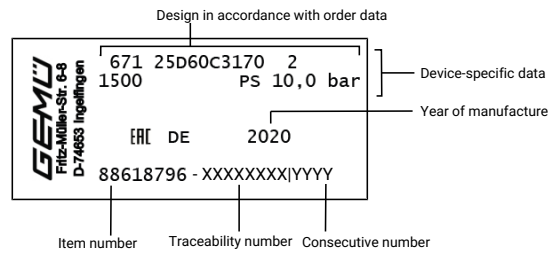
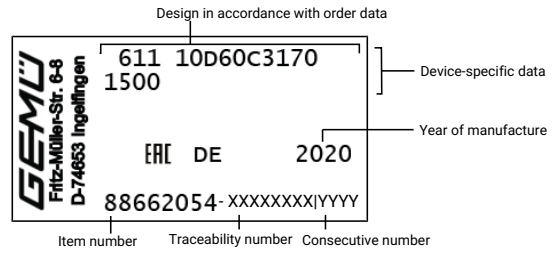
The GEMÜ 611 / 671 2/2-way diaphragm valve has a low-maintenance plastic actuator and is manually operated. An integrated optical position indicator is standard.

3.3 Function

The product is designed for use in piping. It controls a flowing medium by manual operation.

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	
	<p>Danger of explosion!</p> <ul style="list-style-type: none"> ▶ Risk of severe injury or death ● Do not use the product in potentially explosive zones. ● Only use the product in potentially explosive zones confirmed in the declaration of conformity.

 WARNING	
<p>Improper use of the product!</p> <ul style="list-style-type: none"> ▶ 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. Note the supplement acc. to ATEX
3. Please note the flow direction on the valve body.

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
Diaphragm valve, manually operated, plastic handwheel, optical position indicator	611
Diaphragm valve, manually operated, plastic handwheel, plastic distance piece, optical position indicator	671

2 DN	Code
GEMÜ 611	
DN 10	10
DN 12	12
DN 15	15
DN 20	20
GEMÜ 671	
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100

3 Body configuration	Code
2/2-way body	D

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 DIN 11850 series 3	18
Spigot JIS-G 3447	35
Spigot JIS-G 3459 schedule 10s	36
Spigot SMS 3008	37
Spigot BS 4825, part 1	55
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
Spigot ANSI/ASME B36.19M schedule 10s	63
Spigot ANSI/ASME B36.19M schedule 5s	64
Spigot ANSI/ASME B36.19M schedule 40s	65
Threaded connection	
Threaded socket DIN ISO 228	1

4 Connection type	Code
NPT female thread	31
Threaded spigot DIN 11851	6
Cone spigot and union nut DIN 11851	6K
Flange	
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	8
Flange JIS B2220, 10K, RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	34
Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D	38
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D	39
Clamp	
Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D	80
Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	82
Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	88
Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D	8A
Clamp ISO 2852 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8E
Clamp DIN 32676 series C, face-to-face dimension FTF ASME BPE, length only for body configuration D	8P
Clamp DIN 32676 series C, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8T

5 Valve body material	Code
SG iron material	
EN-GJS-400-18-LT (GGG 40.3), PFA lined	17
EN-GJS-400-18-LT (GGG 40.3), PP lined	18
EN-GJS-400-18-LT (GGG 40.3)	90
Investment casting material	
1.4408, investment casting	37

5 Valve body material	Code
1.4408, PFA lined	39
1.4435, investment casting	C3
Forged material	
1.4435 (F316L), forged body	40
1.4435 (BN2), forged body, $\Delta Fe < 0.5\%$	42
1.4539, forged body	F4
Brass	
CW614N, CW617N (brass)	12

6 Diaphragm material	Code
Elastomer	
FKM	4
EPDM	13
EPDM	17
EPDM	19
EPDM	28
EPDM	29
PTFE	
PTFE/EPDM one-piece	54
PTFE/EPDM two-piece	5M
PTFE/PVDF/EPDM three-piece	71
Note: The PTFE/EPDM diaphragm (code 5M) is available from diaphragm size 25.	
Note: The PTFE/PVDF/EPDM diaphragm (code 71) can only be combined with PFA lined valve bodies.	

7 Control function	Code
GEMÜ 611 and GEMÜ 671	
Manually operated	0
GEMÜ 671	
Manually operated, with lockable handwheel	L

8 Actuator version	Code
GEMÜ 611	
Actuator size 2	2
GEMÜ 671	
DN 15 - 25, diaphragm size 25	
Actuator size 2	2
Thread for mounting of electrical position indicator GEMÜ 1215	2Z
DN 32 - 40, diaphragm size 40	
Actuator size 3	3
Thread for mounting of electrical position indicator GEMÜ 1215	3Z
Actuator size 4	4
Thread for mounting of electrical position indicator GEMÜ 1215	4Z
DN 80, diaphragm size 80	
Thread for mounting of electrical position indicator GEMÜ 1215	5Z
DN 100, diaphragm size 100	
Thread for mounting of electrical position indicator GEMÜ 1215	6Z

9 Surface	Code
$Ra \leq 6.3 \mu m$ (250 $\mu in.$) for media wetted surfaces, mechanically polished internal	1500
$Ra \leq 0.8 \mu m$ (30 $\mu in.$) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1502
$Ra \leq 0.8 \mu m$ (30 $\mu in.$) for media wetted surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1503
$Ra \leq 0.6 \mu m$ (25 $\mu in.$) for media wetted surfaces, mechanically polished internal	1507
$Ra \leq 0.6 \mu m$ (25 $\mu in.$) for media wetted surfaces, electropolished internal/external	1508
$Ra \leq 0.25 \mu m$ (10 $\mu in.$) for media wetted surfaces *), in accordance with DIN 11866 HE5, electropolished internal/external, *) for inner pipe diameters < 6 mm, in the spigot $Ra \leq 0.38 \mu m$	1516
$Ra \leq 0.25 \mu m$ (10 $\mu in.$) for media wetted surfaces *), in accordance with DIN 11866 H5, mechanically polished internal, *) for inner pipe diameters < 6 mm, in the spigot $Ra \leq 0.38 \mu m$	1527
$Ra \leq 0.4 \mu m$ (15 $\mu in.$) for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal	1536
$Ra \leq 0.4 \mu m$ (15 $\mu in.$) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
$Ra \max. 0.51 \mu m$ (20 $\mu in.$) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically polished internal	SF1
$Ra \max. 0.64 \mu m$ (25 $\mu in.$) for media wetted surfaces, in accordance with ASME BPE SF2, mechanically polished internal	SF2
$Ra \max. 0.76 \mu m$ (30 $\mu in.$) for media wetted surfaces, in accordance with ASME BPE SF3, mechanically polished internal	SF3
$Ra \max. 0.38 \mu m$ (15 $\mu in.$) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4
$Ra \max. 0.51 \mu m$ (20 $\mu in.$) for media wetted surfaces, in accordance with ASME BPE SF5, electropolished internal/external	SF5
$Ra \max. 0.64 \mu m$ (25 $\mu in.$) for media wetted surfaces, in accordance with ASME BPE SF6, electropolished internal/external	SF6

10 Special version	Code
Without	
BELGAQUA certification	B
Special version for oxygen, maximum medium temperature: 60 °C	S

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

Order example

Ordering option	Code	Description
1 Type	671	Diaphragm valve, manually operated, plastic handwheel, plastic distance piece, optical position indicator
2 DN	25	DN 25
3 Body configuration	D	2/2-way body
4 Connection type	60	Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B
5 Valve body material	C3	1.4435, investment casting
6 Diaphragm material	17	EPDM
7 Control function	0	Manually operated
8 Actuator version	2	Actuator size 2
9 Surface	1500	Ra ≤ 6.3 μm (250 μin.) for media wetted surfaces, mechanically polished internal
10 Special version	S	Special version for oxygen, maximum medium temperature: 60 °C
11 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 diaphragm material.
For special oxygen version (code S): only gaseous oxygen

7.2 Temperature

Media temperature:

Diaphragm material	Standard	Special version for oxygen
FKM (code 4)	-10 – 80 °C	-
EPDM (code 13)	-10 – 80 °C	0 – 60 °C
EPDM (code 17)	-10 – 80 °C	-
EPDM (code 19)	-10 – 80 °C	0 – 60 °C
EPDM (code 28)	-10 – 80 °C	-
EPDM (code 29)	-10 – 80 °C	-
PTFE/EPDM (code 54)	-10 – 80 °C	0 – 60 °C
PTFE/PVDF/EPDM (code 71)	-10 – 80 °C	-
PTFE/EPDM (code 5M)	-10 – 80 °C	0 – 60 °C

Ambient temperature: 0 – 60 °C

Storage temperature: 0 – 40 °C

7.3 Pressure

Operating pressure:

	MG	DN	Diaphragm material	
			Elastomer	PTFE
GEMÜ 611	10	10 - 20	0 - 10	0 - 6
GEMÜ 671	25 - 100	15 - 100	0 - 10	0 - 6

MG = diaphragm size

All pressures are gauge pressures. Operating pressure values were determined with static operating pressure applied on one side of a closed valve. Sealing at the valve seat and atmospheric sealing is ensured for the given values.

Information on operating pressures applied on both sides and for high purity media on request.

Pressure rating: PN 16

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

Kv values:

MG	DN	Connection type code						
		0	16	17	18	37	59	60
10	10	-	2.4	2.4	2.4	-	2.2	3.3
	12	-	-	-	-	-	-	-
	15	3.3	3.8	3.8	3.8	-	2.2	4.0
	20	-	-	-	-	-	3.8	-
25	15	4.1	4.7	4.7	4.7	-	-	7.4
	20	6.3	7.0	7.0	7.0	-	4.4	13.2
	25	13.9	15.0	15.0	15.0	12.6	12.2	16.2
40	32	25.3	27.0	27.0	27.0	26.2	-	30.0
	40	29.3	30.9	30.9	30.9	30.2	29.5	32.8
50	50	46.5	48.4	48.4	48.4	51.7	50.6	55.2
	65	-	-	-	-	62.2	61.8	-
80	65	-	-	77.0	-	68.5	68.5	96.0
	80	-	-	111.0	-	80.0	87.0	111.0
100	100	-	-	194.0	-	173.0	188.0	214.0

MG = diaphragm size

Kv values in m³/h

Kv values determined in accordance with DIN EN 60534 standard, inlet pressure 5 bar, Δp 1 bar, stainless steel valve body and soft elastomer diaphragm. The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject to the influences of pressure, temperature, the process and their tightening torques. Therefore the Kv values may exceed the tolerance limits of the standard.

MG	DN	GGG 40.3, connection type 1, 31	PFA/PP	Investment casting, connection type 1, 31
25	15	8.0	5.0	6.5
	20	11.5	9.0	10.0
	25	11.5	13.0	14.0
40	32	28.0	23.0	26.0
	40	28.0	26.0	33.0
50	50	60.0	47.0	60.0
	65	-	47.0	-
80	80	-	110.0	-
100	100	-	177.0	-

MG = diaphragm size, Kv values in m³/h

Kv values determined in accordance with DIN EN 60534, inlet pressure 5 bar, Δp 1 bar, with connection flange EN 1092 length EN 558 series 1 (or threaded socket DIN ISO 228 for body material GGG40.3) and soft elastomer diaphragm. The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject to the influences of pressure, temperature, the process and their tightening torques. Therefore the Kv values may exceed the tolerance limits of the standard.

The Kv value curve (Kv value dependent on valve stroke) can vary depending on the diaphragm material and duration of use.

7.4 Product conformity**Machinery Directive:** 2006/42/EC**Pressure Equipment Directive:** 2014/68/EU**Food:** Regulation (EC) No. 1935/2006
Regulation (EC) No. 10/2011*
FDA*
USP* Class VI**Drinking water:** Belgaqua*
* depending on version and/or operating parameters**7.5 Mechanical data****Weight:** GEMÜ 611 actuator
0.15 kg

GEMÜ 671 actuator

MG	DN	Weight
25	15 – 25	0.4
40	32 – 40	0.6
50	50 – 65	1.0
80	65 – 80	3.8
100	100	5.1

Weights in kg
MG = diaphragm size

Weight:**Body**

MG	DN	Spigot	Threaded socket	Threaded spigot, cone spigot	Flange	Clamp
		Connection type code				
		0, 16, 17, 18, 35, 36, 37, 55, 59, 60, 63, 64, 65	1, 31	6, 6K	8, 38, 39	80, 82, 88, 8A, 8E, 8P, 8T
10	10	0.30	-	0.33	-	0.30
	12	-	0.17	-	-	-
	15	0.30	0.26	0.35	-	0.43
	20	-	-	-	-	0.43
25	15	0.62	0.32	0.71	1.50	0.75
	20	0.58	0.34	0.78	2.20	0.71
	25	0.55	0.39	0.79	2.80	0.63
40	32	1.45	0.88	1.66	3.40	1.62
	40	1.32	0.93	1.62	4.50	1.50
50	50	2.25	1.56	2.70	6.30	2.50
	65	2.20	-	-	10.30	2.30
80	65	8.60	-	9.22	10.20	8.90
	80	8.00	-	9.20	13.80	8.50
100	100	24.10	-	-	20.80	24.80

Weights in kg
MG = diaphragm size

Installation position:

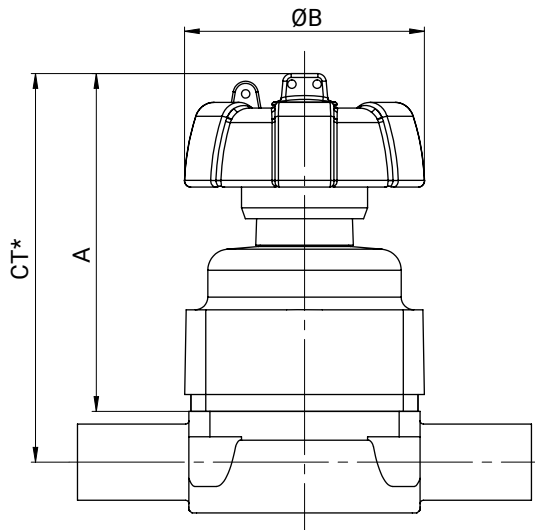
Optional

Observe the angle of rotation for optimized draining when it comes to installation. See separate document, "Angle of rotation technical information".

8 Dimensions

8.1 Actuator dimensions

8.1.1 GEMÜ 611



MG	DN	A	ØB
10	10 - 20	80.0	60.0

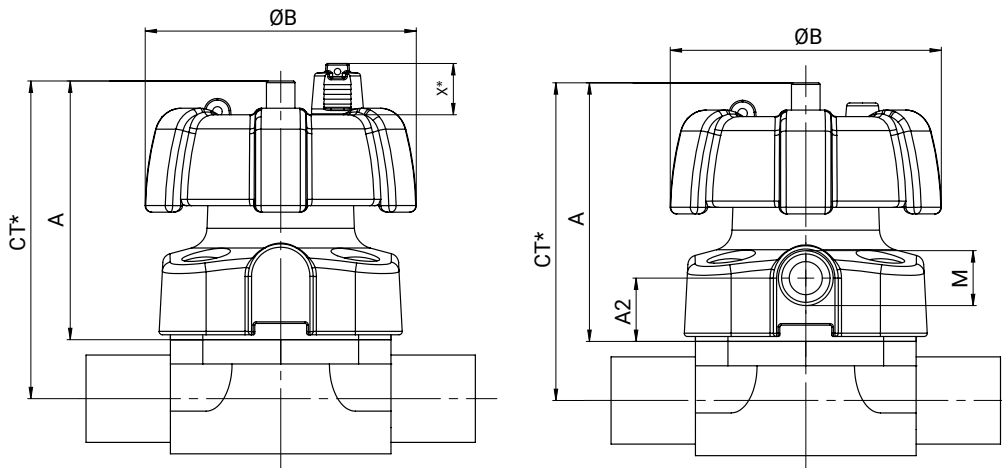
Dimensions in mm

MG = diaphragm size

* CT = A + H1 (see body dimensions)

8.1.2 GEMÜ 671

Special version - Accessory Code Z



MG	DN	ØB	A	A2	M	X*
25	15 - 25	90.0	79.0	20.0	M16x1	14.0
40	32 - 40	114.0	99.0	24.0	M16x1	14.0
50	50 - 65	140.0	119.0	28.0	M16x1	8.0
80	65 - 80	214.0	167.0	42.0	M16x1	17.0
100	100	214.0	216.0	58.0	M16x1	25.0

Dimensions in mm

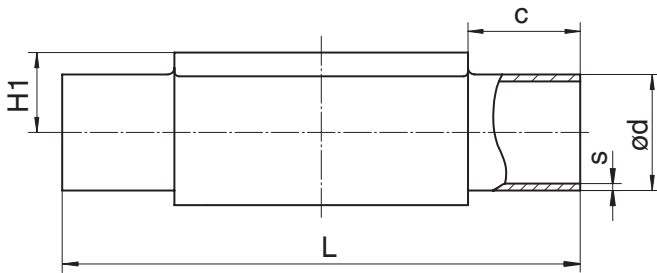
MG = diaphragm size

* CT = A + H1 (see body dimensions)

* only for control function code L

8.2 Body dimensions

8.2.1 Spigot DIN/EN/ISO (code 0, 16, 17, 18, 60)



Connection type spigot DIN/EN/ISO (code 0, 16, 17, 18, 60)¹⁾, forged material (code 40, 42, F4)²⁾

	MG	DN	NPS	c (min)	ød					H1	L	s				
					Connection type							Connection type				
					0	16	17	18	60			0	16	17	18	60
GEMÜ 611	10	10	3/8"	25.0	-	12.0	13.0	14.0	17.2	12.5	108.0	-	1.0	1.5	2.0	1.6
		15	1/2"	25.0	18.0	18.0	19.0	20.0	21.3	12.5	108.0	1.5	1.0	1.5	2.0	1.6
GEMÜ 671	25	15	1/2"	25.0	18.0	18.0	19.0	20.0	21.3	19.0	120.0	1.5	1.0	1.5	2.0	1.6
		20	3/4"	25.0	22.0	22.0	23.0	24.0	26.9	19.0	120.0	1.5	1.0	1.5	2.0	1.6
		25	1"	25.0	28.0	28.0	29.0	30.0	33.7	19.0	120.0	1.5	1.0	1.5	2.0	2.0
	40	32	1¼"	25.0	34.0	34.0	35.0	36.0	42.4	26.0	153.0	1.5	1.0	1.5	2.0	2.0
		40	1½"	30.5	40.0	40.0	41.0	42.0	48.3	26.0	153.0	1.5	1.0	1.5	2.0	2.0
	50	50	2"	30.0	52.0	52.0	53.0	54.0	60.3	32.0	173.0	1.5	1.0	1.5	2.0	2.0
	80	65	2½"	30.0	-	-	70.0	-	76.1	62.0	216.0	-	-	2.0	-	2.0
		80	3"	30.0	-	-	85.0	-	88.9	62.0	254.0	-	-	2.0	-	2.3
100	100	4"	30.0	-	-	104.0	-	114.3	76.0	305.0	-	-	2.0	-	2.3	

Dimensions in mm

MG = diaphragm size

1) Connection type

Code 0: Spigot DIN

Code 16: Spigot DIN EN 10357 series B (2014 edition; formerly DIN 11850 series 1)

Code 17: Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2

Code 18: Spigot DIN 11850 series 3

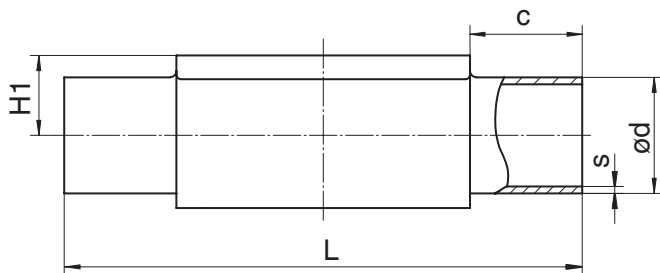
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

2) Valve body material

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code F4: 1.4539, forged body



Connection type spigot DIN/EN/ISO (code 17, 60)¹⁾, investment casting material (code C3)²⁾

	MG	DN	NPS	c (min)	ød		H1	L	s	
					Connection type				Connection type	
					17	60			17	60
GEMÜ 611	10	10	3/8"	25.0	13.0	17.2	12.5	108.0	1.5	1.6
		15	1/2"	25.0	19.0	21.3	12.5	108.0	1.5	1.6
GEMÜ 671	25	15	1/2"	25.0	19.0	21.3	13.0	120.0	1.5	1.6
		20	3/4"	25.0	23.0	26.9	16.0	120.0	1.5	1.6
		25	1"	25.0	29.0	33.7	19.0	120.0	1.5	2.0
	40	32	1¼"	25.0	35.0	42.4	24.0	153.0	1.5	2.0
		40	1½"	30.5	41.0	48.3	26.0	153.0	1.5	2.0
	50	50	2"	30.0	53.0	60.3	32.0	173.0	1.5	2.0

Dimensions in mm

MG = diaphragm size

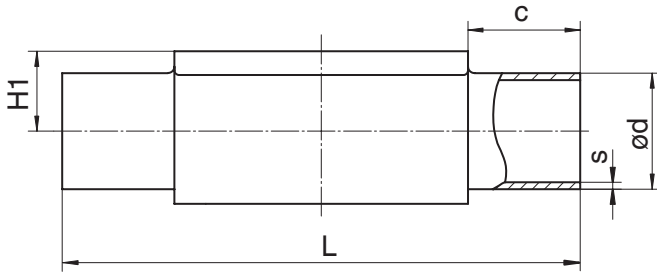
1) **Connection type**

Code 17: Spigot EN 10357 series A/DIN 11866 series A formerly DIN 11850 series 2

Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

2) **Valve body material**

Code C3: 1.4435, investment casting

8.2.2 Spigot ASME/BS (code 55, 59, 63, 64, 65)**Connection type spigot ASME/BS (code 55, 59, 63, 64, 65)¹⁾, forged material (code 40, 42, F4)²⁾**

	MG	DN	NPS	c (min)	ød					H1	L	s				
					Connection type							Connection type				
					55	59	63	64	65			55	59	63	64	65
GEMÜ 611	10	10	3/8"	25.0	9.53	9.53	17.1	-	17.1	12.5	108.0	1.2	0.89	1.65	-	2.31
		15	1/2"	25.0	12.70	12.70	21.3	21.3	21.3	12.5	108.0	1.2	1.65	2.11	1.65	2.77
		20	3/4"	25.0	19.05	19.05	-	-	-	12.5	108.0	1.2	1.65	-	-	-
GEMÜ 671	25	15	1/2"	25.0	-	-	21.3	21.3	21.3	19.0	120.0	-	-	2.11	1.65	2.77
		20	3/4"	25.0	19.05	19.05	26.7	26.7	26.7	19.0	120.0	1.2	1.65	2.11	1.65	2.87
		25	1"	25.0	-	25.40	33.4	33.4	33.4	19.0	120.0	-	1.65	2.77	1.65	3.38
	40	32	1 1/4"	25.0	-	-	42.2	42.2	42.2	26.0	153.0	-	-	2.77	1.65	3.56
		40	1 1/2"	30.5	-	38.10	48.3	48.3	48.3	26.0	153.0	-	1.65	2.77	1.65	3.68
	50	50	2"	30.0	-	50.80	60.3	60.3	60.3	32.0	173.0	-	1.65	2.77	1.65	3.91
		65	2 1/2"	30.0	-	63.50	-	-	-	34.0	173.0	-	1.65	-	-	-
	80	65	2 1/2"	30.0	-	63.50	73.0	73.0	73.0	62.0	216.0	-	1.65	3.05	2.11	5.16
		80	3"	30.0	-	76.20	88.9	88.9	88.9	62.0	254.0	-	1.65	3.05	2.11	5.49
100	100	4"	30.0	-	101.60	114.3	114.3	114.3	76.0	305.0	-	2.11	3.05	2.11	6.02	

Dimensions in mm

MG = diaphragm size

1) Connection type

Code 55: Spigot BS 4825, part 1

Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C

Code 63: Spigot ANSI/ASME B36.19M schedule 10s

Code 64: Spigot ANSI/ASME B36.19M schedule 5s

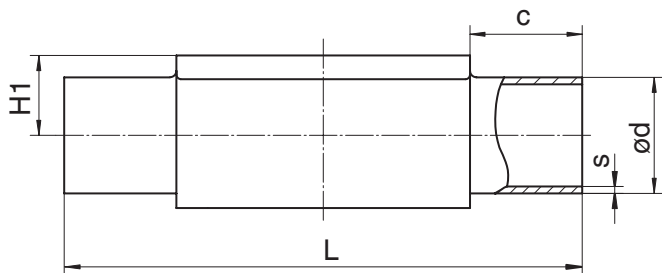
Code 65: Spigot ANSI/ASME B36.19M schedule 40s

2) Valve body material

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code F4: 1.4539, forged body



Connection type spigot ASME BPE (code 59)¹⁾, investment casting material (code C3)²⁾

	MG	DN	NPS	c (min)	ød	H1	L	s
GEMÜ 611	10	20	3/4"	25.0	19.05	12.5	108.0	1.65
GEMÜ 671	25	20	3/4"	25.0	19.05	16.0	120.0	1.65
		25	1"	25.0	25.40	19.0	120.0	1.65
	40	40	1½"	30.5	38.10	26.0	153.0	1.65
	50	50	2"	30.0	50.80	32.0	173.0	1.65

Dimensions in mm

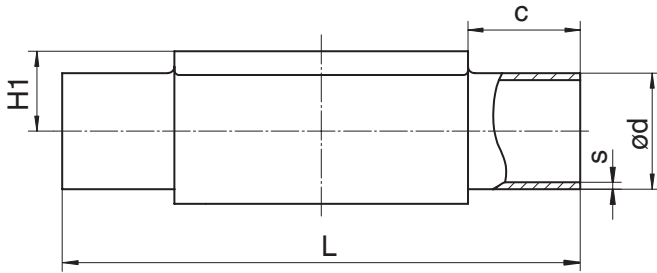
MG = diaphragm size

1) **Connection type**

Code 59: Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C

2) **Valve body material**

Code C3: 1.4435, investment casting

8.2.3 Spigot JIS/SMS (code 35, 36, 37)**Connection type spigot JIS/SMS (code 35, 36, 37)¹⁾, forged material (code 40, 42, F4)²⁾**

	MG	DN	NPS	c (min)	ød			H1	L	s		
					Connection type					Connection type		
					35	36	37			35	36	37
GEMÜ 611	10	10	3/8"	25.0	-	17.3	-	12.5	108.0	-	1.65	-
		15	1/2"	25.0	-	21.7	-	12.5	108.0	-	2.10	-
GEMÜ 671	25	15	1/2"	25.0	-	21.7	-	19.0	120.0	-	2.10	-
		20	3/4"	25.0	-	27.2	-	19.0	120.0	-	2.10	-
		25	1"	25.0	25.4	34.0	25.0	19.0	120.0	1.2	2.80	1.2
	40	32	1¼"	25.0	31.8	42.7	33.7	26.0	153.0	1.2	2.80	1.2
		40	1½"	30.5	38.1	48.6	38.0	26.0	153.0	1.2	2.80	1.2
	50	50	2"	30.0	50.8	60.5	51.0	32.0	173.0	1.5	2.80	1.2
		65	2½"	30.0	63.5	-	63.5	34.0	173.0	2.0	-	1.6
	80	65	2½"	30.0	63.5	76.3	63.5	62.0	216.0	2.0	3.00	1.6
		80	3"	30.0	76.3	89.1	76.1	62.0	254.0	2.0	3.00	1.6
	100	100	4"	30.0	101.6	114.3	101.6	76.0	305.0	2.0	3.00	2.0

Connection type spigot SMS (code 37), investment casting material (code C3)²⁾

	MG	DN	NPS	c (min)	ød	H1	L	s
GEMÜ 671	25	25	1"	25.0	25.0	19.0	120.0	1.2
	40	40	1½"	30.5	38.0	26.0	153.0	1.2
	50	50	2"	30.0	51.0	32.0	173.0	1.2

Dimensions in mm

MG = diaphragm size

1) Connection type

Code 35: Spigot JIS-G 3447

Code 36: Spigot JIS-G 3459 schedule 10s

Code 37: Spigot SMS 3008

2) Valve body material

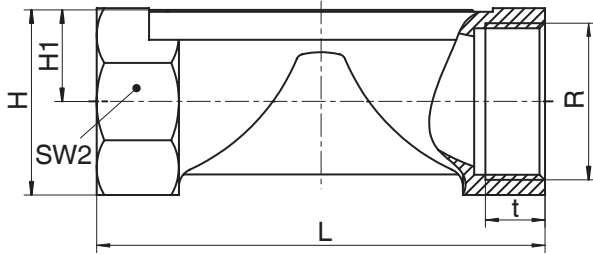
Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code C3: 1.4435, investment casting

Code F4: 1.4539, forged body

8.2.4 Threaded socket DIN (code 1)



Connection type threaded socket (code 1)¹⁾, brass material (code 12)

	MG	DN	NPS	H	H1	L	n	R	SW 2	t
GEMÜ 611	10	12	3/8"	23.0	11.0	55.0	2	G 3/8	22.0	13.0
		15	1/2"	29.0	14.0	75.0	2	G 1/2	25.0	15.0

Connection type threaded socket (code 1)¹⁾, investment casting material (code 37)

	MG	DN	NPS	H	H1	L	n	R	SW 2	t
GEMÜ 611	10	12	3/8"	25.0	13.0	55.0	2	G 3/8	22.0	12.0
		15	1/2"	30.0	15.0	68.0	2	G 1/2	27.0	15.0
GEMÜ 671	25	15	1/2"	28.3	14.8	85.0	6	G 1/2	27.0	15.0
		20	3/4"	33.3	17.3	85.0	6	G 3/4	32.0	16.0
		25	1"	42.3	21.8	110.0	6	G 1	41.0	13.0
	40	32	1 1/4"	51.3	26.3	120.0	8	G 1 1/4	50.0	20.0
		40	1 1/2"	56.3	28.8	140.0	8	G 1 1/2	55.0	18.0
	50	50	2"	71.3	36.0	165.0	8	G 2	70.0	26.0

Connection type threaded socket (code 1)¹⁾, SG iron material (code 90)²⁾

	MG	DN	NPS	H	H1	L	n	R	SW 2	t
GEMÜ 671	25	15	1/2"	32.7	16.7	85.0	6	G 1/2	32	15.0
		20	3/4"	42.0	21.5	85.0	6	G 3/4	41	16.3
		25	1"	46.7	23.7	110.0	6	G 1	46	19.1
	40	32	1 1/4"	56.0	28.5	120.0	6	G 1 1/4	55	21.4
		40	1 1/2"	66.0	33.5	140.0	6	G 1 1/2	65	21.4
	50	50	2"	76.0	38.5	165.0	6	G 2	75	25.7

Dimensions in mm

MG = diaphragm size

n = number of flats

1) Connection type

Code 1: Threaded socket DIN ISO 228

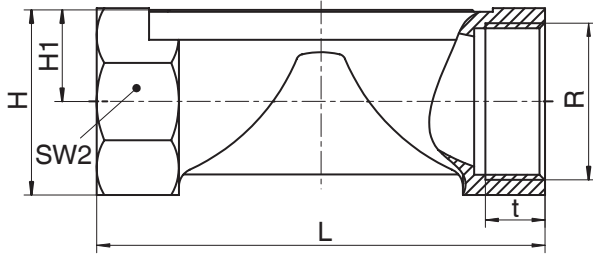
2) Valve body material

Code 12: CW614N, CW617N (brass)

Code 37: 1.4408, investment casting

Code 90: EN-GJS-400-18-LT (GGG 40.3)

8.2.5 Threaded socket NPT (code 31)



Connection type threaded socket NPT (code 31)¹⁾, investment casting material (code 37)²⁾

	MG	DN	NPS	H	H1	L	n	R	SW 2	t
GEMÜ 671	25	15	1/2"	28.3	14.8	85.0	6	NPT 1/2	27.0	14.0
		20	3/4"	33.3	17.3	85.0	6	NPT 3/4	32.0	14.0
		25	1"	42.3	21.8	110.0	6	NPT 1	41.0	17.0
	40	32	1 1/4"	51.3	26.3	120.0	8	NPT 1 1/4	50.0	17.0
		40	1 1/2"	56.3	28.8	140.0	8	NPT 1 1/2	55.0	17.0
	50	50	2"	71.3	36.3	165.0	8	NPT 2	70.0	18.0

Connection type threaded socket NPT (code 31)¹⁾, SG iron material (code 90)²⁾

	MG	DN	NPS	H	H1	L	n	R	SW 2	t
GEMÜ 671	25	15	1/2"	32.7	16.7	85.0	6	NPT 1/2	32	13.6
		20	3/4"	42.0	21.5	85.0	6	NPT 3/4	41	14.1
		25	1"	46.7	23.7	110.0	6	NPT 1	46	16.8
	40	32	1 1/4"	56.0	28.5	120.0	6	NPT 1 1/4	55	17.3
		40	1 1/2"	66.0	33.5	140.0	6	NPT 1 1/2	65	17.3
	50	50	2"	76.0	38.5	165.0	6	NPT 2	75	17.7

Dimensions in mm

MG = diaphragm size

n = number of flats

1) **Connection type**

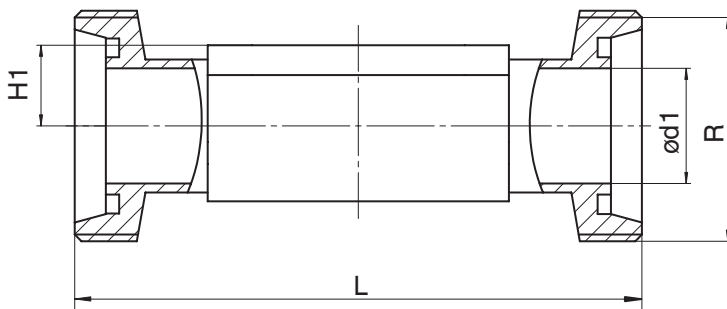
Code 31: NPT female thread

2) **Valve body material**

Code 37: 1.4408, investment casting

Code 90: EN-GJS-400-18-LT (GGG 40.3)

8.2.6 Threaded spigot DIN (code 6)



Connection type threaded spigot DIN (code 6)¹⁾, forged material (code 40, 42)²⁾

	MG	DN	NPS	ød1	H1	L	R
GEMÜ 611	10	10	3/8"	10.0	12.5	118.0	Rd 28 x 1/8
		15	1/2"	16.0	12.5	118.0	Rd 34 x 1/8
GEMÜ 671	25	15	1/2"	16.0	19.0	118.0	Rd 34 x 1/8
		20	3/4"	20.0	19.0	118.0	Rd 44 x 1/6
		25	1"	26.0	19.0	128.0	Rd 52 x 1/6
	40	32	1¼"	32.0	26.0	147.0	Rd 58 x 1/6
		40	1½"	38.0	26.0	160.0	Rd 65 x 1/6
	50	50	2"	50.0	32.0	191.0	Rd 78 x 1/6
	80	65	2½"	66.0	62.0	246.0	Rd 95 x 1/6
		80	3"	81.0	62.0	256.0	Rd 110 x 1/4

Dimensions in mm

MG = diaphragm size

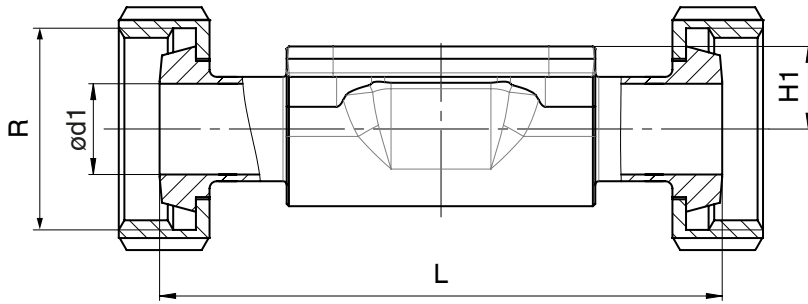
1) **Connection type**

Code 6: Threaded spigot DIN 11851

2) **Valve body material**

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

8.2.7 Cone spigot DIN (code 6K)Connection type cone spigot DIN (code 6K)¹⁾, forged material (code 40, 42)²⁾

	MG	DN	NPS	ød1	H1	L	R
GEMÜ 611	10	10	3/8"	10.0	12.5	116.0	Rd 28 x 1/8
		15	1/2"	16.0	12.5	116.0	Rd 34 x 1/8
GEMÜ 671	25	15	1/2"	16.0	19.0	116.0	Rd 34 x 1/8
		20	3/4"	20.0	19.0	114.0	Rd 44 x 1/6
		25	1"	26.0	19.0	127.0	Rd 52 x 1/6
	40	32	1¼"	32.0	26.0	147.0	Rd 58 x 1/6
		40	1½"	38.0	26.0	160.0	Rd 65 x 1/6
	50	50	2"	50.0	32.0	191.0	Rd 78 x 1/6
	80	65	2½"	66.0	62.0	246.0	Rd 95 x 1/6
		80	3"	81.0	62.0	256.0	Rd 110 x 1/4

Dimensions in mm

MG = diaphragm size

1) Connection type

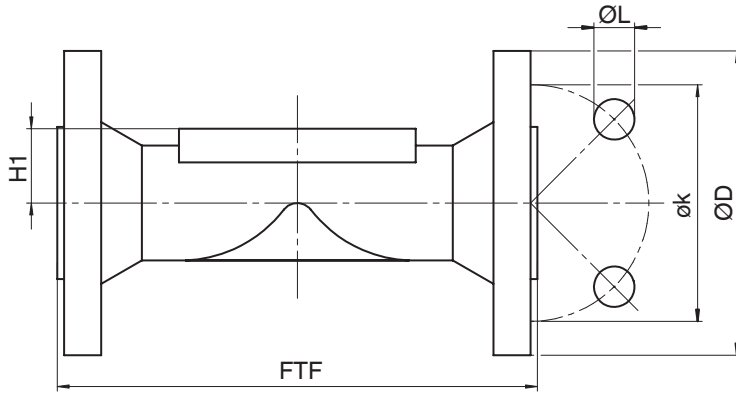
Code 6K: Cone spigot and union nut DIN 11851

2) Valve body material

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

8.2.8 Flange EN (code 8)



Connection type flange, length EN 558 (code 8)¹⁾, SG iron material (code 17, 18), investment casting material (code 39, C3), forged material (code 40, 42)²⁾

	MG	DN	NPS	øD	FTF			H1			øk	øL	n
					Material			Material					
					17, 18, 39	C3	40, 42	17, 18, 39	C3	40, 42			
GEMÜ 671	25	15	1/2"	95.0	150.0	150.0	150.0	18.0	13.0	19.0	65.0	14.0	4
		20	3/4"	105.0	150.0	150.0	150.0	20.5	16.0	19.0	75.0	14.0	4
		25	1"	115.0	160.0	160.0	160.0	23.0	19.0	19.0	85.0	14.0	4
	40	32	1¼"	140.0	180.0	180.0	180.0	28.7	24.0	26.0	100.0	19.0	4
		40	1½"	150.0	200.0	200.0	200.0	33.0	26.0	26.0	110.0	19.0	4
	50	50	2"	165.0	230.0	230.0	230.0	39.0	32.0	32.0	125.0	19.0	4
		65	2½"	185.0	290.0	-	-	51.0	-	-	145.0	19.0	4
	80	65	2½"	185.0	-	-	290.0	-	-	62.0	145.0	19.0	4
		80	3"	200.0	310.0	-	310.0	59.5	-	62.0	160.0	19.0	8
100	100	4"	220.0	350.0	-	350.0	73.0	-	76.0	180.0	19.0	8	

Dimensions in mm

MG = diaphragm size

n = number of bolts

1) Connection type

Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D

2) Valve body material

Code 17: EN-GJS-400-18-LT (GGG 40.3), PFA lined

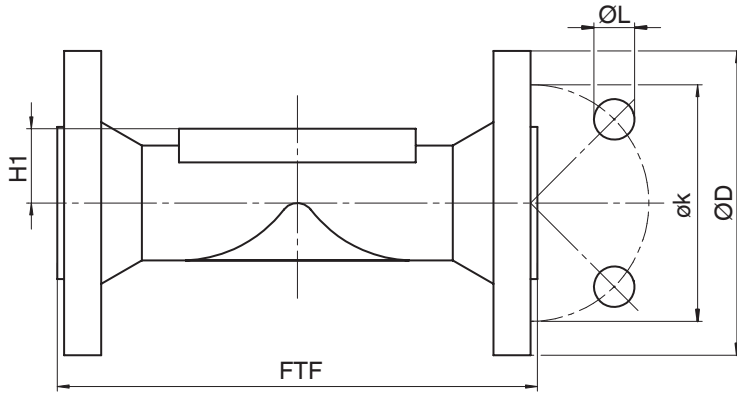
Code 18: EN-GJS-400-18-LT (GGG 40.3), PP lined

Code 39: 1.4408, PFA lined

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code C3: 1.4435, investment casting

8.2.9 Flange JIS (code 34)**Connection type flange, length 558 (code 34)¹⁾, investment casting material (code 39)²⁾**

MG	DN	NPS	øD	FTF	H1	øk	øL	n
25	15	1/2"	95.0	130.0	18.0	70.0	15.0	4
	20	3/4"	100.0	150.0	20.5	75.0	15.0	4
	25	1"	125.0	160.0	23.0	90.0	19.0	4
40	32	1¼"	135.0	180.0	28.7	100.0	19.0	4
	40	1½"	140.0	200.0	33.0	105.0	19.0	4
50	50	2"	155.0	230.0	39.0	120.0	19.0	4

Dimensions in mm

MG = diaphragm size

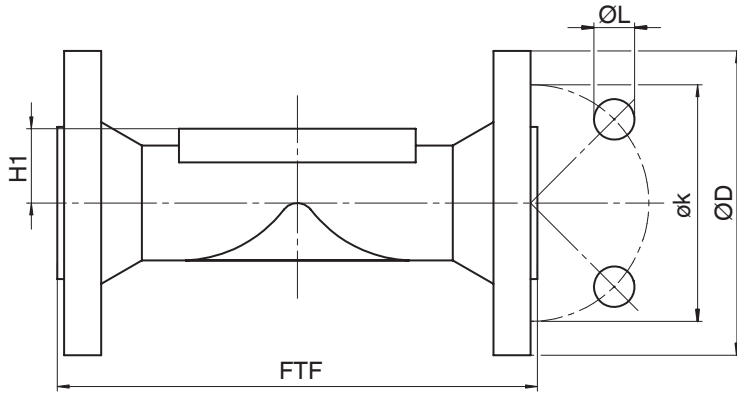
1) Connection type

Code 34: Flange JIS B2220, 10K, RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D

2) Valve body material

Code 39: 1.4408, PFA lined

8.2.10 Flange ANSI Class (code 38, 39)



Connection type flange, length MSS SP-88 (code 38)¹⁾, SG iron material (code 17, 18), investment casting material (code 39)²⁾

	MG	DN	NPS	øD	FTF	H1	øk	øL	n
GEMÜ 671	25	20	3/4"	100.0	146.0	20.5	69.9	15.9	4
		25	1"	110.0	146.0	23.0	79.4	15.9	4
	40	40	1½"	125.0	175.0	33.0	98.4	15.9	4
	50	50	2"	150.0	200.0	39.0	120.7	19.0	4
		65	2½"	180.0	226.0	51.0	139.7	19.0	4
	80	80	3"	190.0	260.0	59.5	152.4	19.0	4
	100	100	4"	230.0	327.0	73.0	190.5	19.0	8

Dimensions in mm

MG = diaphragm size

n = number of bolts

1) **Connection type**

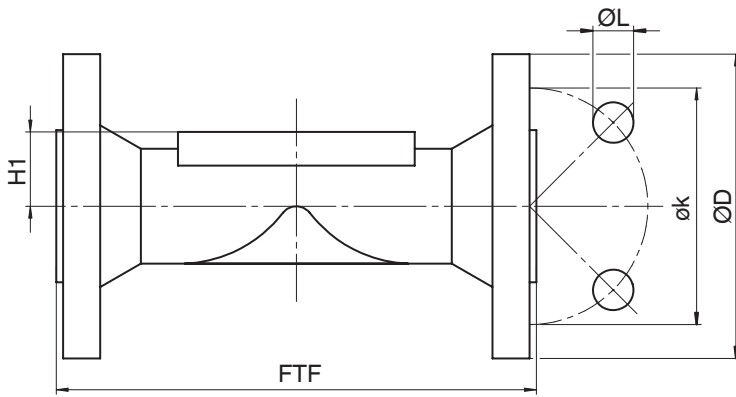
Code 38: Flange ANSI Class 150 RF, face-to-face dimension FTF MSS SP-88, length only for body configuration D

2) **Valve body material**

Code 17: EN-GJS-400-18-LT (GGG 40.3), PFA lined

Code 18: EN-GJS-400-18-LT (GGG 40.3), PP lined

Code 39: 1.4408, PFA lined



Connection type flange, length EN 558 (code 39)¹⁾, SG iron material (code 17, 18), investment casting material (code 39, C3), forged material (code 40, 42)²⁾

	MG	DN	NPS	øD	FTF			H1			øk	øL	n
					Material			Material					
					17, 18, 39	C3	40, 42	17, 18, 39	C3	40, 42			
GEMÜ 671	25	15	1/2"	90.0	150.0	150.0	150.0	18.0	13.0	19.0	60.3	15.9	4
		20	3/4"	100.0	150.0	150.0	150.0	20.5	16.0	19.0	69.9	15.9	4
		25	1"	110.0	160.0	160.0	160.0	23.0	19.0	19.0	79.4	15.9	4
	40	32	1 1/4"	115.0	180.0	180.0	180.0	28.7	24.0	26.0	88.9	15.9	4
		40	1 1/2"	125.0	200.0	200.0	200.0	33.0	26.0	26.0	98.4	15.9	4
	50	50	2"	150.0	230.0	230.0	230.0	39.0	32.0	32.0	120.7	19.0	4
		65	2 1/2"	180.0	290.0	-	-	51.0	-	-	139.7	19.0	4
	80	65	2 1/2"	180.0	-	-	290.0	-	-	62.0	139.7	19.0	4
		80	3"	190.0	310.0	-	310.0	59.5	-	62.0	152.4	19.0	4
100	100	4"	230.0	350.0	-	350.0	73.0	-	76.0	190.5	19.0	8	

Dimensions in mm

MG = diaphragm size

n = number of bolts

1) **Connection type**

Code 39: Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1, length only for body configuration D

2) **Valve body material**

Code 17: EN-GJS-400-18-LT (GGG 40.3), PFA lined

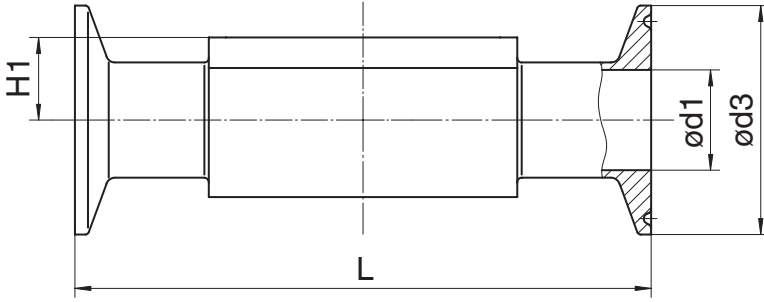
Code 18: EN-GJS-400-18-LT (GGG 40.3), PP lined

Code 39: 1.4408, PFA lined

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code C3: 1.4435, investment casting

8.2.11 Clamp (code 80, 82, 88, 8A, 8E, 8P, 8T)**Connection type clamp DIN/ASME (code 80, 88, 8P, 8T)¹⁾, forged material (code 40, 42, F4)²⁾**

	MG	DN	NPS	ød1		ød3		H1	L	
				Connection type		Connection type			Connection type	
				80, 8P	88, 8T	80, 8P	88, 8T		80, 8P	88, 8T
GEMÜ 611	10	15	1/2"	9.40	9.40	25.0	25.0	12.5	88.9	108.0
		20	3/4"	15.75	15.75	25.0	25.0	12.5	101.6	117.0
GEMÜ 671	25	20	3/4"	15.75	15.75	25.0	25.0	19.0	101.6	117.0
		25	1"	22.10	22.10	50.5	50.5	19.0	114.3	127.0
	40	40	1½"	34.80	34.80	50.5	50.5	26.0	139.7	159.0
		50	2"	47.50	47.50	64.0	64.0	32.0	158.8	190.0
	80	65	2½"	60.20	60.20	77.5	77.5	34.0	193.8	216.0
		65	2½"	60.20	60.20	77.5	77.5	62.0	193.8	216.0
	80	80	3"	72.90	72.90	91.0	91.0	62.0	222.3	254.0
100	100	4"	97.38	97.38	119.0	119.0	76.0	292.1	305.0	

Dimensions in mm

MG = diaphragm size

1) Connection type

Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D

Code 88: Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D

Code 8P: Clamp DIN 32676 series C, face-to-face dimension FTF ASME BPE, length only for body configuration D

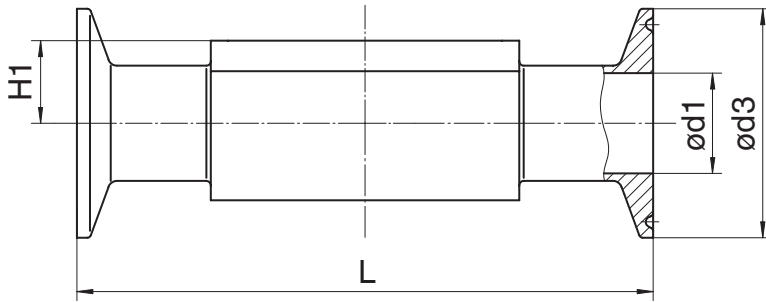
Code 8T: Clamp DIN 32676 series C, face-to-face dimension FTF EN 558 series 7, length only for body configuration D

2) Valve body material

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code F4: 1.4539, forged body



Connection type clamp DIN/ISO (code 82, 8A, 8E)¹⁾, forged material (code 40, 42, F4)²⁾

	MG	DN	NPS	ød1			ød3			H1	L		
				Connection type			Connection type				Connection type		
				82	8A	8E	82	8A	8E		82	8A	8E
GEMÜ 611	10	10	3/8"	14.0	10.0	-	25.0	34.0	-	12.5	108.0	108.0	-
		15	1/2"	18.1	16.0	-	50.5	34.0	-	12.5	108.0	108.0	-
GEMÜ 671	25	15	1/2"	18.1	16.0	-	50.5	34.0	-	19.0	108.0	108.0	-
		20	3/4"	23.7	20.0	-	50.5	34.0	-	19.0	117.0	117.0	-
		25	1"	29.7	26.0	22.6	50.5	50.5	50.5	19.0	127.0	127.0	127.0
	40	32	1¼"	38.4	32.0	31.3	64.0	50.5	50.5	26.0	146.0	146.0	146.0
		40	1½"	44.3	38.0	35.6	64.0	50.5	50.5	26.0	159.0	159.0	159.0
	50	50	2"	56.3	50.0	48.6	77.5	64.0	64.0	32.0	190.0	190.0	190.0
		65	2½"	-	-	60.3	-	-	77.5	34.0	-	-	216.0
	80	65	2½"	72.1	66.0	60.3	91.0	91.0	77.5	62.0	216.0	216.0	216.0
		80	3"	84.3	81.0	72.9	106.0	106.0	91.0	62.0	254.0	254.0	254.0
	100	100	4"	109.7	100.0	97.6	130.0	119.0	119.0	76.0	305.0	305.0	305.0

Dimensions in mm

MG = diaphragm size

1) **Connection type**

Code 82: Clamp DIN 32676 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D

Code 8A: Clamp DIN 32676 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D

Code 8E: Clamp ISO 2852 for pipe ISO 2037, clamp SMS 3017 for pipe SMS 3008 face-to-face dimension FTF EN 558 series 7, length only for body configuration D

2) **Valve body material**

Code 40: 1.4435 (F316L), forged body

Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Code F4: 1.4539, forged body

9 Manufacturer's information

9.1 Packaging

The product is packaged in a cardboard box which can be recycled as paper.

9.2 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.

9.3 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.

9.4 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 Installation in piping

10.1 Preparing for installation

WARNING

The equipment is subject to pressure!

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

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

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.

CAUTION

Leakage

- ▶ Emission of dangerous materials.
- Provide precautionary measures against exceeding the maximum permitted pressures caused by pressure surges (water hammer).

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 suitability of the product for each respective use.
2. Check the technical data of the product and the materials.
3. Keep appropriate tools ready.
4. Ensure 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 scalding can be ruled out.
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 chapter "Installation position").

10.2 Installation position

The installation position of the product is optional.

10.3 Installation with butt weld spigots

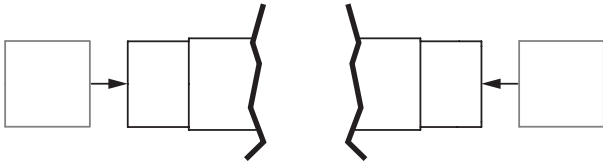


Fig. 1: Butt weld spigots

1. Carry out preparation for installation (see chapter "Preparing for installation").
2. Adhere to good welding practices!
3. Remove the actuator and diaphragm from the valve body.
4. Weld the body of the product in the piping.
5. Allow butt weld spigots to cool down.
6. Mount the actuator and diaphragm on the valve body.
7. Re-attach or reactivate all safety and protective devices.

10.4 Installation with threaded spigots

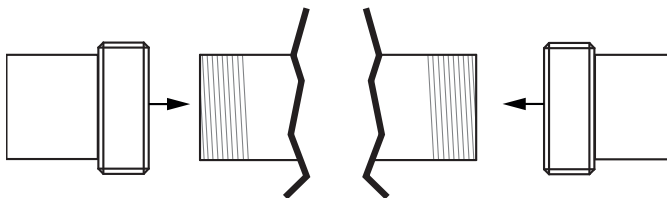


Fig. 2: Threaded spigots

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.

10.5 Installation with threaded sockets

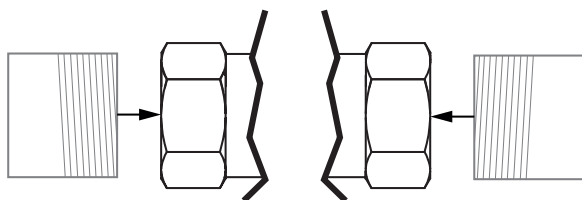


Fig. 3: Threaded socket

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.

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.

10.6 Installation with flanged connection (GEMÜ 671)

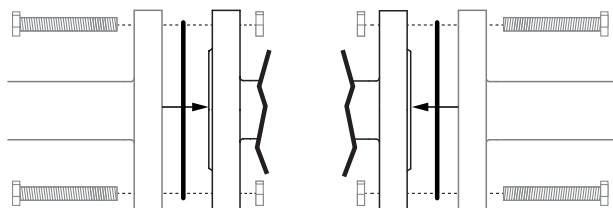


Fig. 4: Flanged connection

NOTICE

Sealing material

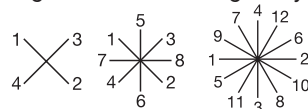
- ▶ The sealing material is not included in the scope of delivery.
- Only use appropriate sealing material.

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.

10.7 Installation with clamp connections

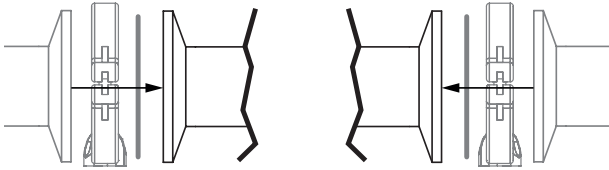


Fig. 5: Clamp connection

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.

10.8 After the installation

1. Mount the actuator (see the enclosed actuator instructions).
2. Re-attach or reactivate all safety and protective devices.

10.9 Operation

⚠ CAUTION



Handwheel can become hot during operation!

- Risk of burns!
- Ensure protective gloves are worn when operating handwheel.

⚠ CAUTION



Risk of crushing due to rising handwheel!

- Danger of crushing fingers.

GEMÜ 611 optical position indicator

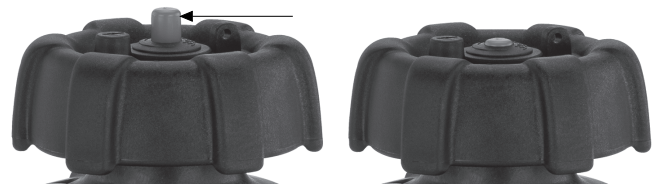


Valve open



Valve closed

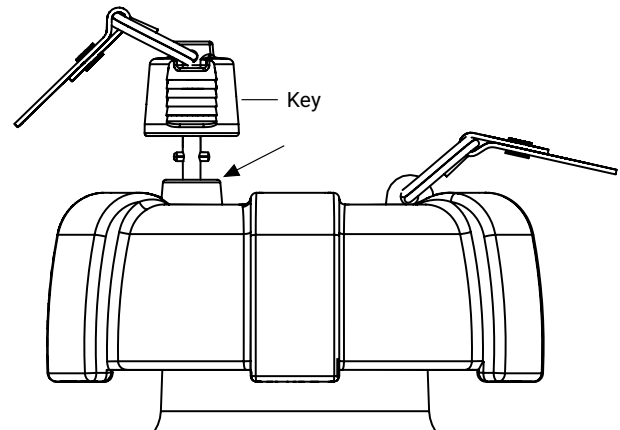
GEMÜ 671 optical position indicator



Valve open

Valve closed

Handwheel locknut GEMÜ 671 (optional)



Lock the handwheel:

Insert the key in the lock (arrow), press down and lock with an anticlockwise rotation. The key can be removed.

Unlock the handwheel:

Insert the key in the lock (arrow) and unlock with a clockwise rotation. The key cannot be removed.

11 Commissioning

WARNING



Corrosive chemicals!

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

CAUTION

Leakage!

- ▶ Emission of dangerous materials
- Provide precautionary measures against exceeding the maximum permitted pressures 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 manually operated.

13 Troubleshooting

Error	Error cause	Troubleshooting
The product does not open or does not open fully	Actuator defective	Replace the actuator
	Shut-off diaphragm incorrectly mounted	Remove the actuator, check the diaphragm mounting, replace the shut-off diaphragm if necessary
	GEMÜ 671: Grooved pin (anti-twist system) not engaged	Remove the actuator, check the compressor mounting (see chapter "General information"), engage grooved pin (anti-twist system)
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
	Foreign matter between shut-off diaphragm and valve body	Remove the actuator, remove foreign matter, check diaphragm and valve body for potential damage, replace actuator if necessary
	Valve body leaking or damaged	Check valve body for potential damage, replace valve body if necessary
	Shut-off diaphragm faulty	Check shut-off diaphragm for potential damage, replace the shut off diaphragm if necessary
	GEMÜ 671: Grooved pin (anti-twist system) not engaged	Remove the actuator, check the compressor mounting (see chapter "General information"), engage grooved pin (anti-twist system)
The product is leaking between actuator and valve body	Shut off diaphragm incorrectly mounted	Remove the actuator, check the diaphragm mounting, replace the shut off diaphragm if necessary
	Bolting between valve body and actuator loose	Tighten bolting between valve body and actuator
	Shut-off diaphragm faulty	Check shut-off diaphragm for potential damage, replace the shut-off diaphragm if necessary
	Actuator/valve body damaged	Replace actuator/valve body
Valve body connection to piping leaking	Incorrect installation	Check installation of valve body in piping
	Threaded connections / unions loose	Tighten threaded connections / unions
	Sealing material faulty	Replace sealing material
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
Handwheel cannot be turned	Actuator defective	Replace the actuator
	GEMÜ 671: Handwheel clamp locked	Unlock handwheel clamp
	GEMÜ 671: Threaded spindle seized	Dependent on the operating conditions, regrease the threaded spindle; replace actuator if necessary.

14 Inspection and maintenance

⚠ WARNING

The equipment is subject to pressure!

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

⚠ CAUTION



Hot plant components!

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

⚠ CAUTION

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

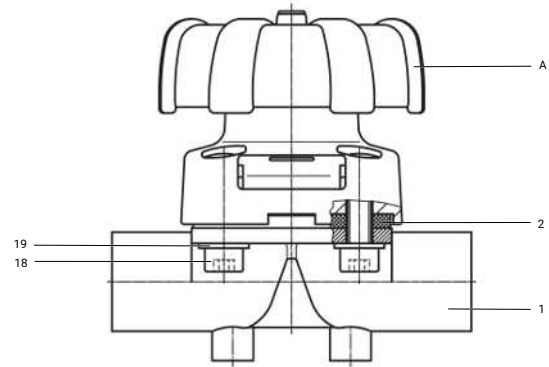
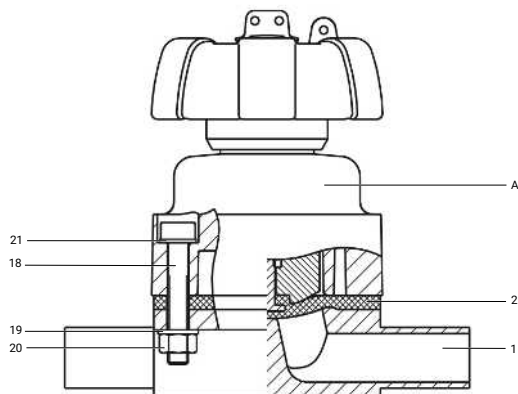
1. Wear appropriate protective gear as specified in the plant operator's guidelines.
2. Shut off plant or plant component.
3. Secure against recommissioning.
4. Depressurize the plant or plant component.

The operator must carry out regular visual examination of the valves dependent on the operating conditions and the potential danger 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").

NOTICE

- ▶ Service and maintenance:
Depending on the operating conditions, regrease the threaded spindle, especially a valve that is autoclaved.

14.1 Spare parts



Item	Name	Order designation
A	Actuator	9611 9671
1	Body	K600 K612
2	Diaphragm	600...M
18, 19, 20, 21	Screw connection kit	611 S30 671 S30

14.2 Fitting/removing spare parts

14.2.1 Valve disassembly (removing actuator from body)

1. Move the actuator **A** to the open position.
2. Remove the actuator **A** from the valve body **1**.
3. Move the actuator **A** to the closed position.

NOTICE

Important:

- ▶ 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 diaphragm

NOTICE

- ▶ Before removing the diaphragm, please remove the actuator, see "Valve disassembly (removing actuator from body)".

1. Unscrew the diaphragm.
2. Clean all parts of remains of product and contaminants. Do not scratch or damage parts during cleaning!
3. Check all parts for potential damage.
4. Replace damaged parts (only use genuine parts from GEMÜ).

14.2.3 Mounting the diaphragm

14.2.3.1 General information

NOTICE

- ▶ Mount the correct diaphragm that suits the valve (suitable for medium, medium concentration, temperature and pressure). The diaphragm is a wearing part. Check the technical condition and function of the valve before commissioning and during the whole duration of use. Carry out checks regularly and determine the check intervals in accordance with the conditions of use and/or the regulatory codes and provisions applicable for this application.

NOTICE

- ▶ If the diaphragm is not screwed into the adapter far enough, the closing force is transmitted directly onto the diaphragm pin and not via the compressor. This will cause damage and early failure of the diaphragm and thus leakage of the valve. If the diaphragm is screwed in too far, perfect sealing at the valve seat will not be achieved. The function of the valve is no longer ensured.

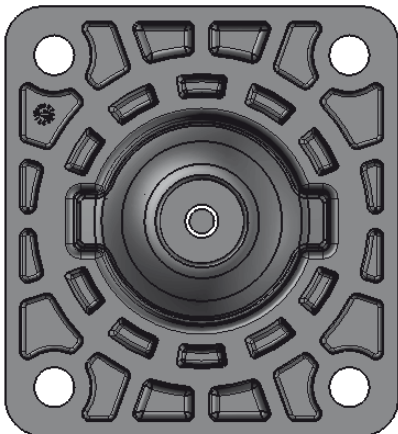
NOTICE

- ▶ Incorrectly mounted diaphragm may cause valve leakage/emission of medium. In this case remove the diaphragm, check the complete valve and diaphragm and re-assemble again proceeding as described above.

GEMÜ 611:

The compressor is fixed to the spindle.

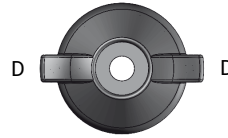
Compressor and actuator flange seen from below:



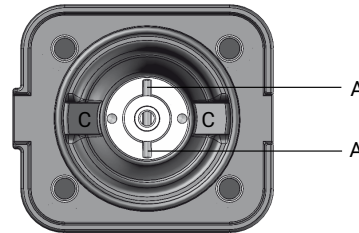
GEMÜ 671:

The compressor is loose for all actuator sizes. The diaphragm size 100 (DN 100) is round.

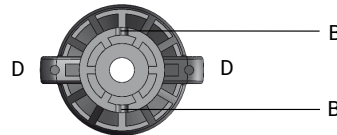
Compressor and actuator flange seen from below:



Compressor - View from diaphragm side



Compressor - view from actuator side



Key

- A Grooved pin (anti-twist system)
- B Recesses on the compressor
- C Grooves at the actuator bottom
- D Compressor wings


Anti-twist system of the spindle at the compressor

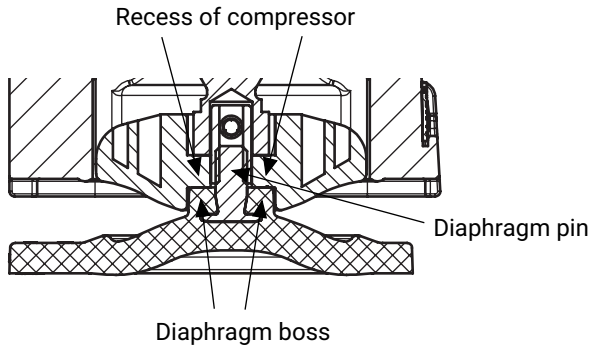
A grooved pin **A** at the end of the spindle serves as an anti-twist system for the actuator spindle. When mounting the compressor the grooved pin **A** must be in correct alignment with the recesses **B** on the compressor.

If the actuator spindle is not in the correct position, it must be turned to the correct position. The position of the grooved pin **A** is offset by 90° to the position of **C**.

Place the compressor loosely on the actuator spindle, fit the wings **D** into the grooves **C** and **A** into **B**. The compressor must be able to be moved freely between the grooves!

14.2.3.2 Mounting a concave diaphragm

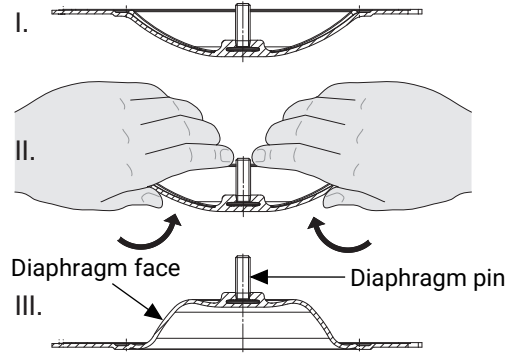
⚠ CAUTION	
	<p>Damage to the diaphragm if the compressor is unscrewed too far!</p> <p>▶ Make sure that the compressor is not unscrewed beyond the max. range (see picture / grey arrows).</p>



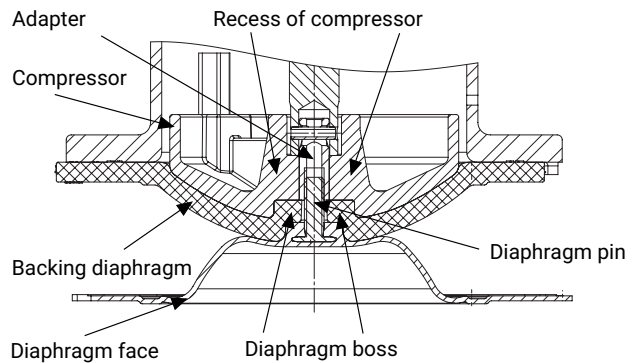
1. Move the actuator **A** to the closed position.
2. Place the compressor loosely on the actuator spindle, fit the wings into the grooves and ensure that the grooved pin (anti-twist system) is engaged (see chapter "General information").
3. Check if the compressor fits closely in the guides.
4. Manually screw the new diaphragm into the compressor tightly.
5. Check if the diaphragm boss fits closely in the recess of the compressor.
6. If it is difficult to screw it in, check the thread, replace damaged parts (only use genuine parts from GEMÜ).
7. When clear resistance is felt, turn back the diaphragm anticlockwise until its bolt holes are in correct alignment with the bolt holes of the actuator.

14.2.3.3 Mounting a convex diaphragm

1. Move the actuator **A** to the closed position.
2. Place the compressor loosely on the actuator spindle, fit the wings into the grooves and ensure that the grooved pin (anti-twist system) is engaged (see chapter "General information").
3. Check if the compressor fits closely in the guides.
4. Invert the new diaphragm face manually; use a clean, padded mat with bigger nominal sizes.



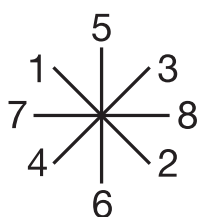
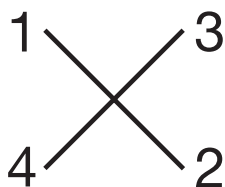
5. Position the new backing diaphragm onto the compressor.
6. Position the diaphragm face onto the backing diaphragm.
7. Manually screw the diaphragm face into the compressor tightly. The diaphragm boss must fit closely in the recess of the compressor.



8. If it is difficult to screw it in, check the thread, replace damaged parts.
9. When clear resistance is felt, turn back the diaphragm anticlockwise until its bolt holes are in correct alignment with the bolt holes of the actuator.
10. Press the diaphragm face tightly onto the backing diaphragm manually so that it returns to its original shape and fits closely on the backing diaphragm.

14.2.4 Mounting the actuator on the valve body

1. Move the actuator **A** to the closed position.
2. Open actuator **A** approx. 50%.
3. Position the actuator **A** with the mounted diaphragm **2** on the valve body **1**. Take care to align the diaphragm weir and valve body weir.
4. GEMÜ 611: Insert washers **21** and bolts **18** from the actuator side and insert washers **19** and nuts **20** from the body side.
5. GEMÜ 671 DN 15 - DN 80: Insert bolts **18** and washers **19** from the body side.
6. GEMÜ 671 DN 100: Insert washers **19** and nuts **20** from the actuator side.
7. Tighten them so that they are hand-tight initially.
8. Fully tighten the bolts **18** or nuts **20** diagonally.



9. Ensure that the diaphragm **2** is compressed evenly (approx. 10-15 %, visible by an even bulge to the outside).
10. Check tightness of completely assembled valve.

NOTICE

- Service and maintenance:
Diaphragms set in the course of time. After valve assembly/disassembly make sure to tighten the bolts **18** or nuts **20** (see chapter "Spare parts").

11. Ensure even compression of the diaphragm (approx. 10 to 15%).
 - ⇒ Even compression is detected by an even bulge to the outside.
Please note: For a code 5M diaphragm (convex diaphragm), the PTFE diaphragm face and the EPDM backing diaphragm must be positioned level with and parallel to the valve body.

15 Removal from piping

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

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 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 671
Product name: Manually operated diaphragm 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
Conformity assessment procedure: Module H1

The following harmonized standards (or parts thereof) have been applied: EN 13397:2001

Information for products with a nominal size \leq 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, 20/02/2023

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8 D-74653 Ingelfingen-Criesbach

www.gemu-group.com
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19 Manufacturer's declaration according to the Pressure Equipment Directive 2014/68/EU



Manufacturer's declaration

according to the Pressure Equipment Directive 2014/68/EU

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

declare that the below-mentioned product is designed and manufactured in compliance with sound engineering practice according to Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU.

Product: GEMÜ 611
Product name: Manually operated diaphragm valve

The product has been 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, this product must not be identified by a CE-marking.

A handwritten signature in blue ink, appearing to read "M. Barghoorn", written over a horizontal line.

M. Barghoorn
Head of Global Technics
Ingelfingen, 20/02/2023



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Subject to alteration

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