

GEMÜ P600M stainless steel

M-block stainless steel diaphragm valve

EN

Operating instructions



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18.07.2025

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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 Definition of terms

Working medium

The medium that flows through the GEMÜ product.

Diaphragm size

Uniform seat size of GEMÜ diaphragm valves for different nominal sizes.

1.3 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!
	Danger from maximum permissible pressure being exceeded!
	The equipment is subject to pressure!
	Corrosive chemicals!
	Risk of crushing due to moving parts when the valve is not installed!
	Hot plant components!
	Note the weight of the product!
	Leakage!
	Risk of injury due to components being flung away!

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:

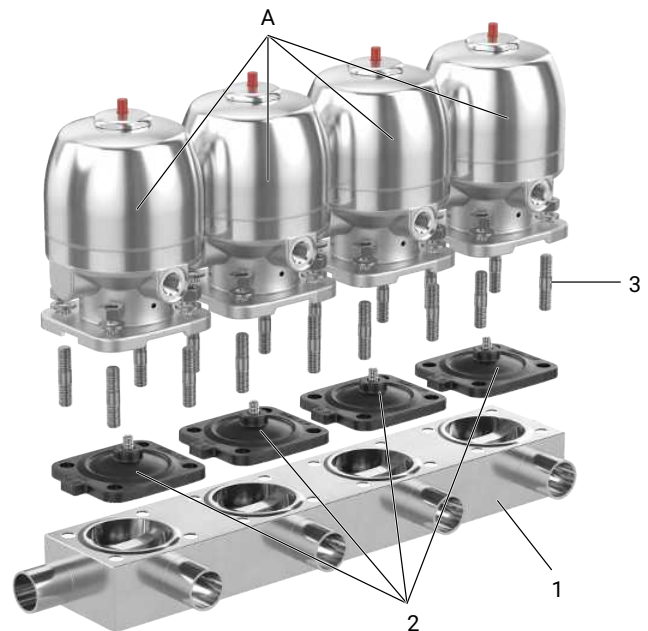
9. Keep this document available at the place of use.
10. Observe the safety information.
11. Operate the product in accordance with this document.
12. Operate the product in accordance with the specifications.
13. Maintain the product correctly.
14. Do not carry out any maintenance work and repairs not 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
A	Actuators (documentation available separately)
1	Body
2	Diaphragms
3	Stud bolt

3.2 Description

The GEMÜ P600M M-block diaphragm valve in stainless steel comprises one or more diaphragm valve seats. It is possible to choose between manual, pneumatic and motorized actuator versions. The downstream media is isolated using a diaphragm.

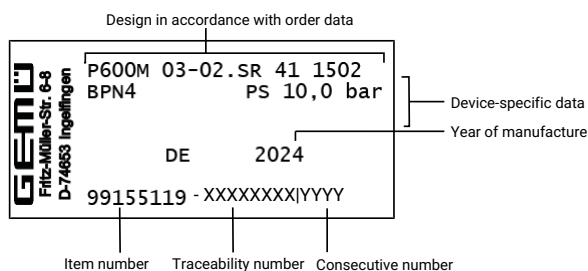
3.3 Function

Multi-port valves or multi-port valve blocks unite a variety of functions in the smallest of spaces thanks to their individual design, such as:

- Mixing
- Dividing
- Controlling
- Draining
- Feeding

They can also fulfil safety functions, double shut-off (double block and bleed), cross connections and control functions. Specific tasks are assigned to these individual functions on a case-by-case basis.

3.4 Product label



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

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. For products that may be used in potentially explosive zones, follow the supplement according to ATEX.

5 Order data

The order data provides an overview of standard configurations.

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

The specification sheet must be used to order a multi-port valve block.

Order codes

1 Type	Code
Valve assembly	P600
Diaphragm valve body	K600

2 Body configuration	Code
M-block	M

3 Number of spigots	Code
2 spigots	02
3 spigots	03
4 spigots	04
5 spigots	05
6 spigots	06
7 spigots	07
8 spigots	08
Other connections on request	

4 Number of valve seats	Code
1 valve seat	01
2 valve seats	02
3 valve seats	03
4 valve seats	04
5 valve seats	05
6 valve seats	06
Other valve seats on request	

5 Valve body material	Code
1.4435 (316L), block material	41
1.4435 (BN2), block material, $\Delta \text{Fe} < 0.5\%$	43
1.4539, block material	44
Other materials on request	

6 Diaphragm size	Code
Diaphragm size 8	8
Diaphragm size 10	10
Diaphragm size 25	25
Diaphragm size 40	40
Diaphragm size 50	50
Diaphragm size 80	80
Diaphragm size 100	100
Diaphragm size 150	150

7 Valve seat type	Code
Diaphragm valve, manually operated, plastic handwheel, stainless steel distance piece, seal adjuster, optical position indicator	601

7 Valve seat type	Code
Diaphragm valve, manually operated, stainless steel handwheel, optical position indicator	602
Diaphragm valve, pneumatically operated, plastic piston actuator, stainless steel distance piece, optical position indicator	605
Diaphragm valve, manually operated, plastic handwheel, stainless steel distance piece, seal adjuster, optical position indicator	612
Diaphragm valve, pneumatically operated, plastic piston actuator, stainless steel distance piece, optical position indicator	625
Plastic diaphragm valve, electrically operated	629
Diaphragm valve, electrically operated, eSyStep	639
Diaphragm valve, electrically operated, electro-mechanical hollow shaft actuator, eSyDrive	649
Diaphragm valve, pneumatically operated, stainless steel piston actuator electropolished, optical position indicator	650
Diaphragm valve, manually operated, stainless steel piston actuator, electropolished, optical position indicator	650TL
Diaphragm valve with integrated automation module	651
Diaphragm valve, manually operated, plastic handwheel, stainless steel distance piece, electropolished, optical position indicator	653
Diaphragm valve, manually operated, stainless steel handwheel electropolished, optical position indicator	654
Diaphragm valve, pneumatically operated, stainless steel two-stage actuator	658
Diaphragm valve, pneumatically operated, stainless steel piston actuator, stroke limiter and seal adjuster	660
Diaphragm valve, manually operated, plastic handwheel, metal distance piece, seal adjuster, optical position indicator	673
Diaphragm valve, manually operated, metal handwheel, metal distance piece, optical position indicator	675-7H
Diaphragm valve, pneumatically operated, plastic actuator, stainless steel distance piece	687

8 Actuator control function	Code
Manually operated	0

8 Actuator control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3

9 Design	Code
For GEMÜ 9601 actuator (GEMÜ 601 valve type)	
With seal adjuster, black handwheel	0TS
For GEMÜ 9602 actuator (GEMÜ 602 valve type)	
With seal adjuster, metal handwheel	0TM
For GEMÜ 9605 actuator (GEMÜ 605 valve type)	
Actuator size 0/N control air connector 90° offset to flow direction	0/N
For GEMÜ 9612 actuator (GEMÜ 612 valve type)	
With seal adjuster, black handwheel	1TS
For GEMÜ 9625 actuator (GEMÜ 625 valve type)	
Actuator size 1/N control air connector 90° offset to flow direction	1/N
For GEMÜ 9629 actuator (GEMÜ 629 valve type)	
Actuator size 1 diaphragm size 8 with distance piece	B1
Actuator size 1, diaphragm size 10	1C
Actuator size 1, diaphragm size 25	1F
Actuator size 3, diaphragm size 40	3H
For GEMÜ 9639 actuator (GEMÜ 639 valve type)	
Actuator size 0 diaphragm size 8	0B
For GEMÜ 9649 actuator (GEMÜ 649 valve type)	
Actuator size 0	0A
Actuator size 1	1A
Actuator size 2	2A
For GEMÜ 9650 actuator (GEMÜ 650 valve type)	
Actuator size 0R1 control air connector 90° offset to flow direction	0R1
Actuator size 0RA control air connector 90° offset to flow direction for higher operating pressures	0RA
Actuator size 0T1 control air connector in-line with flow direction	0T1
Actuator size 0TA control air connector in-line with flow direction for higher operating pressures	0TA
Actuator size 1R1 control air connector 90° offset to flow direction	1R1
Actuator size 1T1 control air connector in-line with flow direction	1T1
Actuator size 2R1 control air connector 90° offset to flow direction	2R1
Actuator size 2T1 control air connector in-line with flow direction	2T1
Actuator size 3R1 control air connector 90° offset to flow direction	3R1

9 Design	Code
Actuator size 3RA control air connector 90° offset to flow direction for higher operating pressures	3RA
Actuator size 3T1 control air connector in-line with flow direction	3T1
Actuator size 3TA control air connector in-line with flow direction for higher operating pressures	3TA
Actuator size 4R1 control air connector 90° offset to flow direction	4R1
Actuator size 4T1 control air connector in-line with flow direction	4T1
Actuator size 5R1 control air connector 90° offset to flow direction	5R1
Actuator size 5RA control air connector 90° offset to flow direction for higher operating pressures	5RA
Actuator size 5T1 control air connector in-line with flow direction	5T1
Actuator size 5TA control air connector in-line with flow direction for higher operating pressures	5TA
Actuator size 6R1 diaphragm size 100 control air connector 90° offset to flow direction	6R1
Actuator size 6RA control air connector 90° offset to flow direction for higher operating pressures	6RA
Actuator size 6T1 control air connector in-line with flow direction	6T1
Actuator size 6TA control air connector in-line with flow direction for higher operating pressures	6TA
Actuator size 8TA control air connector in-line with flow direction	8TA
For GEMÜ 9650TL actuator (GEMÜ 650TL valve type)	
Actuator size 0	0
Actuator size 1	1
Actuator size 2	2
For GEMÜ 9653 and GEMÜ 9654 actuators (GEMÜ 653 and GEMÜ 654 valve types)	
With seal adjuster and stroke limiter	0TH
Without seal adjuster and stroke limiter	0TN
With seal adjuster, black handwheel	0TS
Actuator size 0TA control air connector in-line with flow direction for higher operating pressures	0TA
Actuator size 0TB	0TB
With seal adjuster and stroke limiter mounting for proximity switches M8 x 1	0XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1, correct setting of the seal adjuster absolutely essential	0XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	0XF

9 Design	Code
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	0XK
Actuator size 1DH, for 2/2-way bodies, with seal adjuster and stroke limiter	1DH
Actuator size 1DN, for 2/2-way bodies	1DN
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	1XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	1XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	1XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	1XK
Actuator size 2DH, for 2/2-way bodies, with seal adjuster and stroke limiter	2DH
Actuator size 2DN, for 2/2-way bodies	2DN
With seal adjuster and stroke limiter	2TH
Without seal adjuster and stroke limiter	2TN
With seal adjuster, black handwheel	2TS
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	2XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	2XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	2XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	2XK
Actuator size 3DH, for 2/2-way bodies, with seal adjuster and stroke limiter	3DH
Actuator size 3DN, for 2/2-way bodies	3DN
With seal adjuster and stroke limiter	3TH
Without seal adjuster and stroke limiter	3TN
With seal adjuster, black handwheel	3TS
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	3XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	3XB
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	3XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	3XK

9 Design	Code
Actuator size 4DH, for 2/2-way bodies, with seal adjuster and stroke limiter	4DH
Actuator size 4DN, for 2/2-way bodies	4DN
With seal adjuster and stroke limiter	4TH
Without seal adjuster and stroke limiter	4TN
With seal adjuster, black handwheel	4TS
With seal adjuster and stroke limiter, mounting for proximity switches M8 x 1	4XA
With seal adjuster and stroke limiter, locking device (both directions), mounting for proximity switches M8 x 1	4XB
With seal adjuster and stroke limiter, safety gland packing	4XE
With seal adjuster and stroke limiter, locking device to prevent closing, mounting for proximity switches M8 x 1	4XF
With seal adjuster and stroke limiter, locking device to prevent opening, mounting for proximity switches M8 x 1	4XK
With seal adjuster and stroke limiter	5TH
Without seal adjuster and stroke limiter	5TN
With seal adjuster	5TS
With seal adjuster, mounting for proximity switches M12 x 1	5XA
With seal adjuster, locking device (both directions), mounting for proximity switches M12 x 1	5XB
With seal adjuster, safety gland packing	5XE
With seal adjuster, locking device to prevent opening, mounting for proximity switches M12 x 1	5XK
Actuator size 6TH, with seal adjuster and stroke limiter	6TH
Without seal adjuster and stroke limiter	6TN
With seal adjuster	6TS
With seal adjuster, mounting for proximity switches M12 x 1	6XA
With seal adjuster, locking device (both directions), mounting for proximity switches M12 x 1	6XB
With seal adjuster, safety gland packing	6XE
With seal adjuster, locking device to prevent opening, mounting for proximity switches M12 x 1	6XK
For GEMÜ 9658 actuator (GEMÜ 658 valve type)	
Actuator size 3TA control air connector in-line with flow direction for higher operating pressures	3TA
Actuator size 4T1 control air connector in-line with flow direction	4T1
For GEMÜ 9660 actuator (GEMÜ 660 valve type)	
For GEMÜ 9673 actuator (GEMÜ 673 valve type)	
With seal adjuster, black handwheel	2TS

9 Design	Code
With seal adjuster, black handwheel	3TS
With seal adjuster, black handwheel	4TS
For GEMÜ 9675-7H actuator (675-7H valve type)	
Actuator size 7H with expanded handwheel and reinforced spindle for higher operating pressures	7H
For GEMÜ 9687 actuator (687 valve type)	
Actuator size B/N, control air connector 90° offset to flow direction	B/N
Actuator size F/M, control air connector 90° offset to flow direction, adapted control and operating pressure	F/M
Actuator size F/N, control air connector 90° offset to flow direction	F/N
Actuator size H/M, control air connector 90° offset to flow direction, adapted control and operating pressure	H/M
Actuator size H/N, control air connector 90° offset to flow direction	H/N
Actuator size J/M, control air connector 90° offset to flow direction, adapted control and operating pressure	J/M
Actuator size J/N, control air connector 90° offset to flow direction	J/N
Actuator size 4/N, control air connector 90° offset to flow direction	4/N
Actuator size 4RN, control air connector in-line with flow direction	4RN
Actuator size 5/N, control air connector 90° offset to flow direction	5/N
Actuator size 5RN, control air connector in-line with flow direction	5RN
Actuator size 6A, control air connector 90° offset to flow direction, adapted control and operating pressure	6A
Actuator size 6A2, control air connector 90° offset to flow direction, adapted control and operating pressure	6A2
Actuator size 7A, control air connector 90° offset to flow direction, adapted control and operating pressure	7A
Actuator size 7A3 control air connector 90° offset to flow direction, adapted control and operating pressure	7A3
10 Diaphragm material	Code
EPDM	3A
EPDM ethylene propylene without fabric	13
EPDM	17
EPDM	19
PTFE/EPDM one-piece	54
PTFE/EPDM two-piece	5M
PTFE/EPDM two-piece	5Q
11 DN	Code
DN 4	4
DN 6	6
DN 8	8

11 DN	Code
DN 10	10
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100
DN 150	150

12 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 10s	64
Spigot ANSI/ASME B36.19M schedule 40s	65
Flange	
Aseptic flange DIN 11864-NF, for pipe DIN 11866 series A and EN 10357 series A	A1
Aseptic flange DIN 11864-BF, for pipe DIN 11866 series A and EN 10357 series A	A2
Aseptic flange DIN 11864-NF, for pipe DIN 11866 series B and EN ISO 1127	A4
Aseptic flange DIN 11864-BF, for pipe DIN 11866 series B and EN ISO 1127	A5
Aseptic flange DIN 11864-NF, for pipe DIN 11866 series C and ASME BPE	A7
Aseptic flange DIN 11864-BF, for pipe DIN 11866 series C and ASME BPE	A8
Aseptic union DIN 11864-GS, for pipe DIN 11866 series A and EN 10357 series A	C1
Aseptic union DIN 11864-BS, for pipe DIN 11866 series A and EN 10357 series A	C2
Aseptic union DIN 11864-GS, for pipe DIN 11866 series B and EN ISO 1127	C4
Aseptic union DIN 11864-BS, for pipe DIN 11866 series B and EN ISO 1127	C5
Aseptic pipe union DIN 11864-GS for pipe DIN 11866 series C and ASME BPE	C7

12 Connection type	Code
Aseptic union DIN 11864-BS for pipe DIN 11866 series C and ASME BPE	C8
Clamp	
Clamp ASME BPE	80
Clamp DIN 32676 series B, for pipe EN ISO 1127	82
Clamp DIN 32676 for pipe ISO 1127/DIN EN 10357 series C (2014 issue), DN 8–DN 15, clamp OD 34.0 mm, DN 32, clamp OD 50.5 mm	83
Clamp DIN 32676 series A	86
Clamp ISO 2852 for pipe ISO 2037, clamps SMS 3017 for pipe SMS 3008	87
Clamp ASME BPE, for pipe ASME BPE	88
Clamp DIN 32676 series A	8A
Clamp DIN 32676 series C	8P
Clamp DIN 32676 series C	8T
Aseptic clamp DIN 11864-NKS, for pipe DIN 11866 series A and EN 10357 series A	E1
Aseptic clamp DIN 11864-BKS, for pipe DIN 11866 series A and EN 10357 series A	E2
Aseptic clamp DIN 11864-NKS, for pipe DIN 11866 series B and EN ISO 1127	E4
Aseptic clamp DIN 11864-BKS, for pipe DIN 11866 series B and EN ISO 1127	E5
Aseptic clamp DIN 11864-NKS, for pipe DIN 11866 series C/ASME BPE	E7
Aseptic clamp DIN 11864-BKS, for pipe DIN 11866 series C/ASME BPE	E8
13 Special version	Code
Special version for 3A	M
Special version for oxygen, maximum medium temperature: 60 °C	S

Order example_General information

Ordering option	Code	Description
1 Type	P600	Valve assembly
2 Body configuration	M	M-block
3 Number of spigots	03	3 spigots
4 Number of valve seats	02	2 valve seats
5 Version	S	Body version
6 Design	R	Body design
7 Valve body material	41	1.4435 (316L), block material
8 Surface	1537	Ra ≤ 0.4 µm (15 µin.) for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external
9 Special version	M	Special version for 3A

Order example_Actuator information

Ordering option	Code	Description
1 Seat 1 type	650	Diaphragm valve, pneumatically operated, stainless steel piston actuator electropolished, optical position indicator
2 Seat 1 actuator control function	1	Normally closed (NC)
3 Actuator version, seat 1	2T1	Actuator size 2T1
4 Seat 2 type	601	Diaphragm valve, manually operated, plastic handwheel, stainless steel distance piece, seal adjuster, optical position indicator
5 Seat 2 actuator control function	0	Manually operated
6 Actuator version, seat 2	0TS	With seal adjuster, black handwheel

Order example_Spigot and connection type

Ordering option	Code	Description
1 DN spigot 1	25	DN 25
2 Connection type, spigot 1	59	Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C
3 DN spigot 2	25	DN 25
4 Connection type, spigot 2	59	Spigot ASME BPE/DIN EN 10357 series C (from 2022 edition)/DIN 11866 series C
5 DN spigot 3	15	DN 15
6 Connection type, spigot 3	88	Clamp ASME BPE, for pipe ASME BPE

Order example_Diaphragm size and diaphragm material

Ordering option	Code	Description
1 Seat 1 diaphragm size	25	Diaphragm size 25
2 Diaphragm material	5M	PTFE/EPDM two-piece
3 Seat 2 diaphragm size	8	Diaphragm size 8
4 Diaphragm material	54	PTFE/EPDM one-piece

6 Technical data

Note: The detailed technical data can be found in the product types' datasheets in conjunction with the technical drawing of the valve block. The technical data of the actuators (designs) can be found in the respective operating instructions.

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 and diaphragm material.

6.2 Temperature

Media temperature: -10 – 100 °C

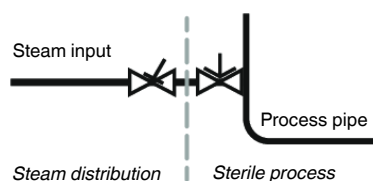
Ambient temperature: 0 – 60 °C

Sterilization temperature:	EPDM (code 3A/13)	max. 150 °C, max. 60 min per cycle
	EPDM (code 17)	max. 150 °C, max. 180 min per cycle
	EPDM (code 19)	max. 150 °C, max. 180 min per cycle
	PTFE/EPDM (code 54)	max. 150 °C, constant temperature per cycle
	PTFE/EPDM (code 5M)	max. 150 °C, constant temperature per cycle
	PTFE/EPDM (code 5Q)	max. 150 °C, constant temperature per cycle

The sterilization temperature is only valid for steam (saturated steam) or superheated water.

If the sterilization temperatures listed above are applied to the EPDM diaphragms for longer periods of time, the service life of the diaphragms will be reduced. In these cases, maintenance cycles must be adapted accordingly.

PTFE diaphragms can also be used as steam barriers; however, this will reduce their service life. This also applies to PTFE diaphragms exposed to high temperature fluctuations. The maintenance cycles must be adapted accordingly. GEMÜ 555 and 505 globe valves are particularly suitable for use in the area of steam generation and distribution. The following valve arrangement for interfaces between steam pipes and process pipes has proven itself over time: A globe valve for shutting off steam pipes and a diaphragm valve as an interface to the process pipes.



6.3 Pressure

Operating pressure:

GEMÜ 605 design operating pressure

MG	DN	Control function	Actuator version	EPDM	PTFE/EPDM
8	4 - 15	1	0/N	0-8	0-6
		2 + 3	0/N	0-8	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.

GEMÜ 625 design operating pressure

MG	DN	Control function	Actuator version	EPDM	PTFE/EPDM
10	10 - 20	1	1/N	0-6	0-6
		2	1/N	0-6	0-6
		3	1/N	0-6	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.

Operating pressure:

GEMÜ 650 BioStar design operating pressure

MG	DN	Control function	Actuator version	EPDM	PTFE/EPDM
8	4 - 15	1	0T1, 0R1	0-8	0-6
			0TA, 0RA	0-10	0-10
		2 + 3	0T1, 0R1, 0TA, 0RA	0-10	0-10
10	10 - 20	1	1T1, 1R1	0-10	0-10
		2 + 3	1T1, 1R1	0-10	0-10
25	15 - 25	1	2T1, 2R1	0-10	0-10
		2 + 3	2T1, 2R1	0-10	0-10
40	32 - 40	1	3T1, 3R1	0-10	0-6
			3TA, 3RA	-	0-10
		2 + 3	3T1, 3R1	0-10	0-10
50	50 - 65	1	4T1, 4R1	0-10	0-10
		2 + 3	4T1, 4R1	0-10	0-10
80	65 - 80	1	5T1, 5R1	0-8	0-5
			5TA, 5RA	-	0-10
			5TB, 5RB	0-10	-
		2 + 3	5T1, 5R1	0-10	0-10
100	100	1	6T1, 6R1	0-6	0-4
			6TA, 6RA	0-10	0-10
		2 + 3	6T1, 6R1	0-10	0-10
150	150	1	8TA, 8RA	-	0-10

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.

GEMÜ 651 design operating pressure

MG	DN	Actuator version code	Diaphragm material	
			EPDM	PTFE
8	4 - 15	0	0 - 10	0 - 6
10	10 - 15	1	0 - 10	0 - 6
25	15 - 25	2	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.

Operating pressure:**GEMÜ 658 design operating pressure**

MG	DN	Control function	Actuator version	EPDM	PTFE (code 5M)	PTFE (code 54)
10	10 - 20	1	1T1	0-10	0-10	0-8
25	15 - 25	1	2T1	0-10	0-10	0-8
40	32 - 40	1	3TA	0-10	0-10	0-8
50	50 - 65	1	4T1	0-10	0-10	0-8

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.

GEMÜ 660 design operating pressure

MG	DN	Control function	Actuator version	EPDM	PTFE/EPDM
8	4 - 15	1	0T1, 0R1	0-5	0-5
		2 + 3	0T1, 0R1	0-5	0-5
10	10 - 20	1	1T1, 1R1	0-5	0-5
		2 + 3	1T1, 1R1	0-5	0-5
25	15 - 25	1	2T1, 2R1	0-5	0-5
		2 + 3	2T1, 2R1	0-5	0-5

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.

Operating pressure:

GEMÜ 687 design operating pressure

MG	DN	Control function	Actuator version	EPDM	PTFE/EPDM
10	10 - 20	1	B/N	0-10	0-6
		2	B/N	0-6	0-6
		3	B/N	0-6	0-6
25	15 - 25	1	F/M, FRM	0-6	0-6
			F/N, FRN	0-10	0-10
		2	F/M, FRM	-	-
			F/N, FRN	0-10	0-10
		3	F/M, FRM	-	-
			F/N, FRN	0-10	0-10
40	32 - 40	1	H/M, HRM	0-6	0-6
			H/N, HRN	0-10	0-10
		2	H/M, HRM	-	-
			H/N, HRN	0-10	0-10
		3	H/M, HRM	-	-
			H/N, HRN	0-10	0-10
50	50 - 65	1	J/M, JRM	0-6	0-6
			J/N, JRN	0-10	0-10
		2	J/M, JRM	-	-
			J/N, JRN	0-10	0-10
		3	J/M, JRM	-	-
			J/N, JRN	0-10	0-10
80	65 - 80	1	4/N, 4RN	0-8	0-5
			6A	-	-
			6A2	-	0-10
		2	4/N, 4RN	0-8	0-6
			6A	-	0-10
			6A2	-	-
		3	4/N, 4RN	0-8	0-6
			6A	-	0-10
			6A2	-	-
			6A2	-	-
100	100	1	5/N	0-6	0-4
			7A	-	-
			7A3	-	0-10
		2	5/N, 5RN	0-6	0-4
			7A	-	0-10
			7A3	-	-
		3	5/N, 5RN	0-6	0-4
			7A	-	0-10
			7A3	-	-

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.

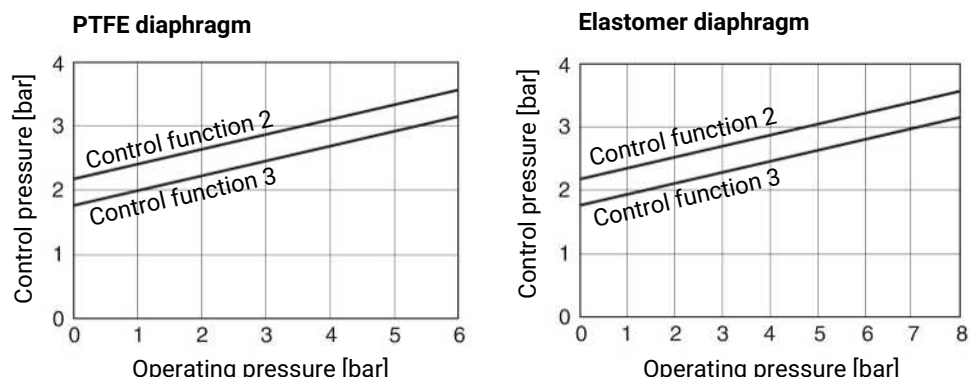
Information on operating pressures applied on both sides and for high purity media on request.

Control pressure:**GEMÜ 605 design control pressure**

MG	DN	Control function	Actuator version	Control pressure
8	4 - 15	1	0/N	4.0–7.0
		2 + 3	0/N	Max. 4.0

MG = diaphragm size

All pressures are gauge pressures.

GEMÜ 605: Control pressure – operating pressure – diagram – control function 2 and 3

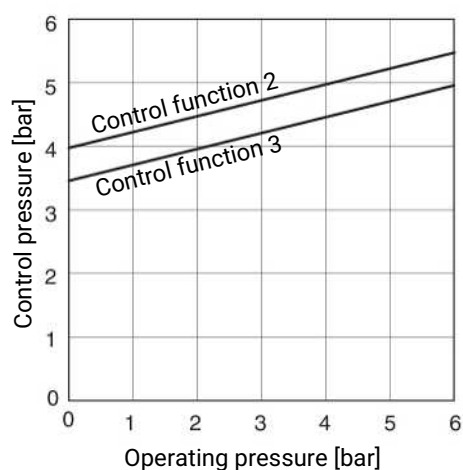
The control pressure depending on the prevailing operating pressure, as shown in the diagram, is intended as a guide for operating the system with low wear on the diaphragm.

GEMÜ 625 design control pressure

MG	DN	Control function	Actuator version	Control pressure
10	10 - 20	1	1/N	5.0–7.0
		2	1/N	Max. 6.0
		3	1/N	Max. 5.0

MG = diaphragm size

All pressures are gauge pressures.

GEMÜ 625: Control pressure – operating pressure – diagram – control function 2 and 3

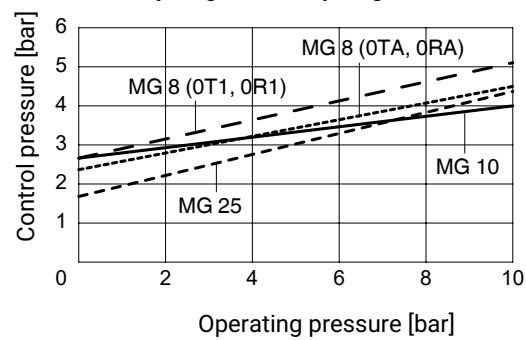
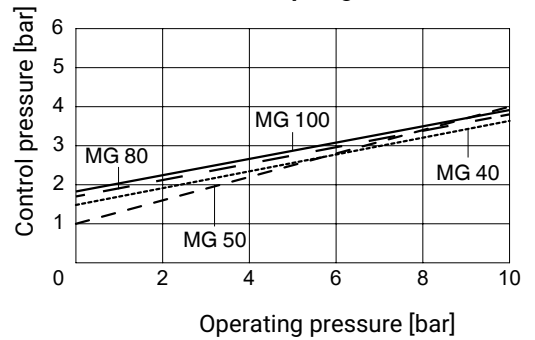
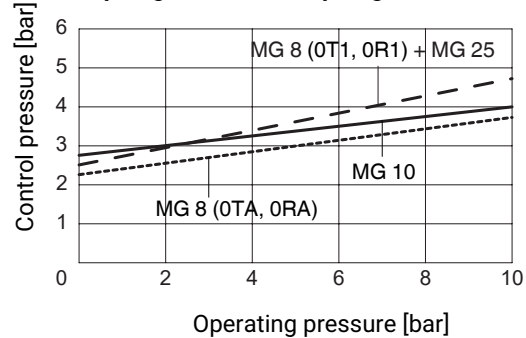
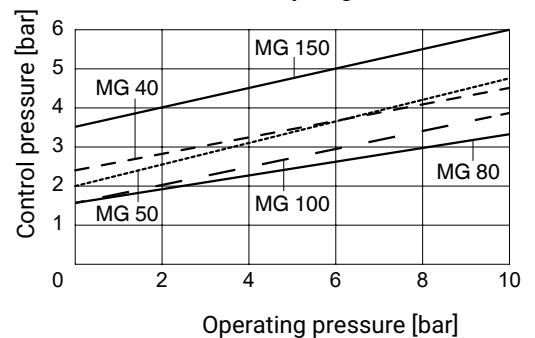
The control pressure depending on the prevailing operating pressure, as shown in the diagram, is intended as a guide for operating the system with low wear on the diaphragm.

Control pressure:**GEMÜ 650 BioStar design control pressure**

MG	DN	Control function	Actuator version	Control pressure
8	4 - 15	1	0T1, 0R1	5.0–7.0
			0TA, 0RA	3.5–7.0
		2 + 3	0T1, 0R1,	Max. 5.5
			0TA, 0RA	Max. 4.5
10	10 - 20	1	1T1, 1R1	4.5–7.0
		2 + 3	1T1, 1R1	Max. 4.5
25	15 - 25	1	2T1, 2R1	5.0–7.0
		2 + 3	2T1, 2R1	Max. 4.5
40	32 - 40	1	3T1, 3R1	4.5–7.0
			3TA, 3RA	3.5–7.0
		2 + 3	3T1, 3R1	Max. 4.5
50	50 - 65	1	4T1, 4R1	4.5–7.0
		2 + 3	4T1, 4R1	Max. 4.5
80	65 - 80	1	5T1, 5R1	3.5–7.0
			5TA, 5RA	4.5–7.0
			5TB, 5RB	4.0–7.0
		2 + 3	5T1, 5R1	Max. 4.0
100	100	1	6T1, 6R1	3.5–7.0
			6TA, 6RA	5.0–7.0
		2 + 3	6T1, 6R1	Max. 4.0
150	150	1	8TA, 8RA	7.0–8.0

MG = diaphragm size

All pressures are gauge pressures.

Control pressure:**GEMÜ 650 design: Control pressure – operating pressure – diagram – control function 2 and 3****Elastomer diaphragm****Diaphragm size 8–25****Diaphragm size 40–100****PTFE diaphragm****Diaphragm size 8–25****Diaphragm size 40–150**

The control pressure depending on the prevailing operating pressure, as shown in the diagram, is intended as a guide for operating the system with low wear on the diaphragm.

GEMÜ 651 design control pressure

MG	DN	Actuator version code	Control function 1	Control function 2
8	4 - 15	0	3.5 - 7.0	max. 4.5
10	10 - 15	1	4.5 - 7.0	max. 4.5
25	15 - 25	2	5.0 - 7.0	max. 4.5

MG = diaphragm size

All pressures are gauge pressures.

GEMÜ 658 design control pressure

MG	DN	Control function	Actuator version	Control pressure
10	10 - 20	1	1T1	4.5–6.0
25	15 - 25	1	2T1	5.5–7.0
40	32 - 40	1	3TA	3.5–7.0
50	50 - 65	1	4T1	5.5–7.0

MG = diaphragm size

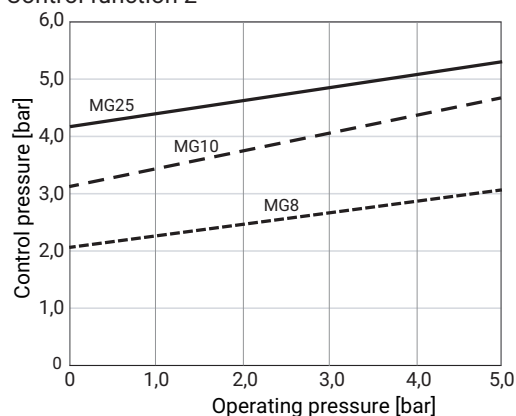
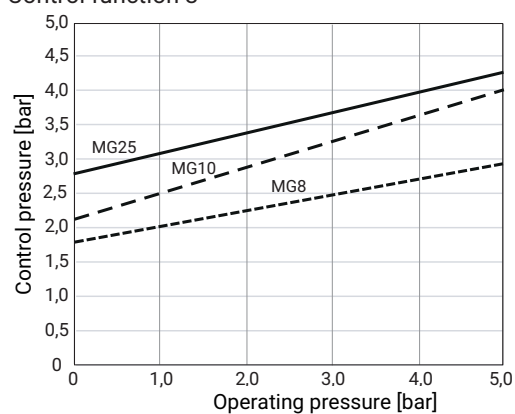
All pressures are gauge pressures.

Control pressure:**GEMÜ 660 design control pressure**

MG	DN	Control function	Actuator version	Control pressure
8	4 - 15	1	0T1, 0R1	5.0–7.0
		2 + 3	0T1, 0R1	Max. 5.5
10	10 - 20	1	1T1, 1R1	5.0–7.0
		2 + 3	1T1, 1R1	Max. 7.0
25	15 - 25	1	2T1, 2R1	4.0–7.0
		2 + 3	2T1, 2R1	Max. 7.0

MG = diaphragm size

All pressures are gauge pressures.

GEMÜ 660: Control pressure/operating pressure diagram – Control function 2 and 3**Control function 2****Control function 3**

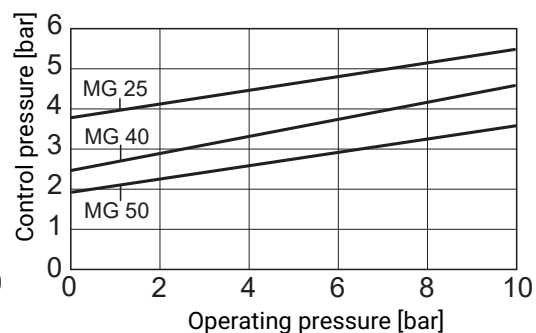
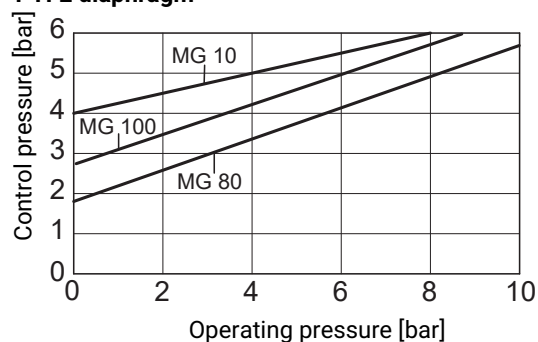
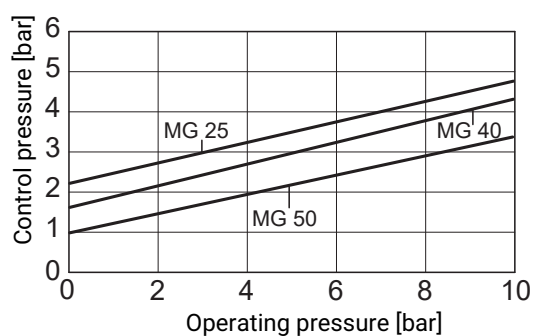
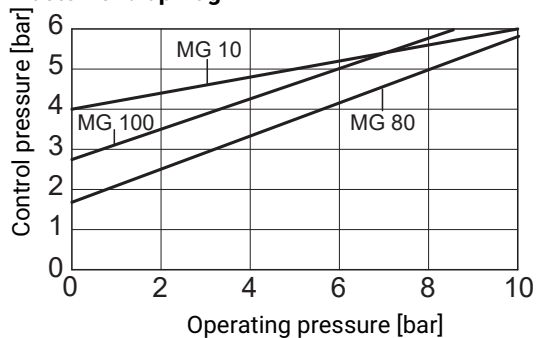
The control pressure depending on the prevailing operating pressure, as shown in the diagram, is intended as a guide for operating the system with low wear on the diaphragm.

Control pressure:**GEMÜ 687 design control pressure**

MG	DN	Control function	Actuator version	Control pressure
10	10 - 20	1	B/N	3.5–7.0
		2	B/N	Max. 6.0
		3	B/N	Max. 5.0
25	15 - 25	1	F/M, FRM	3.8–6.0
			F/N, FRN	5.5–7.0
		2	F/M, FRM	-
			F/N, FRN	Max. 5.5
		3	F/M, FRM	-
			F/N, FRN	Max. 5.5
40	32 - 40	1	H/M, HRM	3.8–6.0
			H/N, HRN	5.5–7.0
		2	H/M, HRM	-
			H/N, HRN	Max. 5.5
		3	H/M, HRM	-
			H/N, HRN	Max. 5.5
50	50 - 65	1	J/M, JRM	3.8–6.0
			J/N, JRN	5.5–7.0
		2	J/M, JRM	-
			J/N, JRN	Max. 5.0
		3	J/M, JRM	-
			J/N, JRN	Max. 5.0
80	65 - 80	1	4/N, 4RN	5.5–7.0
			6A	-
			6A2	4.0–7.0
		2	4/N, 4RN	Max. 5.0
			6A	Max. 3.0
			6A2	-
		3	4/N, 4RN	Max. 4.5
			6A	Max. 3.0
			6A2	-
100	100	1	5/N, 5RN	5.5–7.0
			7A	-
			7A3	4.5–7.0
		2	5/N, 5RN	Max. 5.0
			7A	Max. 3.5
			7A3	-
		3	5/N, 5RN	Max. 4.5
			7A	Max. 3.5
			7A3	-

MG = diaphragm size

All pressures are gauge pressures.

Control pressure:**GEMÜ 687 design: Control pressure – operating pressure – diagram – control function 2 and 3****PTFE diaphragm****Elastomer diaphragm**

The control pressure depending on the prevailing operating pressure, as shown in the diagram, is intended as a guide for operating the system with low wear on the diaphragm.

6.4 Product conformity

Pressure Equipment Directive: 2014/68/EU

Machinery Directive: 2006/42/EC

BSE/TSE: The product conforms to EMA/410/01 revision 3 and is free of animal substances

EAC: TR CU 010/2011

Food: FDA
3A
CRN
USP Class VI
Regulation (EC) No. 1935/2004
Regulation (EC) No. 2023/2006
Regulation (EC) No. 10/2011

The product conformities of the actuators (designs) and their respective declarations of conformity can be found in the operating instructions of the respective actuator types.

6.5 Mechanical data

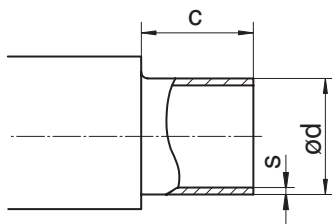
The mechanical data can be found in the product types' datasheets in conjunction with the technical drawing of the valve block.

7 Dimensions

Note: The detailed dimensions can be found in the product types' datasheets in conjunction with the technical drawing of the valve block.

7.1 Body dimensions

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



Connection type spigot DIN/EN/ISO (code 0, 16, 17, 18, 60)¹⁾, block material (code 41, 43, 44)²⁾

Dia- phragm size	DN	NPS	c (min)	ød					s				
				Connection type					Connection type				
				0	16	17	18	60	0	16	17	18	60
8	4	-	10.0	6.0	-	-	-	-	1.0	-	-	-	-
	6	-	20.0	-	-	8.0	-	10.2	-	-	1.0	-	1.6
	8	1/4"	20.0	-	-	10.0	-	13.5	-	-	1.0	-	1.6
	10	3/8"	20.0	-	12.0	13.0	14.0	-	-	1.0	1.5	2.0	-
10	10	3/8"	20.0	-	12.0	13.0	14.0	17.2	-	1.0	1.5	2.0	1.6
	15	1/2"	20.0	18.0	18.0	19.0	20.0	21.3	1.5	1.0	1.5	2.0	1.6
25	15	1/2"	20.0	18.0	18.0	19.0	20.0	21.3	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	1.5	1.0	1.5	2.0	1.6
	25	1"	25.0	28.0	28.0	29.0	30.0	33.7	1.5	1.0	1.5	2.0	2.0
40	32	1 1/4"	25.0	34.0	34.0	35.0	36.0	42.4	1.5	1.0	1.5	2.0	2.0
	40	1 1/2"	25.0	40.0	40.0	41.0	42.0	48.3	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	1.5	1.0	1.5	2.0	2.0
80	65	2 1/2"	30.0	-	-	70.0	-	76.1	-	-	2.0	-	2.0
	80	3"	30.0	-	-	85.0	-	88.9	-	-	2.0	-	2.3
100	100	4"	30.0	-	-	104.0	-	114.3	-	-	2.0	-	2.3

Dimensions in mm

MG = diaphragm size

1) Connection type, spigot 1

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

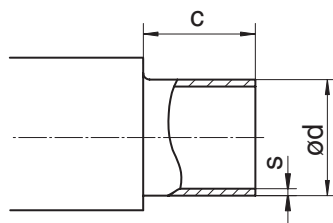
Code 60: Spigot ISO 1127/DIN EN 10357 series C (2014 edition)/DIN 11866 series B

2) Valve body material

Code 41: 1.4435 (316L), block material

Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

7.1.2 Spigot ASME/BS (code 55, 59, 63, 64, 65)**Connection type spigot ASME/BS (code 55, 59, 63, 64, 65)¹⁾, block material (code 41, 43, 44)²⁾**

Dia- phragm size	DN	NPS	c (min)	ød					s				
				Connection type					Connection type				
				55	59	63	64	65	55	59	63	64	65
8	6	-	20.0	-	-	10.3	-	10.3	-	-	1.24	-	1.73
	8	1/4"	20.0	6.35	6.35	13.7	-	13.7	1.2	0.89	1.65	-	2.24
	10	3/8"	20.0	9.53	9.53	-	-	-	1.2	0.89	-	-	-
	15	1/2"	20.0	12.70	12.70	-	-	-	1.2	1.65	-	-	-
10	10	3/8"	20.0	9.53	9.53	17.1	-	17.1	1.2	0.89	1.65	-	2.31
	15	1/2"	20.0	12.70	12.70	21.3	21.3	21.3	1.2	1.65	2.11	1.65	2.77
	20	3/4"	25.0	19.05	19.05	-	-	-	1.2	1.65	-	-	-
25	15	1/2"	20.0	-	-	21.3	21.3	21.3	-	-	2.11	1.65	2.77
	20	3/4"	25.0	19.05	19.05	26.7	26.7	26.7	1.2	1.65	2.11	1.65	2.87
	25	1"	25.0	-	25.40	33.4	33.4	33.4	-	1.65	2.77	1.65	3.38
40	32	1 1/4"	25.0	-	-	42.2	42.2	42.2	-	-	2.77	1.65	3.56
	40	1 1/2"	25.0	-	38.10	48.3	48.3	48.3	-	1.65	2.77	1.65	3.68
50	50	2"	30.0	-	50.80	60.3	60.3	60.3	-	1.65	2.77	1.65	3.91
	65	2 1/2"	30.0	-	63.50	-	-	-	-	1.65	-	-	-
80	65	2 1/2"	30.0	-	63.50	73.0	73.0	73.0	-	1.65	3.05	2.11	5.16
	80	3"	30.0	-	76.20	88.9	88.9	88.9	-	1.65	3.05	2.11	5.49
100	100	4"	30.0	-	101.60	114.3	114.3	114.3	-	2.11	3.05	2.11	6.02
150	150	6"	30.0	-	152.40	-	-	-	-	2.77	-	-	-

Dimensions in mm

MG = diaphragm size

1) Connection type, spigot 1

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 10s

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

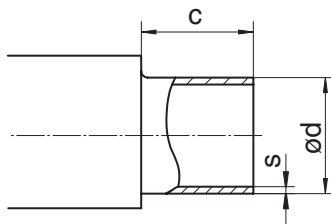
2) Valve body material

Code 41: 1.4435 (316L), block material

Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

7.1.3 Spigot JIS/SMS (code 35, 36, 37)



Connection type spigot JIS/SMS (code 35, 36, 37)¹⁾, block material (code 41, 43, 44)²⁾

Dia- phragm size	DN	NPS	c (min)	ød			s		
				Connection type			Connection type		
				35	36	37	35	36	37
8	6	-	20.0	-	10.5	-	-	1.20	-
	8	1/4"	20.0	-	13.8	-	-	1.65	-
10	10	3/8"	20.0	-	17.3	-	-	1.65	-
	15	1/2"	20.0	-	21.7	-	-	2.10	-
25	15	1/2"	20.0	-	21.7	-	-	2.10	-
	20	3/4"	25.0	-	27.2	-	-	2.10	-
	25	1"	25.0	25.4	34.0	25.0	1.2	2.80	1.2
40	32	1 1/4"	25.0	31.8	42.7	33.7	1.2	2.80	1.2
	40	1 1/2"	25.0	38.1	48.6	38.0	1.2	2.80	1.2
50	50	2"	30.0	50.8	60.5	51.0	1.5	2.80	1.2
	65	2 1/2"	30.0	63.5	-	63.5	2.0	-	1.6
80	65	2 1/2"	30.0	63.5	76.3	63.5	2.0	3.00	1.6
	80	3"	30.0	76.3	89.1	76.1	2.0	3.00	1.6
100	100	4"	30.0	101.6	114.3	101.6	2.0	3.00	2.0

Dimensions in mm

MG = diaphragm size

1) Connection type, spigot 1

Code 35: Spigot JIS-G 3447

Code 36: Spigot JIS-G 3459 schedule 10s

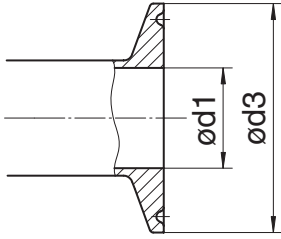
Code 37: Spigot SMS 3008

2) Valve body material

Code 41: 1.4435 (316L), block material

Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

7.1.4 Clamp DIN/ASME (code 80, 88, 8P, 8T)**Connection type clamp DIN/ASME (code 80, 88, 8P, 8T)¹⁾, block material (code 41, 43, 44)²⁾**

Diaphragm size	DN	NPS	$\varnothing d1$		$\varnothing d3$	
			Connection type		Connection type	
			80, 8P	88, 8T	80, 8P	88, 8T
8	8	1/4"	4.57	-	25.0	-
	10	3/8"	7.75	-	25.0	-
	15	1/2"	9.40	9.40	25.0	25.0
10	15	1/2"	9.40	9.40	25.0	25.0
	20	3/4"	15.75	15.75	25.0	25.0
25	20	3/4"	15.75	15.75	25.0	25.0
	25	1"	22.10	22.10	50.5	50.5
40	40	1½"	34.80	34.80	50.5	50.5
50	50	2"	47.50	47.50	64.0	64.0
	65	2½"	60.20	60.20	77.5	77.5
80	65	2½"	60.20	60.20	77.5	77.5
	80	3"	72.90	72.90	91.0	91.0
100	100	4"	97.83	97.38	119.0	119.0
150	150	6"	-	146.86	-	167.0

Dimensions in mm

MG = diaphragm size

1) Connection type, spigot 1

Code 80: Clamp ASME BPE

Code 88: Clamp ASME BPE, for pipe ASME BPE

Code 8P: Clamp DIN 32676 series C

Code 8T: Clamp DIN 32676 series C

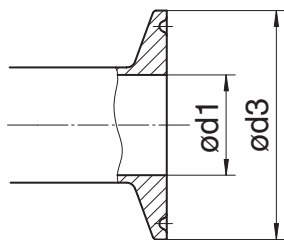
2) Valve body material

Code 41: 1.4435 (316L), block material

Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

7.1.5 Clamp DIN/ISO (code 82, 83, 86, 87, 8A)



Connection type clamp DIN/ISO (code 82, 83, 86, 87, 8A)¹⁾, block material (code 41, 43, 44)²⁾

Dia- phragm size	DN	NPS	ød1					ød3				
			Connection type					Connection type				
			82	83	86	87	8A	82	83	86	87	8A
8	6	1/8"	7.0	-	-	-	6.0	25.0	-	-	-	25.0
	8	1/4"	10.3	10.3	-	-	8.0	25.0	34.0	-	-	25.0
	10	3/8"	-	-	10.0	-	10.0	-	-	34.0	-	34.0
10	10	3/8"	14.0	14.0	10.0	-	10.0	25.0	34.0	34.0	-	34.0
	15	1/2"	18.1	18.1	16.0	-	16.0	50.5	34.0	34.0	-	34.0
25	15	1/2"	18.1	18.1	16.0	-	16.0	50.5	34.0	34.0	-	34.0
	20	3/4"	23.7	-	20.0	-	20.0	50.5	-	34.0	-	34.0
	25	1"	29.7	-	26.0	22.6	26.0	50.5	-	50.5	50.5	50.5
40	32	1 1/4"	38.4	-	32.0	31.3	32.0	64.0	-	50.5	31.3	50.5
	40	1 1/2"	44.3	-	38.0	35.6	38.0	64.0	-	50.5	50.5	50.5
50	50	2"	56.3	-	50.0	48.6	50.0	77.5	-	64.0	64.0	64.0
80	65	2 1/2"	72.1	-	66.0	60.3	66.0	91.0	-	91.0	77.5	91.0
	80	3"	84.3	-	81.0	72.9	81.0	106.0	-	106.0	91.0	106.0
100	100	4"	109.7	-	100.0	97.6	100.0	130.0	-	119.0	119.0	119.0

Dimensions in mm

MG = diaphragm size

1) Connection type, spigot 1

Code 82: Clamp DIN 32676 series B, for pipe EN ISO 1127

Code 83: Clamp DIN 32676 for pipe ISO 1127/DIN EN 10357 series C (2014 issue), DN 8–DN 15, clamp OD 34.0 mm, DN 32, clamp OD 50.5 mm

Code 86: Clamp DIN 32676 series A

Code 87: Clamp ISO 2852 for pipe ISO 2037, clamps SMS 3017 for pipe SMS 3008

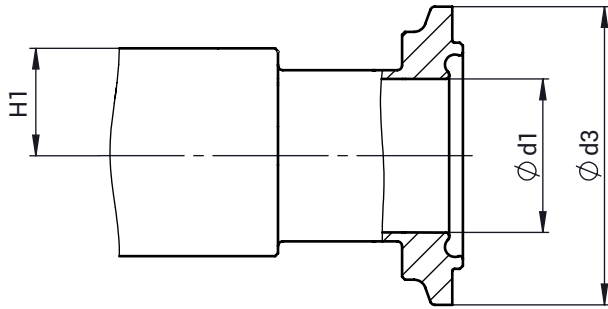
Code 8A: Clamp DIN 32676 series A

2) Valve body material

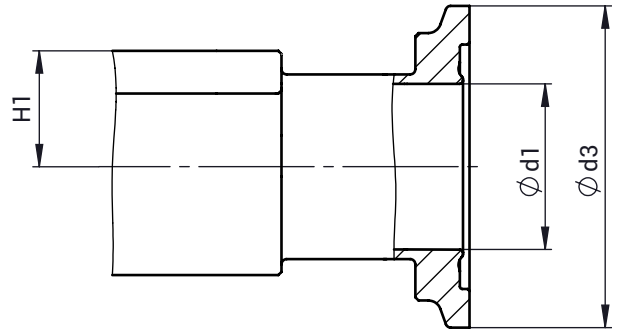
Code 41: 1.4435 (316L), block material

Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

7.1.6 Aseptic clamp connector (code E1, E2, E4, E5, E7, E8)

Connection code E1, E4, E7 – grooved clamp



Connection code E2, E5, E8 – notched clamp

Aseptic clamp connector DIN 11864-3 (code E1, E2, E4, E5, E7, E8)¹⁾, block material (code 41, 43, 44)²⁾

Pipe connection for aseptic clamp connector				EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A		ISO 1127/EN 10357 series C/ DIN 11866 series B		ASME BPE/ DIN 11866 series C	
Pipe connection code				17		60		59	
Aseptic clamp connector				DIN 11864-3					
Connection code				E1, E2		E4, E5		E7, E8	
MG	DN	NPS	H1	ød1	ød3	ød1	ød3	ød1	ød3
8	8	1/4"	8.5	-	-	10.3	34.0	-	-
	10	3/8"	8.5	10.0	34.0	-	-	-	-
	15	1/2"	8.5	-	-	-	-	9.4	34.0
10	10	3/8"	12.5	10.0	34.0	14.0	34.0	-	-
	15	1/2"	12.5	16.0	34.0	18.1	34.0	9.4	34.0
	20	3/4"	12.5	-	-	-	-	15.75	34.0
25	15	1/2"	19.0	16.0	34.0	18.1	34.0	-	-
	20	3/4"	19.0	20.0	50.5	23.7	50.5	15.75	34.0
	25	1"	19.0	26.0	50.5	29.7	50.5	22.1	50.5
40	32	1 1/4"	26.0	32.0	50.5	38.4	64.0	-	-
	40	1 1/2"	26.0	38.0	64.0	44.3	64.0	34.8	64.0
50	50	2"	32.0	50.0	77.5	56.3	91.0	47.5	77.5
	65	2 1/2"	32.0	-	-	-	-	60.2	91.0
80	65	2 1/2"	50.0	66.0	91.0	72.1	106.0	60.2	91.0
	80	3"	50.0	81.0	106.0	84.3	119.0	72.9	106.0
100	100	4"	70.0	100.0	130.0	-	-	97.38	130.0

Dimensions in mm

MG = diaphragm size

1) Connection type, spigot 1

Code E1: Aseptic clamp DIN 11864-NKS, for pipe DIN 11866 series A and EN 10357 series A

Code E2: Aseptic clamp DIN 11864-BKS, for pipe DIN 11866 series A and EN 10357 series A

Code E4: Aseptic clamp DIN 11864-NKS, for pipe DIN 11866 series B and EN ISO 1127

Code E5: Aseptic clamp DIN 11864-BKS, for pipe DIN 11866 series B and EN ISO 1127

Code E7: Aseptic clamp DIN 11864-NKS, for pipe DIN 11866 series C/ASME BPE

Code E8: Aseptic clamp DIN 11864-BKS, for pipe DIN 11866 series C/ASME BPE

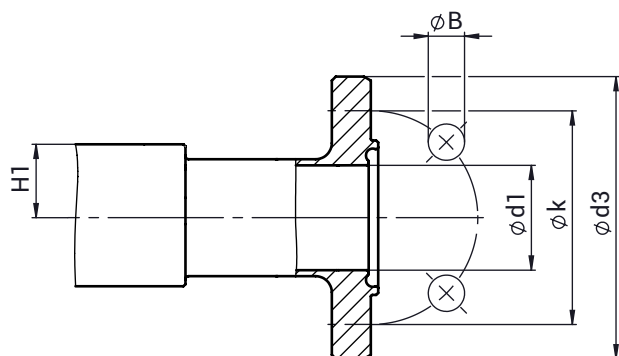
2) Valve body material

Code 41: 1.4435 (316L), block material

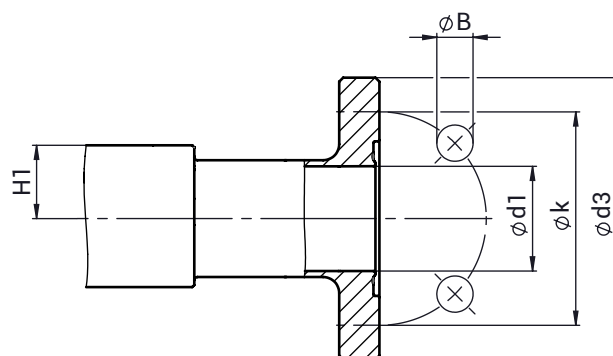
Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

7.1.7 Aseptic flanged connection (code A1, A2, A4, A5, A7, A8)



Connection code A1, A4, A7 – grooved flange



Connection code A2, A5, A8 – loose flange

Connection type aseptic flange connection DIN 11864-2 (code A1, A2, A4, A5, A7, A8)¹⁾, block material (code 41, 43, 44)²⁾

Pipe connection for aseptic flange					EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A				ISO 1127/EN 10357 series C/ DIN 11866 series B				ASME BPE/ DIN 11866 series C			
Pipe connection code					17				60				59			
Aseptic flanged connection					DIN 11864-2											
Connection code					A1, A2				A4, A5				A7, A8			
MG	DN	NPS	H1	n	ød1	øD	øk	øL	ød1	øD	øk	øL	ød1	øD	øk	øL
8	8	1/4"	8.5	4	-	-	-	-	10.3	54.0	37.0	9.0	-	-	-	-
	10	3/8"	8.5	4	10.0	54.0	37.0	9.0	-	-	-	-	-	-	-	-
	15	1/2"	8.5	4	-	-	-	-	-	-	-	-	9.4	54.0	37.0	9.0
10	10	3/8"	12.5	4	10.0	54.0	37.0	9.0	14.0	59.0	42.0	9.0	-	-	-	-
	15	1/2"	12.5	4	16.0	59.0	42.0	9.0	18.1	62.0	45.0	9.0	9.4	54.0	37.0	9.0
	20	3/4"	12.5	4	-	-	-	-	-	-	-	-	15.75	59.0	42.0	9.0
25	15	1/2"	19.0	4	16.0	59.0	42.0	9.0	18.1	62.0	45.0	9.0	-	-	-	-
	20	3/4"	19.0	4	20.0	64.0	47.0	9.0	23.7	69.0	52.0	9.0	15.75	59.0	42.0	9.0
	25	1"	19.0	4	26.0	70.0	53.0	9.0	29.7	74.0	57.0	9.0	22.1	66.0	49.0	9.0
40	32	1 1/4"	26.0	4	32.0	76.0	59.0	9.0	38.4	82.0	65.0	9.0	-	-	-	-
	40	1 1/2"	26.0	4	38.0	82.0	65.0	9.0	44.3	88.0	71.0	9.0	34.8	79.0	62.0	9.0
50	50	2"	32.0	4	50.0	94.0	77.0	9.0	56.3	103.0	85.0	9.0	47.5	92.0	75.0	9.0
	65	2 1/2"	32.0	-	-	-	-	-	-	-	-	-	60.2	107.0	89.0	9.0
80	65	2 1/2"	50.0	8	66.0	113.0	95.0	9.0	72.1	137.0	104.0	11.0	60.2	107.0	89.0	9.0
	80	3"	50.0	8	81.0	133.0	112.0	11.0	84.3	137.0	116.0	11.0	72.9	125.0	104.0	11.0
100	100	4"	70.0	8	100.0	159.0	137.0	11.0	109.7	168.0	146.0	11.0	97.38	157.0	135.0	11.0

Dimensions in mm

MG = diaphragm size

n = number of bolts

1) Connection type, spigot 1

Code A1: Aseptic flange DIN 11864-NF, for pipe DIN 11866 series A and EN 10357 series A

Code A2: Aseptic flange DIN 11864-BF, for pipe DIN 11866 series A and EN 10357 series A

Code A4: Aseptic flange DIN 11864-NF, for pipe DIN 11866 series B and EN ISO 1127

Code A5: Aseptic flange DIN 11864-BF, for pipe DIN 11866 series B and EN ISO 1127

Code A7: Aseptic flange DIN 11864-NF, for pipe DIN 11866 series C and ASME BPE

Code A8: Aseptic flange DIN 11864-BF, for pipe DIN 11866 series C and ASME BPE

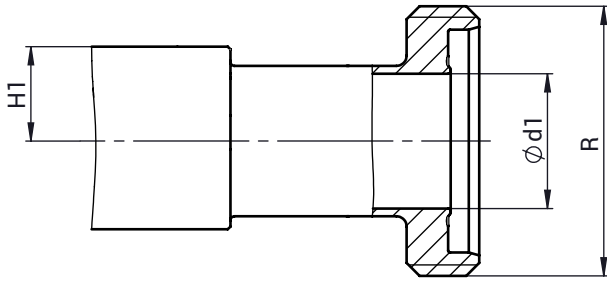
2) Valve body material

Code 41: 1.4435 (316L), block material

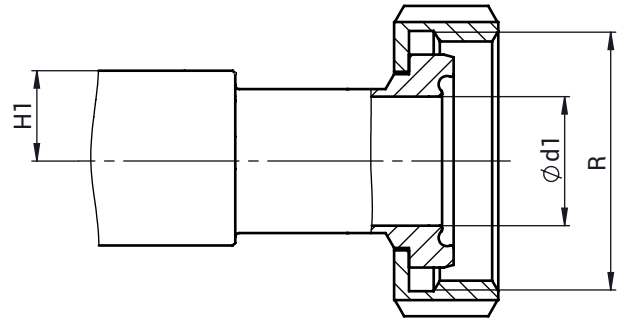
Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

7.1.8 Aseptic pipe union (code C1, C2, C4, C5, C7, C8)



Connection code C1, C4, C7 – threaded spigot



Connection code C2, C5, C8 – female union

Connection type aseptic pipe union DIN 11864-1 (code C1, C2, C4, C5, C7, C8)¹⁾, block material (code 41, 43, 44)²⁾

Pipe connection for aseptic pipe union				EN 10357 series A (formerly DIN 11850 series 2)/DIN 11866 series A		ISO 1127/EN 10357 series C/ DIN 11866 series B		ASME BPE/ DIN 11866 series C	
Pipe connection code				17		60		59	
Aseptic pipe union				DIN 11864-1					
Connection code				C1, C2		C4, C5		C7, C8	
MG	DN	NPS	H1	ød1	R	ød1	R	ød1	R
8	8	1/4"	8.5	-	-	10.3	Rd 28 × 1/8	-	-
	10	3/8"	8.5	10.0	Rd 28 × 1/8	-	-	-	-
	15	1/2"	8.5	-	-	-	-	9.4	Rd 28 × 1/8
10	10	3/8"	12.5	10.0	Rd 28 × 1/8	10.3	Rd 28 × 1/8	-	-
	15	1/2"	12.5	16.0	Rd 34 × 1/8	14.0	Rd 34 × 1/8	9.4	Rd 28 × 1/8
	20	3/4"	12.5	-	-	-	-	15.75	Rd 34 × 1/8
25	15	1/2"	19.0	16.0	Rd 34 × 1/8	14.0	Rd 34 × 1/8	-	-
	20	3/4"	19.0	20.0	Rd 44 × 1/6	18.1	Rd 44 × 1/6	15.75	Rd 34 × 1/8
	25	1"	19.0	26.0	Rd 52 × 1/6	23.7	Rd 52 × 1/6	22.1	Rd 52 × 1/6
40	32	1 1/4"	26.0	32.0	Rd 58 × 1/6	29.7	Rd 58 × 1/6	-	-
	40	1 1/2"	26.0	38.0	Rd 65 × 1/6	38.4	Rd 65 × 1/6	34.8	Rd 65 × 1/6
50	50	2"	32.0	50.0	Rd 78 × 1/6	44.3	Rd 78 × 1/6	47.5	Rd 78 × 1/6
	65	2 1/2"	32.0	-	-	-	-	60.2	Rd 95 × 1/6
80	65	2 1/2"	50.0	66.0	Rd 95 × 1/6	56.3	Rd 95 × 1/6	60.2	Rd 95 × 1/6
	80	3"	50.0	81.0	Rd 110 × 1/4	72.1	Rd 110 × 1/4	72.9	Rd 110 × 1/4
100	100	4"	70.0	100.0	Rd 130 × 1/4	84.3	Rd 130 × 1/4	97.38	Rd 130 × 1/4

Dimensions in mm

MG = diaphragm size

1) Connection type, spigot 1

Code C1: Aseptic union DIN 11864-GS, for pipe DIN 11866 series A and EN 10357 series A

Code C2: Aseptic union DIN 11864-BS, for pipe DIN 11866 series A and EN 10357 series A

Code C4: Aseptic union DIN 11864-GS, for pipe DIN 11866 series B and EN ISO 1127

Code C7: Aseptic pipe union DIN 11864-GS for pipe DIN 11866 series C and ASME BPE

Code C8: Aseptic union DIN 11864-BS for pipe DIN 11866 series C and ASME BPE

2) Valve body material

Code 41: 1.4435 (316L), block material

Code 43: 1.4435 (BN2), block material, Δ Fe < 0.5%

Code 44: 1.4539, block material

8 Manufacturer's information

8.1 Delivery

- Check that all parts are present and check for any damage immediately upon receipt. 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. Note the weight of the product. If necessary, use suitable lifting equipment.
3. Dispose of transport packing materials according to relevant local or national disposal regulations/environmental protection laws after installation.

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.
4. Do not store solvents, chemicals, acids, fuels or similar fluids in the same room as GEMÜ products and their spare parts.

8.4 Tools

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

9 Installation in piping

9.1 Preparing for installation

 DANGER	
	Danger from maximum permissible pressure being exceeded! <ul style="list-style-type: none"> ► Damage to the product! ● Provide for precautionary measures against exceeding the maximum permitted pressures that may be caused by pressure surges (water hammer).
 WARNING	
	The equipment is subject to pressure! <ul style="list-style-type: none"> ► Risk of severe injury or death ● Depressurize the plant or plant component. ● Completely drain the plant or plant component.
 WARNING	
	Corrosive chemicals! <ul style="list-style-type: none"> ► Risk of caustic burns ● Wear appropriate protective gear. ● Completely drain the plant.
 WARNING	
	Risk of crushing due to moving parts when the valve is not installed! <ul style="list-style-type: none"> ► Upper limbs may get into the valve body openings while working on the valve. ● Ensure that the valve is in the respective end position (closed for NC or open for NO). ● Do not reach into the crushing area through the valve body openings.
 CAUTION	
	Hot plant components! <ul style="list-style-type: none"> ► Risk of burns ● Only work on plant that has cooled down.
 CAUTION	
	Note the weight of the product! <ul style="list-style-type: none"> ► If necessary, use suitable lifting equipment.

⚠ CAUTION**Use as step!**

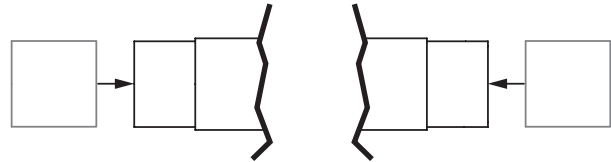
- ▶ Damage to the product
- ▶ Risk of slipping-off
- Choose the installation location so that the product cannot be used as a foothold.
- Do not use the product as a step or a foothold.

NOTICE**Suitability of the product!**

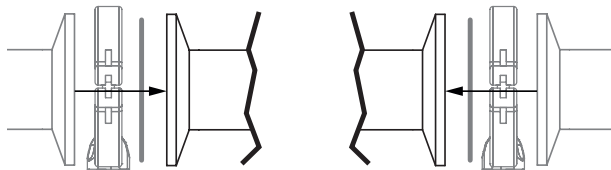
- ▶ The product must be appropriate for the piping system operating conditions (medium, medium concentration, temperature and pressure) and the prevailing ambient conditions.

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 suitability of the GEMÜ product for each respective use.
 2. Check the technical data of the GEMÜ 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 GEMÜ 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. Observe the flow direction if necessary.
 15. The installation position varies depending on version. Observe the technical drawing.
 16. The plant operator is responsible for ensuring that the weight of the product and the actuators is suitably supported depending on the installation position.

9.2 Installation with butt weld spigots*Fig. 1: Butt weld spigots*

1. Adhere to good welding practices!
2. Disassemble the actuator with the diaphragm before welding in the valve body.
3. Allow butt weld spigots to cool down.
4. Reassemble the valve body and the actuator with diaphragm.

9.3 Installation with clamp connections*Fig. 2: Clamp connection***NOTICE****Gasket and clamp!**

- ▶ The gasket and clamps for clamp connections are not included in the scope of delivery.
1. Insert the corresponding gasket between the connection adapter and the pipe connection.
 2. Connect the gasket between the connection adapter and the pipe connection using clamps.

9.4 Installation with flanged connection

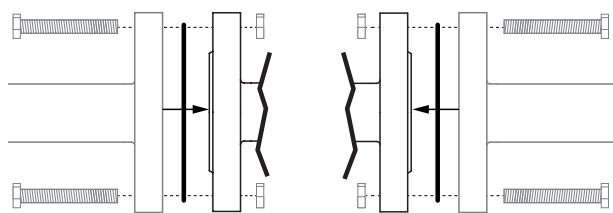


Fig. 3: Flanged connection

NOTICE

Sealing material!

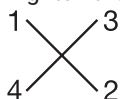
- ▶ The sealing material is not included in the scope of delivery.
- Only use appropriate sealing material.

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. Ensure clean, undamaged sealing surfaces on the connection flanges.
2. Align flanges carefully before installing them.
3. Centre the gaskets.
4. Connect the valve flange and the piping flange using appropriate sealing materials and matching bolting. Sealing material and bolts are not included in the scope of delivery.
5. Use all flange holes.
6. Only use connector elements made of approved materials!
7. Tighten the bolts diagonally.



Observe appropriate regulations for connections!

After the installation:

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

10 Connections

NOTICE

- ▶ The respective connections of the actuators can be found in the operating instructions of the various actuators.

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). Due to the setting behavior of elastomers, the bolts may need to be retightened following the installation and commissioning of the valve.
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. Use suitable connectors.
5. Connect the control medium lines tension-free and without any bends or knots.

12 Operation

⚠ CAUTION



Risk of injury due to components being flung away!

- ▶ In the event of excessive control pressure, components of the actuator may be flung away and cause injuries.
- Only actuate the valve with the maximum control pressures stated in the operating instructions.

- Observe the enclosed operator instructions for the actuator in question.

13 Troubleshooting

NOTICE

- The respective troubleshooting of the actuators can be found in the respective operating instructions.

Error	Error cause	Troubleshooting
Working medium escaping from leak detection hole*	Shut-off diaphragm faulty	Check shut-off diaphragm for potential damage, replace diaphragm if necessary
The product does not open or does not open fully	Pilot valve faulty	Check and replace pilot valve
	Actuator defective	Replace the actuator
	Shut-off diaphragm incorrectly mounted	Remove the actuator, check the diaphragm mounting, replace the shut-off diaphragm if necessary
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 damaged parts if necessary
	Valve body leaking or damaged	Carry out initialisation, check valve body for damage, replace valve body if necessary.
	Shut-off diaphragm is defective	Check shut-off diaphragm for potential damage, replace diaphragm if necessary
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 diaphragm if necessary
	Actuator/valve body damaged	Replace actuator/valve body
Connection between valve body and 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 leaking	Valve body faulty or corroded	Check valve body for potential damage, replace valve body if necessary

* see chapter "Spare parts"

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!

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

CAUTION



Note the weight of the product!

- ▶ If necessary, use suitable lifting equipment.

CAUTION

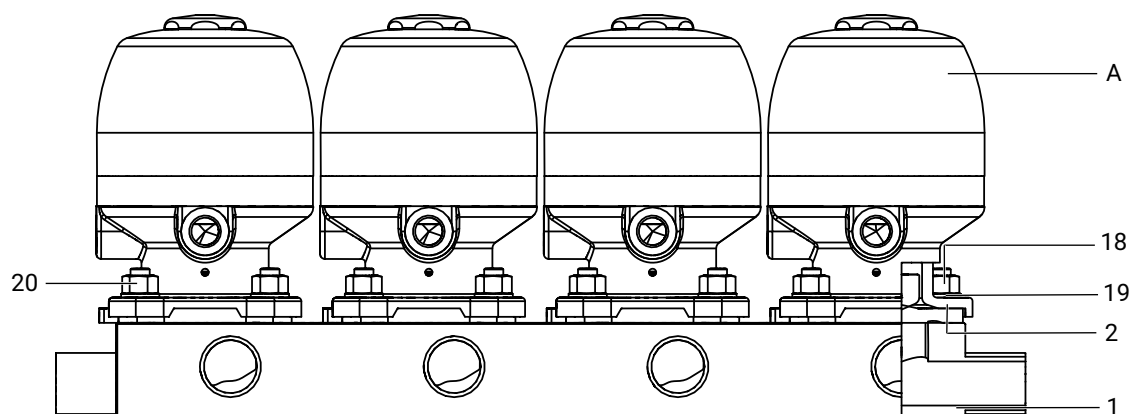
- Servicing and maintenance work must only be performed by trained personnel.
- Do not extend hand lever. GEMÜ shall assume no liability for damages caused by improper handling or third-party actions.
- In case of doubt, contact GEMÜ prior to commissioning.

NOTICE

- ▶ The operator must ensure that the product can be dismantled for maintenance purposes.

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

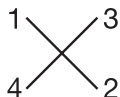
Item	Name	Order designation
A	Actuator	9601
		9602
		9605
		9612
		9625
		9629
		9639
		9649
		9650
		9650TL
		9651
		9653...
		9654...
		9658
		9660
		9673
		9675-7H
		9687
1	Valve body	K600
2	Diaphragm	600...M3A
		600...M13
		600...M17
		600...M19
		600...M54
		600...M5M
		600...M5Q

Item	Name	Order designation
18, 19, 20	Screw connection kit	601 S30
		602 S30
		605 S30
		612 S30
		625 S30
		629 S30
		639 S30
		649 S30
		650 S30
		650TL S30
		651 S30
		653...S30...
		654...S30...
		658 S30
		660 S30
		673 S30
		675-7H S30
		687 S30

14.2 Fitting/removing spare parts

14.2.1 Valve disassembly (removing the actuator from the body)

1. Move the actuator **A** to the open position.
2. Loosen the fastening elements between the valve body **1** and the actuator **A** diagonally and remove them.



3. Lift the actuator **A** off the valve body **1**.
4. Move the actuator **A** to the closed position.

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 diaphragm

NOTICE

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

1. Unscrew the diaphragm or pull it out (diaphragm size 8).
2. Clean all parts so they are free of remains of product and contaminants. Take care not to scratch or damage the parts in the process.
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 for the valve (suitable for medium, medium concentration, temperature and pressure). The shut-off diaphragm is a wearing part. Check the technical condition and function of the valve prior to commissioning and during the total term 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 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

- An incorrectly mounted diaphragm may cause valve leakage/emission of medium. In this case, remove the diaphragm, check the complete valve and diaphragms and reassemble again proceeding as described above.

Diaphragm sizes 10–80:

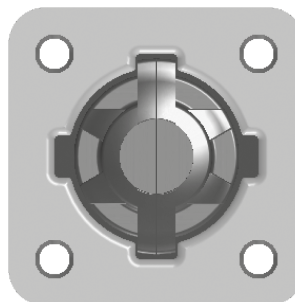
The compressor is loose.

Diaphragm sizes 8 and 100:

The compressor is fixed to the spindle.

Diaphragm size 8:

Compressor and actuator flange seen from below:



Diaphragm size 10:

Compressor and actuator flange seen from below:

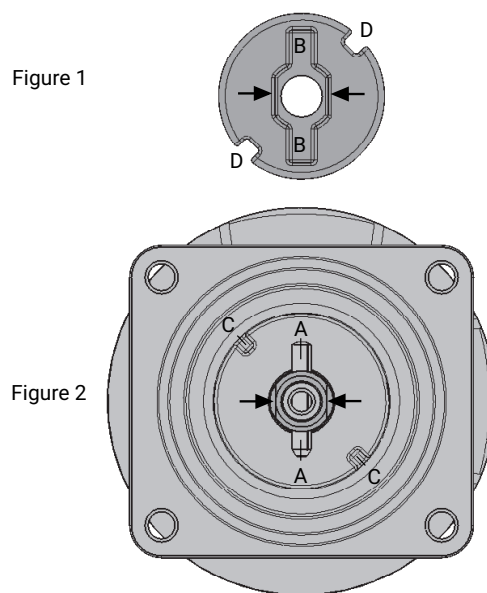


Figure 1

Figure 2

Anti-twist system of the spindle at the compressor

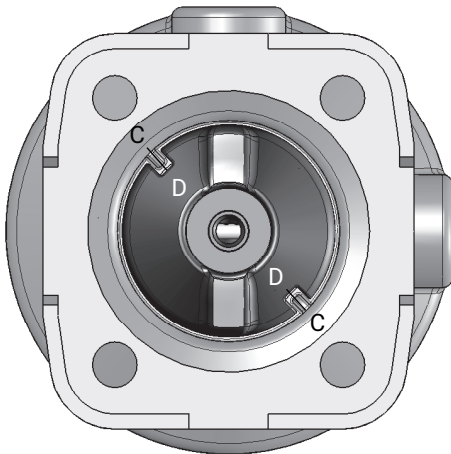
A double flat (arrows in figure 2) is fitted at the end of the actuator spindle to protect the actuator spindle against twisting. During assembly of the compressor, the double flats must be in correct alignment with the recess of the compressor back (arrows in figure 1).

If the actuator spindle is not in the correct position, it must be turned to the correct position. The position of **A** is offset by 45° to the position of **C**.

Place the compressor loosely on the actuator spindle, fit the recesses **D** into the guides **C** and **A** into **B**. It must be possible to move the compressor freely between the guides.

Diaphragm size 25–80:

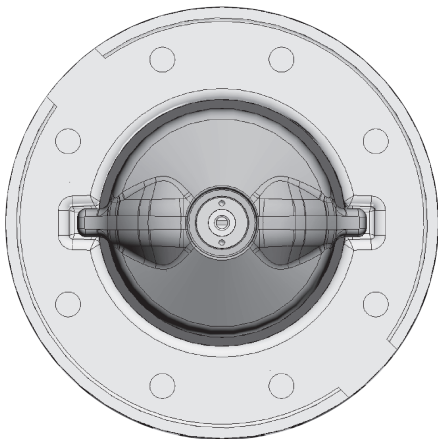
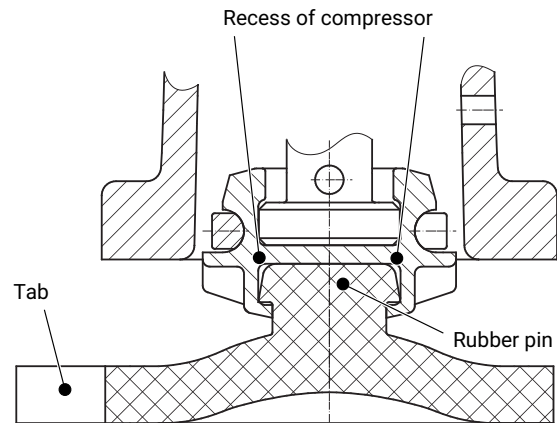
Compressor and actuator flange seen from below:



Place the compressor loosely on the actuator spindle, fit the recesses **D** into the guides **C**. It must be possible to move the compressor freely between the guides.

Diaphragm size 100:

Compressor and actuator flange seen from below:

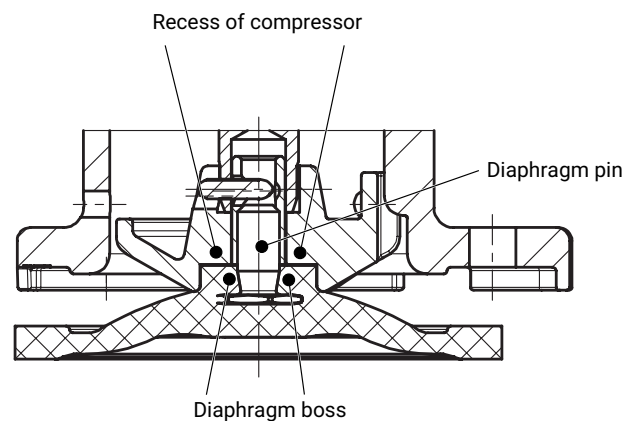
**14.2.3.2 Mounting a concave diaphragm****Diaphragm size 8****Push-fit diaphragm:**

1. Move the actuator **A** to the closed position.
2. Place the diaphragm **2** with the formed fastening spigot in an inclined position at the recess of the compressor.

NOTICE

► Do not use greases or lubricants.

3. Turn the diaphragm as manual force is applied to push the spigot into the compressor.
4. Align the tab with the manufacturer and material identification in parallel to the compressor weir.

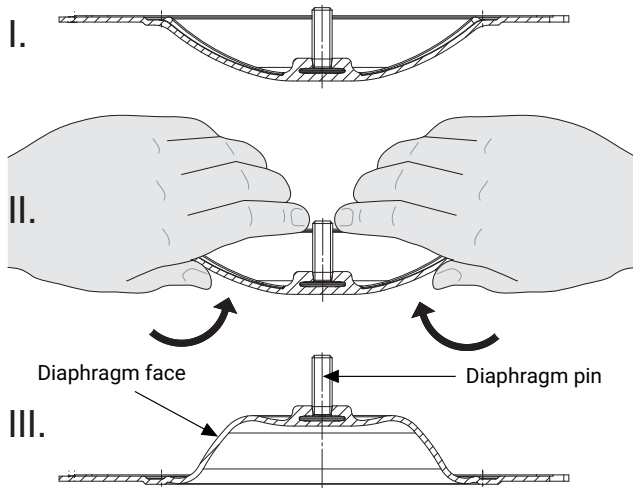
Diaphragm sizes 10 – 100**Threaded pin type diaphragm:**

5. Move the actuator **A** to the closed position.
6. Diaphragm size 10: Ensure that the anti-twist system is engaged.
Diaphragm sizes 25–80: Place the compressor loosely on the actuator spindle, fit the recesses into the guides (see "General information" chapter).
7. Check if the compressor is fitted in the guides.
8. Manually screw the new diaphragm into the compressor tightly.
9. Check if the diaphragm boss is in the recess of the compressor.

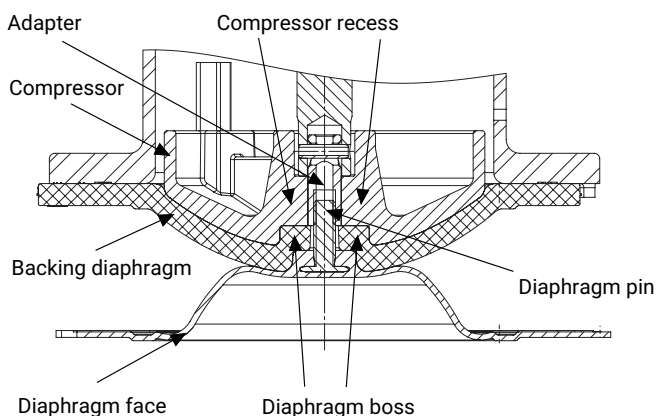
10. If it is difficult to screw it in, check the thread and replace damaged parts (only use genuine parts from GEMÜ).
11. When clear resistance is felt, turn back the diaphragm anticlockwise until its bolt holes are in correct alignment with the bolt holes of the actuator.

14.2.3.3 Mounting a convex diaphragm

1. Move the actuator **A** to the closed position.
2. Diaphragm sizes 25–80: Place the compressor loosely on the actuator spindle, fit the recesses **D** into the guides **C** (see "General information" chapter).
3. Check if the compressor is fitted in the guides.
4. Invert the new diaphragm face manually; for larger diameters, use a clean, padded mat.



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

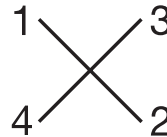


8. If it is difficult to screw it in, check the thread and replace damaged parts.
9. When clear resistance is felt, turn back the diaphragm anticlockwise until its bolt holes are in correct alignment with the bolt holes of the actuator.

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 open position.
2. Place the actuator **A** with the mounted diaphragm **2** on the valve body **1**.
3. Mount stud bolts where necessary.
4. Tighten washers and nuts by hand.
5. Move the actuator **A** to the closed position.
6. Tighten the nuts diagonally.



7. Ensure that the diaphragm **2** is compressed evenly (approx. 10–15%, visible by an even outer bulge).
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.
8. Check the fully assembled valve for leaks.

NOTICE

- Service and maintenance:
Diaphragms set over the course of time. After valve disassembly/assembly, check that the bolts **18** and nuts **20** on the body are tight and retighten as necessary (at the very latest after the first sterilization process).

15 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.

16 Returns

Legal regulations for the protection of the environment and personnel require that the completed and signed return delivery note is enclosed with the dispatch documents. Returned goods can only be processed if this note is completed. If no return delivery note is enclosed with the product, no credit will be provided and no repair work will be carried out, and the product will instead be disposed of at your expense.

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

If this is not completed, GEMÜ cannot process

- any credits or
- complete the repair work

but will dispose of the goods at the operator's expense.

NOTICE

Note for returns:

- Legal regulations for the protection of the environment and personnel require that the completed and signed return delivery note is enclosed with the dispatch documents. Returned goods can only be processed if this note is completed.

17 M600 Selection table

M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 03-01.A			
M600 03-01.ER			
M600 03-01.FR			
M600 03-01.GR			
M600 03-01.T3			
M600 03-02.A			

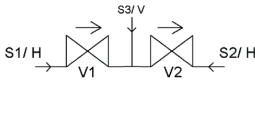
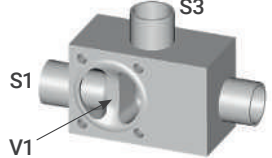
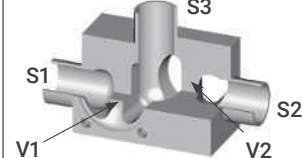
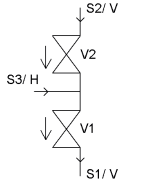
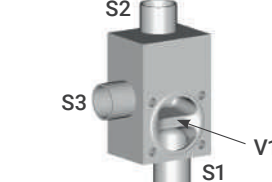
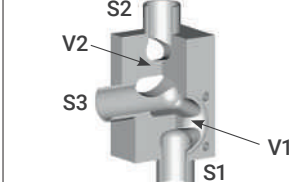
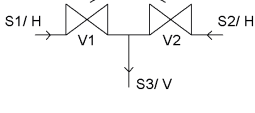
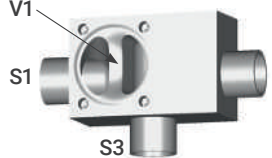
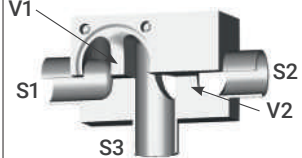
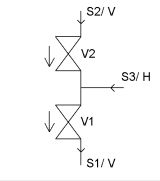
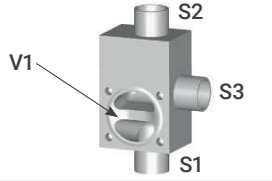
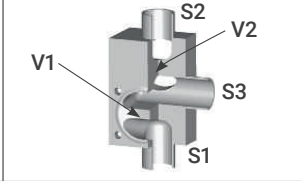
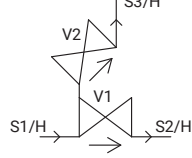
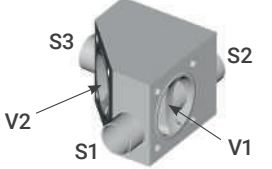
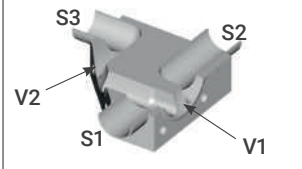
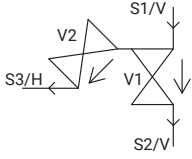
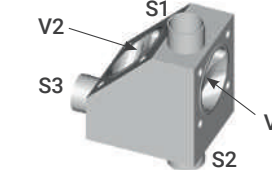
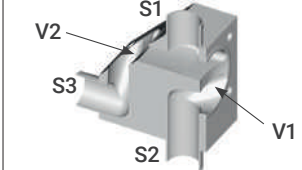
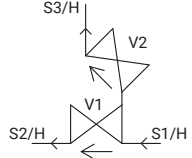
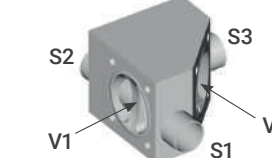
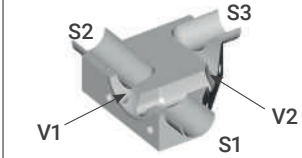
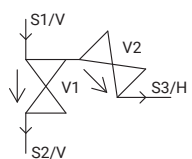
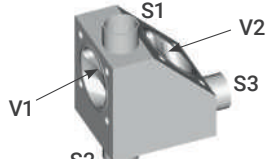
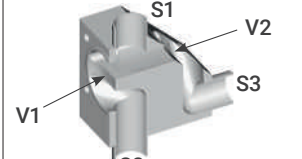
M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 03-02.B			
M600 03-02.C			
M600 03-02.E1			
M600 03-02.SR			

M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 03-02.TO			
			
M600 03-02.TU			
			
M600 03-02.WL			
			
M600 03-02.WR			
			

M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 03-03.N1			
M600 03-03.N2			
M600 03-03.N3			
M600 03-03.N4			
M600 04-01.A			
M600 04-01.B			

M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 04-02.OC			
M600 04-02.P3			
M600 04-02.T			
M600 04-02.U5			

M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 04-03.C			
M600 04-03.E			
M600 04-03.F			
M600 04-03.JR			

M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 04-03.K6			
M600 04-03.KR			
M600 04-03.M1			
M600 04-03.M2			
M600 04-03.M3			

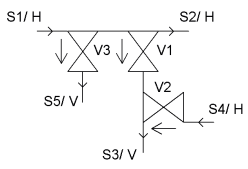
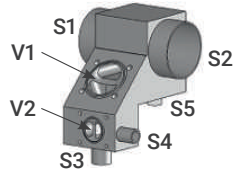
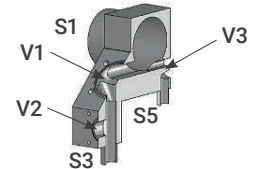
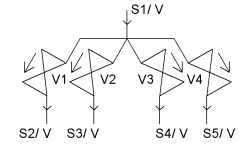
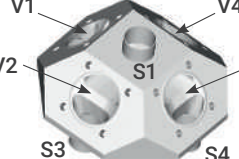
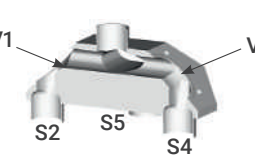
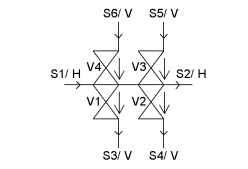
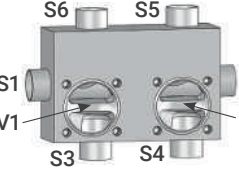
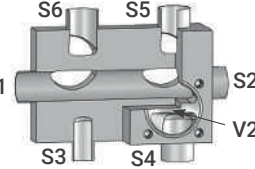
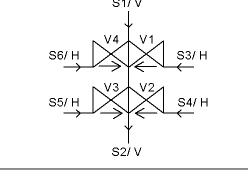
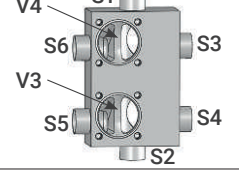
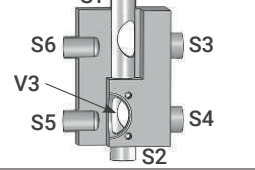
M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 04-03.M4			
M600 04-04.N1			
M600 04-04.N2			
M600 04-05.R			

M600

Selection table

Name	Flow diagram	3D view	Sectional view
M600 05-03.PA			
M600 05-04.C			
M600 06-04.T			
			

18 EU Declaration of Incorporation

Version 1.0

GEMÜ

Original EU-Einbauerklärung

EU Declaration of Incorporation

Wir, die Firma

We, the company

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8
74653 Ingelfingen
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 P600M Edelstahl

Product: GEMÜ P600M

Produktname: M-Block Membranventil aus Edelstahl

Product name: M-block stainless steel diaphragm valve

Die unvollständige Maschine darf erst dann in Betrieb genommen werden, wenn gegebenenfalls festgestellt wurde, dass die Maschine, in die die unvollständige Maschine eingebaut werden soll, den Bestimmungen der Maschinenrichtlinie 2006/42/EG entspricht.

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

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.; 1.3.4.; 1.3.7.; 1.5.4.; 1.5.5.; 1.5.8.; 1.6.1.; 1.6.3.; 1.6.4.; 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.; 2.1.1.; 2.1.2.

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!

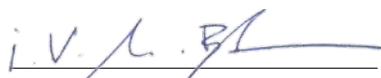
¹⁾ MD 2006/42/EG

Remarks:

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

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

This does not affect the industrial property rights.



i.V. M. Barghoorn
Leiter Globale Technik

Ingelfingen, 07.07.2025

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

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

19 EU Declaration of Conformity



Version 1.0

GEMÜ

EU-Konformitätserklärung EU Declaration of Conformity

Wir, die Firma

We, the company

GEMÜ Gebr. Müller Apparatebau GmbH & Co. KG
Fritz-Müller-Straße 6-8
74653 Ingelfingen
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 P600M Edelstahl

Product: GEMÜ P600M

Produktname: M-Block Membranventil aus Edelstahl

Product name: M-block stainless steel diaphragm valve

Richtlinien/Verordnungen:

Directives/Regulations:

PED 2014/68/EU¹⁾

Folgende harmonisierte Normen (oder Teile hieraus) wurden angewandt:

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

EN 13397:2001

Weitere angewandte Normen:

Further applied norms:

AD 2000

¹⁾ PED 2014/68/EU

Einteilung gemäß Druckgeräterichtlinie 2014/68/EU, Artikel 4 und Anhang II:
Fluidklasse 1 (gasförmig oder flüssig),
Diagramm 6, Kategorie I
Instabile Gase sind ausgeschlossen.

Benannte Stelle:

TÜV Rheinland Industrie Service GmbH
Am Grauen Stein 1
51105 Köln

Kennnummer der benannten 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 Verfahrens- anweisungen und Qualitätsstandards, welche die Forderungen der ISO 9001 und der ISO 14001 erfüllen. Die Produkte dürfen gemäß Artikel 4, Absatz 3 der Druckgeräte- richtlinie 2014/68/EU keine CE-Kennzeichnung tragen.

¹⁾ PED 2014/68/EU

Classification acc. Pressure Equipment Directive 2014/68/EU, Article 4 and Annex II:
Class 1 fluid (gaseous or liquid)
Chart 6, Category I
Unstable gases are excluded.

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(s) applied: Module H

Information for products with a nominal size ≤ DN 25:

The products are developed and produced according to GEMÜ's in-house process in- structions 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 Direc- tive 2014/68/EU, these products must not be identified by a CE-marking.

i.V. M. Barghoorn
Leiter Globale Technik
Ingelfingen, 07.07.2025

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Subject to alteration

07.2025 | 88923400