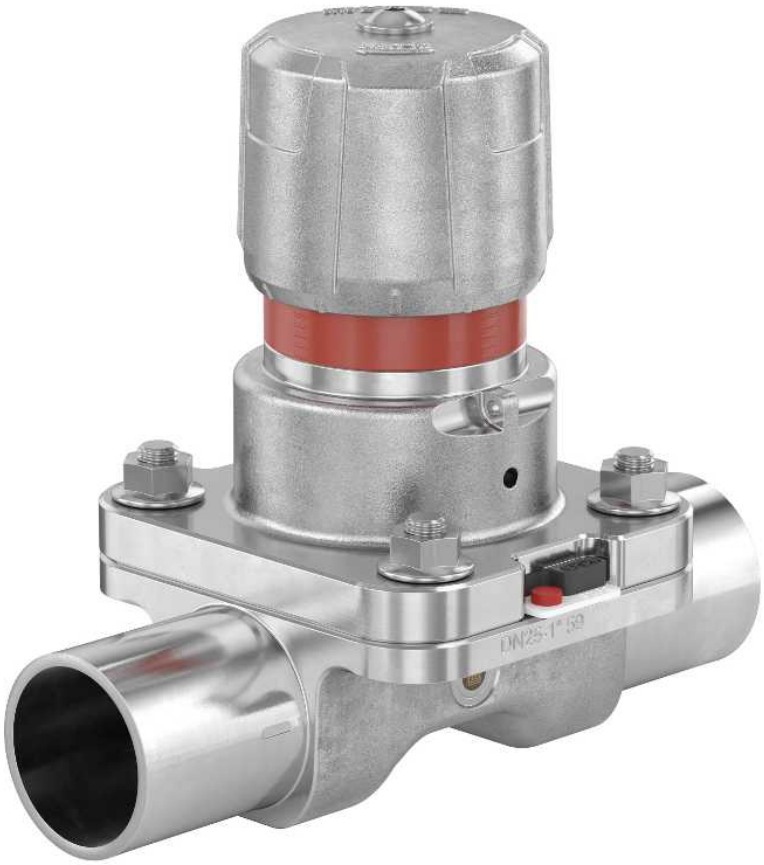
GEMÜ D20

Manually operated diaphragm valve

EN **Operating instructions**



webcode: GW-D20

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17.08.2026

Contents

1 General information 4
1.1 Information 4
1.2 Symbols used 4
1.3 Definition of terms 4
1.4 Warning notes 4
2 Safety information 5
3 Product description 6
3.1 Construction 6
3.2 Function 6
3.3 Product label 6
4 Intended use 6
5 Order data 7
5.1 Order codes 7
5.2 Order example 8
6 Technical data 9
6.1 Medium 9
6.2 Temperature 9
6.3 Pressure 9
6.4 Product conformity 10
6.5 Mechanical data 10
7 Dimensions 12
7.1 Actuator dimensions 12
7.2 Body dimensions 13
8 Manufacturer's information 16
8.1 Delivery 16
8.2 Packaging 16
8.3 Transport 16
8.4 Storage 16
9 Installation in piping 16
9.1 Preparing for installation 16
9.2 Installation with butt weld spigots 17
9.3 Installation with clamp connections 17
9.4 After the installation 17
9.5 Operation 17
9.6 Setting the seal adjuster 18
10 Commissioning 19
10.1 Autoclaving the valve 19
11 Troubleshooting 20
12 Inspection and maintenance 21
12.1 Spare parts 22
12.2 Valve disassembly (removing the actuator from the body) 22
12.3 Removing the diaphragm 22
12.4 Mounting the diaphragm 22
12.5 Mounting the actuator on the valve body 23
13 Disposal 23
14 Returns 23
15 EU Declaration of Conformity 24

1 General information

1.1 Information

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

1.2 Symbols used

The following symbols are used in this document:

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

1.3 Definition of terms

Working medium

The medium that flows through the GEMÜ product.

Control function

The possible actuation functions of the GEMÜ product.

1.4 Warning notes

Wherever possible, warning notes are 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!
	Risk of crushing due to moving parts when the valve is not installed!
	The equipment is subject to pressure!
	Maximum permissible pressure exceeded.
	Hot plant components!
	Risk of injury due to moving parts when the valve is not installed!
	Suitability of the product.
	Handwheel can become hot during operation!
	Risk of crushing due to rising handwheel!
	The ambient temperature must be complied with.
	High temperatures during autoclaving!

Symbol	Meaning
	Hazardous media may escape if the diaphragm is faulty!
	Connector elements!
	Risk of crushing!
	Mount the correct diaphragm for the valve (suitable for medium, medium concentration, temperature and pressure).

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:

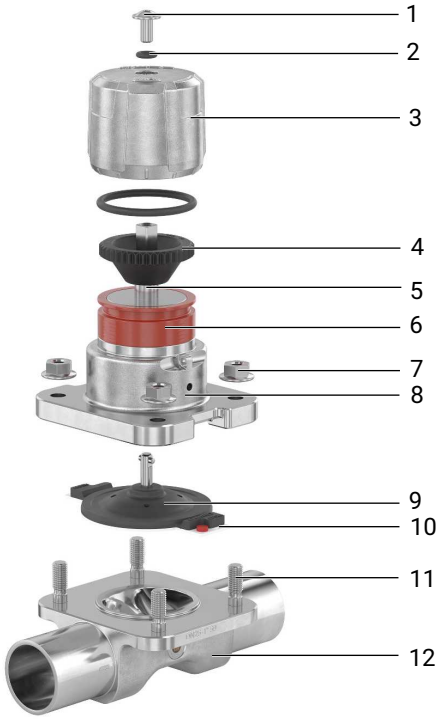
1. Keep this document available at the place of use.
2. Observe the safety information.
3. Operate the product in accordance with this document.
4. Operate the product in accordance with the specifications.
5. Maintain the product correctly.
6. Do not carry out any maintenance work and repairs not described in this document without consulting the manufacturer first.

In cases of uncertainty:

1. Consult the nearest GEMÜ sales office.

3 Product description

3.1 Construction



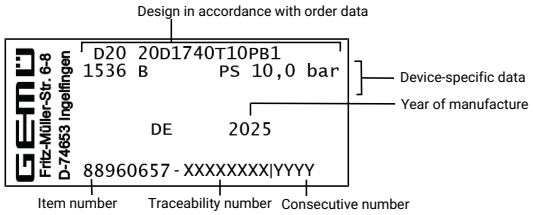
Item	Name	Materials
1	Screw with hex socket	Stainless steel
2	O-ring	
3	Handwheel	Stainless steel
4	Distance piece	PEI
5	Threaded spindle	Stainless steel
6	Optical position indicator	PP
7	Flange nut	
8	Cover	Stainless steel
9	Diaphragm backing	PTFE/EPDM two-piece
10	Diaphragm face	
11	Stud bolt	
12	Valve body	1.4435, forged body (F316L) 1.4435, forged body (BN2) 1.4435 (316L), block material 1.4435 (BN2), block material

3.2 Function

The GEMÜ D20 stainless steel diaphragm valve with 2/2-way body features a hand operator and is equipped with an optical position indicator as standard. The media-wetted area of the valve is CIP/SIP-capable.

3.3 Product label

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



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

4 Intended use

⚠ DANGER



Danger of explosion!
- ▶ Risk of death or severe injury
- ● Do **not** use the product in potentially explosive zones.

⚠ WARNING

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

The product is designed for installation in piping and for controlling a working medium. It controls a flowing medium by allowing it to be opened and/or closed by the user.

The valve is suitable for corrosive, neutral or gaseous media, which have no negative impact on the physical properties of the respective body and diaphragm material.

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

5 Order data

The order data provide an overview of standard configurations.

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

Order codes

1 Type	Code
Diaphragm valve, manually operated, handwheel-operated linear actuator	D20

2 DN, connection 1	Code
DN 10	10
DN 15	15
DN 20	20
DN 25	25

3 Body configuration	Code
2/2-way body	D

4 Connection type, spigot 1	Code
Spigot EN 10357 series A/DIN 11866 series A	17
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
Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configuration D	80
Clamp DIN 32676, for pipe DIN 11866 series B, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	82
Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	88
Clamp DIN 32676, for pipe DIN 11866 series A, face-to-face dimension FTF acc. to EN 558 series 7, length only for body configuration D	8A
Clamp DIN 32676, for pipe DIN 11866 series C, face-to-face dimension FTF ASME BPE, length only for body configuration D	8P
Clamp DIN 32676, for pipe DIN 11866 series C, face-to-face dimension FTF EN 558 series 7, length only for body configuration D	8T

5 Valve body material	Code
1.4435 (F316L), forged body	40
1.4435 (316L), block material	41
1.4435 (BN2), forged body, Δ Fe < 0.5%	42
1.4435 (BN2), block material, Δ Fe < 0.5%	43
Note: Material code 41 and code 43 on request	

6 Diaphragm material	Code
PTFE/EPDM, two-piece	T1

7 Control function	Code
Manually operated	0

8 Actuator material	Code
Stainless steel	S

9 Diaphragm size	Code
Diaphragm size B	B

10 Actuator size	Code
Actuator size 1	1

11 Valve body surface	Code
Ra ≤ 0.4 µm for media wetted surfaces, in accordance with DIN 11866 H4, mechanically polished internal mechanically machined internal	1536
Ra ≤ 0.4 µm for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external	1537
Ra max. 0.51 µm (20 µin.) for media wetted surfaces, in accordance with ASME BPE SF1, mechanically machined internal	SF1
Ra max. 0.38 µm (15 µin.) for media wetted surfaces, in accordance with ASME BPE SF4, electropolished internal/external	SF4

12 CONEXO	Code
Without	

13 Functional module	Code
Basic	B

14 Special version	Code
Without	

Order example

Ordering option	Code	Description
1 Type	D20	Diaphragm valve, manually operated, handwheel-operated linear actuator
2 DN, connection 1	15	DN 15
3 Body configuration	D	2/2-way body
4 Connection type, spigot 1	17	Spigot EN 10357 series A/DIN 11866 series A
5 Valve body material	40	1.4435 (F316L), forged body
6 Diaphragm material	T1	PTFE/EPDM, two-piece
7 Control function	0	Manually operated
8 Actuator material	S	Stainless steel
9 Diaphragm size	B	Diaphragm size B
10 Actuator size	1	Actuator size 1
11 Valve body surface	1537	Ra ≤ 0.4 µm for media wetted surfaces, in accordance with DIN 11866 HE4, electropolished internal/external
12 CONEXO		Without
13 Functional module	B	Basic
14 Special version		Without

6 Technical data

6.1 Medium

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

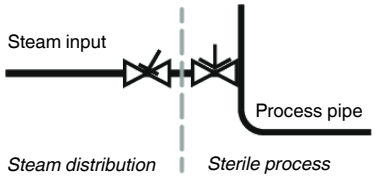
6.2 Temperature

Media temperature:

Diaphragm material	Standard
PTFE/EPDM (code T1)	-10 to 100 °C

Ambient temperature: -10 — 80 °C

Sterilization temperature: PTFE/EPDM (code T1): Max. 150 °C, maximum 180 min per cycle
The sterilization temperature is valid for steam (saturated steam) or superheated water (max. 6 bar).
PTFE diaphragms can also be used as moisture barriers; however, this will reduce their service life. It is not possible to retighten the connecting screws between the actuator and the valve body. This also applies to PTFE diaphragms exposed to high temperature fluctuations. The maintenance cycles must be adapted accordingly. The following valve arrangement has proven itself for interfaces between steam and process pipes: A globe valve for shutting off steam pipes and a diaphragm valve as an interface to the process pipes.



Storage temperature: -10 — 40 °C

6.3 Pressure

Operating pressure: 0 — 10 bar

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

The operating pressures apply at room temperature. In case of deviating temperatures, observe the pressure / temperature correlation.

MG	DN	Actuator size	Diaphragm material
			PTFE
B	**10 - 25**	**1**	0–10.0

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.

Vacuum: Can be used up to a vacuum of 70 mbar (absolute)

Pressure rating: PN 16

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

Kv values:

Diaphragm size	DN	Connection type (code)		
		17	59	60
B	**10**	4.4	-	8.0
	15	9.5	3.9	9.5
	20	9.5	9.5	-
	25	-	9.5	-

MG = diaphragm size, Kv values in m³/h
Kv values determined in accordance with EN 60534, inlet pressure 5 bar, Δp 1 bar, stainless steel valve body and two-piece PTFE/EPDM diaphragm. The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject to the influences of pressure, temperature and process parameters, as a result of which the Kv values deviate beyond the tolerance limit of the standard. The Kv value curve (Kv value dependent on valve stroke) can vary depending on the diaphragm material and term of use.

6.4 Product conformity

Pressure Equipment Directive: 2014/68/EU

Food: FDA
USP Class VI
Regulation (EC) No. 1935/2004 (depending on product configuration)
Regulation (EC) No. 10/2011

6.5 Mechanical data

Weight:

Body

MG	DN	Spigot		
		Connection type code		
		17	59	60
B	**10**	0.28	-	0.28
	15	0.28	0.28	0.28
	20	0.28	0.28	-
	25	-	0.28	-

Weights in kg
MG = diaphragm size

Actuator

MG	Actuator size	Weight
B	1	0.40

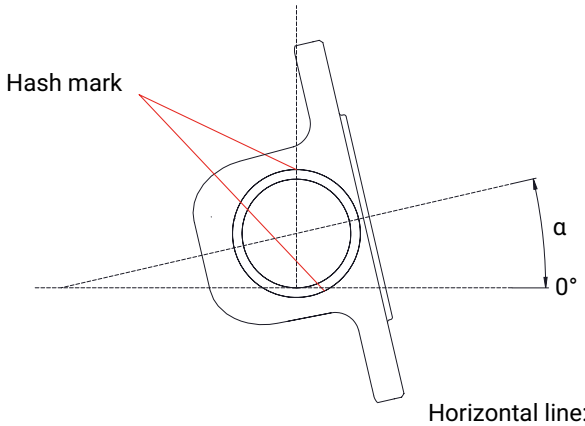
Weights in kg
MG = diaphragm size

Angle of rotation:

MG	DN	Connection type (code)		
		17	59	60
		α		
B	10	36.3°	-	23.4°
	15	18.0°	38.1°	12.3°
	20	7.9°	18.3°	-
	25	-	3.0°	-

MG = diaphragm size

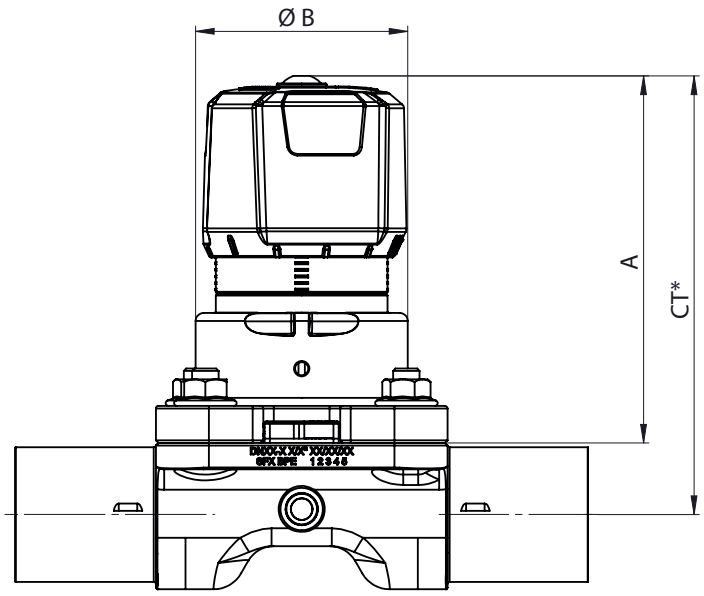
Vertical line:
Reference line for hash mark



Horizontal line:
Reference line for the angle of rotation

7 Dimensions

7.1 Actuator dimensions



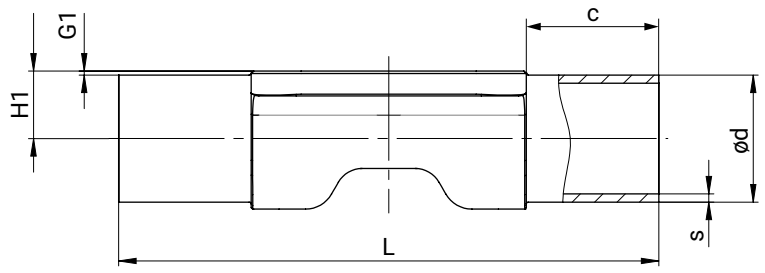
Actuator size	MG	A	ØB
1	**B**	69.2	40.0

Dimensions in mm
MG = diaphragm size
* CT = A + H1 (see body dimensions)

7.2 Body dimensions

7.2.1 Spigot DIN/EN/ISO/ASME (code 17, 59, 60), forged material (code 40, 42)

Connection type spigot DIN/EN/ISO/ASME (codes 17, 59, 60) [1], forged material (code 40, 42) [2]



MG	DN	Pipe standard			EN 10357 series A/DIN 11866 series A			ASME BPE/DIN 11866 series C			ISO 1127/EN 10357 series C/DIN 11866 series B		
					Connection code								
					17			59			60		
		L	c (min)	G1	H1	Ød	s	H1	Ød	s	H1	Ød	s
B	10	108.0	25.0	0.8	7.3	13.0	1.5	5.57	9.53	0.89	9.4	17.2	1.6
	15	108.0	25.0	0.8	10.3	19.0	1.5	7.15	12.70	1.65	11.45	21.3	1.6
	20	108.0	25.0	0.8	12.3	23.0	1.5	10.33	19.05	1.65	-	-	-
	25	108.0	25.0	0.8	-	-	-	13.50	25.40	1.65	-	-	-

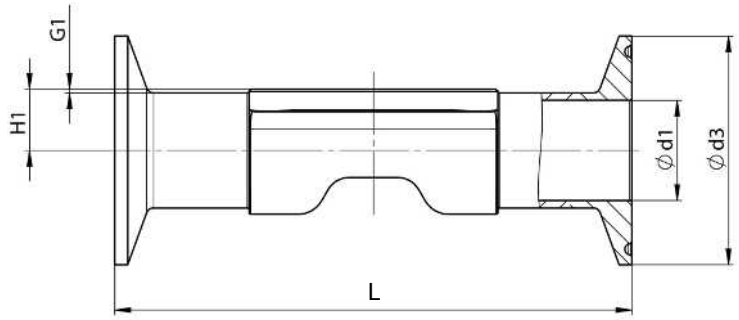
Dimensions in mm
MG = diaphragm size

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

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

7.2.2 Clamp DIN/EN/ISO/ASME (codes 80, 82, 88, 8A, 8P, 8T), forged material (code 40, 42)

Connection type clamp DIN/ASME (codes 80, 88, 8P, 8T) [1], forged material (code 40, 42) [2]



MG	DN	NPS	ød1		ød3		H1	G1	L	
			Connection type		Connection type				Connection type	
			80, 8P	88, 8T	80, 8P	88, 8T			80, 8P	88, 8T
B	**10**	3/8"	-	-	-	-	-	0.8	-	-
	15	1/2"	9.40	9.40	25.00	25.00	7.15	0.8	88.90	108.00
	20	3/4"	15.75	15.75	25.00	25.00	10.33	0.8	101.60	117.00
	25	1"	22.10	22.10	50.50	50.50	13.50	0.8	114.30	127.00

Dimensions in mm
MG = diaphragm size

1) **Connection type**
Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE, length only for body configurations D & F
Code 88: Clamp ASME BPE, for pipe ASME BPE, face-to-face dimension FTF EN 558 series 7, length only for body configurations D & F
Code 8P: Clamp DIN 32676 series C, face-to-face dimension FTF ASME BPE, length only for body configurations D & F
Code 8T: Clamp DIN 32676 series C, face-to-face dimension FTF EN 558 series 7, length only for body configurations D & F

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Connection type clamp DIN/ISO (code 82) [1], forged material (code 40, 42) [2]

MG	DN	NPS	ød1	ød3	H1	G1	L
			Connection type	Connection type			Connection type
			82	82			82
B	**10**	3/8"	14.00	25.00	9.4	0.8	108.00
	15	1/2"	18.10	50.50	11.45	0.8	108.00
	20	3/4"	-	-	-	0.8	-
	25	1"	-	-	-	0.8	-

Dimensions in mm
MG = diaphragm size

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

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

Connection type clamp DIN/EN (code 8A) [1], forged material (code 40, 42) [2]

MG	DN	NPS	ød1	ød3	H1	G1	L
			Connection type	Connection type			Connection type
			8A	8A			8A
B	**10**	3/8"	10.00	34.00	7.30	0.8	108.00
	15	1/2"	16.00	34.00	10.30	0.8	108.00
	20	3/4"	20.00	34.00	12.30	0.8	117.00
	25	1"	-	-	-	0.8	-

Dimensions in mm
MG = diaphragm size

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

2) **Valve body material**
Code 40: 1.4435 (F316L), forged body
Code 42: 1.4435 (BN2), forged body, Δ Fe < 0.5%

8 Manufacturer's information

8.1 Delivery

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

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

8.2 Packaging

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

8.3 Transport

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

8.4 Storage

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

9 Installation in piping

9.1 Preparing for installation

⚠ WARNING



Risk of crushing due to moving parts when the valve is not installed!

▶ Upper limbs may get into the valve body openings while working on the valve.

- Do not reach into the crushing area through the valve body openings.

⚠ WARNING



The equipment is subject to pressure!

▶ Risk of severe injury or death

- Depressurize the plant or plant component.
- Completely drain the plant or plant component.

⚠ WARNING



Maximum permissible pressure exceeded.

▶ Damage to the product

- Provide for precautionary measures against exceeding the maximum permitted pressures that may be caused by pressure surges (water hammer).

⚠ CAUTION



Hot plant components!

▶ Burns

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

⚠ CAUTION



Risk of injury due to moving parts when the valve is not installed!

▶ The valve spindle and diaphragm are moving parts that are moved with high force. This may lead to injuries when working on the valve.

- Watch out for moving parts when operating the actuator.
- Do not reach between the diaphragm, valve spindle and modified plant components.
- Have servicing and maintenance work carried out by trained personnel only.

⚠ CAUTION



Suitability of the product.

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

NOTICE

Tools!

▶ The tools required for installation and assembly are not included in the scope of delivery.

● Use appropriate, functional and safe tools.

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

9.2 Installation with butt weld spigots

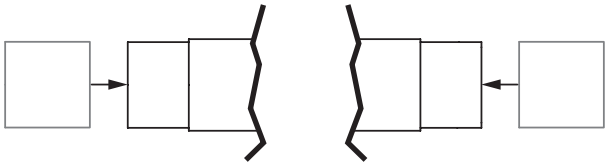


Fig. 1: Butt weld spigots

1. Carry out preparations for installation (see chapter "Preparing for installation").
2. Adhere to good welding practices!
3. Disassemble the actuator with the diaphragm before welding the valve body into the pipeline, see Valve disassembly (removing actuator from body).
4. Weld the body of the product in the piping.
5. Allow butt weld spigots to cool down.
6. Reassemble the valve body and the actuator with diaphragm, see Actuator mounting on the valve body.
7. Re-attach or reactivate all safety and protective devices.
8. Flush the system.

9.3 Installation with clamp connections

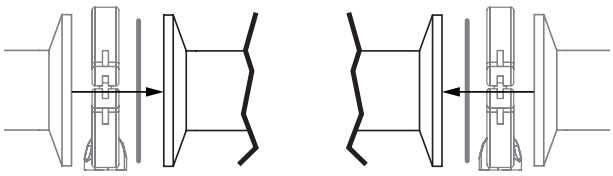


Fig. 2: Clamp connection

NOTICE

Gasket and clamp!

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

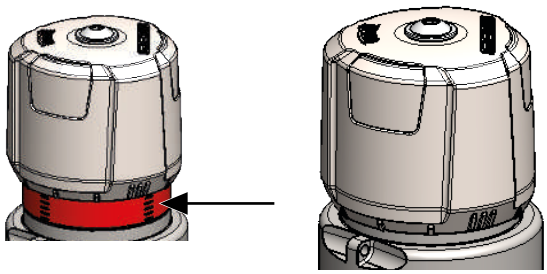
1. Keep ready gasket and clamp.
2. Carry out preparation for installation (see chapter "Preparing for installation").
3. Insert the corresponding gasket between the body of the product and the pipe connection.
4. Connect the gasket between the body of the product and the pipe connection using clamps.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

9.4 After the installation

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

9.5 Operation

Optical position indicator



Valve open | Valve closed

⚠ CAUTION



Handwheel can become hot during operation!

▶ Risk of burns!

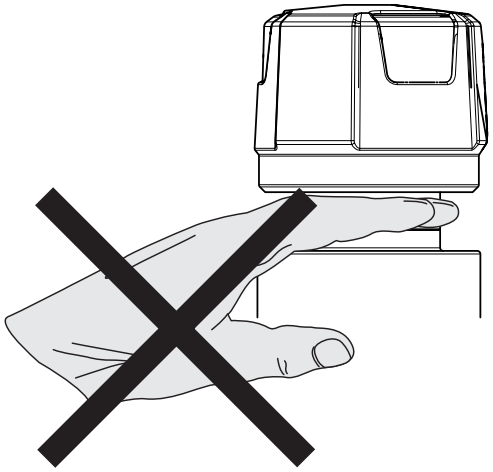
● Ensure protective gloves are worn when operating handwheel.

⚠ CAUTION



Risk of crushing due to rising handwheel!

▶ Danger of crushing fingers.



9.6 Setting the seal adjuster

NOTICE

- Only set the seal adjuster when the valve is completely assembled (with diaphragm and valve body) and in a cold condition.

The valves in the GEMÜ D20 series come with a mechanical seal adjuster as standard to protect the sealing diaphragms.

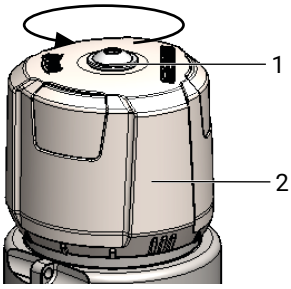
Standard setting:

The valve is sealed when the handwheel is completely closed (turned fully clockwise).

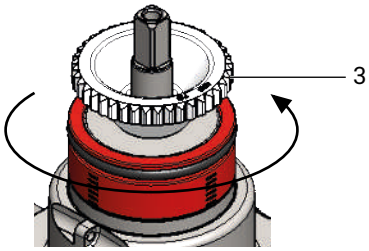
Setting the seal adjuster:

Procedure:

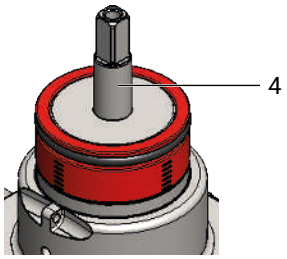
1. Open the valve approx. 50%.



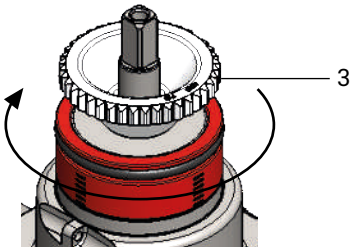
2. Loosen and unscrew the screw with hex socket **1** and remove it together with the O-ring.
3. Pull the handwheel **2** up.



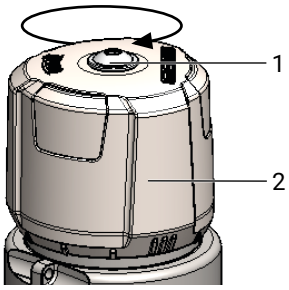
4. Loosen, unscrew and remove the distance piece **3**.



5. Depending on the operating conditions, regrease the threaded spindle **4**, especially if the valve is autoclaved. GEMÜ recommends the Boss-Fluorine Y 108/00 grease (99099484).
6. Gently close the valve using a tool or an inverted handwheel **2**.



7. Screw the distance piece **3** onto the actuator spindle until the bottom side of the distance piece **3** sits flush with the actuator.



8. Place the handwheel **2** in the correct position onto the square of the actuator spindle (observe the teeth of the distance piece **3** and the handwheel **2**). Secure in place using a screw with hex socket and an O-ring **1**.

10 Commissioning

⚠ WARNING



The ambient temperature must be complied with.

▶ Risk of damage and functional impairment of the product.

- The product must only be used in environments in which the specified ambient temperatures are complied with.

1. Check the tightness and the function of the product (close and reopen the product).
2. Flush the piping system for new plants and after repair work (the product must be fully open).

⇨ Harmful foreign matter has been removed.

⇨ The product is ready for use.

3. Commission the product.

10.1 Autoclaving the valve

⚠ CAUTION



High temperatures during autoclaving!

- Move the actuator to the open position.
- If the valve is not autoclaved in the fully open position:

⇨ The spindle will become degreased during autoclaving.

⇨ Fat may leak from the actuator.

1. Move the actuator to the open position.
2. Autoclave the valve.

11 Troubleshooting

⚠ WARNING



Hazardous media may escape if the diaphragm is faulty!

- ▶ Risk of injury due to contact with media that is harmful to health!
- Replace the diaphragms once they have reached their service life limits.
- Wear suitable protective gear while working on the product, depending on the working medium used.

Error	Error cause	Troubleshooting
Working medium escaping from leak detection hole	Shut-off diaphragm faulty	Replace the product
The product does not open or does not open fully	Actuator defective	Replace the actuator
	Shut-off diaphragm incorrectly mounted	Remove the actuator, check the diaphragm mounting, replace the shut-off diaphragm if necessary
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 is leaking or is damaged	Check valve body for potential damage, replace valve body if necessary.
	Shut-off diaphragm is defective	Check shut-off diaphragm for potential damage, replace diaphragm if necessary
	Seal adjuster is incorrectly set	Readjust the seal adjuster
The product is leaking between actuator and valve body	Shut-off diaphragm incorrectly mounted	Remove the actuator, check the diaphragm mounting, replace the shut-off diaphragm if necessary
	Bolting between valve body and actuator loose	Tighten bolting between valve body and actuator
	Shut-off diaphragm faulty	Check shut-off diaphragm for potential damage, replace the shut-off diaphragm if necessary
	Actuator/valve body damaged	Replace actuator/valve body
Connection between valve body and piping leaking	Incorrect installation	Check installation of valve body in piping
	Sealing material faulty	Replace sealing material
Valve body leaking	Valve body leaking or corroded	Check valve body for damage, replace valve body if necessary
Handwheel cannot be turned	Handwheel defective	Replace the handwheel
	Threaded spindle seized	Depending on the operating conditions, regrease the threaded spindle, especially if the valve is autoclaved; if necessary, replace the actuator. See “Setting the seal adjuster”.

12 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.

⚠ WARNING



The ambient temperature must be complied with.

- ▶ Risk of damage and functional impairment of the product.
- ● The product must only be used in environments in which the specified ambient temperatures are complied with.

⚠ WARNING



Connector elements!

- ▶ The connector elements are not included in the scope of delivery.
- ● Only use connector elements made of approved materials.
- ● Observe the permissible tightening torque of the bolts.

⚠ CAUTION



Hot plant components!

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

⚠ CAUTION



Risk of crushing!

- ▶ Risk of crushing for version without a valve fitted and with an open spigot.
- ● Do not reach into the spigot.

⚠ CAUTION



Risk of injury due to moving parts when the valve is not installed!

- ▶ The valve spindle and diaphragm are moving parts that are moved with high force. This may lead to injuries when working on the valve.
- ● Watch out for moving parts when operating the actuator.
- ● Do not reach between the diaphragm, valve spindle and modified plant components.
- ● Have servicing and maintenance work carried out by trained personnel only.

NOTICE

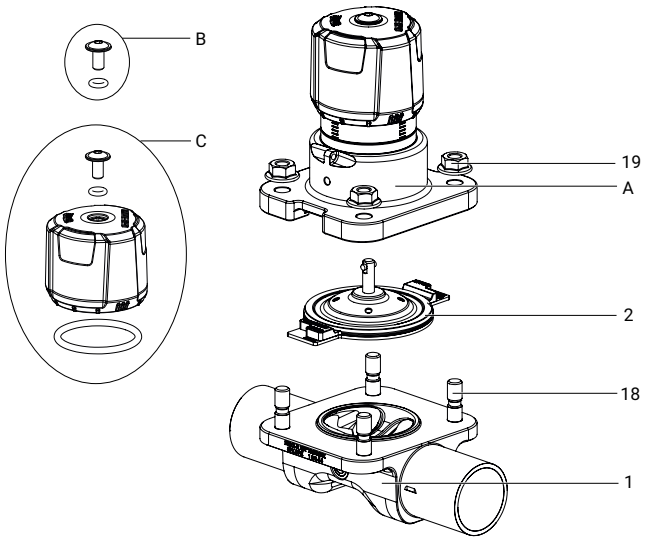
Use of incorrect spare parts!

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

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 must be disassembled and checked for wear in corresponding intervals.

12.1 Spare parts



Item	Name	Order designation
A	Actuator (complete)	AD20 T T10SB1 B
B	Handwheel screw set	SX00 S9 1
C	Spare handwheel set	SX00 S10 1
1	Valve body	BD00...
2	Diaphragm	DD00...
18	Stud bolts	SD00S30
19	Flange nuts	

12.2 Valve disassembly (removing the actuator from the body)

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

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).

12.3 Removing the diaphragm

⚠ WARNING



The ambient temperature must be complied with.

▶ Risk of damage and functional impairment of the product.

- The product must only be used in environments in which the specified ambient temperatures are complied with.

⚠ CAUTION



Risk of injury due to moving parts when the valve is not installed!

▶ The valve spindle and diaphragm are moving parts that are moved with high force. This may lead to injuries when working on the valve.

- Watch out for moving parts when operating the actuator.
- Do not reach between the diaphragm, valve spindle and modified plant components.
- Have servicing and maintenance work carried out by trained personnel only.

NOTICE

▶ The diaphragm is a wearing part and must be replaced with a new diaphragm after disassembly.

NOTICE

▶ Before removing the diaphragm, remove the actuator, see “Valve disassembly (removing the actuator from the body)”.

1. Turn the diaphragm by 90° and pull it out.
2. Clean all parts so that 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).

12.4 Mounting the diaphragm

12.4.1 General information

⚠ CAUTION



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 entire term of use. Determine the test intervals in accordance with the conditions of use and/or the regulatory codes and provisions applicable for this application and carry out these tests regularly.

NOTICE

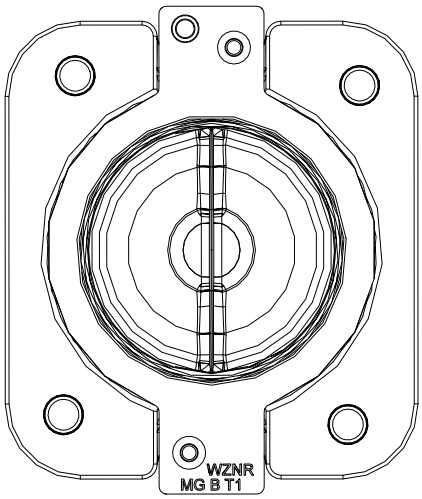
▶ An incorrectly mounted diaphragm may cause valve leakage/emission of medium. In this case, remove the diaphragm, check the complete valve and diaphragms, and reassemble again.

12.4.2 Mounting the diaphragm

NOTICE

▶ Moving parts when the drive is open.
Watch out for moving parts when clocking the actuator.

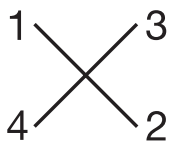
1. Move the actuator **A** to the closed position until the red optical position indicator is no longer visible.
2. Check whether the compressor is resting in the guides.



3. Press the pin of the new diaphragm into the compressor by hand and then turn it by hand through 90° with little force.
4. Check whether the diaphragm boss is in the recess of the compressor.
5. Check the alignment of the diaphragm lug with the recess in the distance piece.

12.5 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 on the valve body **1**.
   ⇨ Take care to align the compressor weir and valve body weir.
3. Tighten the flange nuts diagonally in several turns on the stud bolts of the valve body until the valve body and distance piece are seated without any gaps.



Tightening torque guide value:

Diaphragm size	Tightening torque
B	4.2 Nm

4. Move the actuator **A** to the closed position.
5. Check the fully assembled valve for leaks.

13 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.

14 Returns

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

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

15 EU Declaration of Conformity

CE Version 1.0 GEMÜ

EU-Konformitätserklärung

EU Declaration of Conformity

Wir, die Firma / We, the company

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

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

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

Produkt: GEMÜ D20

Produktname: Handbetätigtes Membranventil

Richtlinien/Verordnungen:

Product: GEMÜ D20

Product name: Manually operated diaphragm valve

Directives/Regulations:

PED 2014/68/EU[1)]

Folgende harmonisierte Normen (oder Teile hieraus) wurden angewandt:

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

EN 13397:2001

[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.
Notifizierte Stelle:
TÜV Rheinland Industrie Service GmbH
Am Grauen Stein 1
51105 Köln
Kennnummer der notifizierten Stelle: 0035
Nr. des QS-Zertifikats: 01 202 173/Q-26 0214
Angewandte(s) Konformitätsbewertungsverfahren: Modul H
Hinweis für Produkte mit einer Nennweite ≤ DN 25:
Die Produkte werden entwickelt und produziert nach GEMÜ eigenen Verfahrensanweisungen und Qualitätsstandards, welche die Forderungen der ISO 9001 und der ISO 14001 erfüllen. Die Produkte dürfen gemäß Artikel 4, Absatz 3 der Druckgeräterichtlinie 2014/68/EU keine CE-Kennzeichnung tragen.

[1)] PED 2014/68/EU
Classification in accordance with the Pressure Equipment Directive 2014/68/EU, Article 4 and Annex II:
Fluid class 1 (gaseous or liquid),
Diagram 6, Category I
Unstable gases are excluded.
Notified body:
TÜV Rheinland Industrie Service GmbH
Am Grauen Stein 1
51105 Cologne
Identification number of the notified body: 0035
QA certificate number: 01 202 173/Q-26 0214
Applied conformity assessment procedures: Module H
Note for products with a nominal size ≤ DN 25:
DThe products are developed and manufactured in accordance with GEMÜ's own process instructions and quality standards, which meet the requirements of ISO 9001 and ISO 14001. In accordance with Article 4, Paragraph 3 of the Pressure Equipment Directive 2014/68/EU, the products are not permitted to bear the CE mark.

i.V. M. Barghoorn
Leiter Globale Technik

Kupferzell, 10.08.2026

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Subject to alteration

08.2026 | 89025898