GEMÜ D20

Manually operated diaphragm valve



Features

- Sealed handwheel for 3-A®applications
- Low-maintenance due to the firmly chambered diaphragm
- Scaled visual display
- Very high Kv values due to flow-optimised valve body
- Suitable for use in hygienic and aseptic applications (CIP/SIP capable and autoclavable)

Description

The manually operated GEMÜ D20 diaphragm valve is designed for use in sterile applications. The diaphragm hermetically seals the actuator off from the working medium. Thanks to its sealed handwheel, the GEMÜ D20 is particularly suitable for 3-A®applications. All actuator parts (with the exception of the sealing and design elements) are made of stainless steel.

Technical specifications

- **Media temperature :** -10 to 100 °C
- **Sterilization temperature:** max. 150 °C
- **Ambient temperature:** -10 to 80 °C
- **Operating pressure :** 0 to 10 bar
- **Nominal sizes:** DN 10 to 25
- **Body configurations:** 2/2-way bodies
- **Connection types:** Clamp I Spigot
- **Connection standards:** ASME I DIN I EN I ISO
- **Body materials:** 1.4435 (316L), block material I 1.4435 (BN2), block material I 1.4435 (BN2), forged material I 1.4435 (F316L), forging material
- **Diaphragm materials:** PTFE/EPDM
- **Conformities:** FDA I Regulation (EC) No. 1935/2004 I Regulation (EU) No. 10/2011 I USP

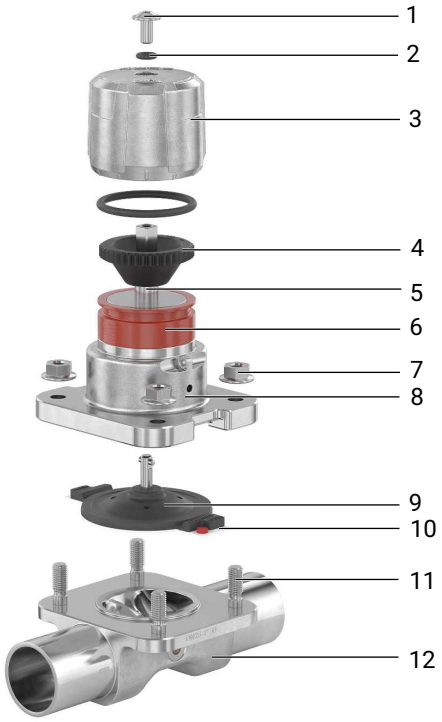
Technical data depends on the respective configuration

FDA

webcode: GW-D20

Product description

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

GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



The diaphragm is read out using an RFID reader, the CONEXO pen. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the “installation qualification” process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides them with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

You can find further information on GEMÜ CONEXO at:
www.gemu-group.com/conexo

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

Technical data

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.

Temperature

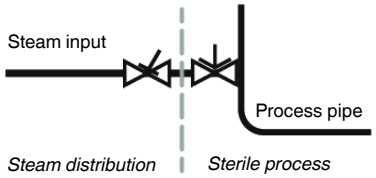
Media temperature:

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

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.

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

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

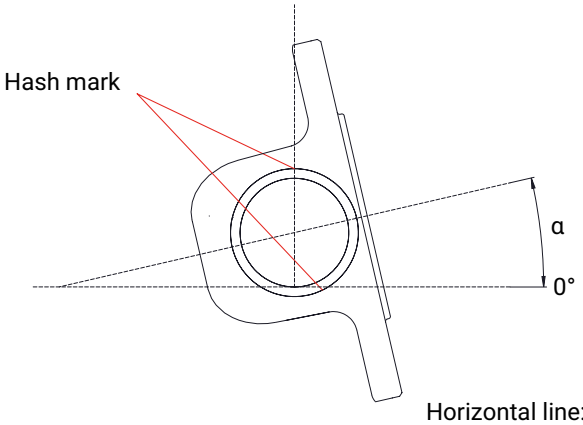
Weights in kg
MG = diaphragm size

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

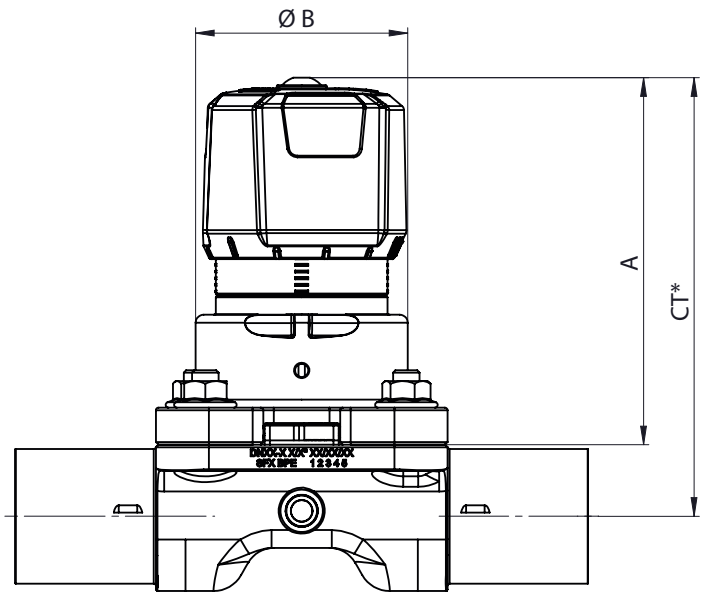
Vertical line:
Reference line for hash mark



Horizontal line:
Reference line for the angle of rotation

Dimensions

Actuator dimensions



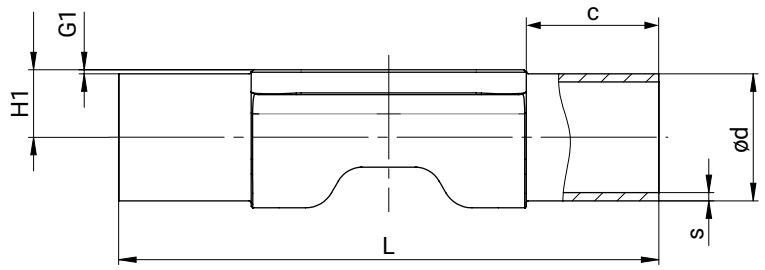
Actuator size	MG	A	ØB
1	B	69.2	40.0

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

Body dimensions

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	-	-	-

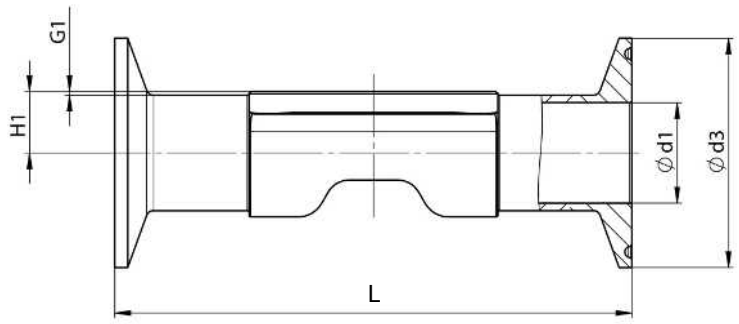
Dimensions in mm
MG = diaphragm size

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%

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%



Subject to alteration | 08.2026 | 89025181

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