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GEMÜ®

Diaphragm Valve, Metal

Construction

The GEMÜ 625 2/2-way diaphragm valve has a low maintenance piston actuator which can be controlled by inert gases. Normally Closed, Normally Open and Double Acting control functions are available. An optical position indicator is integrated as standard.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- Insensitive to particulate media
- Valve body and diaphragm available in various materials and designs
- Compact design (ideal when space is at a premium)
- CIP/SIP cleaning and sterilizing capabilities
- Versions according to ATEX on request

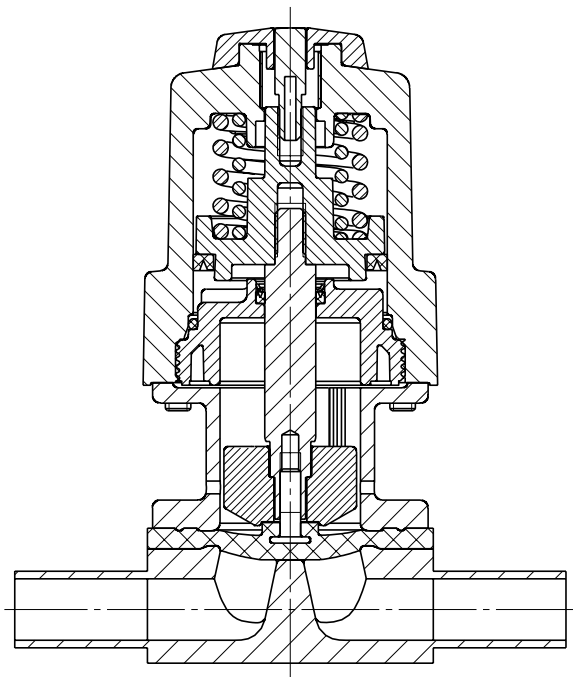
Advantages

- Hermetic separation between medium and actuator
- For sterile applications
- Optional flow direction
- Installation for an optimized draining is possible
- Optional accessories:
 - Stroke limiter
 - Electrical position indicators with microswitches or proximity switches

*see information on working medium on page 2



Sectional drawing



GEMÜ® 625

Technical data

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.

Temperatures

Media temperature

FPM (Code 4)	-10 ... 90 °C
EPDM (Code 13)	-10 ... 100 °C
EPDM (Code 17)	-10 ... 100 °C
PTFE (Code 52)	-10 ... 100 °C

Sterilisation temperature ⁽¹⁾

FPM (Code 4)	not applicable
EPDM (Code 13)	max. 150 °C ⁽²⁾ , max. 60 min per cycle
EPDM (Code 17)	max. 150 °C ⁽²⁾ , max. 180 min per cycle
PTFE (Code 52)	max. 150 °C ⁽²⁾ , no time limit per cycle

¹ The sterilisation temperature is valid for steam (saturated steam) or superheated water.

² If the sterilisation 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. This also applies to PTFE diaphragms exposed to high temperature fluctuations.

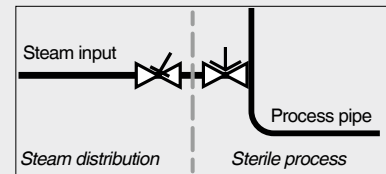
PTFE diaphragms can also be used as moisture barriers; however, this will reduce their service life.

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.



Ambient temperature

0 ... 60 °C

Control medium

Inert gases

Max. perm. temperature of control medium

40 °C

Filling volume

0.02 dm³

		Operating pressure	Control pressure [bar]		
Diaphragm size	DN	[bar]	Stf. 1	Stf. 2	Stf. 3
10	10 - 20	0 - 6	5 - 7	max. 5.5	max. 5.0

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.

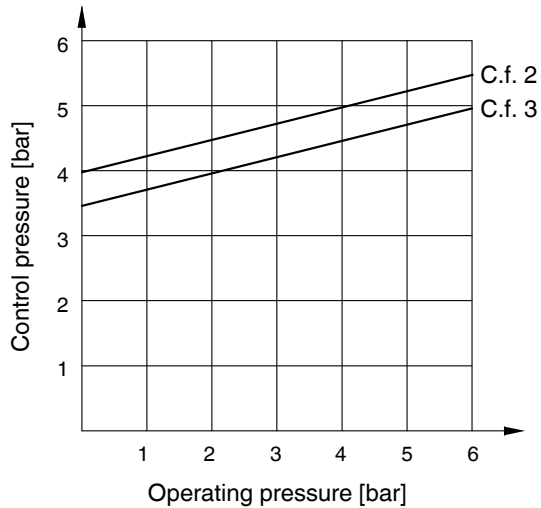
Kv values [m³/h]

Diaphragm size	DN	DIN	EN 10357 Series B	EN 10357 Series A	DIN 11850 Series 3	ASME BPE	ISO 1127 / EN 10357 Series C
		Code 0	Code 16	Code 17	Code 18	Code 59	Code 60
10	10	-	2.4	2.4	2.4	2.2	3.3
	15	3.3	3.8	3.8	3.8	2.2	4.0
	20	-	-	-	-	3.8	-

Kv values determined acc. to DIN EN 60534, inlet pressure 5 bar, Δp 1 bar, stainless steel valve body and soft elastomer diaphragm.

The Kv values for other product configurations (e.g. other diaphragm or body materials) may differ. In general, all diaphragms are subject to the influences of pressure, temperature, the process and their tightening torques. Therefore the Kv values may exceed the tolerance limits of the standard.

Control pressure / operating pressure diagram



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.

Order data

Body configuration	Code
Tank valve body	B**
2/2-way body	D
Multi-port design	M**
T body	T*
* For dimensions see T Valves brochure	
** Dimensions and versions on request	

Valve body material	Code
1.4435 - BN2 (CF3M), investment casting Fe<0.5%	32
1.4435 (ASTM A 351 CF3M, \triangle 316L), investment casting	34
1.4408, investment casting	37
1.4435 (316 L), forged body	40
1.4435 (BN2), forged body Fe<0.5%	42
1.4539, forged body	F4

Connection	Code
Butt weld spigots	
Spigots DIN	0
Spigots EN 10357 series B	16
Spigots EN 10357 series A	17
Spigots DIN 11850 series 3	18
Spigots DIN 11866 series A	1A
Spigots DIN 11866 series B	1B
Spigots JIS-G 3459	36
Spigots BS 4825 part 1	55
Spigots ASME BPE	59
Spigots ISO 1127 / EN 10357 series C	60
Spigots ANSI/ASME B36.19M Schedule 10s	63
Spigots ANSI/ASME B36.19M Schedule 40s	65
Threaded connections	
Threaded sockets DIN ISO 228	1
Threaded spigots DIN 11851	6
One side threaded spigot, other side cone spigot and union nut, DIN 11851	62
Aseptic unions on request	
Clamp connections	
Clamps ASME BPE for pipe ASME BPE, length ASME BPE	80
Clamps DIN 32676 series B for pipe EN ISO 1127, length EN 558, series 7	82
Clamp ASME BPE for pipe ASME BPE, length EN 558, series 7	88
Clamps DIN 32676 series A for pipe DIN 11850, length EN 558, series 7	8A
For overview of available valve bodies for GEMÜ 625 see page 8	

Diaphragm material	Code
FPM	4
EPDM	13
EPDM	17
PTFE/EPDM PTFE laminated	52
Material complies with FDA requirements, except codes 4	

Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3

Actuator size	Code
Standard version	1/N

Order data

Valve body surface finish, internal contour

	Hygienic class DIN 11866	Designation ASME BPE (2014)	Forged body Code 40, 42, F4	Investment casting Code 32, 34	Code
Ra ≤ 6,3 µm (250 µinch) for media wetted surfaces, blasted internal/external	-	-	-	X	1500
Ra ≤ 0,8 µm (30 µinch) for media wetted surfaces, mechanically polished internal	H3	SF3	X	X	1502
Ra ≤ 0,8 µm (30 µinch) for media wetted surfaces, electropolished internal/external	HE3	-	X	-	1503
Ra ≤ 0,6 µm (25 µinch) for media wetted surfaces, mechanically polished internal	-	SF2	X*	X*	1507
Ra ≤ 0,6 µm (25 µinch) for media wetted surfaces, electropolished internal/external	-	SF6	X*	-	1508
Ra ≤ 0,5 µm (20 µinch) for media wetted surfaces, mechanically polished internal	-	SF1	X*	-	1927
Ra ≤ 0,5 µm (20 µinch) for media wetted surfaces, electropolished internal/external	-	SF5	X*	-	1928
Ra ≤ 0,4 µm (15 µinch) for media wetted surfaces, mechanically polished internal	H4	-	X*	-	1536
Ra ≤ 0,4 µm (15 µinch) for media wetted surfaces, electropolished internal/external	HE4	-	X*	-	1537
Ra ≤ 0,4 µm (15 µinch) for media wetted surfaces, electropolished internal/external	-	SF4	X*	-	1929
Ra ≤ 0,25 µm (10 µinch) for media wetted surfaces, electropolished internal/external	HE5	-	X*	-	1516
Ra ≤ 0,25 µm (10 µinch) for media wetted surfaces, mechanically polished internal	H5	-	X*	-	1527

Ra acc. to DIN 4768; at defined reference points.

* For pipe inside diameter < 6 mm, the surface inside the spigot is Ra ≤ 0.8 µm.

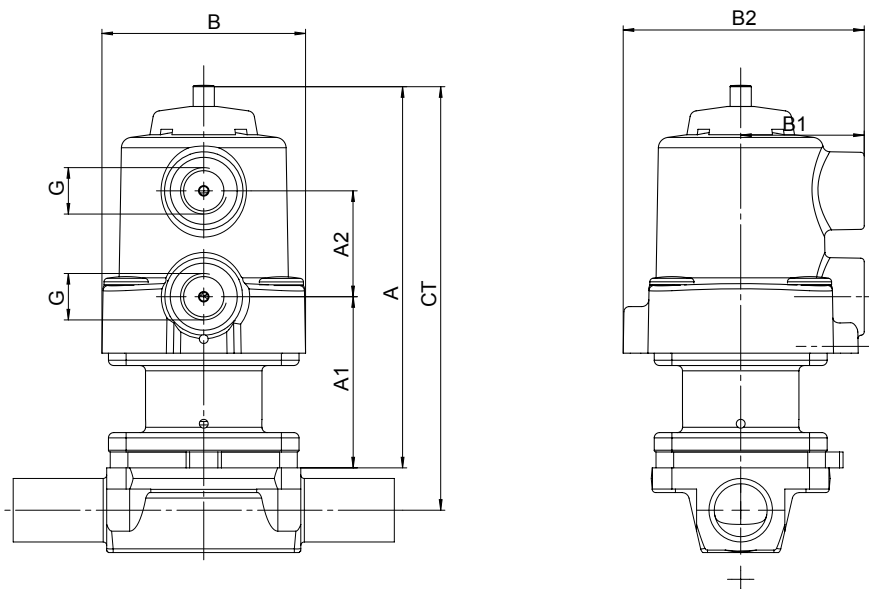
Order data

Special function	Code
3-A compliant design	M

Order example	625	15	D	60	34	52	1	1/N	1500	M
Type	625									
Nominal size		15								
Body configuration (code)			D							
Connection (code)				60						
Valve body material (code)					34					
Diaphragm material (code)						52				
Control function (code)							1			
Actuator size (code)								1/N		
Surface finish (code)									1500	
Special function (code)										M

Dimensions [mm]

Actuator dimensions								
Diaphragm size	A	A1	A2	B	B1	B2	G	Weight [kg]
10	110	49	30	57	35	68	G 1/4	0.45



* CT = A + H1 (see body dimensions)

Body dimensions [mm]

Butt weld spigots, connection code 0, 16, 17, 18 Valve body material: investment casting (code 34), forged body (code 40, F4)

								DIN Series 0 Code 0		EN 10357 Series B Code 16		EN 10357 Series A Code 17		DIN 11850 Series 3 Code 18		Weight [kg]
MG	DN	NPS	f*	øg*	L	c	H1	ød	s	ød	s	ød	s	ød	s	
10	10	3/8"	30	13.5	108	25	12.5	-	-	12	1.0	13	1.5	14	2.0	0.30
	15	1/2"	30	13.5	108	25	12.5	18	1.5	18	1.0	19	1.5	20	2.0	0.30

* only for investment cast design MG = diaphragm size For materials see overview on page 8

Butt weld spigots, connection code 1A, 1B, 60 Valve body material: investment casting (code 34), forged body (code 40, F4)

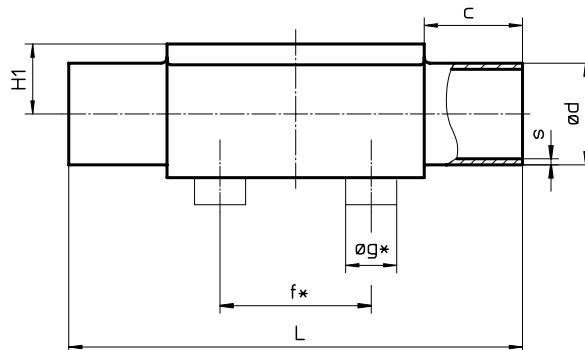
								DIN 11866 Series A Code 1A		DIN 11866 Series B Code 1B		ISO 1127 / EN 10357 Series C Code 60		Weight [kg]
MG	DN	NPS	f*	øg*	L	c	H1	ød	s	ød	s	ød	s	
10	10	3/8"	30	13.5	108	25	12.5	13	1.5	17.2	1.6	17.2	1.6	0.30
	15	1/2"	30	13.5	108	25	12.5	19	1.5	21.3	1.6	21.3	1.6	0.30

* only for investment cast design MG = diaphragm size For materials see overview on page 8

Butt weld spigots, connection code 36, 55, 59, 63, 65 Valve body material: investment casting (code 34), forged body (code 40, F4)

								JIS-G 3459 Code 36		BS 4825 Code 55		ASME BPE Code 59		ANSI/ASME B36.19M 10s Code 63		ANSI/ASME B36.19M 40s Code 65		Weight [kg]
MG	DN	NPS	f*	øg*	L	c	H1	ød	s	ød	s	ød	s	ød	s	ød	s	
10	10	3/8"	30	13.5	108	25	12.5	17.3	1.65	9.53	1.2	9.53	0.89	17.1	1.65	17.1	2.31	0.30
	15	1/2"	30	13.5	108	25	12.5	21.7	2.10	12.70	1.2	12.70	1.65	21.3	2.11	21.3	2.77	0.30
	20	3/4"	30	13.5	108	25	12.5	-	-	19.05	1.2	19.05	1.65	-	-	-	-	0.30

* only for investment cast design MG = diaphragm size For materials see overview on page 8

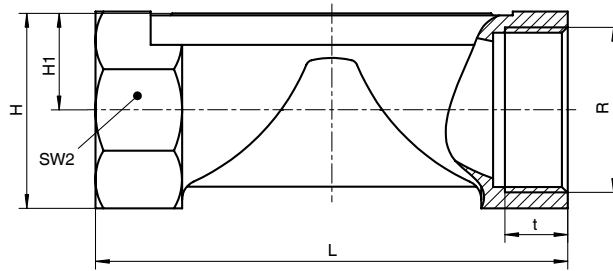


Body dimensions [mm]

Threaded sockets, connection code 1 Valve body material: investment casting (code 37)

MG	DN	R	H	H1	t	L	SW2	Number of flats	Weight [kg]
10	12	G 3/8	25	13	12	55	22	2	0.17
	15	G 1/2	30	15	15	68	27	2	0.26

MG = diaphragm size



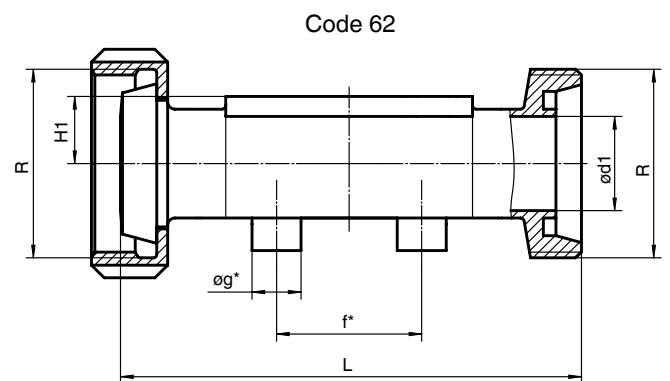
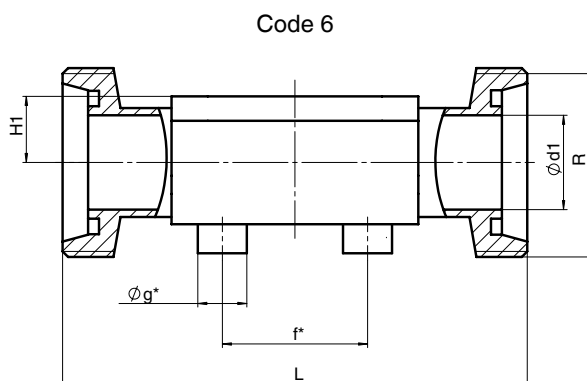
Threaded connections, connection code 6, 62 Valve body material: investment casting (code 34), forged body (code 40)

MG	DN	H1	f*	øg*	ød1	Thread to DIN 405 R	Code 6 L	Code 62 L	Weight [kg]
10	10	12.5	30.0	13.5	10.0	RD 28 x 1/8	118	116	0.33
	15	12.5	30.0	13.5	16.0	RD 34 x 1/8	118	116	0.35

* only for investment cast design

MG = diaphragm size

For materials see overview on page 8

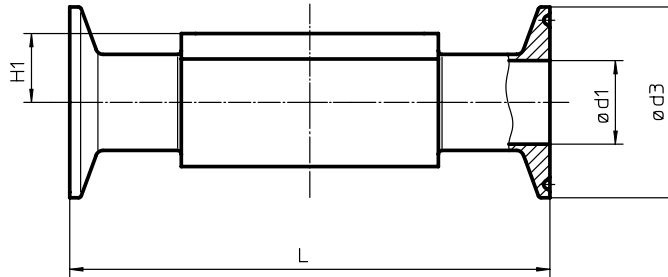


Body dimensions [mm]

Clamp connections, connection code 80, 82, 88, 8A Valve body material: forged body (code 40, F4)

				for pipe ASME BPE Code 80			for pipe EN ISO 1127 Code 82			for pipe ASME BPE Code 88			for pipe DIN 11850 Code 8A			Weight [kg]
MG	DN	NPS	H1	ød1	ød3	L	ød1	ød3	L	ød1	ød3	L	ød1	ød3	L	
10	10	3/8"	12.5	-	-	-	14.0	25.0	108	-	-	-	10	34.0	108	0.30
	15	1/2"	12.5	9.40	25.0	88.9	18.1	50.5	108	9.40	25.0	108	16	34.0	108	0.43
	20	3/4"	12.5	15.75	25.0	101.6	-	-	-	15.75	25.0	117	-	-	-	0.43

MG = diaphragm size



Overview of valve bodies for GEMÜ 625

		Threaded connections				Spigots														Clamps				
Connection code		1	6	62		0	16	17	18	1A	1B	36	55	59	60	63	65	80	82	88	8A			
Material code		37	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40		
MG	DN																							
10	10	-	W	W	W	W	-	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	12	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	15	X	W	W	W	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

X = Standard

K = Connections completely machined (not welded)

W = Welded construction

MG = diaphragm size

Availability of material code 32: same as code 34, availability of material code 42, F4: same as code 40

For further metal diaphragm valves, accessories and other products,
please see our Product Range catalogue and Price List.
Contact GEMÜ.

GEMÜ® VALVES, MEASUREMENT
AND CONTROL SYSTEMS

