GEMÜ®

Diaphragm Valve, Metal

Construction

The GEMÜ 605 pneumatically operated 2/2-way diaphragm valve has a low maintenance piston actuator which can be controlled by inert gases. The valve has an integrated optical position indicator. Normally Closed, Normally Open and Double Acting control functions are available.

Features

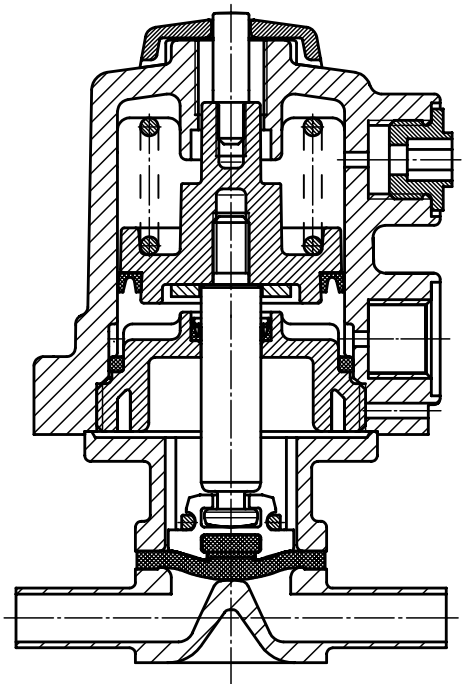
- Suitable for inert and corrosive* liquid and gaseous media
- Insensitive to particulate media
- Valve body and diaphragm available in various materials and designs
- Compact design (ideal when space is at a premium)
- CIP/SIP cleaning and sterilizing capabilities
- Versions according to ATEX on request

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® 605

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 4A)	-10 ... 90 °C
EPDM (Code 3A)	-10 ... 100 °C
EPDM (Code 17)	-10 ... 100 °C
PTFE (Code 5A)	-10 ... 100 °C
Sterilisation temperature	
FPM (Code 4A)	not applicable
EPDM (Code 3A)	150 °C, max. 60 min
EPDM (Code 17)	150 °C, max. 180 min
PTFE (Code 5A)	Constant temperature* 150 °C

The sterilisation temperature is valid for steam or superheated water
* The valves concerned must be serviced regulary if steam is applied continuously

Ambient temperature	0 ... 60 °C

Control medium

Inert gases	
Max. perm. temperature of control medium	40 °C
Filling volume	0.02 dm^3

	Operating pressure [bar]		Control pressure [bar]	
Diaphragm size	**EPDM / FPM**	**PTFE**	**C.f. 1**	**C.f. 2 + 3**
8	0 - 8	0 - 6	4 - 7	max. 4 bar (see diagram)

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.

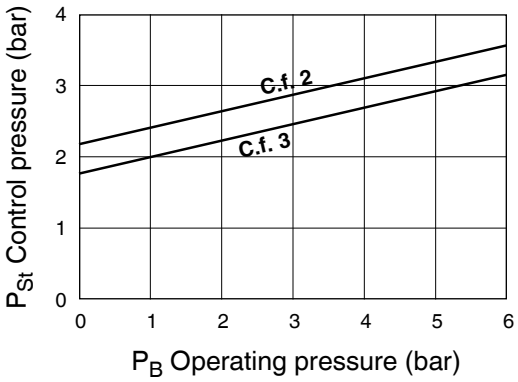
Kv values [m^3/h]

MG	DN	DIN Code 0	DIN 11850 Series 1 Code 16	DIN 11850 Series 2 Code 17	DIN 11850 Series 3 Code 18	ASME BPE Code 59	EN ISO 1127 Code 60
8	4	0.5	-	-	-	-	-
	6	1.1	-	-	-	-	1.2
	8	1.3	-	-	-	0.6	2.2
	10	-	2.1	2.1	2.1	1.3	-
	15	-	-	-	-	2.0	-

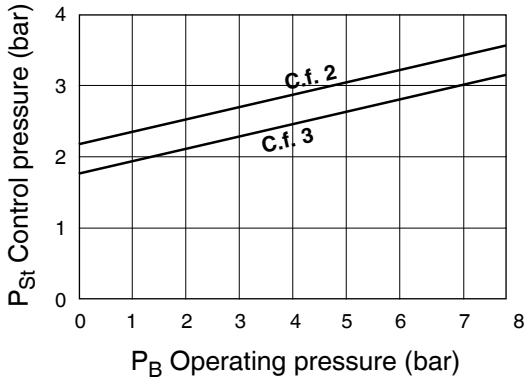
Kv values determined acc. to IEC 534 standard, inlet pressure 6 bar, Δ p 1 bar, stainless steel valve body and soft elastomer diaphragm.
MG = diaphragm size

Control pressure / operating pressure diagram

Diaphragm material PTFE



Diaphragm material EPDM /FPM



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	

Connection	Code
Butt weld spigots	
Spigots DIN	0
Spigots DIN 11850, series 1	16
Spigots DIN 11850, series 2	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 (O.D. Tubing)	55
Spigots ASME BPE	59
Spigots EN ISO 1127	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
Clamp DIN 32676 series B for pipe EN ISO 1127, length EN 558, series 7	82
Clamps 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

Valve body material	Code
1.4435 - BN2 (CF3M), investment casting Fe<0.5%	32
1.4435 (ASTM A 351 CF3M ≙ 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

Diaphragm material		Code
FPM		4A
EPDM		3A
EPDM		17
PTFE/EPDM	PTFE laminated	5A
Material complies with FDA requirements, except codes 4A		

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

Actuator size	Code
Diaphragm size 8	0/N

Surface finish	Code
See top of page 4	

For further order data see page 4

Order data

Valve body surface finish, internal contour				
		Forged body Code 40, 42	Investment casting Code 32, 34	Code
Ra ≤ 6.3 µm	blasted internal/external	-	X	1500
Ra ≤ 6.3 µm	optical electropolishing	-	X	1509
Ra ≤ 0.8 µm	mechanically polished internal, blasted external	X	X	1502
Ra ≤ 0.8 µm	electropolished internal/external	X	-	1503
Ra ≤ 0.6 µm	mechanically polished internal, blasted external	X	X	1507
Ra ≤ 0.6 µm	electropolished internal/external	X	-	1508
Ra ≤ 0.4 µm	mechanically polished internal, blasted external	X	-	1536
Ra ≤ 0.4 µm	electropolished internal/external	X	-	1537
Ra ≤ 0.25 µm	mechanically polished internal, blasted external	X	-	1527
Ra ≤ 0.25 µm	electropolished internal/external	X	-	1516

Ra acc. to DIN 4768; at defined reference points Surface finish data refer to medium wetted surfaces

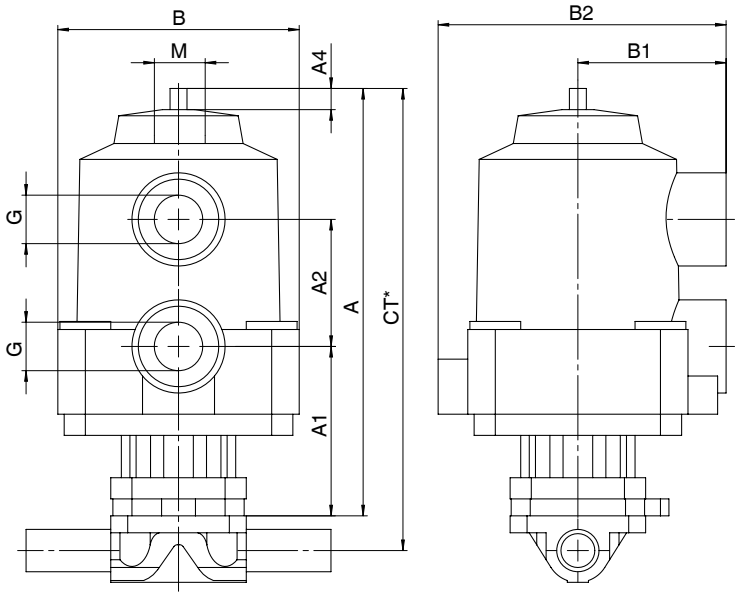
Special function	Code
3-A compliant design	M

Order example	605	8	D	60	34	3A	1	0/N	1500	M
Type	605									
Nominal size		8								
Body configuration (code)			D							
Connection (code)				60						
Valve body material (code)					34					
Diaphragm material (code)						3A				
Control function (code)							1			
Actuator size (code)								0/N		
Surface finish (code)									1500	
Special function (code)										M

Dimensions [mm]

Actuator dimensions										
MG	**A**	**A1**	**A2**	**B**	**B1**	**B2**	**A4**	**G**	**M**	**Weight [kg]**
8	100	39	30	57	35	68	4	G 1/4	M12x1	0.30

MG = diaphragm size

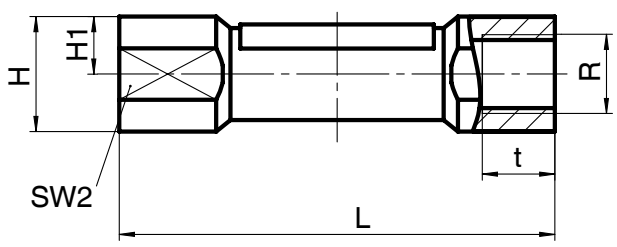


* CT = A + H1
(see body dimensions)

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]**
8	8	G1/4	19	9	11	72	18	6	0.09

MG = diaphragm size



Body dimensions [mm]

Butt weld spigots, connection code 0, 16, 17, 18, 1A, 1B, 60
Valve body material: investment casting (code 34), forged body (code 40)

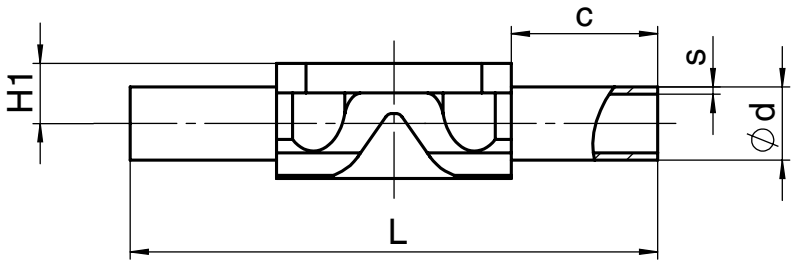
						DIN Series 0 Code 0		DIN 11850 Series 1 Code 16		DIN 11850 Series 2 Code 17		DIN 11850 Series 3 Code 18		DIN 11866 Series A Code 1A		DIN 11866 Series B Code 1B		EN ISO 1127 Code 60		Weight [kg]
MG	DN	NPS	L	C	H1	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	
	4	-	72	20	8.5	6	1.0	-	-	-	-	-	-	-	-	-	-	-	-	0.09
	6	-	72	20	8.5	8	1.0	-	-	-	-	-	-	8	1.0	10.2	1.6	10.2	1.6	0.09
8	8	1/4”	72	20	8.5	10	1.0	-	-	-	-	-	-	10	1.0	13.5	1.6	13.5	1.6	0.09
	10	3/8”	72	20	8.5	-	-	12	1.0	13	1.5	14	2.0	13	1.5	-	-	-	-	0.09
	15	1/2”	72	20	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.09

MG = diaphragm size For materials see overview on last page

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

						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	L	C	H1	ød	s	ød	s	ød	s	ød	s	ød	s	
	4	-	72	20	8.5	-	-	-	-	-	-	-	-	-	-	0.09
	6	-	72	20	8.5	10.5	1.20	-	-	-	-	10.3	1.24	10.3	1.73	0.09
8	8	1/4”	72	20	8.5	13.8	1.65	6.35	1.2	6.35	0.89	13.7	1.65	13.7	2.24	0.09
	10	3/8”	72	20	8.5	-	-	9.53	1.2	9.53	0.89	-	-	-	-	0.09
	15	1/2”	72	20	8.5	-	-	12.70	1.2	12.70	1.65	-	-	-	-	0.09

MG = diaphragm size For materials see overview on last page

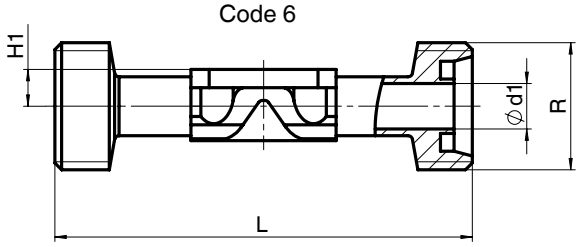


Threaded connections, connection code 6, 62
Valve body material: investment casting (code 34), forged body (code 40)

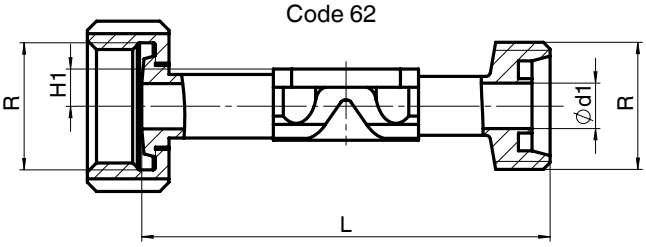
MG	DN	H1	ød1	Thread to DIN 405 R	Code 6 L	Code 62 L	Weight [kg]
8	10	8.5	10	Rd 28 x 1/8	92	90	0.21

For materials see overview on last page MG = diaphragm size

Code 6



Code 62

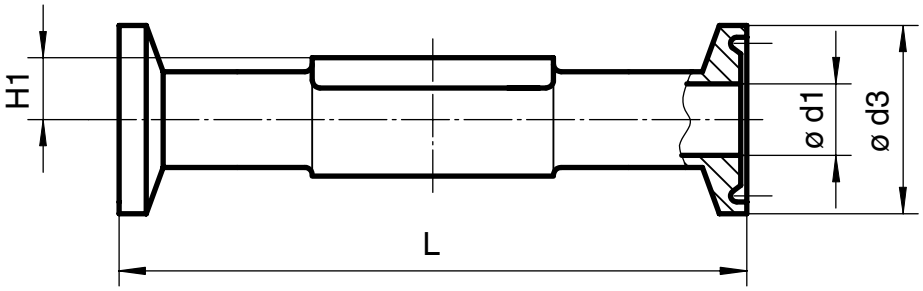


Body dimensions [mm]

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

				für pipe ASME BPE Code 80			für pipe EN ISO 1127 Code 82			für pipe ASME BPE Code 88			für pipe DIN 11850 Code 8A			Weight [kg]
MG	DN	NPS	H1	ød1	ød3	L	ød1	ød3	L	ød1	ød3	L	ød1	ød3	L	
8	6	1/8”	8.5	-	-	-	7.0	25.0	63.5	-	-	-	6	25.0	63.5	-
	8	1/4”	8.5	4.57	25	63.5	10.3	25.0	63.5	-	-	-	8	25.0	63.5	0.15
	10	3/8”	8.5	7.75	25	63.5	-	-	-	-	-	-	10	34.0	88.9	0.18
	15	1/2”	8.5	9.40	25	63.5	-	-	-	9.40	25.0	108	-	-	-	0.18

MG = diaphragm size



Overview of valve bodies for GEMÜ 605

		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	40	40	40	34	40	34	40	34	40	40	40	40	40	40	40
MG	DN																												
8	4	-	-	-	-	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6	-	-	-	-	-	X	X	-	-	-	-	-	-	X	X	X	-	-	-	-	-	-	X	X	X	-	K	-	K
	8	X	-	-	-	-	X	X	-	-	-	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X	K	K	-	K
	10	-	W	W	W	W	-	-	X	X	X	X	X	X	X	X	-	X	X	X	X	-	-	-	-	K	-	-	W
	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	-	-	-	-	K	-	W	-

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: 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

TÜVRheinland® CERT ISO 9001

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