GEMÜ®

Diaphragm Valve, Metal

Construction

The GEMÜ 635 pneumatically operated 2/2-way diaphragm valve has a low maintenance piston actuator which can be controlled by inert gaseous media. An optical position indicator is integrated as standard. Normally Closed, Normally Open and Double Acting control functions are available.

Features

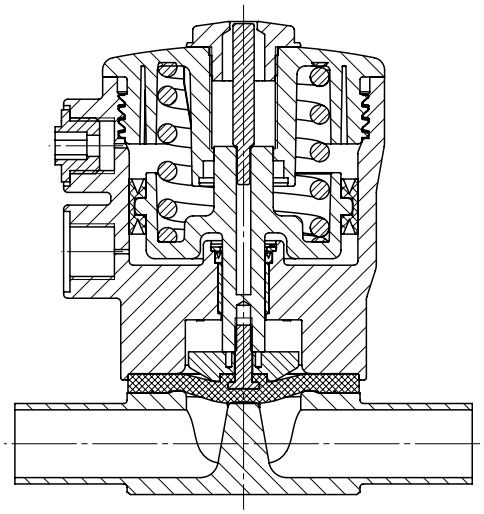
- Suitable for inert and corrosive* liquid and gaseous media
- Valve body and diaphragm available in various materials and designs
- Connection for pilot valves to NAMUR (except actuator size 1/N)
- Control connection positioned in-line with flow direction as standard, thus installable in extremely restricted spaces
- Versions according to ATEX on request

Advantages

- Compact design
- Optional accessories:
  - Electrical position indicator
  - Electrical position indicator with microswitches or proximity switches
  - Pneumatic or electro-pneumatic positioner

*see information on working medium on page 2

Sectional drawing



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.

The valve will seal in both flow directions up to full operating pressure (gauge pressure).

Control medium

Min. required control pressure	see table below
Max. permiss. control pressure	6 bar
Max. permissible temperature of control medium	40 °C
Filling volume: Actuator size 1/N	0.02 dm^3

Temperatures

Medium temperature (dependent on medium wetted materials)	-10 ... 80 °C

			Operating pressure [bar]		Control pressure [bar]
Actuator Code	**MG**	**DN**	**EPDM / FKM**	**PTFE**	
1/N	10	10 - 20	0 - 10	0 - 6	3.2 - 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.

Kv values [m^3/h]

Pipe standard		**DIN**	**EN 10357 series B (formerly DIN 11850 series 1)**	**EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A**	**DIN 11850 Series 3**	**ASME BPE / DIN 11866 series C**	**ISO 1127 / EN 10357 series C / DIN 11866 series B**
Connection code		**0**	**16**	**17**	**18**	**59**	**60**
MG	**DN**						
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	-

MG = diaphragm size
Kv values determined acc. to DIN EN 60534, inlet pressure 5 bar, Δp 1 bar, stainless steel valve body (forged 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.

The Kv value curve (Kv value dependent on valve stroke) can vary depending on the diaphragm material and duration of use.

Order data

Body configuration	Code
2/2-way body	D

Connection	Code
Butt weld spigots	
Spigots DIN	0
Spigots EN 10357 series B (formerly DIN 11850 series 1)	16
Spigot EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A	17
Spigots DIN 11850 series 3	18
Spigots JIS-G 3459	36
Spigots BS 4825 Part 1	55
Spigot ASME BPE / DIN 11866 series C	59
Spigot ISO 1127 / EN 10357 series C / DIN 11866 series B	60
Spigots ANSI/ASME B36.19M Schedule 10s	63
Spigots ANSI/ASME B36.19M Schedule 5s	64
Spigots ANSI/ASME B36.19M Schedule 40s	65
Threaded connections	
Threaded sockets DIN ISO 228	1
For overview of available valve bodies see page 8	

Valve body material	Code
1.4435, investment casting	C3
1.4408, investment casting	37
1.4435 (316 L), forged body	40
1.4435 (BN2), forged body Δ Fe<0,5%	42
1.4539, forged body	F4

Diaphragm material	Code
FKM	4
EPDM	13
EPDM	17
EPDM	19
EPDM	36
PTFE / EPDM, one-piece	54

Control function	Code
Normally closed (NC)	1

Actuator size	Code
Piston ø 54	1/N

Surface finish	Code
Code see page 4	

Order example	635	15	D	60	C3	13	1	2/N	1500
Type	635								
Nominal size		15							
Body configuration (code)			D						
Connection (code)				60					
Valve body material (code)					C3				
Diaphragm material (code)						13			
Control function (code)							1		
Actuator size (code)								2/N	
Surface finish (code see page 4)									1500

Order data

Internal surface finishes for forged and block material bodies [1]

Readings for Process Contact Surfaces	Mechanically polished [2]		Electropolished	
	Hygienic class DIN 11866	Code	Hygienic class DIN 11866	Code
Ra ≤ 0.80 µm	H3	1502	HE3	1503
Ra ≤ 0.60 µm	-	1507	-	1508
Ra ≤ 0.40 µm	H4	1536	HE4	1537
Ra ≤ 0.25 µm [3]	H5	1527	HE5	1516

Readings for Process Contact Surfaces acc. to ASME BPE 2016 [4]	Mechanically polished [2]		Electropolished	
	ASME BPE Surface Designation	Code	ASME BPE Surface Designation	Code
Ra Max. = 0.76 µm (30 µinch)	SF3	SF3	-	-
Ra Max. = 0.64 µm (25 µinch)	SF2	SF2	SF6	SF6
Ra Max. = 0.51 µm (20 µinch)	SF1	SF1	SF5	SF5
Ra Max. = 0.38 µm (15 µinch)	-	-	SF4	SF4

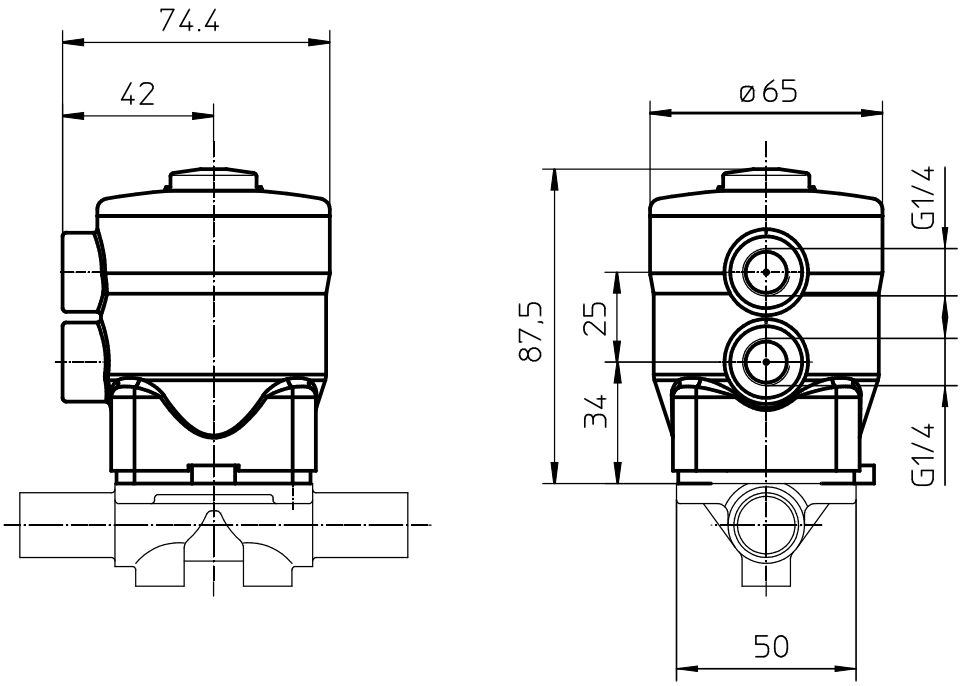
Internal surface finishes for investment cast bodies

Readings for Process Contact Surfaces	Mechanically polished [2]	
	Hygienic class DIN 11866	Code
Ra ≤ 6.30 µm	-	1500
Ra ≤ 0.80 µm	H3	1502
Ra ≤ 0.60 µm [5]	-	1507

[1] Surface finishes of customized valve bodies may be limited in special cases.
[2] Or any other finishing method that meets the Ra value (acc. to ASME BPE).
[3] The smallest possible Ra finish for pipe connections with an internal pipe diameter < 6 mm is 0.38 µm.
[4] When using these surfaces, the bodies are marked according to the specifications of ASME BPE.
The surfaces are only available for valve bodies which are made of materials (e.g. GEMÜ material codes 40, 41, F4, 44) and use connections (e.g. GEMÜ connection codes 59, 80, 88) according to ASME BPE.
[5] Not possible for GEMÜ connection code 59, DN 8 and GEMÜ connection code 0, DN 4.

Ra acc. to DIN EN ISO 4288 and ASME B46.1

Dimensions [mm]



Body dimensions [mm]

Butt weld spigots, connection code 0, 16, 17, 18
Valve body material: Investment casting (code C3), forged body (code 40, F4)

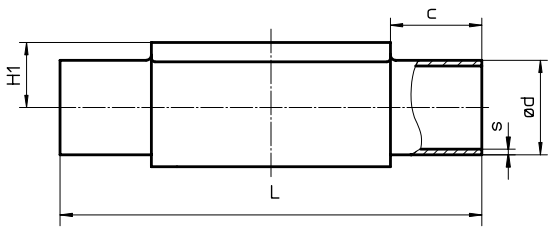
Pipe standard						DIN		EN 10357 series B (formerly DIN 11850 series 1)		EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A		DIN 11850 Series 3		Weight [kg]
Connection code						0		16		17		18		
MG	DN	NPS	L	c	H1	ød	s	ød	s	ød	s	ød	s	
10	10	3/8”	108	25	12.5	-	-	12	1.0	13	1.5	14	2.0	0.30
	15	1/2”	108	25	12.5	18	1.5	18	1.0	19	1.5	20	2.0	0.30

MG = diaphragm size For materials see overview on page 8

Butt weld spigots, connection code 60
Valve body material: Investment casting (code C3), forged body (code 40, F4)

Pipe standard						ISO 1127 / EN 10357 series C / DIN 11866 series B		Weight [kg]
Connection code						60		
MG	DN	NPS	L	c	H1	ød	s	
10	10	3/8”	108	25	12.5	17.2	1.6	0.30
	15	1/2”	108	25	12.5	21.3	1.6	0.30

MG = diaphragm size For materials see overview on page 8



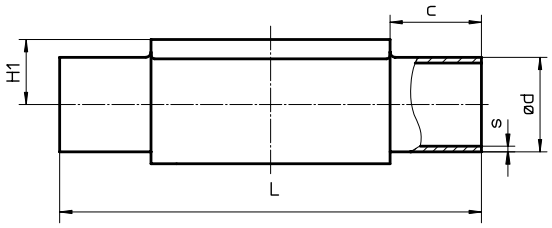
Body dimensions [mm]

Butt weld spigots, connection code 36 Valve body material: Investment casting (code C3), forged body (code 40, F4)								
Pipe standard						JIS-G 3459		Weight [kg]
Connection code						36		
MG	DN	NPS	L	c	H1	ød	s	
10	10	3/8”	108	25	12.5	17.3	1.65	0.30
	15	1/2”	108	25	12.5	21.7	2.10	0.30

MG = diaphragm size For materials see overview on page 8

Butt weld spigots, connection code 55, 59, 63, 64, 65 Valve body material: Investment casting (code C3), forged body (code 40, F4)																	
Pipe standard							BS 4825 Part 1		ASME BPE / DIN 11866 series C		ANSI/ASME B36.19M Schedule 10s		ANSI/ASME B36.19M Schedule 5s		ANSI/ASME B36.19M Schedule 40s		Weight [kg]
Connection code							55		59		63		64		65		
MG	DN	NPS	L	c	H1*	H1**	ød	s	ød	s	ød	s	ød	s	ød	s	
10	10	3/8”	108	25	-	12.5	9.53	1.2	9.53	0.89	17.1	1.65	-	-	17.1	2.31	0.30
	15	1/2”	108	25	-	12.5	12.70	1.2	12.70	1.65	21.3	2.11	21.3	1,65	21.3	2.77	0.30
	20	3/4”	108	25	12.5	12.5	19.05	1.2	19.05	1.65	-	-	-	-	-	-	0.30

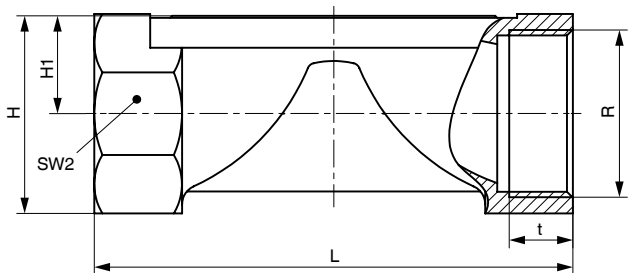
* only for investment cast design ** only for forged design MG = diaphragm size
For materials see overview on page 8



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	6	0.17
	15	G 1/2	30	15	15	68	27	2	0.26

MG = Diaphragm size



Overview of valve bodies for GEMÜ 635																
		Threaded connections	**Spigots**													
Connection code		**1**	**0**	**16**	**17**		**18**	**36**	**55**	**59**		**60**		**63**	**64**	**65**
Material code		**37**	**40**	**40**	**C3**	**40**	**40**	**40**	**40**	**C3**	**40**	**C3**	**40**	**40**	**40**	**40**
MG	**DN**															
10	10	-	-	X	X	X	X	X	X	-	X	X	X	X	-	X
	12	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	15	X	X	X	X	X	X	X	X	-	X	X	X	X	X	X
	20	-	-	-	-	-	-	-	X	X	X	-	-	-	-	-

Availability of material code 42, F4: same as code 40 MG = diaphragm size

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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