

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)
- 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

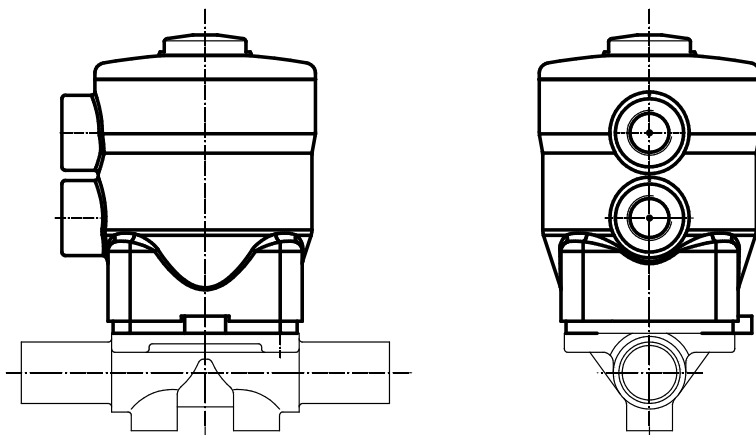


Actuator size code 1



Actuator size code 2 - 4

Actuator code 1



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).

Max. operating temperature (dependent on medium wetted materials) 80° C

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 0.02 dm³

Actuator size 2 0.25 dm³

Actuator size 3 0.50 dm³

Actuator size 4 0.80 dm³

Actuator Code	MG	DN	Control function 1			Control function 2 and 3		
			Operating pressure [bar]		Control pressure [bar]	Operating pressure [bar]		Control pressure [bar]
			EPDM/FPM	PTFE		EPDM/FPM	PTFE	
1	10	10	0 - 10	0 - 6	3.2 - 6	-	-	-
1		12						
1		15						
1		20						
2	25	15	0 - 10	0 - 6	4.0 - 6	0 - 10	0 - 6	max. 6
2		20						
2		25						
3	40	32	0 - 10	0 - 6	4.0 - 6	0 - 10	0 - 6	max. 6
3		40						
4	50	50	0 - 10	0 - 6	5.0 - 6	0 - 10	0 - 6	max. 6

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. MG = diaphragm size

Kv values [m³/h]

MG	DN	DIN Code 0	DIN 11850 Series 1 Code 16	DIN 11850 Series 2 Code 17	DIN 11850 Series 3 Code 18	SMS 3008 Code 37	ASME BPE Code 59	EN ISO 1127 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	-
25	15	4.1	4.7	4.7	4.7	-	-	7.4
	20	6.3	7.0	7.0	7.0	-	4.4	13.2
	25	13.9	15.0	15.0	15.0	12.6	12.2	16.2
40	32	25.3	27.0	27.0	27.0	26.2	-	30.0
	40	29.3	30.9	30.9	30.9	30.2	29.5	32.8
50	50	46.5	48.4	48.4	48.4	51.7	50.6	55.2

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

Diaphragm temperature range [°C]

Diaphragm	Liquid Media		Code
	Min.	Max.	
EPDM	-10	80	13
PTFE	-10	80	52
PTFE	-10	80	5E
FPM	-10	80	4
PTFE	-10	80	5F

Order data

Body configuration	Code
2/2-way body	D

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 3447	35
Spigots JIS-G 3459	36
Spigots SMS 3008	37
Spigots BS 4825 Part 1	55
Spigots ASME BPE	59
Spigots to 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

Valve body material	Code
1.4435 (ASTM A 351 CF3M \triangle 316L), investment casting	34
1.4408, investment casting	37
1.4435 (316 L), forged body	40

Diaphragm material		Code	
FPM			4
EPDM			13
PTFE / EPDM	PTFE laminated	MG 10	52
PTFE / EPDM convex	PTFE loose	MG 25 - 50	5E
PTFE / FPM convex	PTFE loose	MG 25 - 50	5F
MG = diaphragm size			

Control function		Code	
Normally closed	(NC)	MG 10 - 50	1
Normally open	(NO)	MG 25 - 50	2
(actuator size code 2, 3, 4)			
Double acting	(DA)	MG 50	3
(actuator size code 4)			
MG = diaphragm size			

Actuator size		Code	
Piston \varnothing 54	diaphragm size 10		1/N
Piston \varnothing 85	diaphragm size 25		2/N
Piston \varnothing 105	diaphragm size 40		3/N
Piston \varnothing 125	diaphragm size 50		4/N

Valve body surface finish, internal contour

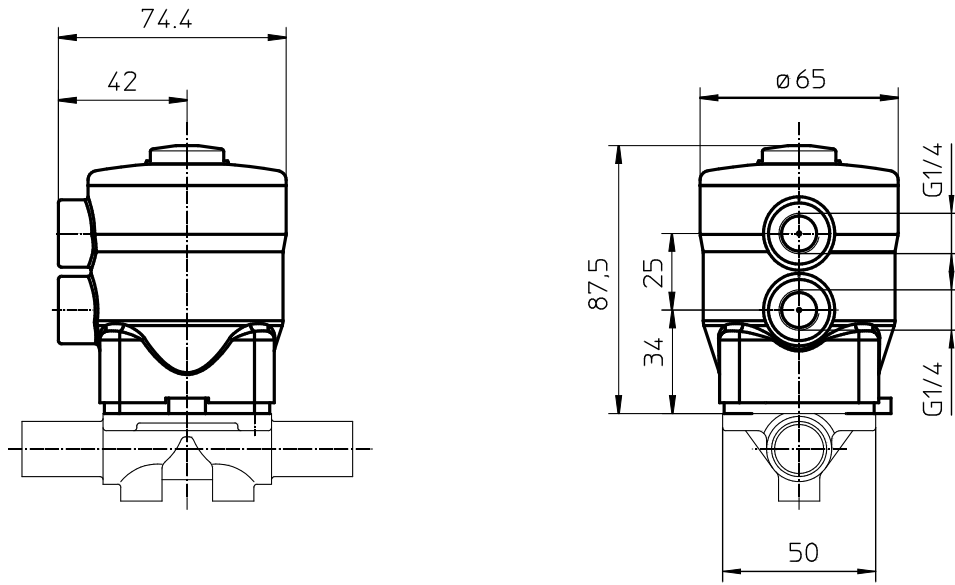
		Forged body Code 40, 42	Investment casting Code 32, 34	Code
Ra \leq 6,3 μ m	blasted internal/external	-	X	1500
--	electropolished	-	X	1509
Ra \leq 0,8 μ m	mechanically polished internal, blasted external	X	X	1502
Ra \leq 0,8 μ m	electropolished internal/external	X	-	1503
Ra \leq 0,6 μ m	mechanically polished internal, blasted external	X	X	1507
Ra \leq 0,6 μ m	electropolished internal/external	X	-	1508
Ra \leq 0,4 μ m	mechanically polished internal, blasted external	X	-	1536
Ra \leq 0,4 μ m	electropolished internal/external	X	-	1537
Ra \leq 0,25 μ m	mechanically polished internal, blasted external	X	-	1527
Ra \leq 0,25 μ m	electropolished internal/external	X	-	1516

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

Order example	635	15	D	60	34	13	1	2/N	1500
Type	635								
Nominal size		15							
Body configuration (code)			D						
Connection (code)				60					
Valve body material (code)					34				
Diaphragm material (code)						13			
Control function (code)							1		
Actuator size (code)								2/N	
Surface finish (code)									1500

Dimensions [mm]

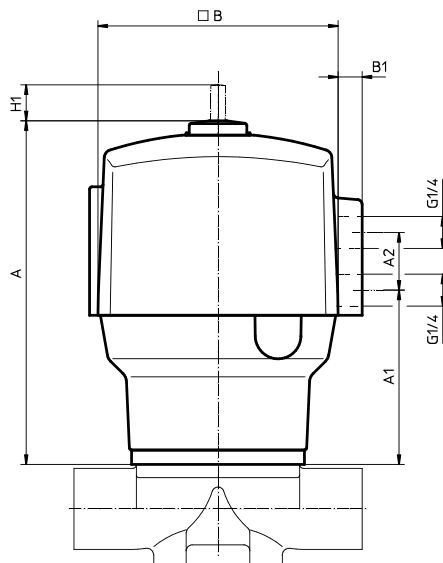
Actuator dimensions code 1



Actuator dimensions code 2 - 4

Actuator size	MG	□ B	B1	A	A1	A2	H1
Code 2	25	100	11	122	73	24	9
Code 3	40	125	9	173	93	65	13
Code 4	50	150	8	211	110	65	18

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)

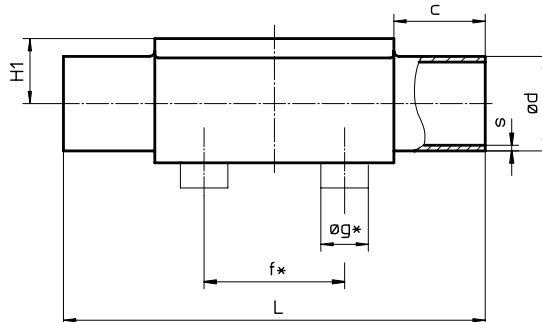
MG	DN	NPS	f*	øg*	L	c	H1*	H1**	DIN Series 0 Code 0		DIN 11850 Series 1 Code 16		DIN 11850 Series 2 Code 17		DIN 11850 Series 3 Code 18		DIN 11866 Series A Code 1A		DIN 11866 Series B Code 1B		EN ISO 1127 Code 60		Weight [kg]
									ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	
10	10	3/8"	30	13.5	108	25	12.5		-	-	12	1.0	13	1.5	14	2.0	13	1.5	17.2	1.6	17.2	1.6	0.30
	15	1/2"	30	13.5	108	25	12.5		18	1.5	18	1.0	19	1.5	20	2.0	19	1.5	21.3	1.6	21.3	1.6	0.30
	20	3/4"	30	13.5	108	25	12.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.30
25	15	1/2"	40	13.5	120	25	13.0	19.0	18	1.5	18	1.0	19	1.5	20	2.0	19	1.5	21.3	1.6	21.3	1.6	0.62
	20	3/4"	40	13.5	120	25	16.0	19.0	22	1.5	22	1.0	23	1.5	24	2.0	23	1.5	26.9	1.6	26.9	1.6	0.58
	25	1"	40	13.5	120	25	19.0	19.0	28	1.5	28	1.0	29	1.5	30	2.0	29	1.5	33.7	2.0	33.7	2.0	0.55
40	32	1 1/4"	68	13.5	153	25	24.0	26.0	34	1.5	34	1.0	35	1.5	36	2.0	35	1.5	42.4	2.0	42.4	2.0	1.45
	40	1 1/2"	75	13.5	153	25	26.0	26.0	40	1.5	40	1.0	41	1.5	42	2.0	41	1.5	48.3	2.0	48.3	2.0	1.32
50	50	2"	90	13.5	173	30	32.0	32.0	52	1.5	52	1.0	53	1.5	54	2.0	53	1.5	60.3	2.0	60.3	2.0	2.25

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

Butt weld spigots, connection code 35, 36, 37, 55, 59, 63, 65 Valve body material: Investment casting (code 34), forged body (code 40)

MG	DN	NPS	f*	øg*	L	c	H1*	H1**	JIS-G 3447 Code 35		JIS-G 3459 Code 36		SMS 3008 Code 37		BS 4825 Code 55		ASME BPE Code 59		ANSI/ASME B36.19M 10s Code 63		ANSI/ASME B36.19M 40s Code 65		Weight [kg]
									ød	s	ød	s	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
25	15	1/2"	40	13.5	120	25	13.0	19.0	-	-	21.7	2.10	-	-	-	-	-	-	21.3	2.11	21.3	2.77	0.62
	20	3/4"	40	13.5	120	25	16.0	19.0	-	-	27.2	2.10	-	-	19.05	1.2	19.05	1.65	26.7	2.11	26.7	2.87	0.58
	25	1"	40	13.5	120	25	19.0	19.0	25.4	1.2	34.0	2.80	25.0	1.2	-	-	25.40	1.65	33.4	2.77	33.4	3.38	0.55
40	32	1 1/4"	68	13.5	153	25	24.0	26.0	31.8	1.2	42.7	2.80	33.7	1.2	-	-	-	-	42.2	2.77	42.2	3.56	1.45
	40	1 1/2"	75	13.5	153	25	26.0	26.0	38.1	1.2	48.6	2.80	38.0	1.2	-	-	38.10	1.65	48.3	2.77	48.3	3.68	1.32
50	50	2"	90	13.5	173	30	32.0	32.0	50.8	1.5	60.5	2.80	51.0	1.2	-	-	50.80	1.65	60.3	2.77	60.3	3.91	2.25

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



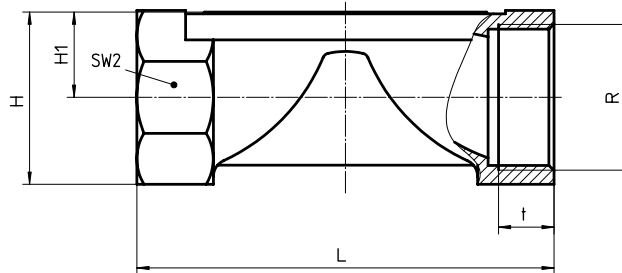
Body dimensions [mm]

Threaded sockets, connection code 1 Valve body material: investment casting (code 34, 37)

MG	DN	R	H	H1	t	L	SW2	Number of flats	Weight [kg]
10	12	G 3/8	23	10.5	13	55	22	2	0.17
	15	G 1/2	29	13.5	15	68	24	2	0.26
25	15	G 1/2	30	16.0	9	85	27	6	0.32
	20	G 3/4	33	17.0	10	85	32	6	0.34
	25	G 1	37	17.0	13	110	41	6	0.39
40	32	G 1 1/4	50	25.0	16	120	50	8	0.88
	40	G 1 1/2	52	25.0	18	140	55	8	0.93
50	50	G 2	69	34.0	18	165	70	8	1.56

MG = Diaphragm size

For materials see overview on last page



Overview of valve bodies for GEMÜ 635

Connection code		1	1	0	16	17	18	35	36	37	55	59	60
MG	DN	Material code 34	Material code 37										
10	10	-	-	-	X	X	X	-	Y	-	Y	Y	X
	12	X	-	-	-	-	-	-	-	-	-	-	-
	15	X	-	X	X	X	X	-	Y	-	X	Y	X
	20	-	-	-	-	-	-	-	-	-	X	X	-
25	15	-	X	X	X	X	X	-	Y	-	X	X	X
	20	-	X	X	X	X	X	-	Y	-	X	X	X
	25	-	X	X	X	X	X	X	Y	X	-	X	X
40	32	-	X	X	X	X	X	X	Y	X	-	-	X
	40	-	X	X	X	X	X	X	Y	X	-	X	X
50	50	-	X	X	X	X	X	X	Y	X	-	X	X

X = Spigot body in material code 34 and 40

Y = Spigot body in material 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

