

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 gases.

An optical position indicator is integrated as standard.

Normally Closed, Normally Open and Double Acting control functions are available.

Features

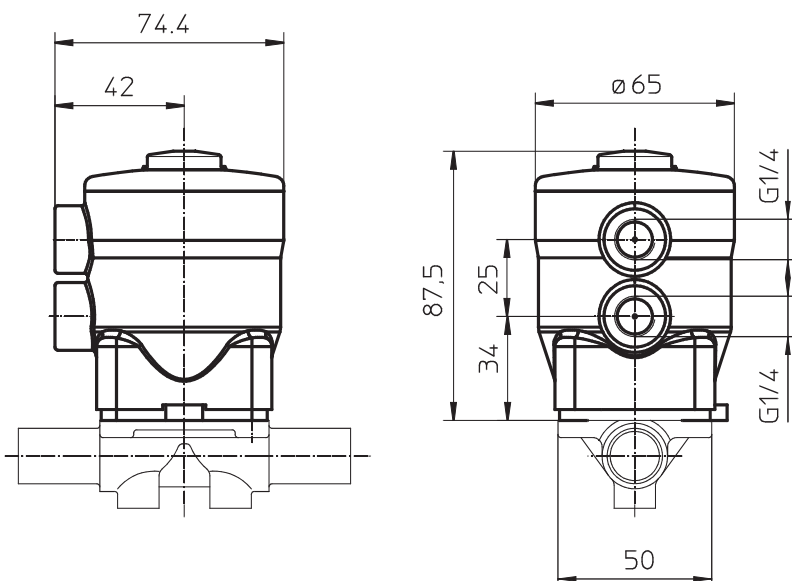
- Suitable for inert and corrosive* liquid and gaseous media
- Valve body and diaphragm are available in various materials
- Connection for pilot valves according to NAMUR (except size 1)
- Control connection in flow direction as standard, therefore installation in restricted spaces possible

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

Dimensions - Actuator size Code 1, DN 10-20 [mm]



Actuator size Code 1



Actuator size Code 2-4

For dimensions of actuator sizes Code 2-4 see page 2.

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 materials.

The valve will seal against flow in either direction up to full working pressure (gauge pressure).

Working temperature max. 80°C
(depending on medium wetted materials)

Filling volume

Actuator size 1	0.02 litre
Actuator size 2	0.25 litre
Actuator size 3	0.50 litre
Actuator size 4	0.80 litre

Control medium

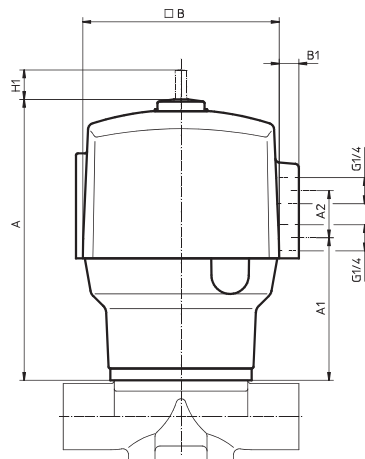
Min. required control pressure	see table below
Max. permissible control pressure	6 bar
Max. permissible temperature of control medium	40°C

Actuator Code	Diaphragm size	DN	Control function 1			Control functions 2 and 3			K _v value * [m ³ /h]
			Work.pressure EPDM / FPM	Work.pressure PTFE	Control pressure	Work.pressure EPDM / FPM	Work.pressure PTFE	Control pressure	
1	10	10	0 - 10 bar	0 - 6 bar	3.2 - 6 bar	-	-	-	3.9
1		12							-
1		15							5.3
1		20							-
2	25	15	0 - 10 bar	0 - 6 bar	4.0 - 6 bar	0 - 10 bar	0 - 6 bar	max. 6 bar	11.0
2		20							12.5
2		25							21.0
3	40	32	0 - 10 bar	0 - 6 bar	4.0 - 6 bar	0 - 10 bar	0 - 6 bar	max. 6 bar	43.0
3		40							50.0
4	50	50	0 - 10 bar	0 - 6 bar	5.0 - 6 bar	0 - 10 bar	0 - 6 bar	max. 6 bar	64.0

* All pressures are given as gauge pressures, when applied upstream only.
Given K_v values are valid for ISO valve body connection code 60, EPDM diaphragm material. Kv-values: Tolerance ±10%.
K_v values determined at p₁ = 5 bar, EPDM diaphragm material

Actuator dimensions for actuator sizes Code 2-4, [mm]

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



Order data

Body configuration	Code
Straight through	D

Diaphragm material		Code	
FPM			4
EPDM			12
EPDM			13
PTFE/EPDM	PTFE laminated	MG 10	52
PTFE/EPDM convex	PTFE loose	MG 25-50	5E
PTFE/FPM	PTFE laminated	MG 10	56
PTFE/FPM convex	PTFE loose	MG 25-50	5F

MG = diaphragm size

Connections	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 JIS-G 3447	35
Spigots JIS-G 3459	36
Spigots SMS 3008	37
Spigots BS 4825, Part 1	55
Spigots ASME BPE	59
Spigots EN ISO 1127	60
Threaded connections	
Threaded sockets DIN ISO 228	1

Control function		Code
Normally closed	Diaphragm size 10 - 50	1
Normally open (actuator sizes Code 2, 3, 4)	Diaphragm size 25 - 50	2
Double acting (actuator size Code 4)	Diaphragm size 25 - 50	3

Valve body material	Code
1.4435 (ASTM A 351 CF3M) Investment casting*	34
1.4408 Cast stainless steel	37
1.4435 (316 L) Forged body	40

* Material equivalency 316 L

Actuator size		Code
Piston ø 54	Diaphragm size 10	1/N
Piston ø 85	Diaphragm size 25	2/N
Piston ø 105	Diaphragm size 40	3/N
Piston ø 125	Diaphragm size 50	4/N

Valve body surface finish, internal contour		Code
*Ra ≤ 6.3 µm	blasted internal/external	1500
*Ra ≤ 6.3 µm	electropolished internal/external	1509
*Ra ≤ 0.8 µm	mechanically polished internal, blasted external	1502
*Ra ≤ 0.8 µm	electropolished internal/external	1503
*Ra ≤ 0.6 µm	mechanically polished internal, blasted external	1507
*Ra ≤ 0.6 µm	electropolished internal/external	1508
*Ra ≤ 0.4 µm	mechanically polished internal, blasted external	1536
*Ra ≤ 0.4 µm	electropolished internal/external	1537
*Ra ≤ 0.25 µm	mechanically polished internal, blasted external	1527
*Ra ≤ 0.25 µm	electropolished internal/external	1516

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

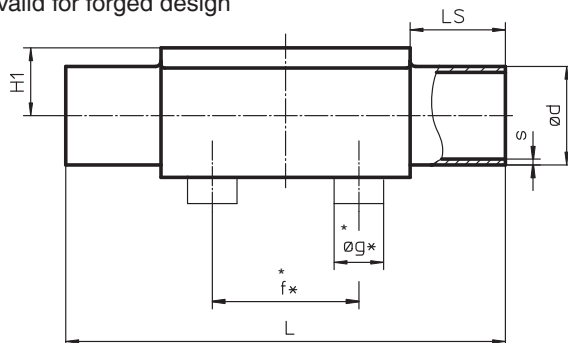
Order example	635	15	D	60	34	13	1	2/N	1500
Type	635								
Nominal size		15							
Body configuration (Code)			D						
Connection (Code)				60					
Valve body material (Code)					34				
Diaphragm material (Code)						13			
Control function (Code)							1		
Actuator size (Code)								2/N	
Surface finish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

Body dimensions - Butt weld spigots

Dimensions in mm										ISO	DIN	DIN 11850			SMS	BS O.D.	ASME/	JIS-G	JIS-G
DN	NPS	MG	*f	*g	L	LS (min.)	H1*	H1**	Code 60	Code 0	Series 1	Series 2	Series 3	Code 37	Code 55	Code 59	Code 36	Code 35	
									Code 60	Code 0	Code 16	Code 17	Code 18	Code 37	Code 55	Code 59	Code 36	Code 35	
10	3/8"	10	30	13.5	108	25	12	12	17.2 x 1.6	-	12 x 1.0	13 x 1.5	14 x 2.0	-	9.53 x 1.2	9.53 x 0.89	17.3 x 1.65	-	
15	1/2"	10	30	13.5	108	25	12	12	21.3 x 1.6	18 x 1.5	18 x 1.0	19 x 1.5	20 x 2.0	-	12.70 x 1.2	12.70 x 1.65	21.7 x 2.10	-	
20	3/4"	10	30	13.5	108	25	12	12	-	-	-	-	-	-	19.05 x 1.2	19.05 x 1.65	-	-	
15	1/2"	25	40	13.5	120	25	13	19	21.3 x 1.6	18 x 1.5	18 x 1.0	19 x 1.5	20 x 2.0	-	12.70 x 1.2	12.70 x 1.65	21.7 x 2.10	-	
20	3/4"	25	40	13.5	120	25	16	19	26.9 x 1.6	22 x 1.5	22 x 1.0	23 x 1.5	24 x 2.0	-	19.05 x 1.2	19.05 x 1.65	27.2 x 2.10	-	
25	1"	25	40	13.5	120	25	19	19	33.7 x 2.0	28 x 1.5	28 x 1.0	29 x 1.5	30 x 2.0	25.0 x 1.2	-	25.40 x 1.65	34.0 x 2.80	25.4 x 1.20	
32	1 1/4"	40	68	13.5	153	25	24	26	42.4 x 2.0	34 x 1.5	34 x 1.0	35 x 1.5	36 x 2.0	33.7 x 1.2	-	-	42.7 x 2.80	31.8 x 1.20	
40	1 1/2"	40	75	13.5	153	25	26	26	48.3 x 2.0	40 x 1.5	40 x 1.0	41 x 1.5	42 x 2.0	38.0 x 1.2	-	38.10 x 1.65	48.6 x 2.80	38.1 x 1.20	
50	2"	50	90	13.5	173	30	32	32	60.3 x 2.0	52 x 1.5	52 x 1.0	53 x 1.5	54 x 2.0	51.0 x 1.2	-	50.80 x 1.65	60.5 x 2.80	50.8 x 1.50	

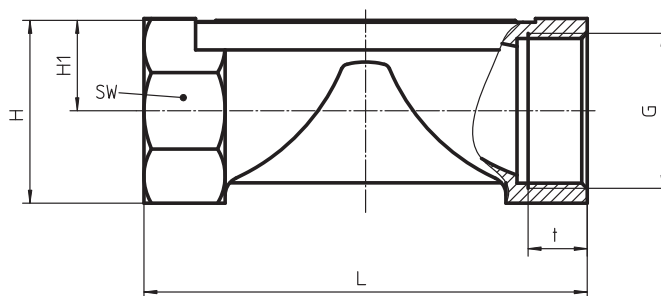
* valid for investment cast design ** valid for forged design

MG = diaphragm size



Body dimensions - Threaded sockets [mm]

DN	MG	G	H	H 1	t	L	SW	Number of wrench surfaces
12	10	G 3/8	23	10,5	13	55	22	2
15	10	G 1/2	29	13,5	15	68	24	2
15	25	G 1/2	30	16	9	85	27	6
20	25	G 3/4	33	17	10	85	32	6
25	25	G 1	37	17	13	110	41	6
32	40	G 1 1/4	50	25	16	120	50	8
40	40	G 1 1/2	52	25	18	140	55	8
50	50	G 2	69	34	18	165	70	8



Overview of valve bodies for GEMÜ 635

Connection (Code)		1	1	0	16	17	18	35	36	37	55	59	60
Diaphragm size	DN	Material Code 34	Material Code 37										
10	10	-	-	-	X	X	X	-	Y	-	Y	Y	X
10	12	X	-	-	-	-	-	-	-	-	-	-	-
10	15	X	-	X	X	X	X	-	Y	-	X	Y	X
10	20	-	-	-	-	-	-	-	-	-	X	X	-
25	15	-	X	X	X	X	X	-	Y	-	X	X	X
25	20	-	X	X	X	X	X	-	Y	-	X	X	X
25	25	-	X	X	X	X	X	X	Y	X	-	X	X
40	32	-	X	X	X	X	X	X	Y	X	-	-	X
40	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



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