

Diaphragm Valve, Metal

Construction

The GEMÜ 620 pneumatically operated 2/2-way diaphragm valve has a low maintenance membrane actuator which can be controlled by inert gaseous media.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- Insensitive to particulate media
- Valve body and diaphragm available in various materials and designs
- Versions according to ATEX on request

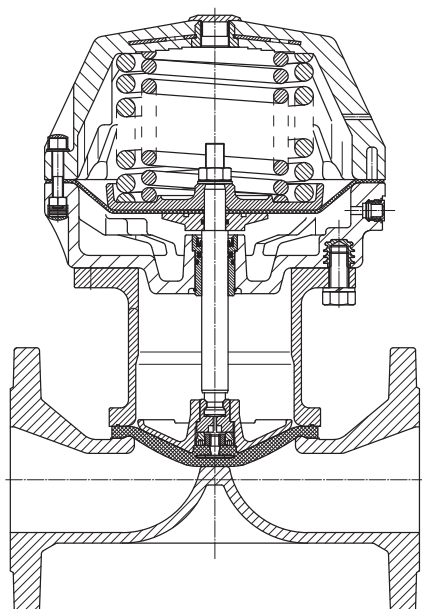
Advantages

- Optional flow direction, will seal in either flow direction up to full operating pressure
- Good flow capability
- Accessories:
 - Stroke limiter
 - Optical position indicator
 - Manual override (GEMÜ 1002, GEMÜ 1004)
 - Pilot valve with manual override (GEMÜ 0322 - 0326)
 - Electrical position indicator
 - Pneumatic or electro-pneumatic positioners

* 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.

Max. perm. temperature of working medium (depending on body and diaphragm material) 150° C

Ambient conditions

Max. ambient temperature 60° C

Control medium

Inert gases

Max. perm. temperature of control medium 40° C

Filling volume

Actuator size 0 0.15 dm³

Actuator size 1 0.35 dm³

Actuator size 2 1.10 dm³

Actuator size 3 2.5 dm³

Actuator size 4 6.8 dm³

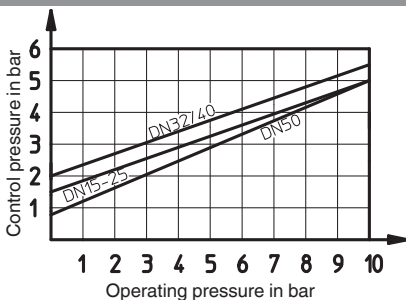
		Control function 1					Control function 2					Control function 3					Kv-value [m ³ /h]
MG	DN	Actuator size Code	Operating pressure EPDM/FPM [bar]	Operating pressure PTFE [bar]	Ctr. pr. for max. stroke [bar]	Weight [kg]	Actuator size Code	Operating pressure EPDM/FPM [bar]	Operating pressure PTFE [bar]	Ctr. press. s. diagram [bar]	Weight [kg]	Actuator size Code	Operating pressure EPDM/FPM [bar]	Operating pressure PTFE [bar]	Ctr. press. s. diagram [bar]	Weight [kg]	
	15					4.1					3.7					3.6	7.0
	25	0/N	0 - 10	0 - 6	5.5-7.0	4.5	0/F	0 - 10	0 - 6	max. 5.5	4.1	0/D	0 - 10	0 - 6	max. 5.5	4.0	14.0
	25					4.8					4.3					4.3	20.0
	40	1/N	0 - 10	0 - 6	5.5 - 7.0	9.0	1/F	0 - 10	0 - 6	max. 5.5	8.6	1/D	0 - 10	0 - 6	max. 5.5	8.4	36.0
	40					9.3					9.5					9.3	40.0
	50	2/N	0 - 10	0 - 6	5.5 - 7.0	14.4	2/F	0 - 10	0 - 6	max. 5.0	12.8	2/D	0 - 10	0 - 6	max. 5.0	12.5	80.0
	65	3/1	0 - 3	0 - 2	2.6 - 7.0	24.0	3/F 3AF	0 - 10	0 - 6	max. 4.5	30.0	3/D 3AD	0 - 10	0 - 6	max. 4.0	29.0	100.0
	65	3A1	0 - 3	0 - 2	3.0 - 7.0	24.0											
	65	3/2	0 - 6	0 - 4	4.5 - 7.0	26.0											
	65	3A2	0 - 6	0 - 4	4.5 - 7.0	26.0											
	65	3/3	0 - 10	0 - 6	5.5 - 7.0	27.0											
	65	3A3	0 - 10	0 - 6	6.0 - 7.0	27.0											
	80	3/2	0 - 3	0 - 2	4.5 - 7.0	29.0	3/F 3AF	0 - 10	0 - 6	max. 5.5	33.0	3/D 3AD	0 - 10	0 - 6	max. 5.0	32.0	160.0
	80	3A2	0 - 3	0 - 2	5.0 - 7.0	29.0											
	80	3/3	0 - 8	0 - 5	5.6 - 7.0	30.0											
	80	3A3	0 - 8	0 - 5	6.5 - 7.0	30.0											
	80	4A2	0 - 10	0 - 6	3.5 - 7.0	73.0											
	100	3/3	0 - 6	0 - 4	6.2 - 7.0	48.0	3/F	0 - 6	0 - 4	max. 5.0	41.0	3/D	0 - 6	0 - 4	max. 4.5	40.0	238.0
	100	3A3	0 - 6	0 - 4	6.5 - 7.0	48.0	3AF	0 - 6	0 - 4	max. 5.0		3AD	0 - 6	0 - 4	max. 4.5		
	100	4A3	0 - 10	0 - 6	4.5 - 7.0	81.0	4AF	0 - 10	0 - 6	max. 3.5		4AD	0 - 10	0 - 6	max. 3.0		
	125	4A2	0 - 5	0 - 3	4.0 - 7.0	89.0	4AF	0 - 10	0 - 6	max. 4.5	81.0	4AD	0 - 10	0 - 6	max. 4.0	80.0	376.0
	125	4A3	0 - 8	0 - 5	5.5 - 7.0	91.0											
	150	4A3	0 - 6	0 - 4	5.5 - 7.0	104.0	4AF	0 - 8	0 - 5	max. 4.5	94.0	4AD	0 - 8	0 - 5	max. 4.0	93.0	496.0

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.

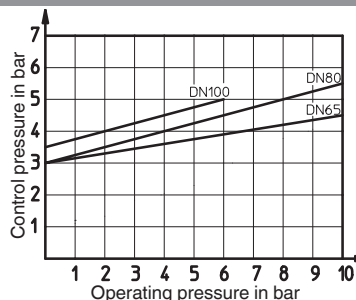
Information on operating pressures applied on both sides and for high purity media on request.

Kv values determined acc. to IEC 534 standard, inlet pressure 6 bar, Δp 1 bar, valve body material cast iron EN-GJL-250 and flanges EN 1092 length EN 558-1 series 1 and soft elastomer diaphragm. MG = diaphragm size

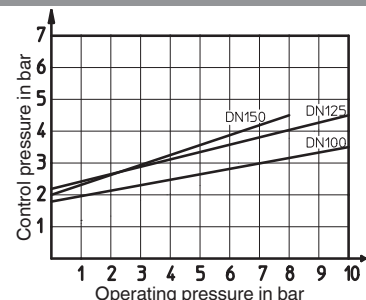
Operating pressure - Control pressure
Actuator 0/F*, 1/F*, 2/F*



Operating pressure - Control pressure
Actuator 3/F*, 3A/F*



Operating pressure - Control pressure
Actuator 4A/F*



Note: In the above diagrams, for normally open actuators (c.f. 2) the minimum necessary control pressure is given in accordance with the operating pressure.

* For double acting actuators (c.f.3) the necessary control pressure can be 1 bar less than that shown in the diagrams.

** For double acting actuators (c.f.3) the necessary control pressure can be 0.5 bar less than that shown in the diagrams.

Order data

Body configuration	Code
2/2-way	D

Connection	Code
Threaded connections	
Threaded sockets DIN ISO 228	1
Flanges	
Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges ANSI class 125/150 RF, length MSS SP-88	38
Flanges ANSI class 125/150 RF, length EN 558, series 1, ISO 5752, basic series 1	39
Flanges BS 10 Table "E", length EN 558, series 7, ISO 5752, basic series 7	51
Flanges EN 1092 / PN10 / form A, length EN 558, series 7, ISO 5752, basic series 7	52
Flanges EN 1092 / PN16 / form A, length EN 558, series 7, ISO 5752, basic series 7	53
Flanges ANSI class 125/150 RF, length EN 558, series 7, ISO 5752, basic series 7	56
Flanges ANSI class 125 FF, length EN 558, series 7, ISO 5752, basic series 7	58
Flange ratings refer to flange class only. For valve operating pressures see Technical data on page 2.	

Diaphragm material	Code
CSM	1
NBR	2
FPM	4
CR	8
EPDM	14
PTFE/EPDM fully laminated	52
PTFE/EPDM convex PTFE loose	5E*
The combination of PFA or PTFE lining with 5E diaphragms is only conditionally suitable for gaseous media. If low seat leakage rates are required for gaseous media, other combinations are preferable.	
*For use with valve bodies see page 8	

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

Valve body material	Code
EN-GJL-250 GG 25 (Cast iron)	8
EN-GJL-250 GG 25 (Cast iron) Hard rubber lined	13
EN-GJS-400-18-LT GGG 40.3 (SG iron) PFA lined	17
EN-GJS-400-18-LT GGG 40.3 (SG iron) PP lined	18
EN-GJS-500-7 GGG 50 (Ductile iron) PFA lined	81
EN-GJS-400-18-LT GGG 40.3 (SG iron) Hard rubber lined	83
EN-GJS-500-7 GGG 50 (Ductile iron) PP lined	91

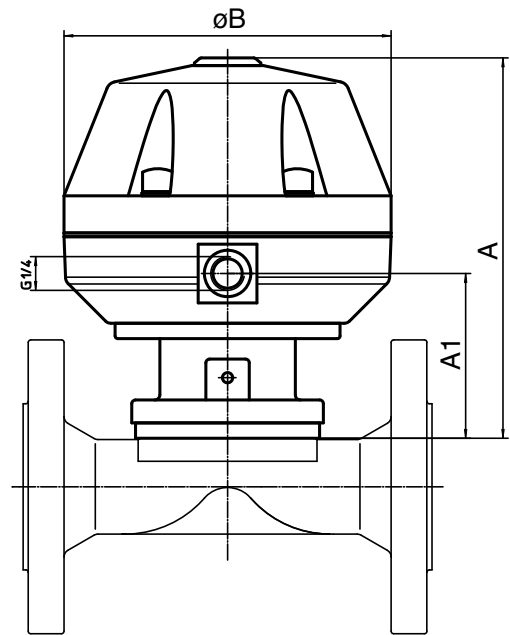
Bonnet version	Code			
Material of actuator cover: Plastic				
MG	DN	Stf. 1	C. f. 2	C. f. 3
25	15 - 25	0/N	0/F	0/D
40	32 + 40	1/N	1/F	1/D
50	50	2/N	2/F	2/D
65 - 100	65 - 100	3/1, 3/2, 3/3	3/F	3/D
Material of actuator cover: Metal				
MG	DN	Stf. 1	C. f. 2	C. f. 3
65 - 100	65 - 100	3A1, 3A2, 3A3	3AF	3AD
80 - 150	80 - 150	4A2, 4A3	4AF	4AD
MG = Diaphragm size				

Order example	620	80	D	8	8	14	1	3/3
Type	620							
Nominal size		80						
Body configuration (Code)			D					
Connection (Code)				8				
Valve body material (Code)					8			
Diaphragm material (Code)						14		
Control function (Code)							1	
Bonnet version (Code)								3/3

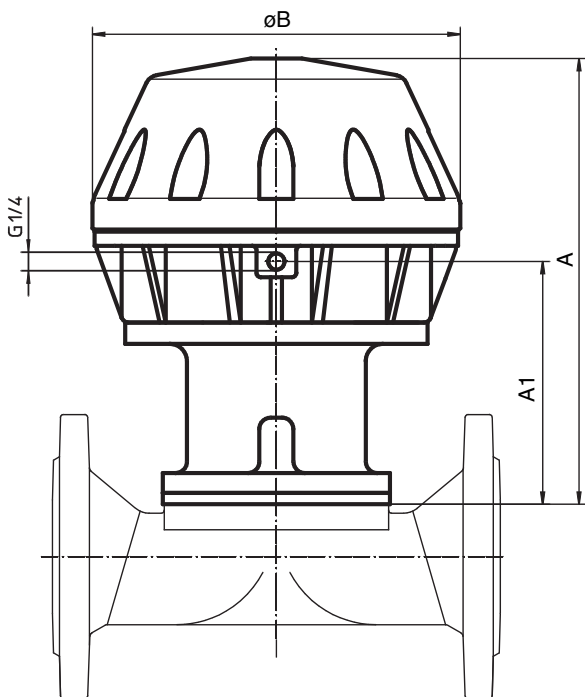
Other connections, valve body materials, linings and diaphragm materials upon request.

Dimensions - Actuator control function code 1 [mm]

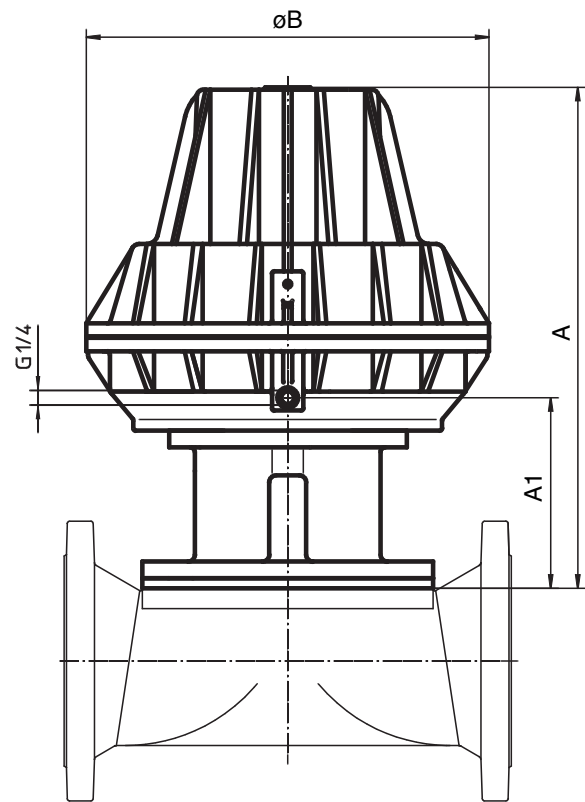
Actuator size Code	Diaphragm size	DN	ø B	A	A1			
0/N	25	15 - 25	128	152	65			
1/N	40	32 + 40	158	187	86			
2/N	50	50	213	221	97			
3/1	65	65	259	333	173			
3A1		65						
3/2		65						
3A2		65						
3/3		65						
3A3		65						
3/2	80	80	256	307	172			
3A2		80						
3/3		80						
3A3		80						
4A2	100	80	360	439	159			
3/3		100				256	307	172
3A3		100						
4A3	100	360	439	159				
4A2	125	125	360	451	171			
4A3		125						
4A3	150	150	360	440	160			



Actuator size 0 - 2



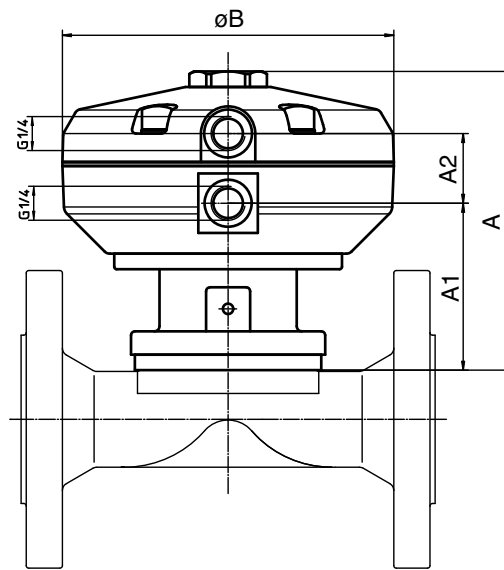
Actuator size 3



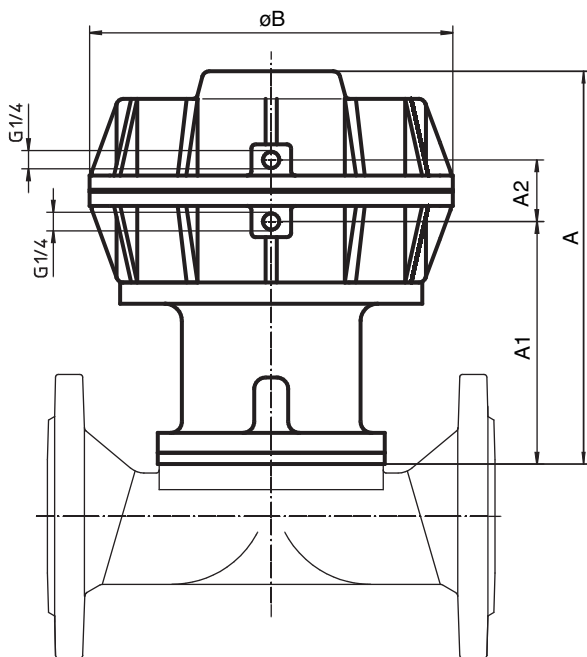
Actuator size 4

Dimensions - Actuator control function code 2 + 3 [mm]

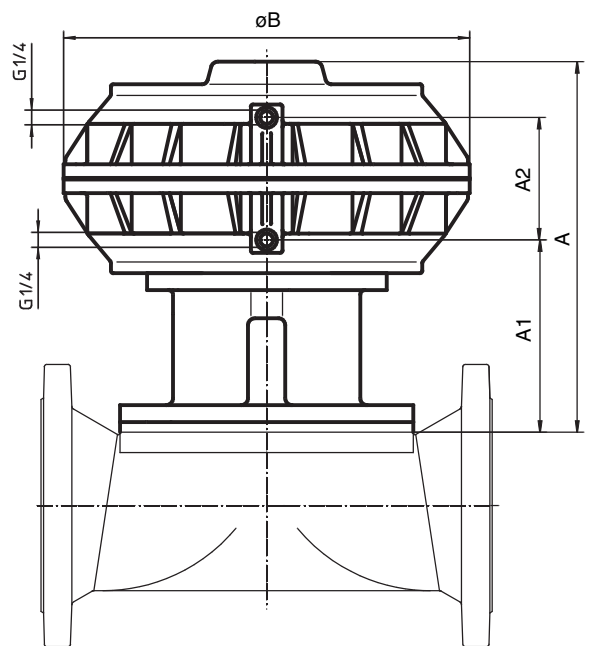
Actuator size Code	Diaphragm size	DN	ø B	A	A1	A2
0/F - 0/D	25	15 - 25	128	117	66	28
1/F - 1/D	40	32 + 40	158	143	84	27
2/F - 2/D	50	50	213	167	96	28
3/F - 3/D 3AF - 3AD	65	65	258	284	170	45
3/F - 3/D 3AF - 3AD	80	80	256	282	169	45
3/F - 3/D 3AF - 3AD	100	100	256	282	169	45
4AF - 4AD		100	360	322	156	109
4AF - 4AD	125	125	360	334	168	109
4AF - 4AD	150	150	360	323	156	109



Actuator size 0 - 2



Actuator size 3



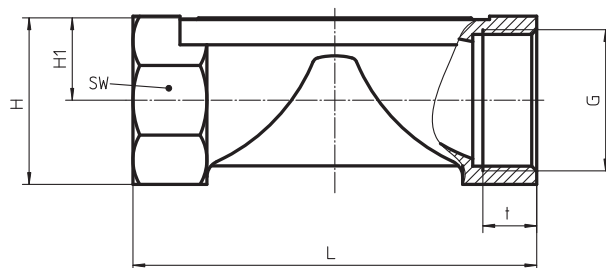
Actuator size 4

Body dimensions [mm]

Threaded sockets - DIN ISO 228, connection code 1 Valve body material: GG 25 (code 8)

MG	DN	G	L	H	H1	t	SW	Number of flats
25	15	G 1/2	85	35	19	12	32	6
	20	G 3/4	85	40	19	13	41	6
	25	G 1	110	42	19	16	46	6
40	32	G 1 1/4	120	56	28	16	55	6
	40	G 1 1/2	140	61	28	18	65	6
50	50	G 2	165	73	35	18	75	6

MG = diaphragm size

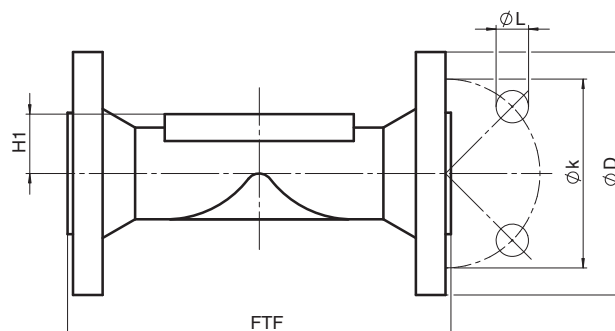


Flanges - DIN EN 1092, connection code 8, 52, 53 Valve body material: GG 25 (code 8, 13), GGG 40.3 (code 17, 18, 83)

						H1			FTF			
						Connection code 8			Connection code 52, 53	EN 558, series 1 Connection code 8	EN 558, series 7 Connection code 52, 53	
MG	DN	øD	øk	øL	Number of bolt	Material code			Material code	Material code		
						8	13	17, 18, 83	code 8, 13	8, 13, 17, 18, 83	8, 13	17
25	15	95	65	14	4	19.0	-	18.0	19.0	130	117	-
	20	105	75	14	4	19.0	17.0	20.5	19.0	150	117	-
	25	115	85	14	4	19.0	16.0	23.0	19.0	160	127	-
40	32	140	100	18	4	28.0	21.0	28.7	28.0	180	146	-
	40	150	110	18	4	28.0	21.0	33.0	28.0	200	159	-
50	50	165	125	18	4	35.0	25.0	39.0	35.0	230	191	-
65	65	185	145	18	4	27.5	30.5	51.0	27.5	290	216	-
80	80	200	160	18	8	33.0	34.0	59.5	33.0	310	254	-
100	100	220	180	18	8	43.0	50.0	73.0	43.0	350	305	-
125	125	250	210	18	8	65.0	69.0	87.0	65.0	400	356	-
150	150	285	240	23	8	58.0	62.0	109.0	58.0	480	406	416

For materials see overview on last page.

MG = diaphragm size



Body dimensions [mm]

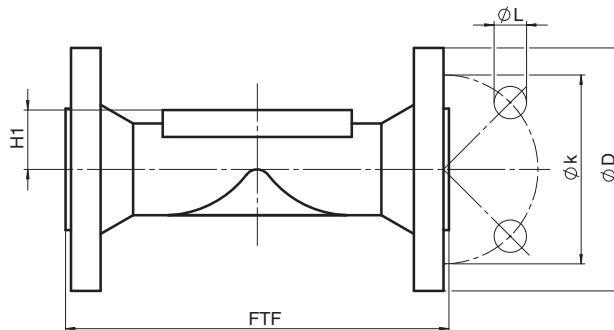
Flanges - ANSI B 16.5, connection code 38, 39, 56, 58

Valve body material: GG 25 (code 8, 13), GGG 40.3 (code 17, 18, 83), GGG 50 (code 81, 91)

						H1				FTF				
						Connection code 38, 39, 58			Connection code 56	MSS Sp-88 Connection code 38		EN 558 series 1 Connection code 39	similar to EN 558 series 7 Connection code 56	EN 558 series 7 Connection code 58
MG	DN	øD	øk	øL	Number of bolt	Material code 8	Material code 13	Material code 17, 18, 83	Material code 17, 81, 91	Material code 17, 18, 83	Material code 17, 18, 83	Material code 8, 17, 18, 83	Material code 17, 81, 91	Material code 8, 13
25	15	88.9	60.5	15.7	4	19.0	-	18.0	-	-	-	130	-	117
	20	98.6	69.9	15.7	4	19.0	17.0	20.5	-	146	146.4	150	-	117
	25	108.0	79.2	15.7	4	19.0	16.0	23.0	23	146	146.4	160	127	127
40	32	117.3	88.9	15.7	4	28.0	21.0	28.7	-	-	-	180	-	146
	40	127.0	98.6	15.7	4	28.0	21.0	33.0	32	175	171.4	200	165	159
50	50	152.4	120.7	19.1	4	35.0	25.0	39.0	40	200	197.4	230	191	191
65	65	177.8	139.7	19.1	4	27.5	30.5	51.0	-	226	222.4	290	-	216
80	80	190.5	152.4	19.1	4	33.0	34.0	59.5	58	260	260.4	310	254	254
100	100	228.6	190.5	19.1	8	43.0	50.0	73.0	70	327	324.4	350	311	305
125	125	254.0	215.9	22.4	8	65.0	69.0	87.0	-	-	-	400	-	356
150	150	279.4	241.3	22.4	8	58.0	62.0	109.0	109	416	-	480	416	406

For materials see overview on last page.

MG = diaphragm size



Flanges - BS 10 Table "E", connection code 51

Valve body material: GGG 40.3 (code 17), GGG 50 (code 81, 91)

Diaphragm size	DN	øD	øk	øL	Number of bolt	H1	FTF
25	25	114	83	14	4	23	127
40	40	133	98	14	4	32	165
50	50	152	114	17	4	40	191
80	80	184	146	17	4	58	254
100	100	216	178	17	8	70	311
150	150	279	235	22	8	109	416

For materials see overview on last page.

Overview of valve bodies for GEMÜ 620

		Threaded connections		Flanges																									
Connection code		1		8					38			39					51			52		53			56		58		
Material code		8	8	13	17	18	83	17	18	83	8	13	17	18	83	17	81	91	8	13	8	13	17	17	81	91	8	13	
MG	DN																												
25	15	X*	X*	-	X	X	X	-	-	-	X*	-	X	X	X	-	-	-	X ¹	X ¹	X*	X*	-	-	-	-	X*	X*	
	20	X*	X*	X*	X	X	X	X	X	X	X*	X*	X	X	X	-	-	-	X ¹	X ¹	X*	X*	-	-	-	-	X*	X*	
	25	X*	X*	X*	X	X	X	X	X	X	X*	X*	X	X	X	-	X	X	X ¹	X ¹	X*	X*	-	-	X	X	X*	X*	
40	32	X*	X*	X*	X	X	X	-	-	-	X*	X*	X	X	X	-	-	-	X ¹	X ¹	X*	X*	-	-	-	-	X*	X*	
	40	X*	X*	X*	X	X	X	X	X	X	X*	X*	X	X	X	-	X	X	X ¹	X ¹	X*	X*	-	-	X	X	X*	X*	
50	50	X*	X*	X*	X	X	X	X	X	X	X*	X*	X	X	X	-	X	X	X ¹	X ¹	X*	X*	-	-	X	X	X*	X*	
65	65	-	X*	X*	X*	X*	X*	X*	X*	X*	X*	X*	X*	X*	-	-	-	X ¹	X ¹	X*	X*	-	-	-	-	X*	X*		
80	80	-	X*	X*	X	X	X	X	X	X	X*	X*	X	X	X	-	X	X	X ¹	X ¹	X*	X*	-	-	X	X	X*	X*	
100	100	-	X*	X*	X	X	X	X	X	-	X*	X	X	X	-	X	X	X ¹	X ¹	X*	X*	-	-	X	X	X*	X*		
125	125	-	X*	X*	X*	-	X*	-	-	-	X*	X*	X*	-	X*	-	-	-	X ¹	X ¹	X*	X*	-	-	-	-	X*	X*	
150	150	-	X*	X*	X	-	X	X	-	X	X*	X*	X	-	X	X	-	-	X ¹	X ¹	X*	X*	X	X	-	-	X*	X*	

*Valve bodies are not suitable for use with diaphragm code 5E.
 X1 = available in UK only MG = Diaphragm size

Technical data sheet

Should there be any doubts or misunderstandings, the German version of this data sheet is the authoritative document!

Subject to alteration · 07/2010 · 88048757

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