

Diaphragm Valve, Metal

Construction

The GEMÜ 611 and 671 manually operated 2/2-way metal diaphragm valves have a low maintenance plastic bonnet and an integral optical position indicator as standard.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- Chemical resistance of bonnet
- Insensitive to particulate media
- Valve body and diaphragm available in various materials and designs
- Compact design (ideal when space is at a premium)

Advantages

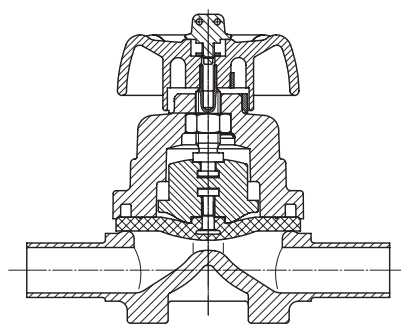
- Hermetic separation between medium and bonnet
- Optional flow direction, will seal in either flow direction up to full operating pressure
- Optional mounting position
- Optional accessories for 671:
 - Electrical remote indication that the valve is in the open position
 - Lockable handwheel clamp

*see information on working medium on page 2

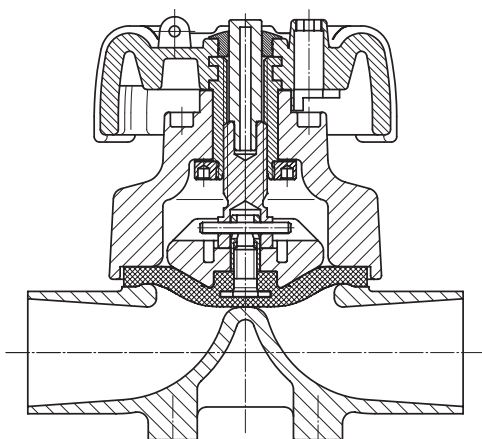


GEMÜ 611

Sectional drawing



GEMÜ 611



GEMÜ 671



GEMÜ 671

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.

Operating temperature max. 80° C
(dependent on medium wetted materials)

Ambient conditions

Max. ambient temperature 60° C

Valve	Diaphragm size	Operating pressure [bar]		Bonnet weight [kg]
		EPDM	PTFE	
GEMÜ 611	10	0 - 10	0 - 6	0.15
GEMÜ 671	25	0 - 10	0 - 6	0.8
	40			1.6
	50			3.0
	80			10.0
	100			15.0

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 [m³/h]

Valve	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
GEMÜ 611	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	-
GEMÜ 671	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
		65	-	-	77.0	-	68.5	68.5	96.0
	80	80	-	-	111.0	-	80.0	87.0	111.0
		100	-	-	194.0	-	173.0	188.0	214.0

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

Order data

Valve type	Code
GEMÜ 611 diaphragm size 10	611
GEMÜ 671 diaphragm size 25 - 100	671

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 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
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, short design	80
Clamps following ASME BPE 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 for pipe DIN 11850, length EN 558, series 7	8A
Clamps SMS 3017 for pipe SMS 3008, length EN 558, series 7	8E
Flanges (GEMÜ 671)	
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
Overview of available valve bodies see page 8	

Valve body material	Code
EN-GJL-250 (GG 25)	8
MS, brass	12
EN-GJS-400-18-LT (SG iron 40.3), PFA lined	17
EN-GJS-400-18-LT (SG iron 40.3), PP lined	18
1.4435 - BN2 (CF3M), investment casting Fe<0.5%	32
1.4435 (ASTM A 351 CF3M Δ 316L), investment casting	34
1.4408, investment casting	37
1.4408, PFA lined	39
1.4435 (316L), forged body	40
1.4435 (BN2), forged body Fe<0.5%	42

Diaphragm material	Code
FPM	4
EPDM	12
EPDM	13
EPDM	16
EPDM	17
PTFE/EPDM convex, PTFE loose	MG 25 - MG 100 5E*
PTFE/FPM convex, PTFE loose	MG 25 - MG 50 5F
PTFE/EPDM, PTFE lamin.	MG 10 52
Material complies with FDA requirements, except codes 4 and 5F	
*For use with valve bodies see page 8	

Control function	Code
Manually operated GEMÜ 611, 671	0
Manually operated (lockable handwheel) only GEMÜ 671	L

Accessory	Code
Threaded connection for position indicator, only GEMÜ 671	Z

Surface finish	Code
See top of page 4	

Order example	671	25	D	60	34	17	0	Z	1500
Type	671								
Nominal size		25							
Body configuration (code)			D						
Connection (code)				60					
Valve body material (code)					34				
Diaphragm material (code)						17			
Control function (code)							0		
Accessory (code)								Z	
Surface finish (Code see top of page 4)									1500

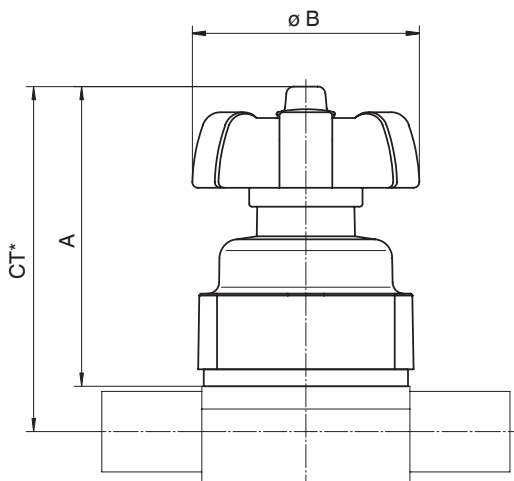
Valve body surface finish, internal contour		Code
Ra ≤ 6.3 µm	blasted internal/external	1500*
Ra ≤ 6.3 µm	electropolished internal/external	1509*
Ra ≤ 0.8 µm	mechanically polished internal, blasted external	1502
Ra ≤ 0.8 µm	electropolished internal/external	1503
Ra ≤ 0.6 µm	mechanically polished internal, 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 * only investment cast design

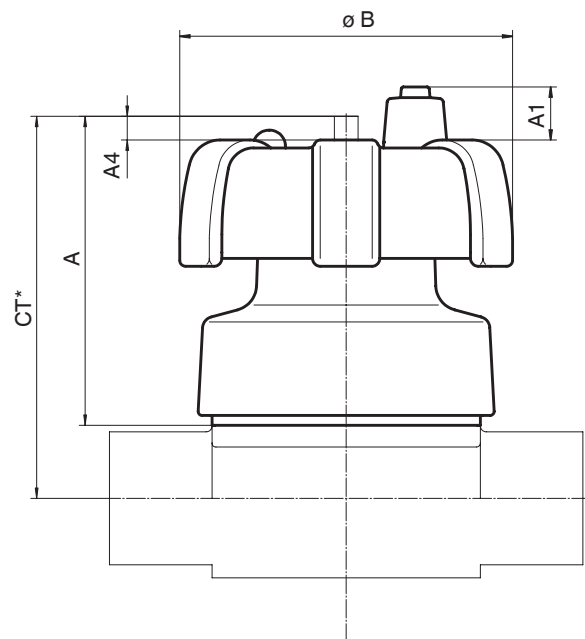
Bonnet dimensions [mm]

Type	Diaphragm size	Ø B	A	A1	A4
GEMÜ 611	10	60	73	-	-
GEMÜ 671	25	90	85	14	8
	40	114	102	14	13
	50	140	120	8	13
	80	214	166	17	25
	100	214	222	25	37

GEMÜ 611



GEMÜ 671



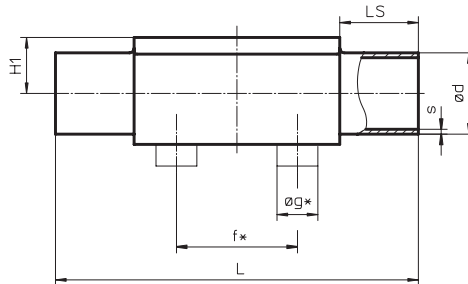
* $CT = A + H1$ (see body dimensions)

Body dimensions [mm]

**Butt weld spigots, connection code 0, 16, 17, 18, 1A, 35, 36, 37, 55, 59, 60
Valve body material: investment casting (code 34), forged body (code 40)**

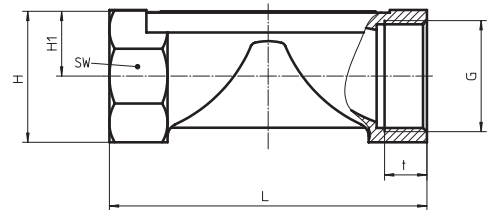
										DIN Series 0 Code 0		DIN 11850 Series 1 Code 16		DIN 11850 Series 2 Code 17		DIN 11850 Series 3 Code 18		DIN 11866 Series A Code 1A		JIS-G 3447 Code 35		JIS-G 3459 Code 36		SMS 3008 Code 37		BS 4825 Code 55		ASME BPE Code 59		EN ISO 1127 Code 60	
	MG	DN	NPS	f*	g*	L	LS	H1*	H1**	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s	ød	s
GEMÜ 611	10	10	3/8"	30	13.5	108	25	12.5	-	-	12	1.0	13	1.5	14	2.0	13	1.5	-	-	17.3	1.65	-	-	9.53	1.2	9.53	0.89	17.2	1.6	
		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	-	-	21.7	2.10	-	-	12.70	1.2	12.70	1.65	21.3	1.6	
		20	3/4"	30	13.5	108	25	12.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.05	1.2	19.05	1.65	-	-	
GEMÜ 671	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	-	-	21.7	2.10	-	-	-	-	-	-	21.3	1.6
		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	-	-	27.2	2.10	-	-	19.05	1.2	19.05	1.65	26.9	1.6
	40	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	25.4	1.2	34.0	2.80	25.0	1.2	-	-	25.40	1.65	33.7	2.0
		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	31.8	1.2	42.7	2.80	33.7	1.2	-	-	-	-	42.4	2.0
	50	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	38.1	1.2	48.6	2.80	38.0	1.2	-	-	38.10	1.65	48.3	2.0
		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	50.8	1.5	60.5	2.80	51.0	1.2	-	-	50.80	1.65	60.3	2.0
	80	65	2 1/2"	-	-	216	30	-	62	-	-	-	-	70	2.0	-	-	70	2.0	63.5	2.0	76.3	3.0	63.5	1.6	-	-	63.50	1.65	76.1	2.0
		80	3"	-	-	254	30	-	62	-	-	-	-	85	2.0	-	-	85	2.0	76.3	2.0	89.1	3.0	76.1	1.6	-	-	76.20	1.65	88.9	2.3
100	100	4"	-	-	305	30	-	76	-	-	-	104	2.0	-	-	104	2.0	101.6	2.0	114.3	3.0	101.6	2.0	-	-	101.6	2.11	114.3	2.3		

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



**Threaded sockets, connection code 1
Valve body material: brass (code 12), investment casting (code 34)**

								Material code 12		Material code 34			
Valve	MG	DN	G	H	H1	t	L	SW	L	SW	Number of flats		
GEMÜ 611	10	12	G 3/8	23	10.5	13.0	55	22	55	22	2		
		15	G 1/2	29	13.5	15.0	75	25	68	24	2		



For materials see overview on last page MG = diaphragm size

**Threaded sockets, connection code 1
Valve body material: GG25 (code 8), investment casting (code 37)**

										Material code 8		Material code 37				
Valve	MG	DN	G	L	H	H1	t	SW	Number of flats	H	H1	t	SW	Number of flats		
GEMÜ 671		15	G 1/2	85	35	19	12	32	6	30	16	9	27	6		
		25	G 3/4	85	40	19	13	41	6	33	17	10	32	6		
		25	G 1	110	42	19	16	46	6	37	17	13	41	6		
		40	G 1 1/4	120	56	28	16	55	6	50	25	16	50	8		
		40	G 1 1/2	140	61	28	18	65	6	52	25	18	55	8		
50	G 2	165	73	35	18	75	6	69	34	18	70	8				

For materials see overview on last page MG = diaphragm size

Body dimensions [mm]

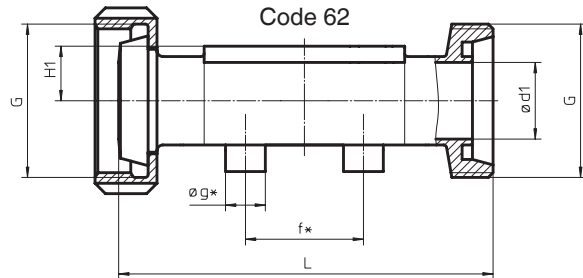
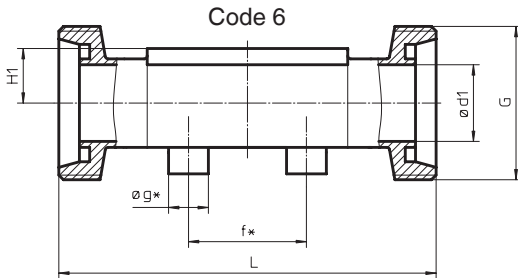
Threaded connections, connection code 6, 62 Valve body material: investment casting (code 34), forged body (code 40)

Valve	Diaphragm size	DN	H1*	H1**	f*	øg*	ød1*	G	L (Code 6)	L (Code 62)
GEMÜ 611	10	10	12.5	-	30.0	13.5	10.0	Rd 28 x 1/8	118	116
		15	12.5	-	30.0	13.5	16.0	Rd 34 x 1/8	118	116
GEMÜ 671	25	15	13.0	19.0	40.0	13.5	16.0	Rd 34 x 1/8	118	116
		20	16.0	19.0	40.0	13.5	20.0	Rd 44 x 1/6	118	114
		25	19.0	19.0	40.0	13.5	26.0	Rd 52 x 1/6	128	127
	40	32	24.0	26.0	68.0	13.5	32.0	Rd 58 x 1/6	147	147
		40	26.0	26.0	75.0	13.5	38.0	Rd 65 x 1/6	160	160
	50	50	32.0	32.0	90.0	13.5	50.0	Rd 78 x 1/6	191	191
		65	-	62.0	-	-	66.0	Rd 95 x 1/6	246	246
		80	-	62.0	-	-	81.0	Rd 110 x 1/4	256	256

* only for investment cast design

** only for forged design

For materials see overview on last page

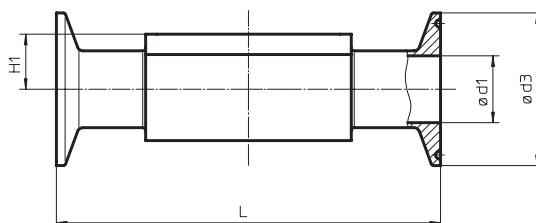


Clamp connections, connection code 80, 82, 88, 8A, 8E Valve body material: forged body (code 40)

					for pipe ASME BPE Code 80			for pipe EN ISO 1127 Code 82			for pipe ASME BPE Code 88			for pipe DIN 11850 Code 8A			for pipe SMS 3008 Code 8E			
	MG	DN	NPS	H1	ød1	ød3	L	ød1	ød3	L	ød1	ød3	L	ød1	ød3	L	ød1	ød3	L	
GEMÜ 611	10	10	3/8"	12.5	-	-	-	14.00	25.4	108.0	-	-	-	10	34.0	108.0	-	-	-	
		15	1/2"	12.5	9.40	25.0	88.9	18.10	50.5	108.0	9.40	25.0	108	16	34.0	108.0	-	-	-	
		20	3/4"	12.5	15.75	25.0	101.6	-	-	-	15.75	25.0	117	-	-	-	-	-	-	
GEMÜ 671	25	15	1/2"	19.0	-	-	-	18.10	50.5	108.0	-	-	-	16	34.0	108.0	-	-	-	
		20	3/4"	19.0	15.75	25.0	101.6	23.70	50.5	117.0	15.75	25.0	117	20	34.0	117.0	-	-	-	
		25	1"	19.0	22.10	50.5	114.3	29.70	50.5	127.0	22.10	50.5	127	26	50.5	127.0	22.60	50.5	127	
	40	32	1 1/4"	26.0	-	-	-	38.40	64.0	146.0	-	-	-	32	50.5	146.0	31.30	50.5	146	
		40	1 1/2"	26.0	34.80	50.5	139.7	44.30	64.0	159.0	34.80	50.5	159	38	50.5	159.0	35.60	50.5	159	
	50	50	2"	32.0	47.50	64.0	158.8	56.30	77.5	190.0	47.50	64.0	190	50	64.0	190.0	48.60	64.0	190	
		80	65	2 1/2"	62.0	60.20	77.5	193.7	72.10	91.0	216.0	60.20	77.5	216	66	91.0	216.0	60.30	77.5	216
			80	3"	62.0	72.90	91.0	222.3	84.30	106.0	254.0	72.90	91.0	254	81	106.0	254.0	72.90	91.0	254
100	100	4"	76.0	97.38	119.0	292.1	109.70	144.5	305.0	97.38	119.0	305	100	119.0	305.0	97.60	119.0	305		

MG = diaphragm size

For materials see overview on last page

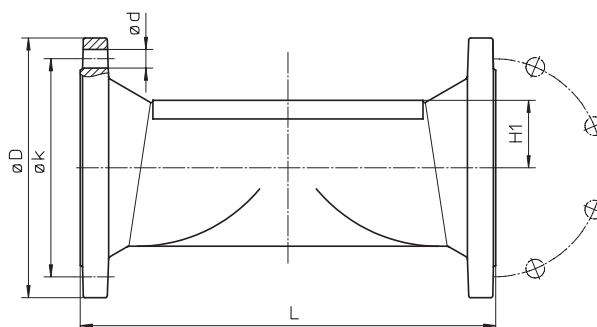


Body dimensions [mm]

Flanges - DIN EN 1092-2, connection code 8 Valve body material: GGG 40.3 (code 17, 18), 1.4435 (code 34, 40), 1.4408 (code 39)

Valve	MG	DN	øD	øk	ød	Number of bolt holes	H1			L
							Material code 17, 18	Material code 34	Material code 40	
GEMÜ 671	25	15	95	65	14	4	18.0	13.0	19.0	130*
		20	105	75	14	4	20.5	16.0	19.0	150
		25	115	85	14	4	23.0	19.0	19.0	160
	40	32	140	100	18	4	28.7	24.0	26.0	180
		40	150	110	18	4	33.0	26.0	26.0	200
	50	50	165	125	18	4	39.0	32.0	32.0	230
	80	65	185	145	18	4	51.0	-	62.0	290
		80	200	160	18	8	59.5	-	62.0	310
	100	100	220	180	18	8	73.0	-	76.0	350

*Material code 34, L = 150 (no DIN length) For materials see overview on last page
MG = diaphragm size



Flanges - ANSI B 16.5, connection code 38, 39 Valve body material: GGG 40.3 (code 17, 18), 1.4435 (code 34, 40), 1.4408 (code 39)

Valve	MG	DN	øD	øk	ød	Number of bolt holes	H1			L	
							Material code 17, 18	Material code 34	Material code 40	Connection code 38	Connection code 39
GEMÜ 671	25	15	88.9	60.5	15.7	4	18.0	13.0	19.0	-	130
		20	98.6	69.9	15.7	4	20.5	16.0	19.0	146	150
		25	108.0	79.2	15.7	4	23.0	19.0	19.0	146	160
	40	32	117.3	88.9	15.7	4	28.7	24.0	26.0	-	180
		40	127.0	98.6	15.7	4	33.0	26.0	26.0	175	200
	50	50	152.4	120.7	19.1	4	39.0	32.0	32.0	200	230
	80	65	177.8	139.7	19.1	4	51.0	-	62.0	226	290
		80	190.5	152.4	19.1	4	59.5	-	62.0	260	310
	100	100	228.6	190.5	19.1	8	73.0	-	76.0	327	350

For materials see overview on last page MG = diaphragm size

Overview of valve bodies for GEMÜ 611, 671

Connection code		Threaded connections								Spigots																					
		1				6		62		0		16		17		18		1A		35		36		37		55		59		60	
Material code		8	12	34	37	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40	34	40
MG	DN																														
GEMÜ 611	10	10	-	-	-	-	W	W	W	W	-	-	X	X	X	X	X	X	X	-	-	X	-	-	-	X	-	X	X	X	
		12	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		15	-	X	X	-	W	W	W	W	X	X	X	X	X	X	X	X	X	-	-	X	-	-	X	X	-	X	X	X	
		20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	X	X	X	-	-	
GEMÜ 671	25	15	X*	-	-	X	W	W	W	W	X	X	X	X	X	X	-	X	X	-	-	X	-	-	-	-	-	-	-	X	X
		20	X*	-	-	X	W	W	W	W	X	X	X	X	X	X	-	X	X	-	-	X	-	-	X	X	X	X	X	X	X
	40	25	X*	-	-	X	W	W	W	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	X	X
		32	X*	-	-	X	W	W	W	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	-	-	-	X	X
	50	40	X*	-	-	X	W	W	W	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X
		50	X*	-	-	X	W	W	W	W	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	X	X	X	X	X
	80	65	-	-	-	-	-	W	-	W	-	-	-	-	-	X	-	-	X	-	X	X	-	X	-	-	-	X	-	X	
		80	-	-	-	-	-	W	-	W	-	-	-	-	-	X	-	-	X	-	X	X	-	X	-	-	-	X	-	X	
	100	100	-	-	-	-	-	-	-	-	-	-	-	-	X*	-	-	X*	-	X*	X*	-	X*	-	-	-	-	X*	-	X*	

X Standard W Welded construction MG = diaphragm size

*Valve bodies are not suitable for use with diaphragm code 5E

Overview of valve bodies for GEMÜ 611, 671

Connection code		Clamps					Flanges													
		80	82	88	8A	8E	8					38			39					
Material code		40	40	40	40	40	17	18	34	39	40	17	18	39	17	18	34	39	40	
MG	DN																			
GEMÜ 611	10	10	-	K	-	K	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15	K	W	K	K	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		20	K	-	K	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEMÜ 671	25	15	-	W	-	K	-	X	X	W	X	W	-	-	-	X	X	W	X	W
		20	K	K	K	K	-	X	X	W	X	W	X	X	X	X	X	W	X	W
	40	25	K	K	K	K	K	X	X	W	X	W	X	X	X	X	X	W	X	W
		32	-	W	-	K	K	X	X	W	X	W	-	-	-	X	X	W	X	W
	50	40	K	W	K	K	K	X	X	W	X	W	X	X	X	X	X	W	X	W
		50	K	W	K	K	K	X	X	W	X	W	X	X	X	X	X	W	X	W
	80	65	K	K	K	K	K	-	-	-	-	W	-	-	-	-	-	-	-	W
		80	K	W	K	W	W	X	X	-	X	W	X	X	X	X	X	-	X	W
100	100	W*	W*	W	W*	W*	X	X	-	X	W*	X	X	X	X	X	-	X	W*	

X Standard K Connections completely machined (not welded) in material code 40 W Welded construction MG = diaphragm size

*Valve bodies are not suitable for use with diaphragm code 5E

Availability of material code 32 same as code 34, 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

Should there be any doubts or misunderstandings, the German version of this data sheet is the authoritative document! Technical data sheet Subject to alteration · 08/2009 · 88925819