

Diaphragm Valve, Plastic

Construction

All medium wetted parts, the bonnet and handwheel of the GEMÜ 677 2/2 way diaphragm valve are made of plastic. The maintenance-free plastic bonnet has an ergonomically designed handwheel with integral optical position indicator.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- Valve body available with various connections and materials, diaphragm available in various materials
- Insensitive to particulate media
- Optional flow direction and mounting position

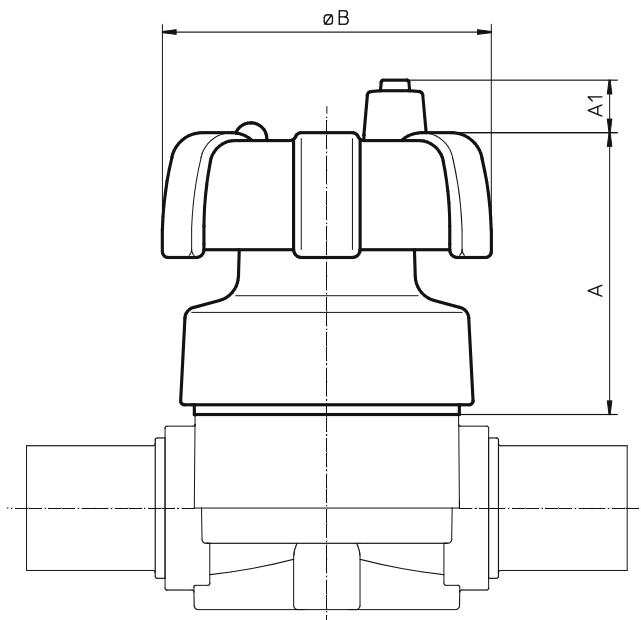
Advantages

- Body and diaphragm sizes have coordinated diameters hence the fitting time is reduced because the pipe and fixing centres remain the same. Spares inventory is also reduced.
- Optional accessories
 - Electrical remote indication that the valve is in the open position
 - Lockable handwheel
- Compact, weight-saving design
- Good specific flow capability
- Body with integrated mounting facility

* see information on working medium on page 2

Bonnet dimension GEMÜ 677 (mm)

Diaphragm size	DN	ø B	A	A1
25	15-25	90	71	14
40	32-40	114	89	8
50	50	140	107	9
80	65-80	214	141	27
100	100	214	185	27



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.

Ambient temperature

Valve body PVC-U / PP	5 to 60° C
Valve body ABS / PVDF	-20 to 60° C

Working medium temperature

Valve body PVC-U	10 to 60° C
Valve body ABS	-20 to 60° C
Valve body PP	5 to 80° C
Valve body PVDF	-20 to 80° C

The permissible operating pressure depends on the working medium temperature.

O-ring material for valve bodies with union ends

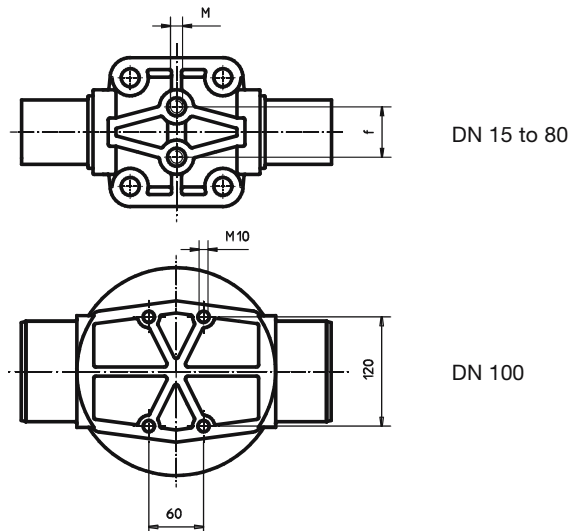
Diaphragm material	O-ring material
CSM	EPDM
NBR	EPDM
FPM	FPM
EPDM	EPDM
PTFE	FPM
Other combinations upon request	

Pressure / temperature correlation for PN 10 (valve body from diaphragm size 25)

Temperature in °C		-20	-10	±0	5	10	20	25	30	40	50	60	70	80
Valve body material		permissible operating pressure in bar												
PVC-U	Code 1	-	-	-	10.0	10.0	10.0	10.0	8.0	6.0	3.5	1.5	-	-
ABS	Code 4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0	6.0	4.0	2.0	-	-
PP-H	Code 70/71	-	-	-	10.0	10.0	10.0	10.0	8.5	7.0	5.5	4.0	2.7	1.5
PVDF	Code 20	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	8.0	7.1	6.3	5.4	4.7

Mounting dimensions GEMÜ 677 [mm]

Diaphragm size	DN	M	f
25	15	M6	25.0
	20		
40	25	M8	44.5
	32		
50	40	M8	44.5
	50		
80	65	M12	100.0
	80		
100	100	see drawing below	



Order data

Diaphragm size	DN	Working pressure		K _v value	Weight
		EPDM/FPM bar	PTFE bar	(m³/h)	(kg)
25	15	0 - 10	0 - 6	5.6	0.7
	20			8.2	0.7
40	25	0 - 10	0 - 6	10.5	0.7
	32			18.0	1.4
50	40	0 - 10	0 - 6	25.0	1.4
	50			46.0	2.4
80	65	0 - 10	0 - 6	78.0	7.3
	80			120.0	7.3
100	100	0 - 10	0 - 6	189.0	9.0

The valve will seal against flow in either direction up to a working pressure of 10 bar.
All pressures are given as gauge pressures.

Body configuration	Code
2/2 way	D

Connection	Code
Spigots - DIN for socket welding	0
Flanges EN 1092 / PN 10 / form B (ex DIN 2501 / PN 10 / form C) Face-to-face EN 558-1, series 1 ISO 5752, basic series 1 (ex DIN 3202-1, series F1)	4
Union ends with DIN insert (socket)	7
Spigots for infrared butt welding	20
Spigots for infrared butt welding, BCF	28
Spigots - inch	30
Union ends with inch insert (socket)	33
Flanges ANSI class 125/150 RF Face-to-face EN 558-2, series 1 ISO5752, basic series 1 (ex DIN 3202-1, series F1)	39
Union ends with DIN insert (IR butt welding)	78

Valve body material	Code
PVC-U	1
ABS	4
PP	5
PVDF	20
Lining PP-H, natural/outliner PP, reinforced	70
Lining PP-H RAL 7032, coloured/outliner PP, reinforced	71

Diaphragm material	Code
CSM	1
NBR	2
FPM	4
EPDM	14
PTFE/EPDM PTFE loose MG 25 - 50	5E*
PTFE/EPDM PTFE laminated MG 25 -100	52
PTFE/FPM PTFE loose MG 25 - 50	5F*
PTFE/FPM PTFE laminated MG 25 -100	56

*Usability see table on last page of data sheet
MG = diaphragm size

Control function	Code
Manually operated	0
Manually operated (lockable handwheel)	L

Options	Code
Mounting thread for electrical position indicator	Z

Order example	677	15	D	0	1	14	0	Z
Type	677							
Nominal size		15						
Body configuration (Code)			D					
Connection (Code)				0				
Valve body material (Code)					1			
Diaphragm material (Code)						14		
Control function (Code)							0	
Options (Code)								Z

Body dimensions

Spigots DIN, connection code 0 [mm]										
Valve body material PVC-U (Code 1), PP (Code 5), PVDF (Code 20), Lining PPH (Code 70, 71)										
MG	DN	L	H			H1	ød	c		
			Material code 1	Material code 5	Material code 20, 70, 71			Material code 1	Material code 5	Material code 20, 70, 71
25	15	124	45	-	50	26	20	16	-	18
	20	144	45	-	50	26	25	19	-	19
	25	154	45	-	50	26	32	22	-	22
40	32	174	74	-	74	40	40	26	-	24
	40	194	74	-	74	40	50	31	-	26
50	50	224	78	-	82	40	63	39	-	29
80	65	284	117	117	117	55	75	44	44	44
	80	300	117	117	117	55	90	51	51	51
100	100	340	140	140	140	65	110	61	61	61

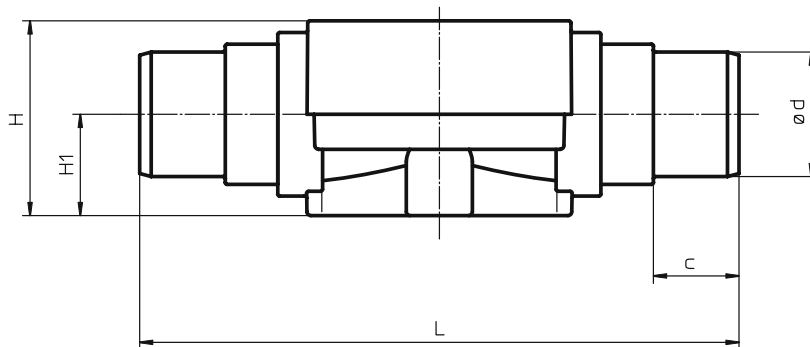
For materials see overview on last page.

MG = diaphragm size

Spigots INCH, connection code 30 [mm]							
Valve body material PVC-U (Code 1), ABS (Code 4)							
MG	DN		L	H	H1	ød	c
25	15	1/2"	141	45	26	21.4	24
	20	3/4"	145	45	26	26.7	27
	25	1"	154	45	26	33.6	30
40	32	1 1/4"	174	68	40	42.2	33
	40	1 1/2"	194	68	40	48.3	39
50	50	2"	224	75	40	60.3	40
80	65	2 1/2"	284	117	55	75.2	44
	80	3"	300	117	55	88.9	51
100	100	4"	340	140	65	114.3	61

For materials see overview on last page.

MG = diaphragm size

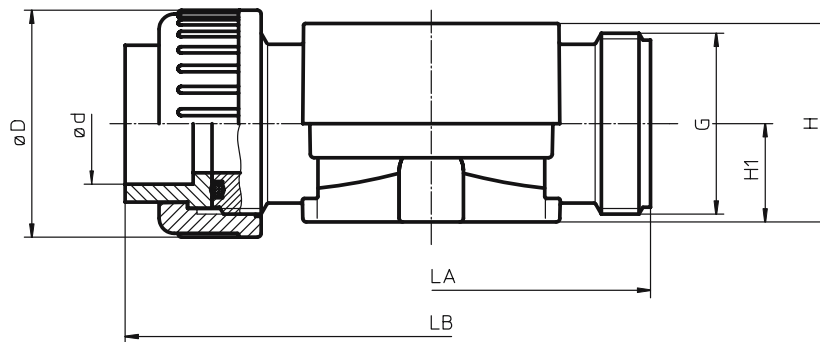


Union ends with sockets
connection code 7, 33 [mm]
 Valve body material PVC-U (Code1), PVDF (Code 20), Lining PPH (Code 70, 71)

								Connection code 7			Connection code 33		
MG	DN	NPS	G	øD	LA	H	H1	LB			ød	LB	ød
								Material Code 1	Material Code 20	Material Code 70, 71			
25	15	1/2"	G1	43	108	50	26	146	146	143	20	146	21.4
	20	3/4"	G1 1/4	53	108	50	26	152	150	146	25	152	26.7
	25	1"	G1 1/2	60	116	50	26	166	162	158	32	166	33.6
40	32	1 1/4"	G2	74	134	74	40	192	184	181	40	192	42.2
	40	1 1/2"	G2 1/4	83	154	74	40	222	210	207	50	222	48.3
50	50	2"	G2 3/4	103	182	82	40	264	246	243	63	264	60.3

For materials see overview on last page.

MG = diaphragm size

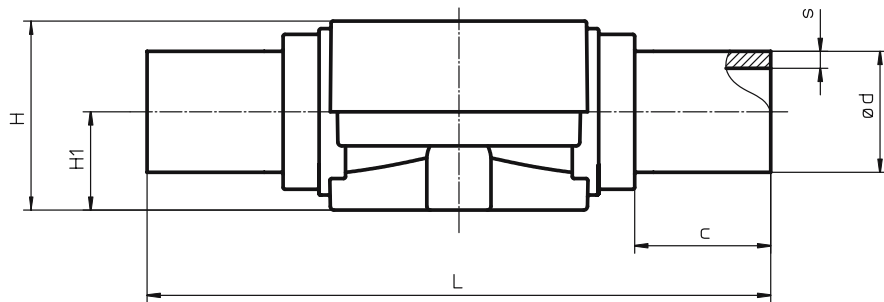


Spigots for IR butt welding, connection code 20 [mm]
Valve body material PVDF (Code 20), Lining PPH (Code 70, 71)

MG	DN	L	H	H1	ød	s	c
25	15	154	50	26	20	1.9	33
	20	154	50	26	25	2.3	33
	25	154	50	26	32	3.0	33
40	32	194	74	40	40	3.7	33
	40	194	74	40	50	4.6	33
50	50	224	82	40	63	5.8	33
80	65	284	117	55	75	3.6	43
	80	300	117	55	90	4.3	51
100	100	340	140	65	110	5.3	59

For materials see overview on last page.

MG = diaphragm size

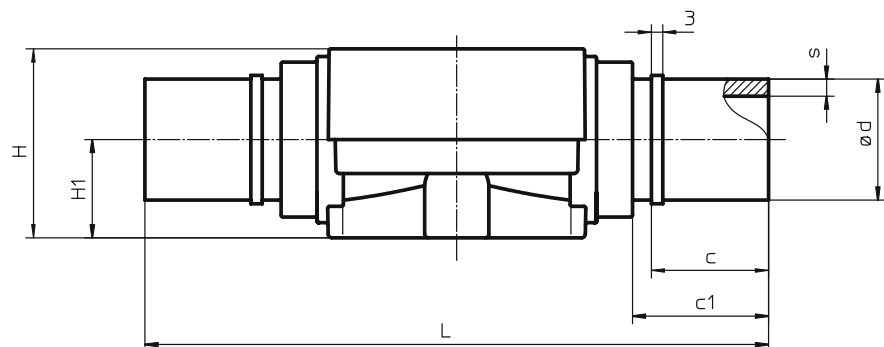


Spigots for IR butt welding, BCF, connection code 28 [mm]
Valve body material PVDF (Code 20)

MG	DN	L	H	H1	ød	c	c1	s
25	15	154	50	26	20	31	37	1.9
	20	154	50	26	25	31	37	1.9
	25	154	50	26	32	31	37	2.4
40	32	194	74	40	40	40	46	2.4
	40	194	74	40	50	40	46	3.0
50	50	224	82	40	63	40	46	3.0

For materials see overview on last page.

MG = diaphragm size

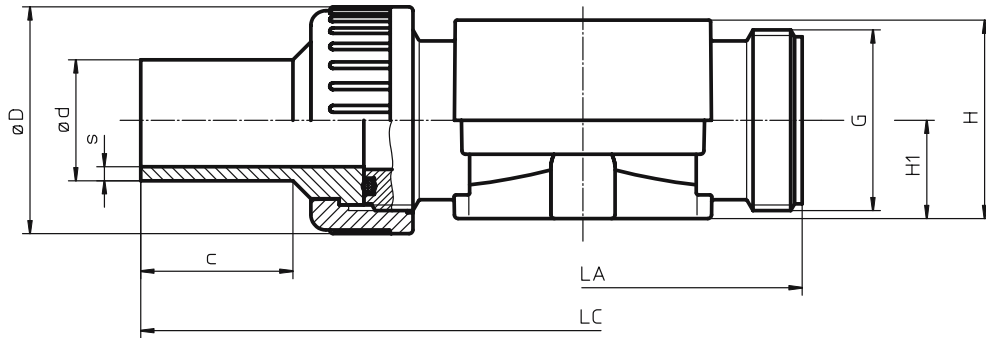


Union ends with insert, connection code 78 [mm]
Valve body material PVDF (Code 20), Lining PPH (Code 70, 71)

MG	DN	LA	LC	H	H1	øD	ød	G	S		c
									Material code 20	Material code 70, 71	
25	15	108	214	50	26	43	20	G 1	1.9	1.9	37
	20	108	220	50	26	53	25	G 1 1/4	2.3	1.9	39
	25	116	234	50	26	60	32	G 1 1/2	3.0	2.4	40
40	32	134	258	74	40	74	40	G 2	3.7	2.4	41
	40	154	284	74	40	83	50	G 2 1/4	4.6	3.0	43
50	50	182	318	82	40	103	63	G 2 3/4	5.8	3.0	43

For materials see overview on last page.

MG = diaphragm size



Flanges, connection code 4, 39 [mm]

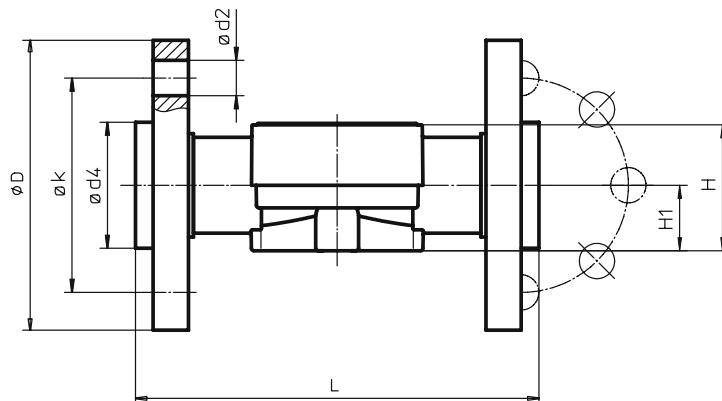
Valve body material PP (Code 5), PVDF (Code 20), Lining PPH (Code 70, 71)

MG	DN	L	H	H1	Connection code 4					Connection code 39				
					øD	ø d2	ø d4	ø k	Number of bolt holes	øD	ø d2	ø d4	ø k	Number of bolt holes
25	15	150*	depending on material code see body dimensions page 4 connection 0	depending on material code see body dimensions page 4 connection 0	95	14	45	65	4	95	16	45	60	4
	20	150			105	14	58	75	4	105	16	54	70	4
	25	160			115	14	68	85	4	115	16	63	79	4
40	32	180	depending on material code see body dimensions page 4 connection 0	depending on material code see body dimensions page 4 connection 0	140	18	78	100	4	140	16	73	89	4
	40	200			150	18	88	110	4	150	16	82	98	4
50	50	230	depending on material code see body dimensions page 4 connection 0	depending on material code see body dimensions page 4 connection 0	165	18	102	125	4	165	19	102	121	4
80	65	290			185	18	122	145	4	185	19	122	140	4
	80	310			200	18	138	160	8	200	19	133	152	4
100	100	350	220	18	158	180	8	229	19	158	190	8		

For materials see overview on last page.

MG = diaphragm size

* no DIN length



Overview of valve bodies for GEMÜ 677

Connection Code		0					4				7				20			28	30			33	39				78		
Material code		1	5	20	70	71	5	20	70	71	1	20	70	71	20	70	71	20	1	4	1	5	20	70	71	20	70	71	
MG	DN																												
25	15	X*	-	X*	X*	X*	-	X*	X*	X*	X*	X*	X*	X*	-	X*	X*	X*	X	X	X*	-	X*	X*	X*	X*	X*	X*	
	20	X*	-	X*	X*	X*	-	X*	X*	X*	X*	X*	X*	X*	-	X*	X*	X*	X	X	X*	-	X*	X*	X*	X*	X*	X*	
	25	X*	-	X*	X*	X*	-	X*	X*	X*	X*	X*	X*	X*	-	X*	X*	X*	X	X	X*	-	X*	X*	X*	X*	X*	X*	
40	32	X*	-	X*	X*	X*	-	X*	X*	X*	X*	X*	X*	X*	-	X*	X*	X*	X	X	X*	-	X*	X*	X*	X*	X*	X*	
	40	X*	-	X*	X*	X*	-	X*	X*	X*	X*	X*	X*	X*	-	X*	X*	X*	X	X	X*	-	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*	-	X*	X*	X*	X*	X*	X*	
80	65	X	X	X	-	-	X	X	-	-	-	-	-	-	X	-	-	-	X	X	-	X	X	-	-	-	-		
	80	X	X	X	-	-	X	X	-	-	-	-	-	-	X	-	-	-	X	X	-	X	X	-	-	-	-		
100	100	X	X	X	-	-	X	X	-	-	-	-	-	X	-	-	-	X	X	-	X	X	-	-	-	-	-		

*Valve bodies are suitable for use with diaphragms code 5E and 5F.

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 · 06/2006 · 88048764

For further plastic diaphragm valves, accessories and other products, please see our Product Range catalogue and Price List. Contact GEMÜ.



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