GEMÜ®

Diaphragm Valve, Plastic

Construction

The GEMÜ 667 pneumatically operated 2/2-way diaphragm valve has a low maintenance membrane actuator. All medium wetted parts and the housing are made of plastic. Valve sizes DN 15 to DN 50 are self-opening due to integral springs (control function 2), valve sizes DN 65 and DN 80 are opened by the pressure of the working medium on the diaphragm (control function 5).

Features

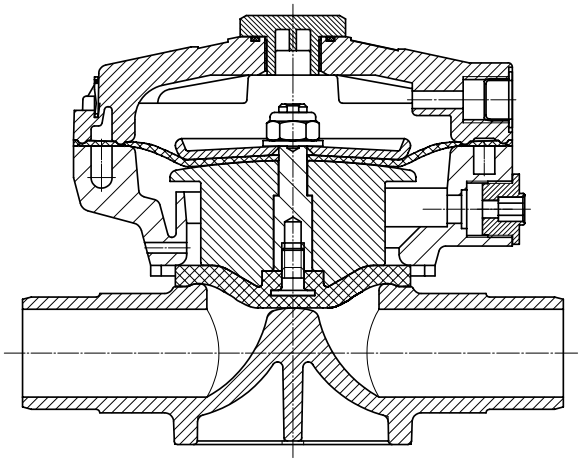
- Suitable for inert and corrosive* liquid and gaseous media
- Valve body and diaphragm available in various materials and designs
- Insensitive to particulate media

Advantages

- Optional flow direction, will seal in either flow direction up to full operating pressure
- Optional mounting position
- Optional accessories
  - Stroke limiter with optical position indicator
  - Electrical position indicator (GEMÜ 1215), "CLOSED" position
  - Electrical position indicators with microswitches or proximity switches

*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.

Working medium temperature

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

The permissible operating pressure depends on the working medium temperature.

Ambient temperature

Valve body PVC-U	10 to 50 °C
Valve body PP / PP-H	5 to 50 °C
Valve body ABS / PVDF	-10 to 50 °C

Control medium

Inert gases

Max. perm. temperature of control medium	40 °C
Filling volume:	
DN 15 - 25	0.12 dm^3
DN 32 - 40	0.24 dm^3
DN 50	0.56 dm^3
DN 65 - 80	0.96 dm^3

O-ring material for valve bodies with union ends

Diaphragm material	O-ring material
NBR	EPDM
FPM	FPM
EPDM	EPDM

Other combinations on request

Pressure / temperature correlation for plastic

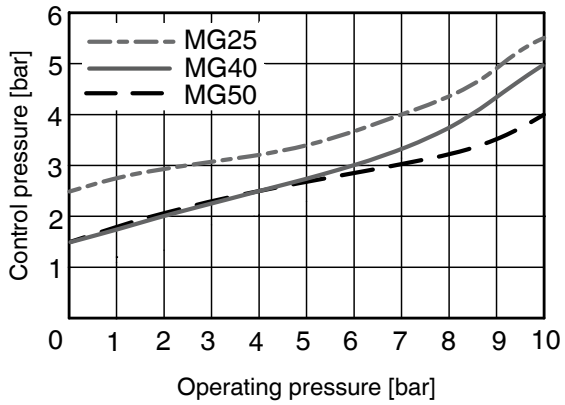
Temperature in °C (plastic body)		-20	-10	±0	5	10	20	25	30	40	50	60	70	80
Valve body material		Permissible operating pressure in bar												
PVC-U	Code 1	-	-	-	-	10.0	10.0	10.0	8.0	6.0	3.5	1.5	-	-
ABS	Code 4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0	6.0	4.0	2.0	-	-
PP	Code 5	-	-	-	10.0	10.0	10.0	10.0	8.5	7.0	5.5	4.0	2.7	1.5
PP-H	Code 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

Data for extended temperature ranges on request. Please note that the ambient temperature and medium temperature generate a combined temperature at the valve body which must not exceed the above values.

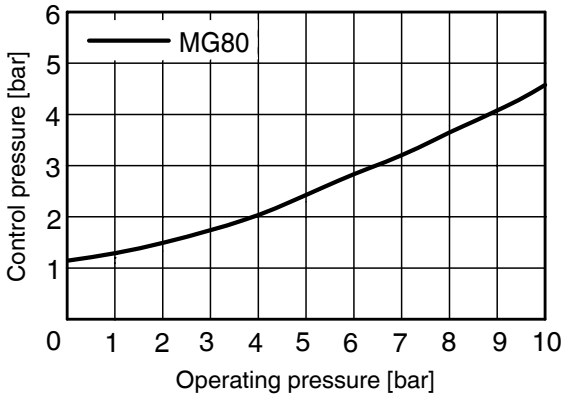
		Operating pressure [bar]		Control pressure [bar]	Kv value	Weight
MG	DN	Control function 2	Control function 5		[m^3/h]	[kg]
25	15	0 - 10	-	max. 6.0 see diagram	5.6	1.0
	20				8.2	1.0
	25				10.5	1.0
40	32	0 - 10	-		18.0	2.2
	40				25.0	2.2
50	50	0 - 10	-		46.0	3.5
80	65	-	0.5 - 10		78.0	9.6
	80		0.5 - 10		120.0	9.6

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.
Kv values determined acc. to IEC 534 standard, inlet pressure 6 bar, Δp 1 bar, PVC-U valve body and soft elastomer diaphragm.
MG = diaphragm size

Control pressure characteristic - Control function 2



Control pressure characteristic - Control function 5



MG = diaphragm size

Order data

Body configuration	Code
2/2-way body	D

Connection	Code
Spigots DIN for socket solvent cementing / welding	0
Union ends with DIN insert (socket)	7
Spigots for IR butt welding	20
Spigots for IR butt welding, BCF	28
Spigots - inch	30
Union ends with inch insert - BS (socket)	33
Union ends with DIN insert (for IR butt welding)	78

Remark: Due to the low overall actuator height, flange connections not feasible. If flanges are required, we recommend GEMÜ 690 control function 2.

Valve body material	Code
PVC-U, grey	1
ABS	4
PP, reinforced	5
PVDF	20
Inliner PP-H grey / outliner PP reinforced	71

Diaphragm material	Code
NBR	2
FPM	4
EPDM	14

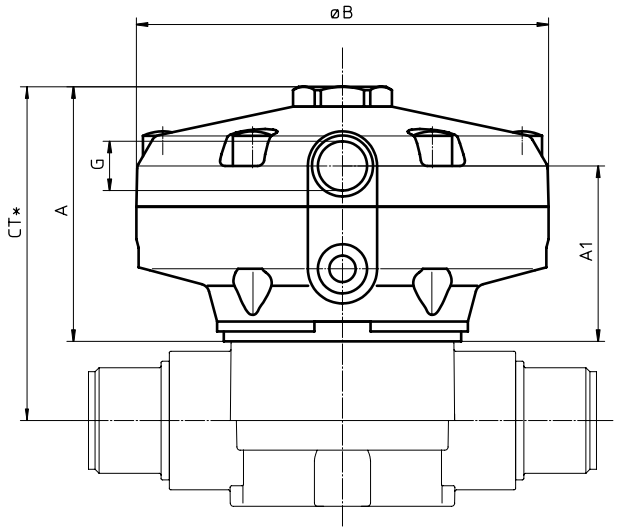
Control function	Code
Closed by control medium, opened by spring force (DN 15 - 50)	2
Closed by control medium, opened by operating pressure (DN 65 + 80)	5

Order example	667	15	D	0	1	14	2
Type	667						
Nominal size		15					
Body configuration (code)			D				
Connection (code)				0			
Valve body material (code)					1		
Diaphragm material (code)						14	
Control function (code)							2

Actuator dimensions [mm]

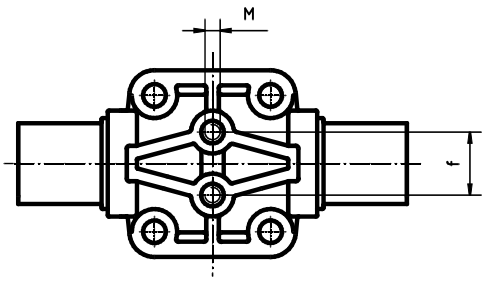
MG	DN	ø B	A	A1	G
25	15 - 25	125	78	54	G 1/4
40	32 - 40	155	108	74	G 1/4
50	50	210	133	89	G 1/4
80	65 - 80	258	152	103	G 1/4

MG = diaphragm size



* CT = A + H1 (see body dimensions)

Valve body mounting dimensions [mm]			
Diaphragm size	**M**	**f**	**Depth of thread**
25	M6	25.0	14
40	M8	44.5	17
50	M8	44.5	17
80	M12	100.0	24



Body dimensions [mm]

Spigots - DIN, connection code 0
Valve body material: PVC-U (code 1), PP (code 5), PVDF (code 20), inliner PP-H (code 71)

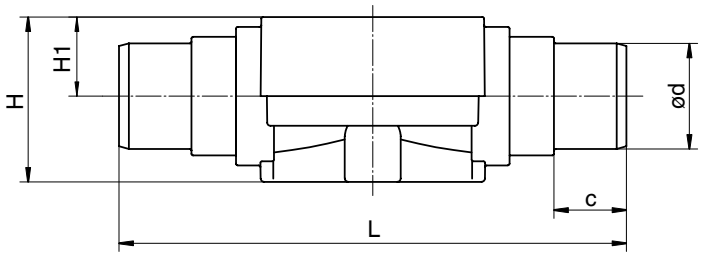
MG	DN	NPS	L	H			H1			ød	c			Weight [kg]
				Material code 1	Material code 5	Material code 20, 71	Material code 1	Material code 5	Material code 20, 71		Material code 1	Material code 5	Material code 20, 71	
25	15	1/2”	124	45	-	50	19	-	24	20	16	-	18	0.24
	20	3/4”	144	45	-	50	19	-	24	25	19	-	19	0.24
	25	1”	154	45	-	50	19	-	24	32	22	-	22	0.34
40	32	1 1/4”	174	74	-	74	34	-	34	40	26	-	24	0.65
	40	1 1/2”	194	74	-	74	34	-	34	50	31	-	26	0.70
50	50	2”	224	78	-	82	38	-	42	63	39	-	29	1.10
80	65	2 1/2”	284	117	117	117	62	62	62	75	44	44	44	2.50
	80	3”	300	117	117	117	62	62	62	90	51	51	51	4.00

For materials see overview on last page MG = diaphragm size

Spigots - inch, connection code 30
Valve body material: PVC-U (code 1), ABS (code 4)

MG	DN	NPS	L	H	H1	ød	c	Weight [kg]
25	15	1/2”	141	45	19	21.4	24	0.24
	20	3/4”	145	45	19	26.7	27	0.24
	25	1”	154	45	19	33.6	30	0.34
40	32	1 1/4”	174	74	34	42.2	33	0.65
	40	1 1/2”	194	74	34	48.3	39	0.70
50	50	2”	224	75	35	60.3	40	1.10
80	65	2 1/2”	284	117	62	73.1	44	2.50
	80	3”	300	117	62	88.9	51	4.00

For materials see overview on last page MG = diaphragm size

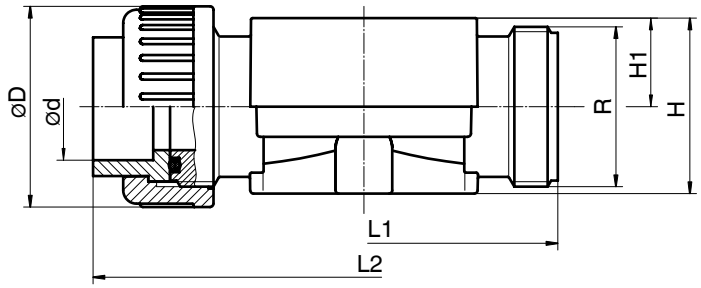


Body dimensions [mm]

Union ends with insert, connection code 7, 33
Valve body material: PVC-U (code 1), PVDF (code 20), inliner PP-H (code 71)

MG	DN	NPS	R	øD	L1	H	H1	Connection code 7				Connection code 33		Weight [kg]
								L2			ød	L2	ød	
								Material code 1	Material code 20	Material code 71				
25	15	1/2”	G 1	43	108	50	24	146	146	143	20	146	21.4	0.32
	20	3/4”	G 1 1/4	53	108	50	24	152	150	146	25	152	26.7	0.38
	25	1”	G 1 1/2	60	116	50	24	166	162	158	32	166	33.6	0.42
40	32	1 1/4”	G 2	74	134	74	34	192	184	181	40	192	42.2	0.88
	40	1 1/2”	G 2 1/4	83	154	74	34	222	210	207	50	222	48.3	0.97
50	50	2”	G 2 3/4	103	182	82	42	264	246	243	63	264	60.3	1.60

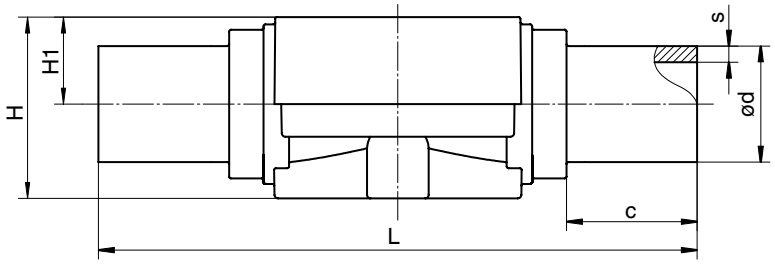
For materials see overview on last page MG = diaphragm size



Spigots for IR butt welding, connection code 20
Valve body material: PVDF (code 20), inliner PP-H (code 71)

MG	DN	L	H	H1	ød	s		c	Weight [kg]
						Material code 20	Material code 71		
25	15	154	50	24	20	-	1.9	33	0.18
	20	154	50	24	25	-	2.3	33	0.18
	25	154	50	24	32	-	2.9	33	0.18
40	32	194	74	34	40	-	3.7	33	0.43
	40	194	74	34	50	-	4.6	33	0.64
50	50	224	82	42	63	-	5.8	33	0.69
80	65	284	117	62	75	3.6	-	43	3.57
	80	300	117	62	90	4.3	-	51	3.30

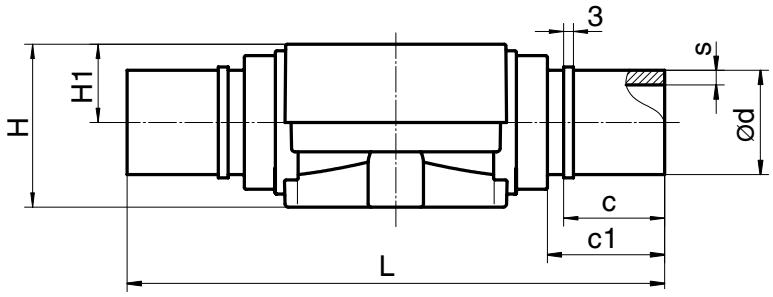
For materials see overview on last page MG = diaphragm size



Body dimensions [mm]

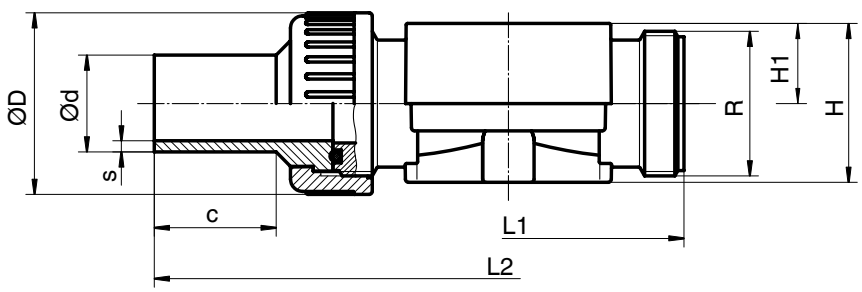
Spigots for IR butt welding, BCF, connection code 28 Valve body material: PVDF (code 20)									
MG	**DN**	**L**	**H**	**H1**	**ød**	**c**	**c1**	**s**	**Weight [kg]**
25	15	154	50	24	20	31	37	1.9	0.24
	20	154	50	24	25	31	37	1.9	0.25
	25	154	50	24	32	31	37	2.4	0.26
40	32	194	74	34	40	40	46	2.4	0.65
	40	194	74	34	50	40	46	3.0	0.66
50	50	224	82	42	63	40	46	3.0	1.10

MG = diaphragm size



Union ends with insert, connection code 78 Valve body material: PVDF (code 20), inliner PP-H (code 71)												
MG	**DN**	**L1**	**L2**	**H**	**H1**	**øD**	**ød**	**R**	**s**		**c**	**Weight [kg]**
									Material code 20	**Material code 71**		
25	15	108	214	50	24	43	20	G 1	1.9	1.9	36	0.34
	20	108	220	50	24	53	25	G 1 1/4	1.9	2.3	37	0.39
	25	116	234	50	24	60	32	G 1 1/2	2.4	2.9	39	0.45
40	32	134	258	74	34	74	40	G 2	2.4	3.7	39	0.88
	40	154	284	74	34	83	50	G 2 1/4	3.0	4.6	43	1.10
50	50	182	318	82	42	103	63	G 2 3/4	3.0	5.8	43	1.70

For materials see overview on last page MG = diaphragm size



Overview of valve bodies for GEMÜ 667

Connection code		0				7			20		28	30		33	78	
Material code		1	5	20	71	1	20	71	20	71	20	1	4	1	20	71
MG	DN															
25	15	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
	25	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
	40	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
80	65	X	X	X	-	-	-	-	X	-	-	X	X	-	-	-
	80	X	X	X	-	-	-	-	X	-	-	X	X	-	-	-

MG = diaphragm size

Remark: Due to the low overall actuator height, flange connections not feasible. If flanges are required, we recommend GEMÜ 690 control function 2.

Other plastic diaphragm valves

GEMÜ 617 / 677

GEMÜ 630 / 600

GEMÜ 690

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

GEMÜ Gebr.Müller · Apparatebau GmbH & Co.KG · Fritz-Müller-Str. 6-8 · D-74653 Ingelfingen-Criesbach · Telefon +49(0)7940/123-0 · Telefax +49(0)7940/123-192
info@gemue.de · www.gemu-group.com