



01895 200015

sales@tamo.co.uk

**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

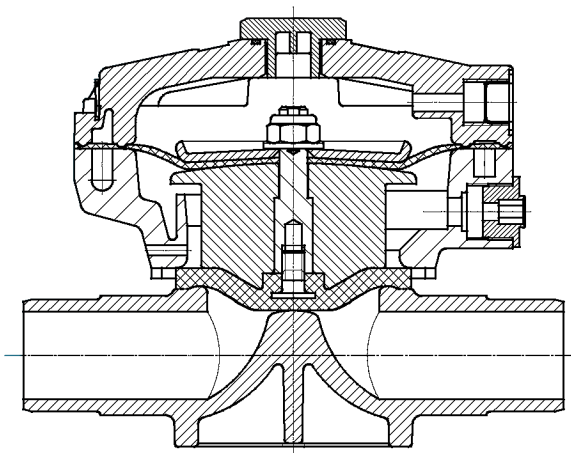
### Advantages

- 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



**GEMÜ® 667**

## 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.

### Control medium

Inert gases

Max. perm. temperature of control medium 40° C

### Working medium temperature

Valve body PVC-U	5 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.

### Filling volume

DN 15 - 25	0.12 dm <sup>3</sup>
DN 32 - 40	0.24 dm <sup>3</sup>
DN 50	0.56 dm <sup>3</sup>
DN 65 - 80	0.96 dm <sup>3</sup>

### Ambient temperature

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

### O-ring material for valve bodies with union ends

Diaphragm material	O-ring material
CSM	EPDM
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	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.

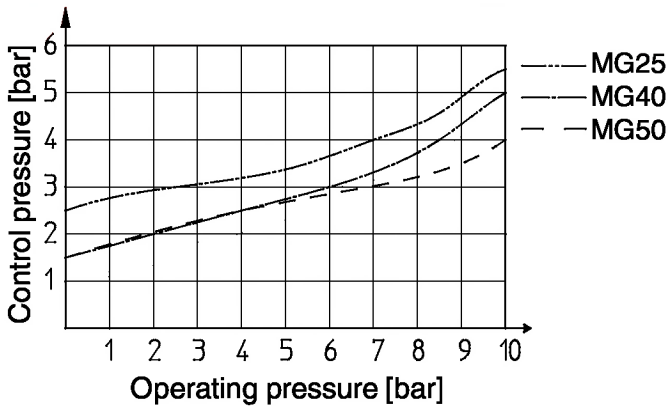
MG	DN	Operating pressure [bar]		Control pressure [bar]	Kv value [m <sup>3</sup> /h]	Weight [kg]
		Control function 2	Control function 5			
25	15	0 - 10	-	max. 6.0 see diagram	5.6	1.0
	20				8.2	1.0
	25				10.5	1.0
40	32	0 - 10	-		18.0	2.2
	40				25.0	2.2
50	50	0 - 10	-		46.0	3.5
80	65	-	0.5 - 10	78.0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

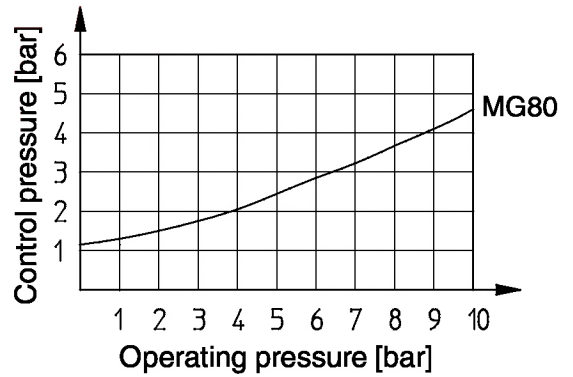
Information on operating pressures applied on both sides and for high purity media on request.

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

**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 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 (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.

Diaphragm material	Code
CSM	1
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

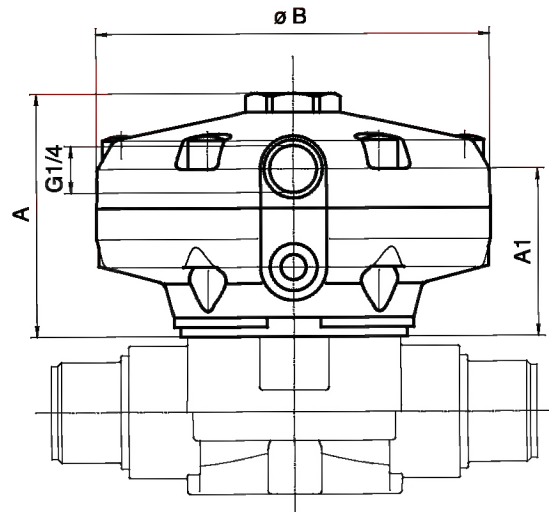
Valve body material	Code
PVC-U, grey	1
ABS	4
PP, reinforced	5
PVDF	20
Inliner PP-H grey / outliner PP reinforced	71

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]

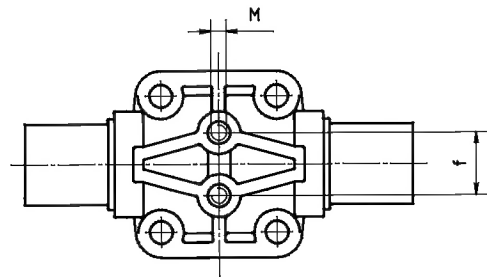
MG	DN	ø B	A	A1
25	15 - 25	125	78	54
40	32 - 40	155	108	74
50	50	210	133	89
80	65 - 80	258	152	103

MG = diaphragm size



### 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]

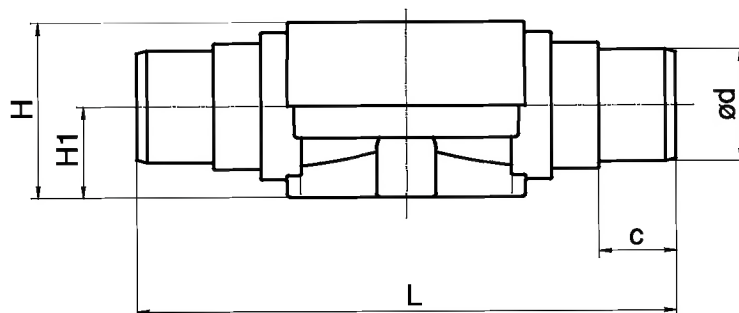
#### Spigots, connection code 0, 30

Valve body material: PVC-U (code 1), ABS (code 4), PP (code 5), PVDF (code 20), inliner PP-H (code 71)

MG	DN	NPS	H1	L	Connection code 0							Connection code 30			
					H			ød	c			L	H	ød	c
					Material code 1	Material code 5	Material code 20, 71		Material code 1	Material code 5	Material code 20, 71				
25	15	1/2"	26	124	45	-	50	20	16	-	18	141	45	21.4	24
	20	3/4"	26	144	45	-	50	25	19	-	19	145	45	26.7	27
	25	1"	26	154	45	-	50	32	22	-	22	154	45	33.6	30
40	32	1 1/4"	40	174	74	-	74	40	26	-	24	174	68	42.2	33
	40	1 1/2"	40	194	74	-	74	50	31	-	26	194	68	48.3	39
50	50	2"	40	224	78	-	82	63	39	-	29	224	75	60.3	40
80	65	2 1/2"	55	284	117	117	117	75	44	44	44	284	117	73.1	44
	80	3"	55	300	117	117	117	90	51	51	51	300	117	88.9	51
100	100	4"	65	340	140	140	140	110	61	61	61	340	140	114.3	61

For materials see overview on last page

MG = diaphragm size



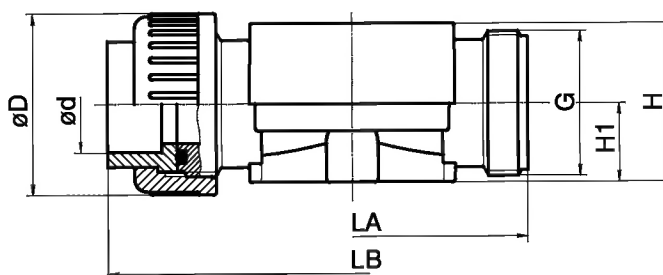
## Body dimensions [mm]

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

For materials see overview on last page

MG = diaphragm size



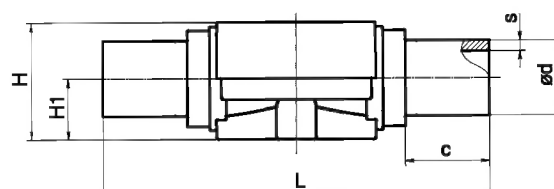
**Spigots for IR butt welding, connection code 20**

**Valve body material: PVDF (code 20),  
inliner PP-H (code 71)**

MG	DN	L	H	H1	ød	s		c
						Material code 20	Material code 71	
25	15	154	50	26	20	-	1.9	33
	20	154	50	26	25	-	2.3	33
	25	154	50	26	32	-	2.9	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

For materials see overview on last page

MG = diaphragm size



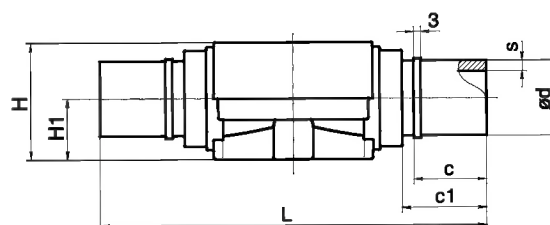
**Spigots for IR butt welding, BCF,**

**connection code 28**

**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

MG = diaphragm size



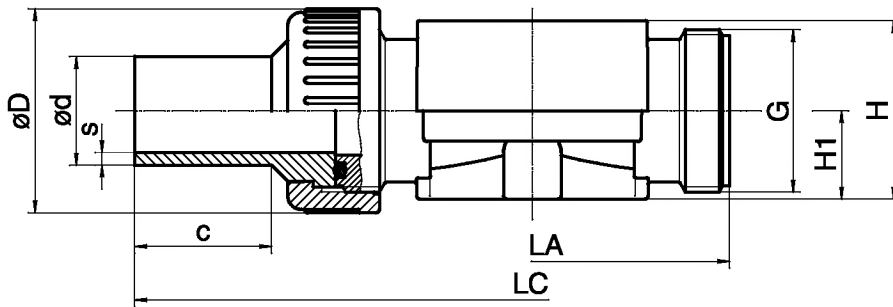
## Body dimensions [mm]

### Union ends with insert, connection code 78 Valve body material: PVDF (code 20), inliner PP-H (code 71)

MG	DN	LA	LC	H	H1	øD	ød	G	S		C
									Material code 20	Material code 71	
25	15	108	214	50	26	43	20	G 1	1.9	1.9	36
	20	108	220	50	26	53	25	G 1 1/4	1.9	2.3	37
	25	116	234	50	26	60	32	G 1 1/2	2.4	2.9	39
40	32	134	258	74	40	74	40	G 2	2.4	3.7	39
	40	154	284	74	40	83	50	G 2 1/4	3.0	4.6	43
50	50	182	318	82	40	103	63	G 2 3/4	3.0	5.8	43

For materials see overview below

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.

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



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**GEMÜ**® VALVES, MEASUREMENT  
AND CONTROL SYSTEMS

