GEMÜ®

Diaphragm Valve, Plastic

Construction

The GEMÜ 600/630 pneumatically operated 2/2-way valves have a low maintenance piston actuator which can be controlled by inert gaseous media. They have an integral optical position indicator as standard. GEMÜ 600 (DN 25 - 50) is also equipped with a stroke limiter. Normally Closed, Normally Open and Double Acting control functions are available.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- Valve body and diaphragm available in various materials and designs
- GEMÜ 600 has a connection for pilot valves according to NAMUR
- Control connection positioned in-line with flow direction as standard, thus installable in extremely restricted spaces
- Optional flow direction and mounting position
- Versions according to ATEX on request

Advantages

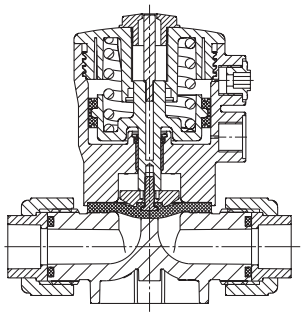
- Variable spring set for operating pressures up to 10 bar upstream and downstream
- Mounting plates for height compensation of differing body dimensions and nominal sizes
- Actuator top rotatable 4 x 90° (diaphragm size 25 - 50)
- Optional accessories
  - Electrical position indicator with microswitches or proximity switches
  - Pneumatic or electro-pneumatic positioners and process controllers

*see information on working medium on page 2

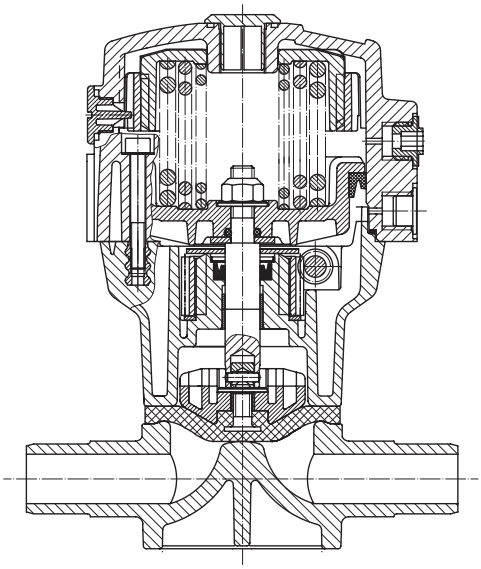
GEMÜ 630
Diaphragm size 10,
DN 12-15

GEMÜ 600
Diaphragm size 25-50,
DN 15-50

Sectional drawing



GEMÜ 630



GEMÜ 600

GEMÜ® 600, 630

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

Control medium

Inert gases	
Min. required control pressure	see table below
Max. permiss. control pressure	6 bar
Max. perm. temperature of control medium	40 °C

O-ring material for valve bodies with union ends

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

Other combinations on request

Pressure / temperature correlation for PN 6 (valve bodies diaphragm size 10)

Temperature in °C (plastic body		-20	-10	±0	5	10	20	25	30	40	50	60	70	80
Valve body material		Permissible operating pressure [bar]												
PVC-U	Code 1	-	-	-	-	6.0	6.0	6.0	4.8	3.6	2.1	0.9	-	-
PP	Code 5	-	-	-	6.0	6.0	6.0	6.0	5,1	4.2	3.3	2.4	1.6	0.9
PVDF	Code 20	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.4	4.8	4.3	3.8	3.2	2.8

Pressure / temperature correlation for PN 10 (valve bodies diaphragm size 25-50)

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-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.

			Control function 1 [bar]		Control function 2+3 [bar]		Kv value
Type	MG	DN	Operating pressure	Control pressure	Operating pressure	Control pressure	[m^3/h]
GEMÜ 630	10	12	0 - 6	3,2 - 6,0	-	-	2.8
		15					3.5
GEMÜ 600	25	15	0 - 10	min. 4.0	0 - 10	max. 6.0	5.6
		20	0 - 10		0 - 10		8.2
		25	0 - 10		0 - 10		10.5
	40	32	0 - 10	max. 6.0	0 - 10		18.0
		40	0 - 10		0 - 10		25.0
	50	50	0 - 10		0 - 10		46.0

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

Order data

Valve type	Code
GEMÜ 630 diaphragm size 10	630
GEMÜ 600 diaphragm size 25 - 50	600

Body configuration	Code
2/2-way body	D

Connection	Code
Spigots DIN for socket solvent cementing / welding	0
Threaded sockets DIN ISO 228	1
Solvent cement sockets DIN	2
Flanges EN 1092 / PN10 / form B length EN 558, series 1, ISO 5752, basic series 1	4
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
Flanges ANSI class 125/150 RF length EN 558, series 1, ISO 5752, basic series 1	39
Union ends with DIN insert (for IR butt welding)	78

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
PTFE / EPDM	PTFE laminated	MG 10	52
PTFE / EPDM convex	PTFE loose	MG 25 - 50	5E
PTFE / FPM convex	PTFE loose	MG 25 - 50	5F
MG = diaphragm size			

Control function		Code
Normally closed diaphragm size 10 - 50	NC	1
Normally open diaphragm size 25 - 50	NO	2
Double acting diaphragm size 50	DA	3

Actuator version			Code
Piston ø 54	diaphragm size 10	(GEMÜ 630)	1/N
Piston ø 85	diaphragm size 25	(GEMÜ 600)	2/N
Piston ø 105	diaphragm size 40	(GEMÜ 600)	3/N
Piston ø 125	diaphragm size 50	(GEMÜ 600)	4/N

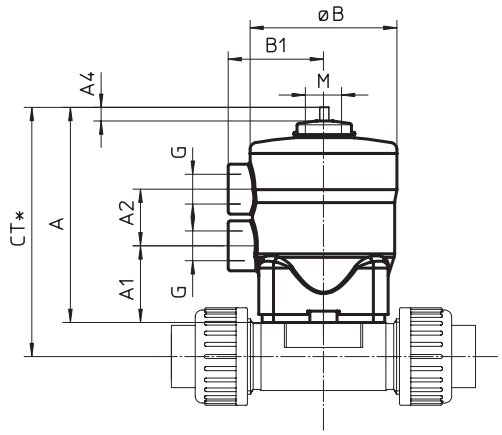
Order example	600	15	D	7	1	14	1	2/N
Type	600							
Nominal size		15						
Body configuration (code)			D					
Connection (code)				7				
Valve body material (code)					1			
Diaphragm material (code)						14		
Control function (code)							1	
Actuator version (code)								2/N

Note: Standard connection to NAMUR (diaphragm size 25). For diaphragm sizes 40 and 50 please use the control air adapter GEMÜ 1470. Please order separately.

Dimensions [mm]

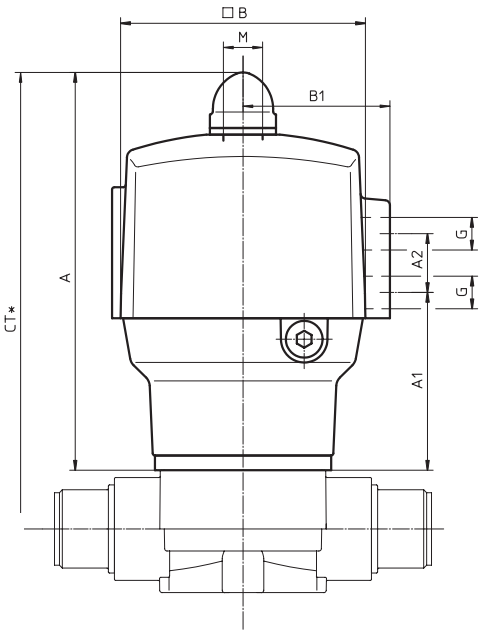
Actuator dimensions										
Type	Diaphragm size	B	B1	A	A1	A2	A4 ca.	G	M	Weight [kg]
GEMÜ 630	10	ø 67	43	94	34	25	6	G 1/4	M16x1	0.3
GEMÜ 600	25	□ 100	61	163	73	24	-	G 1/4	M16x1	1.5
	40	□ 125	72	216	93	65	-	G 1/4	M16x1	3.0
	50	□ 150	83	252	110	65	-	G 1/4	M16x1	5.1

GEMÜ 630



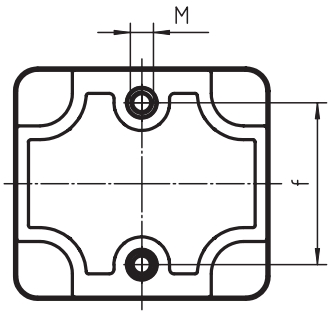
* CT = A + H1 (see body dimensions)

GEMÜ 600

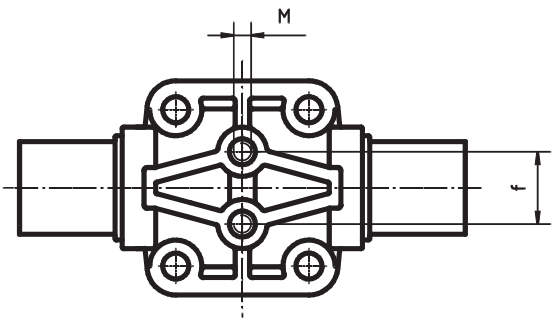


Valve body mounting dimensions		
Diaphragm size	M	f
10	M5	35.0
25	M6	25.0
40	M8	44.5
50	M8	44.5

Diaphragm size 10 (GEMÜ 630)



Diaphragm size 25 - 50 (GEMÜ 600)



Body dimensions [mm]

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

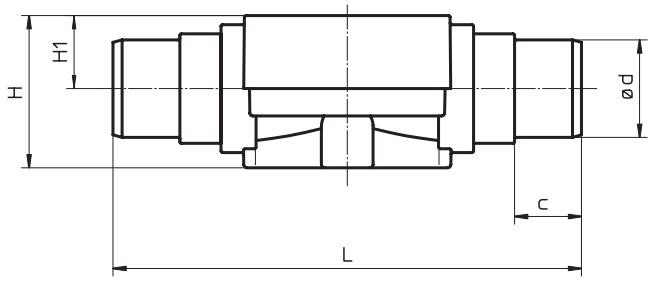
Typ	MG	DN	NPS	L	H		H1		ød	c		Weight [kg]
					Material code 1	Material code 20, 71	Material code 1	Material code 20, 71		Material code 1	Material code 20, 71	
GEMÜ 600	25	15	1/2”	124	45	50	19	24	20	16	18	0.24
		20	3/4”	144	45	50	19	24	25	19	19	0.24
		25	1”	154	45	50	19	24	32	22	22	0.34
	40	32	1 1/4”	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

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)

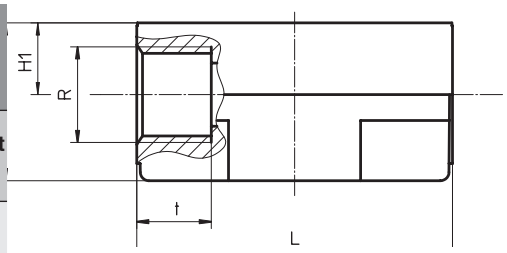
Typ	MG	DN	NPS	L	H	H1	ød	c	Weight [kg]
GEMÜ 600	25	15	1/2”	141	45	19	21.4	24	0.24
		20	3/4”	145	45	19	26.7	27	0.24
		25	1”	154	45	19	33.6	30	0.34
	40	32	1 1/4”	174	74	34	42.2	33	0.65
		40	1 1/2”	194	74	34	48.3	39	0.70
	50	50	2”	224	75	35	60.3	40	1.10

For materials see overview on last page MG = diaphragm size



Threaded sockets, connection code 1
Valve body material: PVC-U (code 1), PP (code 5), PVDF (code 20)

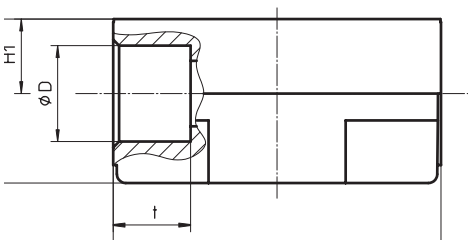
Typ	MG	DN	R	t	H		H1		L	Weight [kg]
					Material code 1, 5	Material code 20	Material code 1, 5	Material code 20		
GEMÜ 630	10	12	G3/8	13	27.5	31.5	12.5	12.5	55	0.08



For materials see overview on last page
MG = diaphragm size

Solvent cement sockets, connection code 2
Valve body material: PVC-U (code 1)

Typ	MG	DN	ø D	t	H	H1	L	Weight [kg]
GEMÜ 630	10	12	16	13	27.5	12.5	55	0.06



MG = diaphragm size

Body dimensions [mm]

Union ends with DIN insert (socket), connection code 7
Valve body material: PVC-U (code 1), PP (code 5), PVDF (code 20), inliner PP-H (code 71)

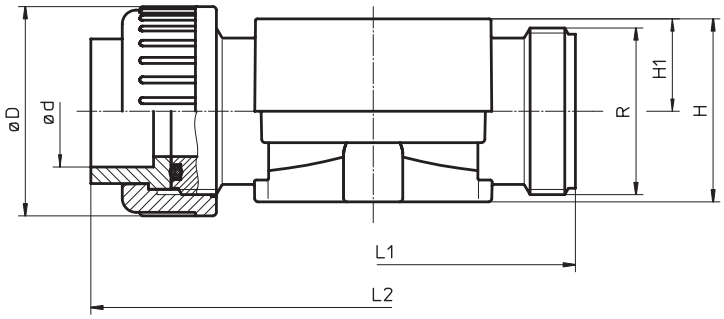
Type	MG	DN	L1	L2			H		H1		øD	ød	R	Weight [kg]
				Material code 1	Material code 20	Material code 5, 71	Material code 1, 5	Material code 20, 71	Material code 1, 5	Material code 20, 71				
GEMÜ 630	10	15	90	128	128	125	30	41	15	16	43	20	G 1	0.18
GEMÜ 600	25	15	108	146	146	143	50	50	24	24	43	20	G 1	0.32
		20	108	152	150	146	50	50	24	24	53	25	G 11/4	0.38
		25	116	166	162	158	50	50	24	24	60	32	G 11/2	0.42
	40	32	134	192	184	181	74	74	34	34	74	40	G 2	0.88
		40	154	222	210	207	74	74	34	34	83	50	G 21/4	0.97
	50	50	182	264	246	243	82	82	42	42	103	63	G 23/4	1.60

For materials see overview on last page MG = diaphragm size

Union ends with inch insert (socket), connection code 33
Valve body material: PVC-U (code 1)

Type	MG	DN	NPS	L1	L2	H	H1	øD	ød	R	Weight [kg]
GEMÜ 630	10	15	1/2“	90	128	30	15	43	21.4	G 1	0.13
GEMÜ 600	25	15	1/2“	108	146	50	24	43	21.4	G 1	0.24
		20	3/4“	108	152	50	24	53	26.7	G 1 1/4	0.28
		25	1“	116	166	50	24	60	33.6	G 1 1/2	0.33
	40	32	1 1/4“	134	192	74	34	74	42.2	G 2	0.70
		40	1 1/2“	154	222	74	34	83	48.3	G 2 1/4	0.83
	50	50	2“	182	264	82	42	103	60.3	G 2 3/4	1.40

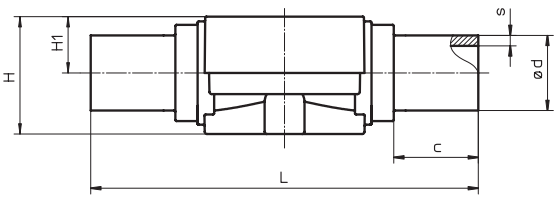
MG = diaphragm size



Spigots for IR butt welding, Connection code 20
Valve body material: Inliner PP-H (code 71)

Type	MG	DN	L	H	H1	ød	s	c	Weight [kg]
GEMÜ 600	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

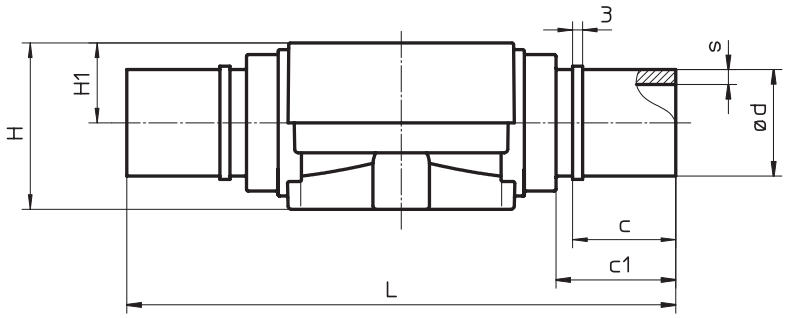
MG = diaphragm size



Body dimensions [mm]

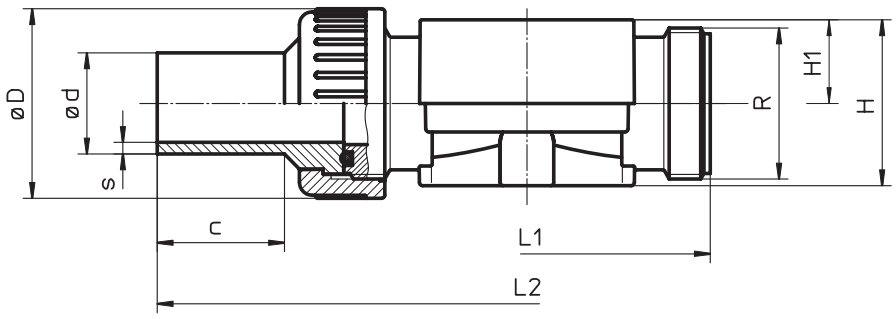
Spigots for IR butt welding, BCF, connection code 28 Valve body material: PVDF (code 20)										
Type	**MG**	**DN**	**L**	**H**	**H1**	**ød**	**c**	**c1**	**s**	**Weight [kg]**
GEMÜ 630	10	15	134	41	16	20	31	37	1.9	0.13
GEMÜ 600	25	15	154	50	24	20	31	37	1.9	0.24
		20	154	50	24	25	31	37	1.9	0.25
		25	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: PP (code 5), PVDF (code 20), inliner PP-H (code 71)															
Type	**MG**	**DN**	**L1**	**L2**	**H**		**H1**		**øD**	**ød**	**R**	**s**		**c**	**Weight [kg]**
					Material code 5	**Material code 20,71**	**Material code 5**	**Material code 20, 71**				**Material code 5, 71**	**Material code 20**		
GEMÜ 630	10	15	90	196	30	41	15	16	42	20	G 1	1.9	1.9	36	0.20
GEMÜ 600	25	15	108	214	-	50	-	24	43	20	G1	1.9	1.9	36	0.34
		20	108	220	-	50	-	24	53	25	G 1 1/4	2.3	1.9	37	0.39
		25	116	234	-	50	-	24	60	32	G 1 1/2	2.9	2.4	39	0.45
	40	32	134	258	-	74	-	34	74	40	G 2	3.7	2.4	39	0.88
		40	154	284	-	74	-	34	83	50	G 2 1/4	4.6	3.0	43	1.10
	50	50	182	318	-	82	-	42	103	63	G 2 3/4	5.8	3.0	43	1.70

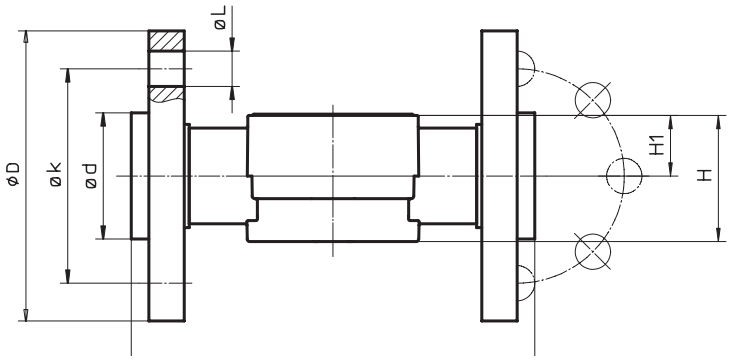
For materials see overview on last page MG = diaphragm size



Body dimensions [mm]

Flanges, connection code 4, 39 Valve body material: PVDF (code 20), inliner PP-H (code 71)																	
Type	MG	DN	FTF	H	H1	Connection code 4					Connection code 39					Weight [kg]
						øD	øL	ød	øk	Number of bolts	øD	øL	ød	øk	Number of bolts	
GEMÜ 600	25	15	150*	depending on material code see body dimensions page 5 connection code 0	depending on material code see body dimensions page 5 connection code 0	95	14	45	65	4	95	16	45	60	4	0.73
		20	150			105	14	58	75	4	105	16	54	70	4	0.89
		25	160			115	14	68	85	4	115	16	63	79	4	1.30
	40	32	180			140	18	78	100	4	140	16	73	89	4	2.10
		40	200			150	18	88	110	4	150	16	82	98	4	2.50
	50	50	230			165	18	102	125	4	165	19	102	121	4	3.20

For materials see overview below MG = diaphragm size *Length is not according to EN 558, series 1



Overview of valve bodies for GEMÜ 600, 630																										
Type	Connection code		0			1			2	4		7				20	28	30		33	39		78			
	Material code		1	20	71	1	5	20	1	20	71	1	5	20	71	71	20	1	4	1	20	71	5	20	71
	MG	DN																								
GEMÜ 630	10	12	-	-	-	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15	-	-	-	-	-	-	-	-	-	X	X	X	-	-	X	-	-	X	-	-	X	X	-	
GEMÜ 600	25	15	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	
		25	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	
		40	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	

MG = diaphragm size

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

Technical data sheet

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

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