

High Purity diaphragm valve, plastic

Construction

The GEMÜ 677 HP/HPW 2/2-way valve has a low maintenance manual operator. It is equipped with an ergonomically designed handwheel and an integral optical position indicator. The medium wetted parts are made of PFA, PVDF or PP (body) and PTFE (shut off diaphragm).

Features

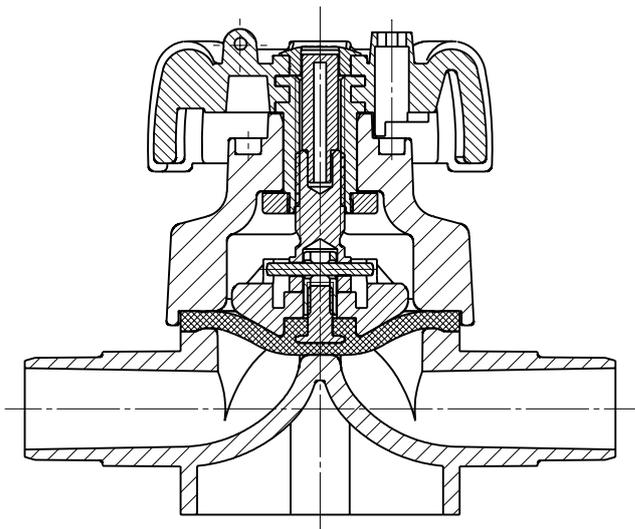
- Suitable for inert and corrosive* liquid and gaseous media, particularly high purity media
- All medium wetted parts and the housing are made of high-grade plastic.
- Operator: Glass fibre reinforced PP
- Nominal sizes DN 15 - DN 100 / NPS 1/2" - NPS 4"
- Standard optical position indicator
- Assembled, tested and packaged under class 100 cleanroom conditions

Advantages

- High K_V value
- Minimal deadleg
- Optional flow direction, will seal in either flow direction up to full operating pressure
- Due to its design (diaphragm valve, i. e. soft flow deviation) particularly suitable for polishing agents and slurries
- Optional installation position
- Optional accessories
 - Electrical position indicator
 - Locking device

* see information on working medium on page 2

Sectional view



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 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 PP / PP-H 5 to 60 °C

Valve body PVDF -10 to 60 °C

Operating pressure

Max. 6 bar when applied upstream only

Kv values / Weight - 2/2-way valves

DN	Kv value [l/min]	Weight [kg]
15	93	0.7
20	137	0.7
25	175	0.7
32	300	1.4
40	417	1.4
50	767	2.4
65	1300	7.3
80	2000	7.3
100	3150	9.0

The above values are valid for both flow directions. 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.

Kv values - T valves

DN2 Pipe	DN1 Spigot	Kv value [l/min]
15	15	80
20	15	82
20	20	114
25	15	83
25	20	117
25	25	148
32	15	85
32	25	153
32	32	385
40	15	87
40	20	122
40	25	150
40	40	500
50	15	93
50	20	133
50	25	157
50	32	397
50	40	505
50	50	540
65	32	340
65	50	550
80	15	87
80	20	132
80	25	145
80	32	327
80	40	441
80	50	552
100	15	87
100	20	132
100	25	145
100	32	327
100	40	441
100	50	552

Order data

Body configuration	Code
2/2-way	D
T body	T

Connection	Code
Spigots for IR butt welding	20
Spigots for IR butt welding, BCF	28
Spigots inch for socket solvent cementing/welding	30

Valve body material	Code
PVDF	20
Inliner PFA / outliner PVDF, carbon-filled	23
Inliner PP-H natural / outliner PP reinforced	70
Inliner PP-H grey / outliner PP reinforced	71

Diaphragm material	Code
PTFE / EPDM	5E
PTFE / EPDM	52

Control function	Code
Manually operated	0
Manually operated with lockable handwheel	L

Operator version	Code
Thread for mounting of electrical position indicator GEMÜ 1215	Z

Additional order data for T valves

DN 2 (main)	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65*
DN 80	80*
DN 100	100*

* only connection 2 code 20

Connection 2	Code
Spigots for IR butt welding	20
Spigots for IR butt welding, BCF	28

High Purity version	Code
High Purity	HP
High Purity white	HPW

Order example	677	50	D	30	23	5E	0	Z	-	-	HPW
Type	677										
Nominal size		50									
Body configuration (code)			D								
Connection (code)				30							
Valve body material (code)					23						
Diaphragm material (code)						5E					
Control function (code)							0				
Operator version (code)								Z			
T body: DN 2 (main) (code)									-		
T body: Connection 2 (code)										-	
High Purity version (code)											HPW

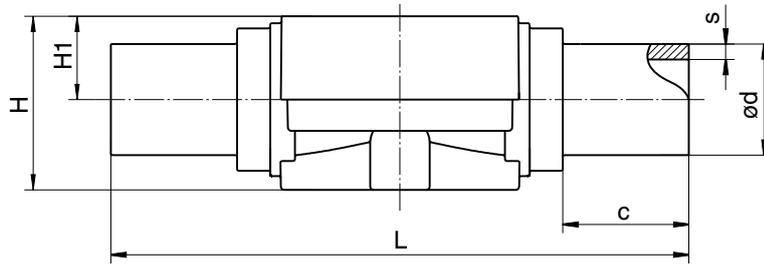
Overview of valve bodies for GEMÜ 677HP/HPW

Body configuration	2/2-way					T body
Connection code	20			28*	30	28
Material code	20	70	71	20	23	20
Nominal size	65 - 100	15 - 50	15 - 50	15 - 50	40, 50	15 - 50
Diaphragm material (code)	52 / 5E**	5E	5E	5E	5E	5E
High Purity version (code)	HP and HPW	HP	HP	HP and HPW	HPW	HP and HPW

* without thread for mounting of electrical position indicator **DN 15 - 50

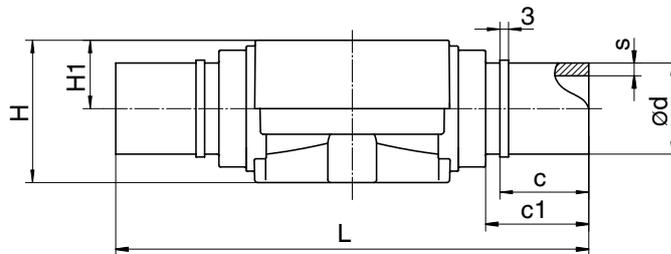
Body dimensions - 2/2-way valves [mm]

Spigots for IR butt welding, connection code 20
Valve body material: PVDF (code 20), inliner PP-H (code 70 / 71)



DN	L	H	H1	ød	s		c	Weight [kg]
					Material code			
					20	70 / 71		
15	154	36.0	10.0	20	1.9	1.9	33	0.10
20	154	38.0	12.0	25	1.9	2.3	33	0.12
25	154	39.0	13.0	32	2.4	2.9	33	0.14
32	174	41.0	15.0	40	2.4	3.7	33	0.18
40	194	63.2	23.2	50	3.0	4.6	33	0.40
50	224	63.2	23.2	63	3.0	5.8	33	0.47
65	284	117.0	62.0	75	3.6	-	43	3.57
80	300	117.0	62.0	90	4.3	-	51	3.30
100	340	140.0	75.0	110	5.3	-	59	4.00

Spigots for IR butt welding, BCF, connection code 28
Valve body material: PVDF (code 20)

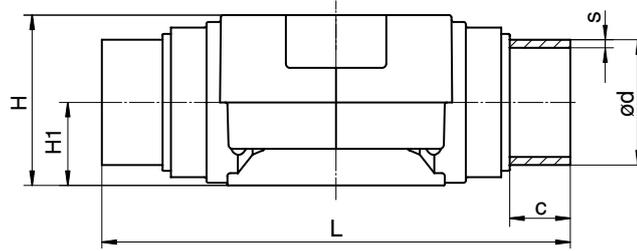


DN	L	H	H1	ød	c	c1	s	Weight [kg]
15	154	50	24	20	31	37	1.9	0.24
20	154	50	24	25	31	37	1.9	0.25
25	154	50	24	32	31	37	2.4	0.26
32	194	74	34	40	40	46	2.4	0.65
40	194	74	34	50	40	46	3.0	0.66
50	224	82	42	63	40	46	3.0	1.10

Body dimensions - 2/2-way valves [mm]

Spigots, connection code 30

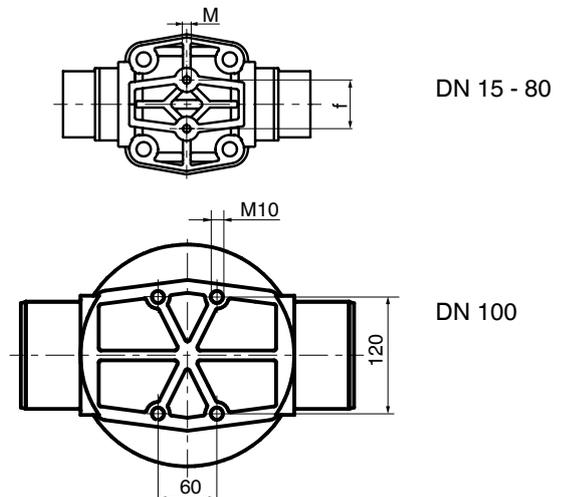
Valve body material: Inliner PFA / outliner PVDF, carbon-filled (code 23)



DN	NPS	H1	L	H	ød	c	Weight [kg]
15	1/2"	10.0	141	36.0	21.4	24	0.12
20	3/4"	12.0	144	38.0	26.7	27	0.13
25	1"	13.0	154	39.0	33.6	30	0.16
32	1 1/4"	15.0	174	41.0	42.2	33	0.22
40	1 1/2"	23.2	194	63.2	48.3	35	0.50
50	2"	23.2	224	63.2	60.3	40	0.57
65	2 1/2"	38.8	284	78.8	73.0	46	0.92
80	3"	62.0	300	117.0	88.9	51	4.00
100	4"	75.0	340	140.0	114.3	61	4.40

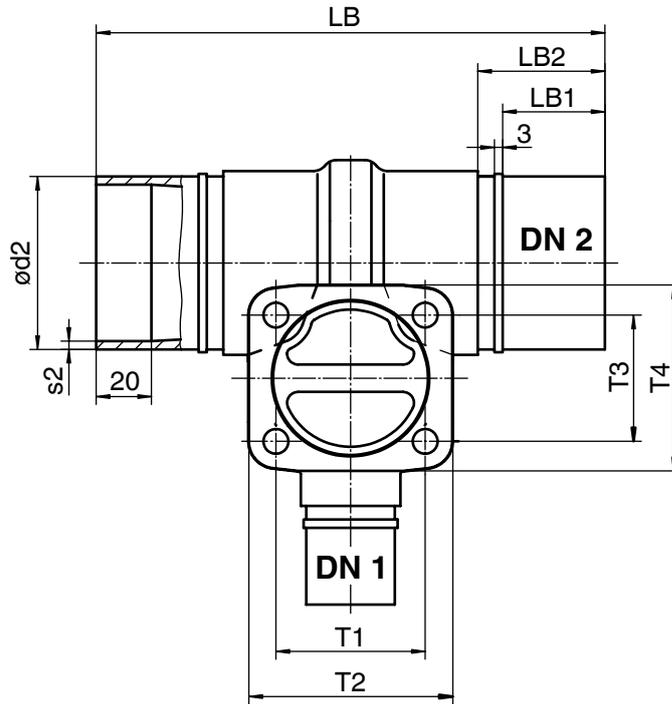
Valve body mounting dimensions [mm]

DN	M	f
15 - 25	M6	25.0
32	M6	25.0
40 - 50	M8	44.5
65	M8	44.5
80	M12	100.0
100	see drawing	



Body dimensions - T valves [mm]

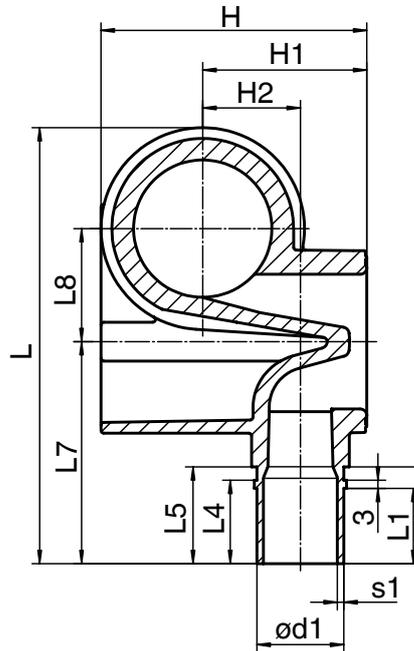
Spigots for IR butt welding, BCF, connection code 28
Valve body material: PVDF (code 20)



DN2	DN1	ø d2	s2	LB	LB1	Lb2	T1	T2	T3	T4
Pipe	Spigot									
15	15	20	1.9	166	28	36	54	74	46	68
20	15	25	1.9	166	28	36	54	74	46	68
25	15	32	2.4	166	28	36	54	74	46	68
32	15	40	2.4	184	37	46	54	74	46	68
40	15	50	3.0	184	37	46	54	74	46	68
50	15	63	3.0	184	37	46	54	74	46	68
80	15	90	4.3	196	-	51	54	74	46	68
20	20	25	1.9	166	28	36	54	74	46	68
25	20	32	2.4	166	28	36	54	74	46	68
40	20	50	3.0	184	37	46	54	74	46	68
50	20	63	3.0	184	37	46	54	74	46	68
80	20	90	4.3	196	-	51	54	74	46	68
25	25	32	2.4	166	28	36	54	74	46	68
32	25	40	2.4	194	37	46	54	74	46	68
40	25	50	3.0	194	37	46	54	74	46	68
50	25	63	3.0	194	37	46	54	74	46	68
65	25	75	3.6	196	-	46	54	74	46	68
80	25	90	4.3	196	-	51	54	74	46	68
32	32	40	2.4	194	37	46	54	74	46	68
50	32	63	3.0	235	37	46	82	128	78	110
65	32	75	3.6	254	-	46	82	128	78	110
80	32	90	4.3	254	-	51	82	128	78	110
40	40	50	3.0	194	37	46	82	74	78	68
50	40	63	3.0	235	37	46	82	128	78	110
80	40	90	4.3	254	-	51	82	128	78	110
50	50	63	3.0	235	37	46	82	128	78	110
65	50	75	3.6	254	-	46	82	128	78	110
80	50	90	4.3	254	-	51	82	128	78	110
100	32	110	5.3	274	-	62	82	128	78	110
100	40	110	5.3	274	-	62	82	128	78	110
100	50	110	5.3	274	-	62	82	128	78	110

Body dimensions - T valves [mm]

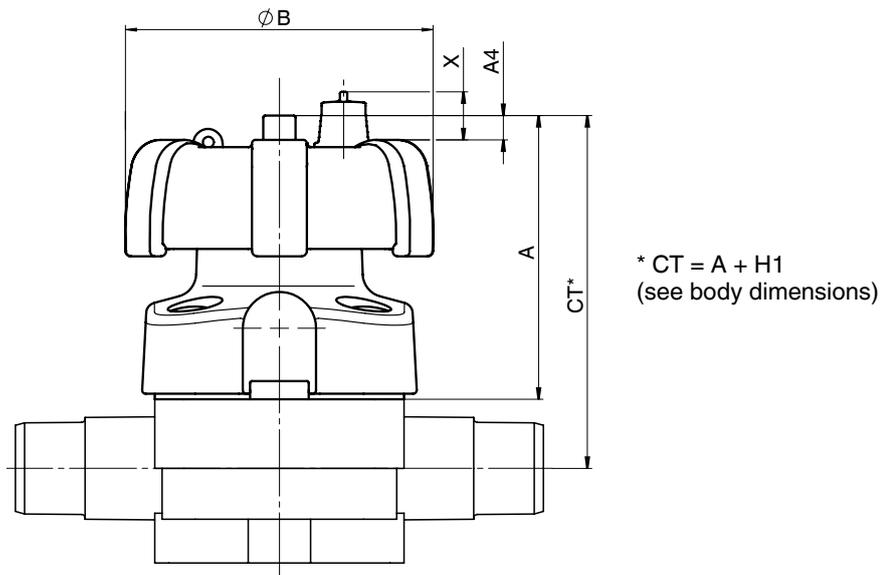
Spigots for IR butt welding. BCF, connection code 28
Valve body material: PVDF (code 20)



DN2 Pipe	DN1 Spigot	$\varnothing d1$	$s1$	L	L1	L2	L4	L5	L7	L8	H	H1	H2
15	15	20	1.9	130	28	36	32	36	83	25	63	42	17
20	15	20	1.9	130	28	36	32	36	83	25	63	42	17
25	15	20	1.9	130	28	36	32	36	83	25	63	42	17
32	15	20	1.9	140	28	36	32	36	83	30	75	42	24
40	15	20	1.9	163	28	36	32	36	83	42	98	60	36
50	15	20	1.9	163	28	36	32	36	83	42	98	60	36
80	15	20	1.9	186	28	36	32	36	83	51	127	75	50
20	20	25	1.9	130	28	36	32	36	83	25	63	42	17
25	20	25	1.9	130	28	36	32	36	83	25	63	42	17
40	20	25	1.9	163	28	36	32	36	83	42	98	60	36
50	20	25	2.4	163	28	36	32	36	83	42	98	60	36
80	20	25	2.4	186	28	36	32	36	83	51	127	75	50
25	25	32	2.4	130	28	36	32	36	83	25	63	42	17
32	25	32	2.4	140	28	36	32	36	83	30	75	49	24
40	25	32	2.4	163	28	36	32	36	83	42	98	60	36
50	25	32	2.4	163	28	36	32	36	83	42	98	60	36
65	25	32	2.4	186	28	36	32	36	83	51	127	75	50
80	25	32	2.4	186	28	36	32	36	83	51	127	75	50
32	32	40	2.4	205	37	46	35	46	118	47	107	67	30
50	32	40	2.4	205	37	46	35	40	118	47	107	67	30
65	32	40	2.4	226	37	46	35	40	118	56	140	88	50
80	32	40	2.4	226	37	46	35	40	118	56	140	88	50
40	40	50	3.0	205	37	46	35	46	118	47	107	67	30
50	40	50	3.0	205	37	46	35	40	118	47	107	67	30
80	40	50	3.0	226	37	46	35	40	118	56	140	88	50
50	50	63	3.0	205	37	46	40	46	118	47	107	67	30
65	50	63	3.0	226	37	46	33	40	118	56	140	88	50
80	50	63	3.0	226	37	46	33	40	118	56	140	88	50
100	32	40	2.3	238	37	46	40	46	137	45	133	77	39
100	40	50	3.0	238	37	46	40	46	137	45	133	77	39
100	50	63	3.0	238	37	46	40	46	137	45	133	77	39

Dimensions [mm]

Operator dimensions



DN	ø B	A	A4 approx.	X*	Weight [kg]
15 - 25	90	79	8	14	0.4
32 - 40	114	99	10	8	0.6
50	140	119	12	9	1.0
65 - 80	214	167	26	27	3.8
100	214	219	34	27	5.1

* only for control function code L

Instrumentation



GEMÜ 1215
electrical
position indicator
ATEX

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

GEMÜ® VALVES, MEASUREMENT
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