Ball Valve, Plastic

Construction

GEMÜ 710, 717 and 723 are 2/2 or 3/2-way plastic ball valves available in sizes DN 10 to DN 100.

GEMÜ 710 has a low maintenance pneumatic piston actuator which is available with “normally closed” and “double acting” control functions.

GEMÜ 717 has a plastic manual operator.

GEMÜ 723 has a low maintenance electric actuator with a powerful DC motor. The rugged reduction gear in the motor, consisting of a threaded spindle with a lever, provides the rotation through 90°. An optical position indicator and a manual override are standard.

Features

- Suitable for inert and corrosive* liquid and gaseous media
- The union ended body enables the valve to be installed in the pipeline without additional components.

Advantages

- High flow capability
- GEMÜ 723 - Adjustable end positions by means of microswitches, Emergency power supply with 24 V DC types by means of emergency power supply module GEMÜ 1570 (not with actuator version 2070), Opening and closing behaviour is independent of the operating pressure
- Optional accessories for the 2/2-way ball valve:
  - Mounting plate DN 15 - 25 article no. 88290237
  - Mounting plate DN 32 - 50 article no. 88290238

  Please order separately.

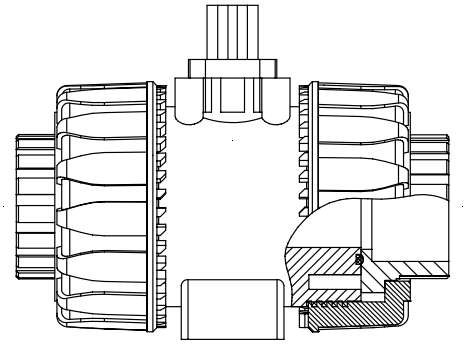
*see information on working medium on page 2

GEMÜ 710

GEMÜ 717

GEMÜ 723

Drawing of ball valve body



710, 717, 723

Technical data - GEMÜ 710, 717, 723

Working medium

Corrosive, inert, gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and seal material.

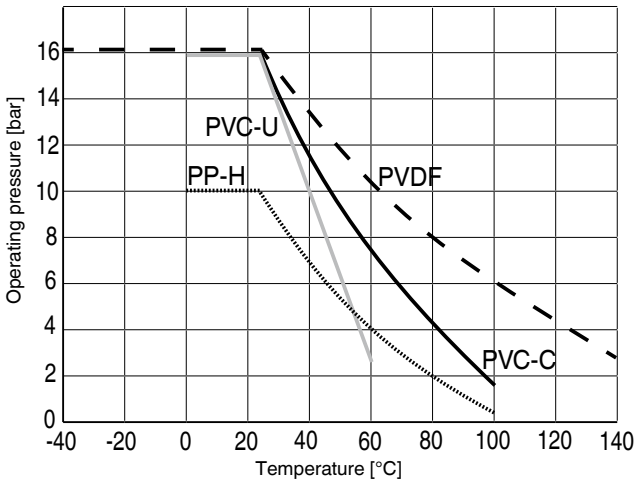
Max. perm. pressure of working medium
GEMÜ 710, 723 10 bar
GEMÜ 717: PP-H 10 bar
GEMÜ 717: PVC-U, PVC-C, PVDF 16 bar
(for water and non-hazardous media to which the body material is resistant)

Maximum permissible temperature of working medium see diagram below

Tightness

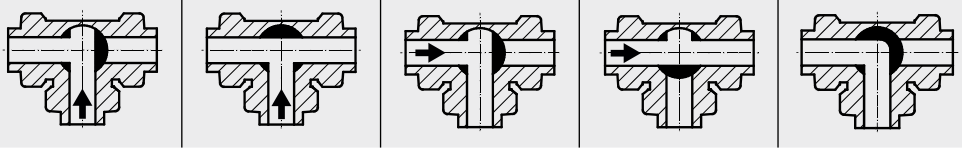
Tightness: EN 12266-1 / leakage rate A

Pressure / temperature correlation



Kv-value [l/min]

DN	2/2-way (code D)	3/2-way (code M) / port positions				
10	80	37	25	40	78	48
15	200	55	35	65	195	73
20	385	135	95	145	380	150
25	770	205	140	245	760	265
32	1100	390	270	460	1050	475
40	1750	475	330	600	1700	620
50	3400	900	620	1200	3200	1220
65	5250	-	-	-	-	-
80	7100	-	-	-	-	-
100	9500	-	-	-	-	-
		T - port	T - port	T - port	T - port	L - port



Weight [g]

DN	PVC-U / PVC-C		PP		PVDF	
	2/2-way	3/2-way	2/2-way	3/2-way	2/2-way	3/2-way
10	215	310	-	-	291	-
15	205	310	145	195	272	-
20	330	550	218	350	445	-
25	438	790	298	505	584	-
32	693	1275	480	820	938	-
40	925	1660	682	1070	1242	-
50	1577	2800	1166	1795	2187	-
65	4380	-	3090	-	5653	-
80	7200	-	5080	-	9590	-
100	11141	-	7725	-	14650	-

Technical data - GEMÜ 710, 717, 723

Inserts for connections other than standard solvent cement/welded sockets*					
DN	Butt weld spigots		Threaded sockets (BS)		
	Valve body material		Threads	Valve body material	
	PE	PP		PVC-U	PP
10	-	-	-	-	-
15	CVDE 020	CVDM 020	G 1/2	POFV 012	POFM 012
20	CVDE 025	CVDM 025	G 3/4	POFV 034	POFM 034
25	CVDE 032	CVDM 032	G 1	POFV 100	POFM 100
32	CVDE 040	CVDM 040	G 1 1/4	POFV 114	POFM 114
40	CVDE 050	CVDM 050	G 1 1/2	POFV 112	POFM 112
50	CVDE 063	CVDM 063	G 2	POFV 200	POFM 200
65	CVDE 075	CVDM 075	G 2 1/2	POFV 212	-
80	CVDE 090	CVDM 090	G 3	POFV 300	-
100	CVDE 110	CVDM 110	G 4	POFV 400	-

* Please order separately

Order data - GEMÜ 717 manually operated

Body configuration	Code
Straight through (2/2-way)	D
Multi-port (3/2-way)	M

Connection	Code
Solvent cement/welded sockets (DIN)	2
Flanges EN 1092 / PN 10 / form B	4
Union ends with inch inserts (socket)	33[1]
Flanges ANSI class 125/150 FF	39
Solvent cement sockets ASTM 1785	3M[2]
Solvent cement sockets JIS K6741	3T[1]

[1]only valve body material PVC-U (Code 1)
[2]only valve body material PVC-U (Code 1), PVC-C (Code 2)

Valve body material	Code
PVC-U	1
PVC-C, chlorinated polyvinyl chloride	2
PP, polypropylene	5
PVDF, polyvinylidenefluoride	20*

* not for body configuration-code M

Seal material	Code
FPM	4
EPDM	14

Control function	Code
Manually operated	0
Manually operated with lockable hand lever	L

Ball configuration (only with body type M)	Code
T-port	T
L-port	L

Order example	717	15	M	2	1	14	0	T
Type	717							
Nominal size		15						
Body configuration (code)			M					
Connection (code)				2				
Valve body material (code)					1			
Seal material (code)						14		
Control function (code)							0	
Ball configuration (code)								T

Technical data GEMÜ 710 - pneumatically operated

Control pressure [bar]						
	Control function 1			Control function 3		
	Actuator			Actuator		
DN	0	1 / 2	3	0	1 / 2	3
15	5.5 - 6.0	-	-	3.0 - 6.0	-	-
20	5.5 - 6.0	-	-	3.0 - 6.0	-	-
25	-	5.5 - 6.0	-	-	3.0 - 6.0	-
32	-	5.5 - 6.0	-	-	2.0 - 6.0	-
40	-	5.5 - 6.0	-	-	2.0 - 6.0	-
50	-	5.5 - 6.0	-	-	2.0 - 6.0	-
65	-	-	4.5 - 5.0	-	5.0 - 6.0	-
80	-	-	4.8 - 5.0	-	-	4.0 - 6.0
100	-	-	u.r.	-	-	5.0 - 6.0

All pressures are given as gauge pressures.
u.r. = upon request

Control medium	
Inert gases	
Max. control pressure	6 bar
Max. perm. temperature of control medium	60 °C
Filling volume actuator 0	0.05 dm^3
Filling volume actuator 1	0.20 dm^3
Filling volume actuator 2	0.50 dm^3
Filling volume actuator 3	1.50 dm^3
Other control media upon request	

Order data

Body configuration	Code
Straight through (2/2-way)	D
Multi-port (3/2-way)	M

Connection	Code
Solvent cement/welded sockets (DIN)	2
Flanges EN 1092 / PN 10 / form B	4
Union ends with inch inserts (socket)	33[1]
Flanges ANSI class 125/150 FF	39
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Valve body material	Code
PVC-U	1
PVC-C, chlorinated polyvinyl chloride	2
PP, polypropylene	5
PVDF, polyvinylidenefluoride	20*
* not for body configuration-code M	

Seal material	Code
FPM	4
EPDM	14

Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3

Actuator size (see table below)	Code
Actuator ø 50 mm	0
Actuator ø 70 mm	1
Actuator ø 100 mm	2
Actuator ø 140 mm	3

Selection table for actuator size		
DN	Control function 1	Control function 3
10, 15, 20	0	0
25, 32, 40, 50	1	1
65	2	2
80	3	3
100	upon request	3

Ball configuration (only with body type M)	Code
T-port	T
L-port	L

Order example	710	15	M	2	1	14	1	0	T
Type	710								
Nominal size		15							
Body type (code)			M						
Connection (code)				2					
Valve body material (code)					1				
Seal material (code)						14			
Control function (code)							1		
Actuator size (code)								0	
Ball configuration (code)									T

Technical data GEMÜ 723 with motorized actuator

Protection class to EN 60529

IP 65

Permissible temperatures

Ambient temperature	-10 to +60° C
Storage temperature	-20 to +60° C

Travel

Nominal travel	90°
Max. travel	93°
Actuator version 1006, 1015, 2006, 2015	
Setting range limit switch Min.	-2 to 12°
Setting range limit switch Max.	76 to 91°
Actuator version 2070	
Setting range limit switch Min.	0 to 20°
Setting range limit switch Max.	70 to 93°

Manual override

With Allen key SW3
for actuator version 1006, 1015, 2006, 2015, 3035

With hand crank for actuator version 2070

Actuator materials

Actuator version	1006, 1015	2006, 2015	2070
Housing base	PP (30% glass reinforced)	PP (30% glass reinforced)	ABS
Housing cover	PPO (10% glass reinforced)	PP (30% glass reinforced)	ABS
Optical position indicator	PPR natural	PPR natural	PPR natural

Electrical connection

Actuator version	1006, 1015, 2006, 2015		2070			
Supply voltages	12V / 24V	100 - 250V	24V, 120V, 230V			
Functional module	A0,AE		A0,AE, AP	00,0E, 0P	E1	E2
Control input voltage	Motor voltage	20 - 250V AC/DC	24 - 250V AC/DC	Motor voltage	0 ... 10V	-
Control input current	-	typ. 1 mA	typ. 1 mA			0/4 ... 20 mA
Rating	Continuously rated	rated 40%	Continuously rated			
Connection	Cable connection PG 13.5	Hirschmann plug type N6RFFS11	Flange plug Binder 692/693			
Cable diameter	7.5 to 12.5 mm	7 to 9 mm	max. 8 mm			
Max. cross section of wire	1.5 mm²	1.5 mm²	0.75 mm²			
Recommended connection cable	5x1 mm² Ölflex®	1 connector (standard): 7x1 mm² Ölflex®	7x1 mm² Ölflex®			
Overload protection	Motor protective system by customer	Integrated stall and overload protection plus excess current release T 1A 5x20 mm	Motor protective system by customer			

Power consumption [W]

Voltage/ Frequency		B1 12 V DC	C1 24 V DC		B4 12 V AC	C4 24 V AC		G4 120 V AC		L4 230 V AC	O4 100-250 V AC
Functional module		A0,AE	A0,AE,AP E1,E2	00,0E 0P	A0,AE	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	00,0E 0P	A0,AE,AP E1,E2	A0,AE,AP E1,E2
Actuator version	1006	24	24	-	24	24	-	-	-	-	-
	2006	-	-	-	-	-	-	-	-	-	30
	1015	24	24	-	-	-	-	-	-	-	-
	2015	-	-	-	24	24	-	-	-	-	30
	3035	-	24	-	-	24	-	-	-	-	30
	2070	-	96	63	-	-	63	160	90	161	-

Technical data GEMÜ 723 with motorized actuator

Correlation Actuator version (torque) / Voltage-frequency

Actuator version	Voltage/Frequency						
	B1 12 V DC	C1 24 V DC	B4 12 V AC	C4 24 V AC	G4 120 V AC	L4 230 V AC	O4 100-250 V AC
1006 (6 Nm)	X	X	X	X	-	-	-
2006 (6 Nm)	-	-	-	-	-	-	X
1015 (15 Nm)	X	X	-	-	-	-	-
2015 (15 Nm)	-	-	X	X	-	-	X
3035 (35 Nm)	-	X	-	X	-	-	X
2070 (70 Nm)	-	X	-	X	X	X	-

Correlation Actuator version (torque) / Functional module / Nominal size

Actuator version (torque) / Functional module									Actuator version (torque) / Nominal size					
Actuator version	Functional module								DN					
	A0	AE	AP	E2	E1	00	0E	0P	15	20	25	32	40	50
1006 (6 Nm)	X	X	-	-	-	-	-	-	X	X	X	-	-	-
2006 (6 Nm)	X	X	-	-	-	-	-	-	X	X	X	-	-	-
1015 (15 Nm)	X	X	-	-	-	-	-	-	X	X	X	X	X	-
2015 (15 Nm)	X	X	-	-	-	-	-	-	X	X	X	X	X	-
3035 (35 Nm)	X	X	-	-	-	-	-	-						
2070 (70 Nm)	X	X	X	X	X	X	X	X	-	-	-	-	-	X

Note: For connection and wiring diagrams for motorized GEMÜ actuators see data sheet

Actuator version code 1006, 1015, 2006, 2015, 3035 - Data sheet GEMÜ 9428
Actuator version code 2070, 4100, 4200, 6400 - Data sheet GEMÜ 9468

Order data GEMÜ 723 with motorized actuator

Body configuration	Code
Straight through body (2/2-way)	D
Multi-port body (3/2-way)	M

Connection	Code
Solvent cement/welded sockets (DIN)	2
Flanges EN 1092 / PN 10 / form B	4
Union ends with inch inserts (socket)	33[1]
Flanges ANSI class 125/150 FF	39
Solvent cement sockets ASTM 1785	3M[2]
Solvent cement sockets JIS K6741	3T[1]
[1]only valve body material PVC-U (Code 1) [2]only valve body material PVC-U (Code 1), PVC-C (Code 2)	

Valve body material	Code
PVC-U	1
PVC-C, chlorinated polyvinyl chloride	2
PP, polypropylene	5
PVDF, polyvinylidenefluoride	20*
* not for body configuration-code M	

Seal material	Code
FPM	4
EPDM	14

Voltage/Frequency	Code
12 V DC	B1
12 V 50/60 Hz	B4
24 V DC	C1
24 V 50/60 Hz	C4
100-250 V 50/60 Hz	O4
230 V 50/60 Hz	L4

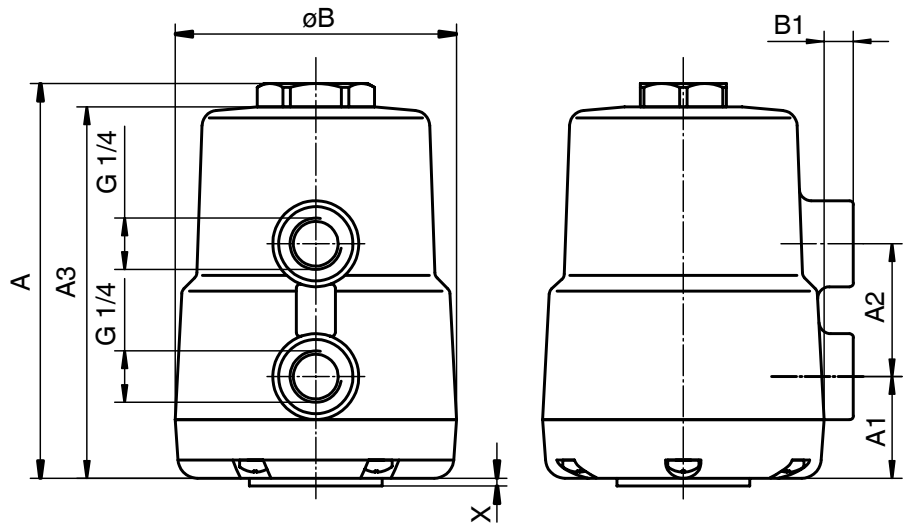
Functional module	Code
Standard OPEN/CLOSE control	A0
OPEN/CLOSE control with 2 additional potential-free limit switches	AE
OPEN/CLOSE control with potentiometer output	AP
Control module for external set value 0 - 10V DC	E1
Control module for external set value 0/4 - 20 mA	E2
OPEN/CLOSE control, not reversible	00
OPEN/CLOSE control, not reversible with 2 additional potential-free limit switches	0E
OPEN/CLOSE control, not reversible with potentiometer output	0P
For selection options see tables on page 6	

Actuator version	
DN 10 - 25 (Torque 6 Nm) operating time 4 sec; supply voltage B1,C1,B4,C4	1006
DN 10 - 25 (Torque 6 Nm) operating time 4 sec; supply voltage O4	2006
DN 10 - 40 (Torque 15 Nm) operating time 11 sec; supply voltage B1,C1	1015
DN 10 - 40 (Torque 15 Nm) operating time 11 sec; supply voltage B4/C4/O4	2015
DN 50 - 65 (Torque 35 Nm) operating time 15 sec; supply voltage C1,C4,O4	3035
DN 20 - 100 (Torque 70 Nm) operating time 15 sec; supply voltage C1/C4/G4/L4	2070

Ball configuration (only with body type M)	Code
T-port	T
L-port	L

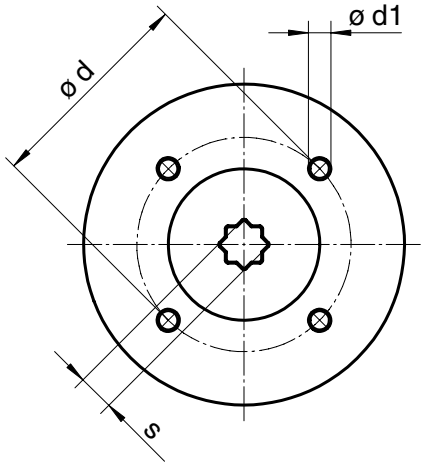
Order example	723	15	M	2	1	14	C1	A0	1006	T
Type	723									
Nominal size		15								
Body configuration (code)			M							
Connection (code)				2						
Valve body material (code)					1					
Seal material (code)						14				
Voltage/Frequency (code)							C1			
Functional module (code)								A0		
Actuator version (code)									1006	
Ball configuration (code)										T

Actuator dimensions GEMÜ 710 - pneumatically operated [mm]



Actuator size	A	A1	A2	A3	ø B	B1	X
0	112	37	34	106	72	7	2
1	177	41	65	171	97	3	2
2	180	42	69	174	127	3	-
3	229	28	96	223	182	4	-

Dimensions - connection flange [mm]

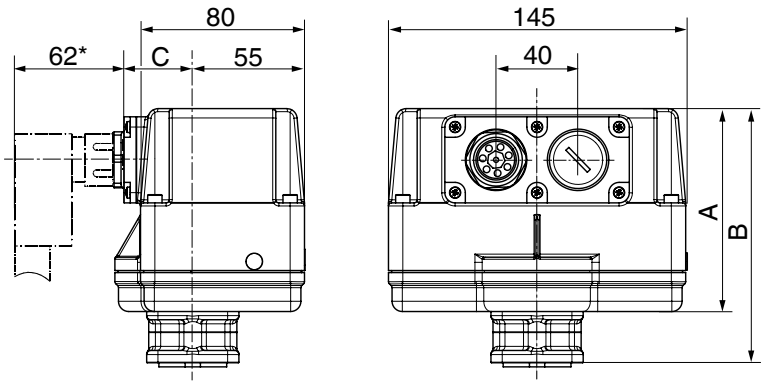


Actuator size	Flange size	ød	ø d1	s	s max.	Stroke/wrench size (Code)
0	F04	42	M5	8	11	S08
				9		S09
	F05	50	M6	8		S08
				9		S09
1	F04	42	M5	11	14	S11
	F05	50	M6	11		S11
	F07	70	M8	11		S11
				14		S14
2	F05	50	M6	11	14	S11
				14		S14
	F07	70	M8	11		S11
				14		S14
3	F07	70	M8	17	17	S17

	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
A	40.0	49.0	49.0	64.0	64.0	76.0	175.0	272.0	330.0
Ct	54.0	65.0	69.5	82.5	89.0	108.0	164.0	177.0	195.0

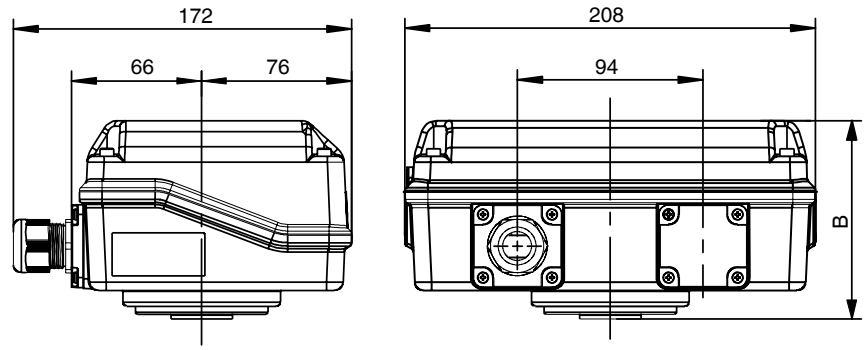
Actuator dimensions GEMÜ 723 with motorized actuator [mm]

Actuator version 1006, 1015, 2006, 2015

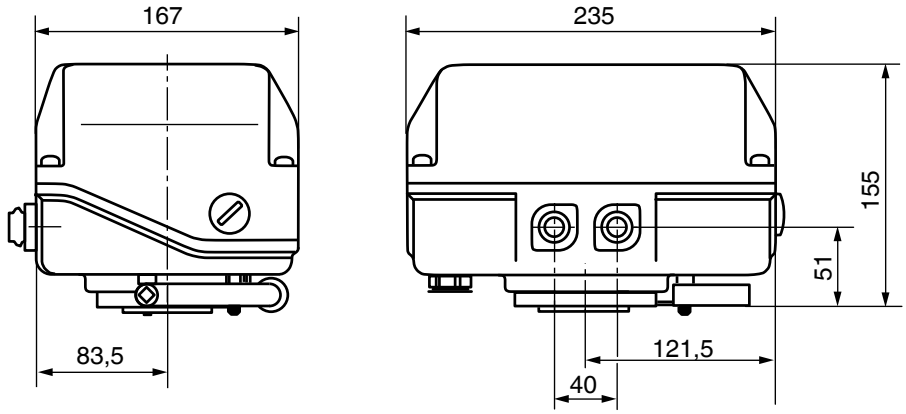


Voltages	A	B	C
24 V	68	95	49
100 V - 250 V	99	124	53

Actuator version 3035



Actuator version 2070 [mm]



Note: For connection and wiring diagrams for motorized GEMÜ actuators see data sheet

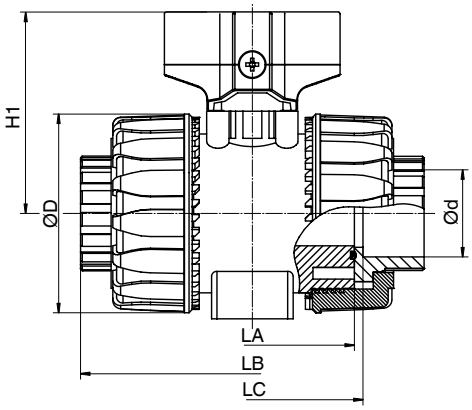
Actuator version code 1006, 1015, 2006, 2015, 3035 - Data sheet GEMÜ 9428
Actuator version code 2070, 4100, 4200, 6400 - Data sheet GEMÜ 9468

Body dimensions [mm]

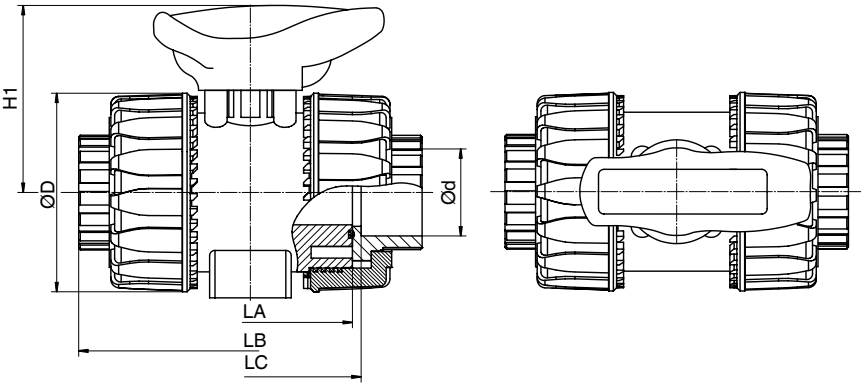
Straight through body (2/2-way) - code D

DN	LA			LB			LC			H1		øD	ød	A
	PVC-U PVC-C	PP	PVDF	PVC-U PVC-C	PP	PVDF	PVC-U PVC-C	PP	PVDF	GEMÜ 710,723	GEMÜ 717			
10	65	65		103			75	74.5		58.0	54.0	54	16	40
15	65	65		103			71	73.0		58.0	54.0	54	20	40
20	70	70		115			77	82.0		73.5	65.0	65	25	49
25	78	78		128			84	90.0		74.0	69.5	73	32	49
32	88	85		146			94	100.0		97.0	82.5	86	40	64
40	93	93		164			102	117.0		104.0	89.0	98	50	64
50	111	111		199			123	144.0		114.0	108.0	122	63	76
65	133	133		235	213		147			119.0	164.0	164	75	175
80	149	149		270	239		168			132.0	177.0	203	90	272
100	167	167		308	268		186			150.0	195.0	238	110	330

GEMÜ 710 and 723 with mounting kit



GEMÜ 717

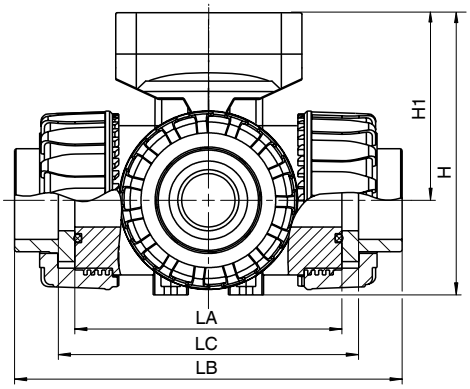


Multi-port body (3/2-way) - code M

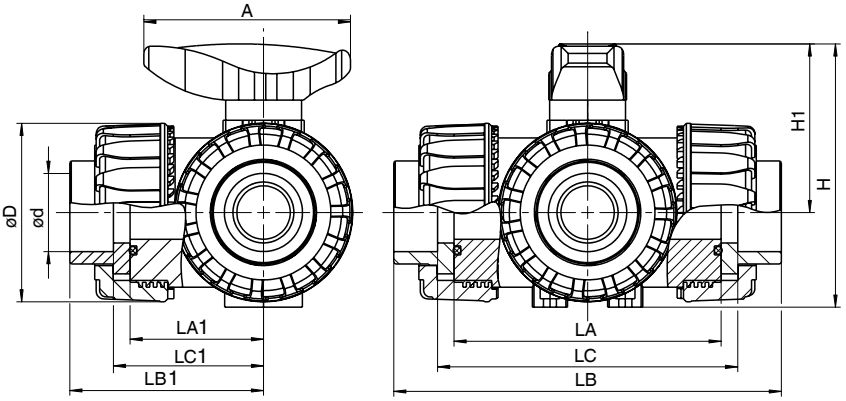
DN	LA	LB	LC		LA1	LB1	LC1	H		H1		øD	ød
			PVC-U PVC-C	PP				GEMÜ 710,723	GEMÜ 717	GEMÜ 710,723	GEMÜ 717		
10	80	118.0	90.0	88.0	40.0	59.0	43.0	87	54.0	58.0	51.0	54	16
15	80	118.0	86.0		40.0	59.0	43.0	87	83.0	58.0	51.0	54	20
20	100	145.0	107.0		50.0	72.5	53.5	108	95.5	73.5	56.5	65	25
25	110	160.0	116.0		55.0	80.0	58.0	113	107.0	74.0	62.0	73	32
32	131	188.5	136.5		65.5	94.3	68.3	143	128.5	97.0	78.0	86	40
40	148	219.0	157.0		74.0	109.5	78.5	156	136.0	104.0	80.0	98	50
50	179	266.5	190.5		89.5	133.3	95.3	176	165.0	114.0	97.5	122	63

DN 10 not available with valve body material PP (Code 5)

GEMÜ 710 and 723 with mounting kit

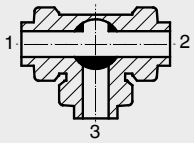
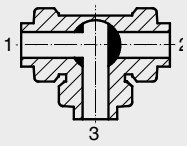
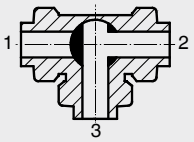
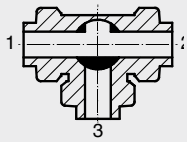
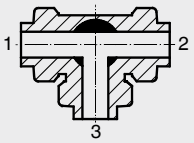
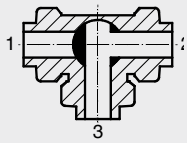
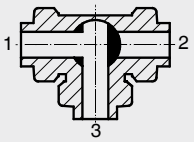
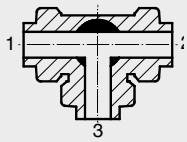


GEMÜ 717

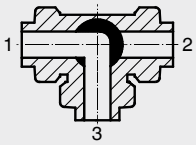


Port positions

T - port

	End position "Closed"	End position "Open"
As supplied		
Optional port positions, can be user adjusted		
		
		

L - port



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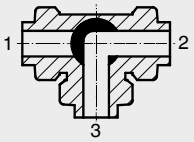

Optional port positions, can be user adjusted

Accessories

GEMÜ 324
3/2-way solenoid valve

GEMÜ 1201
Electrical position indicator
with microswitches

GEMÜ 1214
Electrical position indicator
with proximity switches

GEMÜ 1230
Electrical position indicator
with microswitches

GEMÜ 1435
Electro-pneumatic positioner
single or double acting

GEMÜ 1470
Control air adapter NAMUR

Further ball valves, accessories and other products 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!

Subject to alteration · 02/2014 · 88363201

GEMÜ Gebr. Müller · Apparatebau GmbH & Co. KG · Fritz-Müller-Str. 6-8 · D-74653 Ingelfingen-Criesbach · Tel. +49 (0) 7940/123-0 · Telefax +49 (0) 7940/123-224
info@gemue.de · www.gemu-group.com