

Globe Valve, Metal

Construction

The GEMÜ 512 pneumatically operated 2/2-way globe valve has a robust low maintenance aluminium piston actuator. The valve spindle is sealed by a self-adjusting gland packing providing low maintenance and reliable valve spindle sealing even after a long service life. The wiper ring fitted in front of the gland packing protects it against contamination and damage.

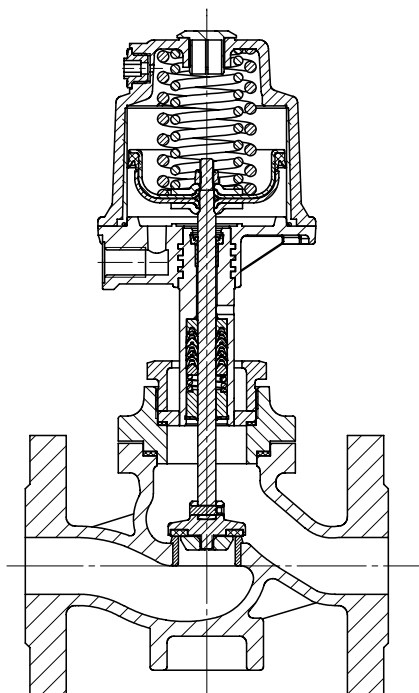
Features

- Suitable for individual applications due to choice of various actuator sizes and valve body materials
- Versions vannes de régulation suivant les spécifications du client disponibles
- Control medium connection can be rotated through 360°
- Control valves with control cone available

Advantages

- Accessories:
 - electrical position indicators
 - electro-pneumatic positioners/process controllers
 - stroke limiter

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 seal material.	
Max. perm. pressure of working medium	see table
Medium temperature	-10 °C to 180 °C
Max. permissible viscosity	600 mm ² /s (cSt)
Other versions for lower/higher temperatures and viscosities on request	

Control medium

Inert gases		
Max. perm. temperature of control medium		60 °C
Filling volume	actuator size 1	0.125 dm ³
	actuator size 2	0.625 dm ³

Ambient conditions

Max. ambient temperature	60 °C
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Leakage rate

On/off valve: Leakage rate A to P11/P12 EN 12266-1	
Control valve: DIN IEC 60534-4 VI L 1	PTFE seal
Control valve: DIN IEC 60534-4 IV L 1	metal seal

Note

Other versions on request.

Nominal size	Operating pressure [bar] Control function 1*		Control pressure [bar] Control function 1		Kv value	Weight [kg]	
[mm]	Actuator size 1 piston ø70 mm	Actuator size 2 piston ø120 mm	Actuator size 1 piston ø70 mm	Actuator size 2 piston ø120 mm	[m ³ /h]	Actuator size 1 piston ø70 mm	Actuator size 2 piston ø120 mm
15	20.0	40.0	5.5 - 10	4.0 - 8	3.6	3.6	7.5
20	20.0	40.0	5.5 - 10	4.0 - 8	6.0	4.6	8.5
25	10.0	40.0	5.5 - 10	4.0 - 8	9.6	5.2	9.1
32	7.0	32.0	5.5 - 10	4.0 - 8**	15.0	7.5	11.4
40	4.5	19.0	5.5 - 10	4.0 - 8**	23.0	8.3	12.2
50	3.0	10.0	5.5 - 10	5.5 - 8	36.0	11.3	15.2
65	-	7.0	-	5.5 - 8	60.0	-	22.4
80	-	5.0	-	5.5 - 8	89.0	-	26.0
100	-	2.5	-	5.5 - 8	135.0	-	34.5

* Please observe pressure/temperature correlation (see table below). **For material code 11 and 38: Control pressure 5.5 - 8 bar.
Operating pressure for seal material PTFE (Code 5); for seal material steel (Code 10) only 60% of the values indicated above.
Kv values determined acc. to IEC 534 standard, valve body material cast iron EN-GJL-250 with connection flange EN 1092.
The Kv value data refers to control function 1 (NC) and the largest actuator for each nominal size.
Kv values may be different for other combinations. Consult GEMÜ.

Pressure/temperature correlation for globe valve bodies

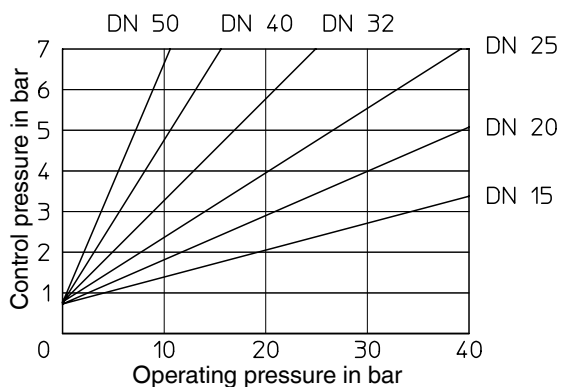
Connection code	Material code	Max. allowable operating pressures in bar at temperature °C*						
		RT	50	100	150	200	250	300
8	8	16.0	16.0	16.0	14.4	12.8	11.2	9.6
39	8	13.8	13.8	12.8	11.3	9.8	-	-
11	11	39.0	37.2	34.1	31.7	28.4	26.0	23.5
39	11	19.7	19.7	17.7	15.8	14.0	12.1	10.2
40	11	39.0	37.2	34.1	31.7	28.4	26.0	23.5
8	37	14.6	13.9	12.4	11.2	10.3	9.6	9.0
39	37	19.0	19.0	16.0	14.8	13.6	12.1	10.2
11	38	39.8	38.8	36.0	33.3	31.3	29.4	27.5
39	38	19.0	19.0	16.0	14.8	13.6	12.1	10.2
40	38	39.8	39.3	36.4	33.4	31.1	29.0	26.9

* The valves can be used down to -10 °C RT = Room Temperature All pressures are gauge pressures.

Operating pressure/Control pressure characteristics

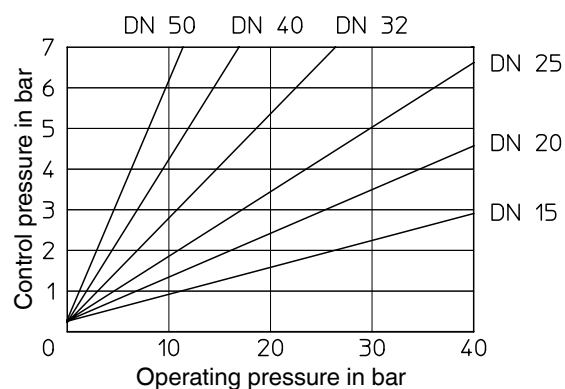
Actuator size 1 / Control function 2

Min. control pressure dependent on operating pressure



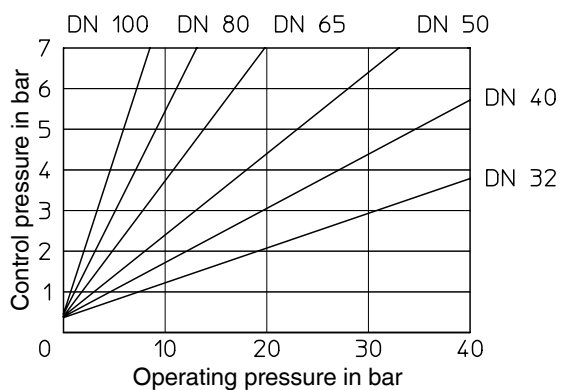
Actuator size 1 / Control function 3

Min. control pressure dependent on operating pressure



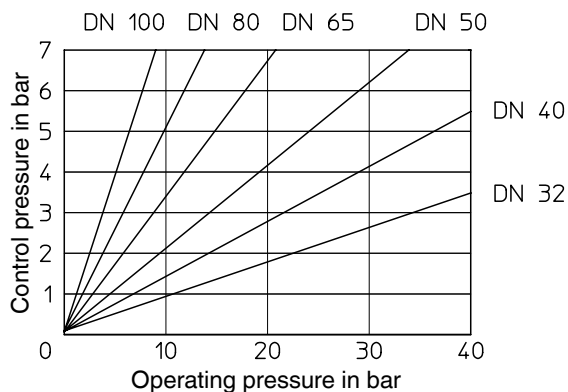
Actuator size 2 / Control function 2

Min. control pressure dependent on operating pressure



Actuator size 2 / Control function 3

Min. control pressure dependent on operating pressure



Order data

Body configuration	Code
2/2-way	D

Connection	Code
Flanges EN 1092 / PN 16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges EN 1092 / PN 40 / form B, length EN 558, series 1, ISO 5752, basic series 1	11
Flanges ANSI CLASS 125/150 RF, length EN 558, series 1, ISO 5752, basic series 1	39
Flanges ANSI B 16.5, CLASS 300 RF, length EN 558, series 1, ISO 5752, basic series 1	40

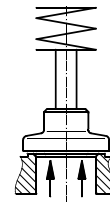
Valve body material	Code
EN-GJL-250 GG 25 (Cast iron)	8
GP 240 H GS-C 25 (Cast steel)	11
1.4408 Cast stainless steel	37
1.4581 Cast stainless steel	38

Seat seal	Code
PTFE	5
PTFE, glass reinforced	5G
Steel	10

Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3
Double acting (normally open) (only for control valves)	8

Actuator size	Flow	Code
Actuator 1 piston ø 70 mm	Flow under the seat	1
Actuator 2 piston ø 120 mm	Flow under the seat	2
Preferred flow direction with incompressible liquid media to avoid "water hammer"		

Flow direction



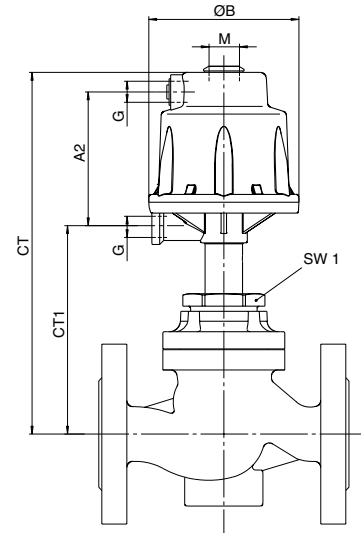
Flow under the seat

Order example	512	15	D	8	8	5	1	1
Type	512							
Nominal size		15						
Body configuration (Code)			D					
Connection (Code)				8				
Valve body material (Code)					8			
Seat seal (Code)						5		
Control function (Code)							1	
Actuator size (Code)								1

Actuator dimensions / Installation dimensions [mm]

Actuator dimensions

Actuator size	øB	M	A2	G
1	96	M16x1	85.5	G 1/4
2	164	M22x1.5	123.0	G 1/4



Installation dimensions

				Actuator size 1				Actuator size 2			
Material code	8	11, 38	37	8		11, 38		8		11, 37*, 38*	
DN	SW1			CT	CT1	CT	CT1	CT	CT1	CT	CT1
15	36	41	-	217	119	219	121	-	-	294	150
20	46	41	-	227	129	219	121	-	-	294	150
25	46	41	-	233	135	219	121	-	-	294	150
32	60	60	-	239	141	246	148	314	170	321	177
40	60	60	-	245	147	246	148	320	176	321	177
50	75	75	-	255	157	259	161	330	186	334	190
65	75	60	60	-	-	-	-	340	196	369	225
80	75	75	60	-	-	-	-	360	216	392	248
100	75	-	75	-	-	-	-	382	238	-	-

* For nominal sizes available for each valve body material see page 6

Body dimensions [mm]

Flanges, connection code 8, 11

Valve body material: GG 25 (code 8), GS-C (code 11), 1.4408 (code 37), 1.4581 (code 38)

		Connection code 8							Connection code 11					
DN	FTF	ø D	ø L	ø k	Number of bolts	C	H1		ø D	ø L	ø k	Number of bolts	C	H1
							Material code 8	Material code 37						
15	130	95	14	65	4	14	-	-	95	14	65	4	14	40
20	150	105	14	75	4	16	-	-	105	14	75	4	16	40
25	160	115	14	85	4	16	-	-	115	14	85	4	16	40
32	180	140	18	100	4	18	-	-	140	18	100	4	18	72
40	200	150	18	110	4	18	-	-	150	18	110	4	18	72
50	230	165	18	125	4	20	-	-	165	18	125	4	20	83
65	290	185	18	145	4	20	97	120	185	18	145	8	20	120
80	310	200	18	160	8	22	109	146	200	18	160	8	22	146
100	350	220	18	180	8	24	130	-	-	-	-	-	-	-

For materials see overview on last page. For dimensional drawing see last page.

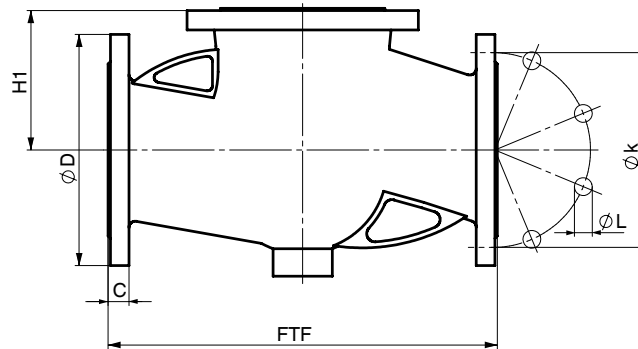
Body dimensions [mm]

Flanges, connection code 39, 40

Valve body material: GG 25 (code 8), GS-C (code 11), 1.4408 (code 37), 1.4581 (code 38)

		Connection code 39							Connection code 40					
DN	FTF	ø D	ø L	ø k	No. of bolt holes	C	H1		ø D	ø L	ø k	No. of bolt holes	C	H1
							Material code 8	Material code 11, 37, 38						
15	130	88.9	15.75	60.5	4	11.2	39	40	95.3	15.75	66.5	4	14.2	40
20	150	98.6	15.75	69.9	4	12.7	48	40	117.3	19.05	82.6	4	15.7	40
25	160	108.0	15.75	79.2	4	14.2	54	40	124.0	19.05	88.9	4	17.5	40
32	180	117.3	15.75	88.9	4	15.7	67	72	133.4	19.05	98.6	4	19.1	72
40	200	127.0	15.75	98.6	4	17.5	72	72	155.4	22.35	114.3	4	20.6	72
50	230	152.4	19.05	120.7	4	19.1	80	83	165.1	19.05	127.0	8	22.4	83
65	290	177.8	19.05	139.7	4	22.4	97	120	-	-	-	-	-	-
80	310	190.5	19.05	152.4	4	23.9	109	146	-	-	-	-	-	-
100	350	228.6	19.05	190.5	8	23.9	130	-	-	-	-	-	-	-

For materials see overview below



Overview of metal globe valve bodies for GEMÜ 512

Connection code	8		11		39				40	
Material code	8	37	11	38	8	11	37	38	11	38
DN 15	X	-	X	X	-	X	-	X	X	X
DN 20	X	-	X	X	-	X	-	X	X	X
DN 25	X	-	X	X	-	X	-	X	X	X
DN 32	X	-	X	X	-	X	-	X	X	X
DN 40	X	-	X	X	-	X	-	X	X	X
DN 50	X	-	X	X	-	X	-	X	X	X
DN 65	X	X	X	-	X	X*	X*	-	-	-
DN 80	X	X	X	-	X	X*	X*	-	-	-
DN 100	X	-	-	-	X	-	-	-	-	-

*DIN flange drilled to ANSI Class 150

Connection code 8 and 39, material code 8, DN 15 - 50: See data sheet 532, material code 90.

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

GEMÜ® VALVES, MEASUREMENT
AND CONTROL SYSTEMS

