

Globe Valve, Metal

Construction

The GEMÜ 534 pneumatically operated 2/2-way globe valve has a plastic 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 inert and corrosive* liquid and gaseous media
- Valve bodies available in SG iron and stainless steel
- Flanged versions
- Customized control valve versions available
- Free from non-ferrous metals
- Versions according to ATEX on request

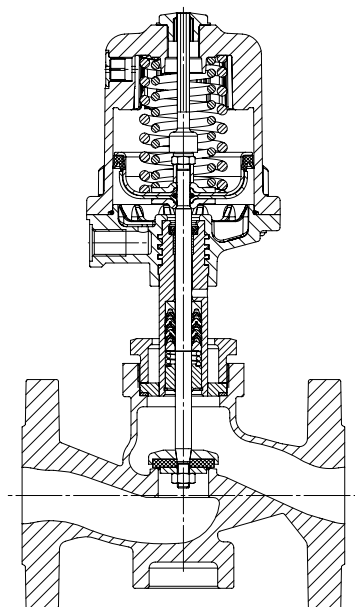
Advantages

- Good flow capability and compact design
- Accessories:
 - Electrical position indicators
 - Combi switchboxes
 - Electro-pneumatic positioners/process controllers (see data sheet GEMÜ 534 control valve)
- Standard gland packing suitable for vacuum up to 20 mbar (abs.)

*see information on working medium on page 2



Sectional drawing



Technical data

Working medium	
Corrosive, inert, gaseous and liquid media and steam 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° to 180 °C
Max. permissible viscosity	600 mm ² /s (cSt)

Control medium	
Inert gases	
Max. perm. temperature of control medium:	60 °C
Filling volume:	
Actuator size 0 and 3:	0.05 dm ³
Actuator size 1 and 4:	0.125 dm ³
Actuator size 2:	0.625 dm ³

Ambient conditions	
Max. ambient temperature	60 °C

Maximum permissible seat leakage rate

Seat seal	Standard	Test procedure	Leakage rate	Test medium
PTFE	DIN EN 12266-1	P12	A	air

Nominal size [DN]	Max. operating pressure [bar] C. f. 1 Normally closed (NC)					Control pressure [bar] C. f. 1 Normally closed (NC)					Kv values [m ³ /h]
	Actuator size 0 piston ø 50 mm	Actuator size 3 piston ø 50 mm	Actuator size 1 piston ø 70 mm	Actuator size 4 piston ø 70 mm	Actuator size 2 piston ø 120 mm	Actuator size 0 under the seat	Actuator size 3 over the seat	Actuator size 1 under the seat	Actuator size 4 over the seat	Actuator size 2 under the seat	
15	12.0	10.0	40.0	10.0	-	4.8 - 7.0	min. control pressure see diagram max. control pressure 7 bar	5.5 - 7.0	min. control pressure see diagram max. control pressure 7 bar	-	4.6
20	6.0	10.0	20.0	10.0	40.0	4.8 - 7.0		5.5 - 7.0		4.0 - 7.0	8.0
25	2.5	10.0	10.0	10.0	40.0	4.8 - 7.0		5.5 - 7.0		4.0 - 7.0	13.0
32	-	-	7.0	10.0	20.0	-		5.5 - 7.0		4.0 - 7.0	22.0
40	-	-	4.5	10.0	12.0	-		5.5 - 7.0		4.0 - 7.0	35.0
50	-	-	3.0	10.0	10.0	-		5.5 - 7.0		5.0 - 7.0	50.0
65	-	-	-	-	7.0	-		-		5.0 - 7.0	90.0
80	-	-	-	-	5.0	-		-		5.0 - 7.0	127.0
100	-	-	-	-	2.5	-		-		5.0 - 7.0	200.0

Kv values determined in accordance with DIN EN 60534. The Kv value specifications refer to control function 1 (NC) and the largest actuator for the respective nominal size. The Kv values for other product configurations (e.g. other connection types or body materials) may differ.

Nominal size DN	Max. operating pressure [bar] C. f. 2 Normally open (NO) / C. f. 3 Double acting (DA)			Control pressure [bar] C. f. 2 Normally open (NO) / C. f. 3 Double acting (DA)		
	Actuator size 0 piston ø 50 mm	Actuator size 1 piston ø 70 mm	Actuator size 2 piston ø 120 mm	Actuator size 0	Actuator size 1	Actuator size 2
15	32.0	40.0	-	max. 7 bar for values see diagram	max. 5 bar	max. 7 bar for values see diagram
20	20.0	40.0	40.0		max. 7 bar	
25	12.0	32.0	40.0			
32	-	20.0	40.0			
40	-	12.0	40.0			
50	-	8.0	30.0			
65	-	-	16.0			
80	-	-	12.0			
100	-	-	8.0			

For max. operating pressures the pressure/temperature correlation must be observed (see table on page 3).
All pressures are gauge pressures.

Pressure / temperature correlation for globe valve bodies

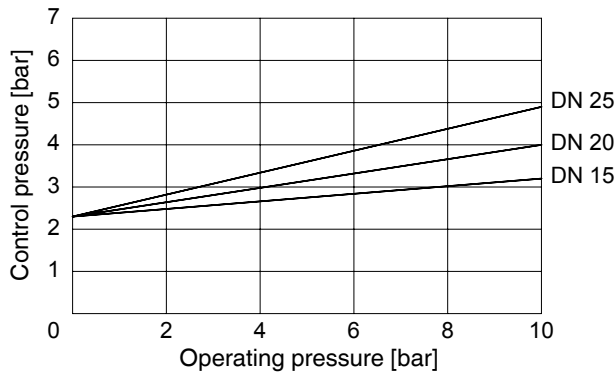
Connection code	Material code	Max. allowable operating pressures in bar at temperature °C*					
		RT	100	150	200	250	300
8	37	16,0	16,0	14,5	13,4	12,7	11,8
10	37	25.0	25.0	22.7	21.0	19.8	18.5
11	37	40.0	40.0	36.3	33.7	31.8	29.7
39	37	19.0	16.0	14.8	13.6	12.0	10.2
8	90	16.0	16.0	15.5	14.7	13.9	11.2
39	90	17.0	16.0	14.8	13.9	12.1	10.2

* The valves can be used down to -10°C RT = Room Temperature All pressures are gauge pressures.
 Pressure-temperature correlation for connection code 48: DN 15 - 40 see connection code 10, DN 50 see connection code 8.

Operating pressure / Control pressure characteristics
Control function 1: normally closed (NC) / Flow direction: over the seat

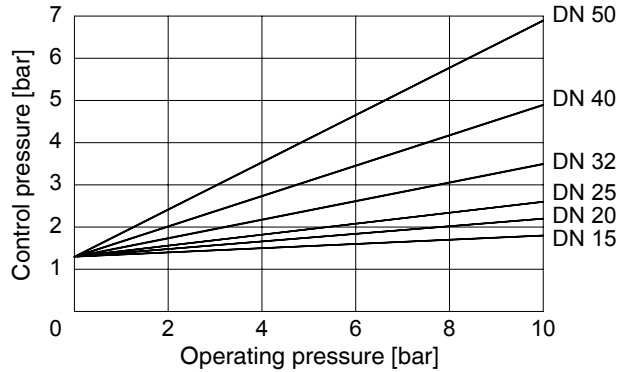
Actuator size 3

min. control pressure dependent on operating pressure



Actuator size 4

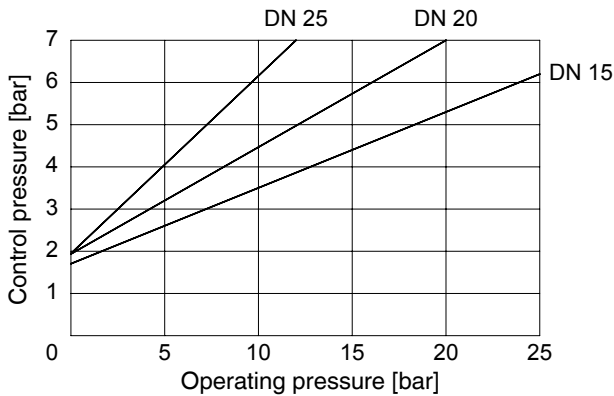
min. control pressure dependent on operating pressure



Operating pressure / Control pressure characteristics
Control function 2: normally open (NO) / Control function 3: double acting (DA)
Flow direction: under the seat

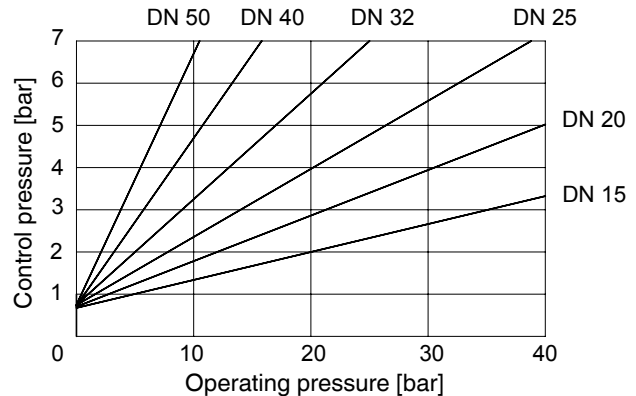
Actuator size 0

min. control pressure dependent on operating pressure



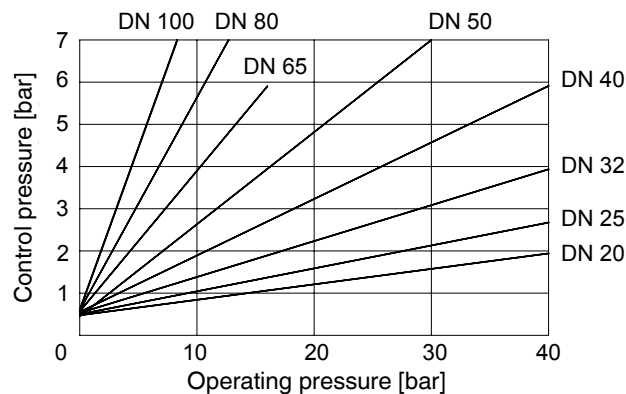
Actuator size 1

min. control pressure dependent on operating pressure



Actuator size 2

min. control pressure dependent on operating pressure



Order data

Body configuration	Code
2/2-way body	D

Connection	Code
Flanges	
Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges EN 1092 / PN25 / form B, length EN 558, series 1, ISO 5752, basic series 1	10
Flanges EN 1092 / PN40 / form B, length EN 558, series 1, ISO 5752, basic series 1	11
Flanges ANSI Class 150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	39
Flanges drilled according to JIS 20K (DN 15 - 40), Flanges drilled according to JIS 10K (DN 50), length EN 558, series 10, ASME/ANSI B 16.10 table 1, column 16	48

Valve body material	Code
1.4408, Investment casting	37
EN-GJS-400-18-LT (GGG 40.3) SG iron	90

Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
Other seat seals on request	

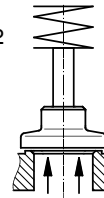
Version	Code
Gland packing PTFE / PTFE suitable for contact with food according to EU Regulation 1935/2004	2013

Special version	Code
Special version for oxygen (max. temperature 60 °C, max. operating pressure 10 bar), Flow direction: under the seat	S

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

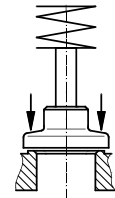
Actuator size	Flow	Code
Actuator 0 piston ø 50 mm	Flow under the seat	0*
Actuator 1 piston ø 70 mm	Flow under the seat	1*
Actuator 2 piston ø 120 mm	Flow under the seat	2*
Actuator 3 piston ø 50 mm	Flow over the seat	3**
Actuator 4 piston ø 70 mm	Flow over the seat	4**
* Preferred flow direction with incompressible liquid media to avoid "water hammer"		
** only control function NC		

GEMÜ 534 Actuators 0, 1, 2



Flow under the seat

GEMÜ 534 Actuators 3, 4



Flow over the seat

Order data

Order example	534	25	D	8	90	5	1	1	-	S
Type	534									
Nominal size		25								
Body configuration (code)			D							
Connection (code)				8						
Valve body material (code)					90					
Seat seal (code)						5				
Control function (code)							1			
Actuator size (code)								1		
Version (code)									-	
Special version (code)										S

Version for food contact

For food contact, the product must be ordered with the following ordering options:

Version code 2013

Seat seal code 5, 5G

Valve body material code 37

Actuator dimensions / Installation dimensions [mm]

Actuator dimensions

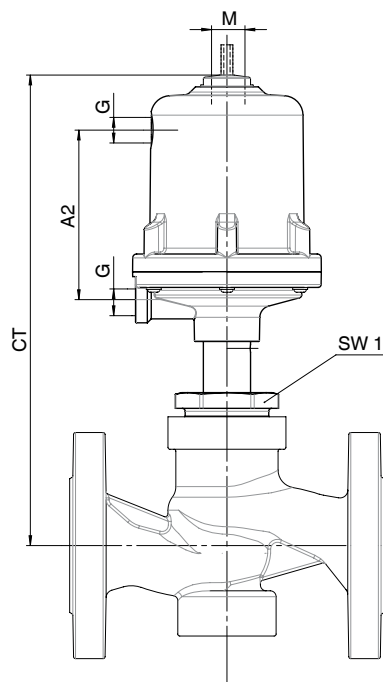
Actuator size	øB	M	A2	G
0 + 3	72	M16x1	70	G 1/4
1 + 4	96	M16x1	86	G 1/4
2	168	M22x1.5	149	G 1/4

Installation dimensions / weight of valve, connection code 8, 10, 39, 48

DN	SW1 metric	Actuator 0 + 3		Actuator 1 + 4		Actuator 2	
		CT	Weight [kg]	CT	Weight [kg]	CT	Weight [kg]
15	36	196	3.1	224	3.6	-	7.8
20	41	203	4.1	231	4.6	328	8.6
25	46	214	5.0	242	5.5	339	9.3
32	55	-	-	247	7.7	344	10.9
40	60	-	-	258	9.0	355	11.9
50	75	-	-	266	11.8	363	14.0
65	75	-	-	-	-	391	-
80	75	-	-	-	-	406	-
100	75	-	-	-	-	427	-

Installation dimensions / weight of valve, connection code 11

DN	SW1 metric	Actuator 0 + 3		Actuator 1 + 4		Actuator 2	
		CT	Weight [kg]	CT	Weight [kg]	CT	Weight [kg]
15	36	196	3.1	224	3.6	-	7.8
20	41	203	4.1	231	4.6	328	8.6
25	46	214	5.0	242	5.5	339	9.3
32	55	-	-	247	7.7	344	10.9
40	60	-	-	258	9.0	355	11.9
50	75	-	-	266	11.8	363	14.0

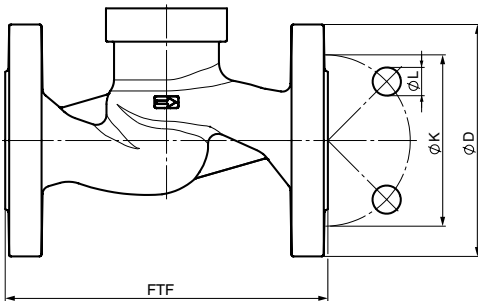


Body dimensions [mm]

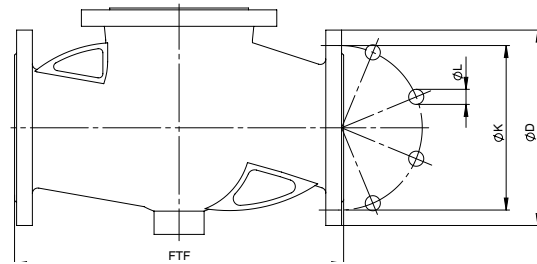
Flanges, connection code 8 Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)

DN	Material code 37					Material code 90					Weight [kg]
	Number of bolts	FTF	ø D	ø K	ø L	Number of bolts	FTF	ø D	ø K	ø L	
15	-	-	-	-	-	4	130	95	65	14	2.2
20	-	-	-	-	-	4	150	105	75	14	3.0
25	-	-	-	-	-	4	160	115	85	14	3.7
32	-	-	-	-	-	4	180	140	100	18	5.3
40	-	-	-	-	-	4	200	150	110	18	6.3
50	4	230	165	125	18	4	230	165	125	18	8.4
65	4	290	185	145	18	4	290	185	145	18	12.7
80	8	310	200	160	18	8	310	200	160	18	15.4
100	8	350	220	180	18	8	350	220	180	18	23.0

For materials see overview on page 9



DN 15 - 50

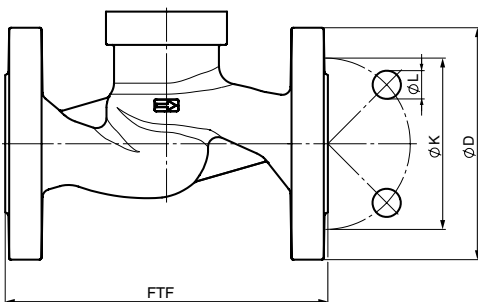


65 - 100

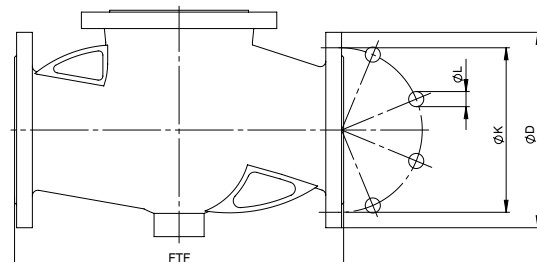
Flanges, connection code 10, 11, 48 Valve body material 1.4408 (code 37)

DN	Number of bolts	Connection code 10				Connection code 11				Connection code 48				Weight [kg]
		FTF	ø D	ø K	ø L	FTF	ø D	ø K	ø L	FTF	ø D	ø K	ø L	
15	4	-	-	-	-	130	95	65	14	108	95	70	15	2.2
20	4	-	-	-	-	150	105	75	14	117	100	75	15	3.0
25	4	-	-	-	-	160	115	85	14	127	125	90	19	3.7
32	4	180	140	100	18	180	140	100	18	-	-	-	-	5.3
40	4	200	150	110	18	200	150	110	18	165	140	105	19	6.3
50	4	-	-	-	-	230	165	125	18	203	155	120	19	8.4

For materials see overview on page 9



DN 15 - 50 code 10, 48
DN 15 - 40 code 11



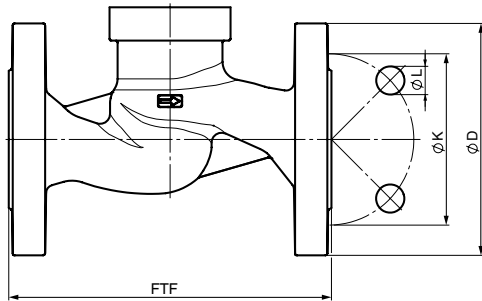
DN 50 code 11

Body dimensions [mm]

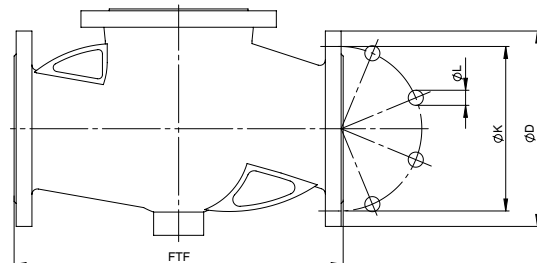
Flanges, connection code 39 Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)

DN	Number of bolts	FTF	ø D	ø K	ø L	Weight [kg]
15	4	130	90	60.3	15.9	2.2
20	4	150	100	69.9	15.9	3.0
25	4	160	110	79.4	15.9	3.7
32	4	180	115	88.9	15.9	5.3
40	4	200	125	98.4	15.9	6.3
50	4	230	150	120.7	19.0	8.4
65	4	290	180	139.7	19.0	12.7
80	4	310	190	152.4	19.0	15.4
100	8	350	230	190.5	19.0	23.0

For materials see overview on page 9



DN 15 - 50



65 - 100

Overview of metal bodies for GEMÜ 534

Connection code	8		10	11	39		48
	37	90	37	37	37	90	37
DN 15	-	X	-	X	X	X	X
DN 20	-	X	-	X	X	X	X
DN 25	-	X	-	X	X	X	X
DN 32	-	X	X	X	X	X	-
DN 40	-	X	X	X	X	X	X
DN 50	X	X	-	X	X	X	X
DN 65	X	X	-	-	X	X	-
DN 80	X	X	-	-	X	X	-
DN 100	X	X	-	-	X	X	-

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