

## 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

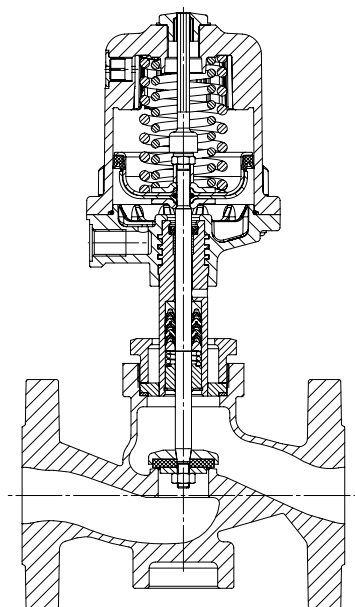
### Advantages

- 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 0.59 inHg (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	14° to 356 °F
Max. permissible viscosity	600 mm <sup>2</sup> /s (cSt)

Control medium	
Inert gases	
Max. perm. temperature of control medium:	140 °F
Filling volume:	
Actuator size 0 and 3:	3.05 cu in
Actuator size 1 and 4:	7.63 cu in
Actuator size 2:	38.14 cu in

Ambient conditions	
Max. ambient temperature	140 °F

### 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 [psi] C. f. 1 Normally closed (NC)					Control pressure [psi] C. f. 1 Normally closed (NC)					Cv values [gpm]
	Actuator size 0 piston ø 1.97 in	Actuator size 3 piston ø 1.97 in	Actuator size 1 piston ø 2.76 in	Actuator size 4 piston ø 2.76 in	Actuator size 2 piston ø 4.72 in	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	174	150	580	150	-	70 - 102	min. control pressure see diagram max. control pressure 102 psi	80 - 102	min. control pressure see diagram max. control pressure 102 psi	-	5.4
20	90	150	290	150	580	70 - 102		80 - 102		58 - 102	9.4
25	36	150	150	150	580	70 - 102		80 - 102		58 - 102	15.2
32	-	-	105	150	290	-		80 - 102		58 - 102	25.7
40	-	-	65	150	174	-		80 - 102		58 - 102	40.9
50	-	-	45	150	150	-		80 - 102		73 - 102	58.5
65	-	-	-	-	105	-		-		73 - 102	105.3
80	-	-	-	-	75	-		-		73 - 102	148.6
100	-	-	-	-	36	-		-		73 - 102	234

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

Nominal size DN	Max. operating pressure [psi] C. f. 2 Normally open (NO) / C. f. 3 Double acting (DA)			Control pressure [psi] C. f. 2 Normally open (NO) / C. f. 3 Double acting (DA)		
	Actuator size 0 piston ø 1.97 in	Actuator size 1 piston ø 2.76 in	Actuator size 2 piston ø 4.72 in	Actuator size 0	Actuator size 1	Actuator size 2
15	464	580	-	max. 102 psi for values see diagram	max. 73 psi	max. 102 psi for values see diagram
20	290	580	580		max. 102 psi for values see diagram	
25	174	464	580			
32	-	290	580			
40	-	174	580			
50	-	120	435			
65	-	-	232			
80	-	-	174			
100	-	-	120			

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**

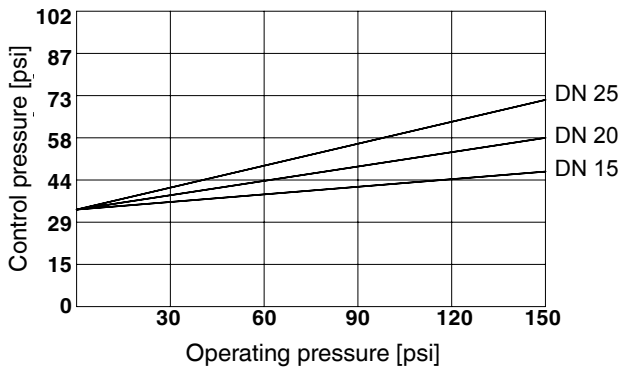
Connection code	Material code	Max. allowable operating pressures in psi at temperature °F*					
		RT	212	302	392	482	572
8	37	232	232	210	194	184	171
10	37	363	363	329	305	287	268
11	37	580	580	526	489	461	431
39	37	276	232	215	197	174	148
8	90	232	232	225	213	202	162
39	90	247	232	215	202	175	148

\* The valves can be used down to 14 °F      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**

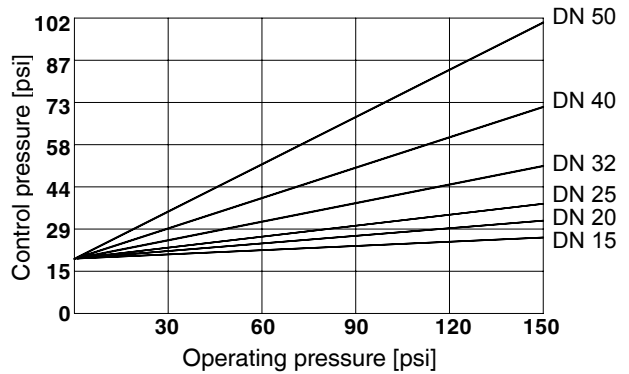
**Actuator size 3**

min. control pressure dependent on operating pressure



**Actuator size 4**

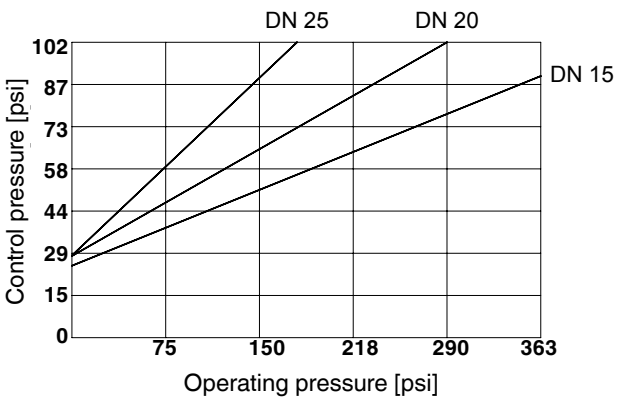
min. control pressure dependent on operating pressure



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

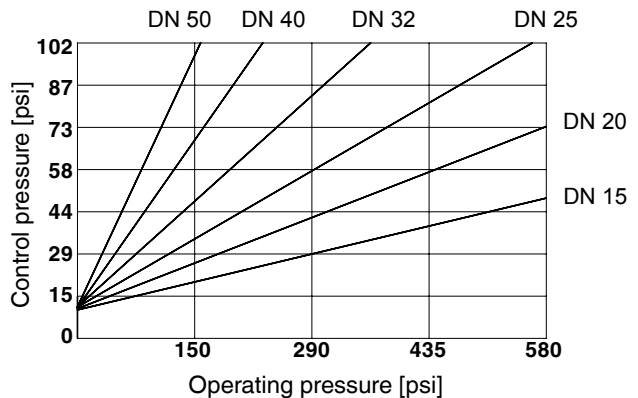
**Actuator size 0**

min. control pressure dependent on operating pressure



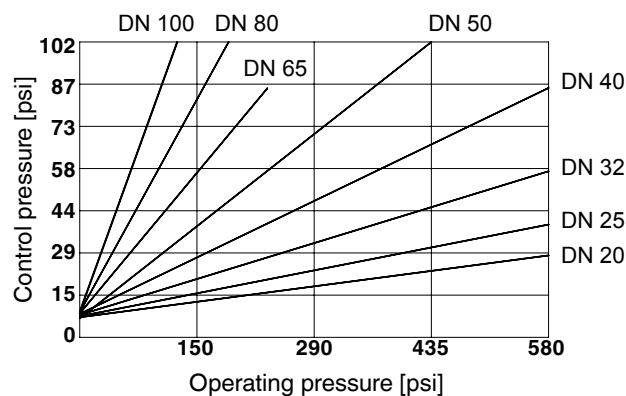
**Actuator size 1**

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

Nominal size		Code
DN 15	NPS 1/2"	15
DN 20	NPS 3/4"	20
DN 25	NPS 1"	25
DN 32	NPS 1 1/4"	32
DN 40	NPS 1 1/2"	40
DN 50	NPS 2"	50
DN 65	NPS 2 1/2"	65
DN 80	NPS 3"	80
DN 100	NPS 4"	100

Connection	Code
<b>Flanges</b>	
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	

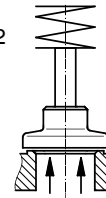
Control function		Code
Normally closed	(NC)	1
Normally open	(NO)	2
Double acting	(DA)	3

Actuator size	Flow	Code
Actuator 0 piston ø 1.97 in	Flow under the seat	0*
Actuator 1 piston ø 2.76 in	Flow under the seat	1*
Actuator 2 piston ø 4.72 in	Flow under the seat	2*
Actuator 3 piston ø 1.97 in	Flow over the seat	3**
Actuator 4 piston ø 2.76 in	Flow over the seat	4**

\* Preferred flow direction with incompressible liquid media to avoid "water hammer"

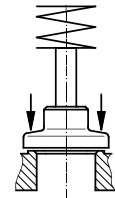
\*\* only control function NC

GEMÜ 534  
Actuators 0, 1, 2



Flow  
under the seat

GEMÜ 534  
Actuators 3, 4



Flow  
over the seat

## Order data

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 140 °F, max. operating pressure 150 psi), Flow direction: under the seat	S

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 [inch]

### Actuator dimensions

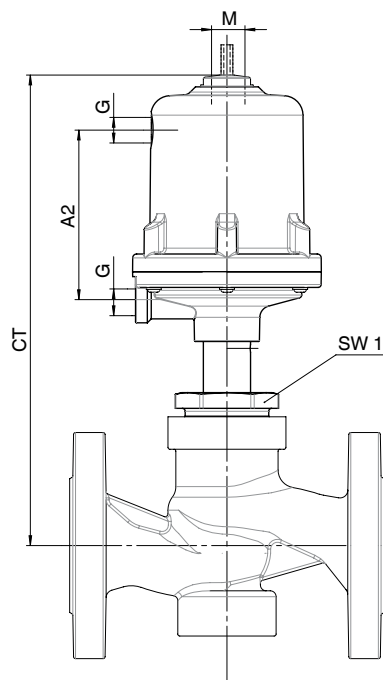
Actuator size	øB	M	A2	G
0 + 3	2.83	M16x1	2.76	G 1/4
1 + 4	3.78	M16x1	3.39	G 1/4
2	6.61	M22x1.5	5.87	G 1/4

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

		Actuator 0 + 3		Actuator 1 + 4		Actuator 2	
DN	SW1 metric [mm]	CT [in]	Weight [lbs]	CT [in]	Weight [lbs]	CT [in]	Weight [lbs]
15	36	7.72	6.8	8.82	7.9	-	17.2
20	41	7.99	9.0	9.09	10.1	12.91	19.0
25	46	8.43	11.0	9.53	12.1	13.35	20.5
32	55	-	-	9.72	17.0	13.54	24.0
40	60	-	-	10.16	19.8	13.98	26.2
50	75	-	-	10.47	26.0	14.29	30.9
65	75	-	-	-	-	15.39	-
80	75	-	-	-	-	15.98	-
100	75	-	-	-	-	16.81	-

### Installation dimensions / weight of valve, connection code 11

		Actuator 0 + 3		Actuator 1 + 4		Actuator 2	
DN	SW1 metric [mm]	CT [in]	Weight [lbs]	CT [in]	Weight [lbs]	CT [in]	Weight [lbs]
15	36	7.72	6.8	8.82	7.9	-	17.2
20	41	7.99	9.0	9.09	10.1	12.91	19.0
25	46	8.43	11.0	9.53	12.1	13.35	20.5
32	55	-	-	9.72	17.0	13.54	24.0
40	60	-	-	10.16	19.8	13.98	26.2
50	75	-	-	10.47	26.0	14.29	30.9

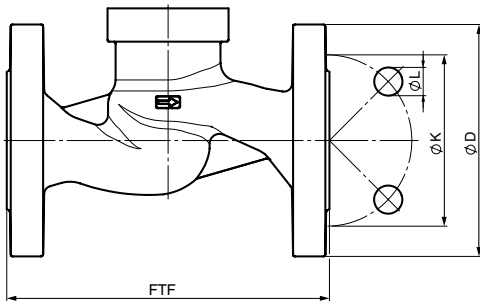


## Body dimensions [inch]

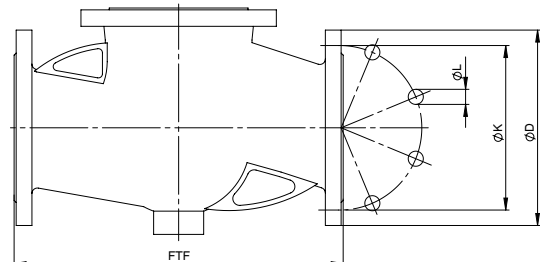
### Flanges, connection code 8 Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)

DN	Material code 37					Material code 90					Weight [lbs]
	Number of bolts	FTF	$\varnothing D$	$\varnothing K$	$\varnothing L$	Number of bolts	FTF	$\varnothing D$	$\varnothing K$	$\varnothing L$	
15	-	-	-	-	-	4	5.12	3.74	2.56	0.55	4.8
20	-	-	-	-	-	4	5.91	4.13	2.95	0.55	6.6
25	-	-	-	-	-	4	6.30	4.53	3.35	0.55	8.2
32	-	-	-	-	-	4	7.09	5.51	3.94	0.71	11.7
40	-	-	-	-	-	4	7.87	5.91	4.33	0.71	14.0
50	4	9.06	6.50	4.92	0.71	4	9.06	6.50	4.92	0.71	18.5
65	4	11.42	7.28	5.71	0.71	4	11.42	7.28	5.71	0.71	28.0
80	8	12.20	7.87	6.30	0.71	8	12.20	7.87	6.30	0.71	33.9
100	8	13.78	8.66	7.09	0.71	8	13.78	8.66	7.09	0.71	50.7

For materials see overview on page 9



DN 15 - 50

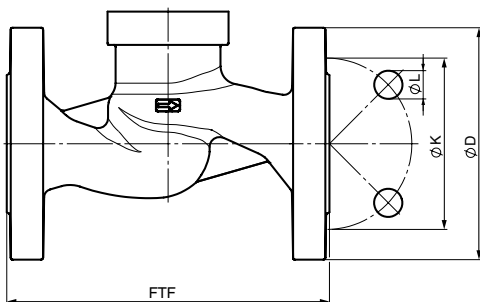


65 - 100

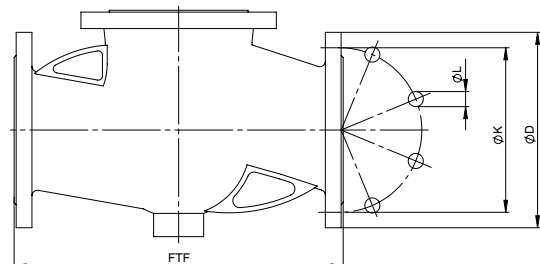
### Flanges, connection code 10, 11, 48 Valve body material 1.4408 (code 37)

DN	Number of bolts	Connection code 10				Connection code 11				Connection code 48				Weight [lbs]
		FTF	$\varnothing D$	$\varnothing K$	$\varnothing L$	FTF	$\varnothing D$	$\varnothing K$	$\varnothing L$	FTF	$\varnothing D$	$\varnothing K$	$\varnothing L$	
15	4	-	-	-	-	5.12	3.74	2.56	0.55	4.25	3.74	2.76	0.59	4.8
20	4	-	-	-	-	5.91	4.13	2.95	0.55	4.61	3.94	2.95	0.59	6.6
25	4	-	-	-	-	6.30	4.53	3.35	0.55	5.00	4.92	3.54	0.75	8.7
32	4	7.09	5.51	3.94	0.71	7.09	5.51	3.94	0.71	-	-	-	-	11.7
40	4	7.87	5.91	4.33	0.71	7.87	5.91	4.33	0.71	6.50	5.51	4.13	0.75	14.0
50	4	-	-	-	-	9.06	6.50	4.92	0.71	7.99	6.10	4.72	0.75	18.5

For materials see overview on page 9



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



DN 50 code 11

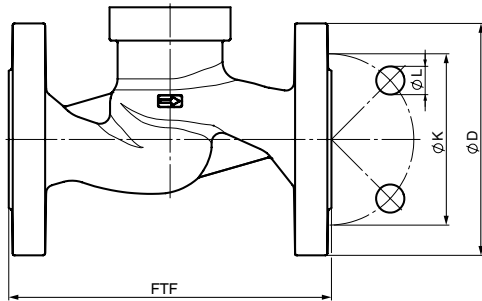


## Body dimensions [inch]

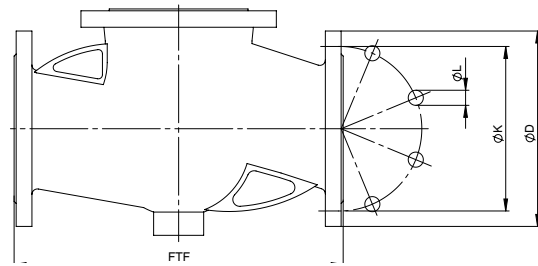
### Flanges, connection code 39 Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)

DN	Number of bolts	FTF	ø D	ø K	ø L	Weight [lbs]
15	4	5.12	3.54	2.37	0.63	4.8
20	4	5.91	3.94	2.75	0.63	6.6
25	4	6.30	4.33	3.13	0.63	8.2
32	4	7.09	4.53	3.50	0.63	11.7
40	4	7.87	4.92	3.87	0.63	14.0
50	4	9.06	5.91	4.75	0.75	18.5
65	4	11.42	7.09	5.50	0.75	28.0
80	4	12.20	7.48	6.00	0.75	33.9
100	8	13.78	9.06	7.50	0.75	50.7

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	-

For further globe valves, accessories and other products, please see our Product Range catalogue and Price List.  
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AND CONTROL SYSTEMS

