GEMÜ®

Globe Valve, Metal

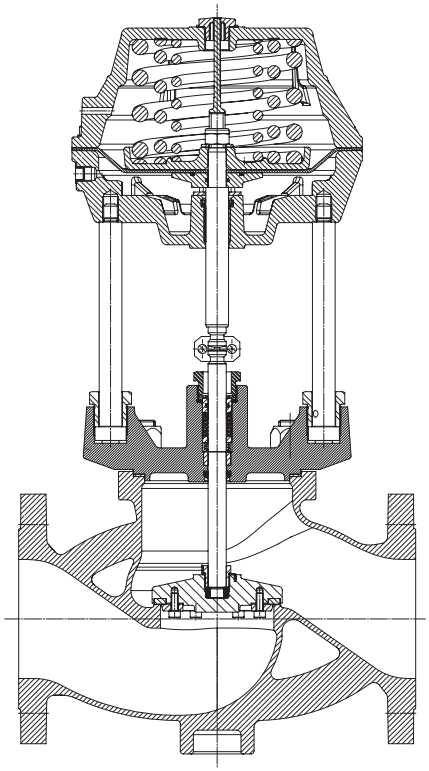
Construction

The GEMÜ 536 pneumatically operated 2/2-way globe valve has a low maintenance membrane actuator which can be controlled by inert gaseous media. The valve plug is fixed to the spindle in such a way as to allow flexing during closure in order to ensure tight shut off.
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.
A wiper ring fitted in front of the gland packing protects it against contamination and damage.

Advantages

- Good flow capability
- Broad range of operating temperatures and pressures
- Accessories:
  Stroke limiter / optical position indicator / manual override / pilot valve with manual override / electrical position indicators / electro-pneumatic positioner
- Regulating cage (in control version)

Sectional view



GEMÜ® 536

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
Media temperature	14 °F to 356 °F
Max. permissible viscosity	600 mm^2/s (cSt)
Other versions for lower/higher temperatures and higher viscosities on request.	

Control medium

Inert gases	
Max. perm. temperature of control medium	140 °F
Max. control pressure	102 psi
Filling volume Actuator size 3 Actuator size 4	 152.56 cu in 414.96 cu in

Ambient conditions

Ambient temperature	max. 140 °F

Maximum permissible seat leakage rate / Open-Closed-Valve

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

Maximum permissible seat leakage class / Control valve

Seat seal	Standard	Test procedure	Leakage rate	Test medium
PTFE	DIN EN 60534-4	1	VI	air

DN	Control function 1				Control function 2				Control function 3				Cv values
	Operating pressure	Control pressure	Actuator size	Weight [lbs]	Operating pressure	Control pressure	Actuator size	Weight [lbs]	Operating pressure	Control pressure	Actuator size	Weight [lbs]	
	[psi]		Code		[psi]		Code		[psi]		Code		[gpm]
50*	174	44 - 102	3A1	77.2	580	max. 80	3AN	90.4	580	max. 73	3AN	88.2	58.5
	363	65 - 102	3A2	81.6									
	435	80 - 102	3A3	83.8									
	580	58 - 102	4A2	149.9									
65	90	44 - 102	3A1	81.6	232	max. 102	3AN	94.8	232	max. 102	3AN	92.6	99.4
	150	65 - 102	3A2	86.0									
	232	80 - 102	3A3	88.2									
80	45	44 - 102	3A1	88.2	232	max. 102	3AN	101.4	232	max. 102	3AN	99.2	140.4
	90	65 - 102	3A2	92.6									
	131	80 - 102	3A3	94.8									
	232	80 - 102	4A3	167.5									
100	60	65 - 102	3A2	116.8	203	max. 102	3AN	125.7	232	max. 102	3AN	123.5	234
	90	80 - 102	3A3	119.0									
	232	80 - 102	4A3	191.8									
125	51	80 - 102	3A3	145.5	131	max. 102	3AN	152.1	150	max. 102	3AN	149.9	339.3
	150	80 - 102	4A3	218.3	232	max. 102	4AN	196.2	232	max. 102	4AN	194.0	
150	60	58 - 102	4A2	257.9	90	max. 102	3AN	194.0	90	max. 102	3AN	191.8	444.6
	105	80 - 102	4A3	260.1	232	max. 102	4AN	238.1	232	max. 102	4AN	235.9	

* DN 50 only with seat seal code 5G

All pressures are given as gauge pressures, when applied upstream only. Higher pressures and temperatures on request.
For max. operating pressures the pressure / temperature correlation must be observed (see table below)

Cv values determined with 1 psi pressure drop across valve, connection flange EN 1092. The Cv value data refers to control function 1 (NC) and the largest actuator for each nominal size. The Cv values for other product configurations (e.g. other connections or body materials) may differ.

Technical data

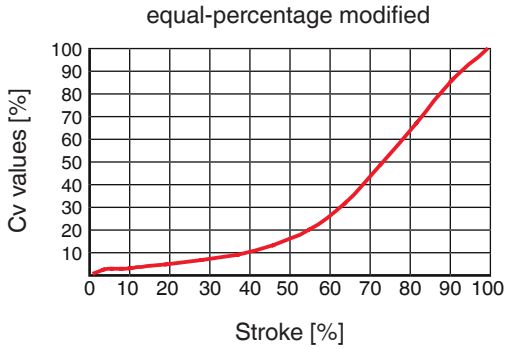
Pressure / temperature correlation for globe valve bodies							
Connection code	Material code	Max. allowable operating pressures in psi at temperature in °F *					
		RT	212	302	392	482	572
8	37	232	232	210	194	184	171
11	37	580	580	526	489	461	431
39	37	276	232	215	197	174	148
8	90	232	232	225	213	202	162
39	90	247	232	215	202	175	148

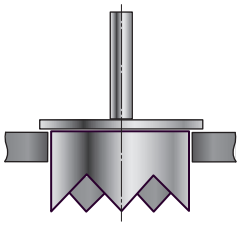
* The valves can be used down to 14 °F RT = room temperature All pressures are gauge pressures.

Correlation of Cv value, regulating cage number Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)			
Nominal size DN	Cv value [gpm]	Actuator size	equal-percentage (mod.)
50	46.8	3	RS316
	46.8	4	RS315
65	81.9	3	RS300
80	117	3	RS301
	117	4	RS302
100	117	3	RS303
	117	4	RS304
	187.2	3	RS305
	187.2	4	RS306
125	187.2	3	RS307
	187.2	4	RS308
	263.3	3	RS309
	263.3	4	RS310
150	234	3*	RS317
	234	4	RS312
	339.3	3*	RS318
	339.3	4	RS314

* only control function 2 and 3

Example Cv value diagram





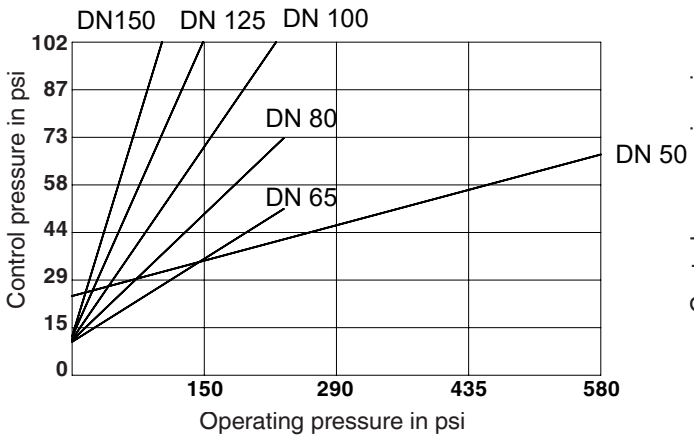
Regulating cage

The diagram shows the approximative curve of the Cv value characteristic.

Operating pressure / Control pressure characteristics

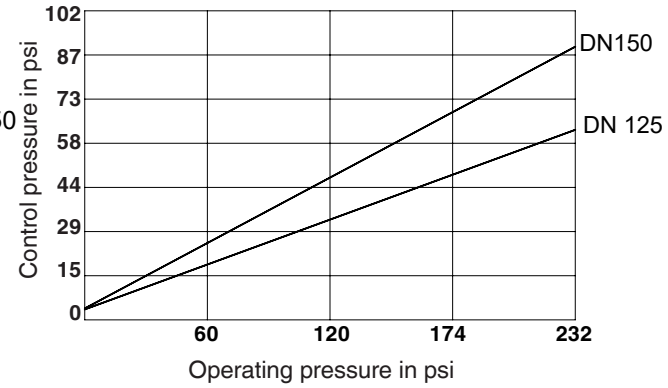
Control function 2 and 3 / Actuator size code 3AN

Max. perm. control pressure



Control function 2 and 3 / Actuator size code 4AN

Max. perm. control pressure



Note: The above diagrams give the minimum control pressure for "normally open" actuators (control function 2) for different operating pressures. For "double acting" actuators (control function 3) the control pressure is 15 psi less than that given in the diagrams.

Order data

Body configuration	Code
2/2-way body	D

Nominal size		Code
DN 50	NPS 2“	50
DN 65	NPS 2 1/2“	65
DN 80	NPS 3“	80
DN 100	NPS 4“	100
DN 125	NPS 5“	125
DN 150	NPS 6“	150

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

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
* Code 5 only for DN 65 - 150	

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

Actuator size		Code
Actuator size	ø 256	3
Actuator size	ø 360	4

Actuator version	Code
Metal	A

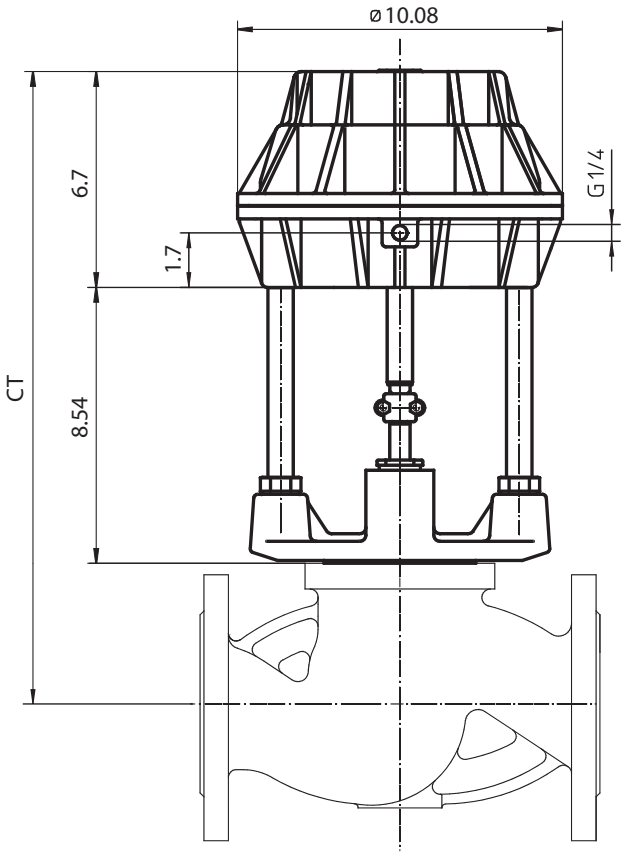
Spring set	Code
For control function 1	1, 2, 3
Control function 2 and 3	N

Special versions	Code
Media temperature 14 to 410 °F (only with seat seal Code 5G and 10)	K-Nr. 2023

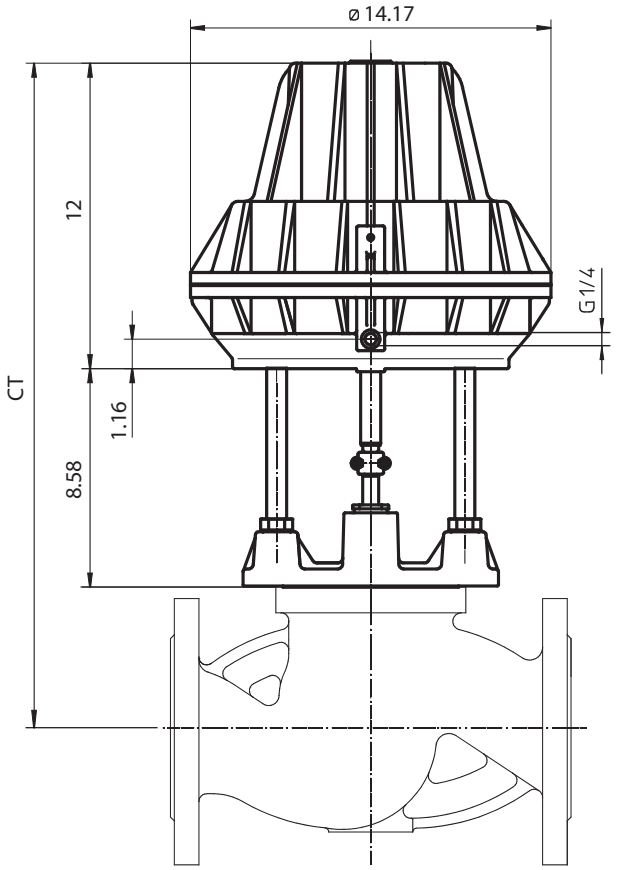
Order example	536	80	D	8	37	5	1	3	A	3	-
Type	536										
Nominal size		80									
Body configuration (code)			D								
Connection (code)				8							
Valve body material (code)					37						
Seat seal (code)						5					
Control function (code)							1				
Actuator size (code)								3			
Actuator version (code)									A		
Spring set (code)										3	
Special versions (code)											-

Actuator dimensions [inch]

Actuator code 3A1 - 3A2 - 3A3 Control function 1



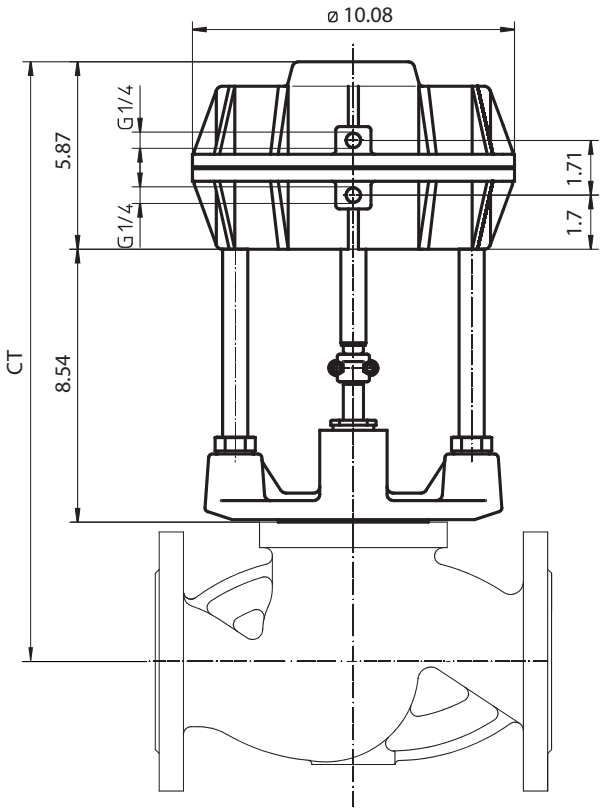
Actuator code 4A2 - 4A3 Control function 1



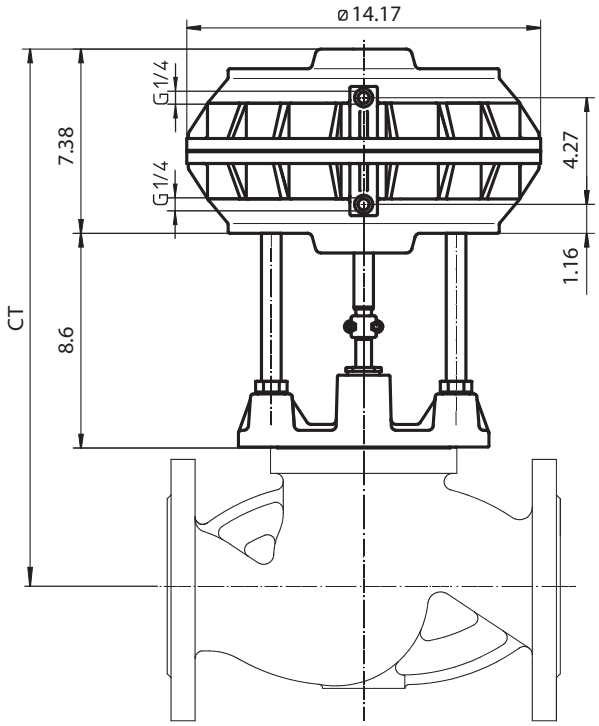
Dimensions Control function 1		
	Actuator code 3A1 - 3A2 - 3A3	Actuator code 4A2 - 4A3
DN	CT	CT
50	18.39	23.74
65	19.06	24.41
80	19.53	24.88
100	20.35	25.71
125	21.22	26.57
150	22.01	27.36

Actuator dimensions [inch]

Actuator code 3AN
Control function 2 + 3



Actuator code 4AN
Control function 2 + 3

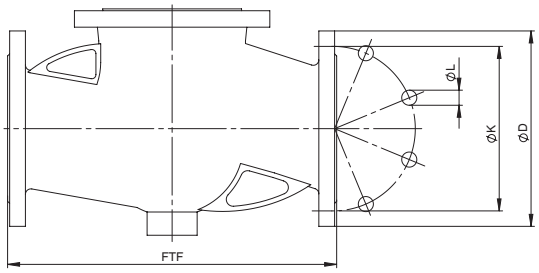


Dimensions Control function 2 + 3		
	Actuator code 3AN	Actuator code 4AN
DN	CT	CT
50	17.56	19.13
65	18.23	19.80
80	18.70	20.28
100	19.53	21.10
125	20.39	21.97
150	21.18	22.76

Body dimensions [inch]

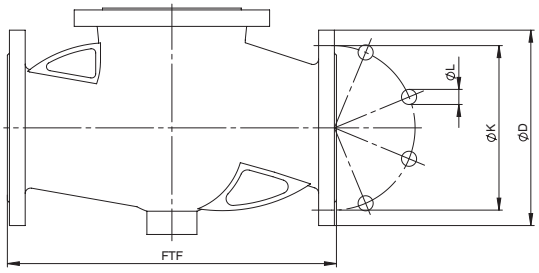
Flanges, connection code 8 Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)						
DN	**Number of bolts**	**FTF**	**ø D**	**ø K**	**ø L**	**Weight [lbs]**
65	4	11.42	7.28	5.71	0.71	28.0
80	8	12.20	7.87	6.30	0.71	33.9
100	8	13.78	8.66	7.09	0.71	50.7
125	8	15.75	9.84	8.27	0.71	73.8
150	8	18.90	11.22	9.45	0.87	93.7

For materials see overview on page 9



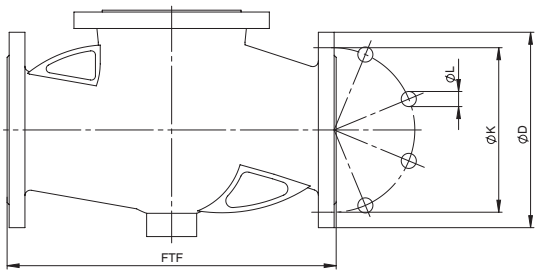
Flanges, connection code 11 Valve body material 1.4408 (code 37)						
DN	**Number of bolts**	**FTF**	**ø D**	**ø K**	**ø L**	**Weight [lbs]**
50	4	9.06	6.50	4.92	0.71	25.3

For materials see overview on page 9



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]**
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
125	8	15.75	10.04	8.50	0.87	73.8
150	8	18.90	11.02	9.50	0.87	93.7
For materials see below						



Overview of valve bodies for GEMÜ 536					
Connection code	**8**		**11**	**39**	
Material code	**37**	**90**	**37**	**37**	**90**
DN 50	-	-	X	-	-
DN 65	X	X	-	X	X
DN 80	X	X	-	X	X
DN 100	X	X	-	X	X
DN 125	X	X	-	X	X
DN 150	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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GEMÜ VALVES, MEASUREMENT AND CONTROL SYSTEMS

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