

Globe Control Valve, Metal

Construction

The GEMÜ 532 2/2-way globe control valve is designed for demanding flow control applications. It can be paired with the GEMÜ 1434 µPos, GEMÜ 1435 ePos positioners or the GEMÜ 1436 cPos positioner and process controller dependent on the control requirements (for features see page 8). The positioners are specially designed for GEMÜ valves and achieve optimum results when used as a system. The valve spindle is sealed by a self-adjusting gland packing providing low maintenance and reliable sealing even after a long service life with high cycle duties. A wiper ring protects the gland packing against contamination and damage.

Features

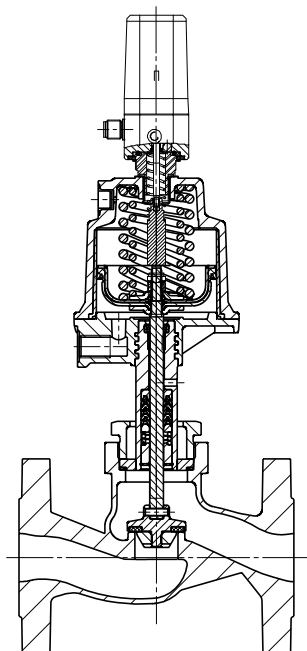
- Linear or modified equal-percentage control characteristics
- Kv values from approx. 0.16 - 140 m³/h, depending on nominal size, valve seat and regulating cone design
- PID control system can be implemented with GEMÜ 1436
- Suitable for inert, corrosive*, liquid and gaseous media and steam
- Flanged bodies in SG iron GGG 40.3 and stainless steel 1.4408 to EN 1092 and ANSI 125/150
- Valve body DN 15 - 100, pressure rating to PN 40
- Max. operating temperature 180 °C

Advantages

- Simple and fast commissioning
- Valve and positioner are optimally adapted to each other.
(For positioner details please refer to the relevant data sheets)
- Standard gland packing suitable for vacuum up to 20 mbar (abs.)

*see information on working medium on page 2

Sectional drawing



**GEMÜ 532
+ 1434 µPos**



**GEMÜ 532
+ 1435 ePos**



**GEMÜ 532
+ 1436 cPos**

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

Media temperature -10° to 180 °C

Max. permissible viscosity 600 mm²/s (cSt)

Control medium

Inert gases, max. 60 °C

Filling volume	Actuator size 0:	0.050 dm ³
	Actuator size 1:	0.125 dm ³
	Actuator size 2:	0.625 dm ³

Ambient conditions

Max. ambient temperature 60 °C

Maximum permissible seat leakage class

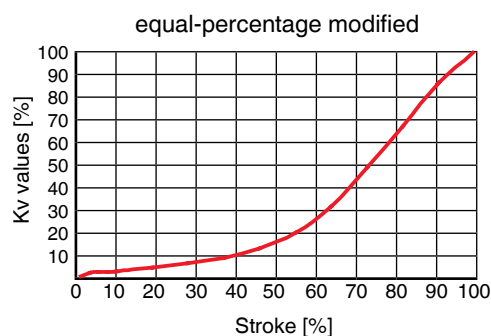
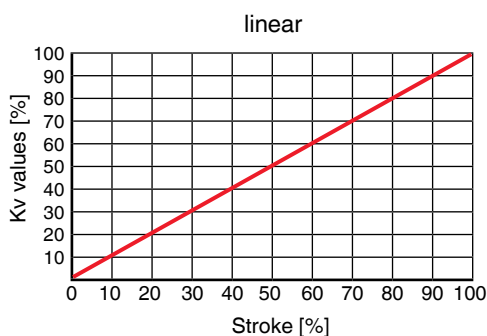
Seat seal	Standard	Test procedure	Leakage rate	Test medium
PTFE	DIN EN 60534-4	1	VI	air
Metal	DIN EN 60534-4	1	IV	air

Pressure / temperature correlation for globe valve bodies

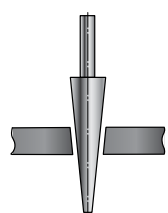
Connection code	Material code	Max. allowable operating pressures in bar at temperature °C*					
		RT	100	150	200	250	300
8	37	16.0	16.0	14.5	13.4	12.7	11.8
10	37	25.0	25.0	22.7	21.0	19.8	18.5
11	37	40.0	40.0	36.3	33.7	31.8	29.7
39	37	19.0	16.0	14.8	13.6	12.0	10.2
8	90	16.0	16.0	15.5	14.7	13.9	11.2
39	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.

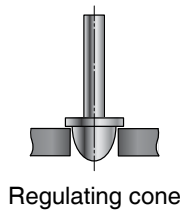
Example Kv value diagram



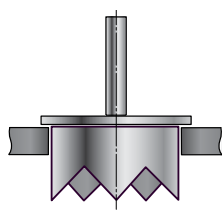
The adjacent diagram shows the approximative curve of the Kv value characteristic. The characteristic may deviate dependent on valve body, nominal size, regulating cone and valve stroke.



Regulating needle



Regulating cone



Regulating cage

Note:

Regulating needle: RAxxx - RCxxx (reduced valve seat)

Regulating cone: DN 15 - DN 50

Regulating cage: DN 65 - DN 100

Correlation Kv value, operating pressure, regulating cone number Valve body material: 1.4408 (code 37), GGG 40.3 (code 90)					
Nominal size	Kv value [m³/h]	Operating pressure [bar] *	Actuator size	Regulating cone number	
DN				linear	equal-percentage (mod.)
15	4.0	12.0	0	RS621	RS631
		40.0	1	RS620	RS630
20	6.3	6.0	0	RS622	RS632
		20.0	1	RS623	RS633
25	10.0	10.0	1	RS624	RS634
32	16.0	7.0	1	RS628	RS638
		22.0	2	RS625	RS635
40	25.0	4.5	1	RS629	RS639
		15.0	2	RS626	RS636
50	40.0	3.0	1	RS680	RS343
		10.0	2	RS627	RS637
65	63.0	7.0	2	-	RS340
80	90.0	5.0	2	-	RS341
100	140.0	2.5	2	-	RS342

* Observe the pressure / temperature correlation

Correlation Kv value, operating pressure, regulating cone number Valve body material: 1.4408 (code 37)					
Nominal size	Kv value [m³/h]	Operating pressure [bar] **	Actuator size	Regulating cone number	
DN				linear	equal-percentage (mod.)
15	0.1*	40	1	RA103	RA305
	0.16*	40	1	RB107	RA306
	0.25*	40	1	RB108	RB305
	0.40*	40	1	RB109	RB306
	0.63*	40	1	RC105	RC305
	1.00*	40	1	RC106	RC306
	1.60	40	1	RD105	RD305
	2.50	40	1	RE107	RE307
20	1.60	40	1	RD106	RD306
	2.50	40	1	RE108	RE308
	4.00	40	1	RF107	RF307
25	2.50	40	1	RE109	RE309
	4.00	40	1	RF108	RF308
	6.30	40	1	RG107	RG307
32	4.00	40	1	RF109	RF309
	6.30	40	1	RG108	RG308
	10.00	16	1	RH107	RH307
40	6.30	40	1	RG109	RG309
	10.00	18	1	RH108	RH308
	16.00	11	1	RJ105	RJ305
50	10.00	16	1	RH109	RH309
	16.00	12	1	RJ106	RJ306
	25.00	16	2	RK103	RK303

* metal seated (with no soft seat)

** Observe the pressure / temperature correlation

Order data

Body configuration	Code
2/2-way body	D

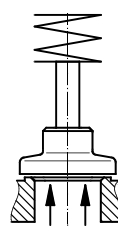
Connection	Code
Flanges EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1	8
Flanges EN 1092 / PN25 / form B, length EN 558, series 1, ISO 5752, basic series 1	10
Flanges EN 1092 / PN40 / form B, length EN 558, series 1, ISO 5752, basic series 1	11
Flanges ANSI CLASS 125/150 RF, length 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
Steel (standard up to Kv value 1.00 m³/h)	10*
* R-No. on request	

Control function	Code
Normally closed (NC)	1
Double acting (DA)	3*
Double acting (normally open)	8*
* R-No. on request	

Actuator size	Flow	Code
Actuator 0 piston ø 50 mm	under the seat	0
Actuator 1 piston ø 70 mm	under the seat	1
Actuator 2 piston ø 120 mm	under the seat	2



Flow under the seat

Regulating cone	R-No.
For the regulating cone no. (R-No.) - linear or equal-percentage (mod.) - please refer to the table	

Version	Code
Gland packing PTFE / PTFE suitable for contact with food according to EU Regulation 1935/2004	2013
Media temperature -10 to 210 °C (only with seat seal Code 5G and 10)	2023

Order example	532	25	D	10	37	5	1	1	RS634	-
Type	532									
Nominal size		25								
Body configuration (code)			D							
Connection (code)				10						
Valve body material (code)					37					
Seat seal (code)						5				
Control function (code)							1			
Actuator size (code)								1		
Regulating cone (R-No.)									RS634	
Version (code)										-

For the technical data and order data of the positioners please refer to data sheets GEMÜ 1434, 1435 and 1436. Please also note the table on the last page.

Version for food contact

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

Version code 2013

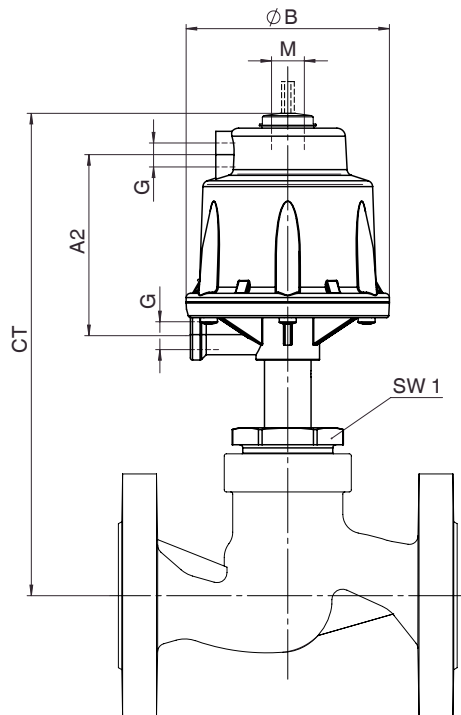
Seat seal code 5, 5G, 10

Valve body material code 37

Dimensions - GEMÜ 532 [mm]

Antriebsmaße				
Antriebsgröße	øB	M	A2	G
0 + 3	71	M16x1	-	G 1/4
1 + 4	96	M16x1	85,5	G 1/4
2	164	M22x1,5	123,0	G 1/4

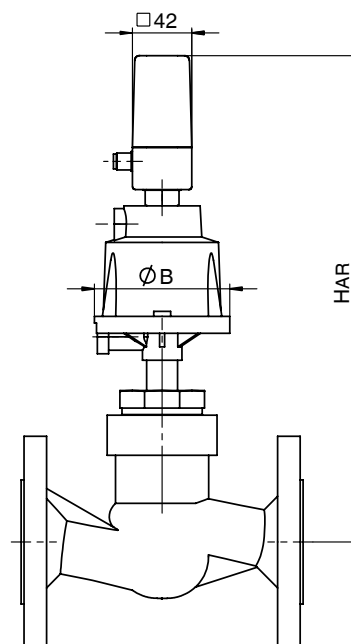
Einbaumaße [mm] / Ventilgewicht [kg]							
		Antriebsgröße 0 + 3		Antriebsgröße 1 + 4		Antriebsgröße 2	
DN	SW1 metrisch	CT	Gewicht	CT	Gewicht	CT	Gewicht
15	36	191	3,25	201	4,1	-	-
20	41	198	4,25	208	5,1	283	-
25	46	209	5,15	219	6,0	294	-
32	55	-	-	224	8,2	299	-
40	60	-	-	235	9,5	310	-
50	75	-	-	243	12,3	318	-
65	75	-	-	-	-	346	-
80	75	-	-	-	-	361	-
100	75	-	-	-	-	382	-



Dimensions - GEMÜ 532 [mm]

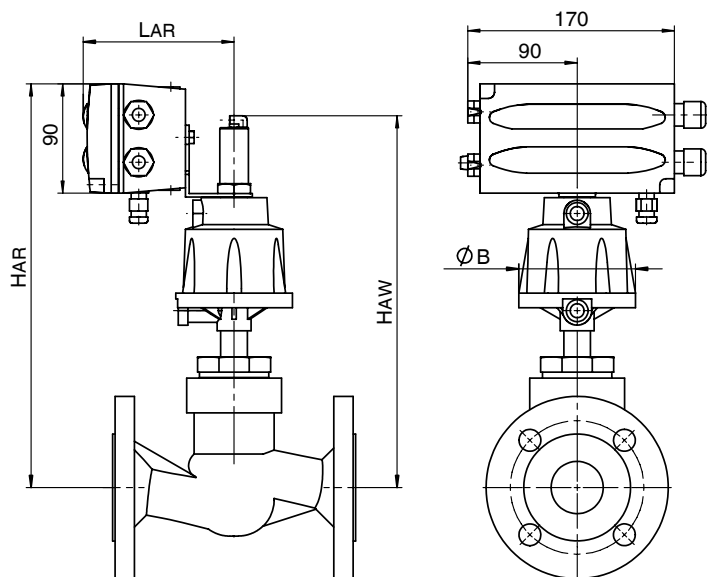
GEMÜ 532 with 1434 μ Pos

DN	Actuator size	Control function	$\varnothing B$	HAR
15	0	1	71	295
	1	1	96	305
20	0	1	71	302
	1	1	96	312
25	1	1	96	323
32	1	1	96	328
40	1	1	96	339
50	1	1	96	347



GEMÜ 532 with 1435 ePos

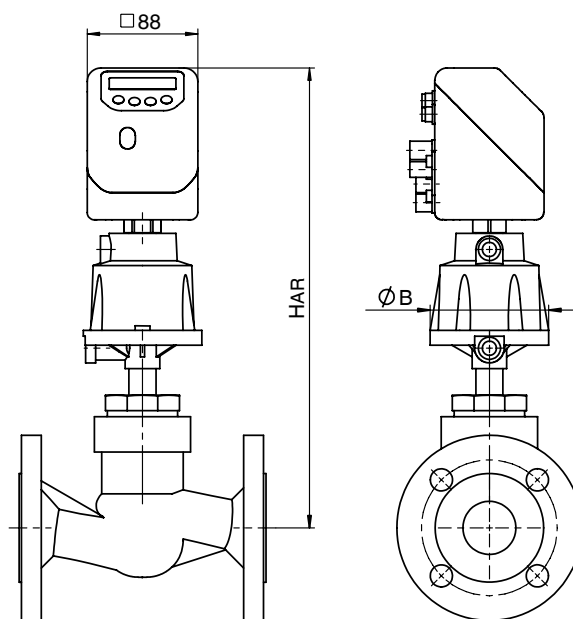
DN	Actuator size	Control function	øB	HAR	HAW	LAR
15	0	1	71	303	276	118
	1	1	96	289	262	118
		3 and 8	96	313	286	118
20	0	1	71	310	283	118
	1	1	96	296	269	118
		3 and 8	96	320	293	118
	2	1	164	376	371	168
		3 and 8	164	395	390	138
25	0	1	71	321	294	118
	1	1	96	307	280	118
		3 and 8	96	331	304	118
	2	1	164	387	382	168
		3 and 8	164	406	401	138
32	1	1	96	312	285	118
		3 and 8	96	336	309	118
	2	1	164	392	387	168
		3 and 8	164	411	406	138
40	1	1	96	323	296	118
		3 and 8	96	347	320	118
	2	1	164	403	398	168
		3 and 8	164	422	417	138
50	1	1	96	331	304	118
		3 and 8	96	355	328	118
	2	1	164	411	406	168
		3 and 8	164	430	425	138
65	2	1	164	337	332	168
		3 and 8	164	356	351	138
80	2	1	164	337	332	168
		3 and 8	164	356	351	138
100	2	1	164	337	332	168
		3 and 8	164	356	351	138



Dimensions - GEMÜ 532 [mm]

GEMÜ 532 with 1436 cPos

DN	Actuator size	Control function	øB	HAR
15	0	1	71	348
	1	1	96	334
		3	96	358
20	0	1	71	355
	1	1	96	341
	1	3	96	365
	2	1	164	444
	2	3	164	462
25	0	0	71	366
	1	1	96	352
		1	96	376
	2	2	164	454
		2	164	473
32	1	1	96	357
		3	96	381
	2	1	164	460
		3	164	478
40	1	1	96	368
		3	96	392
	2	1	164	470
		3	164	489
50	1	1	96	376
		3	96	400
	2	1	164	478
		3	164	497
65	2	1	164	404
		3	164	423
80	2	1	164	404
		3	164	423
100	2	1	164	404
		3	164	423

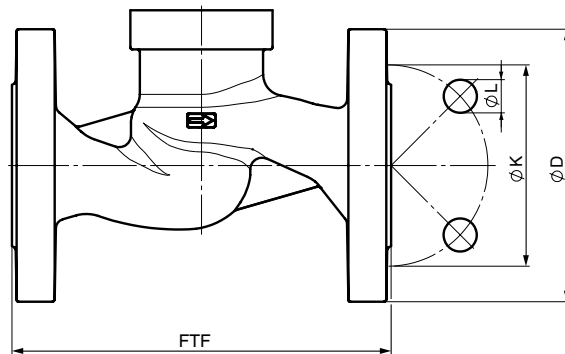


Body dimensions [mm]

Flanges, connection code 8, 10, 11, 39, 48
Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)

		Connection code 8, 10, 11				Connection code 39				Connection code 48				Weight [kg]
DN	Number of bolts	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	130	90	60.3	15.9	108	95	70	15	2.2
20	4	150	105	75	14	150	100	69.9	15.9	117	100	75	15	3.0
25	4	160	115	85	14	160	110	79.4	15.9	127	125	90	19	3.7
32	4	180	140	100	18	180	115	88.9	15.9	-	-	-	-	5.3
40	4	200	150	110	18	200	125	98.4	15.9	165	140	105	19	6.3
50	4	230	165	125	18	230	150	120.7	19.0	203	155	120	19	8.4

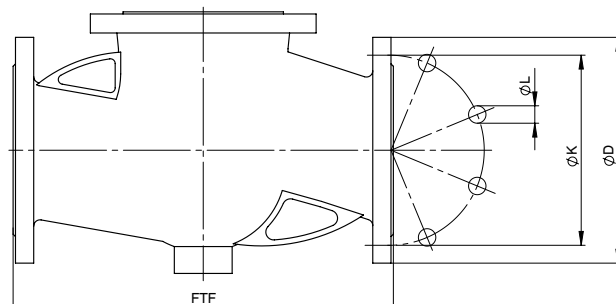
For materials see overview on page 10



Flanges, connection code 8, 39
Valve body material 1.4408 (code 37), EN-GJS-400-18-LT (code 90)

		Connection code 8				Connection code 39				Weight [kg]
DN	FTF	ø D	ø K	ø L	Number of bolts	ø D	ø K	ø L	Number of bolts	
65	290	185	145	18	4	180	139.7	19	4	12.7
80	310	200	160	18	8	190	152.4	19	4	15.4
100	350	220	180	18	8	230	190.5	19	8	23.0

For materials see overview on page 10



Overview of metal bodies for GEMÜ 532

Connection code	8		10	11	39		48
Material code	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
DN 65	X	X	-	-	X	X	-
DN 80	X	X	-	-	X	X	-
DN 100	X	X	-	-	X	X	-

Specification sheet

for designing regulating cones for globe valves

Project (customer) _____ Valve/TAG number _____

Date _____ Telephone _____

Contact person _____ E-Mail _____

Technical requirements

Medium ¹⁾ _____

Requirement characteristic	1st operating point maximum flow	2nd operating point medium flow	3rd operating point minimum flow
Media temperature ⁴⁾	°C	°C	°C
Inlet pressure	bar(g)	bar(g)	bar(g)
Outlet pressure	bar(g)	bar(g)	bar(g)
Flow rate ^{2, 3)}			
in [m³/h] for liquids	m³/h	m³/h	m³/h
Gases ⁶⁾	Nm³/h	Nm³/h	Nm³/h
in [kg/h] for steam	kg/h	kg/h	kg/h

Valve body / Actuator	Type			
	Required valve DN			
	Max. operating pressure			
	Ambient temperature ⁵⁾			
	Max. media temperature			
	Connection			
	Body material			
	Seat seal	☐ PTFE	☐ Other	
	Control function	☐ NC (normally closed)	☐ DA (double acting)	☐ Double acting (normally open)
	Control pressure	min	max	
Regulating cone	Characteristic	☐ linear	☐ modified equal-percentage	
	☐ Other			

- 1) Liquid or gas?
For media other than water or air, it is necessary to give data for the density and viscosity (with unit of measurement) of the medium. Otherwise we will assume data for standard conditions.
- 2) For steam especially, the minimum or maximum flow rate should be assigned to the appropriate inlet or outlet pressure. The temperature of the medium should also be taken into account.
- 3) GEMÜ recommends a positioning ratio of 1 : 10 (e.g. minimum flow rate is 10 m³/h and the maximum flow rate is 100 m³/h). Please note that the valve only controls reliably from a flow of

about 10% of the max. Kv value on account of the valve opening behaviour. Other positioning ratios are possible on request or in the selection of standard regulating cones.

- 4) The media temperature range must be specified for steam applications. T = 20 °C is assumed unless specified otherwise.
- 5) This data is not absolutely necessary. A room temperature of 20 °C is assumed unless specified otherwise.
- 6) Basis: standard conditions 0 °C, 1013.25 mbar. If conditions differ, please specify them.

Positioner functions / features			
	1434 µPos	1435 ePos	1436 cPos
Controller type			
Positioner	X	X	X
Process controller			X
Control air flow			
Version 1	15 l/min	50 l/min	150 l/min
Version 2		90 l/min	200 l/min
Operation			
Local display / keypad		X	X
Status display	X	X	X
Web browser user			X
Field bus (Profibus DP, Device Net)			X
Signal			
24V DC / 3-wire	X	X	X
Body			
Plastic	X		X
Aluminium / industrial		X	
Functions			
Automatic initialisation	X	X	X
Alarm / error outputs		X	X
Min/max positions adjustable		X	X

GEMÜ 1434 µPos not available for actuator size 2

Other GEMÜ control valves



GEMÜ 514
+ 1434 µPos



GEMÜ 530
+ 1435 ePos



GEMÜ 534
+ 1436 cPos



GEMÜ 550
+ 1434 µPos



GEMÜ 554
+ 1435 ePos

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

