

Angle Seat Globe Valve, Metal

Construction

The GEMÜ 554 pneumatically operated 2/2-way valve has a plastic pneumatic piston actuator. The valve spindle is sealed by a self-adjusting gland packing or a compact seal cartridge, dependent on the size and version. A wiper ring or the wiper contour of the seal cartridge additionally protects the valve spindle against contamination and damage thus providing low maintenance and reliable valve spindle sealing even after a long service life.

Features

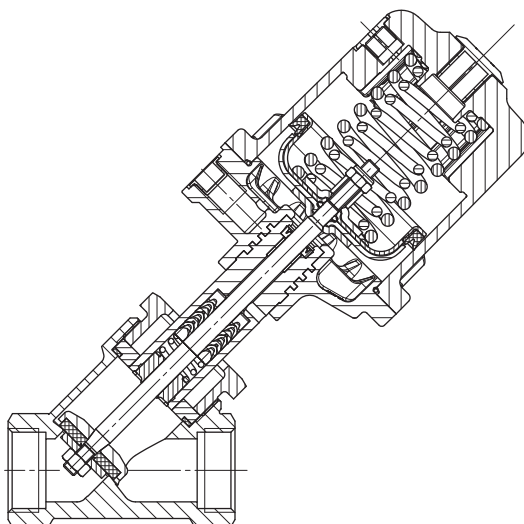
- Suitable for inert and corrosive* liquid and gaseous media
- Substantially reduced installation dimensions when using the body with male threads which can be installed using union nuts
- Materials of all medium wetted parts can be selected to suit relevant applications
- Control valves with control cone available (see data sheet GEMÜ 554 control valve)
- Versions according to ATEX on request

Advantages

- Various types of valve body connections:
Threaded sockets, threaded spigots, butt weld spigots
- Good flow capability
- Extensive range of accessories
- Low weight

*See information on working medium on page 2

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 materials.

Max. perm. pressure of working medium see table

Medium temperature -10 to 180 °C

Actuator B (DN 6 - 15) to 150 °C

Max. permissible viscosity 600 mm²/s (cSt)

Other versions for higher viscosities on request

Control medium

Inert gases

Max. perm. temperature of control medium: 60 °C

Filling volume Actuator size B: 0.01 dm³

Actuator size 0 and 3: 0.05 dm³

Actuator size 1 and 4: 0.125 dm³

Actuator size 2: 0.625 dm³

Ambient conditions

Max. ambient temperature 60 °C

Leakage rate

Leakage rate A to P11/P12 EN 12266-1

DN	Max. operating pressure [bar] Normally closed						Control pressure [bar] Normally closed						Kv value [m ³ /h]
	Actuator size B piston ø 30 mm	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 B	Actuator size 0	Actuator size 3	Actuator size 1	Actuator size 4	Actuator size 2	
6	10	-	-	-	-	-	4 - 8	-	min. control pressure see diagram max. control pressure 7 bar	-	min. control pressure see diagram max. control pressure 7 bar	-	1.6*
8	10	-	-	-	-	4 - 8	-	-		-		1.8*	
10	10	-	-	-	-	4 - 8	-	-		-		2.4*	
15	10	-	-	-	-	4 - 8	-	-		-		2.4**	
10	-	12.0	10	25.0	10	-	-	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	-	4.5
15	-	12.0	10	25.0	10	-	-	4.8 - 7.0		5.5 - 7.0		-	5.4
20	-	6.0	10	20.0	10	25	-	4.8 - 7.0		5.5 - 7.0		4 - 7	10.0
25	-	2.5	10	10.0	10	25	-	4.8 - 7.0		5.5 - 7.0		4 - 7	15.2
32	-	-	-	7.0	10	16	-	-		5.5 - 7.0		4 - 7	23.0
40	-	-	-	4.5	10	12	-	-		5.5 - 7.0		4 - 7	41.0
50	-	-	-	3.0	10	10	-	-		5.5 - 7.0		5 - 7	68.0
65	-	-	-	-	-	7	-	-		-		5 - 7	95.0
80	-	-	-	-	-	5	-	-	-	5 - 7	130.0		

Kv values determined acc. to IEC 534 standard, body with threaded sockets DIN ISO 228. * Given Kv values are valid for DIN valve body connection, ** Given Kv values are valid for ASME-BPE valve body connection. 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.

Nominal size DN	Max. operating pressure [bar] Normally open/ Double acting			Control pressure [bar] Normally open/ Double acting		
	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
10	25	25	-	max. 7 bar for values see diagram	max. 7 bar for values see diagram	max. 7 bar for values see diagram
15	25	25	-			
20	20	25	25			
25	12	25	25			
32	-	20	25			
40	-	12	25			
50	-	8	25			
65	-	-	18			
80	-	-	10			

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 angle seat globe valve bodies

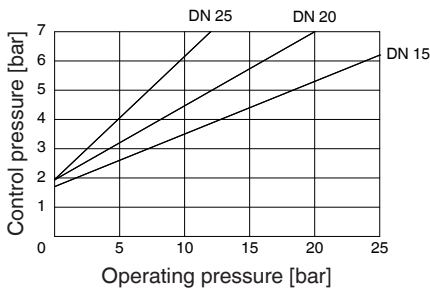
Connection code	Material code	Max. allowable pressure (barg) at temperature °C*						
		RT	50	100	150	200	250	300
1, 31, 3B, 9 (up to DN 50)	9	16.0	16.0	16.0	16.0	13.5	-	-
1, 31, 3B, 9 (from DN 65)	9	10.0	10.0	10.0	10.0	8.5	-	-
1, 9, 17, 60	37	25.0	23.7	21.3	19.2	17.7	16.4	15.4
0, 16, 17, 18, 37, 59, 60	34	25.0	24.2	21.2	19.3	17.9	16.8	15.9
80, 82, 86, 88 (up to DN 65)	34	16.0	16.0	16.0	16.0	-	-	-
80, 82, 86, 88 (DN 80)	34	10.0	10.0	10.0	10.0	-	-	-
31, 3B	C1	25.0	24.2	21.2	19.3	17.9	16.8	15.9
13	34	25.0	24.2	21.2	19.3	17.9	16.8	15.9
47	34	19.0	19.0	16.0	14.8	13.6	12.1	10.2
0, 16, 17, 18, 59, 60	40	25.0	22.8	20.6	18.7	17.1	15.8	14.8

* The valves can be used down to -10°C RT = Room Temperature

Operating pressure/Control pressure characteristics

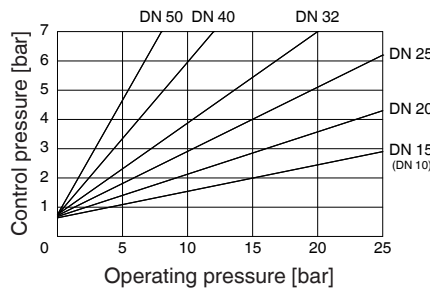
Actuator size 0 Normally open (NO) Double acting (DA)

Min. control pressure dependent on operating pressure
(Flow direction: under the seat)



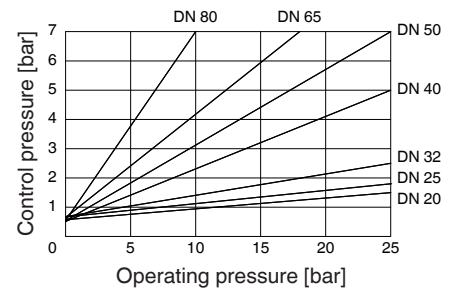
Actuator size 1 Normally open (NO) Double acting (DA)

Min. control pressure dependent on operating pressure
(Flow direction: under the seat)



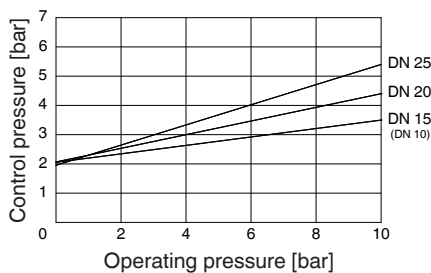
Actuator size 2 Normally open (NO) Double acting (DA)

Min. control pressure dependent on operating pressure
(Flow direction: under the seat)



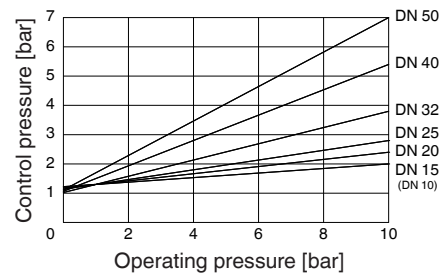
Actuator size 3 Normally closed (NC)

Min. control pressure dependent on operating pressure
(Flow direction: over the seat)



Actuator size 4 Normally closed (NC)

Min. control pressure dependent on operating pressure
(Flow direction: over the seat)



Order data

Body configuration	Code
2/2-way body	D

Connection	Code
Butt weld spigots	
Spigots DIN	0
Spigots DIN 11850, series 1	16
Spigots DIN 11850, series 2	17
Spigots DIN 11850, series 3	18
Spigots SMS 3008	37
Spigots ASME BPE	59
Spigots EN ISO 1127	60

Threaded connections	
Threaded sockets DIN ISO 228	1
Threaded sockets BS 21 Rc	3B
Threaded spigots DIN ISO 228	9
Threaded sockets NPT	31

Flanges	
Flanges EN 1092 / PN25 /form B length see body dimensions	13
Flanges ANSI class 125/150 RF length see body dimensions	47

Clamp connections	
Clamps ASME BPE for pipe ASME BPE, short design	80
Clamps DIN 32676 series B for pipe EN ISO 1127, length EN 558, series 1	82
Clamps DIN 32676 series A for pipe DIN 11850, length EN 558, series 1	86
Clamps ASME BPE for pipe ASME BPE, length EN 558, series 1	88

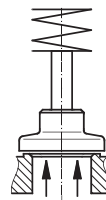
Valve body material	Code
Rg 5, cast bronze	9
1.4435 (ASTM A 351 CF3M \triangleq 316L), investment casting	34
1.4408, cast stainless steel	37
1.4435 (316 L), forged body	40
ASTM A 351 CF3M, investment casting*	C1
* Material equivalency 316L	

Seat seal	Code
PTFE	5
PTFE, glass reinforced	5G
PFA (Actuator B)	30
Other seat seals on request	

Control function	Code
Normally closed (NC)	1
Normally open (NO) (not Actuator B)	2
Double acting (DA) (not Actuator B)	3

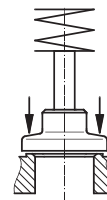
Actuator size	Flow	Code
Actuator B piston \varnothing 30 mm	under the seat	B*
Actuator 0 piston \varnothing 50 mm	under the seat	0*
Actuator 1 piston \varnothing 70 mm	under the seat	1*
Actuator 2 piston \varnothing 120 mm	under the seat	2*
Actuator 3 piston \varnothing 50 mm	over the seat	3**
Actuator 4 piston \varnothing 70 mm	over the seat	4**
* Preferred flow direction with incompressible liquid media to avoid "water hammer"		
** only control function NC		

GEMÜ 554
Actuators
B, 0, 1, 2



Flow
under the seat

GEMÜ 554
Actuators 3, 4



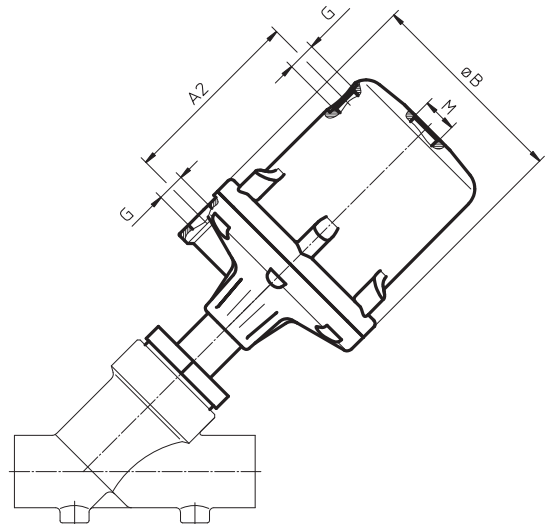
Flow
over the seat

Order example	554	15	D	1	9	5	1	1
Type	554							
Nominal size		15						
Body configuration (code)			D					
Connection (code)				1				
Valve body material (code)					9			
Seat seal (code)						5		
Control function (code)							1	
Actuator size (code)								1

Dimensions [mm]

Actuator dimensions

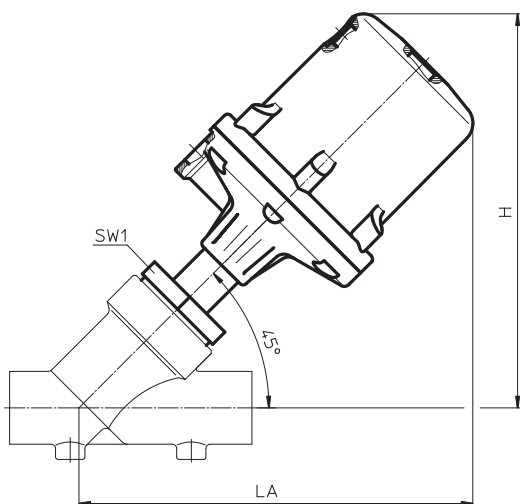
Actuator size	ø B	M	A2	G
B	41.5	M 12x1	-	G 1/8
0 + 3	72.0	M 16x1	70	G 1/4
1 + 4	96.0	M 16x1	86	G 1/4
2	168.0	M 22x1.5	149	G 1/4



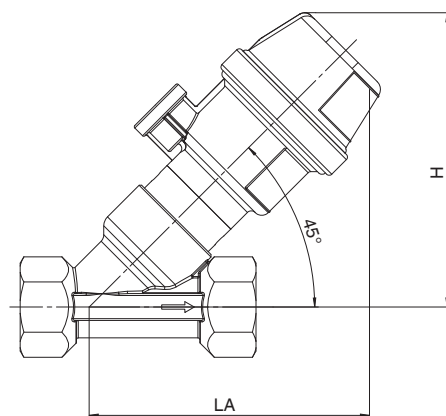
Installation dimensions / Weight [kg]

DN	Wrench size SW1	Actuator size B		Actuator size 0 and 3		Actuator size 1 and 4		Actuator size 2	
		H/LA	Weight	H/LA	Weight	H/LA	Weight	H/LA	Weight
6	-	82	0.3	-	-	-	-	-	-
8	-	82	0.3	-	-	-	-	-	-
10	-	82	0.3	-	-	-	-	-	-
15	-	82	0.3	-	-	-	-	-	-
10	36	-	-	152	0.9	179	1.4	-	-
15	36	-	-	155	0.9	182	1.4	-	-
20	41	-	-	165	1.1	192	1.6	279	-
25	46	-	-	165	1.3	192	1.8	279	-
32	55	-	-	-	-	200	2.4	287	5.1
40	60	-	-	-	-	206	2.7	293	6.0
50	75	-	-	-	-	214	3.4	301	6.9
65	75	-	-	-	-	-	-	313	8.5
80	75	-	-	-	-	-	-	330	10.1

Installation dimensions - Actuator size 0, 1, 2, 3, 4



Installation dimensions - Actuator size B



Body dimensions [mm]

Butt weld spigots, connection code 0, 16, 17, 18, 37, 59, 60

Valve body material: 1.4435 (code 34), 1.4408 (code 37)

		Connection code																	
		Material code 34		Material code 37		0		16		17		18		37		59		60	
DN	LS	LB	LS	LB	ø d	s	ø d	s	ø d	s	ø d	s	ø d	s	ø d	s	ø d	s	
10	105	35.5	-	-	-	-	12	1.0	13	1.5	14	2.0	-	-	-	-	17.2	1.6	
15	105	35.5	100	33	18	1.5	18	1.0	19	1.5	20	2.0	-	-	12.70	1.65	21.3	1.6	
20	120	39.0	108	33	22	1.5	22	1.0	23	1.5	24	2.0	-	-	19.05	1.65	26.9	1.6	
25	125	38.5	112	32	28	1.5	28	1.0	29	1.5	30	2.0	25.0	1.2	25.40	1.65	33.7	2.0	
32	155	48.0	137	39	-	-	34	1.0	35	1.5	36	2.0	-	-	-	-	42.4	2.0	
40	160	47.0	146	40	40	1.5	40	1.0	41	1.5	42	2.0	38.0	1.2	38.10	1.65	48.3	2.0	
50	180	48.0	160	38	52	1.5	52	1.0	53	1.5	54	2.0	51.0	1.2	50.80	1.65	60.3	2.0	
65	-	-	290	96	-	-	-	-	70	2.0	-	-	63.5	1.6	63.50	1.65	76.1	2.0	
80	-	-	310	95	-	-	-	-	85	2.0	-	-	76.1	1.6	76.20	1.65	88.9	2.3	

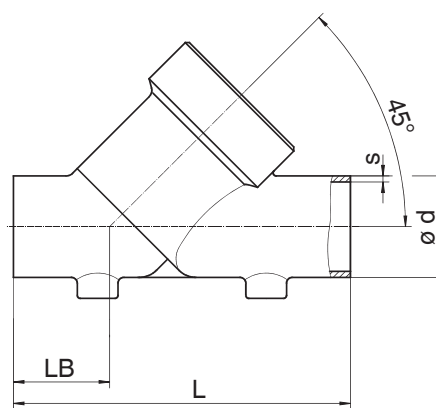
For materials see overview on last page

Butt weld spigots, Actuator size B

connection code 0, 16, 17, 18, 59, 60

Valve body material: Forged body (code 40)

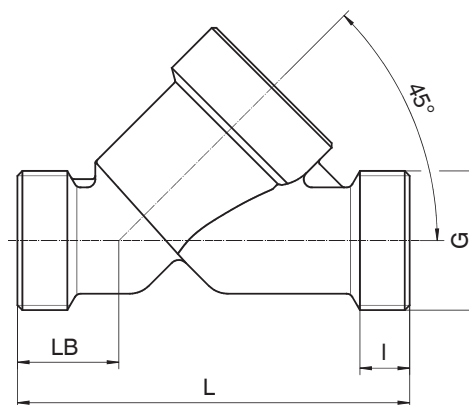
Connection code			0		16		17		18		59		60	
DN	LS	LB	ø d	s	ø d	s	ø d	s	ø d	s	ø d	s	ø d	s
6	80	26.5	8	1.0	-	-	-	-	-	-	-	-	-	-
8	80	26.5	10	1.0	-	-	-	-	-	-	-	-	13.5	1.6
10	80	26.5	-	-	12	1.0	13	1.5	14	2.0	9.53	0.89	-	-
15	80	26.5	-	-	-	-	-	-	-	-	12.70	1.65	-	-



Threaded spigots, connection code 9

Valve body material: Cast bronze (code 9), investment casting (code 37), Forged body (code 40)

DN	L	LB	I	G
6*	65	19	12	G 1/4
8*	65	19	12	G 3/8
10*	65	19	12	G 1/2
15*	65	19	12	G 3/4
15	90	25	12	G 3/4
20	110	30	15	G 1
25	118	30	15	G 1 1/4
32	130	38	13	G 1 1/2
40	140	35	13	G 1 3/4
50	175	50	15	G 2 3/8
65	216	52	15	G 3
80	254	64	18	G 3 1/2



* only with actuator size B
For materials see overview on last page.

Body dimensions [mm]

Threaded sockets DIN, connection code 1 Valve body material: Cast bronze (code 9), 1.4408 (code 37)

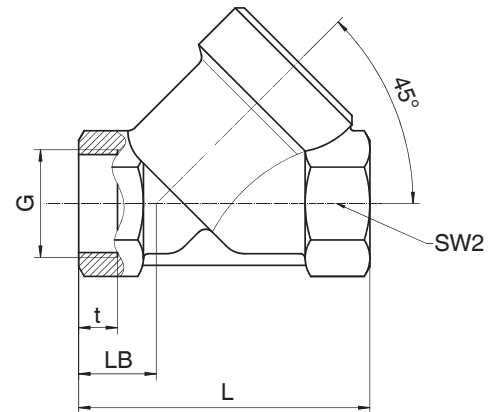
DN	L	LB	G	Material code 9			Material code 37		
				t	SW2		t	SW2	
8*	65	19.0	G 1/4	-	-	-	9	17	hexagonal
10*	65	19.0	G 3/8	-	-	-	9	24	hexagonal
15*	65	19.0	G 1/2	-	-	-	9	24	hexagonal
10	65	16.5	G 3/8	-	-	-	9	27	hexagonal
15	65	17.0	G 1/2	15.0	27	hexagonal	9	25	hexagonal
20	75	18.0	G 3/4	16.3	32	hexagonal	11	31	hexagonal
25	90	24.0	G 1	19.0	41	hexagonal	12	39	hexagonal
32	110	33.0	G 1 1/4	21.4	50	octagonal	14	48	octagonal
40	120	30.0	G 1 1/2	21.4	55	octagonal	14	55	octagonal
50	150	40.0	G 2	25.7	70	octagonal	15	66	octagonal
65	190	46.0	G 2 1/2	24.0	85	octagonal	22	85	octagonal
80	220	50.0	G 3	27.0	100	octagonal	25	100	octagonal

* only with actuator size B For materials see overview on last page.

Threaded sockets NPT. BS 21 Rc. connection code 31. 3B Valve body material: Cast bronze (code 9), investment casting (code 37), 316L (code C1)

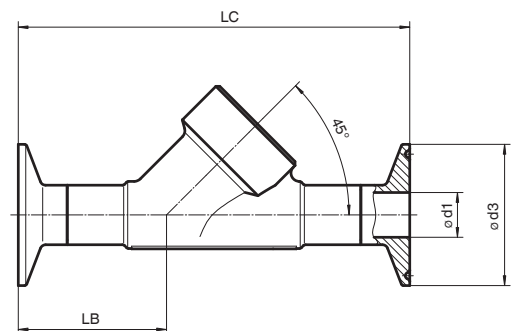
DN	L1	LB	SW2	Connection code				
				31		3B		
				G	t	G	t	
8*	65	19.0	17	6	1/4" NPT	10.1	-	-
10*	81	27.0	24	6	3/8" NPT	10.4	-	-
15*	81	27.0	24	6	1/2" NPT	13.6	-	-
15	81	24.5	27	6	1/2" NPT	13.6	Rc 1/2	15.0
20	87	24.0	32	6	3/4" NPT	14.0	Rc 3/4	16.3
25	104	31.0	41	6	1" NPT	16.8	Rc 1	19.0
32	122	39.0	50	8	1 1/4" NPT	17.3	Rc 1 1/4	21.4
40	136	38.0	55	8	1 1/2" NPT	17.3	Rc 1 1/2	21.4
50	165	47.5	70	8	2" NPT	17.7	Rc 2	25.7
65	212	57.0	85	8	2 1/2" NPT	23.7	Rc 2 1/2	30.2
80	242	61.0	100	8	3" NPT	25.9	Rc 3	33.3

* only with actuator size B
For materials see overview on last page.



Clamp connections, connection code 80, 82, 86, 88 Valve body material: 1.4435 (code 34)

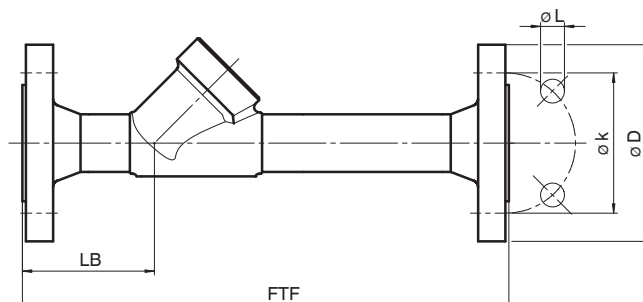
DN	NPS	Connection code								Connection code			
		LB	LC	82		86		88		80			
				ø d1	ø d3	ø d1	ø d3	ø d1	ø d3	LB	LC	ø d1	ø d3
15	1/2"	35.5	130	18.1	50.5	16	34.0	9.40	25.0	33.5	101.60	9.40	25.0
20	3/4"	39.0	150	23.7	50.5	20	34.0	15.75	25.0	30.0	101.60	15.75	25.0
25	1"	38.5	160	29.7	50.5	26	50.5	22.10	50.5	33.0	114.30	22.10	50.5
32	1 1/4"	48.0	180	38.4	64.0	32	50.5	-	-	-	-	-	-
40	1 1/2"	47.0	200	44.3	64.0	38	50.5	34.80	50.5	37.0	139.70	34.80	50.5
50	2"	48.0	230	56.3	77.5	50	64.0	47.50	64.0	36.5	158.75	47.50	64.0



Body dimensions [mm]

Flanges, connection code 13, 47 Valve body material: 1.4435 (code 34)

			Connection code 13				Connection code 47			
DN	FTF	LB	ø D	ø L	ø k	Number of bolt	ø D	ø L	ø k	Number of bolt
15	210	72	95	14	65	4	89.0	15.7	60.5	4
20	280	78	105	14	75	4	98.6	15.7	69.8	4
25	280	77	115	14	85	4	108.0	15.7	79.2	4
32	310	89	140	18	100	4	117.3	15.7	88.9	4
40	320	91	150	18	110	4	127.0	15.7	98.6	4
50	333	95	165	18	125	4	152.4	19.1	120.7	4



Overview of metal bodies for GEMÜ 554 Actuator size B

Connection code	Threaded connections					Spigots				
	1	9		31	0	16	17	18	59	60
Material code	37	37	40	37	40	40	40	40	40	40
DN 6	-	-	X	-	X	-	-	-	-	-
DN 8	X	X	-	X	X	-	-	-	-	X
DN 10	X	X	-	X	-	X	X	X	X	-
DN 15	X	X	-	X	-	-	-	-	X	-

Overview of metal bodies for GEMÜ 554 Actuator size 0 - 4

Connection code	Threaded connections				Flanges		Spigots								Clamps									
	1	3B	9	31	13	47	0	16	17	18	37	59	60	80	82	86	88							
Material code	9	37	9	C1	9	37	9	C1	34	34	34	34	34	37	34	37	34	37	34	34	34	34		
DN 10	-	X	-	-	-	-	-	-	-	-	X	X	-	X	-	-	-	-	X	-	-	-	-	
DN 15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	X	-	X	X	X	X	X
DN 20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	-	X	-	X	X	X	X	X
DN 25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	X	-	X	X	X	X	X	X
DN 32	X	X	X	-	-	X	X	-	X	X	-	X	X	X	X	-	-	-	-	X	X	-	X	X
DN 40	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	X	-	X	X	X	X	X	X
DN 50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-	X	-	X	X	X	X	X	X
DN 65	X	X	X	-	X	X	X	-	-	-	-	-	-	X	-	-	X	-	X	-	X	-	-	-
DN 80	X	X	X	-	X	X	X	-	-	-	-	-	-	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
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