

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

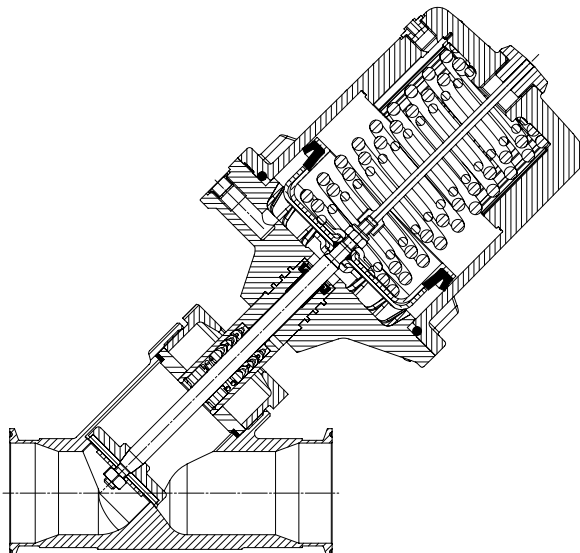
- Suitable for inert and corrosive* liquid and gaseous media
- Versions according to ATEX on request

Advantages

- Good flow capability
- Extensive range of accessories
- Low weight
- Optionally suitable for contact with food according to Regulation (EC) No. 1935/2004 (K-No. 2013)

*See information on working medium on page 2

Sectional drawing



GEMÜ® 554

Connection code 80 /
Valve body material code C2

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

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

Technical data / Actuator

Actuator size	Filling volume	Piston diameter
0K, 3L	0.05 dm ³	50 mm
1K, 4L	0.125 dm ³	70 mm
2K	0.625 dm ³	120 mm

Ambient conditions

Max. ambient temperature 60 °C

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

Control pressure [bar]

C. f. 1 Normally closed (NC)

Actuator size	
0K	4,8 - 7,0
1K	5,5 - 7,0
2K	4 - 7 (DN 40 - 50) 5 - 7 (DN 65)
3L, 4L	min. control pressure see diagram / max. control pressure 7 bar

C. f. 2 Normally open (NO) / C. f. 3 Double acting (DA)

0K, 1K, 2K	max. 7 bar (for values see diagram)
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Max. operating pressure [bar]

Actuator size	DN 15	DN 20	DN 25	DN 40	DN 50	DN 65
C. f. 1 Normally closed (NC) / Flow direction: under the seat						
0K	12.0	12.0	6.0	-	-	-
1K	25.0	25.0	20.0	7.0	4.5	3.0
2K	-	-	25.0	20.0	10.0	10.0
C. f. 1 Normally closed (NC) / Flow direction: over the seat						
3L	10.0	10.0	10.0	-	-	-
4L	10.0	10.0	10.0	10.0	10.0	10.0
C. f. 2 Normally open (NO) / C. f. 3 Double acting (DA) / Flow direction: under the seat						
0K	25.0	25.0	20.0	-	-	-
1K	25.0	25.0	25.0	20.0	12.0	8.0
2K	-	-	-	25.0	16.0	16.0

For max. operating pressures the pressure/temperature correlation must be observed.

All pressures are gauge pressures.

The max. operating pressures and temperatures are dependent on suitable seal materials and clamps.

Technical data

Pressure / temperature correlation for angle seat globe valve bodies

Connection code	Material code	Max. allowable operating pressures in bar at temperature °C*					
		RT	100	150	200	250	300
80 (DN 15 - 40)	C2	25.0	21.2	19.3	17.9**	-	-
80 (DN 50 - 65)	C2	16.0	16.0	16.0	16.0**	-	-

* The valves can be used down to -10 °C ** max. temperature 180 °C
 RT = Room Temperature All pressures are gauge pressures.

Correlation Kv value, operating pressure Valve body material: 1.4435 (code C2)

Nominal size	Kv value [m³/h]	Operating pressure [bar]	Actuator size
DN			
15	2.1	12.0	0K
	2.1	25.0	1K
20	4.5	12.0	0K
	4.5	25.0	1K
25	10.0	6.0	0K
	10.0	20.0	1K
	10.0	25.0	2K
40	23.0	7.0	1K
	23.0	20.0	2K
50	34.0	4.5	1K
	39.5	10.0	2K
65	35.0	3.0	1K
	51.5	10.0	2K

Operating pressure for seal material PTFE (code 5).
 Kv values determined acc. to DIN EN 60534. The Kv value data refers to control function 1 (NC).
 The Kv values for other product configurations (e.g. other connections or body materials) may differ.

Correlation Kv value, operating pressure, regulating cone number Valve body material: 1.4435 (code C2)

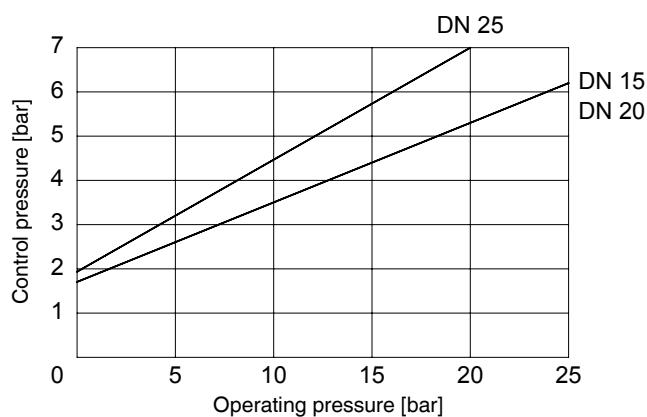
Nominal size	Kv value [m³/h]	Operating pressure [bar]	Actuator size	Regulating cone number	
				linear	equal-percentage (mod.)
15	2.0	12.0	0K	RS058	RS060
	2.0	25.0	1K	RS059	RS061
20	4.0	12.0	0K	RS062	RS064
	4.0	25.0	1K	RS063	RS065
25	9.0	20.0	1K	RS066	RS067
40	20.0	7.0	1K	RS083	RS093
	20.0	20.0	2K	RS068	RS069
50	30.0	4.5	1K	RS084	RS094
	30.0	10.0	2K	RS070	RS071
65	30.0	3.0	1K	RS085	RS095
	50.0	10.0	2K	RS072	RS073

Operating pressure for seal material PTFE (code 5).
 Kv values determined acc. to DIN EN 60534. The Kv value data refers to control function 1 (NC).
 Kv values may be different for other combinations. Consult GEMÜ.

Operating pressure/Control pressure characteristics

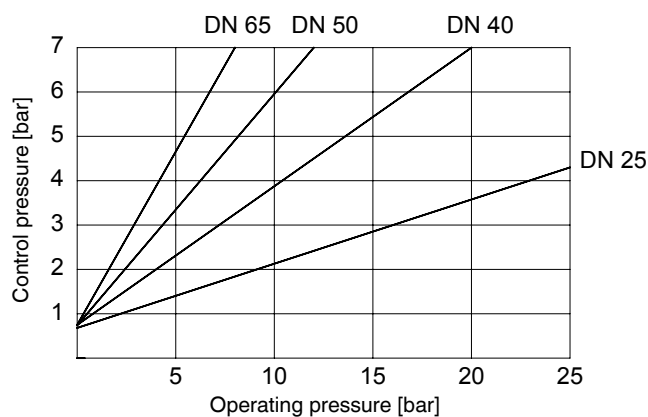
Actuator size 0K Normally open (NO) / Double acting (DA)

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



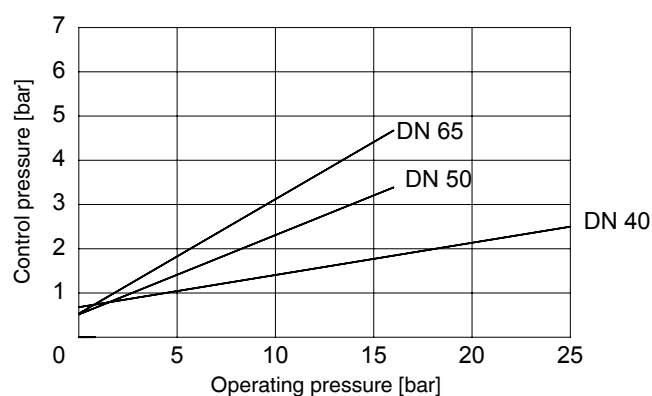
Actuator size 1K Normally open (NO) / Double acting (DA)

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



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

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



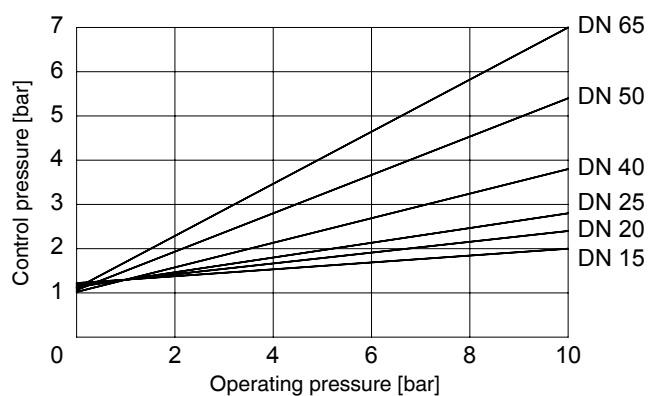
Actuator size 3L Normally closed (NC)

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



Actuator size 4L 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
Clamps ASME BPE for pipe ASME BPE, length ASME BPE	80

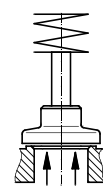
Valve body material	Code
1.4435, Investment casting Material equivalency 316 L, $\Delta Fe < 2,0\%$	C2
A surface finish from the order code table "K number" must be specified for valve body material.	

Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
PTFE, USP Class VI	5P
Other seat seals on request	

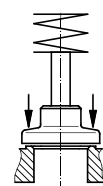
Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3

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

GEMÜ 554
Actuators
0K, 1K, 2K



Flow
under the seat



Flow
over the seat

GEMÜ 554
Actuators
3L, 4L

Version	Code
Gland packing PTFE / PTFE suitable for contact with food according to EU Regulation 1935/2004	2013
Surface finish only for valve body material C2	
Ra $\leq 0.6 \mu\text{m}$ (25 μinch) for process contact surfaces, in accordance with ASME BPE SF2 + SF3, mechanically polished internal	1903
Ra $\leq 0.8 \mu\text{m}$ (30 μinch) for process contact surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1904
Ra $\leq 0.4 \mu\text{m}$ (15 μinch) for process contact surfaces, in accordance with DIN 11866 H4, ASME BPE SF1, mechanically polished internal	1909

Order example	554	15	D	80	C2	5	1	1K	1903
Type	554								
Nominal size		15							
Body configuration (code)			D						
Connection (code)				80					
Valve body material (code)					C2				
Seat seal (code)						5			
Control function (code)							1		
Actuator size (code)								1K	
Version (code)									1903

Version for food contact

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

Version code 2013

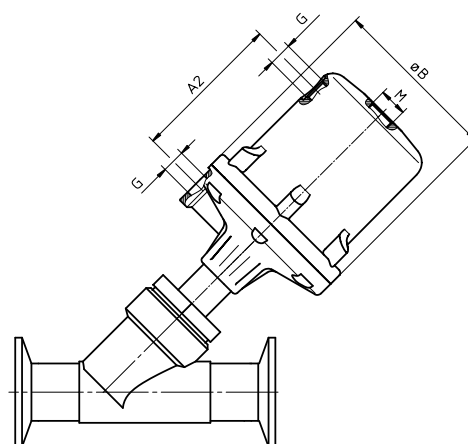
Seat seal code 5, 5G

Valve body material code C2

Dimensions [mm]

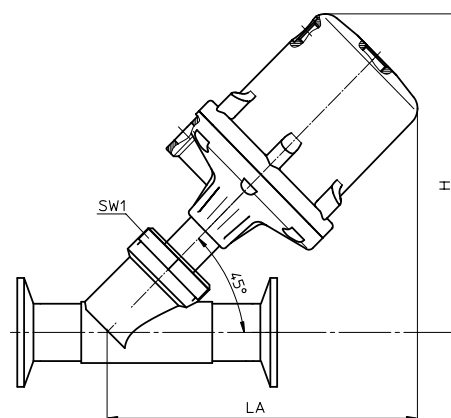
Actuator dimensions

Actuator size	ø B	M	A2	G
0K, 3K	72.0	M 16x1	70	G 1/4
1K, 4K	96.0	M 16x1	86	G 1/4
2K	168.0	M 22x1.5	149	G 1/4



Installation dimensions / Weight [kg]

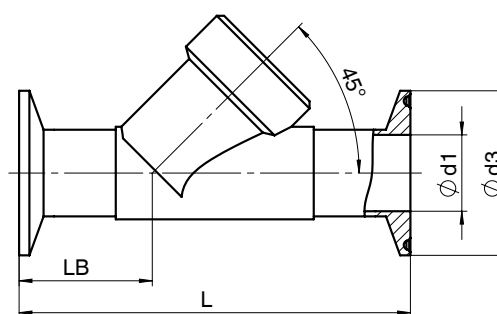
DN	Wrench size SW1	Actuator size 0K, 3L		Actuator size 1K, 4L		Actuator size 2K	
		H/LA	Weight	H/LA	Weight	H/LA	Weight
15	36	155	0.9	182	1.4	-	-
20	36	155	0.9	182	1.4	-	-
25	41	160	1.1	187	1.6	274	4.3
40	55	-	-	199	2.4	286	5.1
50	60	-	-	206	2.7	293	6.0
65	75	-	-	216	3.4	303	6.9



Body dimensions [mm]

Clamp connections, connection code 80 Valve body material: 1.4435 (code C2)

DN	NPS	LB	L	ø d1	ø d3
15	1/2"	28.5	88.9	9.40	25.0
20	3/4"	35.0	101.6	15.75	25.0
25	1"	33.0	114.3	22.10	50.5
40	1 1/2"	40.0	139.7	34.80	50.5
50	2"	44.0	158.8	47.50	64.0
65	2 1/2"	54.3	193.8	60.20	77.5



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

