

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

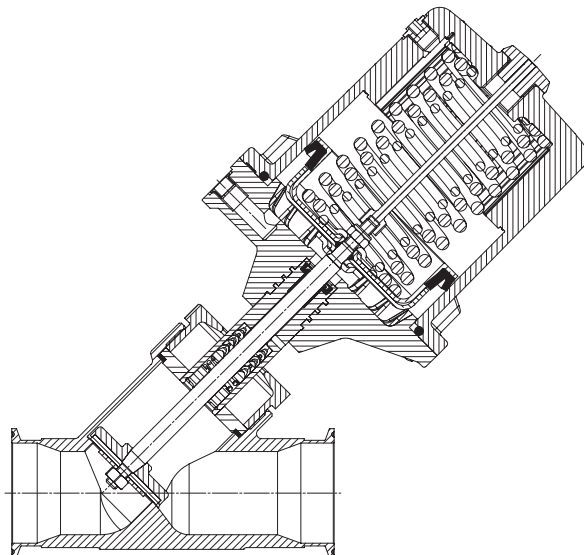
- Suitable for inert and corrosive* liquid and gaseous media
- Versions according to ATEX on request

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 14 to 356 °F

Max. permissible viscosity 600 mm²/s (cSt)

Other versions for higher viscosities on request

Control medium

Inert gases

Max. perm. temperature of control medium: 140 °F

Technical data / Actuator

Actuator size	Filling volume	Piston diameter
0K, 3L	3.05 cu in	1.97 in
1K, 4L	7.63 cu in	2.76 in
2K	38.14 cu in	4.72 in

Ambient conditions

Max. ambient temperature 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

Control pressure [psi]

C. f. 1 Normally closed (NC)

Actuator size	
0K	70 - 102
1K	80 - 102
2K	58 - 102 (DN 40 - 50) 73 - 102 (DN 65)
3L, 4L	min. control pressure see diagram / max. control pressure 102 psi

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

0K, 1K, 2K	max. 102 psi (for values see diagram)
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Max. operating pressure [psi]

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	174	174	90	-	-	-
1K	363	363	290	105	65	45
2K	-	-	363	290	150	150
C. f. 1 Normally closed (NC) / Flow direction: over the seat						
3L	150	150	150	-	-	-
4L	150	150	150	150	150	150
C. f. 2 Normally open (NO) / C. f. 3 Double acting (DA) / Flow direction: under the seat						
0K	363	363	290	-	-	-
1K	363	363	363	290	174	120
2K	-	-	-	363	232	232

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 psi at temperature °F*					
		RT	212	302	392	482	572
80 (DN 15 - 40)	C2	363	307	280	260**	-	-
80 (DN 50 - 65)	C2	232	232	232	232**	-	-

* The valves can be used down to 14 °F ** max. temperature 356 °F
 RT = Room Temperature All pressures are gauge pressures.

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

Nominal size	Cv value [gpm]	Operating pressure [psi]	Actuator size
DN			
15	2.5	174	0K
	2.5	363	1K
20	5.3	174	0K
	5.3	363	1K
25	11.7	90	0K
	11.7	290	1K
	11.7	363	2K
40	26.9	105	1K
	26.9	290	2K
50	39.8	65	1K
	46.2	150	2K
65	40.9	45	1K
	60.3	150	2K

Operating pressure for seal material PTFE (code 5).
 Cv values determined with 1 psi pressure drop across valve. The Cv value data refers to control function 1 (NC).
 The Cv values for other product configurations (e.g. other connections or body materials) may differ.

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

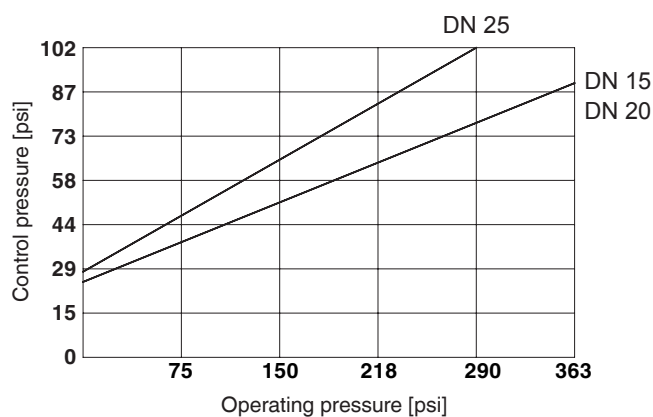
Nominal size	Cv value [gpm]	Operating pressure [psi]	Actuator size	Regulating cone number	
				linear	equal-percentage (mod.)
15	2.3	174	0K	RS058	RS060
	2.3	363	1K	RS059	RS061
20	4.7	174	0K	RS062	RS064
	4.7	363	1K	RS063	RS065
25	10.5	290	1K	RS066	RS067
40	23.4	105	1K	RS083	RS093
	23.4	290	2K	RS068	RS069
50	35.1	65	1K	RS084	RS094
	35.1	150	2K	RS070	RS071
65	35.1	45	1K	RS085	RS095
	58.5	150	2K	RS072	RS073

Operating pressure for seal material PTFE (code 5).
 Cv values determined with 1 psi pressure drop across valve. The Cv value data refers to control function 1 (NC).
 Cv values may be different for other combinations. Consult GEMÜ.

Operating pressure/Control pressure characteristics

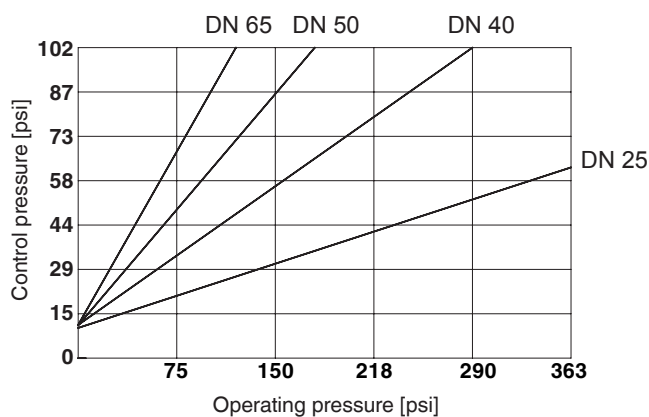
Actuator size 0K Normally open (NO) / Double acting (DA)

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



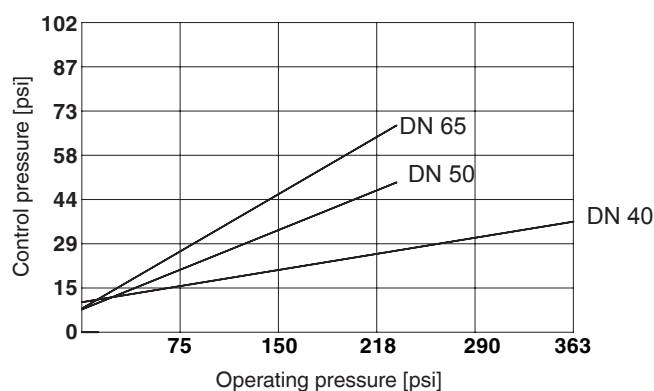
Actuator size 1K Normally open (NO) / Double acting (DA)

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



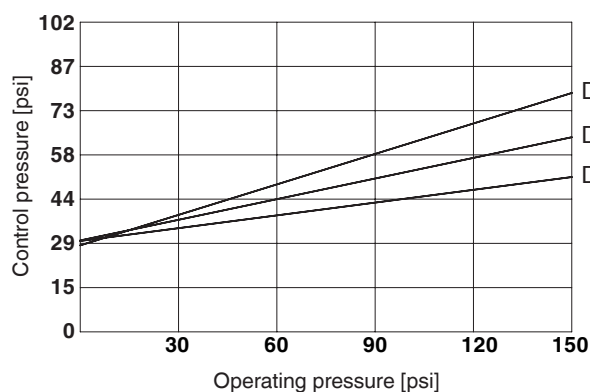
Actuator size 2K Normally open (NO) / Double acting (DA)

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



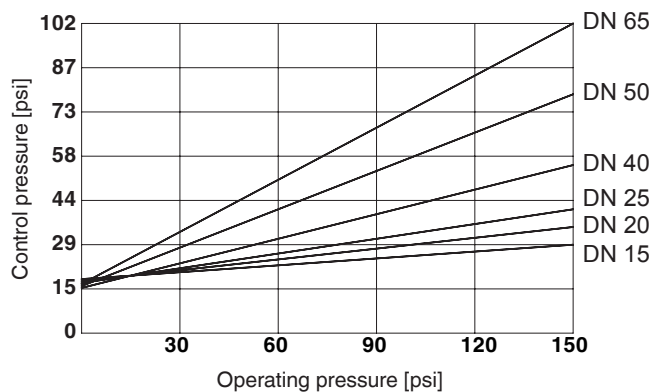
Actuator size 3L Normally closed (NC)

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

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

Connection	Code
Clamps ASME BPE for pipe ASME BPE, length ASME BPE	80

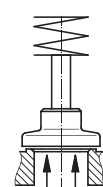
Valve body material	Code
1.4435, Investment casting Material equivalency 316 L, Δ Fe<2,0%	C2
A surface finish from the order code table "K number" must be specified for valve body material.	

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

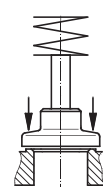
Control function	Code
Normally closed (NC)	1
Normally open (NO)	2
Double acting (DA)	3

Actuator size	Flow	Code
Actuator 0K piston ø 1.97 in	under the seat	0K*
Actuator 1K piston ø 2.76 in	under the seat	1K*
Actuator 2K piston ø 4.72 in	under the seat	2K*
Actuator 3L piston ø 1.97 in	over the seat	3L**
Actuator 4L piston ø 2.76 in	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 ≤ 0,60 µm (25 µinch) for process contact surfaces, in accordance with ASME BPE SF2 + SF3, mechanically polished internal	1903
Ra ≤ 0,80 µm (30 µinch) for process contact surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1904
Ra ≤ 0,40 µm (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

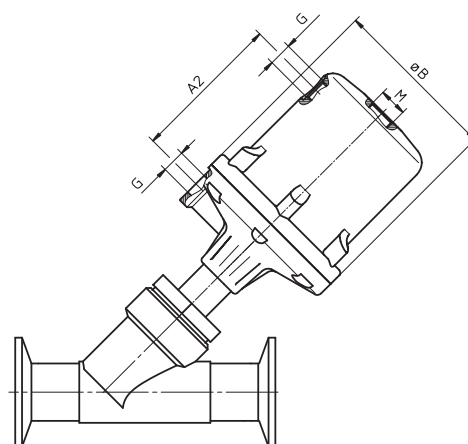
Seat seal code 5, 5G

Valve body material code C2

Dimensions [inch]

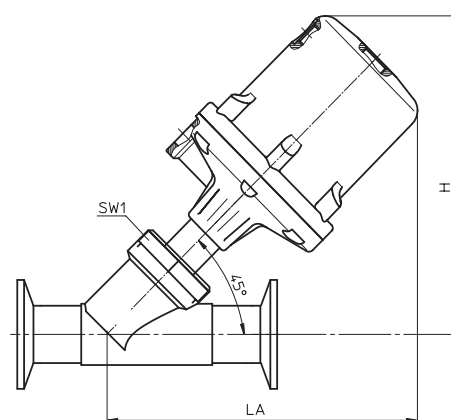
Actuator dimensions

Actuator size	ø B	M	A2	G
0K, 3K	2.83	M 16x1	2.76	G 1/4
1K, 4K	3.78	M 16x1	3.39	G 1/4
2K	6.61	M 22x1.5	5.87	G 1/4



Installation dimensions / Weight [lbs]

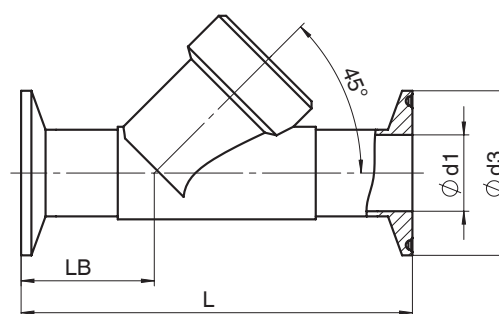
DN	Wrench size SW1 [mm]	Actuator size 0K, 3L		Actuator size 1K, 4L		Actuator size 2K	
		H/LA [in]	Weight [lbs]	H/LA [in]	Weight [lbs]	H/LA [in]	Weight [lbs]
15	36	6.10	2.0	7.17	3.1	-	-
20	36	6.10	2.0	7.17	3.1	-	-
25	41	6.30	2.4	7.36	3.5	10.79	9.5
40	55	-	-	7.83	5.3	11.26	11.2
50	60	-	-	8.11	5.9	11.54	13.2
65	75	-	-	8.50	7.5	11.93	15.2



Body dimensions [inch]

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

DN	NPS	LB	L	ø d1	ø d3
15	1/2"	1.12	3.50	0.370	0.984
20	3/4"	1.38	4.00	0.620	0.984
25	1"	1.30	4.50	0.870	1.988
40	1 1/2"	1.57	5.50	1.370	1.988
50	2"	1.73	6.25	1.870	2.520
65	2 1/2"	2.14	7.63	2.370	3.051



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Should there be any doubts or misunderstandings, the German version of this data sheet is the authoritative document!

Subject to alteration · 09/2019 · 88723730

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GEMÜ® VALVES, MEASUREMENT
AND CONTROL SYSTEMS

