

GEMÜ 554 AK80_WKC2

Pneumatically operated angle seat globe valve



Features

- Available as shut-off or control valve
- Low actuator weight due to plastic body
- Faster actuator replacement and free actuator positioning due to fixing via union nut
- Standard actuator can be replaced with 550 or 514 on request
- Suitable for vacuum up to 20 mbar (a)
- Compact design thanks to directly integrally cast clamps

Description

The GEMÜ 554 2/2-way angle seat globe valve has a plastic piston actuator and is pneumatically operated. The valve spindle is sealed by a self-adjusting gland packing or a compact seal cartridge, depending 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. This provides low-maintenance and reliable spindle sealing even after a long service life.

Technical specifications

- **Media temperature:** -10 to 180 °C
- **Ambient temperature:** 0 to 60 °C
- **Operating pressure:** 0 to 25 bar
- **Nominal sizes:** DN 15 to 65
- **Body configurations:** 2/2-way body
- **Connection types:** Clamp
- **Connection standards:** ASME
- **Body materials:** 1.4435 (316L), investment casting material
- **Seat seal materials:** PTFE | PTFE, reinforced
- **Conformities:** ATEX | CRN | EAC | FDA | Functional safety | Oxygen | Reg. (EU) No. 10/2011 | Regulation (EC) No. 1935/2004 | TA Luft (German Clean Air Act) | USP

Technical data depends on the respective configuration



further information
webcode:
GW-554_AK80_WKC2



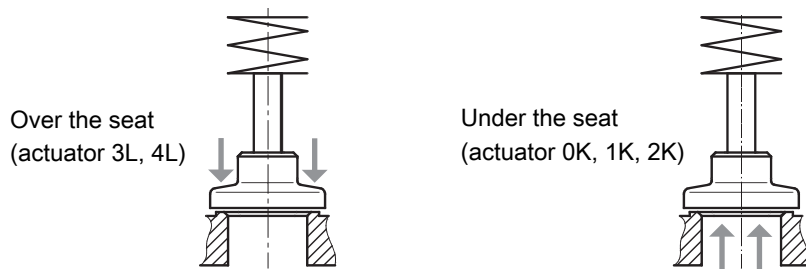
Product description

Construction



Item	Name	Materials
1	Optical position indicator	
2	Piston actuator	Plastic
3	Valve body	1.4435, investment casting (equivalent to 316L)

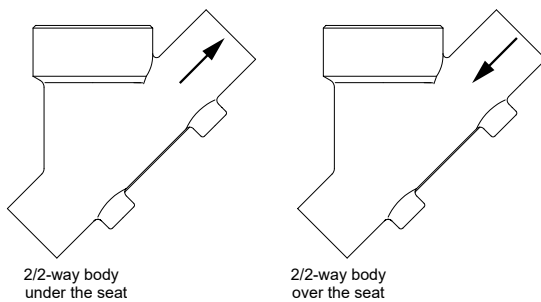
Flow direction



Under the seat is the preferred flow direction with incompressible liquid media to avoid water hammers

Over the seat only with control function – Normally closed (NC)

The flow direction is indicated by an arrow on the valve body.



GEMÜ CONEXO

The interaction of valve components that are equipped with RFID chips and an associated IT infrastructure actively increase process reliability.



Thanks to serialization, every valve and every relevant valve component such as the body, actuator or diaphragm, and even automation components, can be clearly traced and read using the CONEXO pen RFID reader. The CONEXO app, which can be installed on mobile devices, not only facilitates and improves the "installation qualification" process, but also makes the maintenance process much more transparent and easier to document. The app actively guides the maintenance technician through the maintenance schedule and directly provides him with all the information assigned to the valve, such as test reports, testing documentation and maintenance histories. The CONEXO portal acts as a central element, helping to collect, manage and process all data.

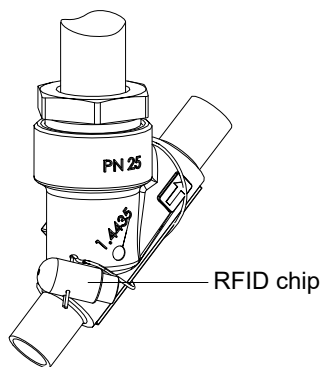
For further information on GEMÜ CONEXO please visit:

www.gemu-group.com/conexo

Ordering

GEMÜ Conexo must be ordered separately with the ordering option "CONEXO".

In the corresponding design with CONEXO, this product has an RFID chip (1) for electronic identification purposes. The position of the RFID chip can be seen below. The CONEXO pen helps read out information stored in the RFID chips. The CONEXO app or CONEXO portal is required to display this information.



Availabilities

Actuator assignment

DN	Flow direction				
	Under the seat			Over the seat	
	Actuator size				
	0K	1K	2K	3L	4L
15	X	X	-	X	X
20	X	X	-	X	X
25	X	X	X	X	X
40	-	X	X	-	X
50	-	X	X	-	X
65	-	X	X	-	X

Type of design

Type of design	
Grade of surface finish (code 1903, 1904, 1909) as per order data	Valve body material (code C2)
For contact with foodstuffs, the product must be ordered with the following ordering options (code 2013)	Seat seal (code 5, 5G) Valve body material (code C2)

Order data

The order data provide an overview of standard configurations.

Please check the availability before ordering. Other configurations available on request.

Order codes

1 Type	Code
Angle seat globe valve, pneumatically operated, plastic piston actuator	554

2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 40	40
DN 50	50
DN 65	65

3 Body configuration	Code
2/2-way body	D

4 Connection type	Code
Clamp ASME BPE, face-to-face dimension FTF ASME BPE	80

5 Valve body material	Code
1.4435, investment casting	C2

6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
PTFE FDA compliant, USP class VI	5P

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

8 Actuator version	Code
Actuator size 0K	0K
Actuator size 1K	1K
Actuator size 2K	2K
Actuator size 3L	3L
Actuator size 4L	4L

9 Type of design	Code
Without	
Ra ≤ 0.6 µm (25 µinch) for media wetted surfaces, in accordance with ASME BPE SF2 + SF3 mechanically polished internal	1903
Ra ≤ 0.8 µm (30 µinch) for media wetted surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1904
Ra ≤ 0.4 µm (15 µinch) for media wetted surfaces, in accordance with DIN 11866 H4, ASME BPE SF1 mechanically polished internal	1909
Spindle seal PTFE-PTFE	2013

10 CONEXO	Code
Without	
Integrated RFID chip for electronic identification and traceability	C

Order example

Ordering option	Code	Description
1 Type	554	Angle seat globe valve, pneumatically operated, plastic piston actuator
2 DN	15	DN 15
3 Body configuration	D	2/2-way body
4 Connection type	80	Clamp ASME BPE, face-to-face dimension FTF ASME BPE
5 Valve body material	C2	1.4435, investment casting
6 Seat seal	5	PTFE
7 Control function	1	Normally closed (NC)
8 Actuator version	1K	Actuator size 1K
9 Type of design		Without
10 CONEXO		Without

Technical data

Medium

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. permissible viscosity: 600 mm²/s
Other versions for lower / higher temperatures and higher viscosities on request.

Control medium: Inert gases

Temperature

Media temperature: -10 – 180 °C

Ambient temperature: 0 – 60 °C

Storage temperature: 0 – 40 °C

Control medium temperature: max. 60 °C

Pressure

Operating pressure: Control function 1 (NC) – Flow direction under the seat

DN	Actuator version code		
	0K	1K	2K
15	12.0	25.0	-
20	12.0	25.0	-
25	6.0	20.0	25.0
40	-	7.0	20.0
50	-	4.5	10.0
65	-	3.0	10.0

All pressures are gauge pressures. When the flow is over the seat (M), there may be the danger of water hammer with liquid media! For max. operating pressures the pressure/temperature correlation must be observed.

Control function 2 (NO) – Flow direction under the seat

DN	Actuator version code		
	0K	1K	2K
15	25.0	25.0	-
20	25.0	25.0	-
25	20.0	25.0	-
40	-	20.0	25.0
50	-	12.0	16.0
65	-	8.0	16.0

All pressures are gauge pressures. When the flow is over the seat (M), there may be the danger of water hammer with liquid media! For max. operating pressures the pressure/temperature correlation must be observed.

Operating pressure: Control function 1 (NC) – Flow direction over the seat

DN	Actuator version code	
	3L	4L
15	10.0	10.0
20	10.0	10.0
25	10.0	10.0
40	-	10.0
50	-	10.0
65	-	10.0

All pressures are gauge pressures. When the flow is over the seat (M), there may be the danger of water hammer with liquid media! For max. operating pressures the pressure/temperature correlation must be observed.

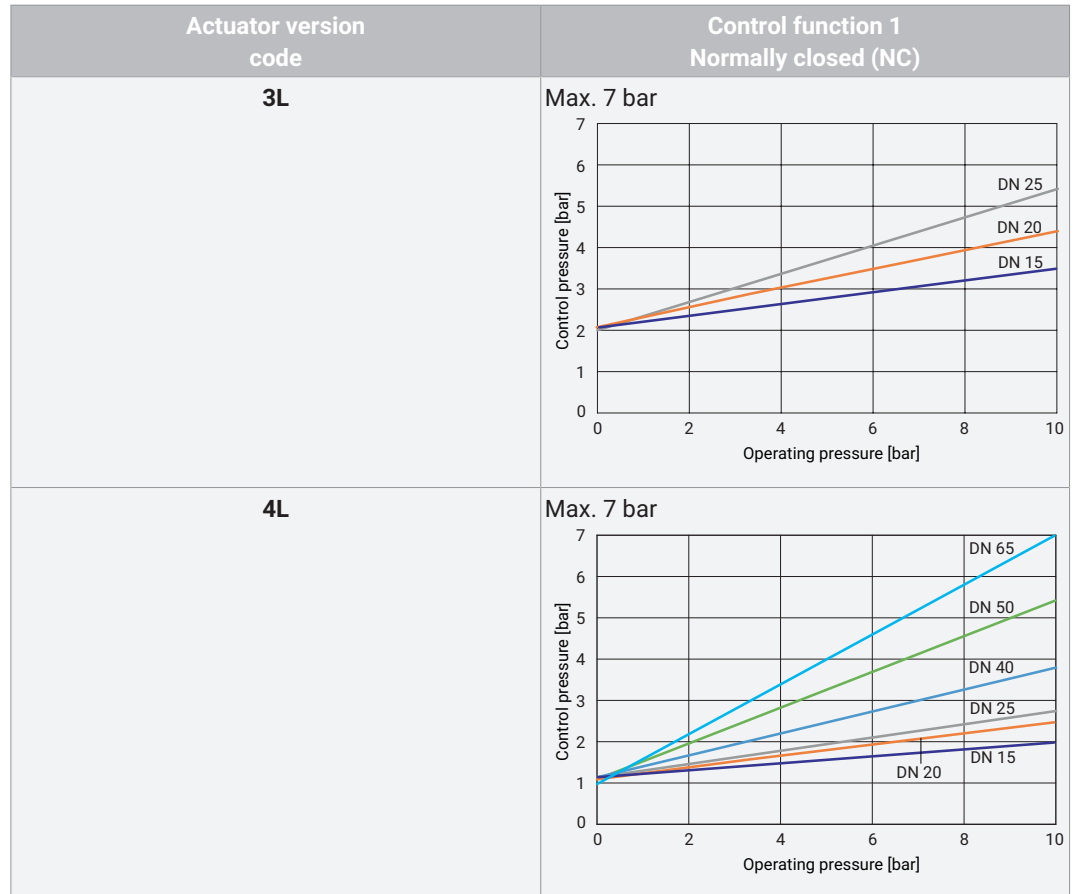
Pressure rating: PN 16

Control pressure: Flow direction: Under the seat

Actuator version code	Control function 1 Normally closed (NC)	Control function 2 and 3 Normally open (NO) and double acting (DA)
0K	4.8–7.0 bar	
1K	5.5–7.0 bar	
2K	4.0–7.0 bar (DN 40, 50) 5.0–7.0 bar (DN 65)	

Control pressure:

Flow direction: Over the seat



Filling volume:

Actuator version code	Filling volume	Piston diameter
0K, 3L	0.05 dm ³	50 mm
1K1, 4L	0.125 dm ³	70 mm
2K	0.625 dm ³	120 mm

Leakage rate:

Open/Close valve

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

Control valve

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

Pressure/temperature correlation:

Connection type code	Material code	Permissible operating pressures in bar at temperature in °C			
		RT	100	150	180
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

All pressures are gauge pressures.

The valves are suitable for temperatures as low as -10 °C

RT = room temperature

Kv values:

DN	Actuator version Code	Kv values		Regulating cone number	
		Open/Close valve	Control valve	Linear	Equal percentage
15	0K	2.1	2.0	RS058	RS060
	1K	2.1	2.0	RS059	RS061
20	0K	4.5	4.0	RS062	RS064
	1K	4.5	4.0	RS063	RS065
25	0K	10.0	-	-	-
	1K	10.0	9.0	RS066	RS067
	2K	10.0	-	-	-
40	1K	23.0	20.0	RS083	RS093
	2K	23.0	20.0	RS068	RS069
50	1K	34.0	30.0	RS084	RS094
	2K	39.5	30.0	RS070	RS071
65	1K	35.0	30.0	RS085	RS095
	2K	51.5	50.0	RS072	RS073

Kv values in m³/h

Kv values determined in accordance with EN 60534. The Kv value data refers to control function 1 (NC) and the largest actuator for each nominal size. The Kv values for other product configurations (e.g. other connection types or body materials) may differ.

Product conformity

Machinery Directive: 2006/42/EC

Food: Regulation (EC) No. 1935/2004*
 Regulation (EC) No. 10/2011*
 Regulation (EC) No. 2023/2006*
 USP* Class VI
 FDA*
 CRN

Explosion protection: ATEX (2014/34/EU)*
 * depending on version and/or operating parameters

Environment: RoHS

Mechanical data

Weight:

Valve body

DN	Clamp
15	0.35
20	0.30
25	0.50
40	1.00
50	1.40
65	2.40

Weights in kg

Weight:

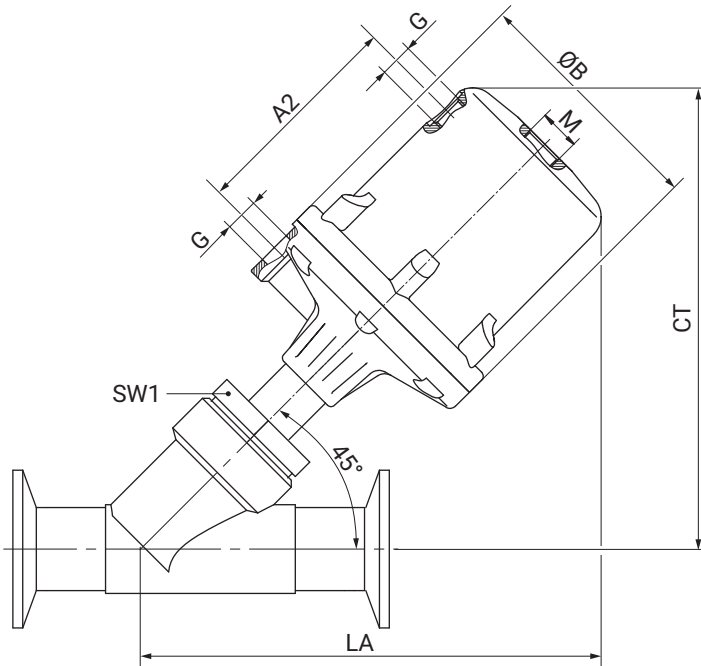
Actuator

DN	Actuator size code		
	0K, 3L	1K, 4L	2K
15	0.9	1.4	-
20	0.9	1.4	-
25	1.1	1.6	4.3
40	-	2.4	5.1
50	-	2.7	6.0
65	-	3.4	6.9

Weights in kg

Dimensions

Installation and actuator dimensions

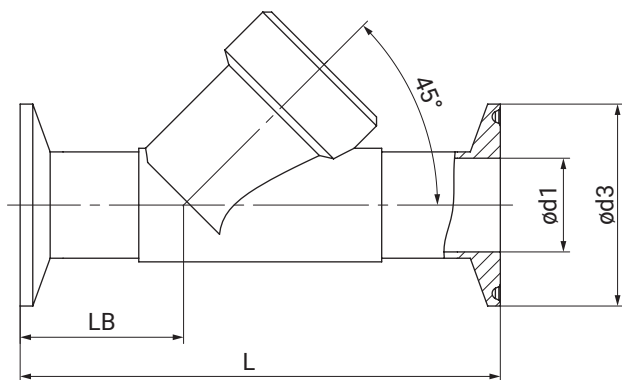


DN	WAF1 metric	G	Actuator size code											
			0K, 3L				1K, 4L				2K			
			A2	ØB	CT/LA	M	A2	ØB	CT/LA	M	A2	ØB	CT/LA	M
15	36	G 1/4	70.0	72.0	155.0	M16x1	86.0	96.0	182.0	M16x1	-	-	-	-
20	36	G 1/4	70.0	72.0	155.0	M16x1	86.0	96.0	182.0	M16x1	-	-	-	-
25	41	G 1/4	70.0	72.0	160.0	M16x1	86.0	96.0	187.0	M16x1	149.0	168.0	274.0	M22x1.5
40	55	G 1/4	-	-	-	-	86.0	96.0	199.0	M16x1	149.0	168.0	286.0	M22x1.5
50	60	G 1/4	-	-	-	-	86.0	96.0	206.0	M16x1	149.0	168.0	293.0	M22x1.5
65	75	G 1/4	-	-	-	-	86.0	96.0	216.0	M16x1	149.0	168.0	303.0	M22x1.5

Dimensions in mm

Body dimensions

Clamp ASME (code 80)



Connection type clamp ASME (code 80)¹⁾, investment casting material (code C2)²⁾

DN	NPS	LB	L	ø d1	ø d3
15	1/2"	28.5	88.9	9.4	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

Dimensions in mm

1) **Connection type**

Code 80: Clamp ASME BPE, face-to-face dimension FTF ASME BPE

2) **Valve body material**

Code C2: 1.4435, investment casting



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