GEMÜ 312

Pneumatically operated multi-port globe valve

Features

- Suitable for mixing and distributing media
- Robust actuator housing made of aluminium
- Available as shut-off or control valve
- Materials of wetted parts can be selected to suit the requirements of the relevant applications

Description

The GEMÜ 312 3/2-way globe valve has a robust low-maintenance aluminium piston actuator and is pneumatically operated. The double sided valve plug is connected to the actuator via a valve spindle. The valve spindle is sealed by a self-adjusting gland packing providing low-maintenance and reliable valve spindle sealing even after a long service life. A wiper ring fitted in front of the gland packing protects the seal against contamination and damage.

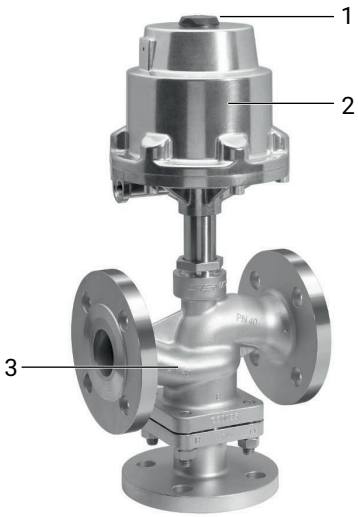
Technical specifications

- **Media temperature:** -10 to 210 °C
- **Ambient temperature:** -10 to 60 °C
- **Operating pressure :** 0 to 16 bar
- **Nominal sizes:** DN 15 to 100
- **Body configurations:** Multi-port body
- **Connection types:** Flange
- **Connection standards:** ANSI I DIN I EN I ISO
- **Body materials:** 1.4408, investment casting material
- **Seat seal materials:** PTFE I PTFE, reinforced

Technical data depends on the respective configuration

further information
webcode: GW-312

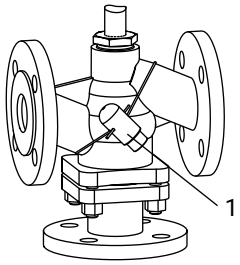
Product description



Item	Name	Materials
1	Optical position indicator	
2	Piston actuator	Aluminium
3	Valve body	1.4408, investment casting

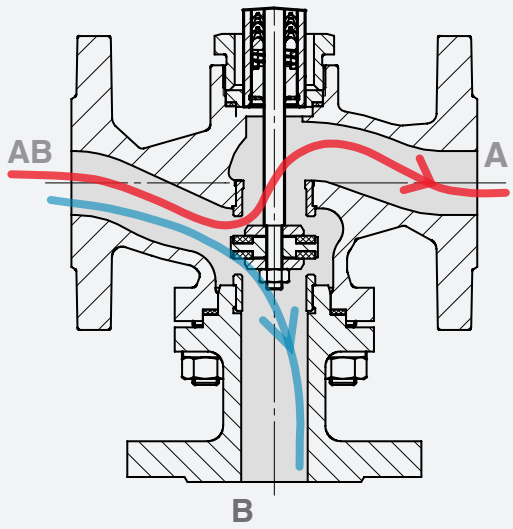
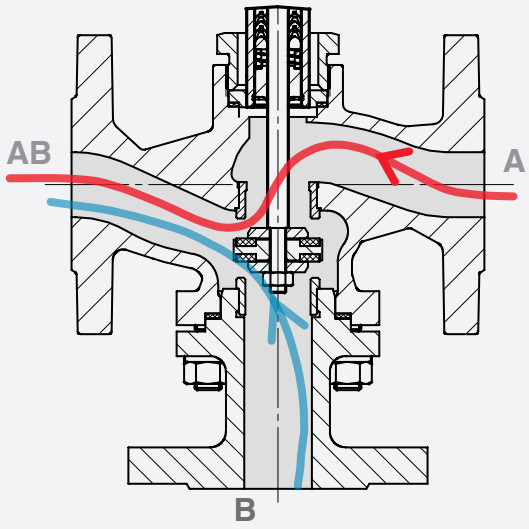
GEMÜ CONEXO

For electronic identification purposes, each replaceable component contained in the product is equipped with an RFID chip (1). Where you can find the RFID chip differs from product to product.

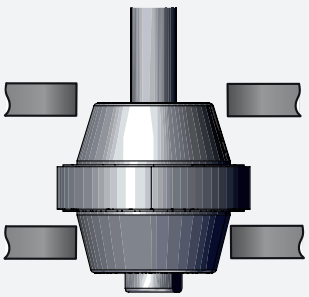
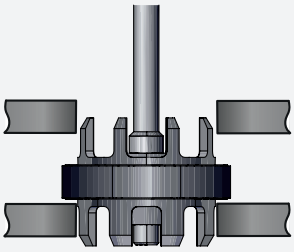


The CONEXO pen helps read out information stored in these RFID chips. The CONEXO app or CONEXO portal is required to view this information.

Function

Flange - Distribution	Flange - Mixing
	

Regulating cone/regulating cage

Regulating cone	Regulating cage
	
DN 15 - 50	DN 65 - 100

Availability of valve bodies

Flange

DN	Connection type code [1]		
	8	11	39
	Material code 37 [2]		
15	-	X	X
20	-	X	X
25	-	X	X
32	-	X	X
40	-	X	X
50	-	X	X
65	X	-	-
80	X	-	-
100	X	-	-

1) **Connection type**
Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 11: Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 39: Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

2) **Valve body material**
Code 37: 1.4408, investment casting

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
Multi-port globe valve, pneumatically operated, aluminium piston actuator, body with flange connection	312

2 DN	Code
DN 15	15
DN 20	20
DN 25	25
DN 32	32
DN 40	40
DN 50	50
DN 65	65
DN 80	80
DN 100	100

3 Body configuration	Code
Multi-port design	M

4 Connection type	Code
Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	8
Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	11
Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	39

5 Valve body material	Code
1.4408, investment casting	37

6 Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G

7 Control function	Code
Normally closed (NC)	1
Normally open (NO)	2

8 Actuator version	Code
Actuator size 1	1
Actuator size 2	2

9 Regulating cone	Code
Please find the number of the optional regulating cone (R-No.) for the linear or equal-percentage modified regulating cone in the Kv value table.	R....

10 Type of design	Code
For higher operating temperatures	2023
Without	

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

Order example

Ordering option	Code	Description
1 Type	312	Multi-port globe valve, pneumatically operated, aluminium piston actuator, body with flange connection
2 DN	20	DN 20
3 Body configuration	M	Multi-port design
4 Connection type	8	Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
5 Valve body material	37	1.4408, investment casting
6 Seat seal	5	PTFE
7 Control function	1	Normally closed (NC)
8 Actuator version	1	Actuator size 1
9 Type of design		Without
10 Regulating cone	R....	Please find the number of the optional regulating cone (R-No.) for the linear or equal-percentage modified regulating cone in the Kv value table.
11 CONEXO		Without

Technical data

Medium

Working medium: Inert gaseous and liquid media which have no negative impact on the physical and chemical properties of the body and seal material.

Control medium: Inert gases

Temperature

Media temperature:
Standard: -10 — 180 °C
Special version: -10 — 210 °C * only with ordering option Type of design (code 2023)
* dependent on body material

Control medium temperature: max. 60 °C

Ambient temperature: -10 — 60 °C

Storage temperature: -30 — 60 °C

Pressure

Operating pressure:

DN	Maximum operating pressure*					
	Control function 1			Control function 2		
	B - AB		A - AB	A - AB		B - AB
	Actuator 1	Actuator 2		Actuator 1	Actuator 2	
15	34.0	-	See operating pressure/ control pressure diagram	25.0	-	See operating pressure/ control pressure diagram
20	23.0	-		12.1	-	
25	15.0	37.0		7.8	32.0	
32	7.0	29.0		4.8	20.8	
40	4.5	14.0		3.0	11.1	
50	2.5	10.0		-	7.2	
65	-	7.0		-	4.2	
80	-	4.0		-	2.6	
100	-	2.0		-	1.6	

All pressures are gauge pressures.

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

Observe control pressure / operating pressure diagram

Control pressure:

DN	Control function 1		Control function 2	
	Actuator 1	Actuator 2	Actuator 1	Actuator 2
15	5.5 - 7.0	-	3.0 - 7.0	-
20	5.5 - 7.0	-	3.0 - 7.0	-
25	5.5 - 7.0	-	3.0 - 7.0	3.0 - 7.0
32	5.5 - 7.0	5.5 - 7.0	3.0 - 7.0	3.0 - 7.0
40	5.5 - 7.0	5.5 - 7.0	3.0 - 7.0	3.0 - 7.0
50	5.5 - 7.0	5.5 - 7.0	-	3.0 - 7.0
65	-	5.5 - 7.0	-	3.0 - 7.0
80	-	5.5 - 7.0	-	3.0 - 7.0
100	-	5.5 - 7.0	-	3.0 - 7.0

All pressures are gauge pressures.

Observe pressure/temperature diagram

Pressure/temperature correlation:

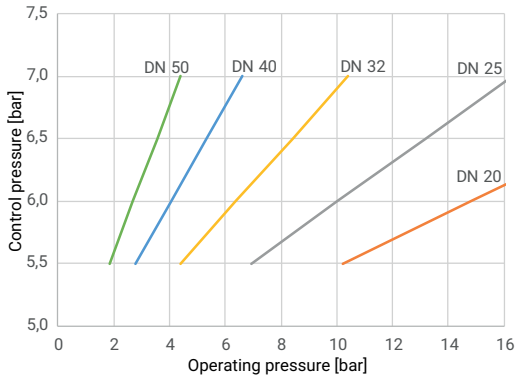
Connection type code	Material code	Max. allowable operating pressures in bar at temperature in °C			
		RT	100	150	200
8	**37**	16.0	16.0	14.5	13.4
11	**37**	40.0	40.0	36.3	33.7
39	**37**	19.0	16.0	14.8	13.6

All pressures are gauge pressures.
The valves may be used to -10 °C
RT = room temperature

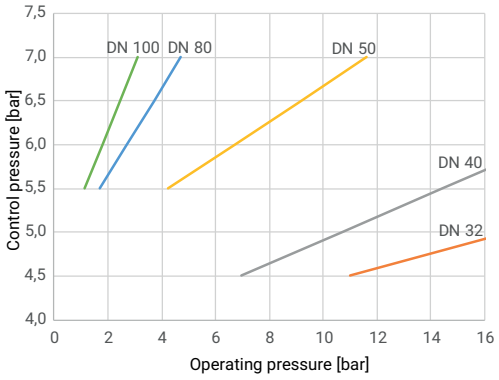
Control pressure/operating pressure diagram:

Control function 1 (flow direction A – AB)

Actuator size 1

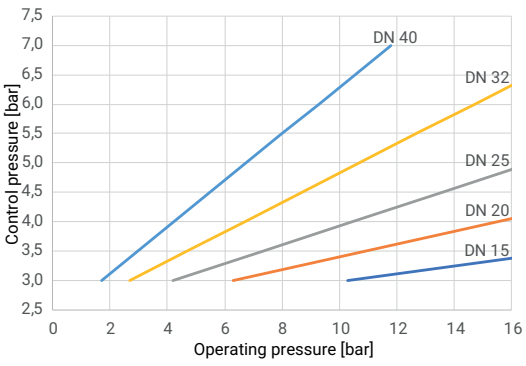


Actuator size 2

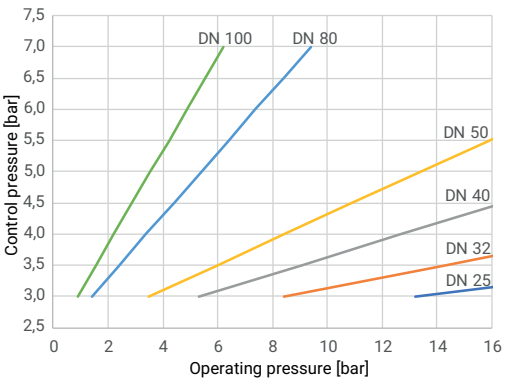


Control function 2 (flow direction B – AB)

Actuator size 1



Actuator size 2



Kv values:

Open/Close valve

DN	AB - A	B - AB
15	4.1	5.4
20	7.5	11.6
25	12.0	17.6
32	18.8	27.0
40	30.7	46.7
50	42.0	67.1
65	71.9	119.9
80	107.6	174.4
100	157.1	250.7

Kv values in m³/h
Kv values determined in accordance with DIN EN 60534. The Kv value specifications refer to the largest actuator for the respective nominal size. The Kv values for other product configurations (e.g. other connections or body materials) may differ.

Control valve - Flange

DN	Actuator 1	Actuator 2	Kv value
15	RS157	-	4.0
20	RS158	-	6.3
25	RS159	RS163	10.0
32	RS160	RS164	14.0
40	RS161	RS165	20.0
50	RS162	RS166	32.0
65	-	RS167	63.0
80	-	RS168	90.0
100	-	RS169	140.0

Kv values in m³/h
Kv values refer to the flow direction A-AB and B-AB.

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

Filling volume:

Actuator 1: 0.125 dm³
Actuator 2: 0.625 dm³

Product compliance

Machinery Directive: 2006/42/EC

Pressure Equipment Directive: 2014/68/EU

Oxygen: BAM compliant, the product is suitable for application with oxygen

EAC: The product is certified according to EAC.

Environment: RoHS

Mechanical data

Weight:

Actuator

DN	Actuator 1	Actuator 2
15	4.4	-
20	5.8	-
25	6.7	-
32	10.4	13.3
40	11.5	14.5
50	15.3	18.4
65	-	25.5
80	-	32.0
100	-	44.0

Weights in kg

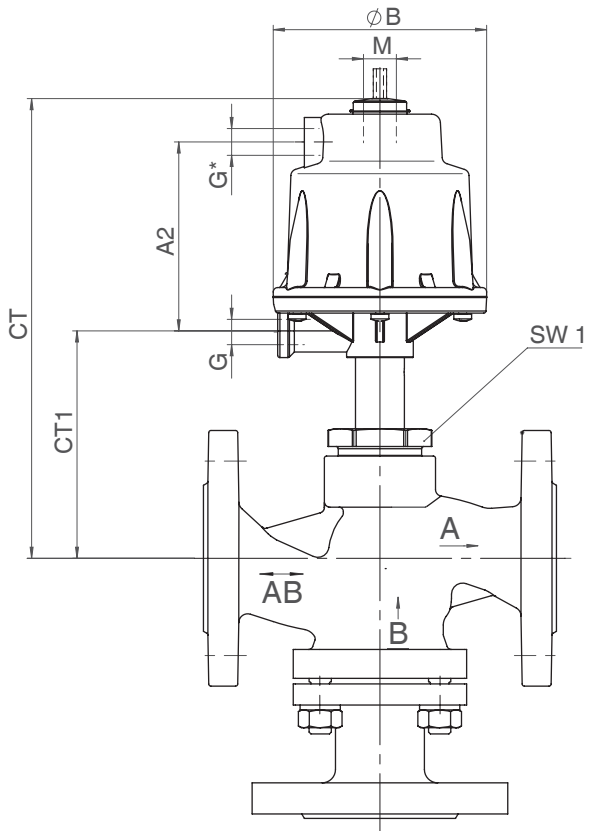
Body

DN	Flange
15	3.4
20	4.9
25	5.7
32	8.5
40	9.7
50	15.8
65	19.4
80	24.6
100	32.8

Weights in kg

Dimensions

Actuator dimensions



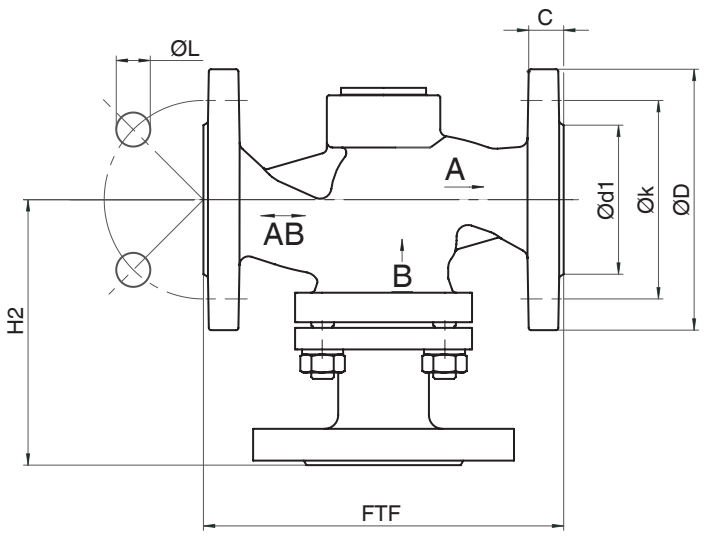
DN	SW1	Actuator 1						Actuator 2					
		A2	ØB	G	M	CT	CT1	A2	ØB	G	M	CT	CT1
15	41.0	85.5	96.0	G 1/4	M16 x 1	199.0	95.0	-	-	-	-	-	-
20	41.0	85.5	96.0	G 1/4	M16 x 1	204.0	100.0	-	-	-	-	-	-
25	41.0	85.5	96.0	G 1/4	M16 x 1	205.0	101.0	-	-	-	-	-	-
32	41.0	85.5	96.0	G 1/4	M16 x 1	215.0	111.0	123.0	164.0	G 1/4	M22 x 1.5	292.0	140.0
40	41.0	85.5	96.0	G 1/4	M16 x 1	224.0	120.0	123.0	164.0	G 1/4	M22 x 1.5	301.0	149.0
50	41.0	85.5	96.0	G 1/4	M16 x 1	231.0	127.0	123.0	164.0	G 1/4	M22 x 1.5	308.0	156.0
65	55.0	-	-	-	-	-	-	123.0	164.0	G 1/4	M22 x 1.5	320.0	168.0
80	55.0	-	-	-	-	-	-	123.0	164.0	G 1/4	M22 x 1.5	332.0	180.0
100	55.0	-	-	-	-	-	-	123.0	164.0	G 1/4	M22 x 1.5	346.0	194.0

Dimensions in mm

* Connection only for control functions 2 and 3

Body dimensions

Flange EN (code 8, 11)



Connection type flange, length EN 558 (code 8) [1], investment casting material (code 37) [2]

DN	NPS	C	ø D	FTF	H2	ø k	ø L	n
65	**2½"**	20.0	185.0	290.0	183.0	145.0	18.0	4
80	**3"**	22.0	200.0	310.0	204.0	160.0	18.0	8
100	**4"**	24.0	220.0	350.0	236.0	180.0	18.0	8

Connection type flange, length EN 558 (code 11) [1], investment casting material (code 37) [2]

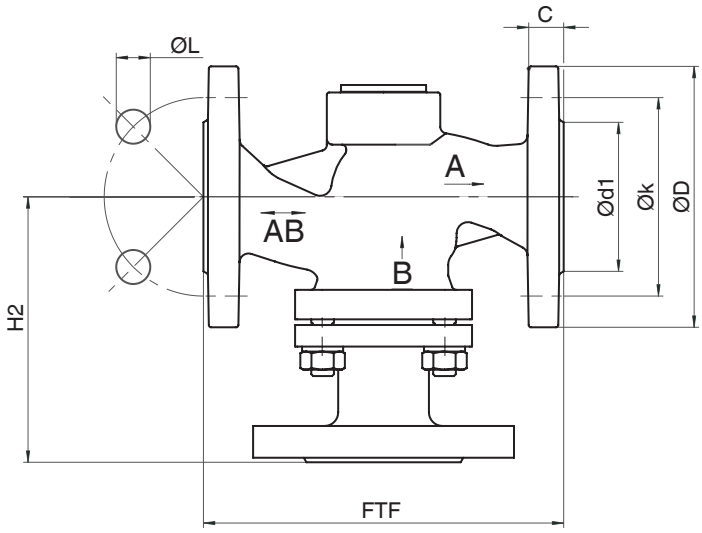
DN	NPS	C	ø D	FTF	H2	ø k	ø L	n
15	**1/2"**	16.0	95.0	130.0	97.0	65.0	14.0	4
20	**3/4"**	18.0	105.0	150.0	112.0	75.0	14.0	4
25	**1"**	18.0	115.0	160.0	118.0	85.0	14.0	4
32	**1¼"**	18.0	140.0	180.0	143.0	100.0	18.0	4
40	**1½"**	18.0	150.0	200.0	147.0	110.0	18.0	4
50	**2"**	20.0	165.0	230.0	167.0	125.0	18.0	4

Dimensions in mm
n = number of bolt holes

1) **Connection type**
Code 8: Flange EN 1092, PN 16, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1
Code 11: Flange EN 1092, PN 40, form B, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

2) **Valve body material**
Code 37: 1.4408, investment casting

Flange ANSI Class (code 39)



Connection type flange, length EN 558 (code 39) [1], investment casting material (code 37) [2]

DN	NPS	C	ø D	FTF	H2	ø k	ø L	n
15	**1/2"**	16.0	90.0	130.0	97.0	60.3	15.9	4
20	**3/4"**	18.0	100.0	150.0	112.0	69.9	15.9	4
25	**1"**	18.0	110.0	160.0	118.0	79.4	15.9	4
32	**1¼"**	18.0	115.0	180.0	143.0	88.9	15.9	4
40	**1½"**	18.0	125.0	200.0	147.0	98.4	15.9	4
50	**2"**	20.0	150.0	230.0	167.0	120.7	19.0	4

Dimensions in mm
n = number of bolt holes

1) **Connection type**
Code 39: Flange ANSI Class 125/150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1

2) **Valve body material**
Code 37: 1.4408, investment casting

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