

## Multi-Port Globe Valve, Metal

### Construction

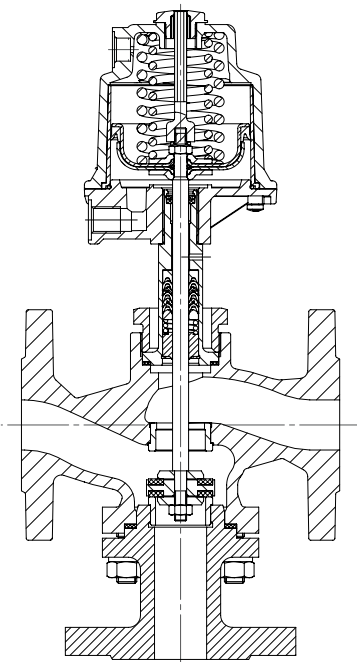
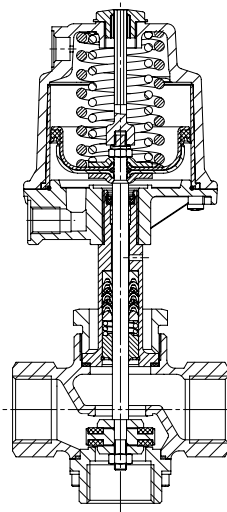
The GEMÜ 312/314 pneumatically operated 3/2-way globe valve has a robust low maintenance aluminium piston actuator. GEMÜ 312 is flanged, GEMÜ 314 has threaded sockets. The double sided valve plug is connected to the actuator via a valve spindle. The valve spindle is sealed by a self-adjusting gland packing 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 it against contamination and damage.

### Features

- Suitable for inert liquid and gaseous media
- Control medium: inert gases
- Suitable for high working medium temperatures
- With GEMÜ 312 and GEMÜ 314 valves control processes which normally require two separate valves can be combined, for example: mixing, separating, aerating and de-aerating.

### Advantages

- Extensive range of accessories
- Simple adaptation for use as a control valve

**GEMÜ 312****GEMÜ 314**

## Technical data

### Working medium

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

Permissible pressure of working medium:  
see table below

Media temperature -10 to 180 °C  
(lower/higher temperatures on request)

### Control medium

Inert gaseous media

Control pressure see table below

Max. perm. temperature of control medium 60 °C

Filling volume Actuator 1 0.125 dm<sup>3</sup>  
Actuator 2 0.625 dm<sup>3</sup>

### Ambient conditions

Ambient temperature max. 60 °C

### Maximum permissible seat leakage rate

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

312	Control function 1				Control function 2					
	Maximum operating pressure		Control pressure		Maximum operating pressure		Control pressure			
	B - AB		A - AB	Actuator 1	Actuator 2	A - AB		B - AB	Actuator 1	Actuator 2
DN	Actuator 1	Actuator 2		See operating pressure/ control pressure diagram		Actuator 1	Actuator 2		See operating pressure/ control pressure diagram	
15	16.0	-	See operating pressure/ control pressure diagram	5.5 - 7.0	-	16.0	-	See operating pressure/ control pressure diagram	3.0 - 7.0	-
20	16.0	-		5.5 - 7.0	-	12.1	-		3.0 - 7.0	-
25	15.0	16.0		5.5 - 7.0	-	7.8	16.0		3.0 - 7.0	3.0 - 7.0
32	7.0	16.0		5.5 - 7.0	4.5 - 7.0	4.8	16.0		3.0 - 7.0	3.0 - 7.0
40	4.5	14.0		5.5 - 7.0	4.5 - 7.0	3.0	11.1		3.0 - 7.0	3.0 - 7.0
50	2.5	10.0		5.5 - 7.0	5.5 - 7.0	-	7.2		-	3.0 - 7.0
65	-	7.0		-	5.5 - 7.0	-	4.2		-	3.0 - 7.0
80	-	4.0		-	5.5 - 7.0	-	2.6		-	3.0 - 7.0
100	-	2.0	-	5.5 - 7.0	-	1.6	-	3.0 - 7.0		

314	Control function 1				Control function 2					
	Maximum operating pressure		Control pressure		Maximum operating pressure		Control pressure			
	P - A		R - A	Actuator 1	Actuator 2	R - A		P - A	Actuator 1	Actuator 2
DN	Actuator 1	Actuator 2		See operating pressure/ control pressure diagram		Actuator 1	Actuator 2		See operating pressure/ control pressure diagram	
15	16.0	-	See operating pressure/ control pressure diagram	5.5 - 7.0	-	16.0	-	See operating pressure/ control pressure diagram	4.0 - 7.0	-
20	16.0	-		5.5 - 7.0	-	14.9	-		4.0 - 7.0	-
25	15.0	16.0		5.5 - 7.0	4.5 - 7.0	10.0	-		4.0 - 7.0	-
32	7.0	16.0		5.5 - 7.0	4.5 - 7.0	6.4	10.9		4.0 - 7.0	3.0 - 7.0
40	4.5	14.0		5.5 - 7.0	4.5 - 7.0	4.1	6.9		4.0 - 7.0	3.0 - 7.0
50	2.5	10.0		5.5 - 7.0	5.5 - 7.0	-	4.6		4.0 - 7.0	3.0 - 7.0

## Technical data

DN	GEMÜ 312				GEMÜ 314			
	Kv values [m <sup>3</sup> /h]		Weight [kg]		Kv values [m <sup>3</sup> /h]		Weight [kg]	
	AB - A	B - AB	Actuator 1	Actuator 2	P - A	A - R	Actuator 1	Actuator 2
15	4.1	5.4	4.4	-	3.6	2.5	1.7	-
20	7.5	11.6	5.8	-	5.5	3.3	1.8	-
25	12.0	17.6	6.7	-	10.6	7.3	2.1	-
32	18.8	27.0	10.4	13.3	18.0	10.4	3.2	6.1
40	30.7	46.7	11.5	14.5	31.0	20.9	3.7	6.7
50	42.0	67.1	15.3	18.4	47.0	33.7	4.7	7.9
65	71.9	119.9	-	25.5	-	-	-	-
80	107.6	174.4	-	32.0	-	-	-	-
100	157.1	250.7	-	44.0	-	-	-	-

Kv values determined acc. to DIN EN 60534 standard. 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.

### Correlation Kv value, regulating cone number - GEMÜ 312

DN	Actuator size 1	Actuator size 2	Kv value [m <sup>3</sup> /h]
	Regulating cone number	Regulating cone number	
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

### Correlation Kv value, regulating cone number - GEMÜ 314

DN	Actuator size 1	Actuator size 2	Kv value [m <sup>3</sup> /h]
	Regulating cone number	Regulating cone number	
15	RS170	-	1.6
20	RS171	-	2.5
25	RS172	RS176	6.3
32	RS173	RS177	10.0
40	RS174	RS178	16.0
50	RS175	RS179	25.0

## Technical data

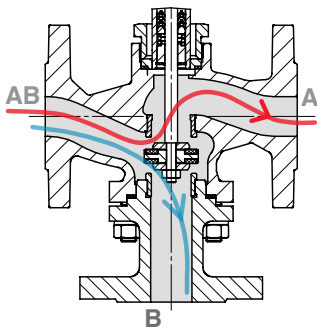
### Pressure / temperature correlation for globe valve bodies

Connection code	Material code	Max. allowable operating pressures in bar at temperature in °C *			
		RT	100	150	200
1	9	16.0	16.0	16.0	13.5
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

\* The valves can be used down to -10 °C      RT = room temperature      All pressures are gauge pressures.

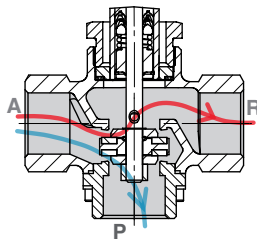
## Functions

GEMÜ 312 Distribution



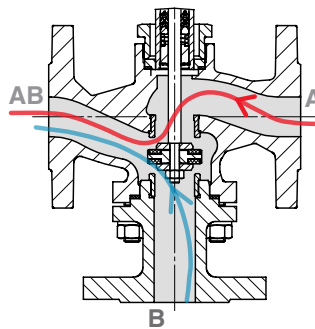
A - R  
A - P

GEMÜ 314 Distribution



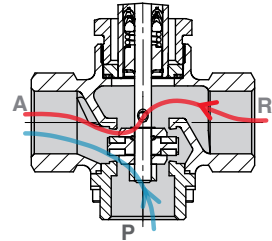
A - R  
A - P

GEMÜ 312 Mixing



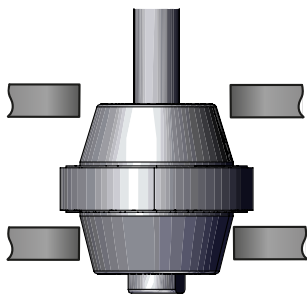
R - A  
P - A

GEMÜ 314 Mixing

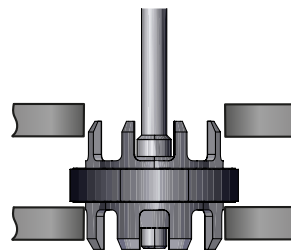


R - A  
P - A

## Regulating cone/regulating cage



Regulating cone DN 15 - 50

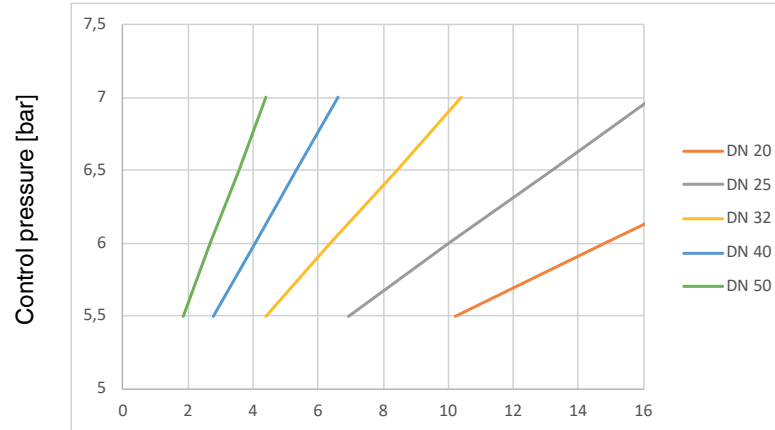


Regulating cage DN 65 - 100

## Technical data

### Operating pressure / Control pressure characteristics

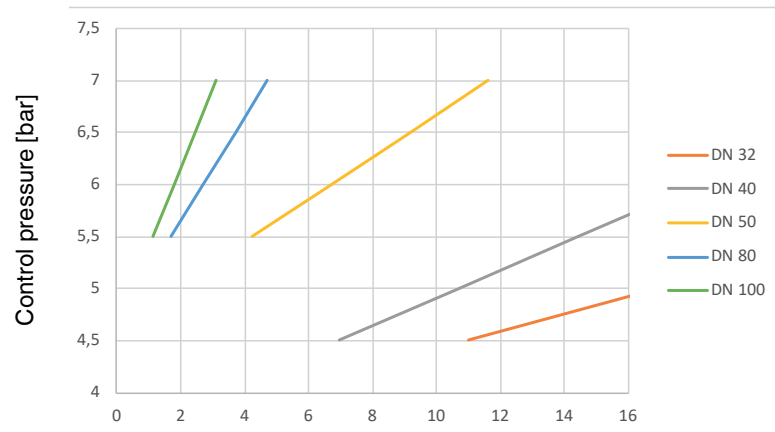
#### 312 C.f. 1 / Actuator size 1 (flow direction A - AB)



Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

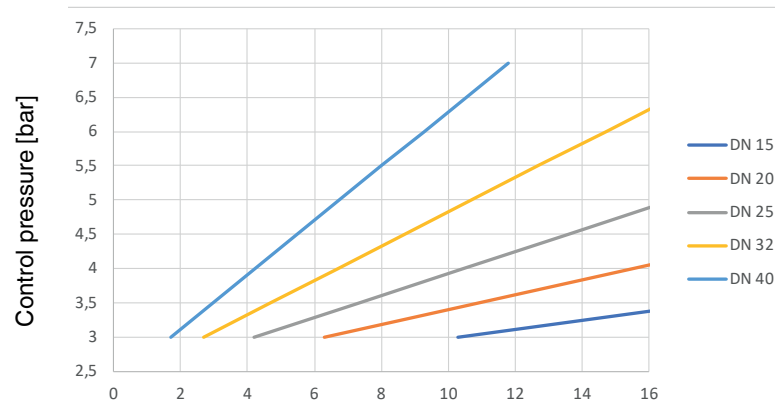
#### 312 C.f. 1 / Actuator size 2 (flow direction A - AB)



Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

#### 312 C.f. 2 / Actuator size 1 (flow direction B - AB)



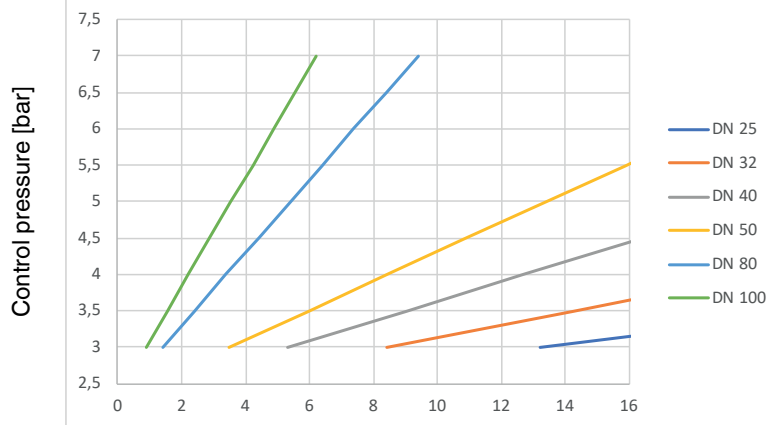
Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

## Technical data

### Operating pressure / Control pressure characteristics

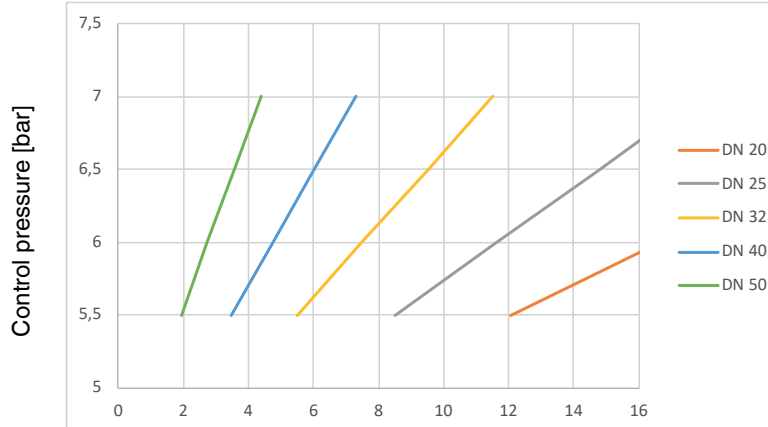
#### 312 C.f. 2 / Actuator size 2 (flow direction B - AB)



Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

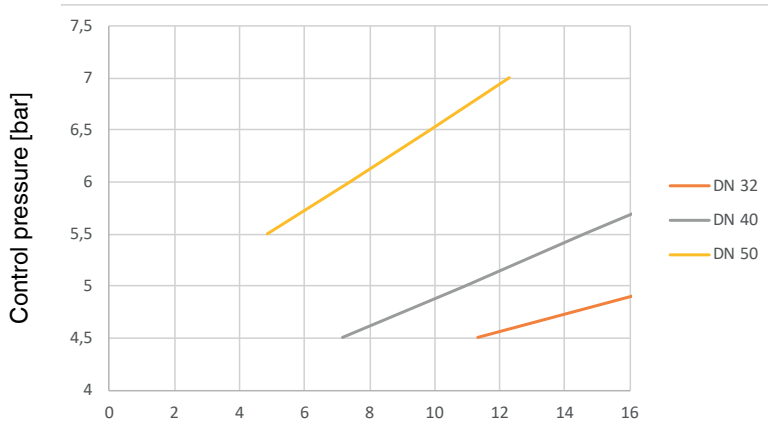
#### 314 C.f. 1 / Actuator size 1 (flow direction R - A)



Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

#### 314 C.f. 1 / Actuator size 2 (flow direction R - A)



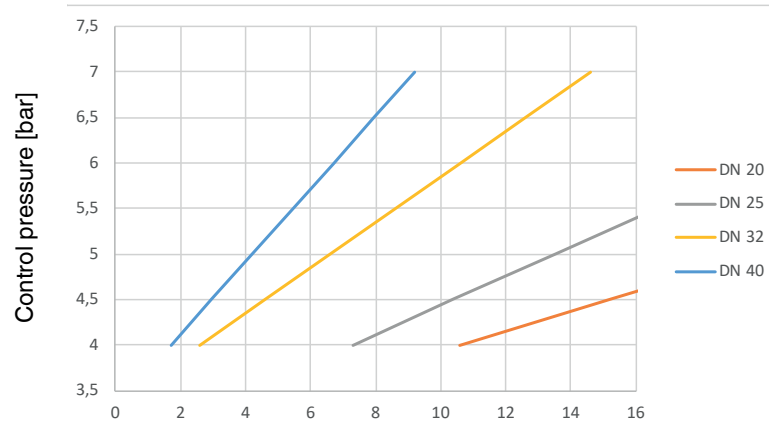
Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

## Technical data

### Operating pressure / Control pressure characteristics

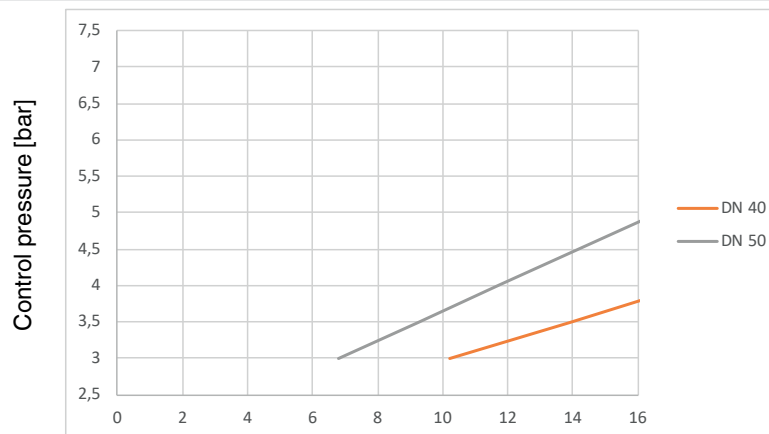
#### 314 C.f. 2 / Actuator size 1 (flow direction P - A)



Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

#### 314 C.f. 2 / Actuator size 2 (flow direction P - A)



Operating pressure [bar]

DN 15: a control pressure of 5.5 bar is required for an operating pressure up to 16 bar.

## Order data

Body configuration	Code
Multi-port	M

Control function	Code
Normally closed (NC)	1
Other control functions on request	

Connection type	Code
Threaded socket DIN ISO 228 (GEMÜ 314)	1
Flange EN 1092 / PN16 / form B, length EN 558, series 1, ISO 5752, basic series 1 (GEMÜ 312)	8
Flange EN 1092 / PN40 / form B, length EN 558, series 1, ISO 5752, basic series 1 (GEMÜ 312)	11
Flange ANSI Class 150 RF, face-to-face dimension FTF EN 558 series 1, ISO 5752, basic series 1	39

Actuator size	Code
Actuator 1 piston ø 70 mm	1
Actuator 2 piston ø 120 mm	2

Regulating cone	R-No.
* see table page 3 (available as an option)	

Valve body material	Code
GEMÜ 312: 1.4408, investment casting	37
GEMÜ 314: (Rg 5) CC499K, cast bronze	9

Special versions	Code
Media temperature -10 to 210 °C (only with seat seal code 5G)	K-no. 2023

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

Note
Other designs on request.

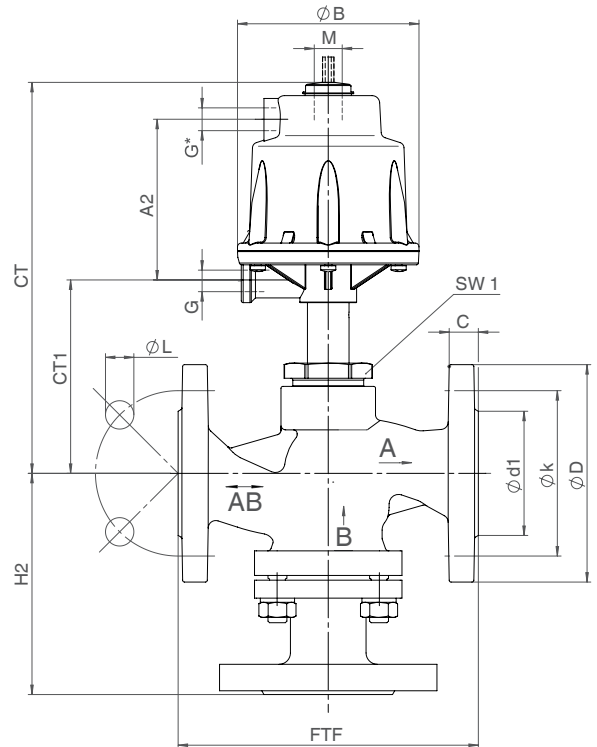
Order example	312	20	M	11	37	5	1	1	-	-
Type	312									
Nominal size		20								
Body configuration (code)			M							
Connection type (code)				11						
Valve body material (code)					37					
Seat seal (code)						5				
Control function (code)							1			
Actuator size (code)								1		
Regulating cone (R-No.)									-	
Special versions (code)										-



## Dimensions - GEMÜ 312 [mm]

### Bonnet dimensions

	$\varnothing B$	M	A2	G
Actuator size 1	96	M16 x 1	85.5	G 1/4
Actuator size 2	164	M22 x 1.5	123.0	G 1/4



\*Connection only for control functions 2 and 3

### Body dimensions / Installation dimensions

#### Flange - DIN EN 1092, connection code 8, 11 Valve body material: 1.4408 (code 37)

DN	FTF	$\varnothing D$	$\varnothing k$	$\varnothing L$	Number of bolts	SW1	$\varnothing d1$	C	H2	Actuator 1		Actuator 2	
										CT	CT1	CT	CT1
15	130	95	65	14	4	41	45	16	97	199	95	-	-
20	150	105	75	14	4	41	58	18	112	204	100	-	-
25	160	115	85	14	4	41	68	18	118	205	101	-	-
32	180	140	100	18	4	41	78	18	143	215	111	292	140
40	200	150	110	18	4	41	88	18	147	224	120	301	149
50	230	165	125	18	4	41	102	20	167	231	127	308	156
65	290	185	145	18	4	55	122	20	183	-	-	320	168
80	310	200	160	18	8	55	138	22	204	-	-	332	180
100	350	220	180	18	8	55	158	24	236	-	-	346	194

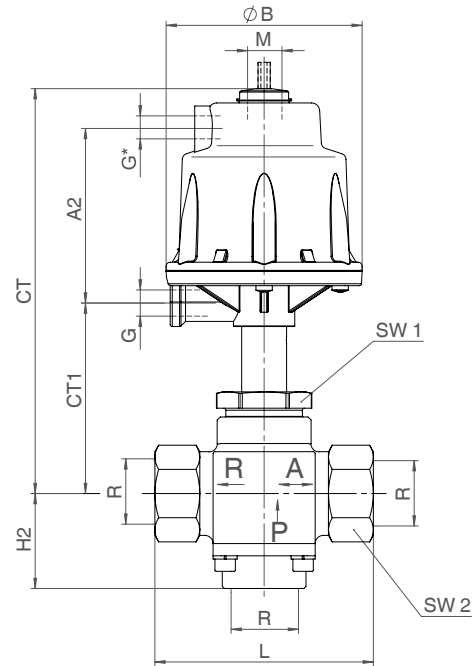
#### Flange - ANSI Class 125/150 RF, connection code 39 Valve body material: 1.4408 (code 37)

DN	FTF	$\varnothing D$	$\varnothing k$	$\varnothing L$	Number of bolts	SW1	$\varnothing d1$	C	H2	Actuator 1		Actuator 2	
										CT	CT1	CT	CT1
15	130	90	60.3	15.9	4	41	34.9	16	97	199	95	-	-
20	150	100	69.9	15.9	4	41	42.9	18	112	204	100	-	-
25	160	110	79.4	15.9	4	41	50.8	18	118	205	101	-	-
32	180	115	88.9	15.9	4	41	63.5	18	143	215	111	292	140
40	200	125	98.4	15.9	4	41	73.0	18	147	224	120	301	149
50	230	150	120.7	19.0	4	41	92.1	20	167	231	127	308	156
65	290	180	139.7	19.0	4	55	104.6	23	183	-	-	320	168
80	310	190	152.4	19.0	4	55	127.0	24	204	-	-	332	180
100	350	230	190.5	19.0	8	55	157.2	24	236	-	-	346	194

## Dimensions - GEMÜ 314 [mm]

### Actuator dimensions

	$\varnothing B$	M	A2	G
Actuator size 1	96	M16 x 1	85.5	G 1/4
Actuator size 2	164	M22 x 1.5	123.0	G 1/4



\*Connection only for control functions 2 and 3

## Body dimensions / Installation dimensions

### Threaded socket, connection code 1 Valve body material: Cast bronze (code 9)

DN	R	L	SW1	SW2	H2	Actuator 1		Actuator 2	
						CT	CT1	CT	CT1
15	G 1/2	75	36	27	41	192	88	-	-
20	G 3/4	87	36	32	46	196	92	-	-
25	G 1	107	41	41	47	196	92	-	-
32	G 1 1/4	123	55	50	66	200	96	277	125
40	G 1 1/2	147	55	58	68	200	96	277	125
50	G 2	171	55	70	74	204	100	281	129

## Overview of valve bodies - GEMÜ 312, 314

Connection code	1 (GEMÜ 314)	8 (GEMÜ 312)	11 (GEMÜ 312)	39 (GEMÜ 312)
Material code	9	37	37	37
DN 15	X	-	X	X
DN 20	X	-	X	X
DN 25	X	-	X	X
DN 32	X	-	X	X
DN 40	X	-	X	X
DN 50	X	-	X	X
DN 65	-	X	-	-
DN 80	-	X	-	-
DN 100	-	X	-	-

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## Other multi-port valves



GEMÜ 343



GEMÜ 352 / 354



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

For further globe valves, accessories and other products, please see our Product Range catalogue and Price List.  
Contact GEMÜ.

Subject to alteration · 10/2020 · 88048809