

Multi-Port Globe Valve, Metal

Construction

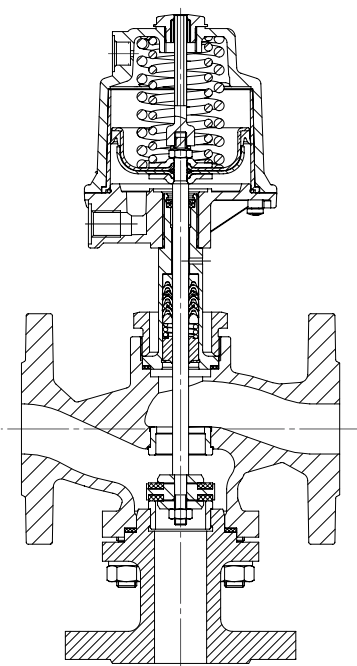
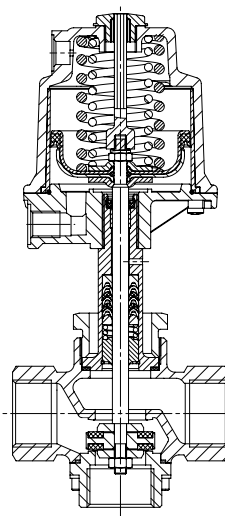
The GEMÜ 312/314 pneumatically operated 3/2-way globe valve has a robust low maintenance aluminium piston actuator. GEMÜ 312 is flanged, GEMÜ 314 has threaded sockets. The double sided valve plug is connected to the actuator via a valve spindle. The valve spindle is sealed by a self-adjusting gland packing 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 14 to 356 °F
(lower/higher temperatures on request)

Control medium

Inert gaseous media

Control pressure see table below

Max. perm. temperature of control medium 140 °F

Filling volume Actuator 1 7.63 cu in
Actuator 2 38.14 cu in

Ambient conditions

Ambient temperature max. 140 °F

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	493	-	See operating pressure/ control pressure diagram	80 - 102	-	363	-	See operating pressure/ control pressure diagram	44 - 102	-
20	334	-		80 - 102	-	175	-		44 - 102	-
25	218	537		80 - 102	-	113	464		44 - 102	44 - 102
32	105	421		80 - 102	80 - 102	70	302		44 - 102	44 - 102
40	65	203		80 - 102	80 - 102	45	161		44 - 102	44 - 102
50	36	150		80 - 102	80 - 102	-	104		-	44 - 102
65	-	105		-	80 - 102	-	61		-	44 - 102
80	-	60		-	80 - 102	-	38		-	44 - 102
100	-	30	-	80 - 102	-	23	-	44 - 102		

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	232	-	See operating pressure/ control pressure diagram	80 - 102	-	232	-	See operating pressure/ control pressure diagram	58 - 102	-
20	232	-		80 - 102	-	216	-		58 - 102	-
25	218	232		80 - 102	65 - 102	150	-		58 - 102	-
32	105	232		80 - 102	65 - 102	93	158		58 - 102	44 - 102
40	65	203		80 - 102	65 - 102	59	100		58 - 102	44 - 102
50	36	150		80 - 102	80 - 102	-	67		58 - 102	44 - 102

Technical data

DN	GEMÜ 312				GEMÜ 314			
	Cv values [gpm]		Weight [lbs]		Cv values [gpm]		Weight [lbs]	
	AB - A	B - AB	Actuator 1	Actuator 2	P - A	A - R	Actuator 1	Actuator 2
15	4.8	6.3	9.7	-	4.2	2.9	3.7	-
20	8.8	13.6	12.8	-	6.4	3.9	4.0	-
25	14.0	20.6	14.8	-	12.4	8.5	4.6	-
32	22.0	31.6	22.9	29.3	21.1	12.2	7.0	13.4
40	35.9	54.6	25.3	32.0	36.3	24.5	8.2	14.8
50	49.1	78.5	33.7	40.6	55.0	39.4	10.4	17.4
65	84.1	140.3	-	56.2	-	-	-	-
80	125.9	204.0	-	70.5	-	-	-	-
100	183.8	293.3	-	97.0	-	-	-	-

Cv values determined with 1 psi pressure drop across valve, valve body material cast iron EN-GJL-250 with connection flange EN 1092, valve body material cast bronze with threaded socket connection DIN ISO 228. The Cv value data refers to control function 1 (NC) and the largest actuator for each nominal size. The Cv values for other product configurations (e.g. other connection types or body materials) may differ.

Correlation Cv value, regulating cone number - GEMÜ 312

DN	Actuator size 1	Actuator size 2	Cv value [gpm]
	Regulating cone number	Regulating cone number	
15	RS157	-	4.7
20	RS158	-	7.4
25	RS159	RS163	11.7
32	RS160	RS164	16.4
40	RS161	RS165	23.4
50	RS162	RS166	37.4
65	-	RS167	73.7
80	-	RS168	105.3
100	-	RS169	163.8

Correlation Cv value, regulating cone number - GEMÜ 314

DN	Actuator size 1	Actuator size 2	Cv value [gpm]
	Regulating cone number	Regulating cone number	
15	RS170	-	1.9
20	RS171	-	2.9
25	RS172	RS176	7.4
32	RS173	RS177	11.7
40	RS174	RS178	18.7
50	RS175	RS179	29.3

Technical data

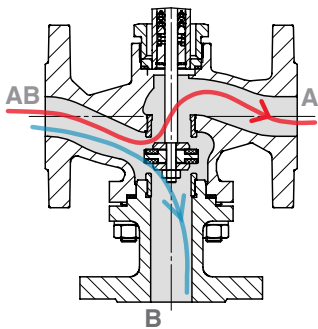
Pressure / temperature correlation for globe valve bodies

Connection code	Material code	Max. allowable operating pressures in psi at temperature in °F *			
		RT	212	302	392
1	9	232	232	232	196
8	37	232	232	210	194
11	37	580	580	526	489
39	37	276	232	215	197

* The valves can be used down to 14 °F RT = room temperature All pressures are gauge pressures.

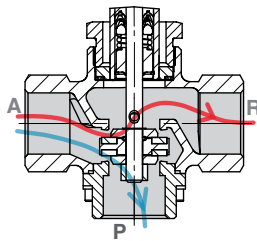
Functions

GEMÜ 312 Distribution



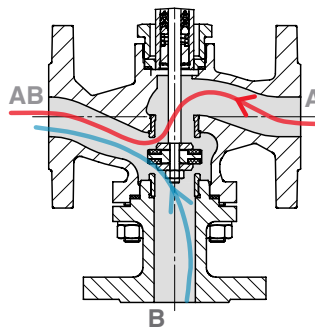
A - R
A - P

GEMÜ 314 Distribution



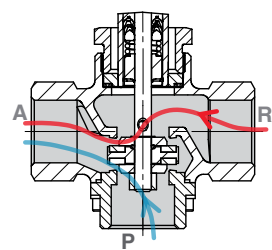
A - R
A - P

GEMÜ 312 Mixing



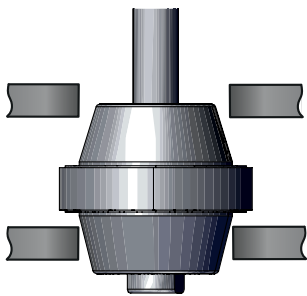
R - A
P - A

GEMÜ 314 Mixing

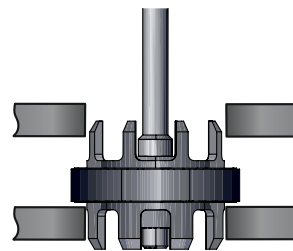


R - A
P - A

Regulating cone/regulating cage



Regulating cone DN 15 - 50



Regulating cage DN 65 - 100

Order data

Body configuration	Code
Multi-port	M

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
DN 80	NPS 3"	80
DN 100	NPS 4"	100

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

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

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

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

Actuator size	Code
Actuator 1 piston ø 2.76 in	1
Actuator 2 piston ø 4.72 in	2

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

Special versions	Code
Media temperature 14 to 410 °F (only with seat seal code 5G)	K-no. 2023

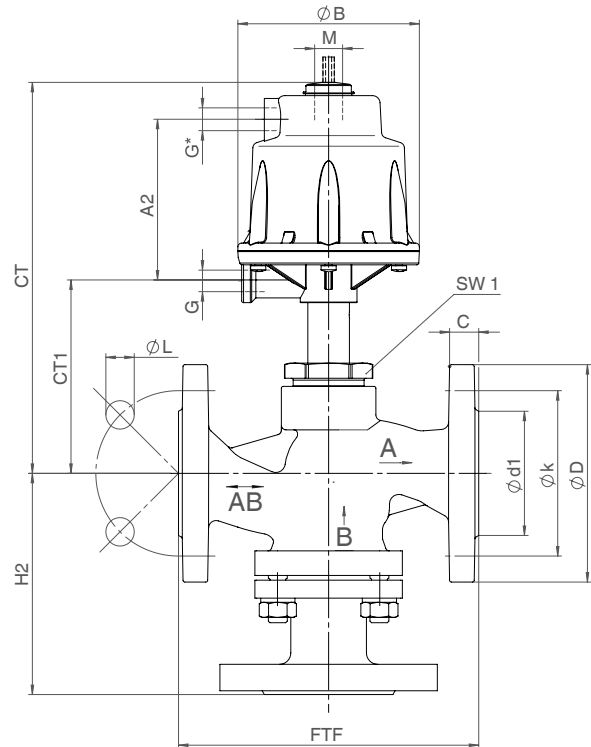
Note
Other designs on request.

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 [inch]

Bonnet dimensions

	$\varnothing B$	M	A2	G
Actuator size 1	3.78	M16 x 1	3.37	G 1/4
Actuator size 2	6.46	M22 x 1.5	4.84	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 [in]	$\varnothing D$ [in]	$\varnothing k$ [in]	$\varnothing L$ [in]	Number of bolts	SW1 [mm]	$\varnothing d1$ [in]	C [in]	H2 [in]	Actuator 1		Actuator 2	
										CT [in]	CT1 [in]	CT [in]	CT1 [in]
15	5.12	3.74	2.56	0.55	4	41	1.772	0.63	3.82	7.83	3.74	-	-
20	5.91	4.13	2.95	0.55	4	41	2.283	0.71	4.41	8.03	3.94	-	-
25	6.30	4.53	3.35	0.55	4	41	2.677	0.71	4.65	8.07	3.98	-	-
32	7.09	5.51	3.94	0.71	4	41	3.071	0.71	5.63	8.46	4.37	11.5	5.51
40	7.87	5.91	4.33	0.71	4	41	3.465	0.71	5.79	8.82	4.72	11.85	5.87
50	9.06	6.50	4.92	0.71	4	41	4.016	0.79	6.57	9.09	5.00	12.13	6.14
65	11.42	7.28	5.71	0.71	4	55	4.803	0.79	7.20	-	-	12.60	6.61
80	12.2	7.87	6.30	0.71	8	55	5.433	0.87	8.03	-	-	13.07	7.09
100	13.78	8.66	7.09	0.71	8	55	6.220	0.94	9.29	-	-	13.62	7.64

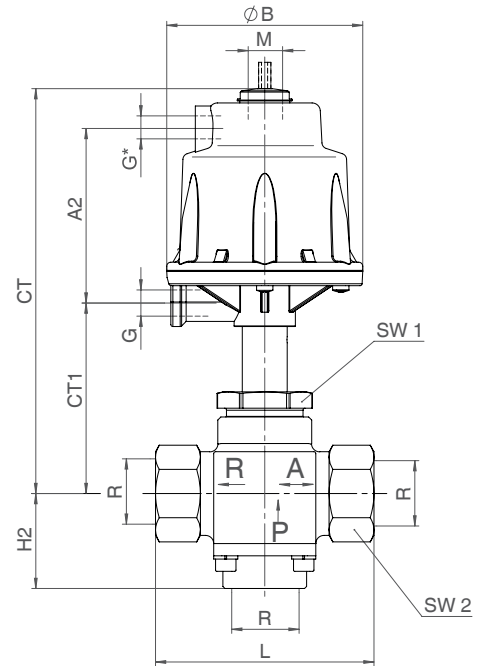
Flange - ANSI Class 125/150 RF, connection code 39 Valve body material: 1.4408 (code 37)

DN	FTF [in]	$\varnothing D$ [in]	$\varnothing k$ [in]	$\varnothing L$ [in]	Number of bolts	SW1 [mm]	$\varnothing d1$ [in]	C [in]	H2 [in]	Actuator 1		Actuator 2	
										CT [in]	CT1 [in]	CT [in]	CT1 [in]
15	5.12	3.54	2.37	0.63	4	41	1.374	0.63	3.82	7.83	3.74	-	-
20	5.91	3.94	2.75	0.63	4	41	1.689	0.71	4.41	8.03	3.94	-	-
25	6.30	4.33	3.13	0.63	4	41	2.000	0.71	4.65	8.07	3.98	-	-
32	7.09	4.53	3.50	0.63	4	41	2.500	0.71	5.63	8.46	4.37	11.50	5.51
40	7.87	4.92	3.87	0.63	4	41	2.874	0.71	5.79	8.82	4.72	11.85	5.87
50	9.06	5.91	4.75	0.75	4	41	3.626	0.79	6.57	9.09	5.00	12.13	6.14
65	11.42	7.09	5.50	0.75	4	55	4.118	0.91	7.20	-	-	12.60	6.61
80	12.2	7.48	6.00	0.75	4	55	5.000	0.94	8.03	-	-	13.07	7.09
100	13.78	9.06	7.50	0.75	8	55	6.189	0.94	9.29	-	-	13.62	7.64

Dimensions - GEMÜ 314 [inch]

Actuator dimensions

	$\varnothing B$	M	A2	G
Actuator size 1	3.78	M16 x 1	3.37	G 1/4
Actuator size 2	6.46	M22 x 1.5	4.84	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 [in]	SW1 [mm]	SW2 [mm]	H2 [in]	Actuator 1		Actuator 2	
						CT [in]	CT1 [in]	CT [in]	CT1 [in]
15	G 1/2	2.95	36	27	1.61	7.56	3.46	-	-
20	G 3/4	3.43	36	32	1.81	7.72	3.62	-	-
25	G 1	4.21	41	41	1.85	7.72	3.62	-	-
32	G 1 1/4	4.84	55	50	2.60	7.87	3.78	10.91	4.92
40	G 1 1/2	5.79	55	58	2.68	7.87	3.78	10.91	4.92
50	G 2	6.73	55	70	2.91	8.03	3.94	11.06	5.08

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 · 06/2022 · 88723663

GEMÜ VALVES, MEASUREMENT
AND CONTROL SYSTEMS

