

Angle Seat Globe Valve, Metal

Construction

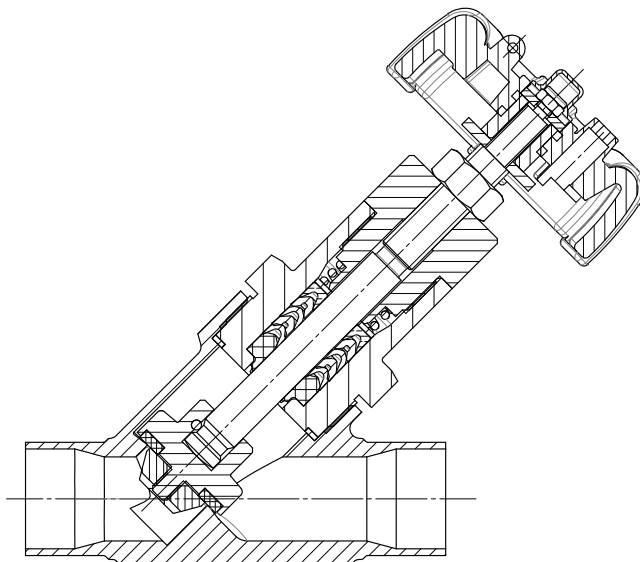
The GEMÜ 507 manually operated 2/2-way angle seat globe valve has an ergonomically designed plastic handwheel. The valve spindle is sealed by a self-adjusting gland packing providing low maintenance and reliable valve spindle sealing even after a long service life. The wiper ring fitted in front of the gland packing protects it against contamination and damage.

A handwheel extension (not for bonnet size 0) is available as an option enabling full operator isolation.

Features

- Various valve body connections: threaded sockets, threaded spigots, butt weld spigots
- Standard floating plug on spindle ensures excellent seat sealing
- Good flow capability due to angle seat design
- Optionally suitable for contact with food according to Regulation (EC) No. 1935/2004 (K-No. 2013)
- Standard gland packing suitable for vacuum up to 20 mbar (abs.)
- Handwheel locknut as standard
- Optionally available as control valve with regulating cone

Sectional drawing



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 material.

Max. perm. pressure of working medium see table

Media temperature 14 °F to 356 °F

Max. permissible viscosity 600 mm²/s (cSt)

Other versions for lower/higher temperatures and viscosities on request.

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

Maximum permissible seat leakage class / Control valve

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

Bonnet weight [lb]

Bonnet size	DN 6	DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80
0	0.66	0.66	0.66	0.66	-	-	-	-	-	-	-
1 / 1E	-	2.2	2.2	2.2	2.65	3.09	5.29	5.73	8.38	-	-
2 / 2E	-	-	-	-	-	-	-	-	-	14.99	18.52

Technical data

Max. operating pressure [psi]

Bonnet size	DN 6	DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80
0	363	363	363	363	-	-	-	-	-	-	-
1 / 1E	-	363	363	363	363	363	363	363	363	-	-
2 / 2E	-	-	-	-	-	-	-	-	-	232	232

All pressures are gauge pressures.

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
1, 9, 17, 37, 60, 3C, 3D	37	363	345	310	274	254	234
0, 16, 17, 37, 59, 60	34	363	355	325	294	264	234
13 (DN 15 - DN 50)	34	363	342	312	287	270	249
80, 88 (DN 15 - DN 40)	34	363	307	280**	-	-	-
80, 88 (DN 50 - DN 80)	34	232	232	232**	-	-	-
82 (DN 15 - DN 32)	34	363	307	280**	-	-	-
82 (DN 40 - DN 65)	34	232	232	232**	-	-	-
86 (DN 15 - DN 40)	34	363	307	280**	-	-	-
86 (DN 50 - DN 65)	34	232	232	232**	-	-	-
10 (DN 15 - DN 50)	37	363	363	329	305	287	268
47 (DN 15 - DN 50)	34	231	193	174	161	148	141
0, 16, 17, 59, 60	40	363	299	271	248	229	215
17, 59, 60	C2	363	307	280	260	244	231

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

** max. temperature 284 °F

RT = Room Temperature

Cv values [gpm]

	DN 6	DN 8	DN 10	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80
Butt weld spigots, DIN 11850	1.9	2.1	2.8	2.8	-	-	-	-	-	-	-
Butt weld spigots, DIN 11866	-	2.6	5.3	6.4	13.7	24	38.6	59.7	71.4	128.7	136.9
Threaded sockets, DIN ISO 228	-	-	5.3	6.3	11.7	17.8	26.9	48	79.6	111.2	152.1

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

Technical data

Correlation* Cv value, operating pressure, regulating cone number

Nominal size	Cv value [gpm]	Operating pressure [psi]	Actuator size	Regulating cone no.	
DN				linear	equal-percentage
15	5.8	363	1	RS235	RS245
20	11.7	363	1	RS236	RS246
25	17.5	363	1	RS237	RS247
32	28.0	363	1	RS238	RS248
40	44.3	363	1	RS239	RS249
50	70.0	363	1	RS240	RS250

* not for connection code 37, 59, 80, 88

Correlation* Cv value, operating pressure, regulating cone number

Nominal size	Cv value [gpm]	Operating pressure [psi]	Actuator size	Regulating cone no.	
DN				linear	equal-percentage
15	3.1	363	1	RS251	RS261
20	7.3	363	1	RS252	RS262
25	15.5	363	1	RS253	RS263
40	41.5	363	1	RS254	RS264
50	67.6	363	1	RS255	RS265

* only for connection code 37, 59, 80, 88

Please always order standard regulating cone with special function "C" – rigid valve plug.

Order data

Body configuration	Code
2/2-way body	D
Angle body only in material code 37 (DN 15 - 50)	E

Connection	Code
Butt weld spigots	
Spigots DIN	0
Spigots EN 10357 series B	16
Spigots EN 10357 series A (formerly DIN 11850 series 2) / DIN 11866 series A	17
Spigots SMS 3008	37
Spigots ASME BPE	59
Spigots ISO 1127 / EN 10357 series C / DIN 11866 series B	60
Threaded connections	
Threaded sockets DIN ISO 228	1
Threaded socket Rc ISO 7-1, EN 10226-2, JIS B 0203, BS 21, end-to-end dimension ETE DIN 3202-4 series M8	3C
Threaded spigots DIN ISO 228	9
Threaded sockets NPT length DIN 3202-4 series M8	3D
Flanges	
Flanges EN 1092 / PN25 / form B length EN 558, series 1	10
Flanges EN 1092 / PN25 / form B length see body dimensions	13
Flanges ANSI Class 125/150 RF length see body dimensions	47
Clamp connections	
Clamps ASME BPE for pipe ASME BPE, length ASME BPE	80
Clamps DIN 32676 series B for pipe EN ISO 1127, length EN 558, series 1	82
Clamps DIN 32676 series A for pipe DIN 11850, length EN 558, series 1	86
Clamps ASME BPE for pipe ASME BPE, length EN 558, series 1	88

Valve body material	Code
1.4435 (ASTM A 351 CF3M $\cong$ 316L), Investment cast.	34
1.4408, Investment casting	37
1.4435 (316 L), Forged body	40
1.4435, Investment casting	C2*
Material equivalency 316 L	
* A surface finish from the order code table "K number" must be specified for valve body material C2.	

Seat seal	Code
PTFE	5
PTFE, glass fibre reinforced	5G
PTFE, USP Class VI	5P
PEEK (for bonnet 0)	PK

Control function	Code
Manually operated with handwheel lock nut	0

Bonnet size	Code
Handwheel diameter 1.26 inch	0
Handwheel diameter 3.54 inch	1
Handwheel diameter 3.54 inch Handwheel extension	1E
Handwheel diameter 5.51 inch	2
Handwheel diameter 5.51 inch Handwheel extension	2E

Regulating cone	R-No.
For the regulating cone no. (R-No.) - linear or equal-percentage (mod.)- please refer to the table	

Version	Code
Gland packing PTFE / PTFE suitable for contact with food according to EU Regulation 1935/2004	2013
Media temperature 14 to 410 °F (only with seat seal Code 5G and 10)	2023
Surface finish for valve body material C2	
Ra $\leq$ 25 μ inch for process contact surfaces, in accordance with ASME BPE SF2 + SF3, mechanically polished internal	1903
Ra $\leq$ 30 μ inch for process contact surfaces, in accordance with DIN 11866 H3, mechanically polished internal	1904
Ra $\leq$ 15 μ inch for process contact surfaces, in accordance with DIN 11866 H4, ASME BPE SF1, mechanically polished internal	1909
Ra $\leq$ 23.62 μ inch for process contact surfaces, in accordance with ASME BPE SF6, electropolished internal/external	1953
Ra $\leq$ 31.5 μ inch for process contact surfaces, in accordance with DIN 11866 HE3, electropolished internal/external	1954
Ra $\leq$ 15.75 μ inch for process contact surfaces, in accordance with DIN 11866 HE4/ASME BPE SF5, electropolished internal/external	1959

Order data

Special version	Code
Rigid plug fixing *, special version for oxygen	B
Rigid plug fixing *	C
Special version for oxygen (max. temperature 140 °F, max. operating pressure 150 psi), Flow direction: under the seat	S
* Standard for bonnet size 0	

Order example	507	25	D	60	34	5	0	1	RS237	-	C
Type	507										
Nominal size		25									
Body configuration (code)			D								
Connection (code)				60							
Valve body material (code)					34						
Seat seal (code)						5					
Control function (code)							0				
Bonnet size (code)								1			
Regulating cone (R-No.)									RS237		
Version (code)										-	
Special version (code)											C

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

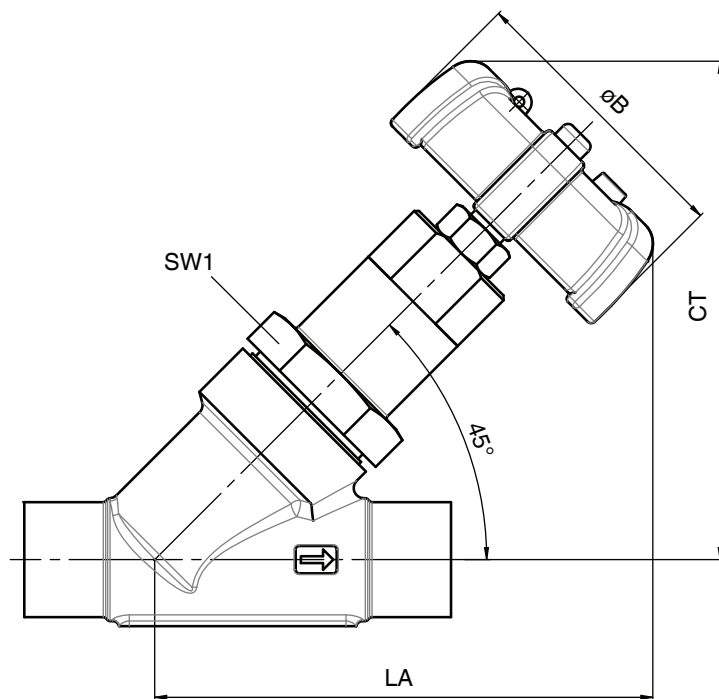
Valve body material code 34, 37, 40, C2

Dimensions [inch]

Installation dimensions - Valve with 2/2-way body

Bonnet	DN	SW1		øB	CT/LA (max. height)	
					Control function code 0	Bonnet code 1E, 2E*
0	6	24	hexagonal	1.26	3.5	-
0	8	24	hexagonal	1.26	3.5	-
0	10	24	hexagonal	1.26	3.5	-
0	15	24	hexagonal	1.26	3.5	-
1	8	41	hexagonal	3.54	5.87	6.61
1	10	41	hexagonal	3.54	5.87	6.61
1	15	41	hexagonal	3.54	5.98	6.73
1	20	46	hexagonal	3.54	6.26	7.05
1	25	46	hexagonal	3.54	6.57	7.32
1	32	41	double flat	3.54	6.93	7.72
1	40	41	double flat	3.54	7.28	8.07
1	50	41	double flat	3.54	7.72	8.5
2	65	60	double flat	5.51	10.2	10.91
2	80	60	double flat	5.51	10.87	11.57

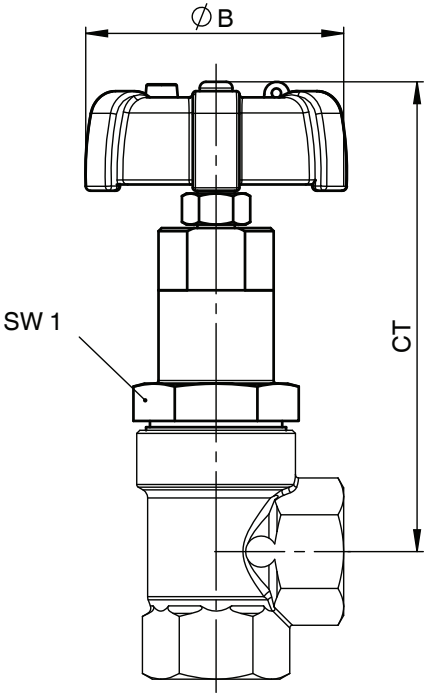
* Bonnet code 1E, 2E (handwheel extension) are necessary for valve bodies with flanges



Dimensions [inch]

Installation dimensions - Valve with angle body

Bonnet	DN	SW1		øB	CT (max. height)
1	15	41	hexagonal	3.54	6.02
1	20	46	hexagonal	3.54	6.22
1	25	46	hexagonal	3.54	6.57
1	32	41	double flat	3.54	6.77
1	40	41	double flat	3.54	7.2
1	50	41	double flat	3.54	7.64



Dimensions [inch]

Butt weld spigots, connection code 0, 16, 17, 37, 60 Valve body material: 1.4435 (code 34), 1.4408 (code 37)

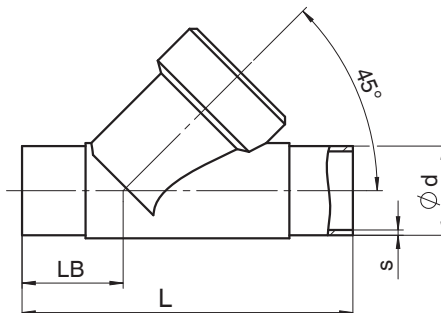
					Connection code									
	Material code 34		Material code 37		0		16		17		37		60	
DN	L	LB	L	LB	ø d	s	ø d	s	ø d	s	ø d	s	ø d	s
10	4.13	1.4	-	-	-	-	0.47	0.04	0.51	0.06	-	-	0.68	0.06
15	4.13	1.4	3.94	1.3	0.71	0.06	0.71	0.04	0.75	0.06	-	-	0.84	0.06
20	4.72	1.54	4.25	1.3	0.87	0.06	0.87	0.04	0.91	0.06	-	-	1.06	0.06
25	4.92	1.52	4.41	1.26	1.1	0.06	1.1	0.04	1.14	0.06	0.98	0.05	1.33	0.08
32	6.1	1.89	5.39	1.54	-	-	1.34	0.04	1.38	0.06	-	-	1.67	0.08
40	6.3	1.85	5.75	1.57	1.57	0.06	1.57	0.04	1.61	0.06	1.5	0.05	1.9	0.08
50	7.09	1.89	6.3	1.5	2.05	0.06	2.05	0.04	2.09	0.06	2.01	0.05	2.37	0.08
65	-	-	11.42	3.78	-	-	-	-	2.76	0.08	2.5	0.06	3	0.08
80	-	-	12.2	3.74	-	-	-	-	3.35	0.08	3	0.06	3.5	0.09

For materials see overview on last page

Butt weld spigots, connection code 59 Valve body material: 1.4435 (code 34), 1.4408 (code 37)

					Connection code	
		Material code 34		Material code 37		59
DN		L	LB	L	LB	ø d
10		4.13	1.4	-	-	-
15		4.13	1.4	3.94	1.3	0.5
20		4.72	1.54	4.25	1.3	0.75
25		4.92	1.52	4.41	1.26	1
32		6.1	1.89	5.39	1.54	-
40		6.3	1.85	5.75	1.57	1.5
50		7.09	1.89	6.3	1.5	2
65		-	-	11.42	3.78	2.5
80		-	-	12.2	3.74	3

For materials see overview on last page



Dimensions [inch]

Butt weld spigots, connection code 0, 16, 17, 59, 60 Valve body material: Forged body (code 40)

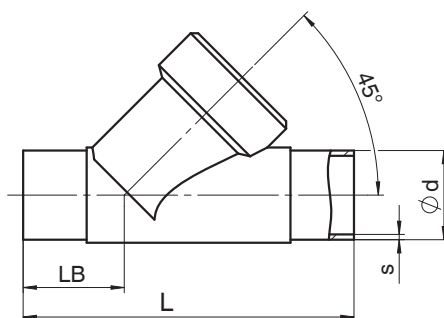
			Connection code									
			0		16		17		59		60	
DN	L	LB	ø d	s	ø d	s	ø d	s	ø d	s	ø d	s
6*	3.15	1.04	0.31	0.04	-	-	-	-	-	-	-	-
8*	3.15	1.04	0.39	0.04	-	-	-	-	-	-	0.53	0.06
10*	3.15	1.04	-	-	0.47	0.04	0.51	0.06	0.38	0.04	-	-
15*	3.15	1.04	-	-	-	-	-	-	0.5	0.06	-	-

* only with actuator size 0

Butt weld spigots, connection code 17, 59, 60 Valve body material: 1.4435 (code C2)

			Connection code					
			17		60		59	
DN	L	LB	ø d	s	ø d	s	ø d	s
8	4.13*	1.4*	-	-	0.53	0.06	-	-
10	4.13	1.4	0.51	0.06	0.68	0.06	-	-
15	4.13	1.4	0.75	0.06	0.84	0.06	0.5	0.06
20	4.72	1.54	0.91	0.06	1.06	0.06	0.75	0.06
25	4.92	1.56	1.14	0.06	1.33	0.08	1	0.06
32	6.1	1.89	1.38	0.06	1.67	0.08	-	-
40	6.3	1.85	1.61	0.06	1.9	0.08	1.5	0.06
50	7.09	1.89	2.09	0.06	2.37	0.08	2	0.06
65	11.42	3.78	2.76	0.08	3	0.08	2.5	0.06
80	12.2	3.74	3.35	0.08	3.5	0.09	3	0.06

* Connection code 1A: L = 3.94, LB = 1.32



Body dimensions [inch]

Threaded sockets DIN, connection code 1 Valve body material: 1.4408 (code 37)

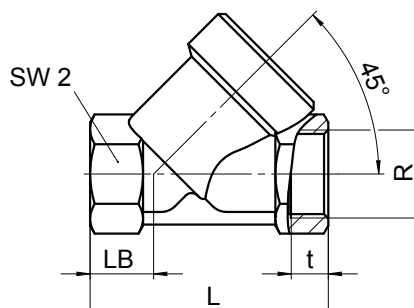
DN	L	LB	R	t	SW2	
8*	2.56	0.75	G 1/4	0.47	17	hexagonal
10*	2.56	0.75	G 3/8	0.47	24	hexagonal
15*	2.56	0.75	G 1/2	0.45	24	hexagonal
10	2.56	0.65	G 3/8	0.45	27	hexagonal
15	2.56	0.65	G 1/2	0.59	27	hexagonal
20	2.95	0.69	G 3/4	0.64	32	hexagonal
25	3.54	0.94	G 1	0.75	41	hexagonal
32	4.33	1.3	G 1 1/4	0.84	50	octagonal
40	4.72	1.18	G 1 1/2	0.84	55	octagonal
50	5.91	1.57	G 2	1.01	70	octagonal
65	7.48	1.81	G 2 1/2	1.19	85	octagonal
80	8.66	1.97	G 3	1.31	100	octagonal

* only with bonnet size 0

Threaded sockets NPT, BS 21 Rc, connection code 3C, 3D Valve body material: 1.4408 (code 37)

					Connection code			
					3C		3D	
DN	L	LB	SW2		R	t	R	t
8*	2.56	0.75	17	hexagonal	-	-	1/4" NPT	0.4
10*	2.56	1.06	24	hexagonal	-	-	3/8" NPT	0.41
15*	2.56	1.06	24	hexagonal	-	-	1/2" NPT	0.54
15	2.56	0.65	27	hexagonal	Rc 1/2	0.59	1/2" NPT	0.54
20	2.95	0.69	32	hexagonal	Rc 3/4	0.64	3/4" NPT	0.56
25	3.54	0.94	41	hexagonal	Rc 1	0.75	1" NPT	0.67
32	4.33	1.3	50	octagonal	Rc 1 1/4	0.84	1 1/4" NPT	0.69
40	4.72	1.18	55	octagonal	Rc 1 1/2	0.84	1 1/2" NPT	0.68
50	5.91	1.57	70	octagonal	Rc 2	1.01	2" NPT	0.7
65	7.48	1.81	85	octagonal	Rc 2 1/2	1.19	2 1/2" NPT	0.93
80	8.66	1.97	100	octagonal	Rc 3	1.31	3" NPT	1.02

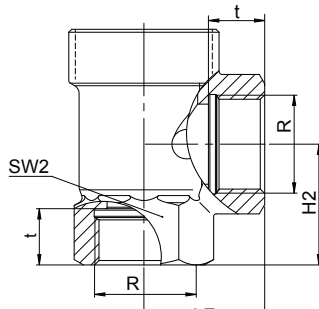
* only with bonnet size 0



Body dimensions [inch]

Threaded sockets DIN, connection code 1, 3D / Angle body Valve body material: 1.4408 (code 37)

DN	SW2	LE	H2	Connection code 1		Connection code 3D	
				R	t	R	t
15	27	1.18	1.18	G 1/2	0.59	1/2" NPT	0.54
20	32	1.38	1.48	G 3/4	0.64	3/4" NPT	0.56
25	41	1.61	1.61	G 1	0.75	1" NPT	0.67
32	50	1.97	1.89	G 1 1/4	0.84	1 1/4" NPT	0.69
40	55	1.97	2.17	G 1 1/2	0.84	1 1/2" NPT	0.68
50	70	2.36	2.44	G 2	1.01	2" NPT	0.7

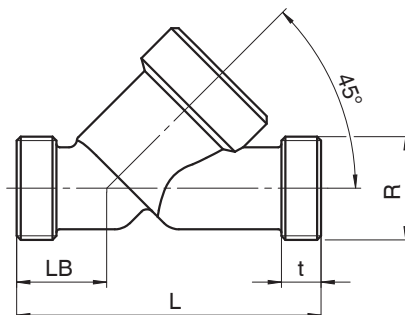


Threaded spigots, connection code 9 Valve body material: 1.4408 (code 37), Forged body (code 40)

DN	L	LB	t	R
6*	2.56	0.75	0.47	G 1/4
8*	2.56	0.75	0.47	G 3/8
10*	2.56	0.75	0.47	G 1/2
15*	2.56	0.75	0.47	G 3/4
15	3.54	0.98	0.47	G 3/4
20	4.33	1.18	0.59	G 1
25	4.65	1.18	0.59	G 1 1/4
32	5.12	1.5	0.51	G 1 1/2
40	5.51	1.38	0.51	G 1 3/4
50	6.89	1.97	0.59	G 2 3/8
65	8.5	2.05	0.59	G 3
80	10	2.52	0.71	G 3 1/2

* only with bonnet size 0

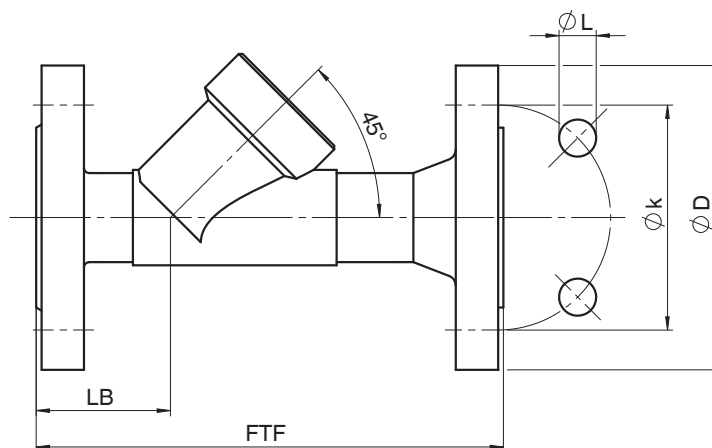
For materials see overview on page 13



Body dimensions [inch]

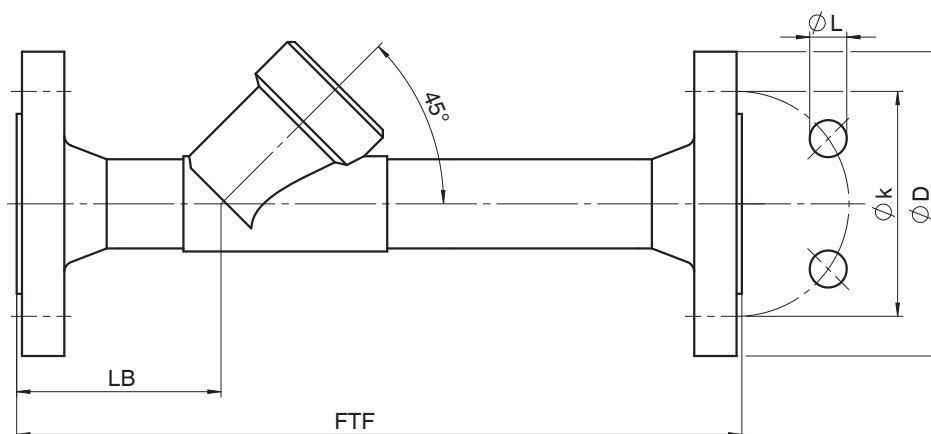
Flanges, connection code 10 Valve body material: 1.4408 (code 37)

DN	FTF	LB	ø D	ø L	ø k	Number of bolts
15	5.12	1.3	3.74	0.55	2.56	4
20	5.91	1.77	4.13	0.55	2.95	4
25	6.3	1.73	4.53	0.55	3.35	4
32	7.09	2.01	5.51	0.71	3.94	4
40	7.87	2.05	5.91	0.71	4.33	4
50	9.06	1.97	6.5	0.71	4.92	4



Flanges, connection code 13, 47 Valve body material: 1.4435 (code 34)

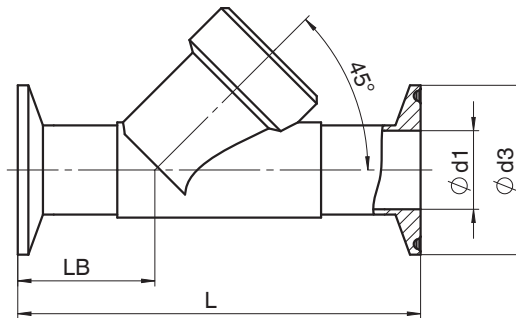
			Connection code 13				Connection code 47			
DN	FTF	LB	ø D	ø L	ø k	Number of bolts	ø D	ø L	ø k	Number of bolts
15	8.27	2.83	3.74	0.55	2.56	4	3.5	0.62	2.38	4
20	11.02	3.07	4.13	0.55	2.95	4	3.88	0.62	2.75	4
25	11.02	3.03	4.53	0.55	3.35	4	4.25	0.62	3.12	4
32	12.2	3.5	5.51	0.71	3.94	4	4.62	0.62	3.5	4
40	12.6	3.58	5.91	0.71	4.33	4	5	0.62	3.88	4
50	12.99	3.74	6.5	0.71	4.92	4	6	0.75	4.75	4



Body dimensions [inch]

Clamp connections, connection code 80, 82, 86, 88
Valve body material: 1.4435 (code 34)

DN	NPS	Connection code								Connection code			
		LB	L	82		86		88		80			
				ø d1	ø d3	ø d1	ø d3	ø d1	ø d3	LB	L	ø d1	ø d3
15	1/2"	1.87	5.12	0.71	1.99	0.63	1.34	0.37	0.98	1.32	4	0.37	0.98
20	3/4"	2.13	5.91	0.93	1.99	0.79	1.34	0.62	0.98	1.18	4	0.62	0.98
25	1"	2.2	6.3	1.17	1.99	1.02	1.99	0.87	1.99	1.3	4.5	0.87	1.99
32	1 1/4"	2.44	7.09	1.51	2.52	1.26	1.99	-	-	-	-	-	-
40	1 1/2"	2.64	7.87	1.74	2.52	1.5	1.99	1.37	1.99	1.46	5.5	1.37	1.99
50	2"	2.87	9.06	2.22	3.05	1.97	2.52	1.87	2.52	1.44	6.25	1.87	2.52



Overview of metal bodies for GEMÜ 507																		
	Spigots																	
Connection code	0		16		17				37		59				60			
Material code	34	40	34	40	34	37	40	C2	34	37	34	37	40	C2	34	37	40	C2
DN 6	-	X*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DN 8	-	X*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X*	-
DN 10	-	-	-	X*	-	-	X*	-	-	-	-	-	X*	-	-	-	-	-
DN 15	-	-	-	-	-	-	-	-	-	-	-	-	X*	-	-	-	-	-
DN 8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X
DN 10	-	-	X	-	X	-	-	X	-	-	-	-	-	-	X	-	-	X
DN 15	X	-	X	-	X	X	-	X	-	-	X	-	-	X	X	X	-	X
DN 20	X	-	X	-	X	X	-	X	-	-	X	-	-	X	X	X	-	X
DN 25	X	-	X	-	X	X	-	X	X	-	X	-	-	X	X	X	-	X
DN 32	-	-	X	-	X	X	-	X	-	-	-	-	-	-	X	X	-	X
DN 40	X	-	X	-	X	X	-	X	X	-	X	-	-	X	X	X	-	X
DN 50	X	-	X	-	X	X	-	X	X	-	X	-	-	X	X	X	-	X
DN 65	-	-	-	-	-	X	-	X	-	X	-	X	-	X	-	X	-	X
DN 80	-	-	-	-	-	X	-	X	-	X	-	X	-	X	-	X	-	X
* only with bonnet size 0																		

* only with bonnet size 0

Overview of metal bodies for GEMÜ 507															
	Threaded connections								Clamps				Flanges		
Connection code	1		3C	9		3D			80	82	86	88	10**	13	47
Material code	37	37	37	37	40	37	37		34	34	34	34	37	34	34
Body configuration	2/2-way body	Angle body				2/2-way body	Angle body								
DN 6	-	-	-	-	X*	-	-		-	-	-	-	-	-	-
DN 8	X*	-	-	X*	-	X*	-		-	-	-	-	-	-	-
DN 10	X*	-	-	X*	-	X*	-		-	-	-	-	-	-	-
DN 15	X*	-	-	X*	-	X*	-		-	-	-	-	-	-	-
DN 10	X	-	-	-	-	-	-		-	-	-	-	-	-	-
DN 15	X	X	X	X	-	X	X		X	X	X	X	X	X	X
DN 20	X	X	X	X	-	X	X		X	X	X	X	X	X	X
DN 25	X	X	X	X	-	X	X		X	X	X	X	X	X	X
DN 32	X	X	X	X	-	X	X		-	X	X	-	X	X	X
DN 40	X	X	X	X	-	X	X		X	X	X	X	X	X	X
DN 50	X	X	X	X	-	X	X		X	X	X	X	X	X	X
DN 65	X	-	X	X	-	X	-		-	-	-	-	-	-	-
DN 80	X	-	X	X	-	X	-		-	-	-	-	-	-	-

* only with bonnet size 0

** only with bonnet size 1E or 2E

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GEMÜ VALVES, MEASUREMENT
AND CONTROL SYSTEMS

