Globe Valves

GL Series

Contents

Globe Valves

GL1 Series

Features

- Working pressure Class 1500, Class 2500, Class 4500
- Working temperature from -20°F to 1250°F (-28°C to 676°C)
- One-piece forged body and bonnet, no joints to leak and no welds to cut for servicing
- 65° Y patterns design reduces pressure drop
- One step removal of all working parts for quick and easy maintenance
- Non rotating stem design ensures low torque and prevents torsional damage of the packing
- The top-and bottom-guided disc assures perfect seat and disc alignment in spite of side thrust caused by high velocity flow. This prevents stem from scoring and galling and provides longer disc seal and body life
- Solid Stellite disc, seat ring and backseat provide excellent long service life even in severe services
- Precision stem and packing chambers to 8 RMS finish
- Fully enclosed, lubricated stem drive system with needle bearings ensures low operating torque
- Rugged and knobbed handwheel make sure the grip when wearing gloves

Specifications

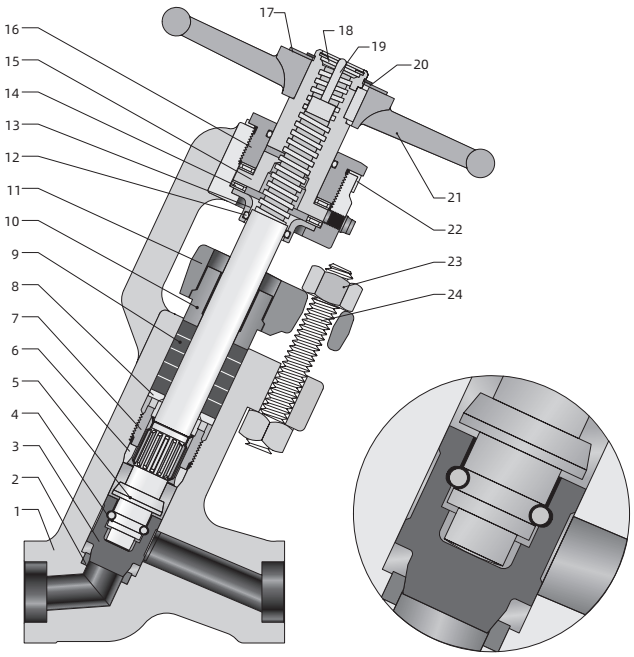
- Design: ASME B16.34
- Threaded ends: ASME B1.20.1
- Butt weld ends: ASME B16.25
- Socket weld ends: ASME B16.11

Pressure-Temperature Ratings

Material	A105			F22			F91			316		
Class	1500	2500	4500	1500	2500	4500	1500	2500	4500	1500	2500	4500
Temp.°F	psig											
-20 to 100	3705	6170	11110	3750	6250	11250	3750	6250	11250	3600	6000	10800
200	3395	5655	10185	3750	6250	11250	3750	6250	11250	3095	5160	9290
300	3270	5450	9815	3640	6070	10925	3640	6070	10925	2795	4660	8390
400	3170	5280	9505	3530	5880	10585	3530	5880	10585	2570	4280	7705
500	3015	5025	9040	3325	5540	9965	3325	5540	9965	2390	3980	7165
600	2840	4730	8515	3025	5040	9070	3025	5040	9070	2255	3760	6770
650	2745	4575	8240	2940	4905	8825	2940	4905	8825	2220	3700	6660
700	2665	4425	7960	2840	4730	8515	2840	4730	8515	2170	3620	6515
750	2535	4230	7610	2660	4430	7970	2660	4430	7970	2135	3560	6410
800	2055	3430	6170	2540	4230	7610	2540	4230	7610	2110	3520	6335
850	—	—	—	2435	4060	7305	2435	4060	7305	2090	3480	6265
900	—	—	—	2245	3745	6740	2245	3745	6740	2075	3460	6230
950	—	—	—	1885	3145	5665	1930	3220	5795	1930	3220	5795
1000	—	—	—	1305	2170	3910	1820	3030	5450	1750	2915	5245
1050	—	—	—	875	1455	2625	1800	3000	5400	1720	2865	5155
1100	—	—	—	550	915	1645	1510	2515	4525	1525	2545	4575
1150	—	—	—	—	—	—	1115	1855	3345	1185	1970	3550
1200	—	—	—	—	—	—	720	1200	2160	925	1545	2775
1250	—	—	—	—	—	—	—	—	—	735	1230	2210

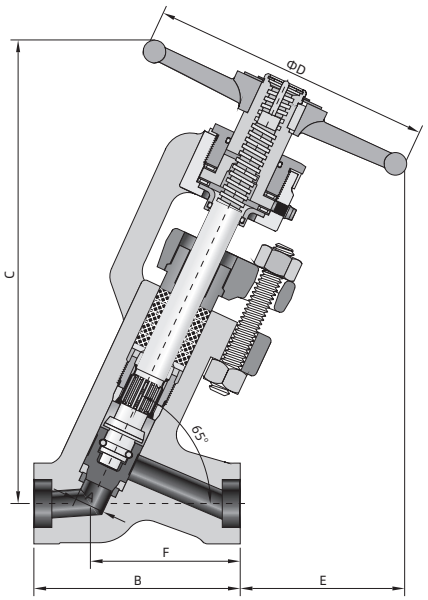
1. A105 permissible but not recommended for prolonged usage above about 800°F (425°C).

Standard Materials of Construction



	Component	Valve Material Grade/ASTM Specification			
1	Body	A105N	F22/A182	F91/A182	F316/A182
2	Seat	Stellite			
3	Disc	Stellite			
4	Snap Ring	310 S.S.			
5	Stem	410 S.S./A276			316 S.S./A276
6	Back Seal Ring	Stellite			
7	Spline Housing	630 S.S.			
8	Washer	304 S.S.			
9	Packing	Graphite			
10	Draw-in Stud	1018/A108			
11	Packing Flange	A105			F304 /A182
12	O-Ring	Buna N			
13	Grease Retainer	Steel			Steel(nickel plated)
14	Anti Rotation	Steel			
15	Stem Nut	D-2C/A439			
16	Yoke Bushing	1020/A108			1020(nickel plated)
17	Name Plate	304 S.S.			
18	Dust Cap	304 S.S.			
19	Position Indicator	410 S.S./A276			316 S.S./A276
20	Circlip	Steel			
21	Handwheel	Malleable Cast-iron			
22	Yoke Bushing	304 S.S.			
23	Gland Nut	2H			8M
24	Gland Bolt	B7			B8M2

Dimensions



NPS DN	A in. mm		B in. mm		C in. mm		D in. mm		E in. mm		F in. mm	
	Port		End to End		Center to Top		Handwheel		Clearance Open		Center to End	
	1500 2500	4500	1500 2500	4500	1500 2500	4500	1500 2500	4500	1500 2500	4500	1500 2500	4500
1/2 15	0.559 14.2	0.375 9.5	4.88 124	5.75 146	9.63 245	11.75 298	6.00 152	6.00 152	3.63 92	3.25 83	3.20 81	4.19 106
3/4 20	0.559 14.2	0.559 14.2	4.88 124	7.00 178	9.63 245	14.20 361	6.00 152	8.00 203	3.63 92	6.00 152	3.20 81	3.88 99
1 25	0.833 21.2	0.559 14.2	5.75 146	7.00 178	13.19 335	14.20 361	8.00 203	8.00 203	5.13 130	6.00 152	4.19 106	3.88 99
1 1/4 32	1.125 28.6	0.833 21.2	7.25 184	10.13 257	16.63 422	18.88 480	12.00 305	12.00 305	7.57 192	7.00 178	4.94 125	6.57 167
1 1/2 40	1.125 28.6	1.125 28.6	7.25 184	12.00 305	16.63 422	20.75 527	12.00 305	18.00 457	7.57 192	8.00 203	4.94 125	8.00 203
2 50	1.688 42.9	1.50 38.1	10.13 257	12.00 305	19.86 505	20.75 527	12.00 305	18.00 457	7.50 190	8.00 203	6.57 167	8.00 203
2 1/2 65	1.688 42.9	1.50 38.1	12.00 305	12.00 305	20.69 526	20.75 527	16.00 406	16.00 406	7.25 184	7.25 184	8.00 203	8.00 203
3 80	1.688 42.9	1.50 38.1	12.00 305	12.00 305	20.69 526	20.75 527	16.00 406	16.00 406	7.25 184	7.25 184	8.00 203	8.00 203
4 100	1.688 42.9	1.50 38.1	12.00 305	12.00 305	20.69 526	20.75 527	16.00 406	16.00 406	7.25 184	7.25 184	8.00 203	8.00 203

How to Order

GL1 — PBW8 — CL4500 — 316

Series	Type of Connection	Size of Connection	ASME Class	Body Material
GL1	**FNPT** Female NPT	**6** 3/8 in.	**CL1500** Class 1500	**316** 316 S.S.
	FBT Female BSPT	**8** 1/2 in.	**CL2500** Class 2500	**316L** 316L S.S.
	FSW Fractional Tube Socket Weld	**12** 3/4 in.	**CL4500** Class 4500	**316H** 316H S.S.
	MSW Metric Tube Socket Weld	**16** 1 in.		**304** 304 S.S.
	FBW Fractional Tube Butt Weld	**20** 1 1/4 in.		**304L** 304L S.S.
	MBW Metric Tube Butt Weld	**24** 1 1/2 in.		**F91** F91
	PSW Pipe Socket Weld	**32** 2 in.		**F92** F92
	PBW Pipe Butt Weld			**A105** Alloy A105
				F11 F11
				F22 F22
				WB36 WB36

Globe Valves
GL2 Series

Features

- Three Bonnet designs: Bolted Bonnet, Outside Screw and Yoke (OS & Y) Stronger, leakproof body-bonnet joint fully encased spiral wound gasket
- The top- and bottom-guided disc assures perfect seat and disc alignment in spite of side thrust caused by high velocity flow. This prevents stem from scoring and galling and provides longer disc seal and body life
- Large clearance between stem and disc allows disc to move freely
- Precision stem and packing chambers, Packing rings individually pre-stressed for tight seal
- Two-piece self-aligning gland

Specifications

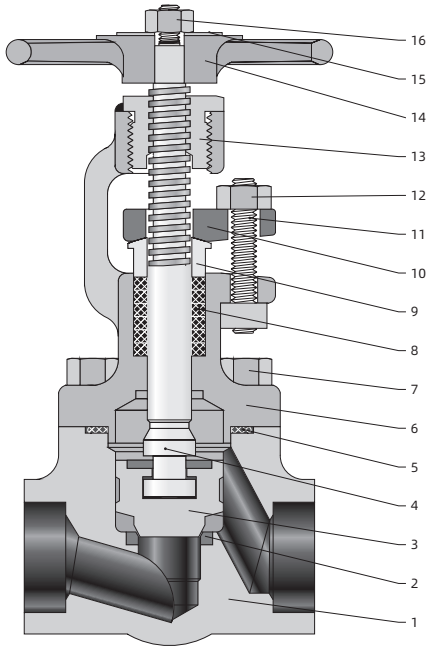
- Design: ANSI B16.34, API602
- Testing: ANSI B16.34, API598
- Marking: MSS-SP-25
- Socket weld ends: ASME B16.11
- Butt weld ends: ASME B16.25
- Threaded ends: ASME 1.20.1

Pressure-Temperature Ratings

- ASME B16.34 - Class 1500, API Std 602 - Class 800

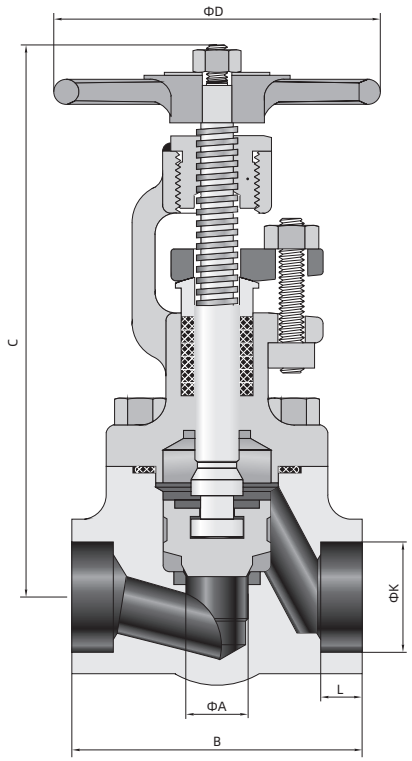
Materials	A105		F22		A625		F316	
Class	800	1500	800	1500	800	1500	800	1500
Temp. °F	Psig							
-20 to 100	1975	3705	2000	3750	2250	3750	1920	3600
200	1800	3395	2000	3750	2250	3750	1655	3095
300	1750	3270	1940	3640	2185	3640	1495	2795
400	1690	3170	1880	3530	2086	3490	1370	2570
500	1595	3015	1775	3325	1995	3325	1275	2390
600	1460	2840	1615	3025	1815	3025	1205	2255
650	1430	2745	1570	2940	1765	2940	1185	2220
700	1420	2665	1515	2840	1705	2840	1160	2170
750	1345	2535	1420	2660	1595	2660	1140	2135
800	1100	2055	1355	2540	1525	2540	1125	2110
850	—	—	1300	2435	1460	2435	1115	2090
900	—	—	1200	2245	1350	2245	1105	2075
950	—	—	1005	1885	1160	1930	1030	1930
1000	—	—	695	1305	1090	1820	935	1750
1050	—	—	465	875	1080	1800	915	1720
1100	—	—	295	550	965	1610	815	1525
1150	—	—	180	345	825	1370	630	1185
1200	—	—	110	205	615	1030	495	925
1250	—	—	—	—	—	—	390	735

Standard Materials of Construction



Item	Part	Valve Body Materials				
1	Body	A105	F11 / A182	F22 / A182	F91 / A182	316 S.S./A182
2	Seat	410 S.S. / A276				316 S.S./A182
3	Disc	410 S.S. / A276				316 S.S./A276
4	Stem	410 S.S. / A276				316 S.S./A276
5	Gasket	304 S.S.+Graphite				316S.S.+Graphite
6	Bonnet	A105N	F11 / A182	F22 / A182	F91 / A182	316 S.S./A182
7	Bolt	B7				B8M2
8	Packing	Graphite				
9	Gland	410 S.S. / A276				316 S.S./A276
10	Gland Flange	A105				304 S.S./A182
11	Gland Bolt	B7				B8M
12	Hex Nut	2H				8M
13	Stem Nut	410 S.S.				
14	Handwheel	Malleable iron (painted)				
15	Name Plate	Aluminum				
16	Handwheel Nut	Steel				

Dimensions



Threaded or weld
ASME Class 800
ASME Class 1500

Bolted Bonnet Globe Dimensions and Weights

Size NPS DN	ΦA in. mm		B in. mm		C in. mm		ΦD in. mm		ΦK in. mm	L in. mm	Weight lb kg	
	Port		End to End		Center to Top Open		Handwheel		Socket Weld Bore	Socket Weld Depth		
	800	1500	800	1500	800	1500	800	1500			800	1500
1/4 8	0.31 8	0.50 13	3.00 76	4.00 102	4.80 122	8.10 206	2.50 64	6.0 152	0.555 14.10	0.38 10	3.00 1.4	8.00 3.6
3/8 10	0.31 8	0.50 13	3.00 76	4.00 102	4.80 122	8.10 206	2.50 64	6.0 152	0.690 17.53	0.38 10	3.00 1.4	8.00 3.6
1/2 15	0.31 8	0.50 13	3.00 76	4.00 102	4.80 122	8.10 206	2.50 64	6.0 152	0.855 21.72	0.38 10	3.00 1.4	8.00 3.6
3/4 20	0.50 13	0.50 13	3.25 83	5.00 127	7.10 180	8.40 213	4.0 102	6.0 152	1.065 27.05	0.50 13	5.00 2.3	11.00 5.0
1 25	0.75 19	0.75 19	3.50 89	6.00 152	7.30 185	10.0 254	4.0 102	8.0 203	1.330 33.78	0.50 13	6.00 2.7	21.00 9.5
1 1/4 32	1.25 32	1.25 32	5.00 127	7.00 178	8.90 226	11.0 279	6.0 152	8.0 203	1.675 42.55	0.50 13	14.00 6.4	31.00 14.0
1 1/2 40	1.25 32	1.25 32	5.00 127	7.00 178	8.90 226	11.0 279	6.0 152	8.0 203	1.915 48.64	0.50 13	14.00 6.4	31.00 14.0
2 50	1.5 38	1.5 38	8.00 203	9.00 229	11.2 285	12.3 312	8.0 203	12.0 305	2.406 61.11	0.63 16	27.00 12.2	49.00 22.2

How to Order

GL2 — PBW8 — CL1500 — 316

Series	Type of Connection	Size of Connection	ASME Class	Body Material
GL2	**FNPT** Female NPT	**6** 3/8 in.	**CL800** Class 800	**316** 316 S.S.
	FBT Female BSPT	**8** 1/2 in.	**CL1500** Class 1500	**316L** 316L S.S.
	FSW Fractional Tube Socket Weld	**12** 3/4 in.		**316H** 316H S.S.
	MSW Metric Tube Socket Weld	**16** 1 in.		**304** 304 S.S.
	FBW Fractional Tube Butt Weld	**20** 1 1/4 in.		**304L** 304L S.S.
	MBW Metric Tube Butt Weld	**24** 1 1/2 in.		**F91** F91
	PSW Pipe Socket Weld	**32** 2 in.		**F92** F92
	PBW Pipe Butt Weld			**A105** Alloy A105
				A625 Alloy 625
				F11 F11
				F22 F22
				WB36 WB36