



Globe Valve

Design

KOSEN cast steel globe valve designed and manufactured to provide maximum service life and dependability. All globe valves are full ported and meet the design requirements of American Petroleum Institute Standard API600, BS1873, BSEN13709 and generally conform to American Society of Mechanical Engineers standard ASME B16.34. Valves are available in a complete range of body/bonnet materials and trims.

Rang of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and austenitic steels. For special applications they can be supplied in other grades of alloy and stainless steel. There is a full range of trim materials to match any service. Optional packing and gasket materials are available for a full range of service conditions.

Available Modifications for **KOSEN** Cast Steel Valves

*Trim Change

*End Connection Modifications

*Packing and Gasket Changes

*Operator Mounting

*Handwheel Extensions

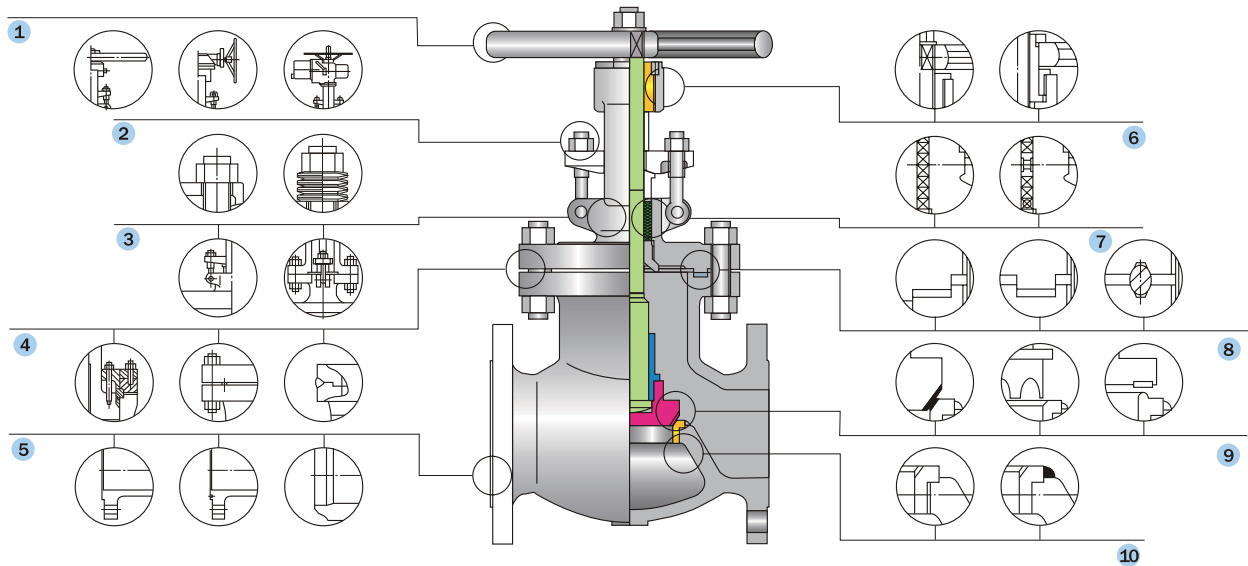
*Pressure Equalizing

*By-pass

*Customer Specified Coatings

*Weld End Bore Changes

*Oxygen & Chlorine Cleaning & Packaging



1 Operating

Large handwheels for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services.

3 OS & Y

Outside Screw and Yoke. Cast steel globe valve yoke integral with bonnet for 10 & smaller.

5 End Connections

A choice of Flanged, RFJ flanged or Butt welding end for piping flexibility.

7 Lantern ring and double packing set

Lantern ring with leak-off fitting connection and double packing stack is optionally available for critical services.

9 Disc

Plug disc is stem guided on all sizes. Disc has a differential angle front the seat to provide a line contact for maximum sealing. The bottom of V-port disc is guided by the body seat ring for maximum disc stability in throttling applications. The soft TEFLON ring is excellent for lower temperature service where tight shutoff is required.

2 Live Load Packing 4 BB

In services requiring frequent cycling or with high pressure/temperature variations, live loading extends the service life between maintenance periods by requiring less frequent packing gland adjustments. Belleville springs are employed to provide constant packing gland stress.

Bolted bonnet. Welding bonnet and pressure seal bonnet in services requiring frequent cycling or with high pressure/temperature variations.

6 Yokesleeve

Furnished in aluminum bronze to reduce operating torque. Most sizes furnished with ball bearing yokesleeves.

8 Body-to-Bonnet Joint

A Male and Female joint or Tongue and Groove joint is used 150Lb to 600Lb valves. Ring joint is used in the body to bonnet connection in 900Lb & higher rated valves.

10 Seat Rings

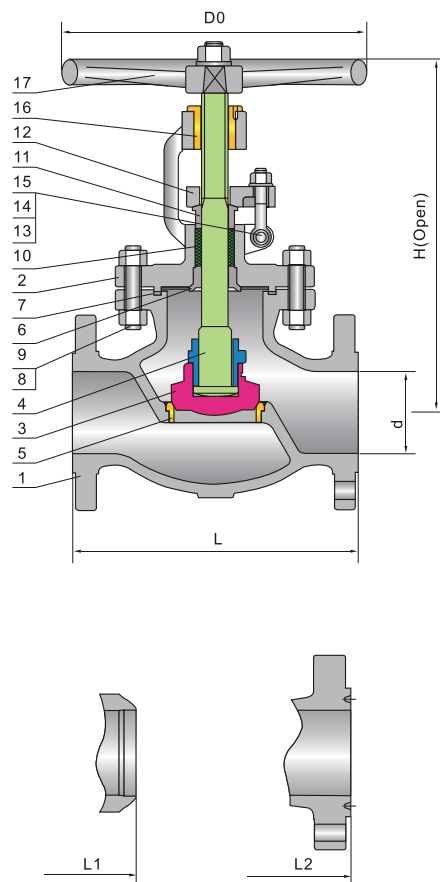
Separate heavy duty, full ported rings for easy maintenance. Screwed or welded connection into body.

Applicable standards:

STEEL GLOBE VALVES, BS1873/API600
STEEL VALVES, ASME B16.34
FACE TO FACE, ASME B16.10
END FLANGES, ASME B16.5
BUTTWELDING ENDS, ASME B16.25
INSPECTION AND TEST, API 598

Design description:

STRAIGHT PATTERN BODY DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
YOKE INTEGRAL WITH BONNET
RISING STEM AND HANDWHEEL
LOOSE DISC, CHOICE OF PLUG OR BALL
RENEWABLE SEAT RING
IMPACT HANDWHEEL FOR 10" & ABOVE
HORIZONTAL SERVICE
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR



Materials of parts

NO	Part Name	ASTM Material		
		Carbon Steel	1¼Cr-½Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Disc	A105+CR13	A182-F11+HF	A3510-LF2+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
6	Stem BackSeat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Spiral Wound (Graphite+304)		
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland Flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-420	Carbon Steel
14	Eyebolt	Carbon Steel	A193-B7	Carbon Steel
15	Eyebolt Nut	Carbon Steel	A194-2H	Carbon Steel
16	Yokesleeve	Aluminum-Bronze ¹⁾		
17	Handwheel	Malleable Iron		

Note: 1), Ductile Ni-Resist optional

2), Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Dimensions data

NPS	2	2½	3	4	6	8	10	12	14	16	18	20	24	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	mm

ANSI Class 150Lb

L/L1 (RF/BW)	8.00	8.50	9.50	11.50	16.00	19.50	24.50	27.50	31.00	36.00	38.46	38.46	50.98	in
	203	216	241	292	406	495	622	698	787	914	977	977	1295	mm
L2 (RTJ)	8.00	8.50	9.50	11.50	16.00	19.50	24.50	27.50	31.00	36.00	-	-	-	in
	203	216	241	292	406	495	622	698	787	914	-	-	-	mm
H (OPEN)	15.00	21.00	17.50	20.25	22.00	24.25	32.00	35.88	48.38	57.00	41.96	43.97	50.98	in
	380	535	445	515	560	615	815	910	1230	1450	1066	1117	1295	mm
(d)	50	63	76	100	150	200	250	300	360	387	438	488	590	mm
D0	7	10	11	11	13	13	16	18	20	24	28.34	28.34	33.46	in
	180	240	280	280	320	320	400	450	500	600	720	720	850	mm
WT (kg)	18	30	41	64	86	110	280	380	510	740	1150	1650	2200	RF
	14	22	33	43	72	88	245	345	450	665	-	-	-	BW

ANSI Class 300Lb

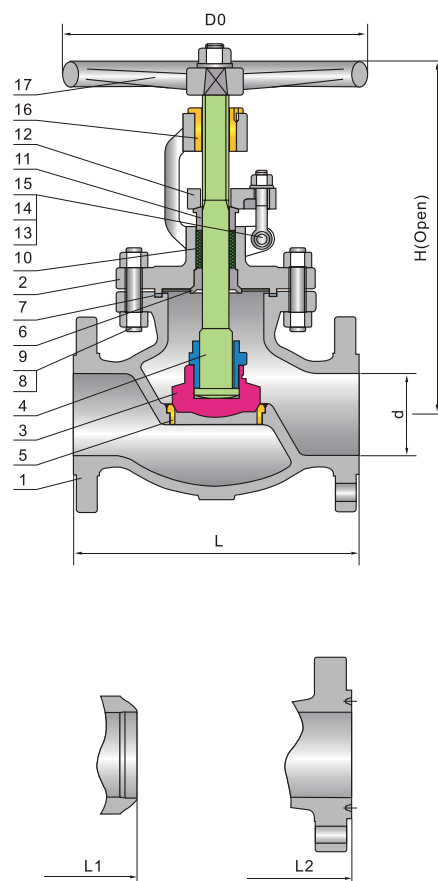
L/L1 (RF/BW)	10.50	11.50	12.50	14.00	17.50	22.00	24.50	28.00	32.99	32.99	38.46	40.00	52.99	in
	267	292	318	356	444	559	622	711	838	863	977	1016	1346	mm
L2 (RTJ)	11.12	12.12	13.12	14.62	18.12	22.62	25.12	28.62	-	-	-	-	-	in
	282	308	333	371	460	575	638	727	-	-	-	-	-	mm
H (OPEN)	16.75	19.00	19.88	22.50	25.25	33.25	35.50	38.62	-	53.97	57.99	61.96	70.98	in
	425	485	505	570	640	845	900	980	-	1371	1473	1574	1803	mm
(d)	50	63	76	100	150	200	250	300	336	387	431	482	584	mm
D0	8	10	11	13	16	18	20	24	33.85	24.01	24.01	28.34	28.34	in
	200	240	280	320	400	450	500	600	860	610	610	720	720	mm
WT (kg)	25	32	38	56	96	150	360	550	876	1200	1600	2100	3150	RF
	20	22	27	41	75	117	310	492	-	-	-	-	-	BW

Applicable standards:

STEEL GLOBE VALVES, BS1873/API600
 STEEL VALVES, ASME B16.34
 FACE TO FACE, ASME B16.10
 END FLANGES, ASME B16.5
 BUTTWELDING ENDS, ASME B16.25
 INSPECTION AND TEST, API 598

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 OS & Y, OUTSIDE SCREW AND YOKE
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 LOOSE DISC, CHOICE OF PLUG OR BALL
 RENEWABLE SEAT RING
 IMPACT HANDWHEEL FOR 10" & ABOVE
 HORIZONTAL SERVICE
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Materials of parts

NO	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Disc	A105+CR13	A182-F11+HF	A3510-LF2+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+HF	A182-F11+HF	A350-LF2+HF
6	Stem BackSeat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Spiral Wound (Graphite+304)		
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland Flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-420	Carbon Steel
14	Eyebolt	Carbon Steel	A193-B7	Carbon Steel
15	Eyebolt Nut	Carbon Steel	A194-2H	Carbon Steel
16	Yokesleeve	Aluminum-Bronze ¹⁾		
17	Handwheel	Malleable Iron		

Note: 1). Ductile Ni-Resist optional

2). Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Dimensions data

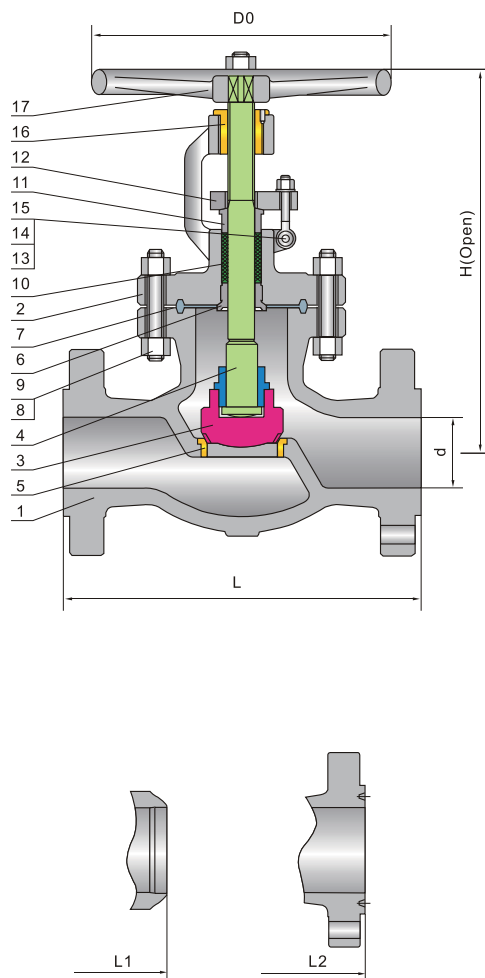
NPS DN	2 50	2 $\frac{1}{2}$ 65	3 80	4 100	6 150	8 200	10 250	12 300	2 50	2 $\frac{1}{2}$ 65	3 80	4 100	6 150	8 200	10 250	in mm
ANSI Class 600Lb									ANSI Class 900Lb							
L/L1 (RF/BW)	11.50 292	13.00 330	14.00 356	17.00 432	22.00 559	26.00 660	31.00 787	33.00 838	14.50 368	16.50 419	15.00 381	18.00 457	24.00 610	29.00 737	33.00 838	in mm
L2 (RTJ)	11.62 295	13.12 333	14.12 359	17.12 435	22.12 562	26.12 663	31.12 790	33.12 841	14.62 371	16.62 422	15.12 384	18.12 460	24.12 613	29.12 740	33.12 841	in mm
H (OPEN)	17.50 445	19.75 502	21.00 533	24.50 622	29.50 750	36.50 927	44.88 1140	53.12 1350	22.00 560	23.25 590	25.25 640	31.88 810	41.38 1050	53.50 1360	61.88 1570	in mm
(d)	50	63	76	100	150	199	247	298	47	57	72	98	146	190	238	mm
D0	10 240	11 280	13 320	16 400	18 450	20 500	24 600	24 600	11 280	13 320	16 400	18 450	20 500	24 600	24 600	in mm
WT (kg)	35 27	50 34	60 42	110 84	230 192	410 350	770 680	1140 1030	57 41	82 53	92 58	168 117	365 238	665 538	1250 1060	RF BW

Applicable standards:

STEEL GLOBE VALVES, BS BS1873/API600
STEEL VALVES, ASME B16.34
FACE TO FACE, ASME B16.10
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AVAILABLE WITH BG OPERATOR



Materials of parts

NO	Part Name	ASTM Material		
		Carbon Steel	1 1/4Cr-1/2Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Disc	A105+CR13	A182-F11+HF	A3510-LF2+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+HF	A182-F11+HF	A350-LF2+HF
6	Stem BackSeat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Steel Ring	304SS Ring	Steel Ring
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland Flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-420	Carbon Steel
14	Eyebolt	Carbon Steel	A193-B7	Carbon Steel
15	Eyebolt Nut	Carbon Steel	A194-2H	Carbon Steel
16	Yokesleeve	Aluminum-Bronze ¹⁾		
17	Handwheel	Malleable Iron		

Note: 1) Ductile Ni-Resist optional

2) Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

Dimensions data

NPS DN	2 50	2 1/2 65	3 80	4 100	6 150	8 200	2 50	2 1/2 65	3 80	4 100	6 150	in mm
	ANSI Class 1500Lb						ANSI Class 2500Lb					
L/L1 (RF/BW)	14.50 368	16.50 419	18.50 470	21.50 546	27.75 705	32.75 832	17.75 451	20.00 508	22.75 578	26.50 673	36.00 914	in mm
L2 (RTJ)	14.62 371	16.62 422	18.62 473	21.62 549	28.00 711	33.12 841	17.88 454	20.50 514	23.00 584	26.88 683	36.50 927	in mm
H (OPEN)	22.00 560	23.25 590	29.50 750	36.00 915	48.62 1235	65.00 1650	25.50 650	28.12 715	32.50 825	47.00 1195	70.50 1790	in mm
(d)	47	57	69	92	136	177	38	47	57	72	111	mm
D0	13 320	16 400	18 450	20 500	24 600	28 700	16 400	18 450	20 500	24 600	28 700	in mm
WT (kg)	68 57	97 81	116 95	215 184	445 347	795 635	97 72	138 95	167 108	305 196	633 351	RF BW

PRESSURE SEAL CAST STEEL GLOBE VALVE 900Lb

Applicable standards:

STEEL GLOBE VALVES, BS BS1873/API600
STEEL VALVES, ASME B16.34
FACE TO FACE, ASME B16.10
END FLANGES, ASME B16.5
BUTTWELDING ENDS, ASME B16.25
INSPECTION AND TEST, API 598

Design description:

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PSB, PRESSURE SEAL BONNET
YOKE INTEGRAL WITH BONNET
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LOOSE DISC, CHOICE OF PLUG OR BALL
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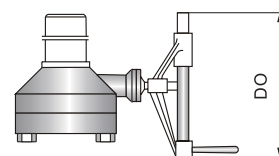
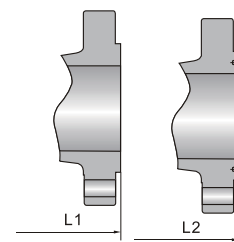
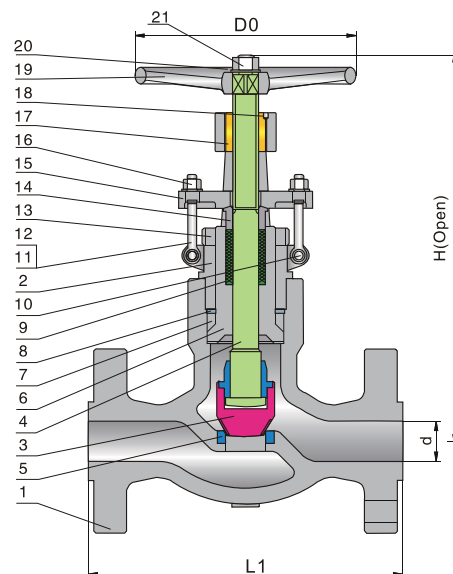
Materials of parts

NO	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	18Cr-9Ni-2Mo
1	Body	A216-WCB	A217-WC6	A351-CF8M
2	Yoke	A216-WCB	A217-WC6	A351-CF8M
3	Disc	A216-WCB+HF	A217-WC6+HF	A351-CF8M+HF
4	Stem	A182-F6a	CR-MO-V	A182-316
5	Seat Ring	A105+HF	A182-F11+HF	A240-316+HF
6	Bonnet	A105	A182-F11	A240-316
7	Bonnet Gasket ¹⁾	304+Graphite		
8	Adapter Ring	Carbon Steel	A276-420	A276-316
9	Packing	Graphite		
10	Eyebolt Pin	Carbon Steel	A276-420	A276-316
11	Eyebolt	Carbon Steel	A193-B7	A193-B8
12	Eyebolt Nut	Carbon Steel	A194-2H	A194-8
13	Locking Nut	Carbon Steel	Alloy Steel	Stainless Steel
14	Gland	A276-420	A276-304	A276-316
15	Gland Flange	A216-WCB	A217-WC6	A351-CF8M
16	Washer	Carbon Steel		
17	Stem Nut	Aluminum-Bronze ²⁾		
18	Bolt	Carbon Steel		
19	Handwheel	Malleable Iron		
20	Handwheel Washer	Carbon Steel		
21	Handwheel Nut	A194-2H		

Note: 1). Graphite optional

2). Ductile Ni-Resist optional

3). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



Dimensions data

NPS	2	2 $\frac{1}{2}$	3	4	6	8	10	12	in
DN	50	65	80	100	150	200	250	300	mm

ANSI Class 900Lb

L1 (BW)	8.50 216	10.00 254	12.00 305	14.00 356	20.00 508	26.00 660	31.00 787	36.00 914	in mm
L (RF)	14.50 368	16.50 419	15.00 381	18.00 457	24.00 610	29.00 737	33.00 838	38.00 965	in mm
L2 (RTJ)	14.62 371	16.62 422	15.12 384	18.12 460	24.12 613	29.12 740	33.12 841	38.12 968	in mm
H (OPEN)	22 557	22 557	22 557	27 685	36.38 925	43.38 1100	50.62 1285	57 1450	in mm
D0	16 400	16 400	16 400	16 400	28 700	28 700	36 900	36 900	in mm
WT (kg)	46 75	53 82	68 95	100 135	270 355	450 680	740 1050	1150 1480	BW RF/RTJ

PRESSURE SEAL CAST STEEL GLOBE VALVE 1500lb/2500lb

Applicable standards:

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STEEL VALVES, ASME B16.34
FACE TO FACE, ASME B16.10
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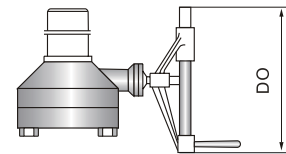
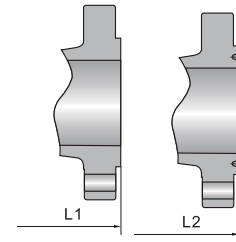
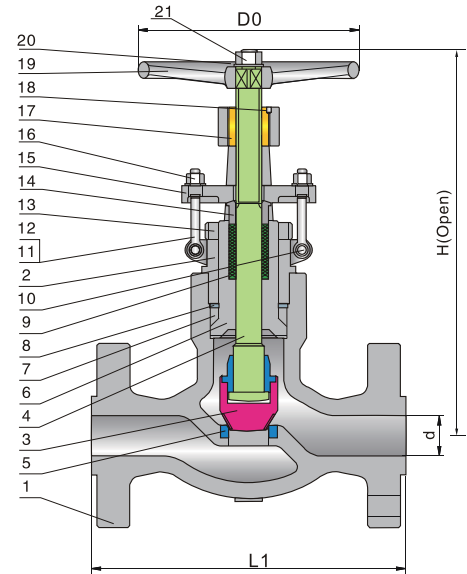
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2	Yoke	A216-WCB	A217-WC6	A351-CF8M
3	Disc	A216-WCB+HF	A217-WC6+HF	A351-CF8M+HF
4	Stem	A182-F6a	CR-MO-V	A182-316
5	Seat Ring	A105+HF	A182-F11+HF	A240-316+HF
6	Bonnet	A105	A182-F11	A240-316
7	Bonnet Gasket ¹⁾	304+Graphite		
8	Adapter Ring	Carbon Steel	A276-420	A276-316
9	Packing	Graphite		
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11	Eyebolt	Carbon Steel	A193-B7	A193-B8
12	Eyebolt Nut	Carbon Steel	A194-2H	A194-8
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15	Gland Flange	A216-WCB	A217-WC6	A351-CF8M
16	Washer	Carbon Steel		
17	Stem Nut	Aluminum-Bronze ²⁾		
18	Bolt	Carbon Steel		
19	Handwheel	Malleable Iron		
20	Handwheel Washer	Carbon Steel		
21	Handwheel Nut	A194-2H		

Note: 1). Graphite optional
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L1 (BW)	8.50 216	10.00 254	12.00 305	16.00 406	22.00 559	28.00 711	11.00 279	13.00 330	14.50 368	18.00 457	24.00 610	in mm
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H (OPEN)	22 557	22 557	24.38 620	30 760	44.62 1135	54.75 1390	23.38 595	23.38 595	28 710	32.25 820	49.62 1260	in mm
D0	16 400	18 450	20 500	24 600	28 700	36 900	16 400	20 500	24 600	28 700	36 900	in mm
WT (kg)	57 86	65 112	90 162	190 240	450 580	730 950	65 115	78 136	125 205	155 275	480 860	BW RF/RTJ