



Cast Steel & Stainless Steel Globe Valves

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Design

LEAD cast steel globe valves are designed and manufactured to provide maximum service life and dependability. All globe valve are full ported and meet the design requirements of American Petroleum Institute standard API600& 6D.BS EN 13709 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.

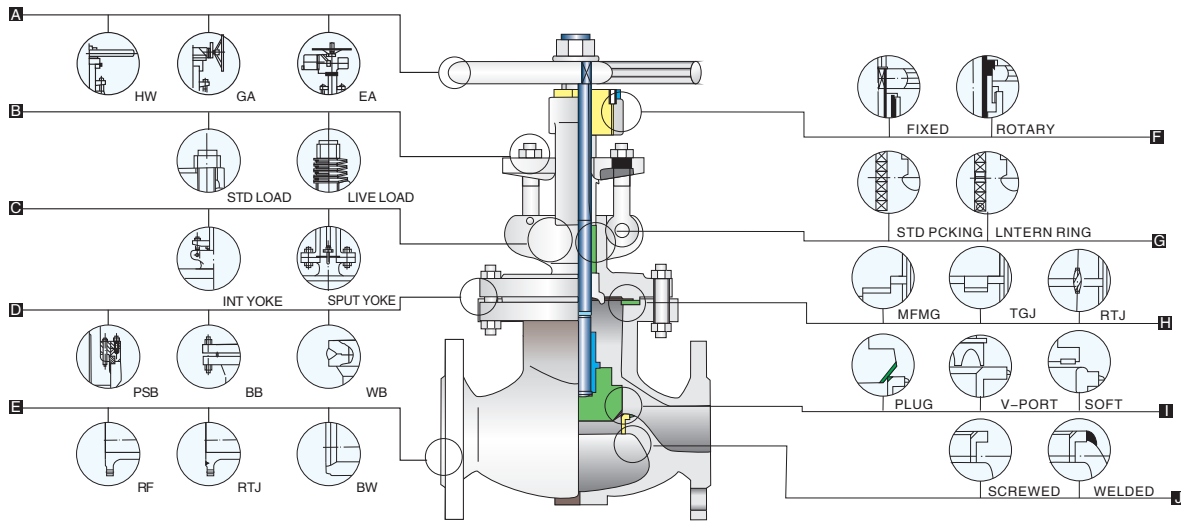
Range of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steel, for special applications they can be supplied in other grades of alloy and stainless steel, there's 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 LEAD Cast Globe Valves

Trim changes
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



A Operation

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

B Live Load Packing

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

C OS & Y

O outside screw and yoke. Cast steel globe valve yoke integral with bonnet for 10" and smaller.

D BB

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

E End Connections

A choice of flanged, RTJ flanged or buttwelding end for piping flexibility.

F Yoke sleeve

Furnished in aluminum bronze to reduce operating torque. Most size furnished with ball bearing yoke sleeves.

G Lantern Ring And Double Packing Set

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

H 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.

I Disc

Plug disc is stem guided on all size. 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 shut off required.

J Seat Rings

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



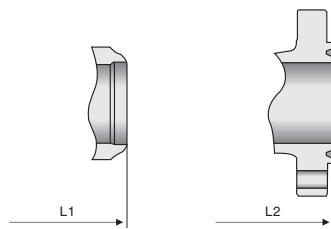
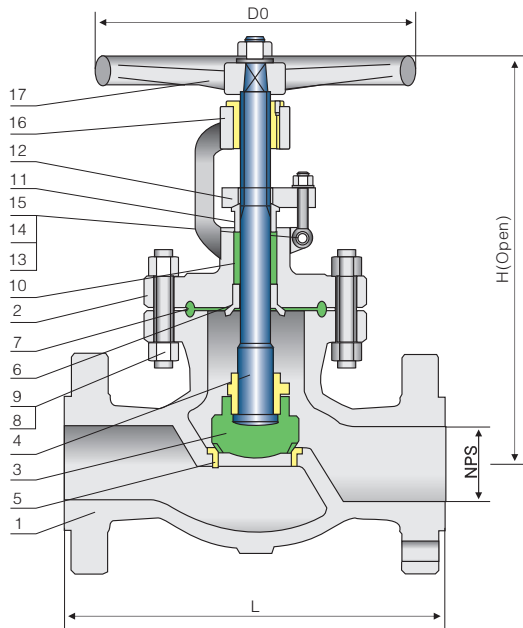
Cast Steel Globe Valve 150Lb/300Lb

Applicable Standards:

- STEEL GLOBE VALVES BS EN 13709/API 600
- 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 descriptions:

- 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 Materials		
		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	A350-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	SteelRing	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) 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.

Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0	WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0	WT(kg)			
ANSI Class 150Lb																					
2	50	8.00	203	8.00	203	15.00	380	7	180	18	14	10.50	267	11.12	282	16.75	425	8	200	25	20
2 1/2	65	8.50	216	8.50	216	21.00	535	10	240	30	22	11.50	292	12.12	308	19.00	485	10	240	32	22
3	80	9.50	241	9.50	241	17.50	445	11	280	41	33	12.50	318	13.12	333	19.88	505	11	280	38	27
4	100	11.50	292	11.50	292	20.25	515	11	280	64	43	14.00	356	14.62	371	22.50	570	13	320	56	41
6	150	16.00	406	16.00	406	22.00	560	13	320	86	72	17.50	444	18.12	460	25.25	640	16	400	96	75
8	200	19.50	495	19.50	495	24.25	615	13	320	110	88	22.00	559	22.62	575	33.25	845	18	450	150	117
10	250	24.50	622	24.50	622	32.00	815	16	400	280	245	24.50	622	25.12	638	35.50	900	20	500	360	310
12	300	27.50	698	27.50	698	35.88	910	18	450	380	345	28.00	711	28.62	727	38.62	980	24	600	550	492
14	350	31.00	787	31.00	787	48.38	1230	20	500	510	450	-	-	-	-	-	-	-	-	-	-
16	400	36.00	914	36.00	914	57.00	1450	24	600	740	665	-	-	-	-	-	-	-	-	-	-
in	mm	in	mm	in	mm	in	mm	in	mm	RF	BW	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW



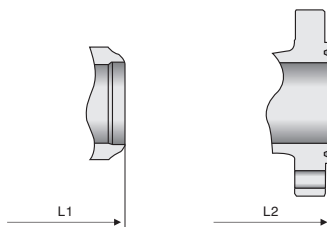
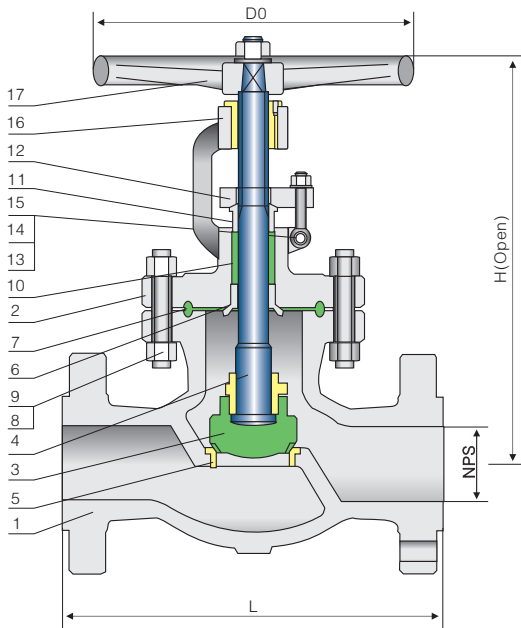
Cast Steel Globe Valve 600Lb/900Lb

Applicable Standards:

- STEEL GLOBE VALVES BS EN 13709/API 600
- 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 descriptions:

- STRAIGHT PATTERN BODY DESIGN
- 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
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		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	A350-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	SteelRing	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) 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.

Dimensional datas

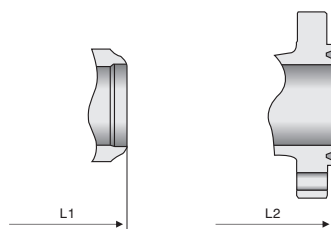
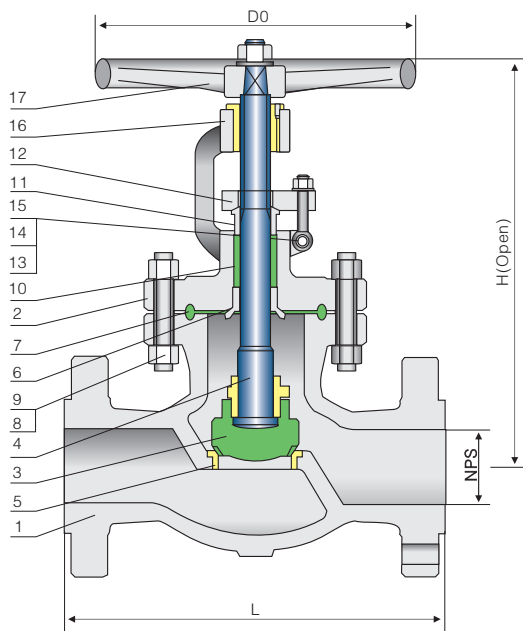
NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H (open)		D0		WT(kg)	
ANSI Class600Lb												ANSI Class900Lb									
2	50	11.50	292	11.62	295	17.50	445	10	240	35	27	14.50	368	14.62	371	22.00	560	11	280	57	41
2 1/2	65	13.00	330	13.12	333	19.75	502	11	280	50	34	16.50	419	16.62	422	23.25	590	13	320	82	53
3	80	14.00	356	14.12	359	21.00	533	13	320	60	42	15.00	381	15.12	384	25.25	640	16	400	91	58
4	100	17.00	432	17.12	435	24.50	622	16	400	110	84	18.00	457	18.12	460	31.88	810	18	450	168	117
6	150	22.00	559	22.12	562	29.50	750	18	450	230	192	24.00	610	24.12	613	41.38	1050	20	500	365	238
8	200	26.00	660	26.12	663	36.50	927	20	500	410	350	29.00	737	29.12	740	53.50	1360	24	600	665	538
10	250	31.00	787	31.12	790	44.88	1140	24	600	770	680	33.00	838	33.12	841	61.88	1570	24	600	1250	1060
12	300	33.00	838	33.12	841	53.12	1350	24	600	1140	1030	-	-	-	-	-	-	-	-	-	-
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW

Applicable Standards:

- STEEL GLOBE VALVES BS EN 13709/API 600
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
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Materials of parts

No	Part Name	ASTM Materials		
		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	A350-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	SteelRing	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) 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.

Dimensional datas

NPS	DN	L/L1 (RF/BW)	L2 (RTJ)	H (open)	D0	WT(kg)	L/L1 (RF/BW)	L2 (RTJ)	H (open)	D0	WT(kg)
ANSI Class1500Lb						ANSI Class2500Lb					
2	50	14.50 368	14.62 371	22.00 560	13 320	68 57	17.75 451	17.88 454	25.50 650	16 400	97 72
2 1/2	65	16.50 419	16.62 422	23.25 590	16 400	97 81	20.00 508	20.50 414	28.12 715	18 450	138 95
3	80	18.50 470	18.62 473	29.50 750	18 450	116 95	22.75 578	23.00 584	32.50 825	20 500	167 108
4	100	21.50 546	21.62 549	36.00 915	20 500	215 184	26.50 673	26.88 683	47.00 1195	24 600	305 196
6	150	27.75 705	28.00 711	48.62 1235	24 600	445 347	36.00 914	36.50 927	70.50 1790	28 700	633 351
8	200	32.75 832	33.12 841	65.00 1650	28 700	795 635	-	-	-	-	-
in	mm	in mm	in mm	in mm	in mm	RF/RTJ BW	in mm	in mm	in mm	in mm	RF/RTJ BW



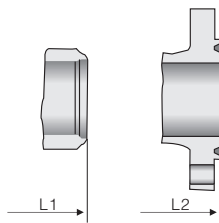
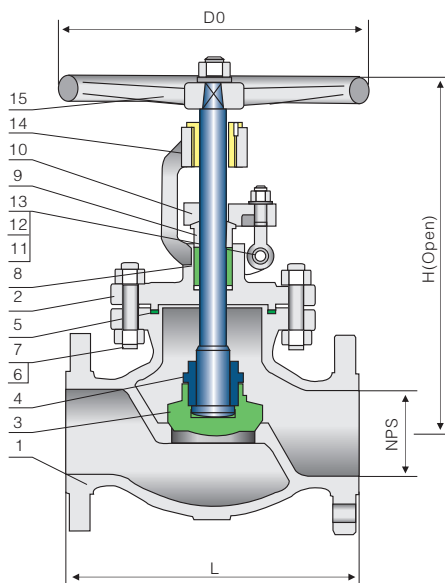
API603 Corrosion-Resistant Valves Cast Stainless Steel Globe Valves 150Lb

Applicable Standards:

- STEEL GLOBE VALVES, API 603
- 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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- SEAT RINGS INTEGRAL WITH BODY
- IMPACT HANDWHEEL FOR 10" & ABOVE
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		18Cr-18Ni	18Cr-9Ni-2Mo	17Cr-9Ni-2Mo
1	Body	A351-CF8	A351-CF8M	A351-CF3M
2	Bonnet	A351-CF8	A351-CF8M	A351-CF3M
3	Disc	A351-CF8	A351-CF8M	A351-CF3M
4	Stem	A182-F304	A182-F316	A182-F316L
5	Bonnet Gasket ¹⁾	Graphite+304	Graphite+316	Graphite+316L
6	Bonnet Stud	A193-B8	A193-B8M	A193-B8M
7	Bonnet Stud Nut	A194-8	A194-8M	A194-8M
8	Packing ²⁾	Graphite		
9	Gland	A276-304	A276-316	A276-316L
10	Gland Flange	A351-CF8	A351-CF8M	A351-CF8M
11	Eyebolt Pin	A276-304	A276-316	A276-316
12	Eyebolt	A193-B8	A193-B8	A193-B8
13	Eyebolt Nut	A194-8	A194-8	A194-8
14	Yokesleeve	Aluminum-Bronze ³⁾		
15	Handwheel	Malleable Iron		

Note: 1) Spiral wound construction, teflon optional

2) Teflon optional.

3) Ductile Ni-resist optional.

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

Dimensional datas

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	in	
	15	20	25	40	50	65	80	100	150	200	250	300	350	400	mm	
ANSI Class 150Lb																
L/L1 (RF/BW)	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	16.00	19.50	24.50	27.50	31.00	36.00	in	
	108	117	127	165	203	216	241	292	406	495	622	698	787	914	mm	
L2 (RTJ)	-	-	-	-	8.50	9.00	10.00	12.00	16.50	20.00	25.00	28.00	31.50	36.50	in	
	-	-	-	-	216	229	254	305	419	508	635	711	800	927	mm	
H (open)	7.00	7.5	8.25	9.25	15.00	21.00	17.50	20.25	22.00	24.25	32.00	35.88	48.38	57.00	in	
	180	190	210	235	380	535	445	515	560	615	815	910	1230	1450	mm	
D0	4	4	4	6	7	10	11	11	13	13	16	18	20	24	in	
	100	100	100	140	180	240	280	280	320	320	400	450	500	600	mm	
WT(kg)	3	3.5	4.5	11	18	30	41	64	86	110	280	380	510	740	BW	
	2.5	3	4	8	14	22	33	43	72	88	245	345	450	665	RF/RTJ	



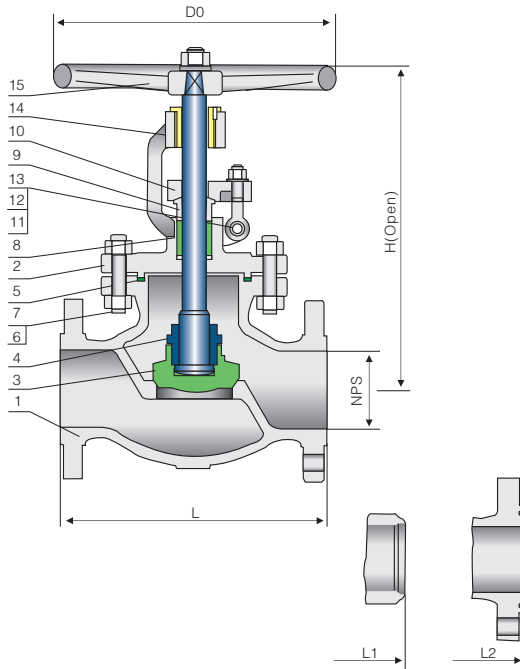
API603 Corrosion-Resistant Valves Cast Stainless Steel Globe Valves 300Lb/600Lb

Applicable Standards:

- STEEL GLOBE VALVES, API 603
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
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Materials of parts

No	Part Name	ASTM Materials		
		18Cr-18Ni	18Cr-9Ni-2Mo	17Cr-9Ni-2Mo
1	Body	A351-CF8	A351-CF8M	A351-CF3M
2	Bonnet	A351-CF8	A351-CF8M	A351-CF3M
3	Disc	A351-CF8	A351-CF8M	A351-CF3M
4	Stem	A182-F304	A182-F316	A182-F316L
5	Bonnet Gasket ¹⁾	Graphite+304	Graphite+316	Graphite+316L
6	Bonnet Stud	A193-B8	A193-B8M	A193-B8M
7	Bonnet Stud Nut	A194-8	A194-8M	A194-8M
8	Packing ²⁾	Graphite		
9	Gland	A276-304	A276-316	A276-316L
10	Gland Flange	A351-CF8	A351-CF8M	A351-CF8M
11	Eyebolt Pin	A276-304	A276-316	A276-316
12	Eyebolt	A193-B8	A193-B8	A193-B8
13	Eyebolt Nut	A194-8	A194-8	A194-8
14	Yokesleeve	Aluminum-Bronze ³⁾		
15	Handwheel	Malleable Iron		

Note: 1) Spiral wound construction, teflon optional

2) Teflon optional.

3) Ductile Ni-resist optional.

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

Dimensional datas of ANSI Class 300Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	in
	15	20	25	40	50	65	80	100	150	200	250	300	350	400	mm
L/L1 (RF/BW)	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	17.50	22.00	24.50	28.00	-	-	in
	152	178	203	229	267	292	318	356	444	559	622	711	-	-	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)	7.00	7.50	8.25	9.25	16.75	19.00	19.88	22.50	25.25	33.25	35.50	38.62	-	-	in
	180	190	210	235	425	485	505	570	640	845	900	980	-	-	mm
D0	4	4	4	6	8	10	11	13	16	18	20	24	-	-	in
	100	100	100	140	200	240	280	320	400	450	500	600	-	-	mm
WT(kg)	4	4.5	6	15	25	32	38	56	96	150	360	550	-	-	BW
	3	3.5	5	12	20	22	27	41	75	117	310	492	-	-	RF/RTJ

Dimensional datas of ANSI Class 600Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	in
	15	20	25	40	50	65	80	100	150	200	250	300	350	400	mm
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	-	-	in
	165	190	216	241	292	330	356	432	559	660	787	838	-	-	mm
L2 (RTJ)	-	-	-	-	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	-	-	in
	-	-	-	-	295	333	359	435	562	663	790	841	-	-	mm
H (open)	7.25	7.62	9.00	11.00	17.50	19.75	21.00	24.50	29.50	36.50	44.88	53.12	-	-	in
	185	195	230	280	445	502	533	622	750	927	11.40	1350	-	-	mm
D0	4	4	6	5	10	11	13	16	18	20	24	24	-	-	in
	100	100	140	200	240	280	320	400	450	500	600	600	-	-	mm
WT(kg)	6	8	14	23	35	50	60	110	230	410	770	1140	-	-	BW
	4.8	6.2	9.5	16.5	27	34	42	84	192	350	680	1030	-	-	RF/RTJ