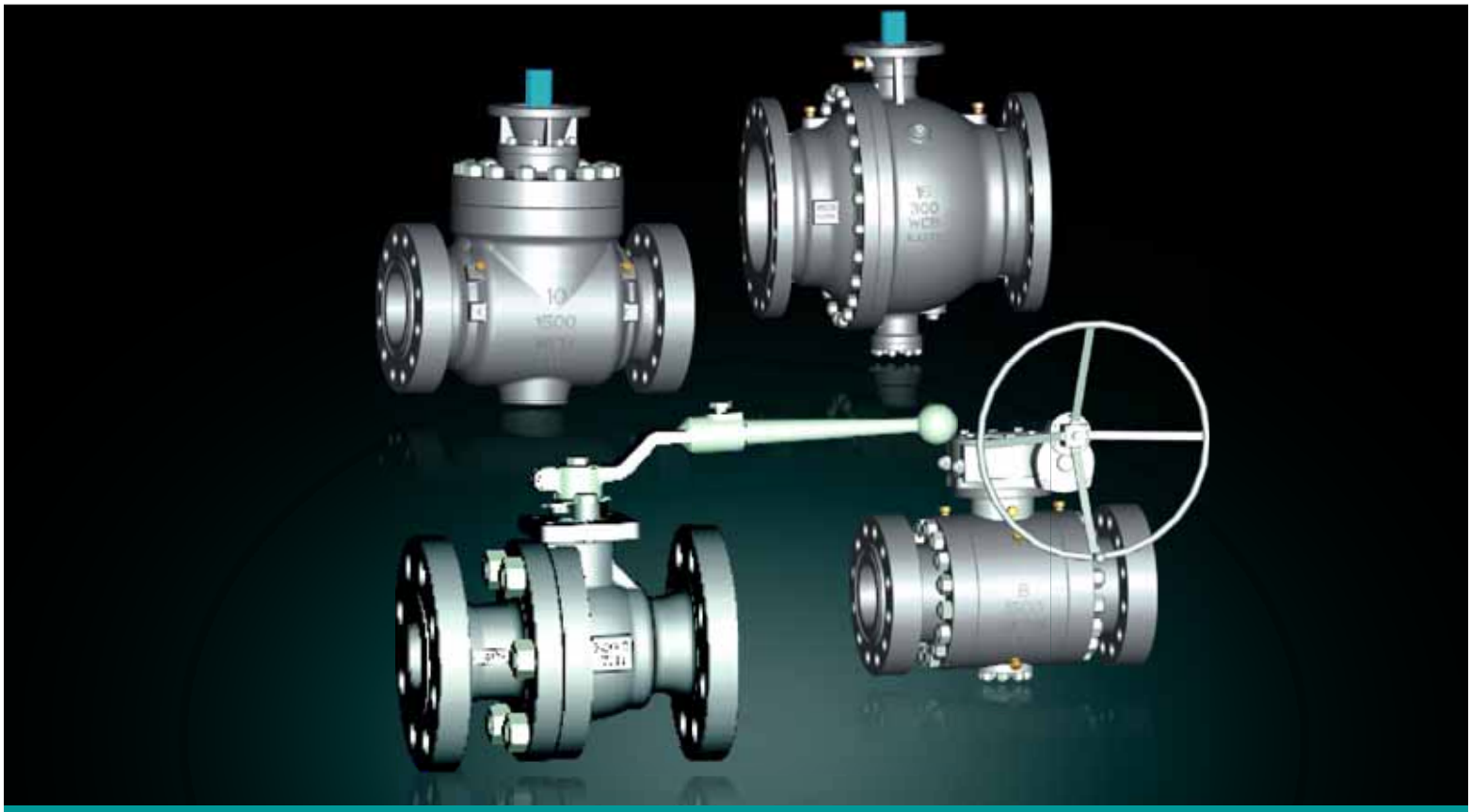


Cast And Forged Steel Floating,Trunnion Mounted & Top Entry Ball Valves

Ball Valve, CS, FL

Design

The steel ball valves are designed manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute Standard API 608&API 6D British standard BS5351 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.

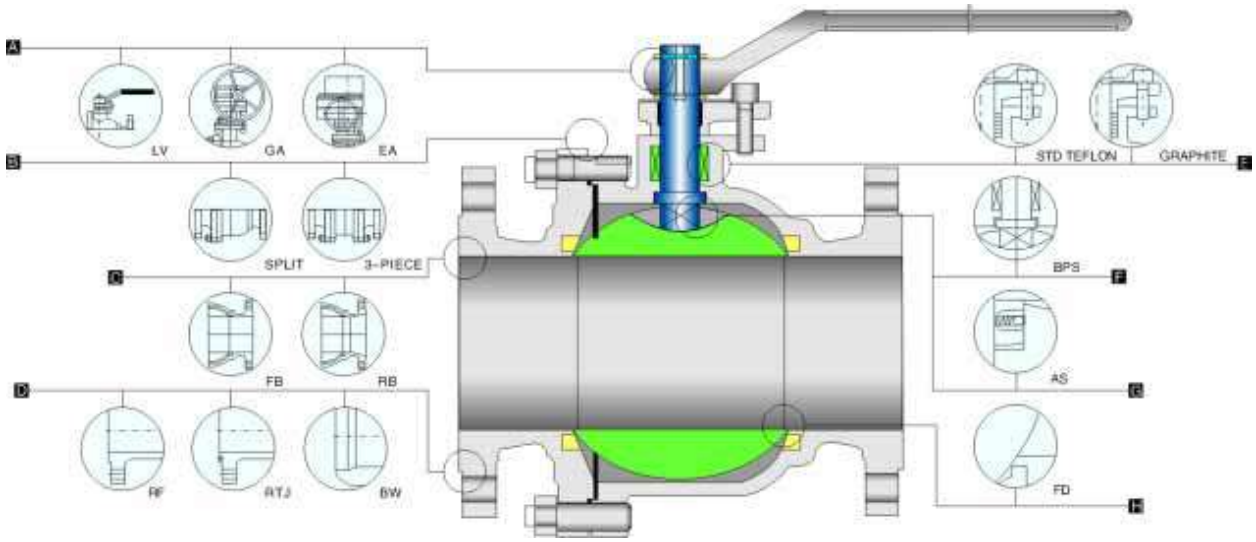
Ranges of Materials

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 Steel Valves

Trim changes
End connection modifications
Packing and gasket change
Operator mounting
Handwheel extensions

Pressure equalizing
As or fd
Customer specified coatings
Weld end bore changes
Oxygen&chlorine cleaning&packaging



A Operation

Extended lever for easy operation. also available with gearing,motor actuators,pneumatic or hydraulic actuators for more difficult services

B Body&Bonnet

Split or 3–piece,split body& bonnet for 12" &small.disassembles easily for repair components.

C BORE

Full bore or reduced bore .full–bore design provides exceptional flow control.

D End Connections

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

E Packing

Std packing multiple v–teflon packing, combined with live loading,maintains packing compression under high–cycle and severe service applications. Graphite packing is used for high–temperature situation.

F BPS

Blow–out proof stem
A pressure–safe stem shoulder design that protects against failure under excess pressure.

G AS

Anti statics. A metallic contact is always granted between ball and stem /body to discharge eventual statics build–up during service.

H FS

Fire safe designed to API607 or BS6755 to grant their operation suitability in case of fire. Secondary metal–to metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

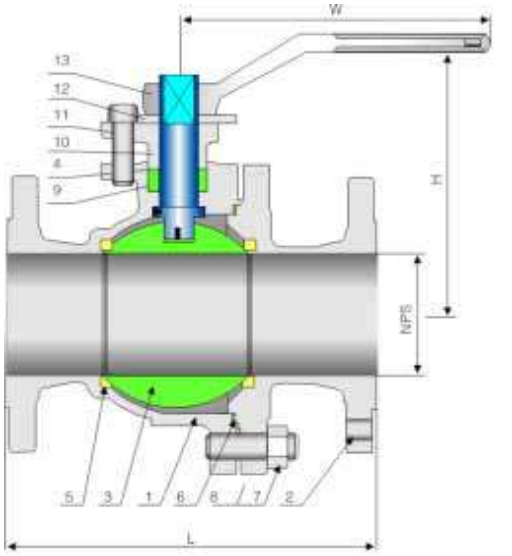
Floating, Cast Steel Ball Valve 150Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATIC,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BG.BOLTED BONNET.SPLIT BODY
- FLOATING BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE DURABLE CONSTRUCTION
- ANTI STATIC DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of Parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet	A216–WCB	A351–CF8M	A352–LCB
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304[2)]	PTFE	Graphite+304[2)]
7	Bonnet stud	A193–B7	A193–B8	A320–L7
8	Bonnet Stud Nut	A194–2H	A194–8	A194–4
9	Packing	PTFE		
10	Gland Flange	A216–WCB	A351–CF8M	A352–LCB
11	Gland Bolt	A193–B7	A193–B8	A193–B7
12	Stop Plate	Carbon Steel	Carbon steel+Zn	Carbon Steel
13	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

Dimensional datas of ANSI Class 150Lb

NPS / DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	in
	108	117	127	165	178	190	203	229	394	457	533	610	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	16.50	in
	55	55	70	90	105	155	185	205	255	280	345	420	mm
W	5	5	6	8	14	16	20	20	24	32	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	800	mm
wt(kg)	2.3	3	4.5	7	9.5	15	19	33	93	160	200	280	RF
	1.8	2.8	3.7	6.2	8.5	14	21	35	98	170	225	295	BW

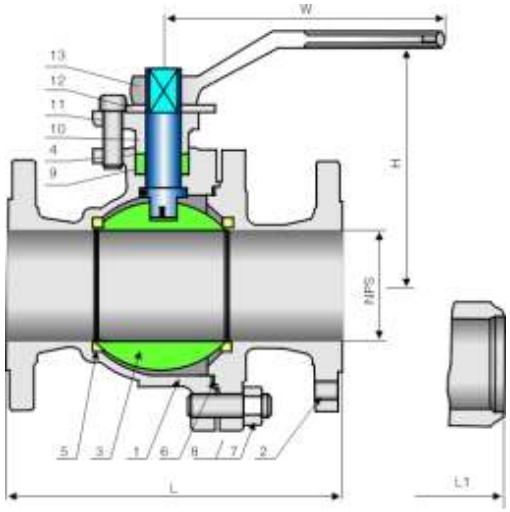
Floating, Cast Steel Ball Valve 300Lb/600Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATIC,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BG.BOLTED BONNET.SPLIT BODY
- FLOATING BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE DURABLE CONSTRUCTION
- ANTI STATIC DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of Parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet	A216–WCB	A351–CF8M	A352–LCB
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304[2)]	PTFE	Graphite+304[2)]
7	Bonnet stud	A193–B7	A193–B8	A320–L7
8	Bonnet Stud Nut	A194–2H	A194–8	A194–4
9	Packing	PTFE		
10	Gland Flange	A216–WCB	A351–CF8M	A352–LCB
11	Gland Bolt	A193–B7	A193–B8	A193–B7
12	Stop Plate	Carbon Steel	Carbon steel+Zn	Carbon Steel
13	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

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	
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	in
	140	152	165	190	216	241	283	305	403	502	568	648	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.75	3.50	4.12	6.12	7.25	8.00	10.00	11.00	13.50	16.50	in
	55	55	70	90	105	153	187	206	255	280	345	420	mm
W	5	5	6	8	14	16	20	20	24	32	32	32	in
	130	130	160	200	350	400	500	500	600	800	800	800	mm
wt(kg)	2.5	3.5	5.5	10.5	14.5	23.5	30	55	118	200	250	330	RF
	1.8	2	3.2	5.5	8.7	15	18	36	85	152	182	232	BW

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	
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	–	–	–	in
	165	190	216	241	292	330	356	432	559	–	–	–	mm
L2 (RTJ)	–	–	–	–	11.62	13.12	14.12	17.12	22.12	–	–	–	in
	–	–	–	–	295	333	359	435	562	–	–	–	mm
H	2.38	2.38	3.00	4.00	4.75	6.88	8.38	9.25	11.38	–	–	–	in
	61.5	61.5	78	101	120	174	212	234	289	–	–	–	mm
W	5	6	8	14	16	20	24	24	32	–	–	–	in
	130	160	200	350	400	500	600	600	800	–	–	–	mm
wt(kg)	3.3	4.5	7.2	13.5	19	31	39	71	153	–	–	–	RF/RTJ
	2.6	3.1	4.8	8	3	22	27	53	120	–	–	–	BW

Ball Valve CS, TM

Design

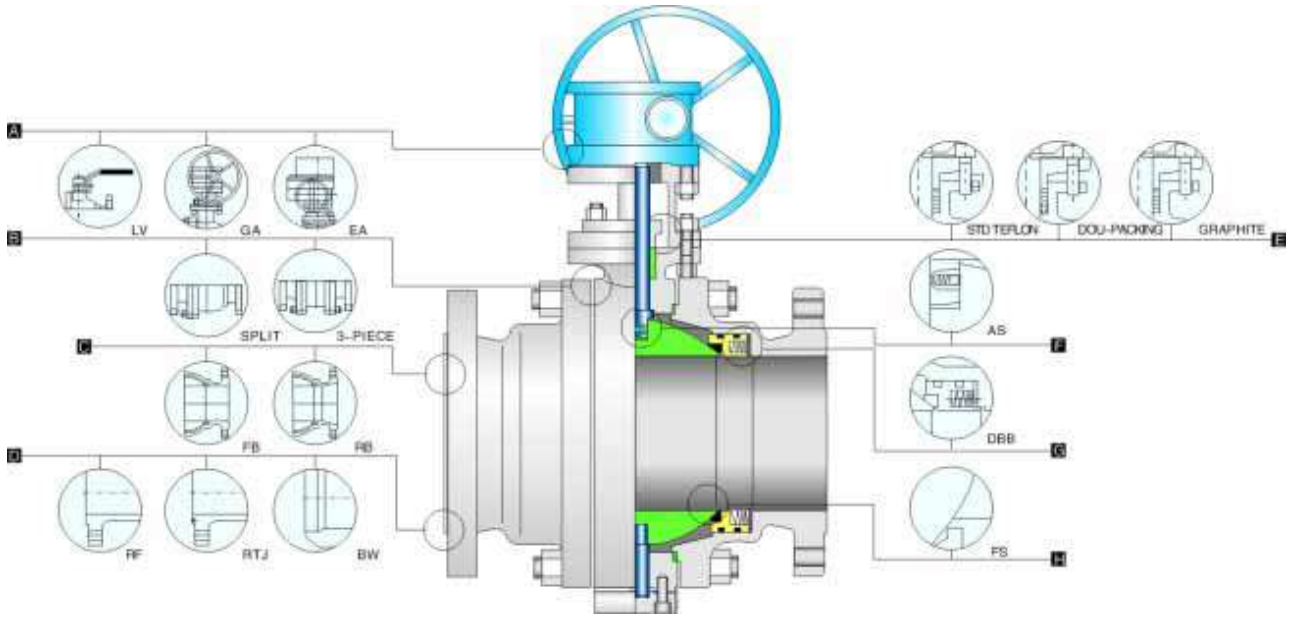
The steel ball valves are desi gned manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute standard API 608&API 6D British standard BS 5351 and generally conform to American society of Mechanical Engineers standard ASME B16.34 valves are available in a complete range of body/bonnet materials and trims.

Ranges 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 ally 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 Steel Valves

Trim Changes
End Connection Modifications
Packing And Gasket Change
Operator Mounting
Handwheel Extensions
Pressure Equalizing
AS OR FD
Customer Specified Coatings
Weld End Bore Changes
Oxygen & Chlorine Cleaning & Packaging



A Operation

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

B Body&bonnet

Split or 3–piece,split body& bonnet for 12" & small. Disassembles easily for repair or replacement of internal components.

C BORE

Full bore or reduced bore . Full–bore design provides exceptional flow control.

D End Connections

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

E Packing

Std packing multiple v–teflon packing, combined with live loading, maintains packing compression under high–cycle and severe service applications. Graphite packing is used for high–temperature situation.

F AS

Anti statics. A metallic contact is always granted between ball and stem /body to discharge eventual statics build–up during service.

G DBB

Double block & bleed. The body cavity is isolated when the ball is in either fully closed or fully opened position, the medium entrapped in it can easily be bled to avoid over pressure.

H FS

Fire safe designed to API607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal–to metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

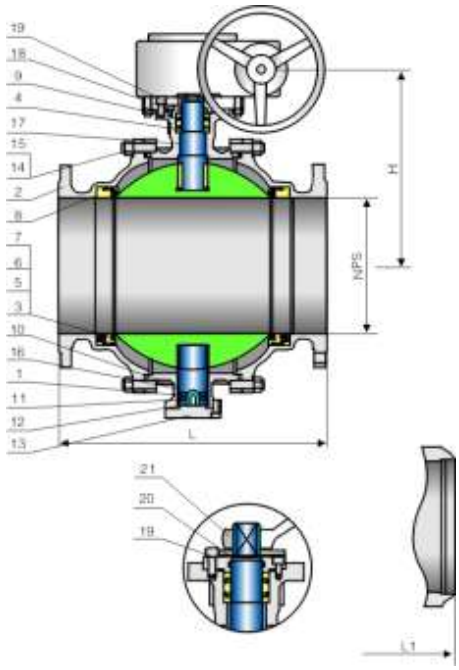
Trunnion Mounted,Cast Steel Ball Valve 150Lb/300Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet	A216–WCB	A351–CF8M	A352–LCB
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat	A105+ENP	A182–F316	A350–LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313–304	Inconel X–750	A313–304
8	Seat O–Ring	NPR	Viton	Viton
9	Stem O–Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
11	Bonnet O–Ring	NBR	Viton	Viton
12	Antistatic Spring	A313–304	A313–316	A313–304
13	Lower Cover	A216–WCB	A182–F316	A182–F304
14	Bonnet Stud	A193–B7	A193–B8	A320–L7
15	Bonnet Stud Nut	A194–2H	A194–8	A194–4
16	Trunnion	A276–304	A276–316	A276–304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland Flange	A216–WCB	A351–CF8M	A352–LCB
19	Gland Bolt	A193–B7	A193–B8	A193–B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

Dimensional datas of ANSI Class 150Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	30 / 750	32 / 800	36 / 900	
L (RF)	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	27.00	30.00	34.00	36.00	42.00	45.00	49.00	51.00	54.00	60.00	in
	178	190	203	229	394	457	533	610	686	762	864	914	1067	1143	1245	1295	1372	1524	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in
	216	241	283	305	457	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	1727	mm
H	7.00	7.50	8.25	9.25	20.88	24.62	25.62	30.75	31.00	36.25	38.25	43.38	45.25	50.75	55.12	64.12	70.88	80.75	in
	177	190	210	235	530	625	650	780	790	920	970	1100	1150	1290	1400	1630	1840	2050	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	32	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	800	800	800	mm
wt(kg)	15	19	27	38	81	140	160	205	260	390	510	750	1200	1400	1860	2100	2530	2970	RF
	13.5	15.5	24.5	32.5	76	132	147	182	241	370	495	726	1125	1250	1640	1930	2390	2760	BW

Dimensional datas of ANSI Class 300Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	30 / 750	32 / 800	36 / 900	
L (RF)	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	–	in
	216	241	283	305	403	502	568	648	762	838	914	991	1143	1245	1346	1397	1524	–	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	–	in
	216	241	283	305	403	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	–	mm
H	7.00	7.50	8.25	9.25	20.88	24.62	25.62	30.75	31.00	36.25	38.25	43.38	45.25	50.75	55.12	64.12	70.88	–	in
	177	190	210	235	530	625	650	780	790	920	970	1100	1150	1290	1400	1630	1800	–	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	32	32	–	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	800	800	–	mm
wt(kg)	19	24	34	48	101	175	200	255	325	485	635	935	1500	1750	2225	2450	2870	–	RF
	14	16	25	34	82	145	155	185	238	375	516	782	1280	1375	1825	2180	2260	–	BW

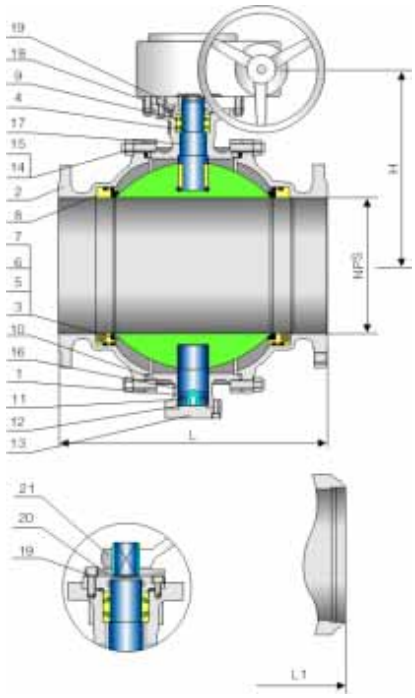
Trunnion Mounted,Cast Steel Ball Valve 600Lb/900Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet	A216–WCB	A351–CF8M	A352–LCB
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat	A105+ENP	A182–F316	A350–LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313–304	Inconel X–750	A313–304
8	Seat O–Ring	NPR	Viton	Viton
9	Stem O–Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
11	Bonnet O–Ring	NBR	Viton	Viton
12	Antistatic Spring	A313–304	A313–316	A313–304
13	Lower Cover	A216–WCB	A182–F316	A182–F304
14	Bonnet Stud	A193–B7	A193–B8	A320–L7
15	Bonnet Stud Nut	A194–2H	A194–8	A194–4
16	Trunnion	A276–304	A276–316	A276–304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland Flange	A216–WCB	A351–CF8M	A352–LCB
19	Gland Bolt	A193–B7	A193–B8	A193–B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

Dimensional datas of ANSI Class 600Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	
L/l1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	mm
H	7.12	7.62	8.50	9.50	21.25	25.00	26.12	31.12	31.88	36.38	38.75	44.50	46.62	52.50	57.00	in
	180	193	215	241	540	635	665	790	810	925	985	1130	1185	1335	1450	mm
W	14	16	20	20	24	24	24	24	32	32	32	32	32	32	32	in
	350	400	500	500	600	600	600	600	800	800	800	800	800	800	800	mm
wt(kg)	26	35	58	81	142	287	540	780	1000	1300	1700	2100	3400	3800	4500	RF/RTJ
	19	25	42	51	85	200	395	610	805	1010	1350	1656	2775	3125	3790	BW

Dimensional datas of ANSI Class 900Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	11.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568	mm
H	8.62	9.25	10.25	15.38	25.75	30.25	31.75	38.00	38.50	45.00	47.00	53.50	56.00	in
	219	235	260	390	655	770	805	965	980	1145	1195	1360	1425	mm
W	20	20	20	24	24	24	24	32	32	32	32	32	32	in
	500	500	500	600	600	600	600	800	800	800	800	800	800	mm
wt(kg)	31	43	68	98	171	345	650	940	1205	1565	2050	2535	3950	RF/RTJ
	23	31	51	61	102	240	480	735	965	1215	1625	1995	3335	BW

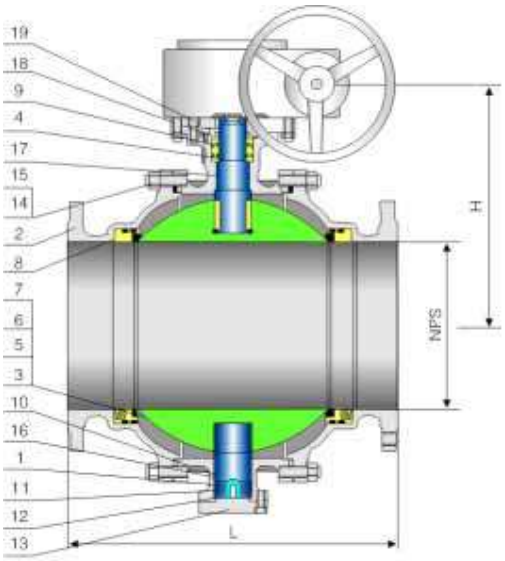
Trunnion Mounted,Cast Steel Ball Valve 1500Lb/2500Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

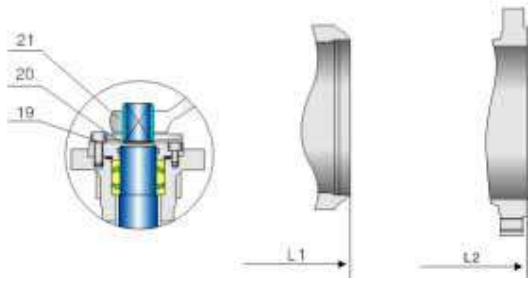
- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12" & ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet	A216–WCB	A351–CF8M	A352–LCB
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat	A105+ENP	A182–F316	A350–LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313–304	Inconel X–750	A313–304
8	Seat O–Ring	NPR	Viton	Viton
9	Stem O–Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
11	Bonnet O–Ring	NBR	Viton	Viton
12	Antistatic Spring	A313–304	A313–316	A313–304
13	Lower Cover	A216–WCB	A182–F316	A182–F304
14	Bonnet Stud	A193–B7	A193–B8	A320–L7
15	Bonnet Stud Nut	A194–2H	A194–8	A194–4
16	Trunnion	A276–304	A276–316	A276–304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland Flange	A216–WCB	A351–CF8M	A352–LCB
19	Gland Bolt	A193–B7	A193–B8	A193–B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.



Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)	
	ANSI Class1500Lb											ANSI Class2500Lb									
2	50	14.50	368	14.62	371	11.25	285	20	500	49	33	17.75	451	17.88	454	12.00	304	20	500	55	41
$2^1/_2$	65	16.50	419	16.62	422	12.00	305	20	500	67	44	20.00	508	21.25	540	12.88	327	24	600	76	55
3	80	18.50	470	18.62	473	13.25	338	24	600	106	73	22.75	578	23.00	584	14.25	362	24	600	120	91
4	100	21.50	546	21.62	549	20.00	506	24	600	153	87	26.50	673	26.88	683	21.25	540	24	600	173	110
6	150	27.75	705	28.00	711	33.50	852	24	600	268	145	36.00	914	36.50	927	35.88	911	32	800	302	182
8	200	32.75	832	33.12	841	39.38	1000	32	800	540	345	40.25	1022	40.88	1038	42.12	1070	32	800	612	430
10	250	39.00	991	39.38	1000	41.12	1045	32	800	1020	685	50.00	1270	50.88	1292	44.00	1120	32	800	1150	855
12	300	44.50	1130	45.12	1146	49.38	1255	32	800	1475	1050	56.00	1422	56.88	1445	53.00	1345	32	800	1665	1315
14	350	49.50	1257	20.25	1276	50.00	1270	32	800	1885	1385	–	–	–	–	–	–	–	–	–	–
16	400	54.50	1384	44.38	1407	58.50	1485	32	800	2455	1735	–	–	–	–	–	–	–	–	–	–
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW

Ball Valve FS, FL

Design

The steel ball valves are designed and manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute standard API 608&API 6D British standard BS 5351 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.

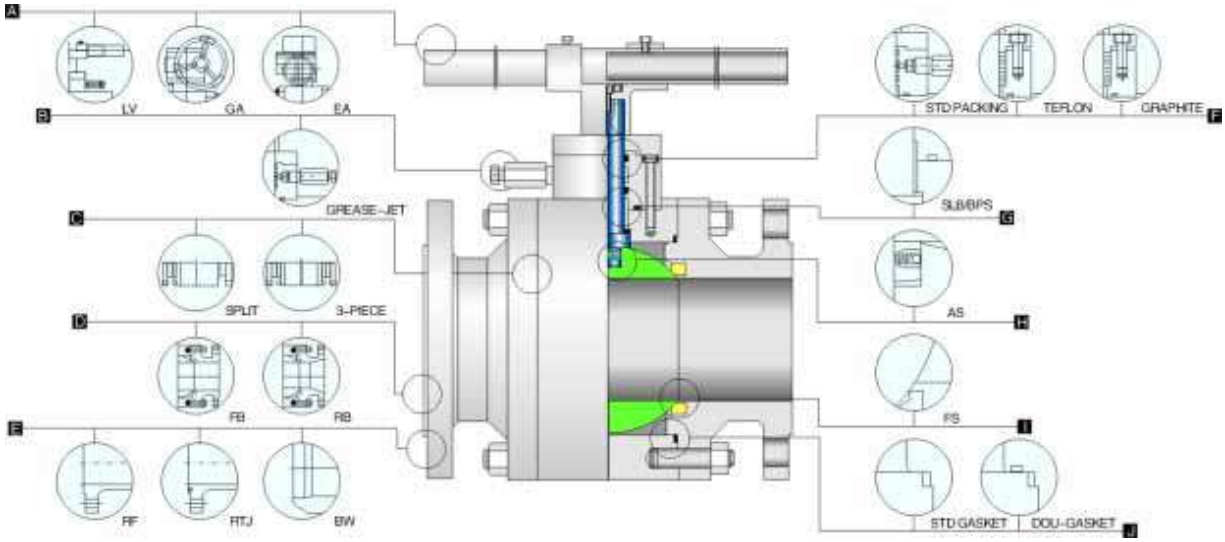
Ranges of Materials

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 Cast Steel Valves

Trim changes
End connection modifications
Packing and gasket changes
Operator mounting
Handwheel extensions

Pressure equalizing
AS OR FS
Customer specified coatings
Weld end bore changes
Oxygen & chlorine cleaning & packaging



A Operation
Extended lever for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services

B Grease–jet joint
Installed in prescriptive part accord to the apply and satisfied with ecumenical situations and realize seal in spot with maintenance easily.

C Body&Bonnet
Split or 3–piece,split body & bonnet for 8" & small. Disassembles easily for repair or replacement of internal components.

D BORE
Full bore or reduced bore . Full–bore design provides exceptional flow control.

E End Connectios
A choice of flanged RTJ flanged or buttwelding end for piping flexibility.

F Packing
Std packing multiple v–teflon packing, combined with live loading, maintains packing compression under high–cycle and severe service applications. Graphite packing is used for high–temperature situation.

G SLB
Self–lubrication bearing. Easy operation, low torque and longer life

BPS
Blow–out proof stem.
A pressure–safe stem.
Shoulder design that protects against failure under excess pressure.

H AS
Anti statics. A metallic contact is always granted between ball and stem /body to discharge eventual statics build–up during service.

I FS
Fire safe. designed to API 607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal–to metal seal acts as back up if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

J Gasket
Std gasket or dou–gasket. Std gasket adopt high–performance rubber seal ring. Dou–gasket adopt high–performance rubber seal ring and spiral wound graphite.

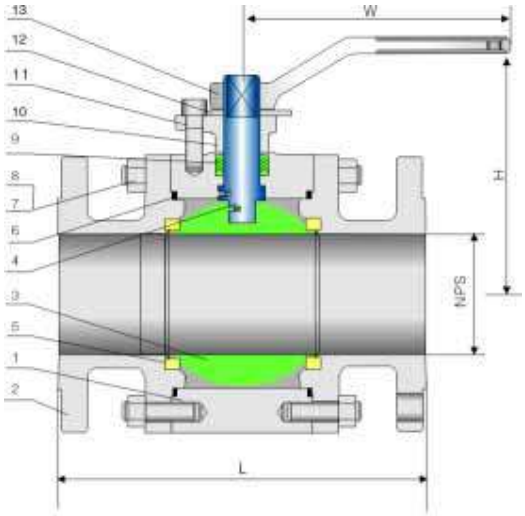
Floating,Forged Steel Ball Valve 150Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- FLOATING BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A105	A182–F316	A350–LF2
2	Bonnet	A105	A182–F316	A350–LF2
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304[2)]	PTFE	Graphite+304[2)]
7	Bonnet Stud	A193–B7	A193–B8	A320–L7
8	Bonnet Stud Nut	A194–2H	A194–8	A194–4
9	Packing	PTFE		
10	Gland Flange	A105	A182–F316	A350–LF2
11	Gland Bolt	A193–B7	A193–B8	A193–B7
12	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
13	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

Dimensional datas of ANSI Class 150Lb

NPS DN	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	in
	15	20	25	40	50	65	80	100	150	200	250	300	mm
L (RF)	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	in
	108	117	127	165	178	190	203	229	394	457	533	610	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.50	3.38	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	in
	55	55	65	85	100	150	180	235	250	280	320	390	mm
W	8	8	12	12	166	16	24	24	24	24	32	32	in
	200	200	300	300	400	400	600	600	600	600	800	800	mm
wt(kg)	3.1	4.1	6	9.5	12.8	20	26	45	126	216	270	378	RF
	2.6	3.9	5.2	8.7	11.8	19	28	47	131	226	295	393	BW

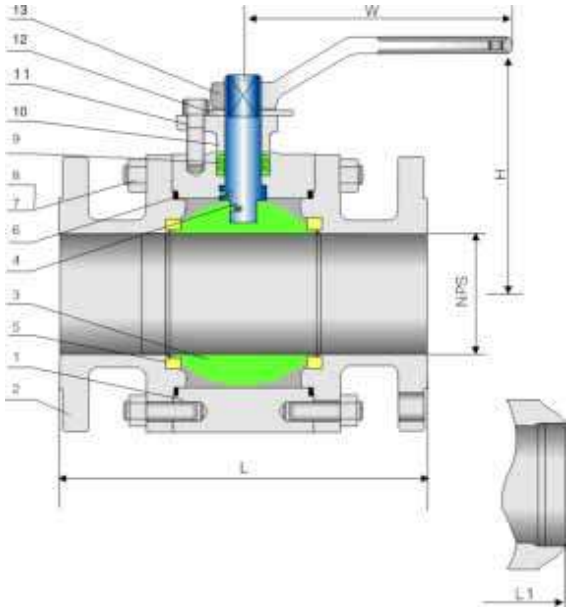
Floating,Forged Steel Ball Valve 300Lb/600Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- FLOATING BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A105	A182–F316	A350–LF2
2	Bonnet	A105	A182–F316	A350–LF2
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat Ring	R.PTFE		
6	Bonnet Gasket	Graphite+304[2)]	PTFE	Graphite+304[2)]
7	Bonnet Stud	A193–B7	A193–B8	A320–L7
8	Bonnet Stud Nut	A194–2H	A194–8	A194–4
9	Packing	PTFE		
10	Gland Flange	A105	A182–F316	A350–LF2
11	Gland Bolt	A193–B7	A193–B8	A193–B7
12	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
13	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

Dimensional datas of ANSI Class 300Lb

NPS / DN	1/2 / 15	3/4 / 20	1 / 25	1 1/2 / 40	2 / 50	2 1/2 / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	in / mm
L (RF)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	in
	140	152	165	190	216	241	283	305	403	502	568	648	mm
L1 (BW)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	in
	140	152	165	190	216	241	283	305	457	521	559	635	mm
H	2.12	2.12	2.50	3.38	16.00	16.00	24.00	24.00	9.88	11.00	12.62	15.38	in
	55	55	65	85	400	400	600	600	250	280	320	390	mm
W	8	8	12	12	10	12	14	19	24	24	32	32	in
	200	200	300	300	250	300	350	480	600	600	800	800	mm
wt(kg)	3.5	4.6	6.7	10.5	14.5	22	29	50	141	242	302	423	RF
	2.8	3.1	4.4	5.5	8.7	13.5	17	31	108	194	234	325	BW

Dimensional datas of ANSI Class 600Lb

NPS / DN	1/2 / 15	3/4 / 20	1 / 25	1 1/2 / 40	2 / 50	2 1/2 / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	in / mm
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	–	–	–	in
	165	190	216	241	292	330	356	432	559	–	–	–	mm
L2 (RTJ)	–	–	–	–	11.62	13.12	14.12	17.12	22.12	–	–	–	in
	–	–	–	–	295	333	359	435	562	–	–	–	mm
H	2.25	2.25	2.62	3.50	4.12	6.25	7.50	9.75	10.38	–	–	–	in
	58	58	68	89	105	158	190	247	262	–	–	–	mm
W	8	12	12	16	16	24	24	24	32	–	–	–	in
	200	300	300	400	400	600	600	600	800	–	–	–	mm
wt(kg)	4.5	5.5	8	12.5	18	27	35	61	172	–	–	–	RF
	3.8	4.1	5.6	7	12	18	23	43	139	–	–	–	BW

Ball Valve FS, TM

Design

The steel ball valves are designed manufactured to provide maximum service life and dependability. All ball valves are full ported and meet the design requirements of American Petroleum Institute standard API 608&API 6D, British standard BS 5351 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.

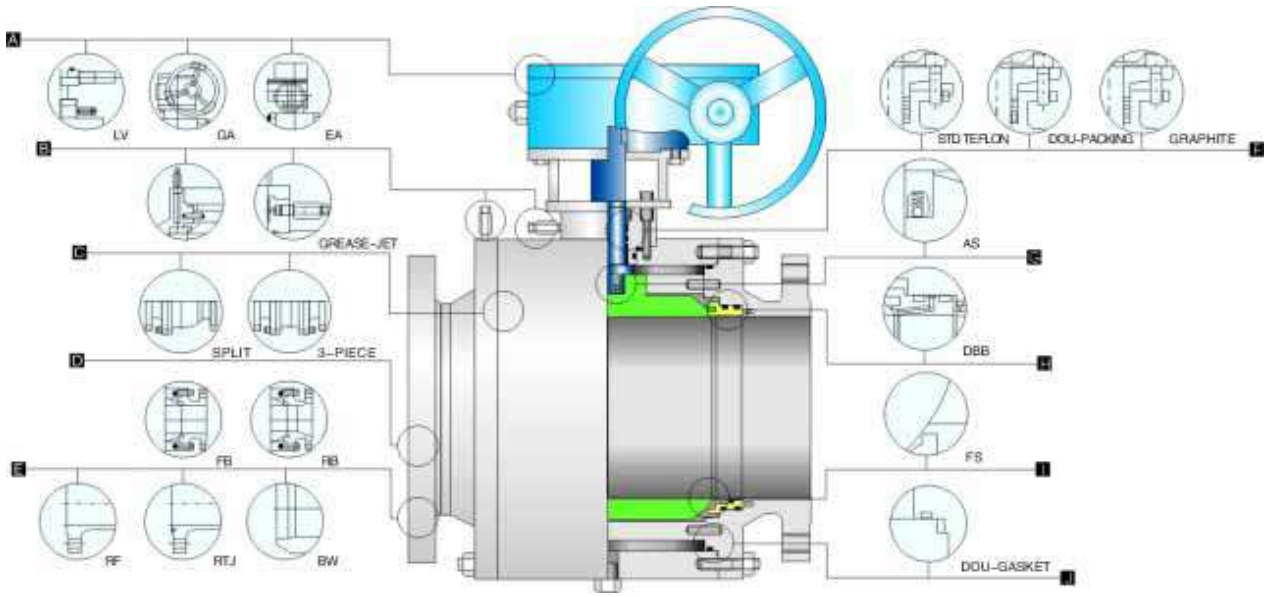
Ranges of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steels, 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 Cast Steel Valves

Trim changes
End connection modifications
Packing and gasket changes
Operator mounting
Handwheel extensions

Pressure equalizing
AS OR FS
Customer specified coatings
Weld end bore changes
Oxygen&chlorine cleaning&packaging



A Operation
Extended lever for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services

B Grease–jet joint
Installed in prescriptive part accord to the apply and satisfied with ecumenical situations and realize seal in spot with maintenance easily.

C Body&Bonnet
Split or 3–piece,split body& bonnet for 8" & small. Disassembles easily for repair or replacement of internal components.

D BORE
Full bore or reduced bore . Full–bore design provides exceptional flow control.

E End Connectios
A choice of flanged RTJ flanged or buttwelding end for piping flexibility.

F Packing
Std packing multiple v–teflon packing, combined with live loading, maintains packing compression under high–cycle and severe service applications. Graphite packing is used for high–temperature situation.

G AS
Anti statics. A metallic contact is always granted between ball and stem /body to discharge eventual statics build–up during service.

H DBB
Double block&bleed.The body cavity is isolated when the ball is in either fully closed or fully opened position, the medium entrapped in it can easily be bled to avoid over pressure.

I FS
Fire Safe. Designed to API607 or BS 6755 to grant their operation suitability in case of fire. Secondary metal–to metal seal acts as backup if primary seal is destroyed by fire. Valves ordered for compliance with API 607 will be provided with graphite packing and gaskets.

J Gasket
Adopt high–performance rubber seal ring and spiral wound graphite.

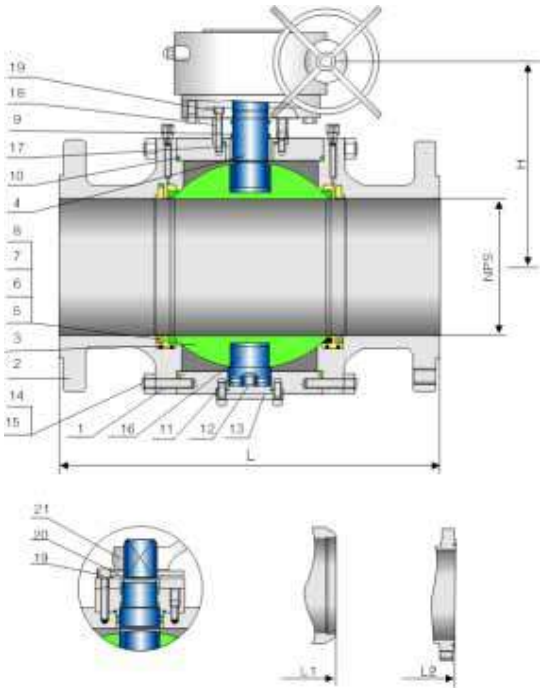
Trunnion Mounted,Forged Steel Ball Valve 150Lb/300Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12"&ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW-OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr-9Ni-2Mo	Carbon Steel
1	Body	A105	A182-F316	A350-LF2
2	Bonnet	A105	A182-F316	A350-LF2
3	Ball	A182-F304[1)]	A182-F316	A182-F304[1)]
4	Stem	A276-304	A276-316	A276-304
5	Seat	A105+ENP	A182-F316	A350-LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313-304	Inconel X-750	A313-304
8	Seat O-Ring	NBR	Viton	Viton
9	Stem O-Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
11	Bonnet O-ring	NBR	Viton	Viton
12	Antistatic Spring	A313-304	A313-316	A313-304
13	Lower Cover	A182-F304	A182-F316	A182-F304
14	Bonnet Stud	A193-B7	A193-B8	A320-L7
15	Bonnet Stud Nut	A194-2H	A194-8	A194-4
16	Trunnion	A276-304	A276-316	A276-304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182-F316	A350-LF2
19	Gland Bolt	A193-B7	A193-B8	A193-B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

Dimensional datas of ANSI Class 150Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	30 / 750	32 / 800	36 / 900	
L (RF)	7.00	7.50	8.00	9.00	15.50	18.00	21.00	24.00	27.00	30.00	34.00	36.00	42.00	45.00	49.00	51.00	54.00	60.00	in
	178	190	203	229	394	457	533	610	686	762	864	914	1067	1143	1245	1295	1372	1524	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in
	216	241	283	305	457	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	1727	mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	38.50	in
	120	150	180	235	250	280	320	390	420	555	600	635	710	750	800	865	915	980	mm
W	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	40	in
	400	400	600	600	600	600	800	800	800	800	800	800	800	1000	1000	1000	1000	1000	mm
wt(kg)	28	35	55	80	190	290	445	570	780	1520	2300	2500	3950	4890	6300	7100	8950	13500	RF
	25	28	49	71	182	277	553	553	747	1481	2266	2460	3904	4939	6362	8149	9000	13570	BW

Dimensional datas of ANSI Class 300Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	30 / 750	32 / 800	36 / 900	
L (RF)	8.50	9.50	11.12	12.00	15.88	19.75	22.38	25.50	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	–	in
	216	241	283	305	403	502	568	648	762	838	914	991	1143	1245	1346	1397	1524	–	mm
L1 (BW)	8.50	9.50	11.12	12.00	18.00	20.50	22.00	25.00	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	–	in
	216	241	283	305	403	521	559	635	762	838	914	991	1143	1245	1346	1397	1524	–	mm
H	4.00	6.00	7.00	9.25	9.88	11.00	12.62	15.38	16.50	21.88	23.62	25.00	28.00	29.50	31.50	34.00	36.00	–	in
	120	150	180	235	250	280	320	390	420	555	600	635	710	750	800	865	915	–	mm
W	16	16	24	24	24	24	32	32	32	32	32	32	32	40	40	40	40	–	in
	400	400	600	600	600	600	800	800	800	800	800	800	800	1000	1000	1000	1000	–	mm
wt(kg)	30	40	60	90	200	325	490	690	900	1810	2620	2860	4430	5430	6810	7655	9590	–	RF
	24	31	49	72	169	280	424	598	872	1665	2440	2635	4075	4880	6225	7115	9230	–	BW

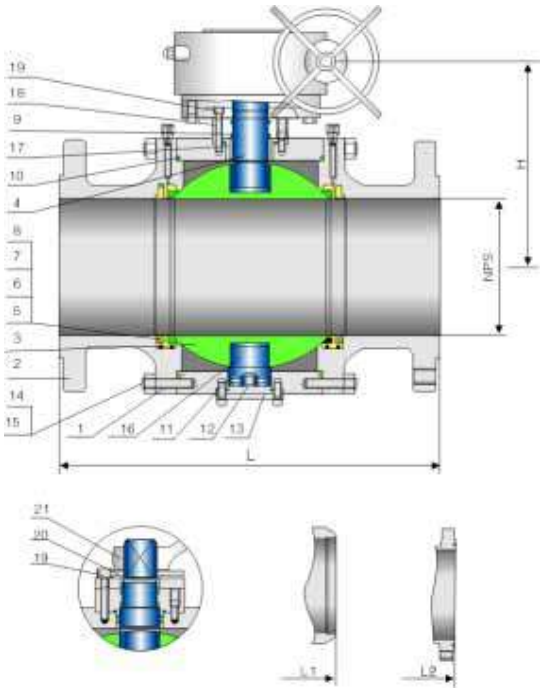
Trunnion Mounted,Forged Steel Ball Valve 600Lb/900Lb

Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12"&ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A105	A182–F316	A350–LF2
2	Bonnet	A105	A182–F316	A350–LF2
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat	A105+ENP	A182–F316	A350–LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313–304	Inconel X–750	A313–304
8	Seat O–Ring	NBR	Viton	Viton
9	Stem O–Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
11	Bonnet O–ring	NBR	Viton	Viton
12	Antistatic Spring	A313–304	A313–316	A313–304
13	Lower Cover	A182–F304	A182–F316	A182–F304
14	Bonnet Stud	A193–B7	A193–B8	A320–L7
15	Bonnet Stud Nut	A194–2H	A194–8	A194–4
16	Trunnion	A276–304	A276–316	A276–304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182–F316	A350–LF2
19	Gland Bolt	A193–B7	A193–B8	A193–B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

Dimensional datas of ANSI Class 600Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	mm
H	6.50	7.00	7.88	11.00	12.25	14.00	16.12	18.00	19.25	21.00	24.88	25.62	30.12	31.88	34.62	in
	165	180	200	280	310	355	410	455	490	535	630	650	765	810	880	mm
W	16	24	24	24	32	32	32	32	32	32	40	40	40	40	40	in
	400	600	600	600	800	800	800	800	800	800	1000	1000	1000	1000	1000	mm
wt(kg)	34	53	65	125	245	505	640	910	1380	2250	3400	3850	4900	6700	8300	R F
	27	43	49	95	188	418	495	740	1185	1960	3050	3406	4275	6025	7590	BW

Dimensional datas of ANSI Class 900Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	965	965	1029	1130	1219	1321	1549	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	38.12	38.12	40.88	44.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	968	968	1038	1140	1232	1334	1568	mm
H	6.72	7.50	8.25	11.38	12.62	15.38	18.50	18.50	20.88	24.00	26.00	27.50	30.75	in
	170	190	210	290	320	390	470	470	530	610	660	700	780	mm
W	24	24	24	32	32	32	32	32	32	40	40	40	40	in
	600	600	600	800	800	800	800	500	800	1000	1000	1000	1000	mm
wt(kg)	45	65	73	135	360	650	1350	1350	1890	3100	4300	4950	7100	RF/RTJ
	37	53	56	98	291	545	1145	1145	1650	2750	3875	4410	6485	BW

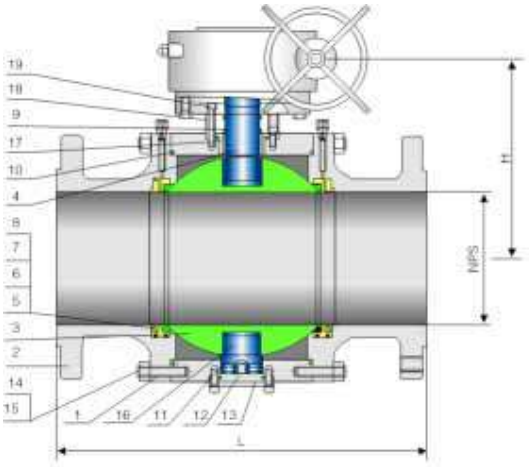
Trunnion Mounted,Forged Steel Ball Valve 1500Lb/2500Lb

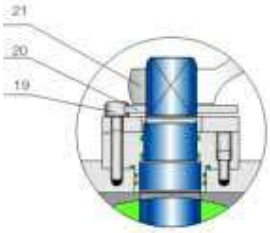
Applicable Standards:

- STEEL BALL VALVES API 608/API 6D
- STEEL BALL VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 608
- 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/ API 6D

Design descriptions:

- FULL PORT DESIGN
- BB.BOLTED BONNET.SPLIT BODY
- THREE PIECES BODY FOR 12"&ABOVE
- TRUNNION MOUNTED BALL TYPE
- BLOW–OUT PROOF STEM
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- ISO 5211 MOUNTING PAD
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR





Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A105	A182–F316	A350–LF2
2	Bonnet	A105	A182–F316	A350–LF2
3	Ball	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Stem	A276–304	A276–316	A276–304
5	Seat	A105+ENP	A182–F316	A350–LF2+ENP
6	Seat Insert	Glass Filled PTFE		
7	Seat Spring	A313–304	Inconel X–750	A313–304
8	Seat O–Ring	NBR	Viton	Viton
9	Stem O–Ring	NBR	Viton	Viton
10	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
11	Bonnet O–ring	NBR	Viton	Viton
12	Antistatic Spring	A313–304	A313–316	A313–304
13	Lower Cover	A182–F304	A182–F316	A182–F304
14	Bonnet Stud	A193–B7	A193–B8	A320–L7
15	Bonnet Stud Nut	A194–2H	A194–8	A194–4
16	Trunnion	A276–304	A276–316	A276–304
17	Trunnion Bearing	304+PTFE	316+PTFE	304+PTFE
18	Gland	A105	A182–F316	A350–LF2
19	Gland Bolt	A193–B7	A193–B8	A193–B7
20	Stop Plate	Carbon Steel	Carbon Steel+Zn	Carbon Steel
21	Handle	Carbon Steel		

Note:1)A105+ENP optional
2)Spiral wound construction.

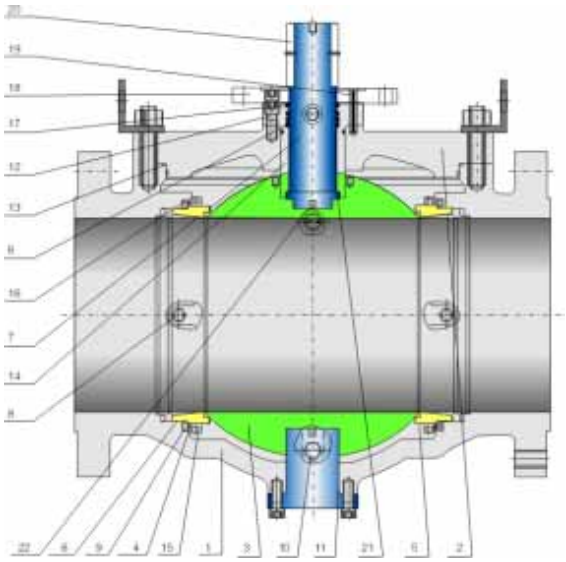
Dimensional datas

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)		L/L1 (RF/BW)		L2 (RTJ)		H		W		WT(kg)	
		ANSI Class1500Lb										ANSI Class2500Lb									
2	50	14.50	368	14.62	371	6.75	170	24	600	55	40	17.75	451	17.88	454	7.50	190	24	600	68	57
$2^1/_2$	65	16.50	419	16.62	422	7.50	190	24	600	75	55	20.00	508	21.25	540	9.00	230	32	800	95	74
3	80	18.50	470	18.62	473	5.25	210	32	800	95	65	22.75	578	23.00	584	11.00	280	32	800	120	91
4	100	21.50	546	21.62	549	11.38	290	32	800	150	115	26.50	673	26.88	683	14.12	360	32	800	185	122
6	150	27.75	705	28.00	711	13.00	330	32	800	540	420	36.00	914	36.50	927	15.75	400	32	800	675	555
8	200	32.75	832	33.12	841	15.75	400	32	800	880	685	40.25	1022	40.88	1038	18.88	480	40	1000	1100	918
10	250	39.00	991	39.38	1000	17.38	440	32	800	1360	1025	50.00	1270	50.88	1292	20.50	520	40	1000	1650	1355
12	300	44.50	1130	45.12	1146	22.00	560	40	1000	1980	1555	56.00	1422	56.88	1445	26.38	670	40	1000	2300	1950
14	350	49.50	1257	50.25	1276	25.25	640	40	1000	3100	2600	–	–	–	–	–	–	–	–	–	–
16	400	54.50	1384	55.38	1407	27.12	690	40	1000	4650	3930	–	–	–	–	–	–	–	–	–	–
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	bw	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW

Top Entry Combination Ball Valve

Applicable Standards:

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、DN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156



No	Part Name	No	Part Name
1	Body	12	Screw
2	Lid	13	Body gasket
3	Ball	14	Support cover
4	Seat	15	Seat retainer ring
5	Sealing ring	16	Spring support cover
6	O–ring	17	Packing
7	Stem	18	Connected disk
8	Seat grease injection valve	19	Elastic cylindrical pin
9	Spring	20	Flat key
10	Blow–down valve	21	Stem gasket
11	Ball lubrieating bearing	22	Antistatic spring

Features and Application:

This product is a new type top entry combination ball valve,the seat can be installed and move around the body. Through the thread, the outer margin of the seat connected to the retainer ring. There is spring on the support cover, which installed on the valve body, and the retainer ring can compress spring. The fabrication holes are on the outer margin of the seat and the retainer ring. This new type product adopts total body design, the compensation can be automatically, the possibility of leakage is small, safety in use, vibrate resistance, and double seal. The ball is installed from the top part, so can finsish the maintenance without removing the pipe, it is very convenient.

Materials of parts

Body	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Lid	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Ball	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Seat	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Stem	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Seat ring	PTFE/MYLON/PEEK/TEFLON
O–ring	VITON/NBR
Bolt	B7M/B8M/L7M/B16M
Support cover	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Spring	17–4PH/17–7PH/Inconel
Bearing	304+PTFE/316+PTFE
Gasket	Flexible graphite+PTFE

Materials could be choosed according to customers' requirement & working condition.

Top Entry Combination Ball Valve 150Lb/300Lb

Applicable Standards:

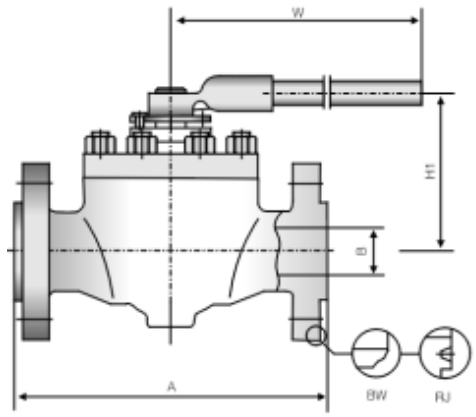
DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34

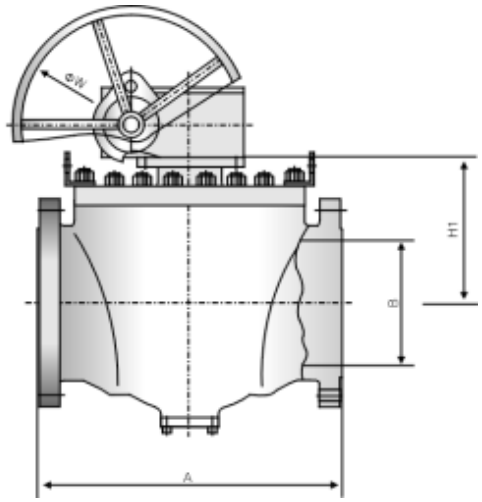
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、DN EN 1092

FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497

INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598

MATERIAL CONFORMS WITH：ISO 15156





Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
2	50	292	51	207	300	30	50	★14	350	889	334	455	600	760	2426
3	80	356	76	223	400	57	65	★16	400	991	385	460	600	1100	3016
4	100	432	100	280	450	100	151	★18	450	1092	436	503	600	1512	4574
★6	150	559	150	275	460	215	320	★20	500	1194	487	560	700	1930	6016
★8	200	660	201	321	460	407	1020	★24	600	1397	589	610	700	3200	9750
★10	250	787	252	355	600	560	1085	★28	700	1549	684	730	700	4600	14540
★12	300	838	303	470	600	710	1562	★30	750	1651	735	800	760	5630	18005

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
2	50	292	51	211	300	36	86	★14	350	889	334	460	600	766	3800
3	80	356	76	226	500	63	110	★16	400	991	385	480	600	1106	5376
4	100	432	100	286	550	106	270	★18	450	1092	436	508	600	1519	8000
★6	150	559	150	282	460	221	500	★20	500	1194	487	565	600	2010	10610
★8	200	660	201	325	460	412	1620	★24	600	1397	589	617	760	3208	17280
★10	250	787	252	360	600	566	1824	★28	700	1549	684	678	760	4607	25102
★12	300	838	303	420	600	715	2632	★30	750	1651	735	738	760	5638	31664

Note: ★Turbine drives

Top Entry Combination Ball Valve 600Lb\900Lb/1500Lb

Applicable Standards:

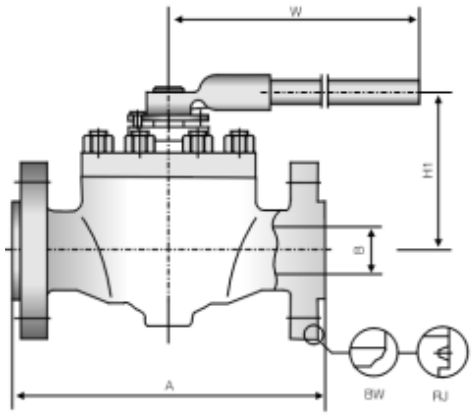
DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34

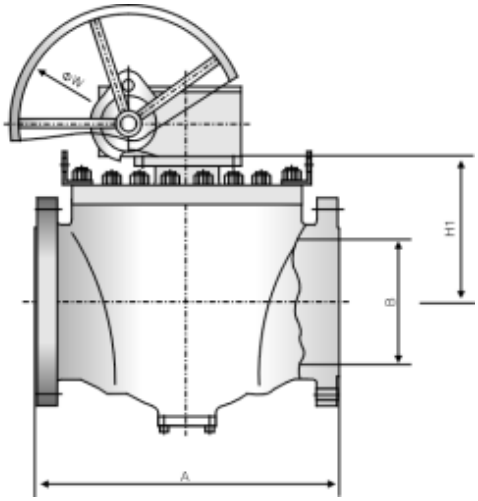
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、DN EN 1092

FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497

INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598

MATERIAL CONFORMS WITH：ISO 15156





Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 600Lb															
2	50	292	51	215	500	41	148	★14	350	889	334	465	700	770	7255
3	80	356	76	232	600	67	200	★16	400	991	385	470	700	1112	9174
4	100	432	100	294	600	110	460	★18	450	1092	436	512	760	1523	13520
★6	150	559	150	287	600	226	908	★20	500	1194	487	570	760	1940	18034
★8	200	660	201	324	600	417	2560	★24	600	1397	589	622	760	3213	29512
★10	250	787	252	365	600	570	3048	★28	700	1549	684	742	760	4612	42264
★12	300	838	303	480	700	720	4300	★30	750	1651	735	817	850	5640	58864

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 900Lb															
2	50	368	49	212	650	52	208	★12	300	965	303	507	700	1300	6000
3	80	381	74	227	700	110	280	★14	350	1029	322	520	700	1695	10220
4	100	457	100	277	800	200	650	★16	400	1130	373	538	760	2560	12968
★6	150	610	150	283	600	430	1298	★18	450	1219	423	580	760	3400	19054
★8	200	737	201	334	600	800	3596	★20	500	1321	471	625	760	4400	25452
★10	250	838	252	380	600	1000	4306	★24	600	1549	589	690	850	7200	38655

Dimensional datas

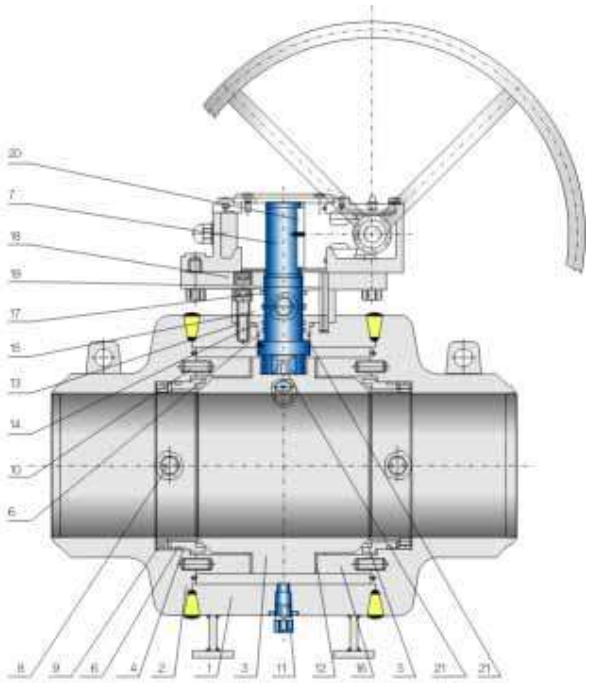
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 1500Lb															
2	50	368	49	212	600	56	330	★10	250	991	239	398	700	1438	6720
3	80	470	74	236	930	153	440	★12	300	1130	287	520	700	2017	14520
4	100	546	100	295	460	278	1034	★14	350	1257	315	560	760	2612	32600
★6	150	705	144	303	600	600	2084	★16	400	1384	360	570	760	3890	49650
★8	200	832	192	354	600	1100	5496	★18	450	1477	405	592	760	5100	66350

Note: ★Turbine drives

Full Welded Trunnion Mounted Ball Valve

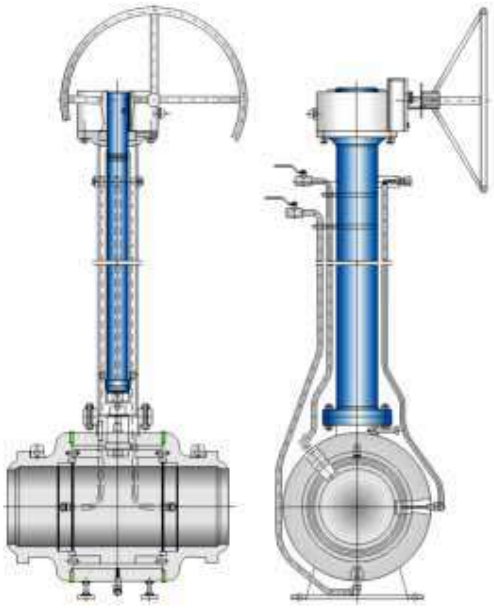
Applicable Standards：

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.25、DIN EN 12627
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156



Materials of parts

No	Part Name	No	Part Name
1	Body	12	Ball lubricating bearing
2	Left–right body	13	Screw
3	Ball	14	Bonnet gasket
4	Seat	15	Support cover
5	Sealing ring	16	Die holder
6	O–ring	17	Packing
7	Stem	18	Terminal pad
8	Seat grease injection valve	19	Spring pin
9	Spring	20	Flat key
10	straight pin	21	Stem gasket
11	Blow–down vavle	22	Static–free spring



Ground extended product structure diagram

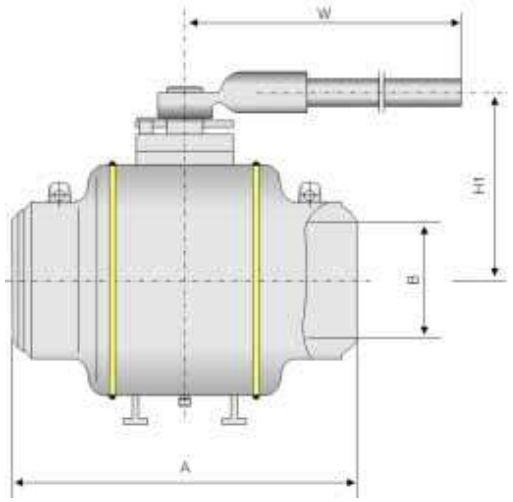
Materials of parts

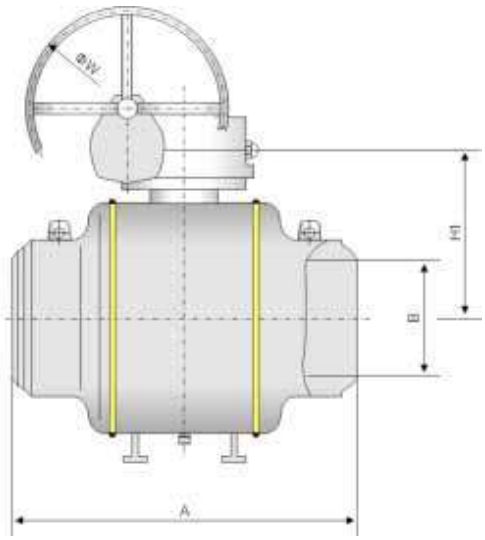
Body	A105/LF2/F304/F316/F304L/F316L/F11/F22/F51
Ball	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Seat	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Stem	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Sealing ring	PTFE/NYLON/PEEK/TEFLON
O–ring	VITON/NBR
Screw	B7M/B8M/L7M/B16M
Support cover	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Die holder	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Spring	17–4PH/17–7PH/Inconel
Bearing	304+PTFE/316+PTFE
Gasket	Flexible graphite+304/PTFE
Materials could be choosed according to customers' requirement & working condition.	

Full Welded Trunnion Mounted Ball Valve 150Lb/300Lb

Applicable Standards：

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.25、DIN EN 12627
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156





Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
2	50	216	51	146	300	12	50	★14	350	762	334	410	600	860	2426
3	80	283	76	170	400	28	65	★16	400	838	385	460	600	980	3016
4	100	305	100	204	450	42	151	★18	450	914	436	520	600	1210	4574
★6	150	457	150	260	460	125	320	★20	500	991	487	560	700	1760	6016
★8	200	521	201	300	460	220	1020	★24	600	1143	589	600	700	2010	9750
★10	250	559	252	340	600	340	1085	★28	700	1346	684	730	700	3200	14540
★12	300	635	303	385	600	520	1562	★30	750	1397	735	840	760	4120	18005

Dimensional datas

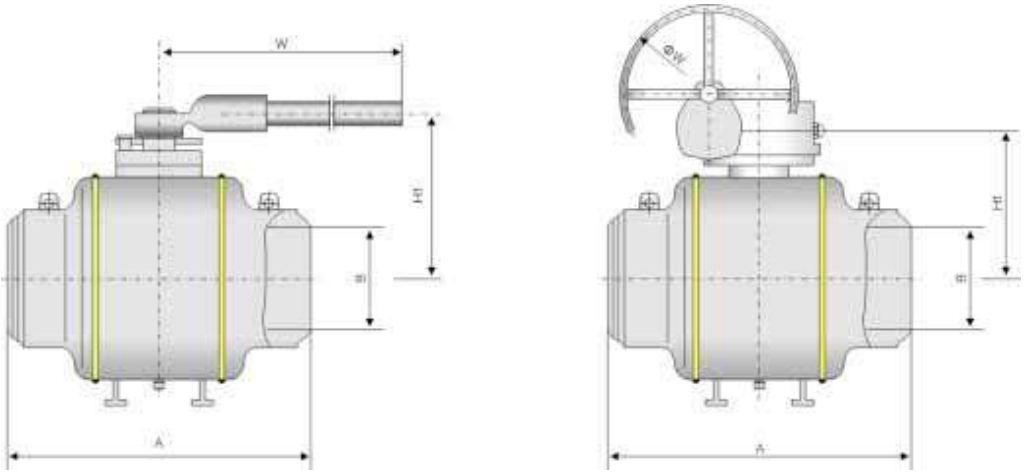
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
2	50	216	51	170	300	16	86	★14	350	762	334	420	600	980	3800
3	80	283	76	185	500	35	110	★16	400	838	385	470	600	1210	5376
4	100	305	100	210	550	60	270	★18	450	914	436	530	600	1520	8000
★6	150	457	150	260	460	150	500	★20	500	991	487	590	600	2010	10610
★8	200	521	201	310	460	250	1620	★24	600	1143	589	600	760	2520	17280
★10	250	559	252	345	600	350	1824	★28	700	1346	684	750	760	3600	25012
★12	300	635	303	390	600	580	2632	★30	750	1397	735	850	760	4620	31664

Note: ★Turbine drives

Full Welded Trunnion Mounted Ball Valve 600Lb/900Lb/1500Lb

Applicable Standards：

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.25、DIN EN 12627
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156



Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 600Lb															
2	50	292	51	185	500	27	148	★14	350	889	334	450	700	1228	7255
3	80	356	76	190	600	48	200	★16	400	991	385	500	700	1705	9174
4	100	432	100	220	600	95	460	★18	450	1092	436	560	760	2380	13520
★6	150	559	150	270	600	210	908	★20	500	1194	487	620	760	2875	18034
★8	200	660	201	320	600	405	2560	★24	600	1397	589	750	760	4830	29512
★10	250	787	252	350	600	655	3048	★28	700	1549	684	880	760	5900	42264
★12	300	838	303	400	700	915	4300	★30	750	1651	735	960	850	7200	58864

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 900Lb															
2	50	368	49	180	650	40	208	★12	300	965	303	450	700	1270	6000
3	80	381	74	208	700	70	280	★14	350	1029	322	550	700	1515	10220
4	100	457	100	222	800	110	650	★16	400	1130	373	650	760	2420	12968
★6	150	610	150	270	600	255	1298	★18	450	1219	423	750	760	2740	19054
★8	200	737	201	325	600	525	3596	★20	500	1321	471	830	760	3325	25452
★10	250	838	252	360	600	810	4306	★24	600	1549	589	950	850	4800	38655

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 1500Lb															
2	50	368	49	175	600	50	330	★8	200	832	192	360	600	580	5496
3	80	470	74	232	930	115	440	★10	250	991	239	410	700	1120	6720
4	100	546	100	395	460	170	1034	★12	300	1130	287	500	700	1492	14520
★6	150	705	144	300	600	402	2084	★14	350	1257	315	560	760	2140	32600

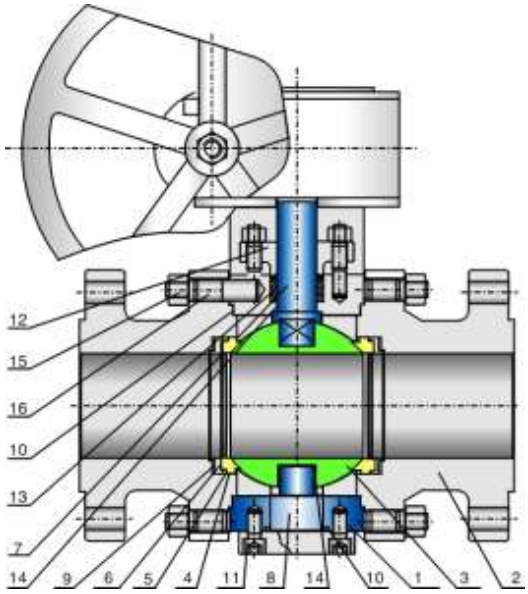
Note: ★Turbine drives

Hard Seal Ball Valve

Applicable Standards：

DESIGN & MANUFACTURE CONFORM WITH：API 608、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156

No	Part Name	No	Part Name
1	Body	9	Spring
2	Left–right body	10	Seat washer
3	Ball	11	Screw
4	Seat	12	Packing bushing
5	Graphite sealing ring	13	Packing
6	Pressure ring	14	Bushing
7	Stem	15	Nut
8	Lower lid	16	Stud



Characteristics & Application

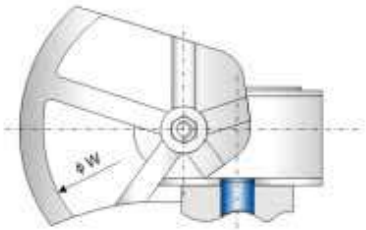
1. The product is suitable for harsh work conditions, can be used for a wide temperature range, such as the high temperature, corrosive media and so on.
2 .The tungsten–chromium alloy solid stainless steel seat firmed by the spring, this kind of design can be applied to a wide range of operating conditions, it not only inproves the seal performance, but also has the excellent features of long service life and maintenance–free.
3 .The stable torque is easy to use, and cheaper in cost.
4 .High–quality sealing performance depends on a high level of processing technology, through this way the ball can have a close contact with seat.
5. Even in a low temperature, the spring installed in the seat can also ensure the ball have a close contact with the seat, so in a wide temperature range, under high–pressure difference and high frequency, the torque can still be open and closed stably.
6. composed of different materials, the valve can be used for different temperatures, up to 500° c(932° F)
7 .After the surface–hardening treatment, the ball valve seat can be more widely used, on as cement, paper pulp, as well as other corrosive occasions, and have a long lifetime. What's more, the fixed ball with an unique design is suitable for the media containing dust.

Materials of parts

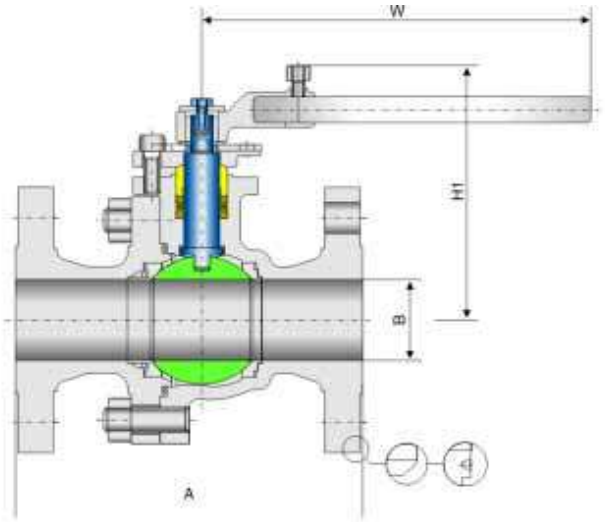
Body	WCB/A105/CF8M/F316/CF8/F304/CF3M F316L/CF3/F304L/CD3MN/F51
Bonnet	WCB/A105/CF8M/F316/CF8/F304/CF3M F316L/CF3/F304L/CD3MN/F51
Ball	（F304/F316/F304L/F316L/F51）+Ionitriding/Hard Chromium/Nialloy surfacing
Seat	（F304/F316/F304L/F316L/F51）+Stellite
Stem	F6a/A105+ENP/F304/F316/F304L/F316L/F51
Sealing ring	Flexible graphite
Lower lid	A105+ENP/F316/F304/F316L/F304L/F51
Bolt	B7M/B8M
Nut	B7M/B8M
Packing	Flexible graphite
Spring	17–4PH/Inconel series
Bushing	（304/316）+Ion nitriding
Seal gasket	304+Flexible graphite
Materials could be choosed according to customers' requirement & working condition.	

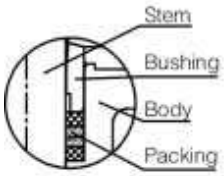
Floating Structure 150Lb/300Lb/600Lb

Floating Structure Series

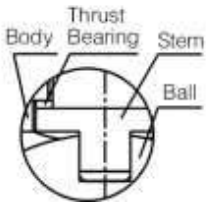


Worm–gear actuator

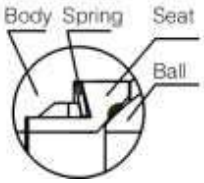




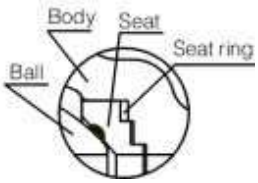
Flexible graphite is of high–temperature and fire resistance function.



If the packing become loose, the convex side of the stem can play a role in the prevention from stem belch out.



The spring can relieve the pipe stress and heat expansion, to ensure the stability of the operation



Through the co–operation of the seat ring and the body, ball valve can maintain a stable operation in working temperature range–29℃C~500℃

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
1/2	15	108	13	60	200	2.5	5	2 1/2	65	191	65	160	600	18	80
3/4	20	117	19	65	200	3.5	8	3	80	203	76	190	600	25	120
1	25	127	25	75	250	5.8	11	4	100	229	100	210	700	38	150
1 1/2	40	165	32	98	350	7.5	25	★6	150	394	150	360	460	106	600
2	50	178	51	128	350	11	45	★8	200	457	201	523	600	180	1050

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
1/2	15	140	13	60	200	3	11	2 1/2	65	241	65	160	600	30	160
3/4	20	152	19	65	200	5	18	3	80	383	76	190	600	40	221
1	25	165	25	75	250	8	40	4	100	305	100	210	700	65	392
1 1/2	40	191	32	98	350	11	57	★6	150	403	150	360	600	122	1240
2	50	216	51	128	350	18	90	★8	200	502	201	523	600	246	2100

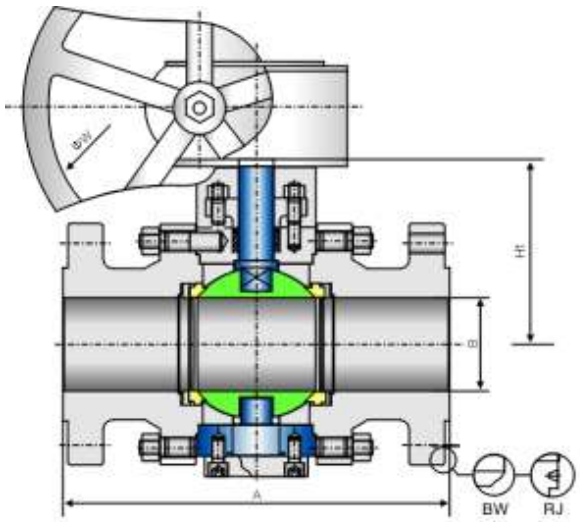
Dimensional datas

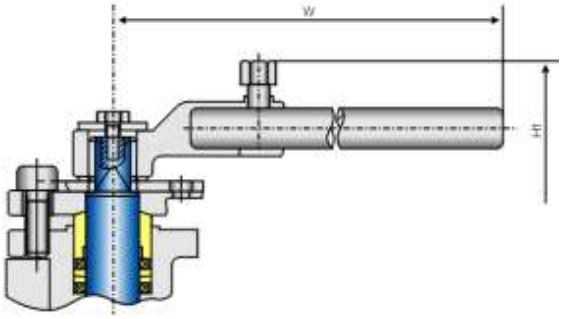
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 600Lb															
2	50	292	51	150	450	28	266	3	80	356	76	210	700	40	644
2 1/2	65	330	65	180	450	45	504	★4	100	432	100	270	600	65	1078

Note: ★Worm–gear actuator

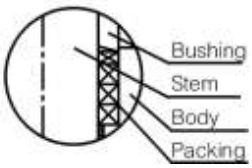
Fixed Structure 150Lb/300Lb

Fixed Structure Series

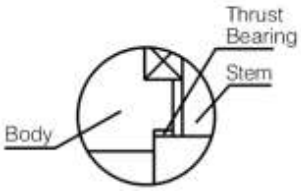




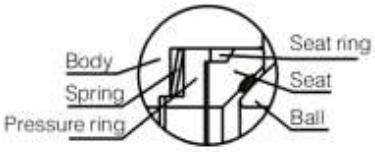
Manual operated



Flexible graphite is of high–temperature and fire resistance function.



If the packing become loose, the convex side of the stem can play a role in the prevention from stem belch out.



Through the co–operation of the seat ring and the body, ball valve can maintain a stable operation in working temperature range–29℃C~500℃

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 150Lb															
2	50	178	51	172	350	16	72	★10	250	533	252	350	600	280	1437
2¹/2	65	191	65	184	400	26	92	★12	300	610	303	380	600	460	2152
3	80	203	76	196	500	35	123	★14	350	686	334	415	600	580	3234
4	100	229	100	225	650	51	240	★16	400	762	385	450	700	790	3797
★6	150	394	150	290	460	103	640	★18	450	864	436	490	700	930	4574
★8	200	457	201	320	600	170	1082	★20	500	914	487	540	700	1288	6875

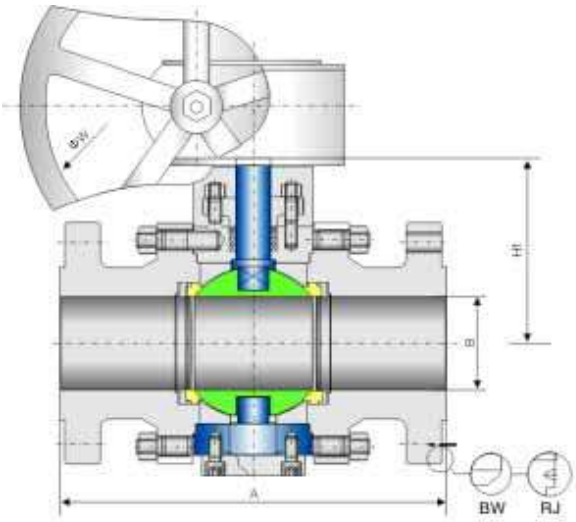
Dimensional datas

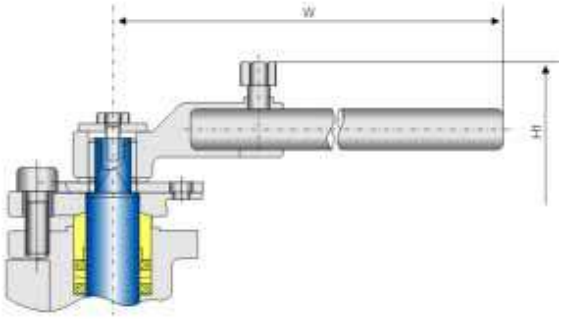
NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 300Lb															
2	50	216	51	172	350	22	119	★10	250	568	252	356	600	310	2170
2¹/2	65	241	65	184	400	34	149	★12	300	648	303	388	600	512	2985
3	80	283	76	196	500	45	255	★14	350	762	334	425	700	612	4030
4	100	305	100	225	650	92	402	★16	400	838	385	466	700	1010	6424
★6	150	403	150	295	600	180	680	★18	450	914	436	502	700	1183	9963
★8	200	502	201	325	600	246	1620	★20	500	991	487	550	760	1353	13213

Note: ★Worm–gear actuator

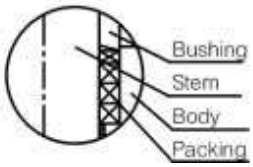
Fixed Structure 600Lb/900Lb/1500Lb

Fixed Structure Series

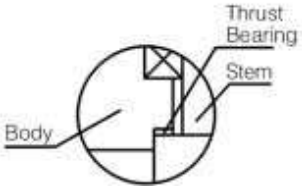




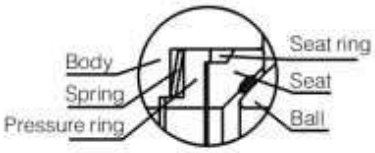
Manual operated



Flexible graphite is of high–temperature and fire resistance function.



If the packing become loose, the convex side of the stem can play a role in the prevention from stem belch out.



Through the co–operation of the seat ring and the body, ball valve can maintain a stable operation in working temperature range–29℃C~500℃

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 600Lb															
2	50	292	51	185	500	30	148	★10	250	787	252	362	700	600	4021
3	80	356	76	205	600	56	200	★12	300	838	303	398	700	830	5567
4	100	432	100	235	600	84	460	★14	350	889	334	435	700	1140	9695
★6	150	559	150	300	600	230	908	★16	400	991	385	478	760	1530	12103
★8	200	660	201	350	600	350	2560	★18	450	1092	436	522	760	2120	19031

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 900Lb															
2	50	368	49	190	650	45	296	★8	200	737	201	340	600	520	5351
3	80	381	74	208	700	78	342	★10	250	838	252	372	700	810	7683
★4	100	457	100	238	600	120	1230	★12	300	965	303	420	700	1050	13178
★6	150	610	150	312	600	255	2319	★14	350	1029	322	465	760	1386	18383

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	W mm	WT kg	T N.m
ANSI Class 1500Lb															
2	50	368	49	190	650	45	507	★6	150	705	144	315	600	430	3814
3	80	470	74	210	750	116	1080	★8	200	832	192	350	600	630	9380
★4	100	546	100	240	600	170	1981	★10	250	991	239	388	700	1188	14466

Note: ★Worm–gear actuator

Cast Steel & Pressure Seal Swing Check Valves

Swing Check Valve, BB, CS

Design

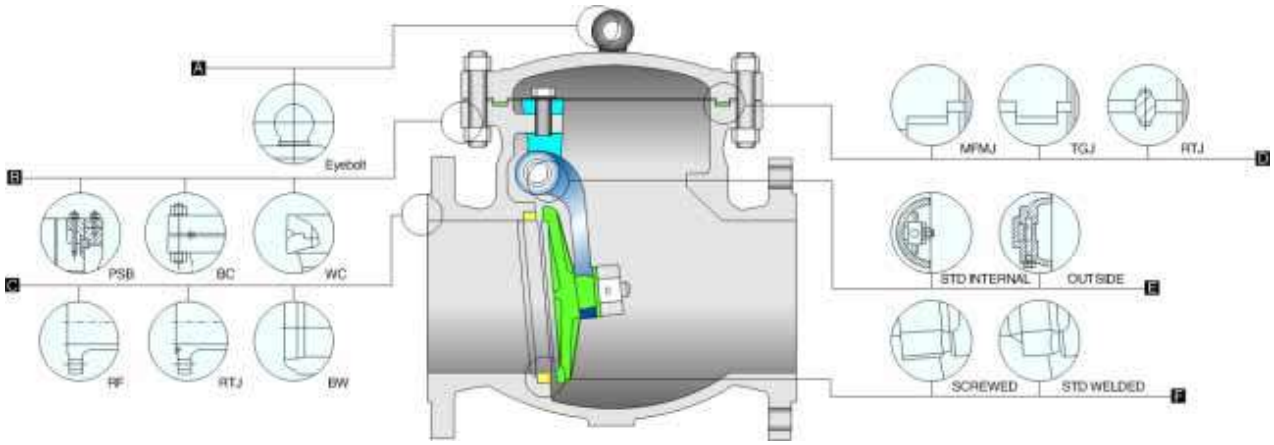
The cast steel check valves are designed and manufactured to provide maximum service life and dependability. All check valves meet the design requirements of American Petroleum Institute standard API600 & 6D.BS EN 13709 and generally conform to American Society of Mechanical Engineers standard ASME B16.34. Valves are available in a complete range of body/cover materials and trims.

Ranges of Materials

Standard body/cover materials include nine grades of carbon, low alloy and stainless steels, 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 Cast Steel Valves

Trim changes
End connection modifications
Packing and gasket changes
Operator mounting
Handwheel extensions
Pressure equalizing
Customer specified coatings
Weld end bore changes
Oxygen & chlorine cleaning & packaging



A Eyebolt

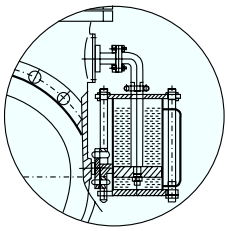
For 150Lb–8",300Lb–8", 600Lb–6",900Lb/1500Lb/ 2500Lb–4" & over.

B BC

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

C End Connections

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



D Body–to–Cover 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 cover connection in 900Lb &higher rated valve.s

E Outside Lever And Weight

All external hinge pin swing check valves 12" and smaller are available with an optional outside lever and weight, internal hinge available with all swing check valves.

F Seat Rings

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

HCU weighted mechanical accumulator

This design can be used to either dampen or assist closing of the check valve disc depending on orientation. by using the hydraulic control unit to buffer action the disc, the valve opens at lower flow rates.

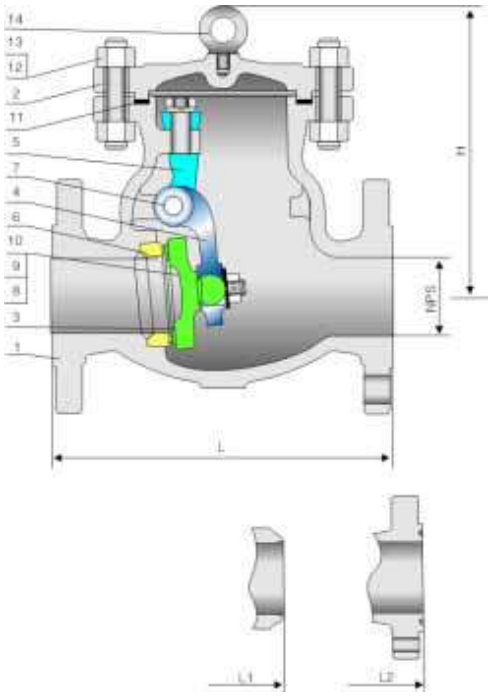
Swing, Cast Steel Check Valve 150Lb/300Lb

Applicable Standards:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES,ISO14313
- 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/API 6D

Design descriptions:

- BC,BOLTED COVER
- SWING TYPE,ANTI-ROTATION DISC
- RENEWABLE SEAT RINGS
- NON-PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS



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	Cover	A216-WCB	A217-WC6	A352-LCB
3	Disc[1)]	A105-CR13	A182-F11+HF	A350-LF2+CR13
4	Hinge	A216-WCB	A217-WC6	A352-LCB
5	Fork Part	A216-WCB	A217-WC6	A352-LCB
6	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
7	Hinge Pin	A276-420	A276-304	A276-420
8	Disc Washer	Carbon Steel	A276-304	Carbon Steel
9	Disc Nut	Carbon Steel	A194-7	Carbon Steel
10	Disc Nut Pin	Carbon Steel	A276-420	Carbon Steel
11	Gasket	Spiral Wound(Graphite+304)		
12	Stud	A193-B7	A193-B16	A320-L7
13	Stud Nut	A194-2H	A194-7	A194-4
14	Eyebolt[2)]	Carbon Steel		

Note:1)Cast steel disc for NPS 4" and above.
2)NPS 6" & larger.
3)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 of ANSI Class 150Lb

NPS / DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	900	mm
L/L1 (RF/BW)	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	51.00	57.00	60.00	77.00	in
	203	216	241	292	356	495	622	699	787	864	978	978	1295	1295	1448	1524	1956	mm
L2 (RTJ)	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	51.50	–	–	–	–	in
	216	229	254	305	368	508	635	711	800	876	991	991	1308	–	–	–	–	mm
H	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	37.00	37.00	38.62	48.00	in
	152	165	175	204	293	353	390	432	475	525	582	627	883	940	940	980	1220	mm
wt(kg)	14	20	25	40	71	118	177	263	353	542	632	855	970	1600	1600	1990	2760	RF/RTJ
	10	12	17	29	57	96	143	227	295	468	552	755	831	1420	1420	1760	2230	BW

Dimensional datas of ANSI Class 300Lb

NPS / DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	36	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	900	mm
L/L1 (RF/BW)	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00	53.00	59.00	62.75	82.00	in
	267	292	318	356	445	533	622	711	838	864	978	1016	1346	1346	1499	1594	2083	mm
L2 (RTJ)	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	54.00	60.00	63.75	–	in
	283	308	333	371	460	549	638	727	854	879	994	1035	1368	1372	1524	1619	–	mm
H	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	35.88	37.00	38.62	48.00	in
	152	165	175	204	292	353	390	432	475	525	582	627	883	910	940	980	1220	mm
wt(kg)	16	23	29	46	82	136	204	302	405	625	730	985	1115	1465	1840	2290	3180	RF/RTJ
	11	13	18	31	61	103	155	245	315	503	593	812	895	1205	1525	1895	2395	BW

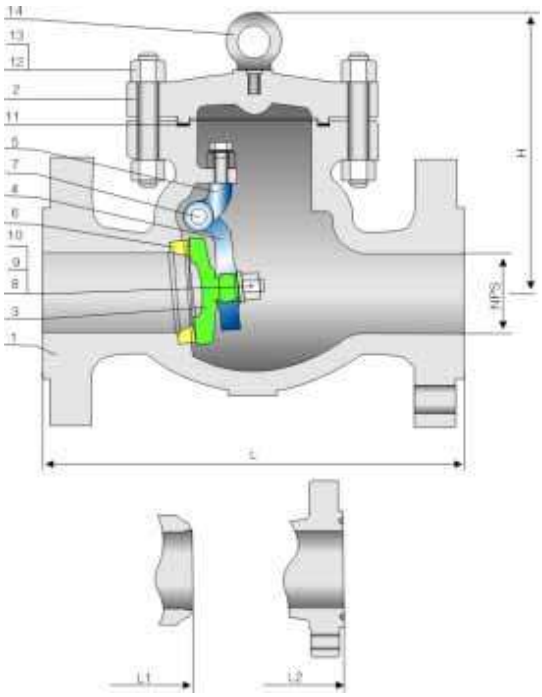
Swing, Cast Steel Check Valve 600Lb/900Lb

Applicable Standards:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES,ISO14313
- 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/API 6D

Design descriptions:

- BC,BOLTED COVER
- SWING TYPE,ANTI-ROTATION DISC
- RENEWABLE SEAT RINGS
- NON-PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 1 1/4Cr-1/2Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Cover	A216-WCB	A217-WC6	A352-LCB
3	Disc[1)]	A216-WCB+CR13	A182-F11+HF	A350-LCB+CR13
4	Hinge	A216-WCB	A217-WC6	A352-LCB
5	Fork Part	A216-WCB	A217-WC6	A352-LCB
6	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
7	Hinge Pin	A276-420	A276-304	A276-420
8	Disc Washer	Carbon Steel	A276-304	Carbon Steel
9	Disc Nut	Carbon Steel	A194-7	Carbon Steel
10	Disc Nut Pin	Carbon Steel	A276-420	Carbon Steel
11	Gasket	Spiral Wound(Graphite+304)		
12	Stud	A193-B7	A193-B16	A320-L7
13	Stud Nut	A194-2H	A194-7	A194-4
14	Eyebolt[2)]	Carbon Steel		

Note:1)NPS 6" & larger.
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 of ANSI Class 600Lb

NPS / DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	mm
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	mm
H	7.50	8.00	8.75	10.00	14.50	17.50	19.25	21.38	23.38	25.75	28.75	31.00	43.50	in
	190	205	222	255	368	445	490	540	595	655	730	785	1105	mm
wt(kg)	24	35	44	70	125	207	310	460	615	945	1105	1495	1695	RF/RTJ
	16	19	26	44	87	147	220	350	452	720	845	1160	1280	BW

Dimensional datas of ANSI Class 900Lb

NPS / DN	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	in
	50	65	80	100	150	200	250	300	350	400	450	500	600	mm
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	–	in
	368	419	381	457	610	737	838	965	1029	1130	1219	1321	–	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	–	in
	371	422	384	460	613	740	841	968	1038	1140	1232	1334	–	mm
H	9.50	10.00	11.00	12.50	18.12	22.00	24.00	26.50	29.38	32.00	33.50	38.75	–	in
	240	256	278	320	460	560	610	675	745	815	850	985	–	mm
wt(kg)	37	54	68	109	195	321	481	711	956	1468	1870	2316	–	RF/RTJ
	21	25	34	58	115	194	290	461	597	950	1210	1533	–	BW

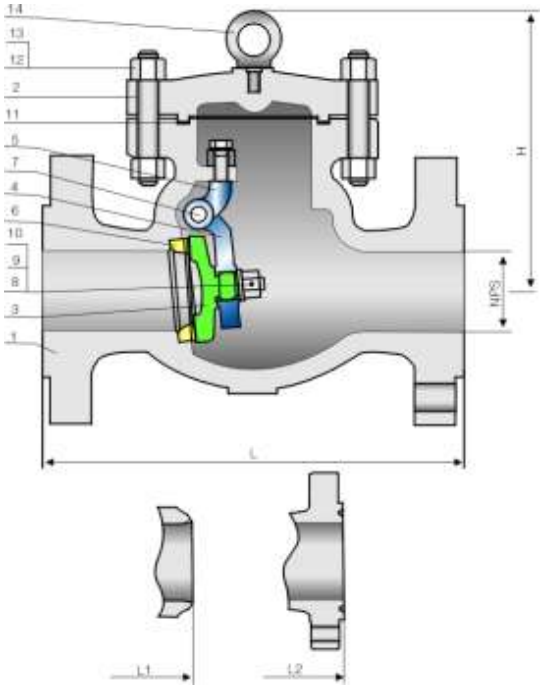
Swing, Cast Steel Check Valve 1500Lb/2500Lb

Applicable Standards:

- STEEL CHECK VALVES, API 6D
- STEEL CHECK VALVES,ISO14313
- 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/API 6D

Design descriptions:

- BC,BOLTED COVER
- SWING TYPE,ANTI-ROTATION DISC
- RENEWABLE SEAT RINGS
- NON-PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS



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	Cover	A216-WCB	A217-WC6	A352-LCB
3	Disc[1)]	A216-WCB+CR13	A182-F11+HF	A350-LCB+CR13
4	Hinge	A216-WCB	A217-WC6	A352-LCB
5	Fork Part	A216-WCB	A217-WC6	A352-LCB
6	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
7	Hinge Pin	A276-420	A276-304	A276-420
8	Disc Washer	Carbon Steel	A276-304	Carbon Steel
9	Disc Nut	Carbon Steel	A194-7	Carbon Steel
10	Disc Nut Pin	Carbon Steel	A276-420	Carbon Steel
11	Gasket	Spiral Wound(Graphite+304)		
12	Stud	A193-B7	A193-B16	A320-L7
13	Stud Nut	A194-2H	A194-7	A194-4
14	Eyebolt[2)]	Carbon Steel		

Note:1)NPS 6" & larger.
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 of ANSI Class1500Lb

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		WT(kg)	
2	50	14.50	368	14.62	371	9.50	240	40	29
2 1/2	65	16.50	419	16.62	422	10.00	256	63	47
3	80	18.50	470	18.62	473	13.00	330	70	49
4	100	21.50	546	21.62	549	14.75	375	115	84
6	150	27.75	705	28.00	711	18.88	480	250	152
8	200	32.75	832	33.12	841	23.50	595	470	310
10	250	39.00	991	39.38	1000	26.00	660	740	470
12	300	44.50	1130	45.12	1146	29.12	740	1100	710
14	350	49.50	1257	50.25	1276	30.88	785	1410	910
16	400	54.50	1384	55.38	1407	32.88	835	1600	1100
in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW

Dimensional datas of ANSI Class2500Lb

NPS	DN	L/L1 (RF/BW)		L2 (RTJ)		H		WT(kg)	
2	50	17.75	451	17.88	454	10.75	275	50	35
2 1/2	65	20.00	508	20.25	514	13.25	335	76	55
3	80	22.75	578	23.00	584	13.75	350	85	68
4	100	26.50	673	26.88	683	15.12	385	165	115
6	150	36.00	914	36.50	927	19.50	495	460	225
8	200	40.25	1022	40.88	1038	24.62	625	900	580
10	250	50.00	1270	50.88	1292	28.00	712	1300	860
12	300	56.00	1422	56.88	1445	35.62	905	1800	1150
14	350	–	–	–	–	–	–	–	–
16	400	–	–	–	–	–	–	–	–
in	mm	in	mm	in	mm	in	mm	mm	mm

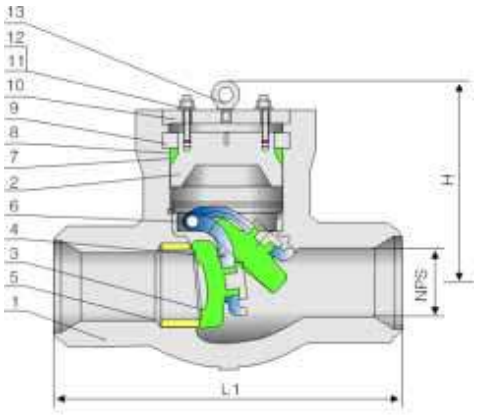
Pressure Seal Cast Steel Swing Check Valve 900Lb

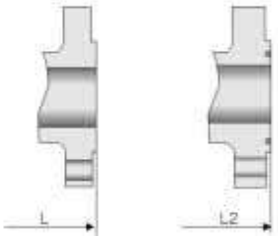
Applicable Standards:

- STEEL CHECK VALVES, API 594/API 6D
- STEEL CHECK VALCES,ISO14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE DISC, FULLY GUIDED
- RENEWABLE SEAT RINGS
- FLANGED OR BUTTWELDING ENDS





Materials of parts

No	Part Name	ASTM Materials Carbon Steel	$1^{1}/_{4}$cr–$^{1}/_{2}$Mo	18Cr–9Ni–2Mo
1	Body	A216–WCB	A217–WC6	A351–CF8M
2	Pres. Seal Bonnet	A216–WCB	A217–WC6	A351–CF8M
3	Disc	A105+HF	A182–F11+HF	A351–CF8M+HF
4	Hinge	A216–WCB	A217–WC6	A351–CF8M
5	Seat Ring	A105+HF	A182–F11+HF	A240–316+HF
6	Hinge Pin	A276–420	A276–304	A276–316
7	Bonnet Gasket[1)]	Steel Ring	304SS Ring	316SS RING
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Cover	Carbon Steel	Alloy Steel	Stainless Steel
11	Stud	A193–B7	A193–B7	A193–B8M
12	Stud Nut	A194–2H	A194–2H	A194–8M
13	Eyebolt	Carbon Steel		

Note:1) graphite 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	2 / 50	$2^{1}/_{2}$ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	in / mm
ANSI Class900Lb											
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	39.00	43.00	in
	216	254	305	356	508	660	787	914	991	1092	mm
L (RF)	14.50	16.60	15.00	18.00	24.00	29.00	33.00	38.00	40.5	44.5	in
	368	419	381	457	610	737	838	965	1029	1130	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	in
	371	422	384	460	613	740	841	968	1038	1140	mm
H	9.50	9.50	10.00	13.38	15.75	18.12	21.62	24.00	27.00	29.50	in
	240	240	255	340	400	460	550	610	685	750	mm
wt(kg)	22	34	38	71	176	485	761	1125	1345	1490	BW
	44	55	61	116	255	630	940	1433	1710	1820	RF/RTJ

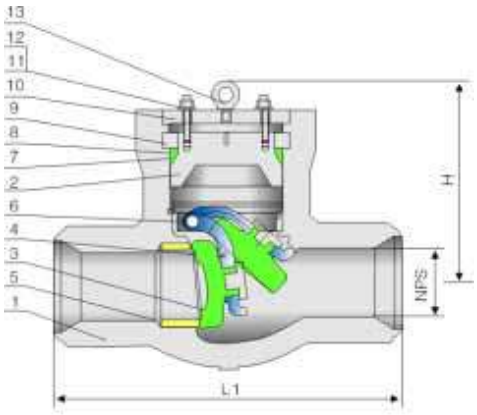
Pressure Seal Cast Steel Swing Check Valve 1500Lb/2500Lb

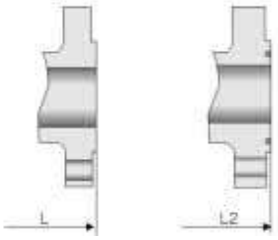
Applicable Standards:

- STEEL CHECK 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:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE DISC, FULLY GUIDED
- RENEWABLE SEAT RINGS
- FLANGED OR BUTTWELDING ENDS





Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1 1/4cr–1/2Mo	18Cr–9Ni–2Mo
1	Body	A216–WCB	A217–WC6	A351–CF8M
2	Pres. Seal Bonnet	A216–WCB	A217–WC6	A351–CF8M
3	Disc	A105+HF	A182–F11+HF	A351–CF8M+HF
4	Hinge	A216–WCB	A217–WC6	A351–CF8M
5	Seat Ring	A105+HF	A182–F11+HF	A240–316+HF
6	Hinge Pin	A276–420	A276–304	A276–316
7	Bonnet Gasket[1)]	Steel Ring	304SS Ring	316SS RING
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Cover	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B7	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–2H	A194–8M
13	Eyebolt	Carbon Steel		

Note:1) graphite 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	2	2 1/2	3	4	6	8	10	12	14	2	2 1/2	3	4	6	8	10	12	in
	50	65	80	100	150	200	250	300	350	50	65	80	100	150	200	250	300	mm
	ANSI Class1500Lb									ANSI Class2500Lb								
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	34.00	39.00	42.00	11.00	13.00	14.50	18.00	24.00	30.00	36.00	41.00	in
	216	254	305	406	559	711	864	991	1067	279	330	368	457	610	762	914	1041	mm
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	39	44.5	49.5	17.75	20.00	22.75	26.50	36.00	40.25	50	56	in
	368	419	470	546	705	832	991	1130	1257	451	508	578	673	914	1022	1270	1422	mm
L2 (RTJ)	14.62	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	17.88	20.50	23.00	26.88	36.50	40.88	50.88	56.88	in
	371	422	473	549	711	842	1000	1146	1276	454	514	584	683	927	1038	1292	1445	mm
H	9.50	9.50	11.88	15.38	18.00	20.62	24.00	27.00	30.00	10.25	10.25	13.75	16.12	18.88	22.38	25.25	32.00	in
	240	240	300	390	455	525	610	685	760	260	260	350	410	480	570	640	815	mm
wt(kg)	22	37	45	78	245	530	815	1213	1555	55	78	95	182	300	630	825	1580	BW
	44	61	110	155	378	675	1160	1710	2315	93	130	170	315	618	1125	1760	2910	RF/RTJ

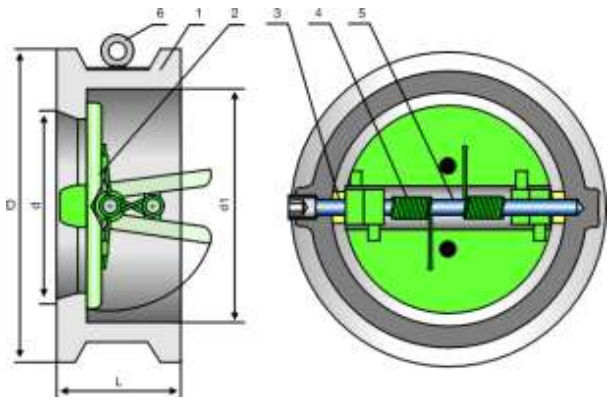
Wafer Cast Steel Check Valve150Lb/300Lb

Applicable Standards:

- STEEL CHECK VALVES, API 594/API6D
- STEEL CHECK VALVES,ISO14313
- STEEL VALVES,ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- ONE PIECE BODY
- BUTTERFLY SWING TYPE
- DUAL–PLATE DISC,LONG–PATTERN
- RENEWABLE SPLIT DISC
- HORIZONTAL OR VERTICAL SERVICE
- WAFER ENDS
- AVAILABLE WITH FLANGED ENDS



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	18Cr–9NiMo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Plate	A216–WCB+CR13	A351–CF8M+HF	A350–LCB+CR13
3	Stop Pin	A276–420	A276–304	A276–420
4	Back Spring	A313–304	A313–316	A313–304
5	Hinge Pin	A276–420	A276–304	A276–420
6	Eyebolt[2)]	Carbon Steel		

Note:1)NPS 8" & larger.

Dimensional datas of ANSI Class 150Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	in / mm
L	2.38	2.62	2.88	2.88	3.88	5.00	5.75	7.12	7.25	7.50	8.00	8.62	8.75	in
	60	67	73	73	98	127	146	181	184	191	203	219	222	mm
D	4.00	4.88	5.38	6.75	8.62	10.88	13.25	16.00	17.62	20.12	21.50	23.75	28.12	in
	103	122	135	173	220	277	337	407	448	512	547	604	715	mm
d	2.00	2.50	3.25	4.00	6.00	8.00	10.00	12.00	13.75	15.75	17.75	19.75	23.62	in
	51	65	80	102	152	203	254	305	350	400	450	500	600	mm
D1	2.25	2.88	3.50	4.25	6.25	8.25	10.50	12.12	14.00	16.00	18.00	19.88	23.75	in
	56	73	88	108	160	210	266	310	355	405	455	505	605	mm
WT	2	3	4	6	13	25	39	54	80	117	138	163	331	kg

Dimensional datas of ANSI Class 300Lb

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	in / mm
L	2.38	2.62	2.88	2.88	3.88	5.00	5.75	7.12	8.75	9.12	10.38	11.50	12.50	in
	60	67	73	73	98	127	146	181	222	232	264	292	318	mm
D	4.25	5.00	5.75	7.00	9.88	12.00	14.12	16.50	19.00	21.12	23.38	25.62	30.38	in
	110	128	147	179	249	305	359	420	483	537	594	652	772	mm
d	2.00	2.50	3.00	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	24.00	in
	51	65	80	102	152	8.25	254	305	350	400	450	500	600	mm
D1	2.25	2.88	3.50	4.25	6.38	203	10.50	12.25	14.00	16.00	18.00	20.00	24.00	in
	58	73	88	108	160	210	266	310	355	405	455	505	608	mm
WT	3	4	6	8	18	31	51	77	117	190	200	265	410	kg

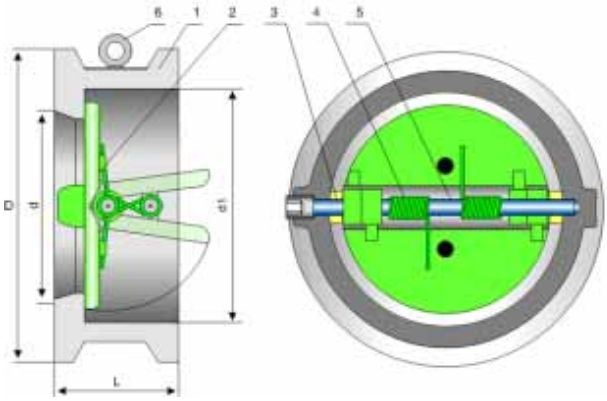
Wafer Cast Steel Check Valve600Lb/900Lb

Applicable Standards:

- STEEL CHECK VALVES, API 594/API6D
- STEEL CHECK VALVES,ISO14313
- STEEL VALVES,ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- ONE PIECE BODY
- BUTTERFLY SWING TYPE
- DUAL–PLATE DISC,LONG–PATTERN
- RENEWABLE SPLIT DISC
- HORIZONTAL OR VERTICAL SERVICE
- WAFER ENDS
- AVAILABLE WITH FLANGED ENDS



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	18Cr–9NiMo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Plate	A216–WCB+CR13	A351–CF8M+HF	A350–LCB+CR13
3	Stop Pin	A276–420	A276–304	A276–420
4	Back Spring	A313–304	A313–316	A313–304
5	Hinge Pin	A276–420	A276–304	A276–420
6	Eyebolt[2)]	Carbon Steel		

Note:1)NPS 8" & larger.

Dimensional datas of ANSI Class 600Lb

NPS / DN	2	2½	3	4	6	8	10	12	14	16	in
	50	65	80	100	150	200	250	300	350	400	mm
L	2.38	2.62	2.88	3.12	5.38	6.50	8.38	9.00	10.75	12.00	in
	60	67	73	79	137	165	213	229	273	305	mm
D	4.38	5.00	5.75	7.50	10.38	12.50	15.62	17.88	19.25	22.12	in
	110	128	147	191	264	318	398	455	490	562	mm
d	2.00	2.50	3.00	4.00	6.00	7.88	9.88	12.00	13.25	15.25	in
	51	65	80	102	152	200	250	305	337	387	mm
D1	2.25	2.88	3.50	4.25	6.38	8.38	10.50	12.25	14.00	157.75	in
	58	73	88	108	162	212	266	312	355	400	mm
WT	4	5	8	11	26	55	95	140	223	360	kg

Dimensional datas of ANSI Class 900Lb

NPS / DN	2	2½	3	4	6	8	10	12	14	16	in
	50	65	80	100	150	200	250	300	350	400	mm
L	2.75	3.25	3.25	4.00	6.25	8.12	9.50	11.50	–	–	in
	70	83	83	102	159	206	241	292	–	–	mm
D	5.50	6.38	6.50	8.00	11.25	14.00	17.00	19.50	–	–	in
	140	162	165	204	286	356	432	495	–	–	mm
d	2.00	2.50	3.00	4.00	6.00	7.88	9.88	12.00	–	–	in
	51	62	80	102	152	200	250	305	–	–	mm
D1	2.25	2.88	3.50	4.25	6.38	8.38	10.50	12.25	–	–	in
	58	73	88	108	162	212	266	312	–	–	mm
WT	8	11	14	20	42	84	145	220	–	–	kg

Cast Steel Wedge, Flat & Pressure Seal Gate Valves

Gate Valve, BB, CS

Design

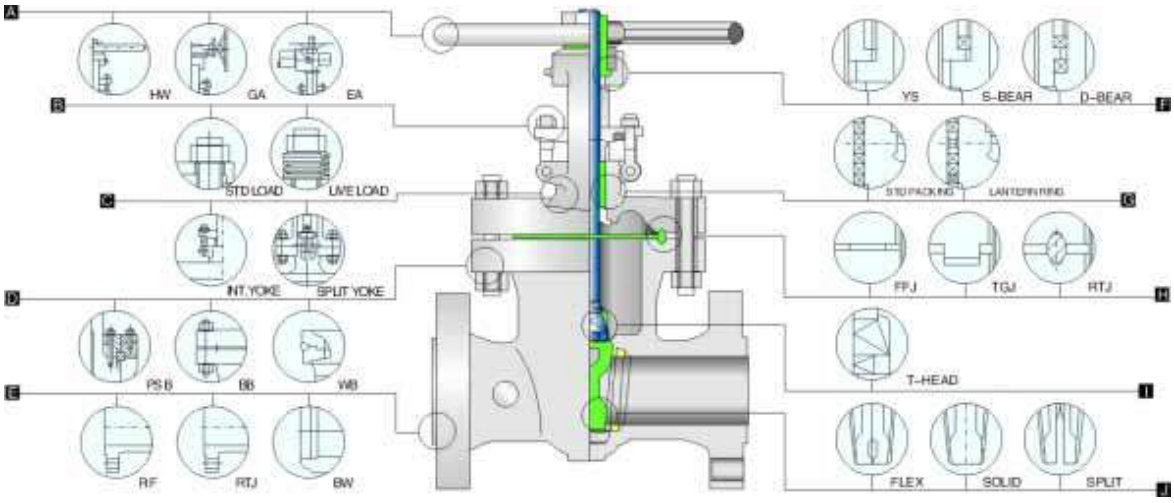
The cast steel gate valves are designed and manufactured to provide maximum service life and dependability. All gate valves are full ported and meet the design requirements of American Petroleum Institute standard API600&API 6D, British standard BS1414& BS EN 1984 and generally, conform to American Society of Mechanical Engineers standard ASME B16.34. Valves are available in a complete range of body/bonnet materials and trims.

Ranges of materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steels. 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 Cast Steel Valves

Trim Changes
End Connection Modifications
Packing and Gasket Change
Operator Mounting
Handwheel Extensions
Pressure Equalizing
By–Pass
Customer Specified Coatings
Weld End Bore Changes
Oxygen & Chlorine Clearing & Packaging



A Operation

Large handwheels for easy operation.also avaliable 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 byrequiring less stments.Belleville springs are employed to provide constant packing gland stress.

C OS&Y

Outside screw and yoke.Cast steel gate valve yoke integral with bonnet for 150Lb–8" 600Lb–6", 900Lb–4"&small.

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 Yokesleeve

Extra long thread engagement between yoke sleeve and stem provide long thread life.valves of sizes larger than 150Lb–12", 300Lb–10",600Lb–6", 900Lb/1500Lb/2500Lb–4" are regularly provided with roll bearing yokes.

G Lantern Ring And Double Packing Set

lantern ring leak–off fitting connection and double packing stack is optionally avaliable for critical services.

H Body–to–Bonnet Joint

A flat face gasket joint is used in the 150lb valves. A male and female joint is used in 300lb to 600lb valves.ring joint is used in the body to bonnet connections in 900lb & higher rated valves.

I Stem

All wedge gate valves are provided with upset forged T–head stems. By forging the T–head ,the stem at the stem–wedge connection is stregthened,this design also allows the wedge possibility of a bent stem jamming the wedge.

J Wedge

Integral guide rib faces assure self–centering of wedge.flexible wedge gate valve has a one–piece,twin–disc wedge,which is designed so that each half flexes independently.avaliable in solid, flex split and his designs.

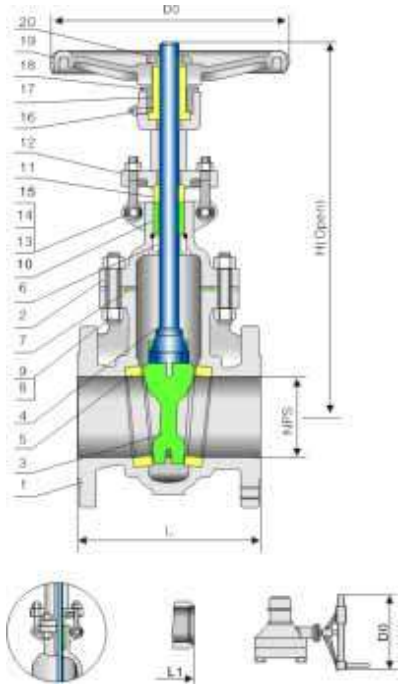
Cast Steel Gate Valve 150Lb/300Lb

Applicable standards:

- STEEL GATE VALVES API 600/API6D
- STEEL GATE VALVES ISO 10434/ISO 14313
- 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/API 6D

Design descriptions:

- FULL PORT DESIGN
- OS&Y OUTSIDE SRCEW AND YOKE
- BB.BOLTED BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T-HEAD STEM
- RISING STEM AND NON-RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	Carbon steel	ASTM Material 1 1/4cr-1/2mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Wedge	A216-WCB+CR13	A217-WC6+HF	A352-LCB+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	Grease Fitting	Brass+Steel		
17	YokeSleeve	Aluminum-Bronze		
18	Yokesleeve Jam nut	Carbon Steel		
19	Handwheel	Malleable Iron		
20	Handwheel Nut	Carbon Steel		

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.

Dimensional datas of ANSI Class 150Lb

NPS / DN	2 / 50	2 1/2 / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	30 / 750	32 / 800	36 / 900	in / mm
L (RF)	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00	15.00	16.00	17.00	18.00	20.00	22.00	24.00	24.00	28.00	28.00	in
	178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	711	711	mm
L1 (BW)	85	9.50	11.12	12.00	15.88	16.50	18.00	19.75	22.50	24.00	26.00	28.00	32.00	34.00	36.00	36.00	38.00	40.00	in
	216	241	283	305	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	mm
H (open)	15.25	17.00	18.88	23.00	30.50	37.62	45.50	53.12	59.38	67.00	74.50	83.50	98.25	110.50	116.50	124.00	129.00	146.50	in
	386	434	480	584	765	956	1149	1350	1508	1703	1892	2119	2500	2806	2960	3150	3280	3720	mm
Do	8	8	10	12	12	14	16	15	20	22	24	26	29	29	32	32	38	40	in
	200	200	250	300	300	350	400	450	500	550	600	640	700	720	800	800	950	1000	mm
wt(kg)	18	25	32	50	77	121	178	265	463	463	621	792	1521	1521	1838	2261	2490	3310	RF
	15	18	26	41	69	108	156	248	424	424	587	752	1570	1570	1900	3310	2540	3380	BW

Dimensional datas of ANSI Class 300Lb

NPS / DN	2 / 50	2 1/2 / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	26 / 650	28 / 700	30 / 750	32 / 800	36 / 900	in / mm
L/L1 (RF/BW)	8.50	9.50	11.12	12.00	15.88	16.50	18.00	19.75	30.00	33.00	36.00	39.00	45.00	49.00	53.00	55.00	60.00	68.00	in
	216	241	283	305	403	419	457	502	762	838	914	991	1143	1245	1346	1397	1524	1727	mm
L2 (RTJ)	9.12	10.12	11.75	12.62	16.50	17.12	18.62	20.38	30.62	33.62	36.62	39.75	45.88	50.00	54.00	56.00	61.12	69.12	in
	232	257	298	321	419	435	473	518	778	854	930	1010	1165	1270	1372	1422	1553	1756	mm
H (open)	16.12	17.88	20.00	24.00	31.75	39.38	47.62	55.75	62.25	67.88	77.12	86.38	102.00	117.00	122.00	126.00	130.00	152.00	in
	410	453	509	612	805	1000	1210	1415	1580	1725	1960	2195	2590	2975	3100	3200	3300	3860	mm
Do	8	8	10	12	14	16	18	20	22	22	24	26	29	29	32	32	38	40	in
	200	200	250	300	350	400	450	500	550	550	600	640	720	720	800	800	950	1000	mm
wt(kg)	23	35	50	71	144	209	322	482	683	950	1145	1635	2660	3090	3310	3595	3720	3985	RF
	17	26	39	53	113	164	256	390	565	805	965	1410	2305	2540	2725	3055	3360	3630	BW

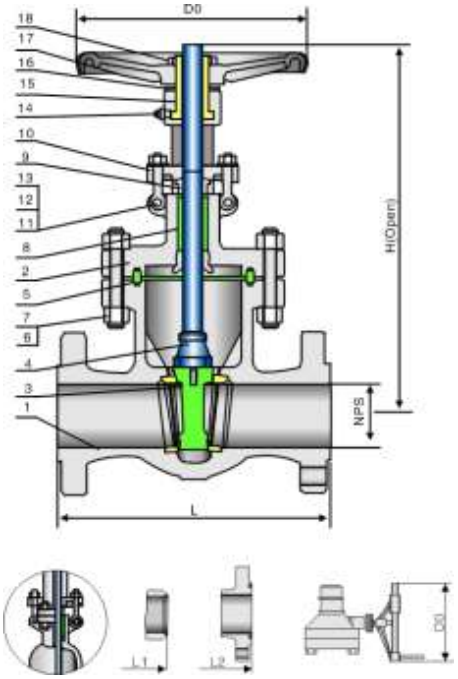
Cast Steel Gate Valve 600Lb/900Lb

Applicable Standards:

- STEEL GATE VALVES API 600/API6D
- STEEL GATE VALVES ISO 10434/ISO 14313
- 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/API 6D

Design descriptions:

- FULL PORT DESIGN
- OS&Y OUTSIDE SRCEW AND YOKE
- BB.BOLTED BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T–HEAD STEM
- RISING STEM AND NON–RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 1/4cr–1/2mo	Carbon Steel
1	Body	A216–WCB	A217–WC6	A352–LCB
2	Bonnet	A216–WCB	A217–WC6	A352–LCB
3	Wedge	A216–WCB+CR13	A217–WC6+HF	A352–LCB+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	Grease Fitting		Brass+steel	
17	Yokesleeve		Aluminum–bronze	
18	Yokesleeve Jam Nut		Carbon Steel	
19	Handwheel		Malleable Iron	
20	Handwheel Nut		Carbon Steel	

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.

Dimensional datas of ANSI Class 600Lb

NPS	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	mm
L/L1 (RF/BW)	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	57.00	61.00	65.00	70.00	82.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	1778	2083	mm
L2 (RTJ)	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	57.50	61.50	65.50	70.62	82.62	in
	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	1461	1562	1664	1794	2099	mm
H (open)	16.50	18.75	20.38	25.50	33.00	40.38	48.38	57.00	62.00	70.62	76.00	87.00	101.50	105.00	109.50	114.00	124.00	140.00	in
	418	476	518	646	840	1025	1230	1450	1575	1795	1930	2210	2580	2665	2780	2895	3150	3560	mm
Do	8	10	10	12	18	20	24	24	24	24	26	26	29	29	32	32	38	40	in
	200	250	250	300	450	500	600	600	600	600	640	640	720	720	800	800	950	1000	mm
wt(kg)	36	52	67	112	170	393	610	890	1245	1530	1965	2450	2995	3475	3725	4045	4185	4480	RF
	29	42	53	83	125	310	472	730	1055	1240	1625	2030	2590	2855	3065	3440	3780	4085	BW

Dimensioal datas of ANSI Class 900Lb

NPS	2	2 1/2	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
L/L1 (RF/BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	48.00	52.00	61.00	in
	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	48.50	52.50	61.75	in
	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568	mm
H (open)	19.62	21.50	22.50	26.62	35.50	4.50	53.00	60.00	74.88	81.00	87.00	101.00	104.00	in
	498	547	573	678	900	1103	1345	1525	1900	2055	2215	2565	264.00	mm
Do	10	10	12	18	20	24	26	29	32	32	38	38	40	in
	250	250	300	450	500	600	640	720	800	800	950	950	1000	mm
wt(kg)	74	131	101	172	335	640	1100	1600	2250	2850	3060	3935	49.00	RF
	54	105	78	135	260	515	920	1380	2010	2565	3485	3250	4065	BW

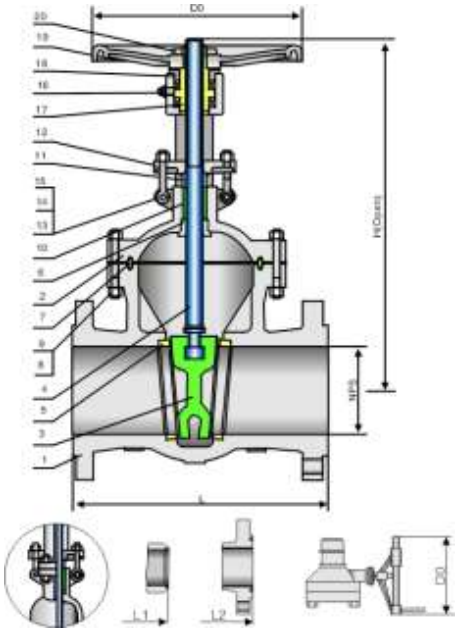
Cast Steel Gate Valve 1500Lb/2500Lb

Applicable Standards:

- STEEL GATE VALVES API 600/API6D
- STEEL GATE VALVES ISO 10434/ISO 14313
- 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/API 6D

Design descriptions:

- FULL PORT DESIGN
- OS&Y OUTSIDE SRCEW AND YOKE
- BB.BOLTED BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T–HEAD STEM
- RISING STEM AND NON–RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 1/4cr–1/2mo	Carbon Steel
1	Body	A216–WCB	A217–WC6	A352–LCB
2	Bonnet	A216–WCB	A217–WC6	A352–LCB
3	Wedge	A216–WCB+CR13	A217–WC6+HF	A352–LCB+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	Grease Fitting		Brass+steel	
17	Yokesleeve		Aluminum–bronze	
18	Yokesleeve Jam Nut		Carbon Steel	
19	Handwheel		Malleable Iron	
20	Handwheel Nut		Carbon Steel	

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.

Dimensional datas of ANSI Class 1500Lb

NPS / DN	2 / 50	2 1/2 / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	in / mm
L/L1 (RF/BW)	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	54.50	60.50	65.50	76.50	in
	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943	mm
L2 (RTJ)	15.50	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	55.38	61.38	66.38	77.62	in
	371	422	473	549	711	841	1000	1146	1276	1407	1559	1686	1972	mm
H (open)	24.25	26.00	30.00	34.12	39.50	45.00	54.00	61.00	74.88	80.50	93.75	101.50	114.75	in
	615	658	760	868	1005	1145	1370	1550	1900	2050	2380	2580	2915	mm
Do	10	12	18	20	24	18	18	24	24	24	24	24	24	in
	250	300	450	500	600	460	460	600	600	600	600	600	600	mm
wt(kg)	116	166	209	296	510	920	1910	3145	4100	6200	8965	13100	15860	RF
	105	150	188	265	412	760	1640	2755	3200	5300	8070	11790	14275	BW

Dimensional datas of ANSI Class 2500Lb

NPS / DN	2 / 50	2 1/2 / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	18 / 450	20 / 500	24 / 600	in / mm
L/L1 (RF/BW)	17.75	20.00	22.75	26.50	36.00	40.25	50.00	56.00	–	–	–	–	–	in
	451	508	578	673	914	1022	1270	1422	–	–	–	–	–	mm
L2 (RTJ)	17.88	20.50	23.00	26.88	36.50	40.88	50.88	56.88	–	–	–	–	–	in
	454	514	584	683	927	1038	1292	1445	–	–	–	–	–	mm
H (open)	24.88	29.00	35.00	41.50	57.00	63.38	81.75	89.75	–	–	–	–	–	in
	631	736	890	1055	1450	1610	2075	2280	–	–	–	–	–	mm
Do	12	18	20	20	24	24	24	24	–	–	–	–	–	in
	300	450	500	500	600	600	600	600	–	–	–	–	–	mm
wt(kg)	155	210	310	580	1600	2450	4570	7150	–	–	–	–	–	RF
	124	160	245	460	1310	2010	3800	6000	–	–	–	–	–	BW

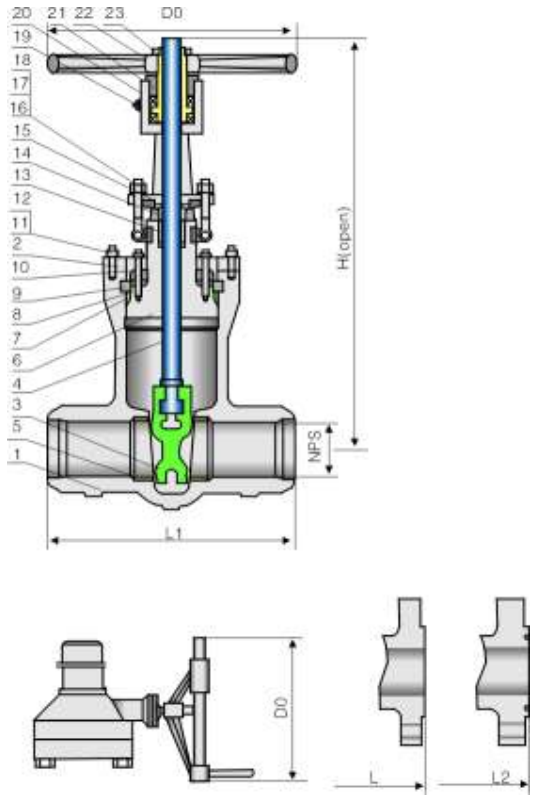
Pressure Seal, Cast Steel Gate Valve 900Lb

Applicable Standards:

- STEEL GATE VALVES,API600/API 6D
- STEEL GATE VALVES, ISO 10434/ISO 14313
- 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/API 6D

Design descriptions:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T-HEAD STEM
- RISING STEM AND NON-RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1¼cr-½mo	18Cr-9Ni-2Mo
1	Body	A216-WCB	A217-WC6	A351-CF8M
2	Yoke	A216-WCB	A217-WC6	A351-CF8M
3	Wedge	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	Steel Ring	304SS RING	316SS RING
8	Adapter Ring	Carbon Steel	A276-420	A276-316
9	Retainer	Carbon Steel	A276-420	A276-316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193-B7	A193-B16	A193-B8M
12	Bonnet Stud Nut	A194-2H	A194-7	A194-8M
13	Packing	Graphite		
14	Gland	A276-420	A276-304	A276-316L
15	Gland Flange	A216-WCB	A217-WC6	A351-CF8M
16	Eyebolt Pin	Carbon Steel	A276-420	A276-316
17	Eyebolt	CarbonSteel	A193-B7	A193-B8
18	Eyebolt Nut	Carbon Steel	A194-2H	A194-8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum-Bronze[2]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon steel		

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.

Dimensional datas

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	in / mm
ANSI Class 900Lb											
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	39.00	43.00	in
	216	254	305	356	508	660	787	914	991	1092	mm
L (RF)	14.50	165.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	in
	368	419	381	457	610	737	838	965	1029	1130	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	in
	371	422	384	460	613	740	841	968	1038	1140	mm
H (open)	17.62	17.62	19.5	22.88	32.62	67362	45.5	53.12	59	70.5	in
	448	448	495	580	830	955	1165	1350	1500	1790	mm
D0	14	14	14	14	18	24	28	34	34	34	in
	350	350	350	350	450	600	700	850	850	850	mm
WT(kg)	39	39	48	69	158	289	482	710	998	1390	BW
	69	69	72	110	253	430	710	1025	1452	1960	RF/RTJ

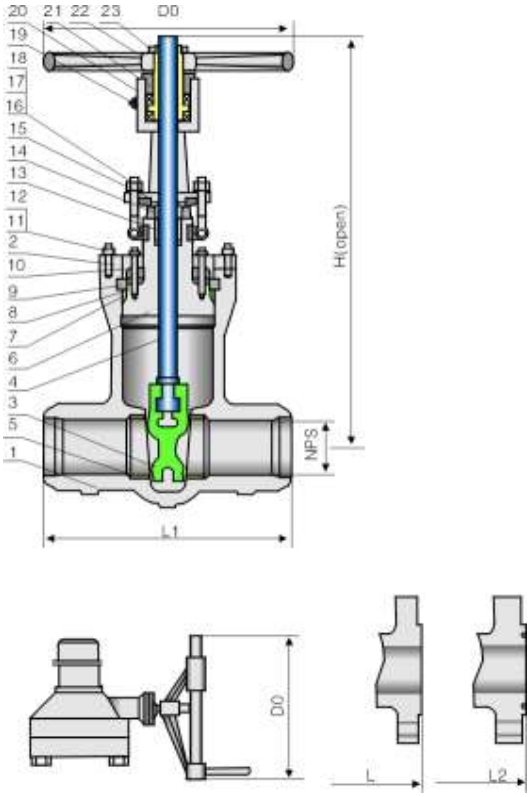
Pressure Seal, Cast Steel Gate Valve1500Lb/2500Lb

Applicable Standards:

- STEEL GATE VALVES,API600/API 6D
- STEEL GATE VALVES, ISO 10434/ISO 14313
- 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/API 6D

Design descriptions:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T–HEAD STEM
- RISING STEM AND NON–RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1¼cr–½mo	18Cr–9Ni–2Mo
1	Body	A216–WCB	A217–WC6	A351–CF8M
2	Yoke	A216–WCB	A217–WC6	A351–CF8M
3	Wedge	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	Steel Ring	304SS RING	316SS RING
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B16	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–7	A194–8M
13	Packing	Graphite		
14	Gland	A276–420	A276–304	A276–316L
15	Gland Flange	A216–WCB	A217–WC6	A351–CF8M
16	Eyebolt Pin	Carbon Steel	A276–420	A276–316
17	Eyebolt	CarbonSteel	A193–B7	A193–B8
18	Eyebolt Nut	Carbon Steel	A194–2H	A194–8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum–Bronze[2)]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon steel		

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.

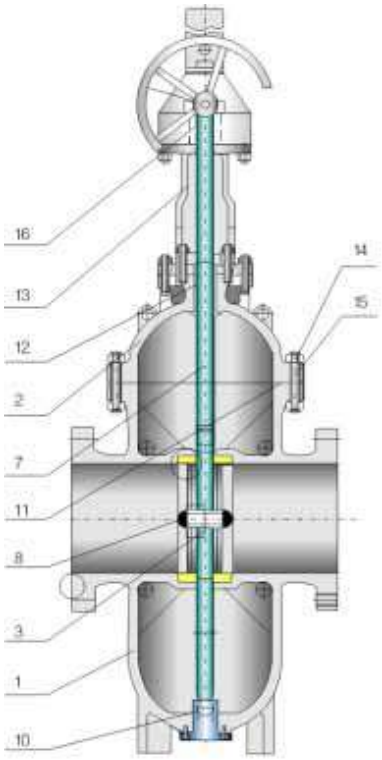
Dimensional datas

NPS	2	2½	3	4	6	8	10	12	14	16	2	2½	3	4	6	8	10	12	14	16	in
DN	50	65	80	100	150	200	250	300	350	400	50	65	80	100	150	200	250	300	350	400	mm
	ANSI Class 1500Lb										ANSI Class 2500Lb										
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	34.00	39.00	42.00	47.00	11.00	13.00	14.50	18.00	24.00	30.00	36.00	41.00	–	–	in
	216	254	305	406	559	711	864	991	1067	1194	279	330	368	457	610	762	914	1041	–	–	mm
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	54050	17.75	20.00	22.75	26.50	36.00	40.25	50.00	56.00	–	–	in
	368	419	470	546	705	832	991	1130	1257	1384	451	508	578	673	914	1022	1270	1422	–	–	mm
L2 (RTJ)	15.50	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	55.38	17.88	20.50	23.00	26.88	36.50	40.88	50.88	56.88	–	–	in
	371	422	473	549	711	841	1000	1146	1276	1407	454	514	584	683	927	1038	1292	1445	–	–	mm
H (open)	17.62	17.62	21.62	25.25	33.5	38.62	46.5	62.25	70.5	78	22.5	22.5	25.62	30	36.62	41.38	44.88	60.25	–	–	in
	448	448	550	640	850	980	1180	1580	1790	1980	570	570	650	760	930	1050	1140	1530	–	–	mm
D0	14	14	14	18	24	28	34	34	34	34	14	14	18	24	28	34	34	34	–	–	in
	350	350	350	450	600	700	850	850	850	850	350	350	450	600	700	850	850	850	–	–	mm
WT(kg)	45	45	55	77	175	323	540	795	1115	1556	110	110	150	175	380	575	980	1570	–	–	BW
	80	80	95	123	283	481	795	1148	1626	2195	165	195	235	316	635	910	1780	2680	–	–	RF/RTJ

Flat Gate Valve

Applicable Standards:

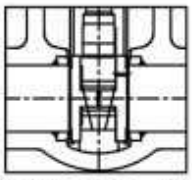
DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5 DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156



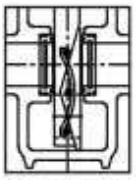
Single disk with pilot port structure

Materials of parts

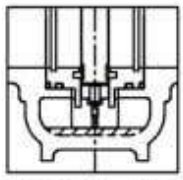
No	Part Name	No	Part Name
1	Body	9	Spring
2	Bonnet	10	Blowdown valve
3	Disc	11	Gasket
4	Seat	12	Packing
5	Sealing ring	13	Yoke
6	O–ring	14	Nut
7	Stem	15	Bolt
8	Seat grease injection valve	16	Stem nut



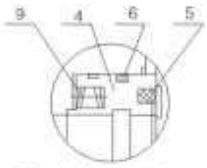
Double disk non–diversion hole structure



Double disk with diversion hole structure



Single disk non–diversion hole structure



Soft sealing structure

Hard sealing structure

Product Features

1、Valve seat adopts the structure of O–ring seals and pretightening float valve seat, the soft sealing inlays fluoroplastic, it provides the function of double sealing: fluoroplastic to metal and metal to metal. And at the same time, the fluoroplastic can remove the dirt of the gate disk.
2、Of the metal to metal sealing, there is a grease injection structure outside the valve, grease injects the sealing part through the seat, in this way achieves the aim of zero leakage.
3、Through conduit gate valve always coincide with the sealing surface,whether the disc is full open–or full–closd; sealing surface to be protected from scouring by media dilectly, thereby extending the service life. In full–time, smooth channel for the direct and flow resistance coefficient is extremely small, no pressure loss, leading to Pig.

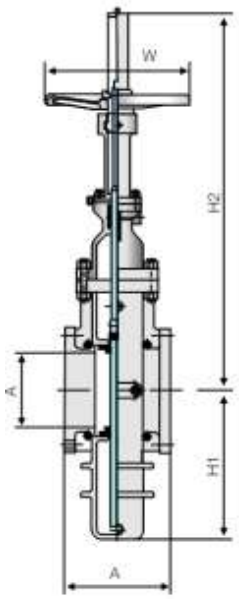
Materials of parts

Body	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Bonnet	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Disc	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Seat	A105+ENP/LF2+ENP/F304/F316/F304L/F316L/F51
Stem	F6a/F304/F316/F304L/F316L/F51
Seal ring	PTFE/NYLON/PEEK/TEFLON
Sealing surface material	1~12 Trim material
O–ring	VITON/NBR
Bolt	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Spring	17–4PH/Inconel
Stem nut	C95200/D2/A536
Gasket	Flexible graphite+304/Flexible graphite+316
Packing	Flexible graphite/PTFE
Materials could be choosed according to customers' requirement & working condition.	

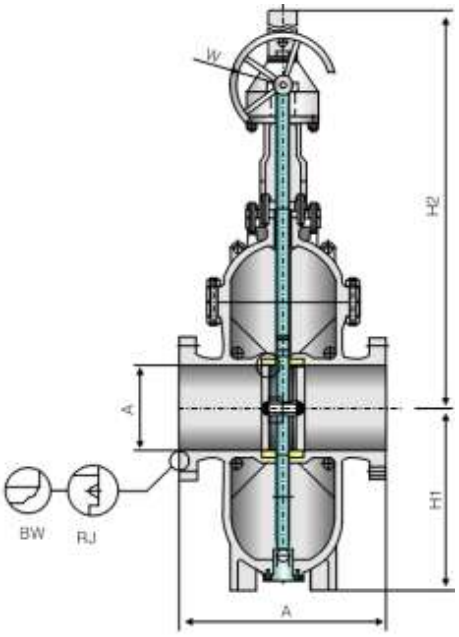
Flat Gate Valve 150Lb/300Lb

Applicable Standards:

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5 DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156



Class 150



Class 300

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m
ANSI Class 150Lb																	
2	50	178	51	125	452	200	25	23	16	400	406	385	685	1854	560	630	572
3	80	203	76	175	605	250	43	50	18	450	432	436	790	2088	650	836	728
4	100	229	100	202	680	280	65	60	★20	500	457	487	880	2420	460	1190	910
6	150	267	150	282	890	300	95	78	★24	600	508	589	1050	2688	460	1580	1313
8	200	292	201	355	1128	350	146	143	★28	700	610	684	1192	3078	460	2400	2028
10	250	330	252	445	1296	400	245	211	★30	750	610	735	1268	3252	600	3200	2305
12	300	356	303	518	1483	450	343	289	★32	800	711	779	1355	3495	600	3700	2795
14	350	381	334	606	1668	500	480	403	★36	900	711	874	1515	3898	600	4600	3783

Dimensional datas

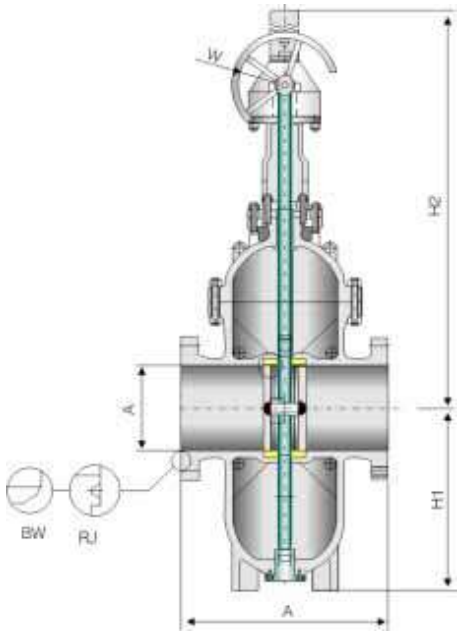
NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m
ANSI Class 300Lb																	
2	50	292	51	135	456	200	30	25	16	400	902	385	730	1884	650	1280	735
3	80	356	76	182	618	250	48	71	★18	450	978	436	802	2163	460	1665	988
4	100	406	100	216	713	280	78	95	★20	500	1054	487	935	2420	460	2168	1235
6	150	495	150	315	903	350	152	117	★24	600	1232	589	1103	2810	460	2980	1963
8	200	597	201	382	1133	400	240	185	★28	700	1397	684	1262	3203	460	4060	2990
10	250	673	252	480	1403	450	420	292	★30	750	1524	735	1342	3412	600	4980	3566
12	300	762	303	545	1582	500	525	366	★32	800	1651	779	1422	3646	600	5800	4121
14	350	826	334	645	1688	560	810	576	★36	900	1880	874	1513	4055	600	7790	5785

Note: ★Worm–gean actuator

Flat Gate Valve 600Lb/900Lb/1500Lb

Applicable Standards:

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5 DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156



Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m
ANSI Class 600Lb																	
2	50	292	51	160	466	250	60	32	★14	350	889	334	654	1745	460	1680	1453
3	80	356	76	228	622	280	106	117	★16	400	991	385	740	1978	460	2230	2103
4	100	432	100	258	724	350	160	169	★18	450	1092	436	812	2268	600	2700	2808
6	150	559	150	332	913	450	395	234	★20	500	1194	487	1040	2509	600	3100	3653
8	200	660	201	411	1148	560	605	319	★24	600	1397	589	1160	2820	600	5100	4953
10	250	787	252	493	1412	600	960	737	★28	700	1549	684	1288	3233	1000	7050	6253
12	300	838	303	577	1596	650	1520	1274	★30	750	1651	735	1330	3442	1000	8200	7163

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m
ANSI Class 900Lb																	
2	50	368	49	162	476	300	133	71	12	300	965	303	577	1600	460	1850	1296
3	80	381	74	230	638	350	198	150	14	350	1029	322	660	1755	460	2580	1482
4	100	457	100	262	730	400	260	181	16	400	1130	373	750	2028	600	3500	2139
6	150	610	150	336	920	560	565	413	18	450	1219	423	822	2288	600	4400	2919
8	200	737	201	415	1152	600	965	767	20	500	1321	471	1058	2525	600	5560	4486
★10	250	838	252	496	1418	460	1280	1021	24	600	1549	589	1176	2850	1000	7480	5195

Dimensional datas

NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m	NPS inch	DN	A mm	B mm	H1 mm	H2 mm	W mm	WT kg	T N.m
ANSI Class 1500Lb																	
2	50	368	49	162	476	300	133	107	★6	150	705	144	338	930	460	830	618
3	80	470	74	230	638	400	235	225	★8	200	832	192	420	1160	460	1380	1151
4	100	546	100	270	745	500	398	272	★10	250	991	239	500	1428	460	2230	1532

Note: ★Turbine drives

Cast Steel & Pressure Seal Globe Valves

Globe Valve, BB, CS

Design

The 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.

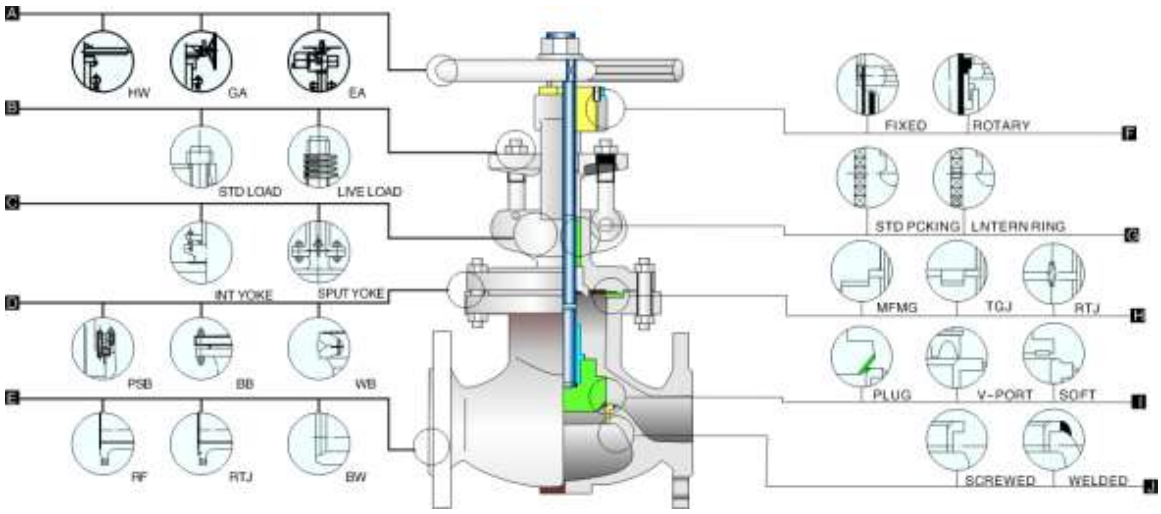
Ranger of Materials

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 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

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 al l size. Disc has a differential angle front the seat to provide a line contact for maximum sealing. The bottom of v–port disc is fuided 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.

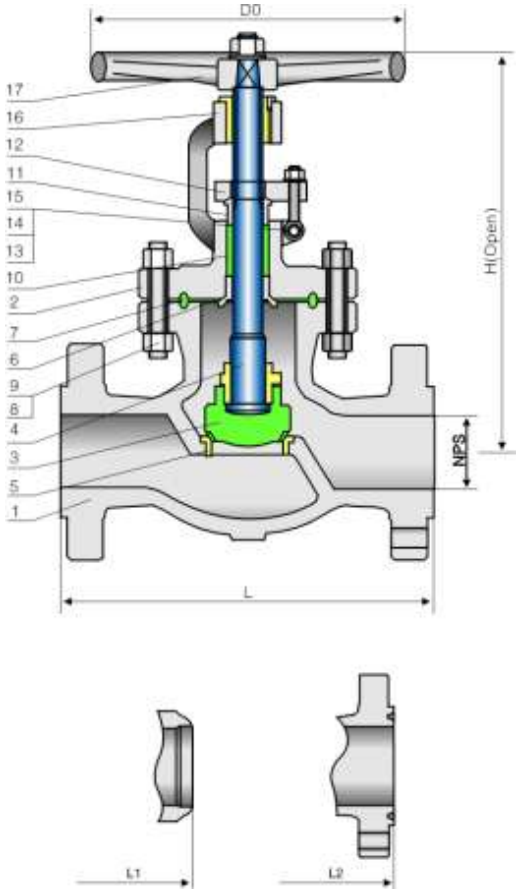
Cast Steel Globe Valve 150Lb/300Lb

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 Class150Lb										ANSI Class300Lb									
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

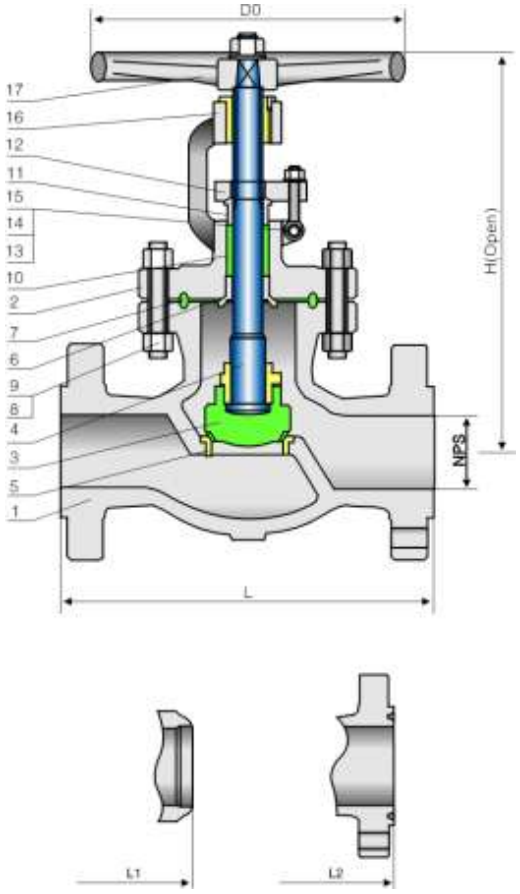
Cast Steel Globe Valve 600Lb/900Lb

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
- 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 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

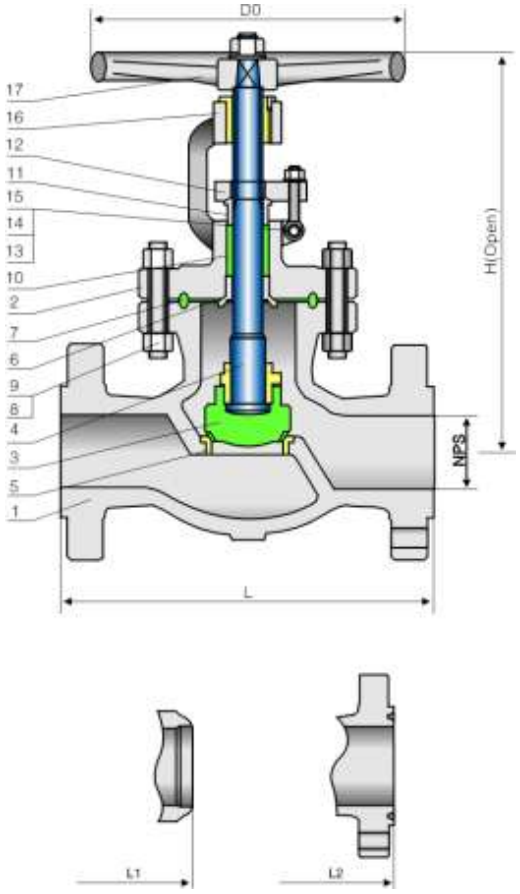
Cast Steel Globe Valve 1500Lb/2500Lb

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 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

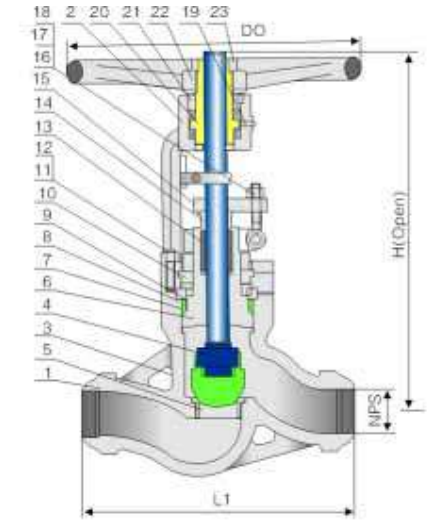
Pressure Seal, Cast Steel Globe Valve 900Lb

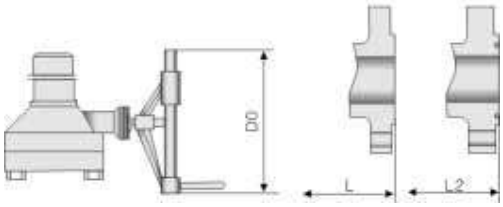
Applicable Standards:

- 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:

- PSB,PRESSURE SEAL BONNET
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- RENEWABLE SEAT RINGS
- RISING STEM AND HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR





Materials of parts

No	Part Name	ASTM Materials Carbon Steel	$1^1/_4$cr–$^1/_2$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)]	Steel Ring	304SS Ring	316SS Ring
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B16	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–7	A194–8M
13	Packing	Graphite		
14	Gland	A276–420	A276–304	A276–316L
15	Gland Flange	A216–WCB	A217–WC6	A351–CF8M
16	Eyebolt Pin	Carbon Steel	A276–420	A276–316
17	Eyebolt	Carbon Steel	A193–B7	A193–B8
18	Eyebolt Nut	Carbon Steel	A194–2H	A194–8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum–Bronze[2)]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon Steel		

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.

Dimensional datas

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	in / mm
ANSI Class 900Lb									
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	in
	216	254	305	356	508	660	787	914	mm
L (RF)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	in
	368	419	381	457	610	737	838	965	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	in
	371	422	384	460	613	740	841	968	mm
H (open)	22	22	22	27	36.38	43.38	50.62	57	in
	557	557	557	685	925	1100	1285	1450	mm
D0	16	16	16	16	28	28	36	36	in
	400	400	400	400	700	700	900	900	mm
WT(kg)	46	53	68	100	270	450	740	1150	BW
	75	82	95	135	355	680	1050	1480	RF/RTJ

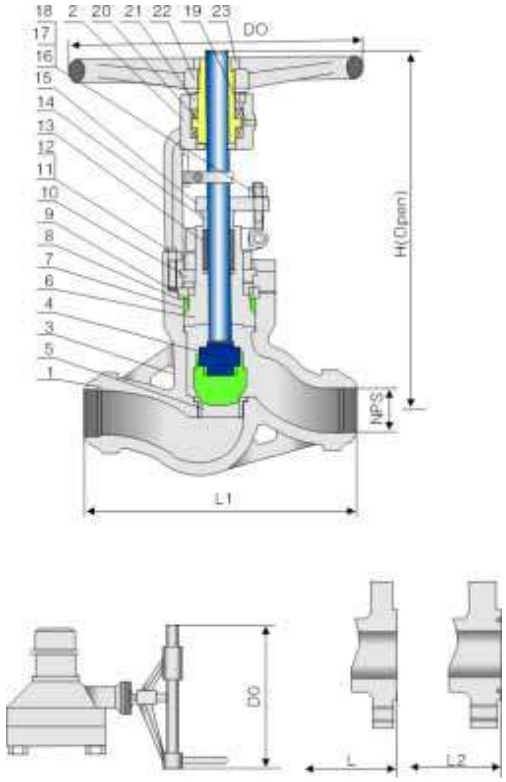
Pressure Seal, Cast Steel Globe Valve 1500Lb/2500Lb

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:

- PSB,PRESSURE SEAL BONNET
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- RENEWABLE SEAT RINGS
- RISING STEM AND HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1 1/4cr–1/2Mo	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]	Steel Ring	304SS Ring	316SS Ring
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B16	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–7	A194–8M
13	Packing	Graphite		
14	Gland	A276–420	A276–304	A276–316L
15	Gland Flange	A216–WCB	A217–WC6	A351–CF8M
16	Eyebolt Pin	Carbon Steel	A276–420	A276–316
17	Eyebolt	Carbon Steel	A193–B7	A193–B8
18	Eyebolt Nut	Carbon Steel	A194–2H	A194–8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum–Bronze[2]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon Steel		

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.

Dimensional datas

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					
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	11.00	13.00	14.50	18.00	24.00	in
	216	254	305	406	559	711	279	330	368	457	610	mm
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	17.75	20.00	22.75	26.50	36.00	in
	368	419	470	546	705	832	451	508	578	673	914	mm
L2 (RTJ)	14.62	16.62	18.62	21.62	28.00	33.12	17.88	20.50	23.00	26.88	36.50	in
	371	422	473	549	711	842	454	514	584	683	927	mm
H (open)	22	22	24.38	30	44.62	54.75	23.38	23.38	28	32.25	49.62	in
	557	557	620	760	1135	1390	595	595	710	820	1260	mm
D0	16	18	20	24	28	36	16	20	24	28	36	in
	400	450	500	600	700	900	400	500	600	700	900	mm
WT(kg)	57	65	90	190	450	730	65	78	125	155	480	BW
	86	112	162	240	580	950	115	136	205	275	860	RF/RTJ

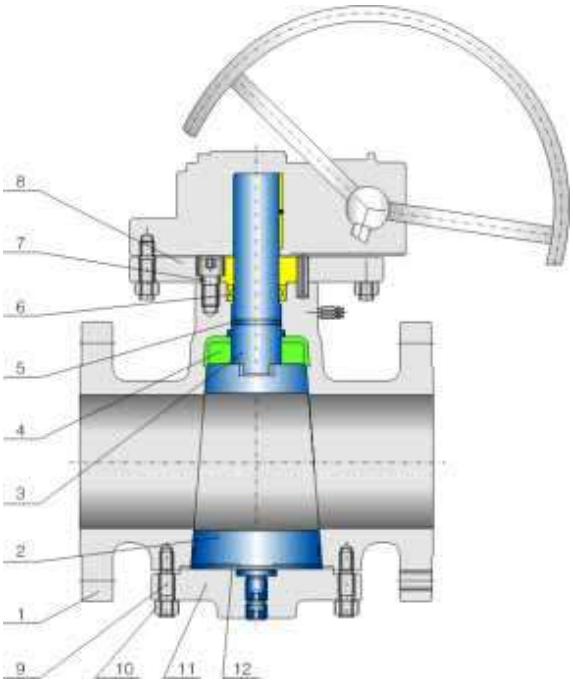
Cast Steel Plug Valves

Pressure Balanced Plug Valve

Applicable Standards:

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156

No	Part Name	No	Part Name
1	Body	9	Bolt
2	Cock body	10	Connection board
3	Stem	11	Stud
4	Driving dog	12	Nut
5	O–ring	13	Lower cover
6	Packing	14	Gasket



Materials of parts

Body	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Cock body	WCB+N/CA15/4140+ENP/CF8M/CF8/CF3M/CF3/CD3MN
Stem	F6a/4140+ENP/F304/F316/F304L/F316L/F51
Lower cover	A105/LF2/F304/F316/F304L/F316L/F51
O–ring	VITON/NBR
Stud	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Gasket	Flexible graphite+304/PTFE/304
Materials could be choosed according to customers' requirement & working condition.	

Plug Valve Introduction

一、Usage.

It is mainly used for storage and transportation of oil and gas in the chemical industry, metallurgy, paper making, food processing, shipbuilding and other industries, used to open or close, and with pneumatic and electrical devices can also achieve the long–distance operation, to ensure personal safety.

二、Features.

1、lockup device, manual operation, in order to prevent misoperation, valve can be equipped with padlock device.

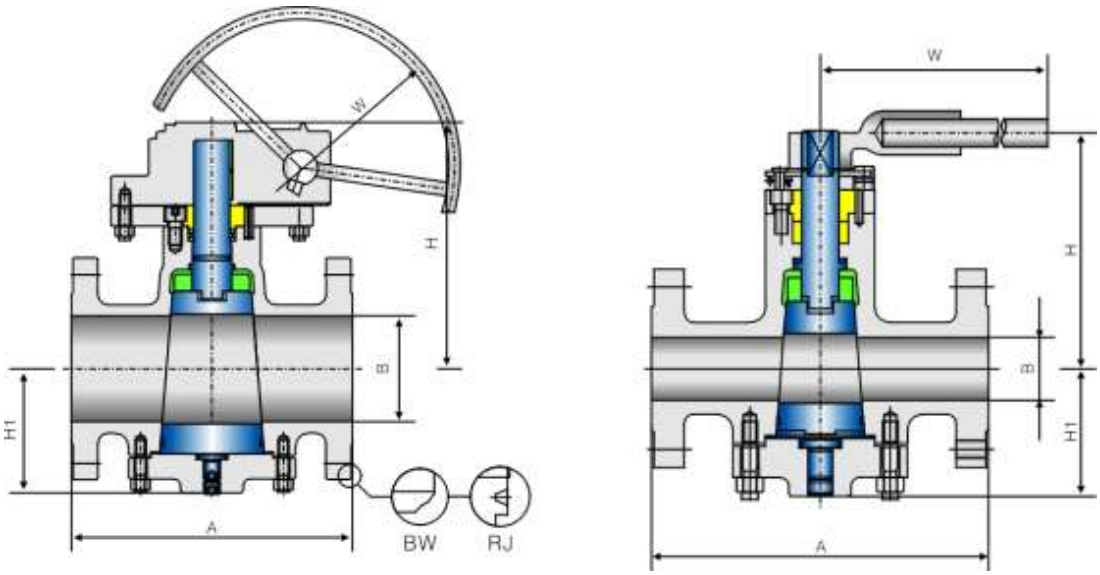
2、Anti–static structure, when a fire break out, the metal seal forms to prevent large leakage of media

3、valve body and stem can finish emergency injection seal, through the grease injection valve, the stop–leak compound can achieve a short–time seal, theref or to buy time handling the scene.

Pressure Balanced Plug Valve 150Lb/300Lb

Applicable Standards:

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156



Dimensional datas

NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m	NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m
Short Series Type ANSI Class 150Lb									Venturi Type ANSI Class 150Lb								
2	50	178	51	175	106	350	18	98	★10	250	533	252	420	255	600	375	2166
3	80	203	76	190	127	600	31	180	★12	300	610	303	492	316	600	420	3199
4	100	229	102	214	158	700	50	302	★14	350	686	334	498	320	600	480	4849
★6	150	267	152	270	185	900	93	628	★16	400	762	385	645	368	700	590	6032
★8	200	292	201	370	220	600	250	2032	★18	450	864	436	687	426	760	713	9142
★10	250	330	252	420	250	600	330	2166	★20	500	914	487	742	477	760	880	12022
★12	300	356	303	490	310	600	360	3199	★24	600	1067	589	798	522	760	1203	19424

Dimensional datas

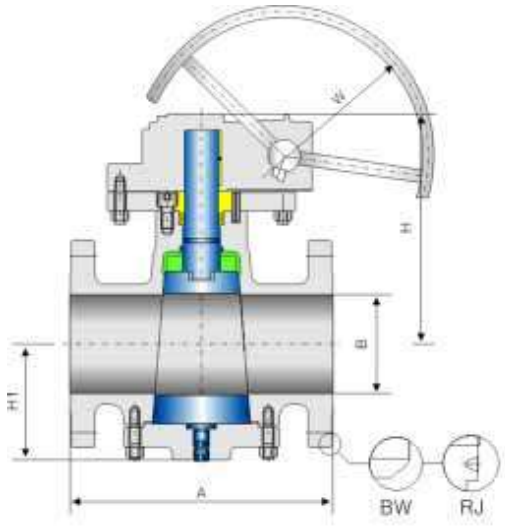
NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m	NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m
Short Series Type ANSI Class 300Lb									Venturi Type ANSI Class 300Lb								
2	50	216	51	184	108	500	25	172	6	150	403	152	307	200	900	144	1080
2 1/2	70	241	62	190	115	550	33	198	★8	200	419	303	390	230	600	280	3208
3	80	283	76	195	137	600	40	218	★10	250	457	252	433	255	600	370	3258
4	100	305	102	265	168	700	70	536	★12	300	502	303	500	320	700	408	5202
★6	150	403	152	307	200	900	144	1080	★14	350	762	334	630	340	700	510	8486
★8	200	419	201	390	230	600	280	3208	★16	400	838	385	740	376	762	630	10696
★10	250	457	252	433	255	600	370	3258	★18	450	914	436	788	436	762	750	15940
★12	300	502	303	500	320	700	408	5202	★20	500	991	487	833	497	762	890	21040
									★24	600	1143	589	889	543	762	1035	24082

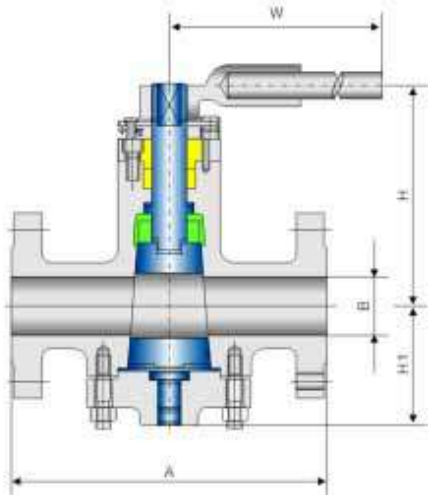
Note: ★Turbine drives

Pressure Balanced Plug Valve 600Lb/900Lb/1500Lb

Applicable Standards:

DESIGN & MANUFACTURE CONFORM WITH：API 6D/ISO 14313、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、DIN EN 1092
FIRE RESISTANCE DESIGN CONFORMS WITH：API 607/ISO 10497
INSPECTION & TEST CONFORMS WITH：API 6D、ISO 5208、API 598
MATERIAL CONFORMS WITH：ISO 15156





Dimensional datas

NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m	NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m
Reduced Bore Type ANSI Class 600Lb									**Venturi Type ANSI Class 600Lb**								
2	50	292	51	194	108	500	30	292	6	150	403	152	307	200	900	144	1080
2'/2	65	330	62	200	115	550	40	322	★8	200	419	303	390	230	600	280	3208
3	80	356	76	205	137	780	48	380	★10	250	457	252	433	255	600	370	3258
4	100	432	102	270	168	1100	85	918	★12	300	502	303	500	320	700	408	5202
★6	150	559	152	340	200	600	194	1814	★14	350	762	334	630	340	700	510	8486
★8	200	660	201	405	230	600	305	5114	★16	400	838	385	740	376	762	630	10696
★10	250	787	252	460	255	700	625	6088	★18	450	914	436	788	436	762	750	15940
									★20	500	991	487	833	497	762	890	21040
									★24	600	1143	589	889	543	762	1035	24082

Dimensional datas

NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m	NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m
Reduced Bore Type ANSI Class 900Lb									**Venturi Type ANSI Class 900Lb**								
2	50	368	51	215	120	700	50	417	★6	150	610	152	365	210	600	240	2548
3	80	381	76	250	145	800	70	540	★8	200	737	201	405	240	600	410	7022
4	100	457	102	300	180	1100	116	1258	★10	250	838	252	460	265	762	860	8516
★6	150	610	152	365	210	600	240	2548	★12	300	965	303	510	335	762	1150	11986
★8	200	737	201	405	240	700	410	7022	★16	400	1130	373	600	390	762	1960	20326
★10	250	838	252	460	265	762	860	8516									

Dimensional datas

NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m	NPS inch	DN	A mm	B mm	H mm	H1 mm	W mm	M(RF) kg	T N.m
Reduced Bore Type ANSI Class 1500Lb									**Venturi Type ANSI Class 1500Lb**								
2	50	368	51	215	120	700	50	654	★6	150	705	144	390	220	600	325	4022
3	80	470	76	60	150	1000	88	862	★8	200	832	192	415	260	762	520	10848
4	100	546	102	320	185	600	160	2064	★10	250	911	239	480	280	762	970	13388
★6	150	705	144	390	220	600	325	4022	★12	300	1130	287	540	360	762	1450	18792
★8	200	832	192	415	260	762	520	10848									

Note: ★Turbine drives

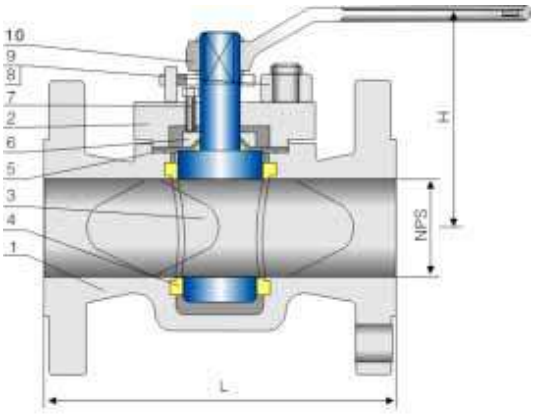
Sleeve Soft Sealed Plug Valve 150Lb/300Lb

Applicable Standards:

- STEEL PLUG VALVES API 599/API 6D
- STEEL PLUG VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 599
- 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/ API 6D

Design descriptions:

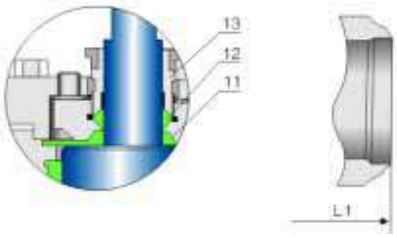
- RUGGED,HEAVY–DUTY BODY
- BOLTED BONNET CAP
- PTFE SLEEVED,TAPERED PLUG
- LARGE PORT OPENINGS
- NON–LUBRICATED
- STEM INTEGRAL WITH PLUG
- IN–LINE ADJUSTMENT
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- RENEWABLE SEAT RING
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR



Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet	A216–WCB	A351–CF8M	A352–LCB
3	Plug	A182–F3041)	A182–F316	A182–F304[1)]
4	Sleeve	Glass Filled PTFE		
5	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
6	Adjusting Gasket	A182–F6a	A182–F316	A182–F6a
7	Adjusting Bolt	A193–B7	A193–B8	A320–L7
8	Bonnet Stud	A193–B7	A193–B8	A320–L7
9	Bonnet Bolt	A194–2H	A194–8	A194–4
10	Handle	Carbon Steel		
11	Diaphragm	A167–304+PTFE	A167–316+PTFE	A167–304+PTFE
12	Packing	Graphite		
13	Gland Flange	A216–WCB	A217–WC6	A352–LCB

Note:1)A105+ENP optional
2)Jacketed construction



Dimensional datas

NPS	DN	L (RF)		L1 (BW)		H		W		WT(kg)		L (RF)		L1 (BW)		H		W		WT(kg)	
		ANSI Class150Lb										ANSI Class300Lb									
2	50	7.00	178	10.50	267	6.00	150	13	320	17	13	8.5	216	10.50	267	6.00	150	13	320	17	13
2 1/2	65	7.50	191	12.00	305	6.50	165	14	350	20	14	9.5	241	12.00	305	6.50	165	14	350	20	14
3	80	8.00	203	13.00	330	7.12	180	16	410	25	17.5	11.0	283	13.00	330	7.12	180	16	410	25	17.5
4	100	9.00	229	14.00	356	15.00	380	13	320	40	29	12.0	305	14.00	356	15.00	380	13	320	40	29
6	150	10.50	267	18.00	457	20.50	520	13	320	70	55	16.0	403	18.00	457	20.50	520	13	320	70	55
8	200	11.50	292	20.50	521	22.88	580	13	320	135	110	16.5	419	20.50	521	22.88	580	13	320	135	110
10	250	13.00	330	22.00	559	24.50	620	14	350	220	182	18.0	457	22.00	559	24.50	620	14	350	220	182
12	300	14.00	356	25.00	635	26.75	680	15	380	300	247	20.0	502	25.00	635	26.75	680	15	380	300	247
in	mm	in	mm	in	mm	in	mm	in	mm	RF	BW	in	mm	in	mm	in	mm	in	mm	RF	BW

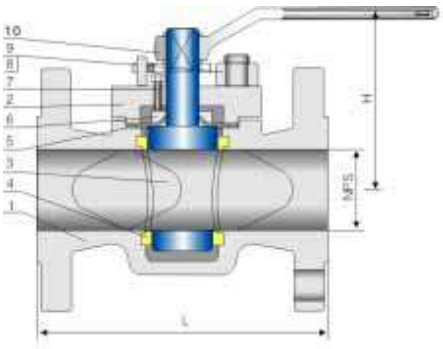
Sleeve Soft Sealed Plug Valve 600Lb/900Lb

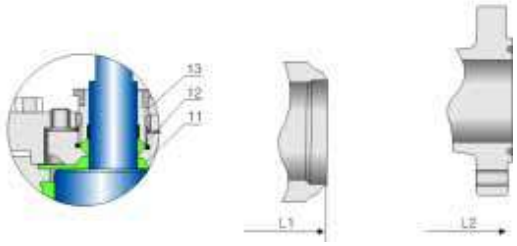
Applicable Standards:

- STEEL PLUG VALVES API 599/API 6D
- STEEL PLUG VALVES ISO 14313
- FIRE SAFE,API 607
- ANTI STATICS,API 599
- 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/ API 6D

Design descriptions:

- RUGGED,HEAVY–DUTY BODY
- BOLTED BONNET CAP
- PTFE SLEEVED,TAPERED PLUG
- LARGE PORT OPENINGS
- NON–LUBRICATED
- STEM INTEGRAL WITH PLUG
- IN–LINE ADJUSTMENT
- FIRE SAFE CONSTRUCTION
- ANTI STATICS DEVICE
- STOPPER DEVICE
- RENEWABLE SEAT RING
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH WG OPERATOR





Materials of parts

No	Part Name	Carbon Steel	ASTM Materials 18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet Cap	A216–WCB	A351–CF8M	A352–LCB
3	Plug	A182–F304[1)]	A182–F316	A182–F304[1)]
4	Sleeve	Glass Filled PTFE		
5	Bonnet Gasket	Graphite+304[2)]	Graphite+316[2)]	Graphite+304[2)]
6	Adjusting Gasket	A182–F6a	A182–F316	A182–F6a
7	Adjusting Bolt	A193–B7	A193–B8	A320–L7
8	Bonnet Stud	A193–B7	A193–B8	A320–L7
9	Bonnet Bolt	A194–2H	A194–8	A194–4
10	Handle	Carbon Steel		
11	Diaphragm	A216–WCB	A217–WC6	A352–LCB
12	Packing	Graphite		
13	Gland Flange	A216–WCB	A217–WC6	A352–LCB

Note:1)A105+ENP optional
2)Jacketed construction

Dimensional datas

NPS	DN	L (RF)		L1 (BW)		H		W		WT(kg)		L (RF)		L1 (BW)		H		W		WT(kg)	
		ANSI Class600Lb										ANSI Class900Lb									
2	50	11.50	292	11.62	295	6.12	155	14	350	28	21	14.50	368	14.62	371	6.12	155	14	350	52	32
2 1/2	65	13.00	330	13.12	333	6.75	170	16	410	33	23.5	16.50	419	16.62	422	6.75	170	16	410	60	34
3	80	14.00	356	14.12	359	7.25	185	13	320	387	23	15.00	381	15.12	384	7.25	185	13	320	70	47
4	100	16.00	432	16.12	435	15.38	390	13	320	75	46	18.00	457	18.12	460	15.38	390	13	320	92	55
6	150	19.50	559	19.62	562	20.88	530	13	320	142	97	24.00	610	24.12	613	20.88	530	13	320	195	120
8	200	23.50	660	23.62	664	23.25	590	14	350	250	167	29.00	737	29.12	740	23.25	590	14	350	320	197
10	250	26.50	787	26.62	791	24.88	630	15	350	365	227	33.00	838	33.12	841	24.88	630	15	380	455	277
12	300	30.00	838	30.12	841	27.12	690	15	380	515	354	38.00	965	38.12	968	27.12	690	15	380	625	405
in	mm	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW	in	mm	in	mm	in	mm	in	mm	RF/RTJ	BW

Y–Type and Basket Strainer

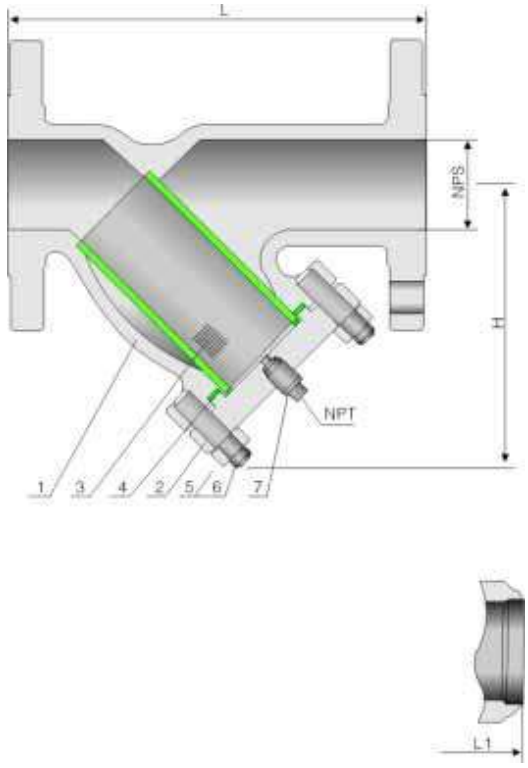
Cast Steel Y–Strainer 150Lb/300Lb

Applicable Standards:

- STEEL STRAINER, 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:

- Y–PATTERN TYPE
- BOLTED BONNET CAP WITH DRAIN PLUG
- PERFORATED STAINLESS STEEL SCREEN
- STRAINER DENSITY 100 MESH DESIGN
- FULL RANGE OF STRAINER DENSITY
- RENEWABLE STRAINER DENSITY
- FLANGED OR BUTTWELDING ENDS



Materials of parts

No	Part Name	ASTM Materials Carbon Steel	18Cr–9Ni–2Mo	Carbon Steel
1	Body	A216–WCB	A351–CF8M	A352–LCB
2	Bonnet Cap	A216–WCB	A351–CF8M	A350–LCB
3	Screen	A240–304	A240–316	A240–304
4	Bonnet Gasket	Graphite+304[1)]	PTFE	Graphite+304[1)]
5	Bonnet Stud	A193–B7	A193–B8	A320–L7
6	Bonnet Stud Nut	A194–2H	A194–8	A194–7
7	Drain Plug	A276–410	A276–316	A276–410

Note:1)spiral wound construction

Percentage of open area

MESH	A SWG	B m/m	C m/m	D %
5	20	0.914	4.166	67.3
10	22	0.711	1.829	51.8
20	28	0.356	0.914	51.8
30	32	0.274	0.572	45.7
40	36	0.193	0.442	48.4
50	37	0.172	0.336	43.6
60	38	0.152	0.271	41.0
80	40	0.122	0.195	37.8
100	42	0.102	0.152	35.8
120	43	0.092	0.119	31.8
150	45 1/2	0.066	0.103	37.1
180	46 1/2	0.053	0.088	38.9
200	47	0.051	0.076	35.8
250	48	0.040	0.062	37.7
300	48	0.039	0.044	27.6

Even the mesh"is same: open area is not always same due to the diameter of wire. The details of wire as follows:

A: Number of Wire
B: Diameter of Wire
C: Width of Opening
D: Percentage of OPEN AREA

Dimensional datas

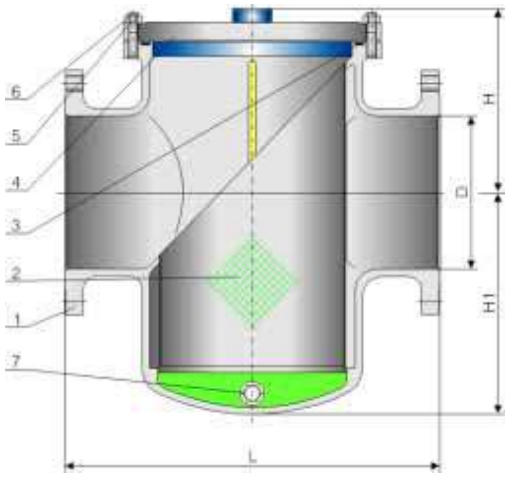
NPS	DN	L/L1 (RF/BW)		H		PLUG (NPT)	WT (KG)		L/L1 (RF/BW)		H		PLUG (NPT)	WT (KG)	
		ANSI Class 150Lb							ANSI Class 300Lb						
1/2	15	5.50	140	3.38	87	1/8	2.1	0.8	5.50	140	3.38	87	1/8	2.5	1.2
3/4	20	6.00	152	4.12	105	1/2	2.3	1.2	6.00	152	4.12	105	1/2	3.4	1.8
1	25	6.50	165	4.50	114	1/2	3.1	1.4	6.50	165	4.50	114	1/2	4.2	2.6
1 1/2	40	8.00	203	6.12	156	1/2	6.2	3.7	8.00	203	6.12	156	1/2	8.6	4.8
2	50	9.00	229	7.12	181	1/2	9.7	6.7	9.00	229	7.12	181	1/2	11.12	8.2
2 1/2	65	11.00	279	10.25	259	3/4	23.5	16.5	11.00	279	10.25	259	3/4	29	20
3	80	12.50	318	11.50	293	3/4	28	22	12.50	318	11.50	293	3/4	38	27
4	100	14.50	368	12.75	324	3/4	37	28	14.50	368	12.75	324	3/4	57	39
6	150	18.50	470	17.62	448	3/4	67	59	18.50	470	17.62	448	3/4	105	74
8	200	23.50	597	21.00	535	3/4	91	78	23.50	597	21.00	535	3/4	176	131
10	250	26.50	673	27.12	690	1	135	113	26.50	673	27.12	690	1	230	164
12	300	30.50	775	30.75	780	1	168	151	30.50	775	30.75	780	1	360	268
in	mm	in	mm	in	mm	in	RF	BW	in	mm	in	mm	in	RF	BW

Basket Strainer 150Lb/300Lb

Applicable Standards：

DESIGN & MANUFACTURE CONFORM WITH：ASME B16.34
CONNECTION DIMENTION CONFORMS WITH：ASME B16.5、ASME B16.11、EN 1092
STRUCTURE AND LENGTH CONFORMS WITH THE TERMS OF THE CONTRACT
MATERIAL CONFORMS WITH：ISO 5208、API 598

No	Part Name	No	Part Name
1	Body	5	Bottom End Cover
2	Disc	6	Gasket
3	Gasket	7	NPT Screw Plug
4	Seat		



Materials of parts

Body	WCB/CF8M/CF8/CF3M/CF3/CD3MN
Strainer	316/304/316L/304L/S31803
Bonnet	F316/F304/F316L/F304L/F51
Bolt	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Gasket	Flexible graphite+304/Flexible graphite+316
Screw Plug	410/316/304/316L/304L/S31803
Materials could be choosed according to customers' requirement & working condition.	

Features and Application:

The strainer is used to improve the purity of products,insure the facilities(compressor pump weter) working secure.It's widely used in the production of petrochemical indastry material such as weak corrosiue,low–temperature.Grans & food,pharmacy.

Dimensional datas

NPS / DN	1 / 25	1¼ / 32	1½ / 40	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	in / mm
ANSI Class 150Lb												
L	180	180	260	260	330	340	400	500	560	660	750	in
H	105	112	130	130	145	150	175	210	260	300	350	mm
H1	165	170	175	175	210	255	300	425	525	600	680	in
WT(kg)	6	7	8	10	14	16	27	55	78	118	158	BW

Dimensional datas

NPS / DN	1 / 25	1¼ / 32	1½ / 40	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	in / mm
ANSI Class 300Lb												
L	180	180	260	260	330	340	400	500	560	660	750	in
H	105	112	130	130	145	150	175	210	260	300	350	mm
H1	165	170	175	175	210	255	300	425	525	600	680	in
WT(kg)	8	9	10	14	20	38	55	90	120	160	216	BW

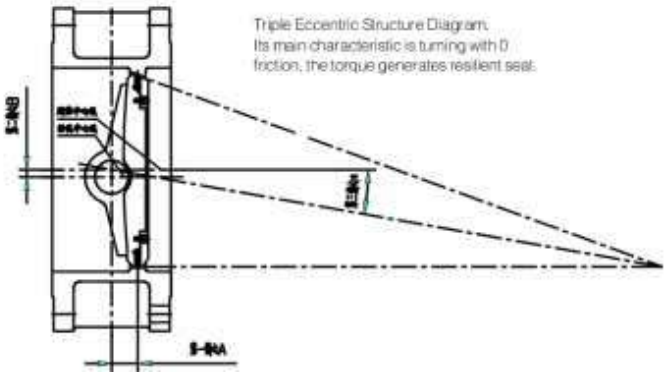
Metal Sealed Butterfly Valve

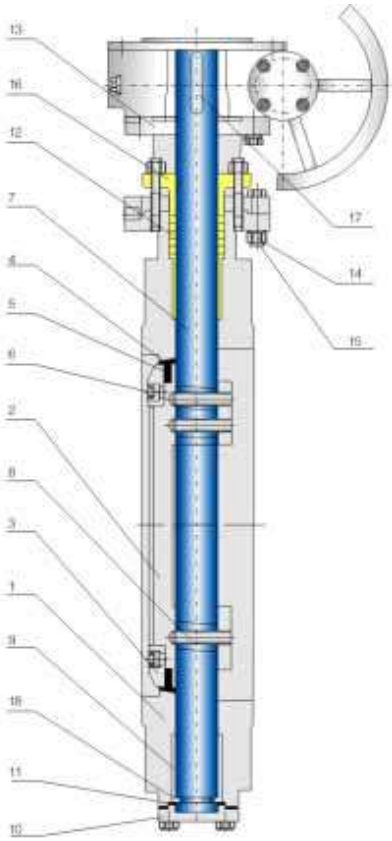
Metal Sealed Butterfly Valve

Applicable Standards:

DESIGN & MANUFACTURE CONFORM WITH：API609、MSS SP–67
CONNECTION DIMENSION CONFORMS WTIH：ASME B16.5、ASME B16.47
STRUCTURE & LENGTH CONFORMS WITH：API 609、MSS SP–67、ISO 5752
INSPECTION & TEST CONFORMS WITH：ISO 5208、API 598

No	Part Name	No	Part Name
1	Body	10	Bottom end cover
2	Disc	11	Gasket
3	Clamp	12	Packing
4	Seat	13	Yoke
5	Ring	14	Nut
6	Screw	15	Bolt
7	Stem	16	Packing restrainer
8	Check pin	17	Flat key
9	Bushing sleeve	18	Bisect rings





Features and Application:

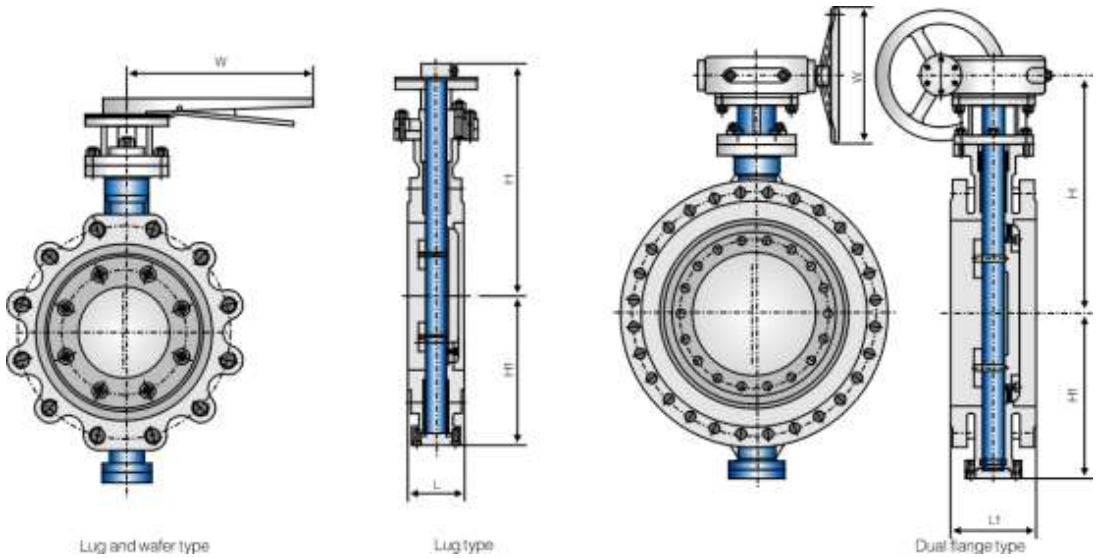
Three eccentric butterfly valve series is the newly–developed long–life and energy–saving products. The sealing is metal to metal, which couldbe changed to be seal ring to metal, stainless steel plate and composite
graphite to metal. Under the working condition of high temperature and high pressure, it still has a stable sealing performance. Our company adopts optimization design and new technology, so that the torque is small, gainning the point of energy–saving, labor–saving and reliable sealing performance, thus to ensure the high–reliability of corrosion–resistantance, stand fire and wear–resistantance.

This product is widely used in petroleum, natural gas, piped gas and medicine, food industry, industrial environmental water treatment and shipping industry.

Materials of parts

Body	WCB/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Disc	WCB+ENP/LCB/CF8M/CF8/CF3M/CF3/WC6/WC9/CD3MN
Seat	STL/13Cr/316/316L/304/304L/F316L/Monel/F51
Stem	F6a/17–4PH/F304/F316/F304L/F316L/F51/Monel
Ring	304+Flexible graphite/316+Flexible graphite/Stainless steel series
Bolt	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Clamp	A36+ENP/Stainless steel series
Bushing sleeve	C95200/C95500/SS+304
Gasket	Flexible graphite+304/Flexible graphite+316
Packing	Flexible graphite
Materials could be choosed according to customers' requirement & working condition.	

Metal Sealed Butterfly Valve 150Lb/300Lb/600Lb



Lug and wafer type | Lug type | Dual flange type

Dimensional datas

NPS inch	DN	L mm	L1 mm	H1 mm	H mm	W mm	MT(Wafer) kg	T N.m	NPS inch	DN	L mm	L1 mm	H1 mm	H mm	W mm	MT(Wafer) kg	T N.m
ANSI Class 150Lb																	
2	50	43	108	112	225	220	10	55	★16	400	102	216	352	540	600	160	4128
3	80	48	114	126	255	270	12	226	★18	450	114	222	386	585	600	200	5511
4	100	54	127	146	285	270	16	325	★20	500	127	229	415	642	600	270	7190
★6	150	57	140	170	332	360	25	615	★24	600	154	267	482	693	600	420	7814
★8	200	64	152	218	386	300	36	902	★30	750	165	318	622	868	600	700	16450
★10	250	71	165	245	427	300	60	1278	★36	900	200	330	673	1000	700	1050	23501
★12	300	81	178	290	498	500	80	2628	★42	1050	251	410	755	1058	700	1500	31963
★14		92	190	316	510	500	120	3276	★48	1200	276	470	866	1278	700	1845	47000

Dimensional datas

NPS inch	DN	L mm	L1 mm	H1 mm	H mm	W mm	MT(Wafer) kg	T N.m	NPS inch	DN	L mm	L1 mm	H1 mm	H mm	W mm	MT(Wafer) kg	T N.m
ANSI Class 300Lb																	
–	50	–	–	–	–	–	–	–	★16	400	133	216	392	582	600	185	8152
3	80	48	114	130	265	270	15	352	★18	450	149	222	420	651	600	230	10223
4	100	54	127	150	290	270	19	514	★20	500	159	229	465	704	600	330	13469
★6	150	59	140	185	355	300	35	1073	★24	600	181	267	532	780	600	460	22827
★8	200	73	152	236	418	500	42	1954	★30	750	–	318	642	908	700	1280	39726
★10	250	83	165	273	456	500	68	2453	★36	900	–	330	703	1108	700	2150	63452
★12	300	92	178	313	498	600	88	3260	★42	1050	–	410	785	1258	700	3150	85326
★14		117	190	338	547	600	144	5405	★48	1200	–	470	906	1478	1000	4885	126742

Dimensional datas

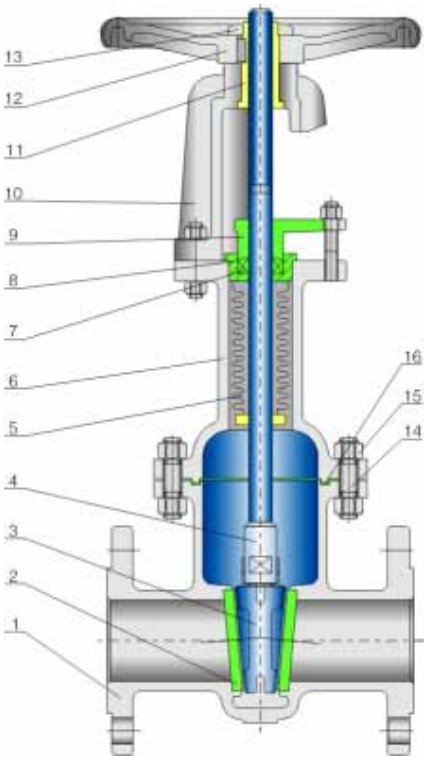
NPS inch	DN	L mm	L1 mm	H1 mm	H mm	W mm	MT(Wafer) kg	T N.m	NPS inch	DN	L mm	L1 mm	H1 mm	H mm	W mm	MT(Wafer) kg	T N.m
ANSI Class 600Lb																	
–	–	–	–	–	–	–	–	–	★12	300	140	270	378	690	600	398	14236
3	80	54	180	152	305	270	38	575	★14	350	155	290	412	715	600	535	16947
4	100	64	190	193	338	360	58	1043	★16	400	178	310	450	823	600	780	20473
★6	150	78	210	248	416	500	120	3673	★18	450	200	330	512	897	600	898	25218
★8	200	102	230	295	490	600	154	4520	★20	500	216	350	563	1094	700	1266	31861
★10	250	117	250	342	580	600	297	7061	★24	600	232	390	622	1186	700	1622	46095

Bellows Gate Valve/GlobeValve

Bellows Gate Valve

Applicable Standards：

DESIGN AND MANUFACTURE ON THE BASIS OF API 600、ASME B16.34
CONNECTION SIZE ON THE BASIS OF ASME B16.5、EN 1092
STRUCTURAL DIMENSION ON THE BASIS OF ASME B16.10、EN 588–1、DIN 3202
TEST AND INSPECTION ON THE BASIS OF ISO 5208、API 598、EN 12266



No	Part Name	No	Part Name
1	Body	9	Gland Flange
2	Seat	10	Yoke
3	Disc	11	Stem Nut
4	Stem	12	Handwheel
5	Bellows	13	Locknut
6	Bonnet	14	Bolt
7	Packings	15	Nut
8	Gland	16	Gasket

Product Features:

Bellows globe valve adopts sealed stucture.In common valves, the packing seal of the stem ages fast and it is easy to leak,but this design totally eliminates these thort comings.Apart from increaseing the efficiency of materials and the satety of production equipment,it not only reduces maintenance the costs and frequent maintenance of products but also provides a clean and safe working environment.

Double seal design(bellows andpackings),if the bellows invalidates, the stem packings will prevent outside leaking.There are no fluid loss,but it reduces the energy loss and improves the equipment safety.

Longer service life,less maintenace and lower operating costs.

Firm and durable seal design of bellows ensures the zero leakage of stem and provides more reliable performance and no maintenance.

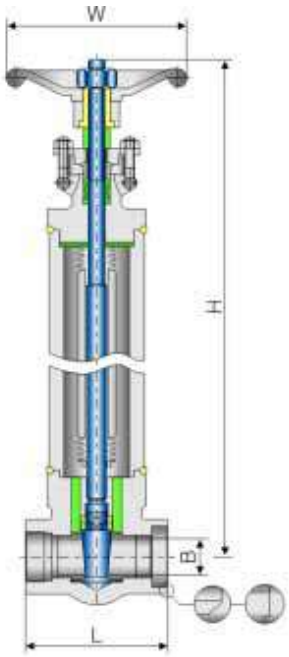
Quenched stem and surface nitridation with good performance of corrosion and friction resistance.

Excellentperformance,graceful outline,and more visibleness with positon indicating of stem.

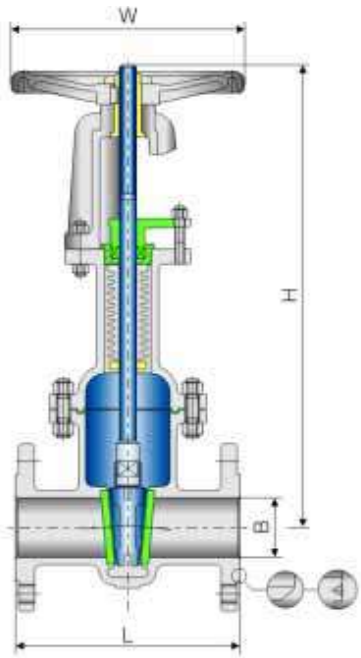
Materials of parts

Body	GS–C25/WCB/CF8M/CF8/CF3M/CF3/CD3MN
Seat	A105/F316/F304/F316L/F304L/F51
Disc	GS–C25/WCB/CF8M/CF8/CF3M/CF3/CD3MN
Bellows	304/316/316L/304L/S31803
Stem	F6a/F304/F316/F304L/F316L/F51/Monel
Bonnet	GS–C25/WCB/CF8M/CF8/CF3M/CF3/CD3MN
Bolt	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Gland	410/304/316/304L/316L
Stem Nut	C95200/D2/A536
Gasket	Flexible graphite+304/Flexible graphite+316
Packings	Flexible graphite
Materials can be alterd according to the customers' requirement and valves' performances.	

Bellows Gate Valve



Structure of Forged steel valve(1/2"~2")



Structure of Cast steel valve(2"~16")

Main Dimensional Parameter

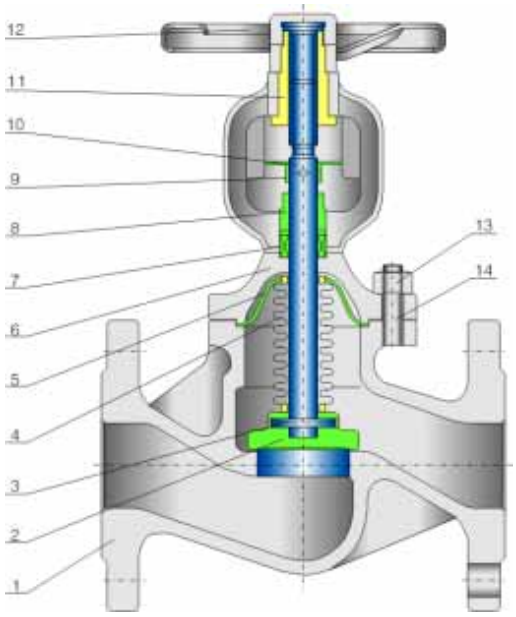
Class 150															
NPS	DN	L mm	B mm	H mm	W mm	WT Kg	T N.M	NPS	DN	L mm	B mm	H mm	W mm	WT Kg	T N.M
1/2	15	79	10	200	100	7	13	3	80	203	76	444	250	53	36
3/4	20	92	13	212	120	8	17	4	100	229	102	492	280	68	65
	25	111	18	248	125	9	22	6	150	267	152	585	300	142	88
1	32	120	24	263	160	13	25	8	200	292	201	677	350	188	155
1¼	40	120	29	290	160	20	27	10	250	330	252	766	400	255	205
1½	50	178	51	375	200	29	31	12	★300	356	303	845	450	355	319
2	65	190	65	400	220	40	32	14	★350	381	337	903	500	420	369
Class 300															
NPS	DN	L mm	B mm	H mm	W mm	WT Kg	T N.M	NPS	DN	L mm	B mm	H mm	W mm	WT Kg	T N.M
1/2	15	79	10	200	100	7	14	3	80	203	76	444	250	78	52
3/4	20	92	13	212	120	8	18	4	100	229	102	492	280	95	103
	25	111	18	248	125	9	25	6	150	267	152	585	350	185	209
1	32	120	24	263	160	13	28	8	200	292	201	677	400	230	311
1¼	40	120	29	290	160	20	36	10	250	330	252	766	450	360	524
1½	50	178	51	375	200	40	40	12	★300	356	303	845	500	480	706
2	65	190	65	400	220	56	45	14	★350	381	337	903	560	705	1031
Class 300															
NPS	DN	L mm	B mm	H mm	W mm	WT Kg	T N.M	NPS	DN	L mm	B mm	H mm	W mm	WT Kg	T N.M
1/2	15	79	10	200	100	7	17	3	80	203	76	444	280	90	122
3/4	20	92	13	212	120	8	22	4	100	229	102	492	350	130	166
	25	111	18	248	125	9	28	6	150	267	152	585	450	290	446
1	32	120	24	263	160	13	32	8	200	292	201	677	560	480	659
1¼	40	120	29	290	160	20	49	10	250	330	252	766	600	750	1168
1½	50	178	51	375	250	52	56	★12	★300	356	303	845	460	920	1586
2	65	190	65	400	250	71	95	★14	★350	381	337	903	460	1120	2412

Instruction: ★Means that it is operated by wormwheel.

Bellows Globe Valve

Applicable Standards：

DESIGN & MANUFACTURE CONFORM WITH：EN 13709、ASME B16.34
CONNECTION DIMENSION CONFORMS WTIH：EN 1092、ASME B16.5
INSPECTION & TEST CONFORMS WITH：EN 588−1、DIN 3202、ASME B16.10
MATERIAL CONFORMS WITH：EN 12266、ISO 5208、API 598



No	Part Name	No	Part Name
1	Body	8	Gland Bushing
2	Disc	9	Guide Menier
3	Pin	10	Stem
4	Bellow	11	Stem Nut
5	Gasket	12	Handwheel
6	Bonnet	13	Nut
7	Packing	14	Bolt

Features and Application:

Bellows globe valve adopts sealed stucture.In common valves, the packing seal of the stem ages fast and it is easy to leak,but this design totally eliminates these short comings.Apart from increaseing the efficiency of materials and the safety of production equipment,it not only reduces maintenance the costs and frequent maintenance of products but also provides a clean and safe working environment.

Double seal design(bellows and packings),if the bellows invalidates,the stem packings will prevent outside leaking.

There are no fluid loss,but it reduces the energy loss and improves the equipment safety.

Longer service life,less maintenace and lower operating costs.

Firm and durable seal design of bellows ensures the zero leakage of stem and provides more reliable performance and no maintenance.

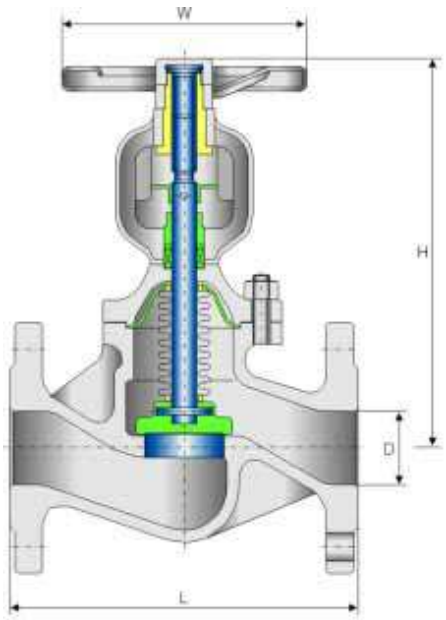
Quenched stem and surface nitridation with good performance of corrosion and friction resistance.

Excellent performance,graceful outline,and more visibleness with position indicating of stem.

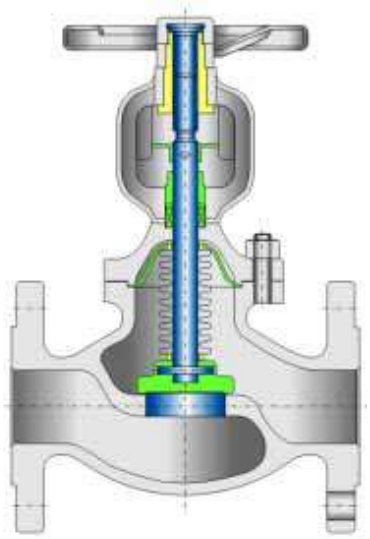
Materials of parts

Body	GS−C25/WCB/CF8M/CF8/CF3M/CF3/CD3MN
Disc	A105/F316/F304/F316L/F304L/F51
Bellow	304/316/316L/304L/S31803
Stem	F6a/F304/F316/F304L/F316L/F51/Monel
Bonnet	GS−C25/WCB/CF8M/CF8/CF3M/CF3/CD3MN
Bolt	B7M/B8M/L7M/B16M
Nut	2HM/8M/7M/4M
Gland Bushng	410/304/316/304L/316L
Stem Nut	C95200/D2/A536
Gasket	Flexible graphite+304/Flexible graphite+316
Packing	Flexible graphite
Materials could be choosed according to customers' requirement & working condition.	

Bellows Globe Valve



DIN Structure



API Structure

Dimensional datas

PN 16															
NPS	DN	L mm	D mm	H mm	W mm	WT Kg	T N.M	NPS	DN	L mm	D mm	H mm	W mm	WT Kg	T N.M
1/2	15	130	15	174	100	3.5	14	4	100	350	100	345	280	50	127
3/4	20	150	20	176	125	4	18	5	125	400	125	370	320	65	209
	25	160	25	207	160	6	23	6	150	480	150	430	350	84	319
1	32	180	32	207	160	10	26	8	200	600	200	488	400	150	408
1¼	40	200	40	210	180	13	31	10	250	730	250	530	500	240	885
1½	50	230	50	225	200	19	49	12	★300	850	300	600	460	360	1129
2	65	290	65	250	220	26	62	14	★350	980	350	700	600	490	1515
2½	80	310	80	260	240	30	103	16	★400	1150	400	800	700	600	1805
3															
PN 25															
NPS	DN	L mm	D mm	H mm	W mm	WT Kg	T N.M	NPS	DN	L mm	D mm	H mm	W mm	WT Kg	T N.M
1/2	15	130	15	174	100	3.5	18	4	100	350	100	345	280	65	140
3/4	20	150	20	176	125	4	23	5	125	400	125	370	320	85	222
	25	160	25	207	160	6	30	6	150	480	150	430	350	109	341
1	32	180	32	207	160	10	34	8	200	600	200	488	400	180	436
1¼	40	200	40	210	180	13	38	10	250	730	250	530	500	300	974
1½	50	230	50	225	200	19	56	12	★300	850	300	600	460	450	1242
2	65	290	65	250	220	31	69	14	★350	980	350	700	600	613	1667
2½	80	310	80	260	240	36	112	16	★400	1150	400	800	700	750	1986
3															
PN 40															
NPS	DN	L mm	D mm	H mm	W mm	WT Kg	T N.M	NPS	DN	L mm	D mm	H mm	W mm	WT Kg	T N.M
1/2	15	130	15	174	100	3.5	24	4	100	350	100	345	280	85	278
3/4	20	150	20	176	125	4	30	5	125	400	125	370	320	111	419
	25	160	25	207	160	6	39	6	150	480	150	430	350	142	599
1	32	180	32	207	160	10	44	8	200	600	200	488	400	234	835
1¼	40	200	40	210	180	13	46	10	250	730	250	530	500	390	1266
1½	50	230	50	225	200	19	78	12	★300	850	300	600	460	585	1615
2	65	290	65	250	220	40	92	14	★350	980	350	700	600	797	2167
2½	80	310	80	260	240	47	179	16	★400	1150	400	800	700	975	2582

Note: ★ Manual control

Cast Steel & Pressure Seal Gate,Globe & Check Valves

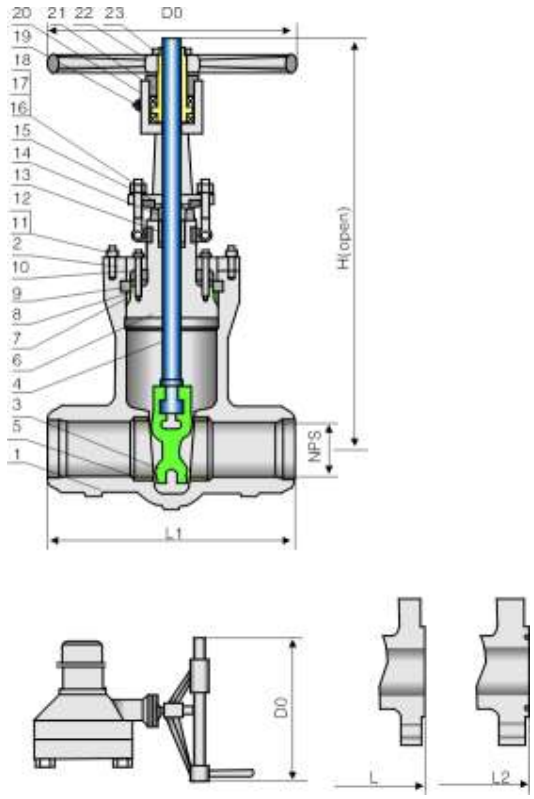
Pressure Seal, Cast Steel Gate Valve 900Lb

Applicable Standards:

- STEEL GATE VALVES,API600/API 6D
- STEEL GATE VALVES, ISO 10434/ISO 14313
- 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/API 6D

Design descriptions:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T–HEAD STEM
- RISING STEM AND NON–RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1¼cr–½mo	18Cr–9Ni–2Mo
1	Body	A216–WCB	A217–WC6	A351–CF8M
2	Yoke	A216–WCB	A217–WC6	A351–CF8M
3	Wedge	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	Steel Ring	304SS RING	316SS RING
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B16	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–7	A194–8M
13	Packing	Graphite		
14	Gland	A276–420	A276–304	A276–316L
15	Gland Flange	A216–WCB	A217–WC6	A351–CF8M
16	Eyebolt Pin	Carbon Steel	A276–420	A276–316
17	Eyebolt	CarbonSteel	A193–B7	A193–B8
18	Eyebolt Nut	Carbon Steel	A194–2H	A194–8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum–Bronze[2)]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon steel		

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.

Dimensional datas

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	in / mm
ANSI Class 900Lb											
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	39.00	43.00	in
	216	254	305	356	508	660	787	914	991	1092	mm
L (RF)	14.50	165.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	in
	368	419	381	457	610	737	838	965	1029	1130	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	in
	371	422	384	460	613	740	841	968	1038	1140	mm
H (open)	17.62	17.62	19.5	22.88	32.62	67362	45.5	53.12	59	70.5	in
	448	448	495	580	830	955	1165	1350	1500	1790	mm
D0	14	14	14	14	18	24	28	34	34	34	in
	350	350	350	350	450	600	700	850	850	850	mm
WT(kg)	39	39	48	69	158	289	482	710	998	1390	BW
	69	69	72	110	253	430	710	1025	1452	1960	RF/RTJ

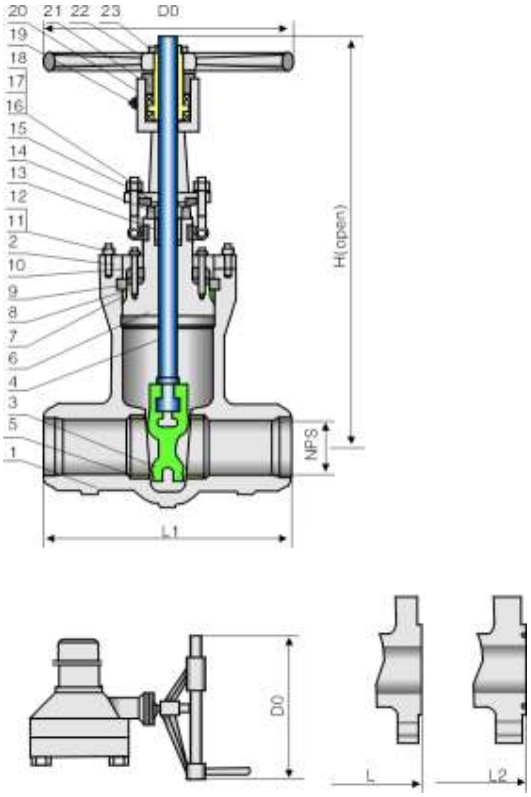
Pressure Seal, Cast Steel Gate Valve1500Lb/2500Lb

Applicable Standards:

- STEEL GATE VALVES,API600/API 6D
- STEEL GATE VALVES, ISO 10434/ISO 14313
- 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/API 6D

Design descriptions:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T–HEAD STEM
- RISING STEM AND NON–RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1¼cr–½mo	18Cr–9Ni–2Mo
1	Body	A216–WCB	A217–WC6	A351–CF8M
2	Yoke	A216–WCB	A217–WC6	A351–CF8M
3	Wedge	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	Steel Ring	304SS RING	316SS RING
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B16	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–7	A194–8M
13	Packing	Graphite		
14	Gland	A276–420	A276–304	A276–316L
15	Gland Flange	A216–WCB	A217–WC6	A351–CF8M
16	Eyebolt Pin	Carbon Steel	A276–420	A276–316
17	Eyebolt	CarbonSteel	A193–B7	A193–B8
18	Eyebolt Nut	Carbon Steel	A194–2H	A194–8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum–Bronze[2)]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon steel		

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.

Dimensional datas

NPS	2	2½	3	4	6	8	10	12	14	16	2	2½	3	4	6	8	10	12	14	16	in
DN	50	65	80	100	150	200	250	300	350	400	50	65	80	100	150	200	250	300	350	400	mm
	ANSI Class 1500Lb										ANSI Class 2500Lb										
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	34.00	39.00	42.00	47.00	11.00	13.00	14.50	18.00	24.00	30.00	36.00	41.00	–	–	in
	216	254	305	406	559	711	864	991	1067	1194	279	330	368	457	610	762	914	1041	–	–	mm
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	54050	17.75	20.00	22.75	26.50	36.00	40.25	50.00	56.00	–	–	in
	368	419	470	546	705	832	991	1130	1257	1384	451	508	578	673	914	1022	1270	1422	–	–	mm
L2 (RTJ)	15.50	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	55.38	17.88	20.50	23.00	26.88	36.50	40.88	50.88	56.88	–	–	in
	371	422	473	549	711	841	1000	1146	1276	1407	454	514	584	683	927	1038	1292	1445	–	–	mm
H (open)	17.62	17.62	21.62	25.25	33.5	38.62	46.5	62.25	70.5	78	22.5	22.5	25.62	30	36.62	41.38	44.88	60.25	–	–	in
	448	448	550	640	850	980	1180	1580	1790	1980	570	570	650	760	930	1050	1140	1530	–	–	mm
D0	14	14	14	18	24	28	34	34	34	34	14	14	18	24	28	34	34	34	–	–	in
	350	350	350	450	600	700	850	850	850	850	350	350	450	600	700	850	850	850	–	–	mm
WT(kg)	45	45	55	77	175	323	540	795	1115	1556	110	110	150	175	380	575	980	1570	–	–	BW
	80	80	95	123	283	481	795	1148	1626	2195	165	195	235	316	635	910	1780	2680	–	–	RF/RTJ

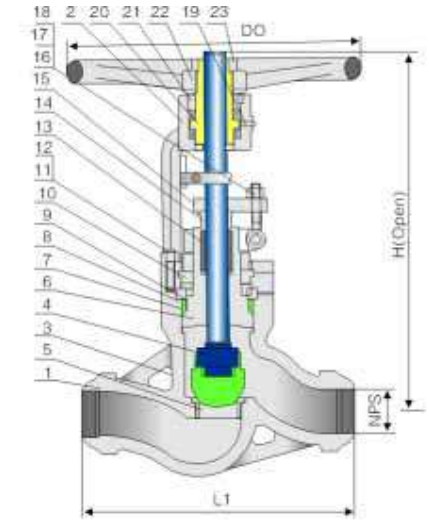
Pressure Seal, Cast Steel Globe Valve 900Lb

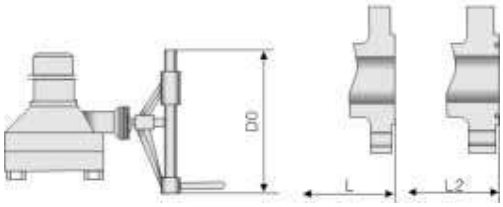
Applicable Standards:

- 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:

- PSB,PRESSURE SEAL BONNET
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- RENEWABLE SEAT RINGS
- RISING STEM AND HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR





Materials of parts

No	Part Name	ASTM Materials Carbon Steel	$1^1/_4$cr–$^1/_2$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)]	Steel Ring	304SS Ring	316SS Ring
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B16	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–7	A194–8M
13	Packing	Graphite		
14	Gland	A276–420	A276–304	A276–316L
15	Gland Flange	A216–WCB	A217–WC6	A351–CF8M
16	Eyebolt Pin	Carbon Steel	A276–420	A276–316
17	Eyebolt	Carbon Steel	A193–B7	A193–B8
18	Eyebolt Nut	Carbon Steel	A194–2H	A194–8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum–Bronze[2)]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon Steel		

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.

Dimensional datas

NPS / DN	2 / 50	2½ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	in / mm
ANSI Class 900Lb									
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	in
	216	254	305	356	508	660	787	914	mm
L (RF)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	in
	368	419	381	457	610	737	838	965	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	in
	371	422	384	460	613	740	841	968	mm
H (open)	22	22	22	27	36.38	43.38	50.62	57	in
	557	557	557	685	925	1100	1285	1450	mm
D0	16	16	16	16	28	28	36	36	in
	400	400	400	400	700	700	900	900	mm
WT(kg)	46	53	68	100	270	450	740	1150	BW
	75	82	95	135	355	680	1050	1480	RF/RTJ

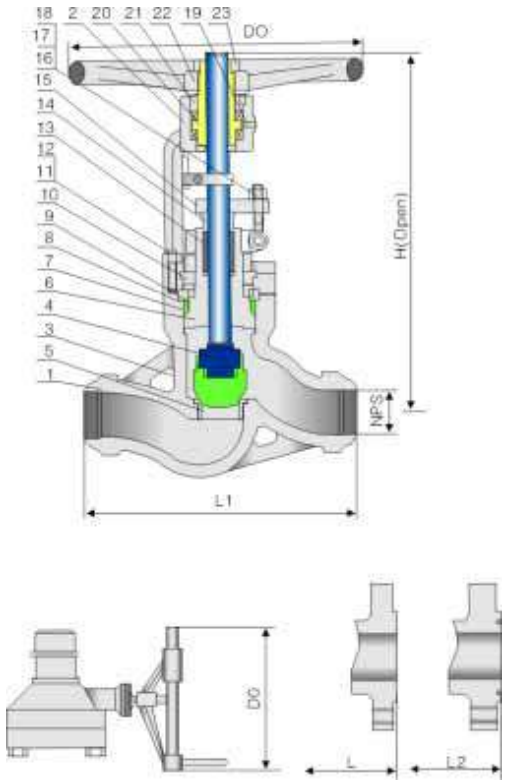
Pressure Seal, Cast Steel Globe Valve 1500Lb/2500Lb

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:

- PSB,PRESSURE SEAL BONNET
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- RENEWABLE SEAT RINGS
- RISING STEM AND HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



Materials of parts

No	Part Name	ASTM Materials		
		Carbon Steel	1 1/4cr–1/2Mo	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)]	Steel Ring	304SS Ring	316SS Ring
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Yoke Cap	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B16	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–7	A194–8M
13	Packing	Graphite		
14	Gland	A276–420	A276–304	A276–316L
15	Gland Flange	A216–WCB	A217–WC6	A351–CF8M
16	Eyebolt Pin	Carbon Steel	A276–420	A276–316
17	Eyebolt	Carbon Steel	A193–B7	A193–B8
18	Eyebolt Nut	Carbon Steel	A194–2H	A194–8
19	Grease Fitting	Brass+Steel		
20	Yokesleeve	Aluminum–Bronze[2)]		
21	Yokesleeve Jam Nut	Carbon Steel		Stainless Steel
22	Handwheel	Malleable Iron		
23	Handwheel Nut	Carbon Steel		

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.

Dimensional datas

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					
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	11.00	13.00	14.50	18.00	24.00	in
	216	254	305	406	559	711	279	330	368	457	610	mm
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	17.75	20.00	22.75	26.50	36.00	in
	368	419	470	546	705	832	451	508	578	673	914	mm
L2 (RTJ)	14.62	16.62	18.62	21.62	28.00	33.12	17.88	20.50	23.00	26.88	36.50	in
	371	422	473	549	711	842	454	514	584	683	927	mm
H (open)	22	22	24.38	30	44.62	54.75	23.38	23.38	28	32.25	49.62	in
	557	557	620	760	1135	1390	595	595	710	820	1260	mm
D0	16	18	20	24	28	36	16	20	24	28	36	in
	400	450	500	600	700	900	400	500	600	700	900	mm
WT(kg)	57	65	90	190	450	730	65	78	125	155	480	BW
	86	112	162	240	580	950	115	136	205	275	860	RF/RTJ

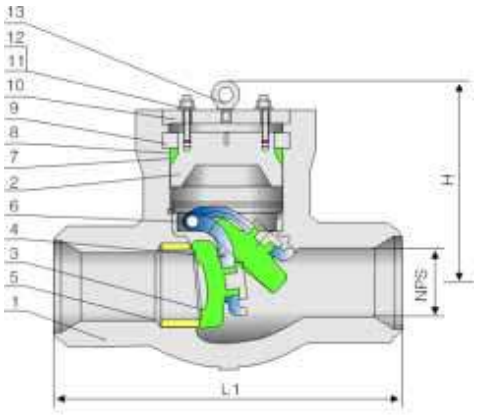
Pressure Seal Cast Steel Swing Check Valve 900Lb

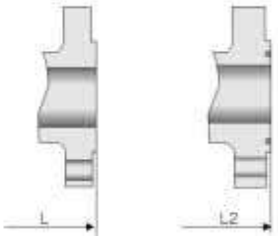
Applicable Standards:

- STEEL CHECK VALVES, API 594/API 6D
- STEEL CHECK VALCES,ISO14313
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES,ASME B16.5
- INSPECTION AND TEST, API 598/API 6D

Design descriptions:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE DISC, FULLY GUIDED
- RENEWABLE SEAT RINGS
- FLANGED OR BUTTWELDING ENDS





Materials of parts

No	Part Name	ASTM Materials Carbon Steel	$1^{1}/_{4}$cr–$^{1}/_{2}$Mo	18Cr–9Ni–2Mo
1	Body	A216–WCB	A217–WC6	A351–CF8M
2	Pres. Seal Bonnet	A216–WCB	A217–WC6	A351–CF8M
3	Disc	A105+HF	A182–F11+HF	A351–CF8M+HF
4	Hinge	A216–WCB	A217–WC6	A351–CF8M
5	Seat Ring	A105+HF	A182–F11+HF	A240–316+HF
6	Hinge Pin	A276–420	A276–304	A276–316
7	Bonnet Gasket[1)]	Steel Ring	304SS Ring	316SS RING
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Cover	Carbon Steel	Alloy Steel	Stainless Steel
11	Stud	A193–B7	A193–B7	A193–B8M
12	Stud Nut	A194–2H	A194–2H	A194–8M
13	Eyebolt	Carbon Steel		

Note:1) graphite 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	2 / 50	$2^{1}/_{2}$ / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	in / mm
ANSI Class900Lb											
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	39.00	43.00	in
	216	254	305	356	508	660	787	914	991	1092	mm
L (RF)	14.50	16.60	15.00	18.00	24.00	29.00	33.00	38.00	40.5	44.5	in
	368	419	381	457	610	737	838	965	1029	1130	mm
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.88	44.88	in
	371	422	384	460	613	740	841	968	1038	1140	mm
H	9.50	9.50	10.00	13.38	15.75	18.12	21.62	24.00	27.00	29.50	in
	240	240	255	340	400	460	550	610	685	750	mm
wt(kg)	22	34	38	71	176	485	761	1125	1345	1490	BW
	44	55	61	116	255	630	940	1433	1710	1820	RF/RTJ

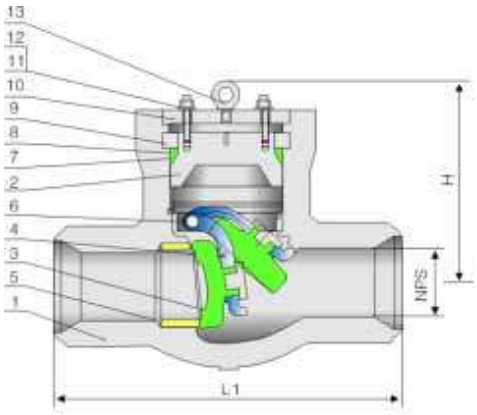
Pressure Seal Cast Steel Swing Check Valve 1500Lb/2500Lb

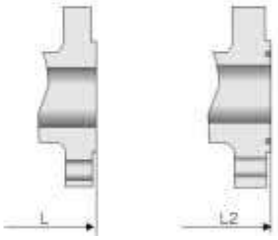
Applicable Standards:

- STEEL CHECK 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:

- PSB,PRESSURE SEAL BONNET
- FLEXIBLE DISC, FULLY GUIDED
- RENEWABLE SEAT RINGS
- FLANGED OR BUTTWELDING ENDS





Materials of parts

No	Part Name	ASTM Materials Carbon Steel	$1^{1}/_{4}$cr–$^{1}/_{2}$Mo	18Cr–9Ni–2Mo
1	Body	A216–WCB	A217–WC6	A351–CF8M
2	Pres. Seal Bonnet	A216–WCB	A217–WC6	A351–CF8M
3	Disc	A105+HF	A182–F11+HF	A351–CF8M+HF
4	Hinge	A216–WCB	A217–WC6	A351–CF8M
5	Seat Ring	A105+HF	A182–F11+HF	A240–316+HF
6	Hinge Pin	A276–420	A276–304	A276–316
7	Bonnet Gasket[1)]	Steel Ring	304SS Ring	316SS RING
8	Adapter Ring	Carbon Steel	A276–420	A276–316
9	Retainer	Carbon Steel	A276–420	A276–316
10	Cover	Carbon Steel	Alloy Steel	Stainless Steel
11	Bonnet Stud	A193–B7	A193–B7	A193–B8M
12	Bonnet Stud Nut	A194–2H	A194–2H	A194–8M
13	Eyebolt	Carbon Steel		

Note:1) graphite 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	2	$2^{1}/_{2}$	3	4	6	8	10	12	14	2	$2^{1}/_{2}$	3	4	6	8	10	12	in
	50	65	80	100	150	200	250	300	350	50	65	80	100	150	200	250	300	mm
	ANSI Class1500Lb									ANSI Class2500Lb								
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	34.00	39.00	42.00	11.00	13.00	14.50	18.00	24.00	30.00	36.00	41.00	in
	216	254	305	406	559	711	864	991	1067	279	330	368	457	610	762	914	1041	mm
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	39	44.5	49.5	17.75	20.00	22.75	26.50	36.00	40.25	50	56	in
	368	419	470	546	705	832	991	1130	1257	451	508	578	673	914	1022	1270	1422	mm
L2 (RTJ)	14.62	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	17.88	20.50	23.00	26.88	36.50	40.88	50.88	56.88	in
	371	422	473	549	711	842	1000	1146	1276	454	514	584	683	927	1038	1292	1445	mm
H	9.50	9.50	11.88	15.38	18.00	20.62	24.00	27.00	30.00	10.25	10.25	13.75	16.12	18.88	22.38	25.25	32.00	in
	240	240	300	390	455	525	610	685	760	260	260	350	410	480	570	640	815	mm
wt(kg)	22	37	45	78	245	530	815	1213	1555	55	78	95	182	300	630	825	1580	BW
	44	61	110	155	378	675	1160	1710	2315	93	130	170	315	618	1125	1760	2910	RF/RTJ

API602 Small Forged Steel Gate,Globe & Check Valves

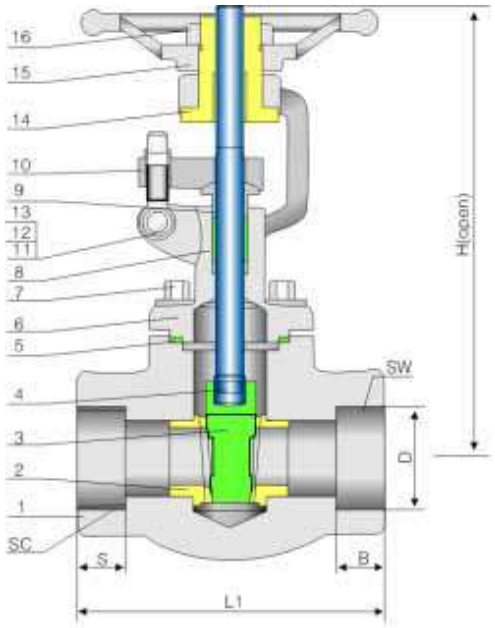
Forged Steel Gate Valve 800Lb

Applicable Standards:

- STEEL GATE VALVES, API 602
- STEEL VALVES,ASME B16.34
- FACE TO FACE, MANUFACTURER STANDARD
- FACE TO FACE, FLANGED ,ASME B16.10
- END FLANGES,ASME B16.5
- BUTTWELDING ENDS,ASME B16.25
- SOCKET–WELDING ENDS,ASME B16.11
- SCREWED ENDS,ASME B1.20.1
- INSPECTION AND TEST, API 598

Design descriptions:

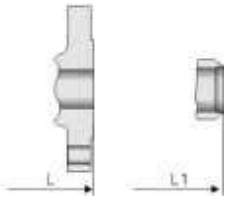
- OUTSIDE SCREW AND YOKE (OS&Y)
- BOLTED BONNET
- CHOICE OF WB, WELDED BONNET
- SINGLE WEDGE,FULLY GUIDED
- RENEWABLE SEAT RINGS
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND NON–RISING HANDWHEEL
- SW,SOCKET–WELDING ENDS
- SC,SCREWED ENDS
- BW,BUTTWELDING ENDS
- FLANGED ENDS



Materials of parts

No	Part Name	ASTM Materials C–Si	16Cr–12Ni–2Mo	1 1/4Cr–1/2Mo–Si
1	Body	A105	A182–F316	A182–F11
2	Bonnet	A105	A182–F316	A182–F11
3	Wedge	A182–F6a	A182–F316	A182–F6a+HF
4	Stem	A276–410	A276–316	A276–410
5	Seat Ring	A276–410	A182–F316	A276–410+HF
6	Bonnet Gasket[1)]	Graphite+304	Graphite+316	Graphite+304
7	Bonnet Stud	A193–B7	A193–B8M	A193–B16
8	Packing	Graphite		
9	Gland	A276–410	A276–316	A276–410
10	Gland Flange	A105	A182–F316	A182–F11
11	Eyebolt Pin	A276–410	A276–316	A276–410
12	Eyebolt	A193–B7	A193–B8M	A193–B16
13	Eyebolt Nut	A194–2H	A194–8M	A194–2H
14	Yokesleeve	A276–410		
15	Handwheel	Malleable Iron		
16	Handwheel nut	Carbon Steel		

Note:1) spiral wound construction



Dimensional datas

NPS DN	Unit	L1[1)]	L(Flanged Ends) 150Lb	300Lb	600Lb	d	SW D	B	SC NPT	S	H(open)	D0	WT[2)](kg)
3/8	in	3.12	4.00	5.50	6.50	0.394	0.693	0.378	3/8	0.540	6.00	4.00	4.5/4
10	mm	79	102	140	165	10	17.6	9.6		13.6	151	100	
1/2	in	3.12	4.25	5.50	6.50	0.394	0.858	0.378	1/2	0.535	6.00	4.00	5.1/4
15	mm	79	108	140	165	10	21.8	9.6		13.6	151	100	
3/4	in	3.62	4.62	6.00	7.50	0.531	1.067	0.500	3/4	0.547	6.25	4.00	8.2/4.3
20	mm	92	117	152	190	13.5	27.1	12.7		13.9	158	100	
1	in	4.38	5.00	6.50	8.50	0.709	1.331	0.500	1	0.681	7.25	5.00	10.5/6.6
25	mm	111	127	165	216	18	33.8	12.7		17.3	185	125	
1 1/4	in	4.75	5.50	7.00	9.00	0.945	1.677	0.500	1 1/4	0.709	9.38	6.25	12.4/9.5
32	mm	120	140	178	229	24	42.6	12.7		18	239	160	
1 1/2	in	4.75	6.50	7.50	9.50	1.181	1.917	0.500	1 1/2	0.724	9.50	6.25	20.1/11
40	mm	120	165	190	241	30	48.7	12.7		18.4	243	160	
2	in	5.50	7.00	8.50	11.50	1.437	2.406	0.626	2	0.756	11.00	7.00	28/14.5
50	mm	140	178	216	292	36.5	61.1	15.9		19.2	279	180	

Notes:1)BW,SW or SC.
2)600Lb–RF/800Lb–(BW/SW/SC)

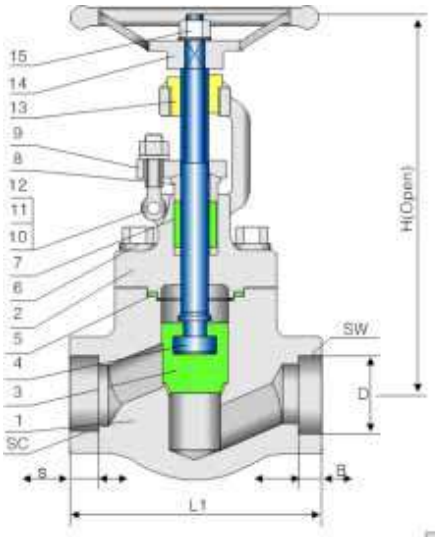
Forged Steel Globe Valve 800Lb

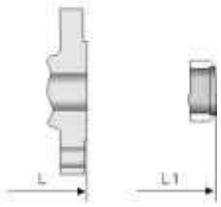
Applicable Standards:

- STEEL GLOBE VALVES, API 602
- STEEL VALVES,ASME B16.34
- FACE TO FACE, MANUFACTURER STANDARD
- FACE TO FACE, FLANGED ,ASME B16.10
- END FLANGES,ASME B16.5
- BUTTWELDING ENDS,ASME B16.25
- SOCKET–WELDING ENDS,ASME B16.11
- SCREWED ENDS,ASME B1.20.1
- INSPECTION AND TEST, API 598

Design descriptions:

- OUTSIDE SCREW AND YOKE (OS&Y)
- BOLTED BONNET
- CHOICE OF WB, WELDED BONNET
- LOOSE DISC,CHOICE OF PLUG OR BALL
- SEAT RINGS INTEGRAL WITH BODY
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- HORIZONTAL SERVICE
- SW,SOCKET–WELDING ENDS
- SC,SCREWED ENDS
- BW,BUTTWELDING ENDS





150–600Lb

Materials of parts

No	Part Name	ASTM Materials C–Si	16Cr–12Ni–2Mo	$1^1/_4$Cr–$^1/_2$Mo–Si
1	Body	A105	A182–F316	A182–F11
2	Bonnet	A105	A182–F316	A182–F11
3	Disc	A182–F6a	A182–F316	A182–F6A+HF
4	Stem	A276–410	A276–316	A276–410
5	Bonnet Gasket[2)]	Graphite+304	Graphite+316	Graphite+304
6	Bonnet Stud	A193–B7	A193–B8M	A193–B16
7	Packing	Graphite		
8	Gland	A276–410	A276–316	A276–410
9	Gland Flange	A105	A182–F316	A182–F11
10	Eyebolt Pin	A276–410	A276–316	A276–410
11	Eyebolt	A193–B7	A193–B8M	A193–B16
12	Eyebolt Nut	A194–2H	A194–8M	A194–2H
13	Yokesleeve	A276–410		
14	Handwheel	Malleable Iron		
15	Handwheel Nut	Carbon Steel		

Note:1) seat integral with body
2)spiral wound construction

Dimensional datas

NPS DN	Unit	L1[1)]	L(Flanged Ends) 150Lb	300Lb	600Lb	d	SW D	SW B	SC NPT	SC S	H(open)	D0	WT[2)](kg)
3/8	in	3.12	4.00	6.00	6.50	0.354	0.693	0.378	3/8	0.540	6.50	4.00	3.8/2.8
10	mm	79	102	152	165	9	17.6	9.6		13.6	164	100	
1/2	in	3.12	4.25	6.00	6.50	0.354	0.858	0.378	1/2	0.535	6.50	4.00	5.6/3.4
15	mm	79	108	152	165	9	21.8	9.6		13.6	164	100	
3/4	in	3.62	4.62	7.00	7.50	0.512	1.067	0.500	3/4	0.547	6.50	4.00	7.8/4.7
20	mm	92	117	178	190	13	27.1	12.7		13.9	164	100	
1	in	4.38	5.00	8.00	8.50	0.689	1.331	0.500	1	0.681	8.00	5.00	12.5/9.2
25	mm	111	127	203	216	17.5	33.8	12.7		17.3	203	125	
$1^1/_4$	in	4.75	5.50	8.50	9.00	0.906	1.677	0.500	$1^1/_4$	0.709	8.88	6.25	17/10.5
32	mm	120	140	216	229	23	42.6	12.7		18	224	160	
$1^1/_2$	in	6.00	6.50	9.00	9.50	1.142	1.917	0.500	$1^1/_2$	0.724	10.25	6.25	23.5/13.3
40	mm	152	165	229	241	29	48.7	12.7		18.4	260	160	
2	in	6.75	8.00	10.50	11.50	1.378	2.406	0.626	2	0.756	11.88	7.00	38.8/18.9
50	mm	172	203	267	292	35	61.1	15.9		19.2	300	180	

Notes:1)BW,SW or SC.
2)600Lb–RF/800Lb–(BW/SW/SC).

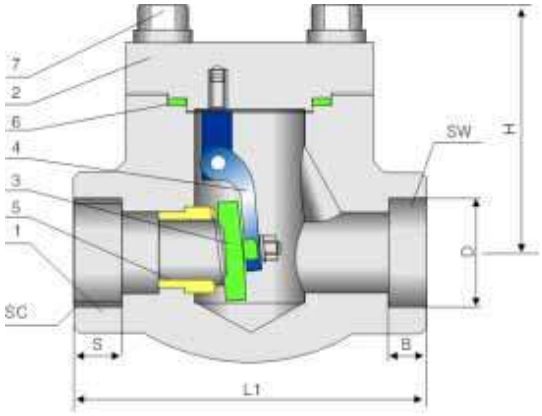
Forged Steel Check Valve 800Lb

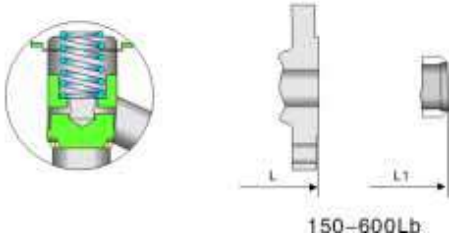
Applicable Standards:

- STEEL CHECK VALVES, API 602
- STEEL VALVES,ASME B16.34
- FACE TO FACE, MANUFACTURER STANDARD
- FACE TO FACE, FLANGED ,ASME B16.10
- END FLANGES,ASME B16.5
- BUTTWELDING ENDS,ASME B16.25
- SOCKET–WELDING ENDS,ASME B16.11
- SCREWED ENDS,ASME B1.20.1
- INSPECTION AND TEST, API 598

Design descriptions:

- BOLTED COVER
- CHOICE OF WB, WELDED COVER
- SEAT RINGS TYPE
- SEAT RINGS INTEGRAL WITH BODY OF LIFT
- HORIZONTAL OR VERTICAL SERVICE
- SW,SOCKET–WELDING ENDS
- SC,SCREWED ENDS
- BW,BUTTWELDING ENDS
- FLANGED ENDS





150–600Lb

Materials of parts

No	Part Name	ASTM Materials C–Si	16Cr–12Ni–2Mo	$1\frac{1}{4}$Cr–$\frac{1}{2}$Mo–Si
1	Body	A105	A182–F316	A182–F11
2	Cover	A105	A182–F316	A182–F11
3	Disc	A182–F6a	A182–F316	A182–F6A+HF
4	Hinge	A276–410	A276–316	A276–410
5	Seat	A276–410	A182–F316	A276–410+HF
6	Gasket[2)]	Graphite+304	Graphite+316	Graphite+304
7	Stud	A193–B7	A193–B8M	A193–B16

Note:1) lift type check valve seat ring integral with body.
2)sprial wound construction.

Dimensional datas

NPS DN	Unit	L1[1)]	L(Flanged Ends) 150Lb	300Lb	600Lb	d	SW D	SW B	SC NPT	SC S	H	WT[2)](kg)
3/8	in	3.12	4.00	6.00	6.50	0.354	0.693	0.378	3/8	0.540	2.40	3.8/2.8
10	mm	79	102	152	165	9	17.6	9.6		13.6	61	
1/2	in	3.12	4.25	6.00	6.50	0.354	0.858	0.378	1/2	0.535	2.40	5.6/3.4
15	mm	79	108	152	165	10	21.8	9.6		13.6	61	
3/4	in	3.62	4.62	7.00	7.50	0.512	1.067	0.500	3/4	0.547	2.40	7.8/4.7
20	mm	92	117	178	190	13	27.1	12.7		13.9	61	
1	in	4.38	5.00	8.00	8.50	0.689	1.331	0.500	1	0.681	3.07	12.5/9.2
25	mm	111	127	203	216	17.5	33.8	12.7		17.3	78	
11/4	in	4.75	5.50	8.50	9.00	0.906	1.677	0.500	$1\frac{1}{4}$	0.709	3.31	17/10.5
32	mm	120	140	216	229	23	42.6	12.7		18	84	
11/2	in	4.75	6.50	9.00	9.50	1.142	1.917	0.500	$1\frac{1}{2}$	0.724	10.25	23.5/13.3
40	mm	120	165	229	241	30	48.7	12.7		18.4	3.98	
2	in	5.50	8.00	10.50	11.50	1.378	2.406	0.626	2	0.756	4.72	38.8/18.9
50	mm	140	203	267	292	35	61.1	15.9		19.2	120	

API 603 Corrosion–Resistant Valves
Cast Stainless Steel Gate/Globe/Check

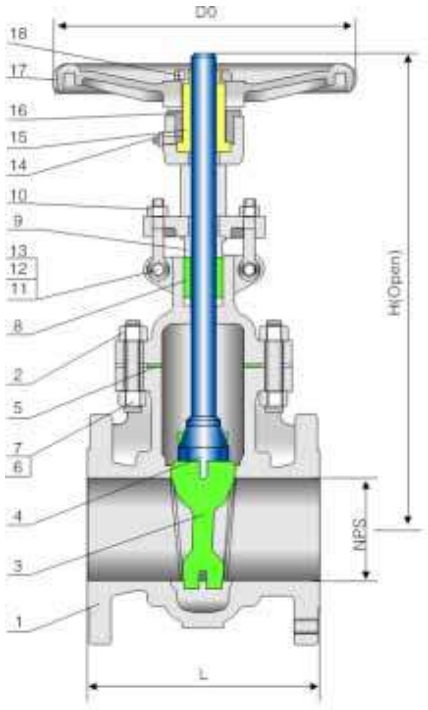
API 603 Corrosion–Resistant Valves
Cast Stainless Steel Gate Valves 150Lb

Applicable Standards:

- STEEL GATE 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

Design descriptions:

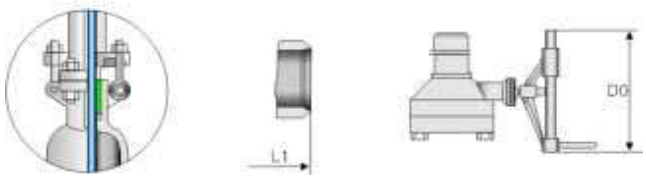
- FULL PORT DESIGN
- OS&Y,OUTSIDE SCREW AND YOKE
- BB,BOLTED BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- SEAT RINGS INTEGRAL WITH BODY
- FORGED T–HEAD STEM
- RISING STEM AND NON–RISING HAND WHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR



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	Wedge	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	Grease Fitting	Carbon steel Ni Plated		
15	Yokesleeve	Aluminum–Bronze[3)]		
16	Yokesleeve Jam Nut	A276–304		
17	Handwheel	Malleable Iron		
18	Handwheel Nut	Carbon Steel		

Note:1) Spiral wound construction, teflon optional
2)Teflon optional.
3)Ductile Ni–resist optional.
4)Wedge 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 (RF)	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00	15.00	16.00	in
	108	117	127	165	178	190	203	229	267	292	330	356	381	406	mm
L1 (BW)	4.25	4.62	5.50	7.00	7.50	8.00	8.50	9.50	11.00	12.00	13.50	14.50	15.50	16.50	in
	108	117	140	178	191	203	216	242	280	305	343	369	394	419	mm
H (open)	8.25	8.50	9.25	11.75	15.25	17.00	18.88	23.00	30.50	37.62	45.50	53.12	59.38	67.00	in
	210	215	235	300	386	434	480	584	765	956	1149	1350	1508	1703	mm
D0	4	4	6	6	8	8	10	12	12	14	16	18	20	22	in
	100	100	140	140	200	200	250	300	300	350	400	450	500	550	mm
WT(kg)	3	3.5	5.5	9.2	15	21	27	42	64.5	101	149	221	303	387	BW
	2.5	3	4	8	12.5	15	21.5	34	58	90	130.5	207	275	355	RF/RTJ

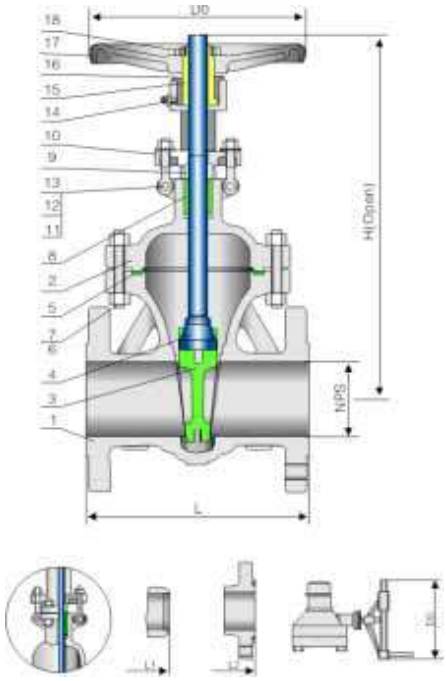
API 603 Corrosion–Resistant Valves
Cast Stainless Steel Gate Valves 300Lb/600Lb

Applicable Standards:

- STEEL GATE 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

Design descriptions:

- FULL PORT DESIGN
- OS&Y,OUTSIDE SCREW AND YOKE
- BB,BOLTED BONNET
- FLEXIBLE WEDGE,FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- SEAT RINGS INTEGRAL WITH BODY
- FORGED T–HEAD STEM
- RISING STEM AND NON–RISING HAND WHEEL
- 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	Wedge	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	Grease Fitting	Carbon steel Ni Plated		
15	Yokesleeve	Aluminum–Bronze[3)]		
16	Yokesleeve Jam Nut	A276–304		
17	Handwheel	Malleable Iron		
18	Handwheel Nut	Carbon Steel		

Note: 1) Spiral wound construction, teflon optional
2)Teflon optional.
3)Ductile Ni–resist optional.
4)Wedge 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)	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	16.50	18.00	19.75	30.00	33.00	in
	140	152	165	190	216	241	283	305	403	419	457	502	762	838	mm
L2 (RTJ)	–	–	–	–	9.12	10.12	11.75	12.62	16.50	17.12	18.62	20.38	30.62	33.62	in
	–	–	–	–	232	257	298	321	419	435	473	518	778	854	mm
H (open)	6.34	6.42	7.72	9.88	16.12	17.88	20.00	24.00	31.75	39.38	47.62	55.75	62.25	67.88	in
	161	163	196	251	410	453	509	612	805	1000	1210	1415	1580	1725	mm
D0	4	4	6	6	8	8	10	10	14	16	18	20	22	22	in
	100	100	140	140	200	200	250	250	350	400	450	500	550	550	mm
WT(kg)	3.3	4	6.5	10.5	20	30	43	61	123	179	276	413	585	813	BW
	2.7	3.5	4.7	8.5	14.5	22.5	33	45.5	97	140	219	334	484	689	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 (RF)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	in
	165	190	216	241	292	330	356	432	559	660	787	838	889	991	mm
L1 (BW)	–	–	–	–	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	in
	–	–	–	–	295	333	359	435	562	664	791	841	892	994	mm
H (open)	6.34	6.42	7.72	9.88	16.50	18.76	20.38	25.50	33.00	40.38	48.38	57.00	62.00	70.62	in
	161	163	196	251	418	476	518	646	840	1025	1230	1450	1575	1795	mm
D0	4	6	6	8	8	10	10	12	18	20	24	24	24	24	in
	100	140	140	200	200	250	250	300	450	500	600	600	600	600	mm
WT(kg)	4.5	5.5	8.5	16.5	32	46	59	99	151	348	540	789	1103	1359	BW
	3.7	4.2	6.5	9.5	26	37	47	74	111	275	418	647	935	1098	RF/RTJ

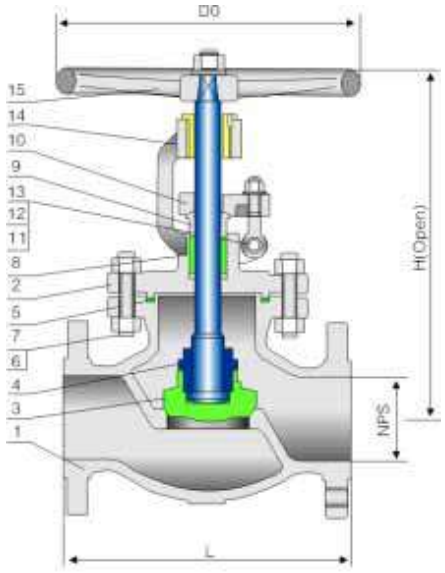
API 603 Corrosion–Resistant Valves
Cast Stainless Steel Globe Valves 150Lb

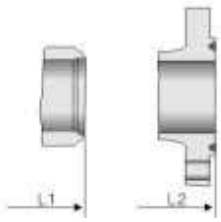
Applicable Standards:

- 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

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 PLUG OR BALL
- 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 / 15	3/4 / 20	1 / 25	1 1/2 / 40	2 / 50	2 1/2 / 65	3 / 80	4 / 100	6 / 150	8 / 200	10 / 250	12 / 300	14 / 350	16 / 400	in / 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

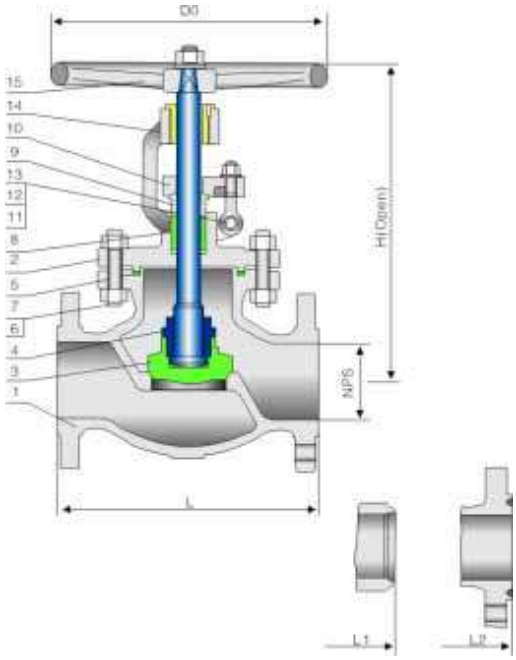
API 603 Corrosion–Resistant Valves
Cast Stainless Steel Globe Valves 300Lb/600Lb

Applicable Standards:

- STEEL GLOBE VALVES, API 603
- STEEL VALVES,ASME B16.34
- FACE TO FACE, ASME B16.10
- 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 PLUG OR BALL
- 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 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
DO	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
DO	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

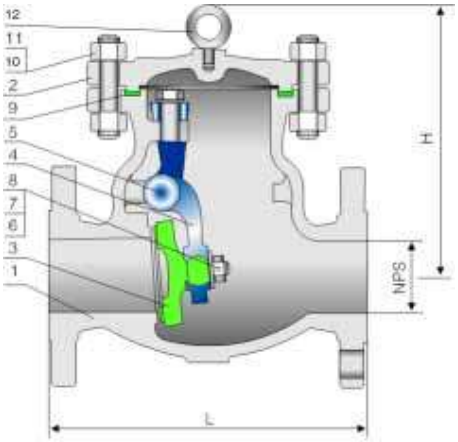
API 603 Corrosion–Resistant Valves
Cast Stainless Steel Swing Check Valves 150Lb

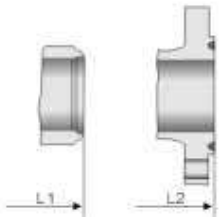
Applicable Standards:

- STEEL CHECK 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

Design descriptions:

- BC,BOLTED COVER
- SWING TYPE,ANTI–ROTATION DISC
- SEAT RINGS INTEGRAL WITH BODY
- NON–PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS





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	Cover	A351–CF8	A351–CF8M	A351–CF3M
3	Disc	A351–CF8	A351–CF8M	A351–CF3M
4	Hinge	A351–CF8	A351–CF8M	A351–CF3M
5	Hinge Pin	A276–304	A276–316	A276–316L
6	Disc Washer	A276–304	A276–316	A276–316L
7	Disc Nut	A193–B8	A193–B8M	A193–B8M
8	Disc Nut Pin	A276–304	A276–316	A276–316L
9	Bonnet Gasket[1)]	Graphite+304	Graphite+316	Graphite+316L
10	Bonnet Stud	A193–B8	A193–B8M	A193–B8M
11	Bonnet Stud Nut	A194–8	A194–8M	A194–8M
12	Eyebolt[2)]	A194–8	A194–8	A194–8

Note:1) Spiral wound construction, teflon optional
2)Nps 6" & larger
3)Disc and seat(integral with body)may either be solid facing material or a base material equal to or better than 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	18	20	24	26	in
	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600	650	mm
ANSI Class 150Lb																			
L/L1 (RF/BW)	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	–	in
	108	117	127	165	203	216	241	292	356	495	622	699	787	864	978	978	1295	–	mm
L2 (RTJ)	–	–	–	–	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	51.50	–	in
	–	–	–	–	216	229	254	305	368	508	635	711	800	876	991	991	1308	–	mm
H	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	–	in
	80	85	100	110	152	165	175	204	293	353	390	432	475	525	582	627	883	–	mm
WT(kg)	2.5	3.5	5	7.5	14	20	25	40	71	118	177	263	353	542	632	855	970	–	BW
	2	3	3.5	5.5	10	12	17	29	57	96	143	227	295	468	552	755	831	–	RF/RTJ

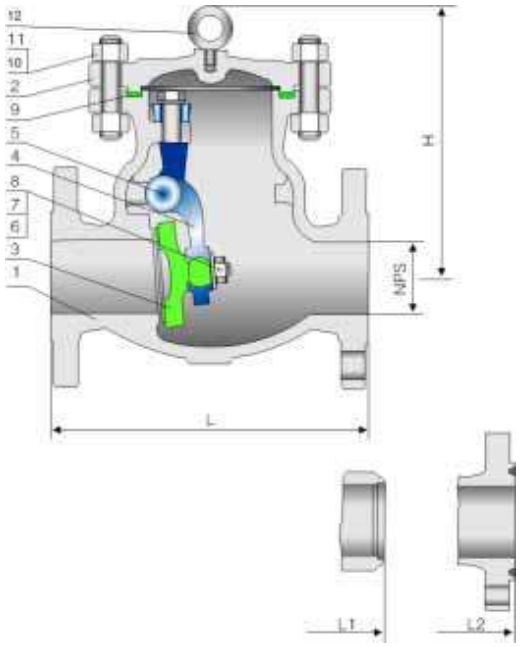
API 603 Corrosion–Resistant Valves
Cast Stainless Steel Swing Check Valves 300Lb/600Lb

Applicable Standards:

- STEEL CHECK 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

Design descriptions:

- BC,BOLTED COVER
- SWING TYPE,ANTI–ROTATION DISC
- SEAT RINGS INTEGRAL WITH BODY
- NON–PENETRATE DISC SHAFT
- HORIZONTAL OR VERTICAL SERVICE
- FLANGED OR BUTTWELDING ENDS



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	Cover	A351–CF8	A351–CF8M	A351–CF3M
3	Disc	A351–CF8	A351–CF8M	A351–CF3M
4	Hinge	A351–CF8	A351–CF8M	A351–CF3M
5	Hinge Pin	A276–304	A276–316	A276–316L
6	Disc Washer	A276–304	A276–316	A276–316L
7	Disc Nut	A193–B8	A193–B8M	A193–B8M
8	Disc Nut Pin	A276–304	A276–316	A276–316L
9	Bonnet Gasket[1)]	Graphite+304	Graphite+316	Graphite+316L
10	Bonnet Stud	A193–B8	A193–B8M	A193–B8M
11	Bonnet Stud Nut	A194–8	A194–8M	A194–8M
12	Eyebolt[2)]	A194–8	A194–8	A194–8

Note:1) Spiral wound construction, teflon optional
2)Nps 6" & larger
3)Disc and seat(integral with body)may either be solid facing material or a base material equal to or better than body/bonnet Material with facing as shown.

Dimensional datas of ANSI Class 300Lb

NPS / DN	2/1	3/4	1	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	in
	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600	650	mm
L/L1 (RF/BW)	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00	–	in
	152	178	203	229	267	292	318	356	445	533	622	711	838	864	978	1016	1346	–	mm
L2 (RTJ)	–	–	–	–	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	–	in
	–	–	–	–	283	308	333	371	460	549	638	727	854	879	994	1035	1368	–	mm
H	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	34.75	–	in
	80	85	100	110	152	165	175	204	293	353	390	432	457	525	582	627	883	–	mm
wt(kg)	3	4	6	10	16	23	29	46	82	136	204	302	405	625	730	985	1115	–	RF/RTJ
	2.5	3.5	5	7	11	13	18	31	61	103	155	245	315	503	593	812	895	–	BW

Dimensional datas of ANSI Class 600Lb

NPS / DN	2/1	3/4	1	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	26	in
	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600	650	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	35.00	39.00	43.00	47.00	55.00	–	in
	165	190	216	241	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	–	mm
L2 (RTJ)	–	–	–	–	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	–	in
	–	–	–	–	295	333	359	435	562	664	791	841	892	994	1095	1200	1407	–	mm
H	3.38	3.50	4.50	5.50	7.50	8.00	8.75	10.00	14.50	17.50	19.25	21.38	23.38	25.75	28.75	31.00	43.50	–	in
	85	90	115	140	190	205	222	255	368	445	490	540	595	655	730	785	11305	–	mm
wt(kg)	5.5	7.5	12	15	24	35	44	70	125	207	310	460	615	945	1105	1495	1695	–	RF/RTJ
	4	6	8	12.5	16	19	26	44	87	147	220	350	452	720	845	1160	1280	–	BW