



Cast Steel Wedge, Flat & Pressure Seal Gate Valves





GATE VALVE, BB, CS

Design

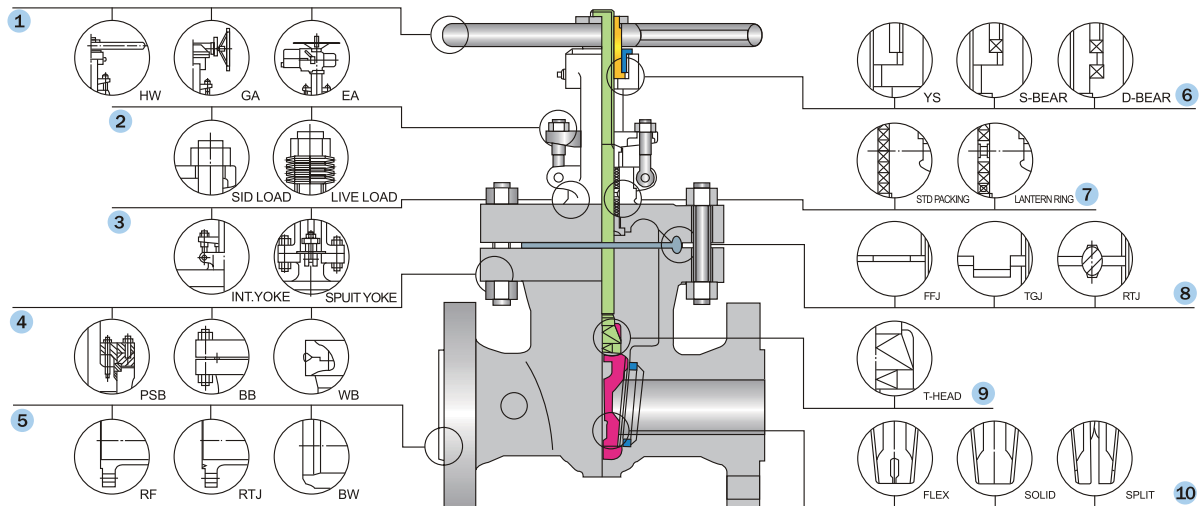
KOJO cast steel gate valve are designed and manufactured to provide maximum service life and dependability. All gate valves are full ported and meet the design requirements of American petroleum Institute Standard API 600 & API 6D, British Standard BS 1414 & BS EN 1984 and generally conform to American Society of Mechanical Engineers Standard ASME B 16.34. Valves are available in a complete range of body/bonnet materials and trims.

Rang of Materials

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steels. For special apolications 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 **KOJO** Cast Steel 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



1 Operating

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

3 OS & Y

Outside Screw and Yoke. Cast steel gate valve yoke. Integral with bonnet for 150Lb-8 " , 300Lb-8 " , 600Lb-6 " , 900Lb-4 " & Small.

5 End Connections

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

7 Lantern Ring and Double Packing set

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

9 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 stregthended. This design also allows the wedge to self-align, eliminating the possibility of a bent stem jamming the wedge.

2 Live Load Packing

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

4 BB

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

6 Yoke Sleeve

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.

8 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 connection in 900Lb & higher rated valves.

10 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. Available in solid, flex split and HIS designs.



CAST STEEL GATE VALVE

150Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

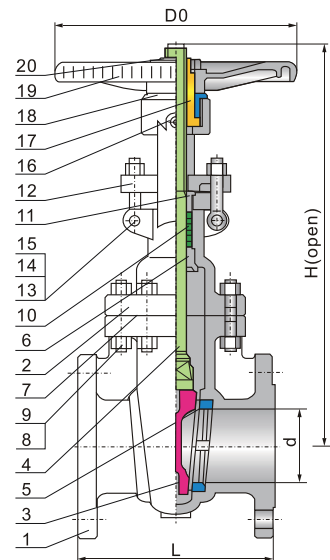
FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
FLEXIBLE WEDGE, FULLY GUIDED
CHOICE OF SOLID OR SPLIT WEDGE
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

Materials of parts

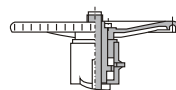
No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Wedge	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
6	Stem Back Seat	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 ¹⁾		
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.



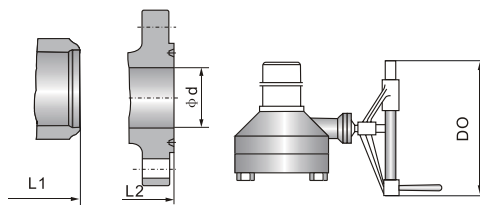
NPS $\geq 1 \frac{1}{2}$



For NPS10 & Larger



Yoke For NPS10 & Larger



RTJ End

Dimensions data

NPS	2	2 $\frac{1}{2}$	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200	mm

ANSI Class 150Lb

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	32.00	32.00	42.00	in
	178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	711	711	813	813	1067	mm
L1 (BW)	8.5	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	42.00	45.00	53.97	in
	216	241	283	305	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	1067	1143	1371	mm
L2 (RTJ)	7.48	7.99	8.50	9.48	10.98	12.00	13.50	14.48	15.51	16.49	17.51	18.50	20.51	-	-	24.48	-	28.50	-	-	-	in
	190	203	216	241	279	305	343	368	394	419	445	470	521	-	-	622	-	724	-	-	-	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	130.00	136.96	161.70	in
	386	434	480	584	765	956	1149	1350	1508	1703	1892	2119	2500	2806	2960	3150	3280	3720	3302	3479	3962	mm
(d)	50	63	76	100	150	200	250	300	336	387	438	488	590	641	692	743	781	876	-	-	-	mm
D0	8	8	10	12	12	14	16	18	20	22	24	26	29	29	32	32	38	40	40.15	40.15	40.15	in
	200	200	250	300	300	350	400	450	500	550	600	640	720	720	800	800	950	1000	1020	1020	1020	mm
WT (kg)	18	25	32	50	77	121	178	265	363	463	621	792	1190	1521	1838	2261	2490	3310	4650	5100	6500	RF
	15	18	26	41	69	108	156	248	330	424	587	752	1144	1570	1900	3310	2540	3380	-	-	-	BW
Toqure	13	13	15	27	36	63	84	131	151	235	285	341	602	-	-	1079	-	1497	-	-	-	mm



CAST STEEL GATE VALVE

300Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

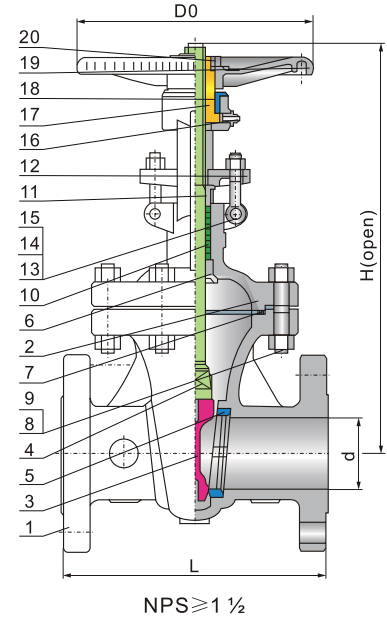
FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
FLEXIBLE WEDGE, FULLY GUIDED
CHOICE OF SOLID OR SPLIT WEDGE
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

Materials of parts

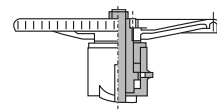
No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Wedge	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
6	Stem Back Seat	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 ¹⁾		
18	Yokesleeve Jam Nut	Carbon Steel		
19	Handwheel	Malleable Iron		
20	Handwheel Nut	Carbon Steel		

Note:1). Ductile Ni-Resist optional

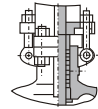
2). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



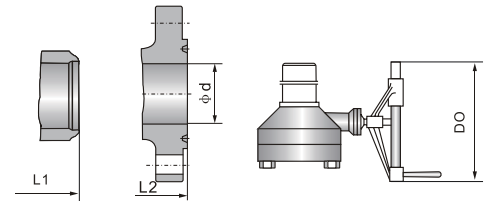
NPS $\geq 1 \frac{1}{2}$



For NPS10 & Larger



Yoke For NPS10 & Larger



RTJ End

Dimensions data

NPS	2	2 $\frac{1}{2}$	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200	mm

ANSI Class 300Lb

L/L1 (RF/BW)	8.50 216	9.50 241	11.12 283	12.00 305	15.88 403	16.50 419	18.00 457	19.75 502	30.00 762	33.00 838	36.00 914	39.00 991	45.00 1143	49.00 1245	53.00 1346	55.00 1397	60.00 1524	68.00 1727	76.96 1955	80.00 2032	90.00 2286	in mm
L2 (RTJ)	9.12 232	10.12 257	11.75 298	12.62 321	16.50 419	17.12 435	18.62 473	20.38 518	30.62 778	33.62 854	36.62 930	39.75 1010	45.88 1165	50.00 1270	54.00 1372	56.00 1422	61.12 1553	69.12 1756	-	-	-	in mm
H (OPEN)	16.12 410	17.88 453	20.00 509	24.00 612	31.75 805	59.38 1000	47.62 1210	55.75 1415	62.25 1580	67.88 1725	77.12 1960	86.38 2195	102.00 2590	117.00 2975	122.00 3100	126.00 3200	130.00 3300	152.00 3860	146.18 3713	154.17 3916	177.20 4501	in mm
(d)	50	63	76	100	150	200	250	300	336	387	431	482	584	635	686	737	781	876	-	-	-	mm
D0	8 200	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	24 550	26 600	29 640	29 720	29 720	32 800	32 800	38 950	40 1000	28.34 720	28.34 720	28.34 720	in mm
WT (kg)	23 17	35 26	50 39	71 53	144 113	209 164	322 256	482 390	683 565	950 805	1145 965	1635 1410	2660 2305	3090 2540	3310 2725	3595 3055	3720 3360	3985 3630	8100 -	9750 -	13050 -	RF/RTJ BW
Toqure	16	18	21	42	86	128	215	289	423	537	649	1009	1451	-	-	3140	-	4239	-	-	-	mm



CAST STEEL GATE VALVE

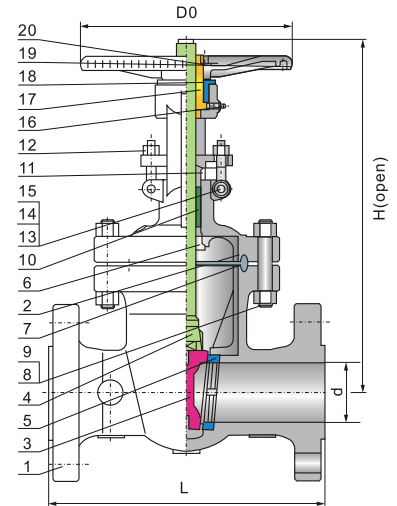
600Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

FULL PORT DESIGN
OS & Y, OUTSIDE SCREW 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

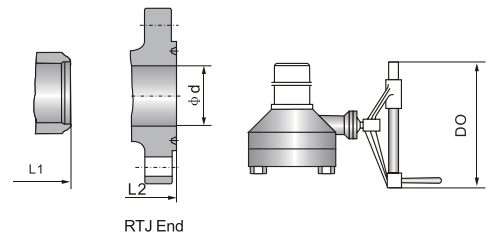
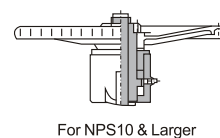


Materials of parts

No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	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 Back Seat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Steel Ring	304SS Ring	Steel Ring
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland Flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-420	Carbon Steel
14	Eyebolt	Carbon Steel	A193-B7	Carbon Steel
15	Eyebolt Nut	Carbon Steel	A194-2H	Carbon Steel
16	Grease Fitting	Brass+Steel		
17	Yokesleeve	Aluminum-Bronze ¹⁾		
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.



Dimensions data

NPS	2	2 $\frac{1}{2}$	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200	mm

ANSI Class 600Lb

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	84.60	88.97	105.00	in
	292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	1778	2083	2149	2260	2667	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	141.73	155.51	181.10	in
	418	476	518	646	840	1025	1230	1450	1575	1795	1930	2210	2580	2665	2780	2895	3150	3560	3600	3950	4600	mm
(d)	50	63	76	100	150	199	247	298	326	374	419	463	558	603	648	695	781	876	-	-	-	mm
D0	8	10	10	12	18	20	24	24	24	24	26	26	29	29	32	32	38	40	28.34	28.34	28.34	in
	200	250	250	300	450	500	600	600	600	600	640	640	720	720	800	800	950	1000	720	720	720	mm
WT (kg)	36	52	67	112	170	393	610	890	1245	1530	1965	2450	2995	3475	3725	4045	4185	4480	14300	16400	22900	RF/RTJ
Toqure	23	-	50	68	183	270	479	650	988	1243	1512	2185	3053	-	-	5452	-	7675	-	-	-	BW
																						mm



CAST STEEL GATE VALVE

900Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
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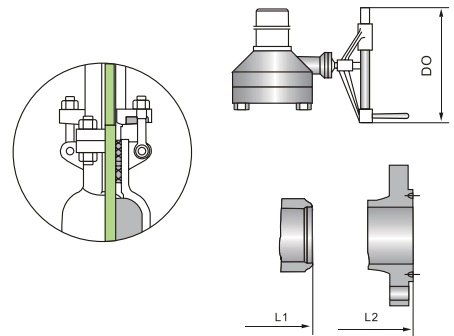
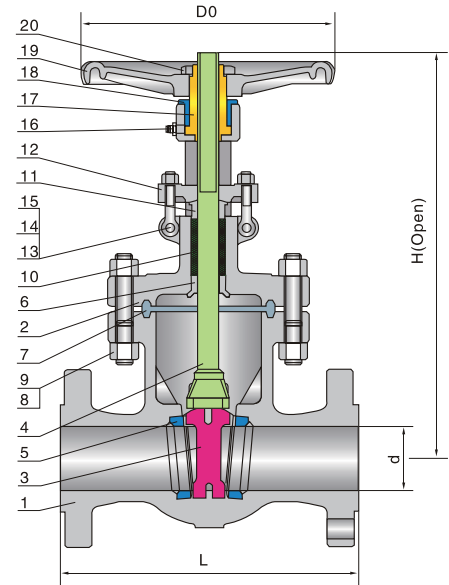
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2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Wedge	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
6	Stem Back Seat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Steel Ring	304SS Ring	Steel Ring
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
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11	Gland	A276-420	A276-304	A276-420
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Note: 1). Ductile Ni-Resist optional

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



Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 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
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ANSI Class 900Lb

L/L1 (RF/BW)	14.50 368	16.50 419	15.50 381	18.00 457	24.00 610	29.00 737	33.00 838	38.00 965	40.50 1029	44.50 1130	48.00 1219	52.00 1321	61.00 1549	in mm
L2 (RTJ)	14.62 371	16.62 422	15.12 384	18.12 460	24.12 613	29.12 740	33.12 841	38.12 968	40.88 1038	44.88 1140	48.50 1232	52.50 1334	61.75 1568	in mm
H (OPEN)	19.62 498	21.50 547	22.50 573	26.62 678	35.50 900	43.50 1103	53.00 1345	60.00 1525	74.88 1900	81.00 2055	87.00 2215	101.00 2565	104.00 2640	in mm
(d)	47	57	72	98	146	190	238	282	311	355	400	444	533	mm
D0	10 250	10 250	12 300	18 450	20 500	24 600	26 640	29 720	32 800	32 800	38 950	38 950	40 1000	in mm
WT (kg)	74 54	131 105	101 78	172 135	335 260	640 515	1100 920	1600 1380	2250 2010	2850 2565	3060 2485	3935 3250	4900 4065	RF/RTJ BW
Toquire	39	56	64	118	243	427	783	1163	1331	-	-	-	-	mm



CAST STEEL GATE VALVE

1500Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

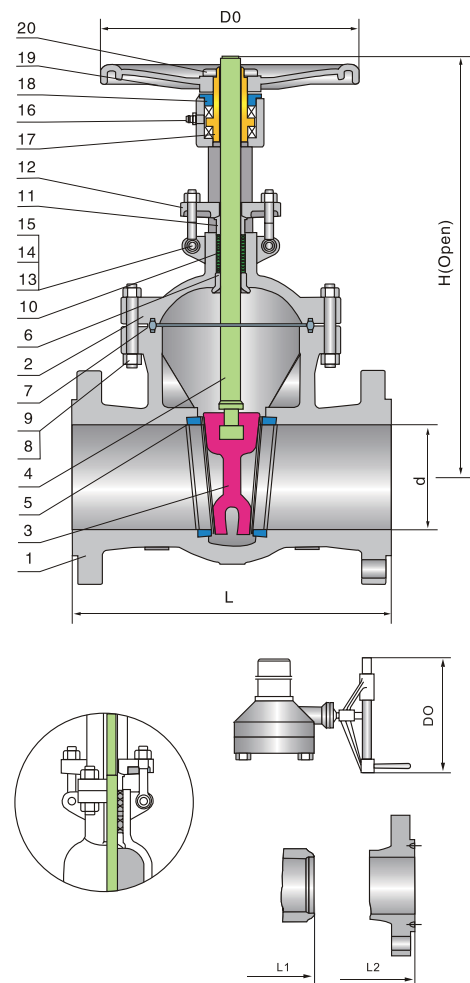
FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
FLEXIBLE WEDGE, FULLY GUIDED
CHOICE OF SOLID OR SPLIT WEDGE
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

Materials of parts

No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	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 Back Seat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Steel Ring	304SS Ring	Steel Ring
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland Flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-420	Carbon Steel
14	Eyebolt	Carbon Steel	A193-B7	Carbon Steel
15	Eyebolt Nut	Carbon Steel	A194-2H	Carbon Steel
16	Grease Fitting	Brass+Steel		
17	Yokesleeve	Aluminum-Bronze ¹⁾		
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.



Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 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
ANSI Class 1500Lb														
L/L1 (RF/BW)	14.50 368	16.50 419	18.50 470	21.50 546	27.75 705	32.75 832	39.00 991	44.50 1130	49.50 1257	54.50 1384	60.50 1537	65.50 1664	76.50 1943	in mm
L2 (RTJ)	15.50 371	16.62 422	18.62 473	21.62 549	28.00 711	33.12 841	39.38 1000	45.12 1146	50.25 1276	55.38 1407	61.38 1559	66.38 1686	77.62 1972	in mm
H (OPEN)	24.25 615	26.00 658	30.00 760	34.12 868	39.50 1005	45.00 1145	54.00 1370	61.00 1550	74.88 1900	80.50 2050	93.75 2380	101.50 2580	114.75 2915	in mm
(d)	47	57	69	92	136	177	222	263	288	330	371	415	498	mm
D0	10 250	12 300	18 450	20 500	24 600	18 460	18 460	24 600	24 600	24 600	24 600	24 600	24 600	in mm
WT (kg)	116 105	166 150	209 188	296 265	510 412	920 760	1910 1640	3145 2755	4100 3200	6200 5300	8965 8070	13100 11790	15860 14275	RF/RTJ BW
Toqure	54	76	108	167	426	801	1268	2078	2392	-	-	-	-	mm



CAST STEEL GATE VALVE

2500Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

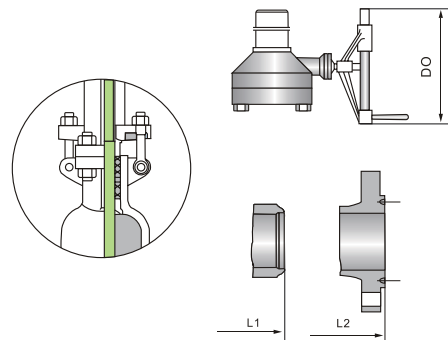
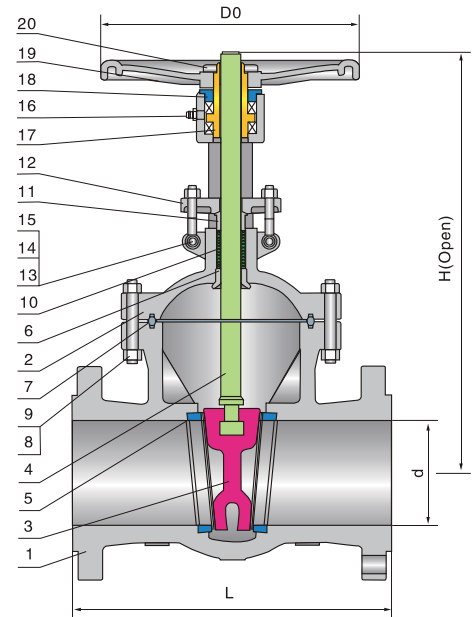
FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
FLEXIBLE WEDGE, FULLY GUIDED
CHOICE OF SOLID OR SPLIT WEDGE
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

Materials of parts

No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	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 Back Seat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Steel Ring	304SS Ring	Steel Ring
8	Bonnet Stud	A193-B7	A193-B16	A320-L7
9	Bonnet Stud Nut	A194-2H	A194-7	A194-4
10	Packing	Graphite		
11	Gland	A276-420	A276-304	A276-420
12	Gland Flange	A216-WCB	A217-WC6	A352-LCB
13	Eyebolt Pin	Carbon Steel	A276-420	Carbon Steel
14	Eyebolt	Carbon Steel	A193-B7	Carbon Steel
15	Eyebolt Nut	Carbon Steel	A194-2H	Carbon Steel
16	Grease Fitting	Brass+Steel		
17	Yokesleeve	Aluminum-Bronze ¹⁾		
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.



Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 65	3 80	4 100	6 150	8 200	10 250	12 300	in mm
ANSI Class 2500Lb									
L/L1 (RF/BW)	17.75 451	20.00 508	22.75 578	26.50 673	36.00 914	40.25 1022	50.00 1270	56.00 1422	in mm
L2 (RTJ)	17.88 454	20.50 514	23.00 584	26.88 683	36.50 927	40.88 1038	50.88 1292	56.88 1445	in mm
H (OPEN)	24.88 631	29.00 736	35.00 890	41.50 1055	57.00 1450	63.38 1610	81.75 2075	89.75 2280	in mm
(d)	38	47	57	72	111	146	184	218	mm
D0	12 300	18 450	20 500	20 500	24 600	24 600	24 600	24 600	in mm
WT (kg)	155 124	210 160	310 245	580 460	1600 1310	2450 2010	4570 3800	7150 6000	RF/RTJ BW



PRESSURE SEAL CAST STEEL GATE VALVE 900Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

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

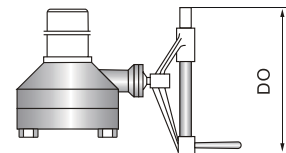
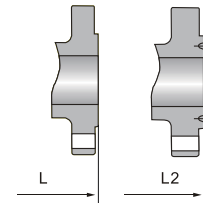
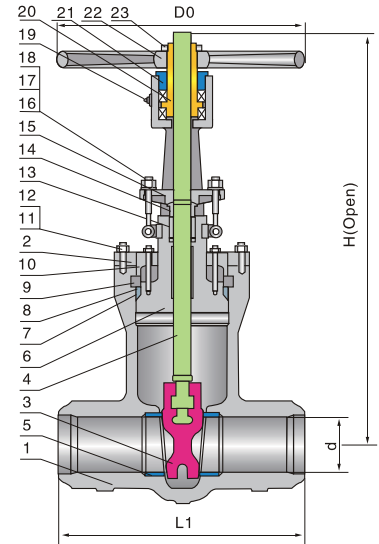
Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	18Cr-9Ni-2Mo
1	Body	A216-WCB	A217-WC6	A351-CF8M
2	Yoke	A216-WCB	A217-WC6	A351-CF8M
3	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 ¹⁾		304+Graphite	
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	
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.



Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 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	32 800	34 850	36 900	in mm
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ANSI Class 900Lb

L1 (BW)	8.50 216	10.00 254	12.00 305	14.00 356	20.00 508	26.00 660	31.00 787	36.00 914	39.00 991	43.00 1092	47.99 1219	52.00 1321	60.98 1549	61.96 1574	65.47 1663	70.00 1778	72.99 1854	80.00 2032	in mm
L (RF)	14.50 368	16.50 419	15.00 381	18.00 457	24.00 610	29.00 737	33.00 838	38.00 965	40.50 1029	44.50 1130	47.99 1219	52.00 1321	60.98 1549	61.96 1574	65.47 1663	70.00 1778	72.99 1854	80.00 2032	in mm
L2 (RTJ)	14.62 371	16.62 422	15.12 384	18.12 460	24.12 613	29.12 740	33.12 841	38.12 968	40.88 1038	44.88 1140	48.50 1232	52.51 1334	61.73 1568	-	-	-	-	-	in mm
H (OPEN)	17.62 448	17.62 448	19.5 495	22.88 580	32.62 830	67.62 955	45.5 1155	53.12 1350	59 1500	70.5 1790	93.74 2381	96.49 2451	116.96 2971	131.96 3352	145.47 3695	157.48 4000	163.97 4165	180.98 4597	in mm
D0	14 350	14 350	14 350	14 350	18 450	24 600	28 700	34 850	34 850	34 850	29.92 760	29.92 760	35.43 900	35.43 900	35.43 900	35.43 900	35.43 900	35.43 900	in mm
WT (kg)	39 69	39 69	48 72	69 110	158 253	289 430	482 710	710 1025	998 1452	1390 1960	2340 2750	2800 3400	3420 4400	4270 5500	5454 6900	7392 9000	9042 11000	10874 13500	BW RF/RT



PRESSURE SEAL CAST STEEL GATE VALVE 1500Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

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

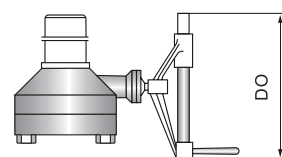
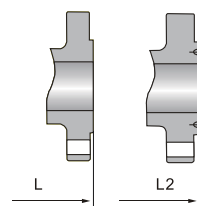
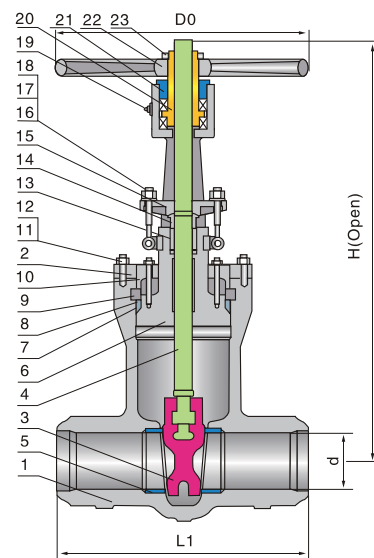
Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	18Cr-9Ni-2Mo
1	Body	A216-WCB	A217-WC6	A351-CF8M
2	Yoke	A216-WCB	A217-WC6	A351-CF8M
3	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 ¹⁾	304+Graphite		
8	Adapter Ring	Carbon Steel	A276-420	A276-316
9	Retainer	Carbon Steel	A276-420	A276-316
10	Yake 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		
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.



Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 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	32 800	34 850	36 900	in mm
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ANSI Class 1500Lb

L1 (BW)	8.50 216	10.00 254	12.00 305	16.00 406	22.00 559	28.00 711	34.00 864	39.00 991	42.00 1067	47.00 1194	52.99 1346	57.99 1473	76.49 1943	80.00 2033	86.96 2209	90.00 2286	95.00 2413	100.98 2565	in mm
L (RF)	14.50 368	16.50 419	18.50 470	21.50 546	27.75 705	32.75 832	39.00 991	44.50 1130	49.50 1257	54.50 1384	60.51 1537	65.51 1664	76.49 1943	80.00 2033	86.96 2209	90.00 2286	95.00 2413	100.98 2565	in mm
L2 (RTJ)	14.62 371	16.62 422	18.62 473	21.62 549	28.00 711	33.12 841	39.38 1000	45.12 1146	50.25 1276	55.38 1407	61.37 1559	66.37 1686	77.63 1972	-	-	-	-	-	in mm
H (OPEN)	17.62 448	17.62 448	21.62 550	25.25 640	33.5 850	38.62 980	46.5 1180	62.25 1580	70.5 1790	78 1980	86.96 2209	93.97 2387	110.00 2794	121.96 3098	133.97 3403	147.48 3746	120.00 3048	127.99 3251	in mm
D0	14 350	14 350	14 350	18 450	24 600	28 700	34 850	34 850	34 850	34 850	33.85 860	33.85 860	33.85 860	40.15 1020	40.15 1020	40.15 1020	-	-	in mm
WT (kg)	39 69	45 80	55 95	77 123	175 283	323 481	540 795	795 1148	1115 1626	1556 2195	4000 5225	4800 6310	7500 9050	8900 9934	10000 11174	13500 14852	16000 17443	18900 21246	BW RF/RTJ



PRESSURE SEAL CAST STEEL GATE VALVE 2500Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

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

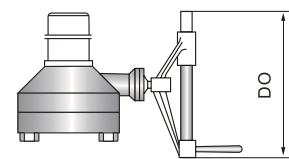
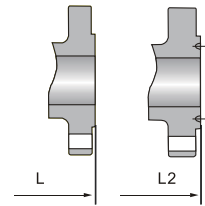
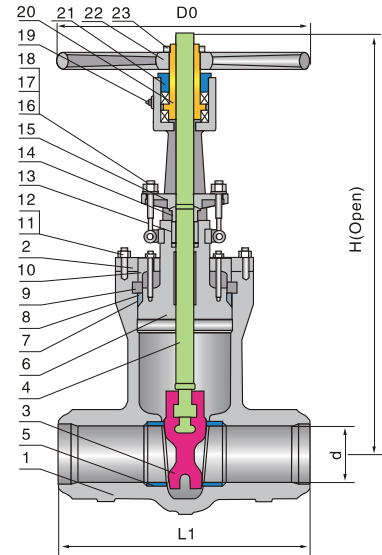
Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	18Cr-9Ni-2Mo
1	Body	A216-WCB	A217-WC6	A351-CF8M
2	Yoke	A216-WCB	A217-WC6	A351-CF8M
3	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 ¹⁾		304+Graphite	
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	
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.



Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 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	32 800	34 850	36 900	in mm
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ANSI Class 2500Lb

L1 (BW)	11.00 279	13.00 330	14.50 368	18.00 457	24.00 610	30.00 762	36.00 914	41.00 1041	44.01 1118	49.01 1245	55.00 1397	55.00 1397	63.97 1625	70.00 1778	75.00 1905	80.00 2032	85.98 2184	95.00 2413	in mm
L (RF)	17.75 451	20.00 508	22.75 578	26.50 673	36.00 914	40.25 1022	50.00 1270	56.00 1422	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	in mm
L2 (RTJ)	17.88 454	20.50 514	23.00 584	26.88 683	36.50 927	40.88 1038	50.88 1292	56.88 1445	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	in mm
H (OPEN)	22.5 570	22.5 570	25.62 650	30 760	36.62 930	41.38 1050	44.88 1140	60.25 1530	54.29 1379	58.30 1481	65.00 1651	71.29 1811	75.00 1905	80.00 2032	82.99 2108	92.99 2362	96.96 2463	120.59 3063	in mm
D0	14 350	14 350	18 450	24 600	28 700	34 850	34 850	34 850	40.15 1020	40.15 1020	40.15 1020	40.15 1020	- -	- -	- -	- -	- -	- -	in mm
WT (kg)	110 165	110 195	150 235	175 316	380 635	575 910	980 1780	1570 2680	3200 -	4100 -	5200 -	6800 -	9500 -	11000 -	13100 -	17200 -	19300 -	25000 -	BW RF/RTJ



CAST STEEL DOUBLE DISC METAL SEAL PARALLEL GATE VALVE

Design

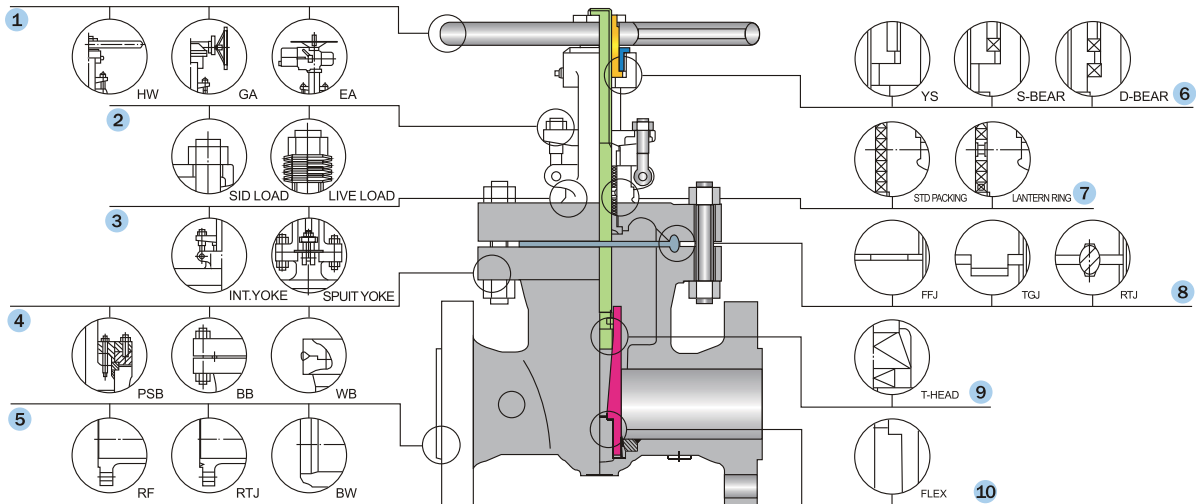
KOJO Cast steel gate valve are designed and manufactured to provide maximum service life and dependability. All gate valves are full ported and meet the design requirements of American petroleum Institute Standard API 600 & API 6D, British Standard BS 1414 & BS EN 1984 and generally conform to American Society of Mechanical Engineers Standard ASME B 16.34. Valves are available in a complete range of body/bonnet materials and trims.

Range of Materials

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



1 Operating

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

3 OS & Y

Outside Screw and Yoke. Cast steel gate valve yoke. Integral with bonnet for 150Lb-8" , 300Lb-8" , 600Lb-6" , 900Lb-4" & Small.

5 End Connections

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

7 Lantern Ring and Double Packing set

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

9 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 strengthened. This design also allows the wedge to self-align, eliminating the possibility of a bent stem jamming the wedge.

2 Live Load Packing 4 BB

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

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

6 Yoke Sleeve

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.

8 Body-to-Bonnet Joint 10 Wedge

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 connection in 900Lb & higher rated valves.

The sealing construction of Double disc parallel gate valve is adopt the type of "v" with leading to disc, the spec of this type is service to high temperature



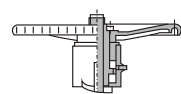
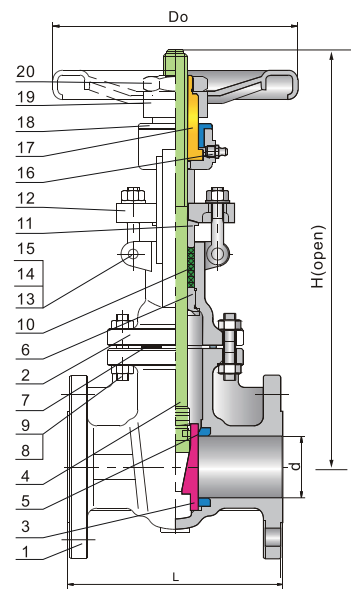
CAST STEEL DOUBLE DISC METAL SEAL PARALLEL GATE VALVE 150lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

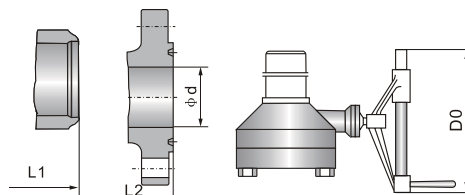
FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
“V” WITH LEADING TO DISC
CHOICE OF SOLID OR SPLIT WEDGE
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR



For NPS10 & Larger



Yoke For NPS10 & Larger



RTJ End

Materials of parts

No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	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 Back Seat	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 ⁽¹⁾		
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.

Dimensions data

NPS	2	2 $\frac{1}{2}$	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200	mm

ANSI Class 150Lb

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	32.00	32.00	42.00	in
	178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	711	711	813	813	1067	mm
L1 (BW)	8.5	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	42.00	45.00	53.97	in
	216	241	283	305	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	1067	1143	1371	mm
L2 (RTJ)	7.48	7.99	8.50	9.48	10.98	12.00	13.50	14.48	15.51	16.49	17.51	18.50	20.51	-	-	24.48	-	28.50	-	-	-	in
	190	203	216	241	279	305	343	368	394	419	445	470	521	-	-	622	-	724	-	-	-	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	130.00	136.96	161.70	in
	386	434	480	584	765	956	1149	1350	1508	1703	1892	2119	2500	2806	2960	3150	3280	3720	3302	3479	3962	mm
(d)	50	63	76	100	150	200	250	300	336	387	438	488	590	641	692	743	781	876	-	-	-	mm
D0	8	8	10	12	12	14	16	18	20	22	24	26	29	29	32	32	38	40	40.15	40.15	40.15	in
	200	200	250	300	300	350	400	450	500	550	600	640	720	720	800	800	950	1000	1020	1020	1020	mm
WT (kg)	18	25	32	50	77	121	178	265	363	463	621	792	1190	1521	1838	2261	2490	3310	4650	5100	6500	RF
	15	18	26	41	69	108	156	248	330	424	587	752	1144	1570	1900	3310	2540	3380	-	-	-	BW
Toqure	13	13	15	27	36	63	84	131	151	235	285	341	602	-	-	1079	-	1497	-	-	-	mm



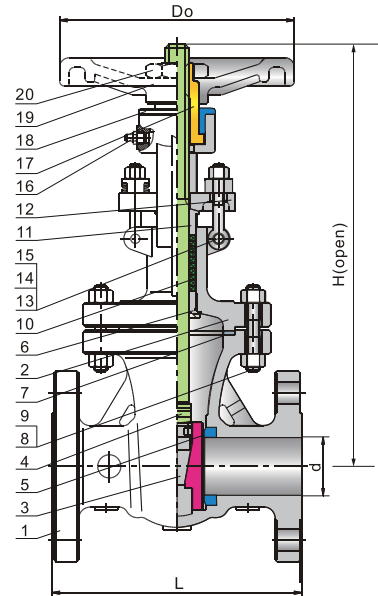
CAST STEEL DOUBLE DISC METAL SEAL PARALLEL GATE VALVE 300Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
“V” WITH LEADING TO DISC
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

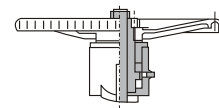


Materials of parts

No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	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 Back Seat	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 ¹⁾		
18	Yokesleeve Jam Nut	Carbon Steel		
19	Handwheel	Malleable Iron		
20	Handwheel Nut	Carbon Steel		

Note: 1). Ductile Ni-Resist optional

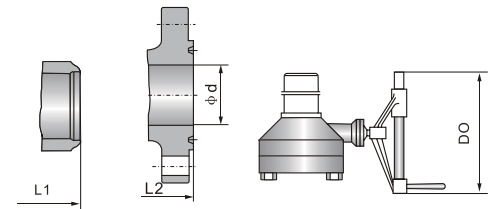
2). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



For NPS10 & Larger



Yoke For NPS10 & Larger



RTJ End

Dimensions data

NPS	2	2 $\frac{1}{2}$	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200	mm

ANSI Class 300Lb

L/L1 (RF/BW)	8.50 216	9.50 241	11.12 283	12.00 305	15.88 403	16.50 419	18.00 457	19.75 502	30.00 762	33.00 838	36.00 914	39.00 991	45.00 1143	49.00 1245	53.00 1346	55.00 1397	60.00 1524	68.00 1727	76.96 1955	80.00 2032	90.00 2286	in mm
L2 (RTJ)	9.12 232	10.12 257	11.75 298	12.62 321	16.50 419	17.12 435	18.62 473	20.38 518	30.62 778	33.62 854	36.62 930	39.75 1010	45.88 1165	50.00 1270	54.00 1372	56.00 1422	61.12 1553	69.12 1756	-	-	-	in mm
H (OPEN)	16.12 410	17.88 453	20.00 509	24.00 612	31.75 805	59.38 1000	47.62 1210	55.75 1415	62.25 1580	67.88 1725	77.12 1960	86.38 2195	102.00 2590	117.00 2975	122.00 3100	126.00 3200	130.00 3300	152.00 3860	146.18 3713	154.17 3916	177.20 4501	in mm
(d)	50	63	76	100	150	200	250	300	336	387	431	482	584	635	686	737	781	876	-	-	-	mm
D0	8 200	8 200	10 250	12 300	14 350	16 400	18 450	20 500	22 550	22 550	24 600	26 640	29 720	29 720	32 800	32 800	38 950	40 1000	28.34 720	28.34 720	28.34 720	in mm
WT (kg)	23 17	35 26	50 39	71 53	144 113	209 164	322 256	482 390	683 565	950 805	1145 965	1635 1410	2660 2305	3090 2540	3310 2725	3595 3055	3720 3360	3985 3630	8100 -	9750 -	13050 -	RF/RTJ BW
Toqure	16	18	21	42	86	128	215	289	423	537	649	1009	1451	-	-	3140	-	4239	-	-	-	mm



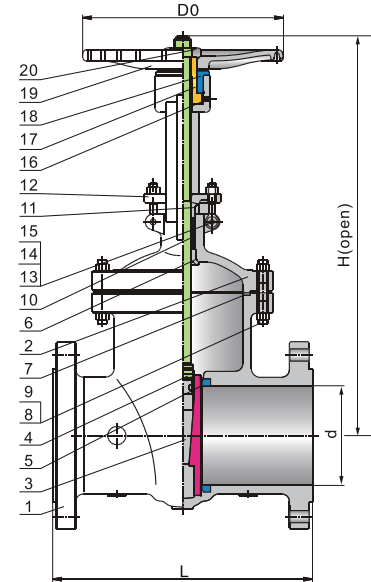
CAST STEEL DOUBLE DISC METAL SEAL PARALLEL GATE VALVE 600Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
“V” WITH LEADING TO DISC
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

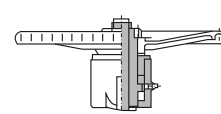


Materials of parts

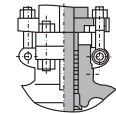
No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	Carbon Steel
1	Body	A216-WCB	A217-WC6	A352-LCB
2	Bonnet	A216-WCB	A217-WC6	A352-LCB
3	Wedge	A216-WCB+CR13	A217-WC6+HF	A352-LCB+CR13
4	Stem	A182-F6a	CR-MO-V	A182-F6a
5	Seat Ring	A105+CR13	A182-F11+HF	A350-LF2+CR13
6	Stem Back Seat	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 ⁽¹⁾		
18	Yokesleeve Jam Nut	Carbon Steel		
19	Handwheel	Malleable Iron		
20	Handwheel Nut	Carbon Steel		

Note: 1). Ductile Ni-Resist optional

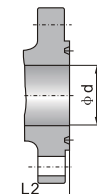
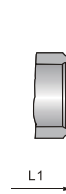
2). Wedge and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.



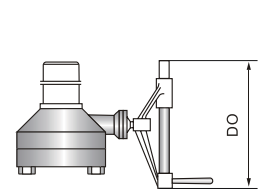
For NPS10 & Larger



Yoke For NPS10 & Larger



RTJ End



Dimensions data

NPS	2	2 $\frac{1}{2}$	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	36	40	42	48	in
DN	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	900	1000	1050	1200	mm

ANSI Class 600Lb

L/L1 (RF/BW)	11.50 292	13.00 330	14.00 356	17.00 432	22.00 559	26.00 660	31.00 787	33.00 838	35.00 889	39.00 991	43.00 1092	47.00 1194	55.00 1397	57.00 1448	61.00 1549	65.00 1651	70.00 1778	82.00 2083	84.60 2149	88.97 2260	105.00 2667	in mm
L2 (RTJ)	11.62 295	13.12 333	14.12 359	17.12 435	22.12 562	26.12 664	31.12 791	33.12 841	35.12 892	39.12 994	43.12 1095	47.25 1200	55.38 1407	57.50 1461	61.50 1562	65.50 1664	70.62 1794	82.62 2099	-	-	-	in mm
H (OPEN)	16.50 418	18.75 476	20.38 518	25.50 646	33.00 840	40.38 1025	48.38 1230	57.00 1450	62.00 1575	70.62 1795	76.00 1930	87.00 2210	101.50 2580	105.00 2665	109.50 2780	114.00 2895	124.00 3150	140.00 3560	141.73 3600	155.51 3950	181.10 4600	in mm
(d)	50	63	76	100	150	199	247	298	326	374	419	463	558	603	648	695	781	876	-	-	-	mm
D0	8	10	10	12	18	20	24	24	24	24	26	26	29	29	32	32	38	40	28.34	28.34	28.34	in mm
WT (kg)	36	52	67	112	170	393	610	890	1245	1530	1965	2450	2995	3475	3725	4045	4185	4480	14300	16400	22900	RF/RTJ BW
Toqure	23	-	50	68	183	270	479	650	988	1243	1512	2185	3053	-	-	5452	-	7675	-	-	-	mm



PRESSURE SEAL CAST STEEL DOUBLE DISC METAL SEAL PARALLEL GATE VALVE 900Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

PSB, PRESSURE SEAL BONNET
“V” WITH LEADING TO DISC
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

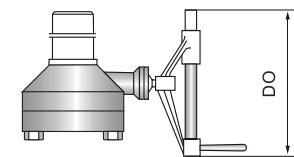
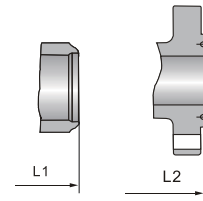
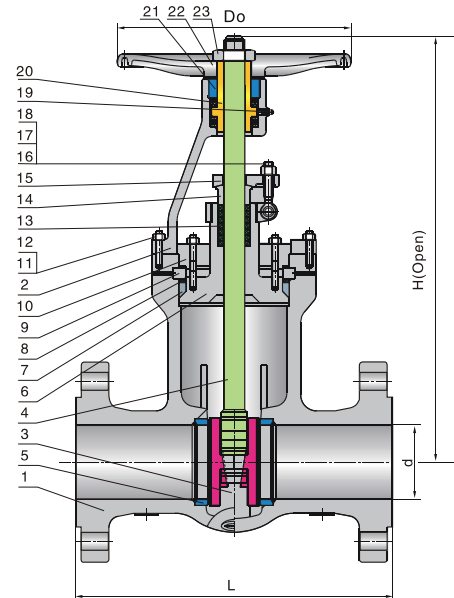
Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 1/4Cr-1/2Mo	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 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	
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.



Dimensions data

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	32 800	34 850	36 900	in mm
ANSI Class 900Lb																			
L1 (BW)	8.50 216	10.00 254	12.00 305	14.00 356	20.00 508	26.00 660	31.00 787	36.00 914	39.00 991	43.00 1092	47.99 1219	52.00 1321	60.98 1549	61.96 1574	65.47 1663	70.00 1778	72.99 1854	80.00 2032	in mm
L (RF)	14.50 368	16.50 419	15.00 381	18.00 457	24.00 610	29.00 737	33.00 838	38.00 965	40.50 1029	44.50 1130	47.99 1219	52.00 1321	60.98 1549	61.96 1574	65.47 1663	70.00 1778	72.99 1854	80.00 2032	in mm
L2 (RTJ)	14.62 371	16.62 422	15.12 384	18.12 460	24.12 613	29.12 740	33.12 841	38.12 968	40.88 1038	44.88 1140	48.50 1232	52.51 1334	61.73 1568	-	-	-	-	-	in mm
H (OPEN)	17.62 448	17.62 448	19.5 495	22.88 580	32.62 830	67.62 955	45.5 1155	53.12 1350	59 1500	70.5 1790	93.74 2381	96.49 2451	116.96 2971	131.96 3352	145.47 3695	157.48 4000	163.97 4165	180.98 4597	in mm
D0	14 350	14 350	14 350	14 350	18 450	24 600	28 700	34 850	34 850	34 850	29.92 760	29.92 760	35.43 900	35.43 900	35.43 900	35.43 900	35.43 900	35.43 900	in mm
WT (kg)	39 69	39 69	48 72	69 110	158 253	289 430	482 710	710 1025	998 1452	1390 1960	2340 2750	2800 3400	3420 4400	4270 5500	5454 6900	7392 9000	9042 11000	10874 13500	BW RF/RT



PRESSURE SEAL CAST STEEL DOUBLE DISC METAL SEAL PARALLEL GATE VALVE 1500lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

PSB, PRESSURE SEAL BONNET
“V” WITH LEADING TO DISC
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

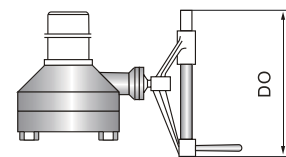
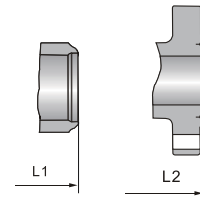
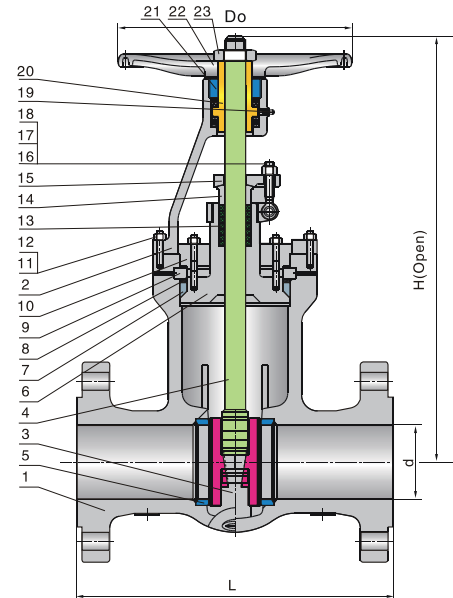
Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 1/4Cr-1/2Mo	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 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		
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.



Dimensions data

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	32 800	34 850	36 900	in mm
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ANSI Class 1500Lb

L1 (BW)	8.50 216	10.00 254	12.00 305	16.00 406	22.00 559	28.00 711	34.00 864	39.00 991	42.00 1067	47.00 1194	52.99 1346	57.99 1473	76.49 1943	80.00 2033	86.96 2209	90.00 2286	95.00 2413	100.98 2565	in mm
L (RF)	14.50 368	16.50 419	18.50 470	21.50 546	27.75 705	32.75 832	39.00 991	44.50 1130	49.50 1257	54.50 1384	60.51 1537	65.51 1664	76.49 1943	80.00 2033	86.96 2209	90.00 2286	95.00 2413	100.98 2565	in mm
L2 (RTJ)	14.62 371	16.62 422	18.62 473	21.62 549	28.00 711	33.12 841	39.38 1000	45.12 1146	50.25 1276	55.38 1407	61.37 1559	66.37 1686	77.63 1972	-	-	-	-	-	in mm
H (OPEN)	17.62 448	17.62 448	21.62 550	25.25 640	33.5 850	38.62 980	46.5 1180	62.25 1580	70.5 1790	78 1980	86.96 2209	93.97 2387	110.00 2794	121.96 3098	133.97 3403	147.48 3746	120.00 3048	127.99 3251	in mm
D0	14 350	14 350	14 350	18 450	24 600	28 700	34 850	34 850	34 850	34 850	33.85 860	33.85 860	33.85 860	40.15 1020	40.15 1020	40.15 1020	-	-	in mm
WT (kg)	39 69	45 80	55 95	77 123	175 283	323 481	540 795	795 1148	1115 1626	1556 2195	4000 5225	4800 6310	7500 9050	8900 9934	10000 11174	13500 14852	16000 17443	18900 21246	BW RF/RTJ



PRESSURE SEAL CAST STEEL DOUBLE DISC METAL SEAL PARALLEL GATE VALVE 2500Lb

Applicable standards:

STEEL GATE VALVES, API 600/API 6D
STEEL GATE VALVES, ISO 10434/ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 598/API 6D

Design description:

PSB, PRESSURE SEAL BONNET
“V” WITH LEADING TO DISC
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

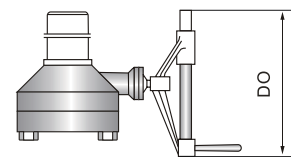
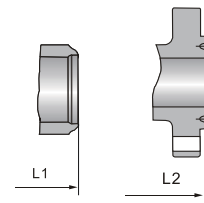
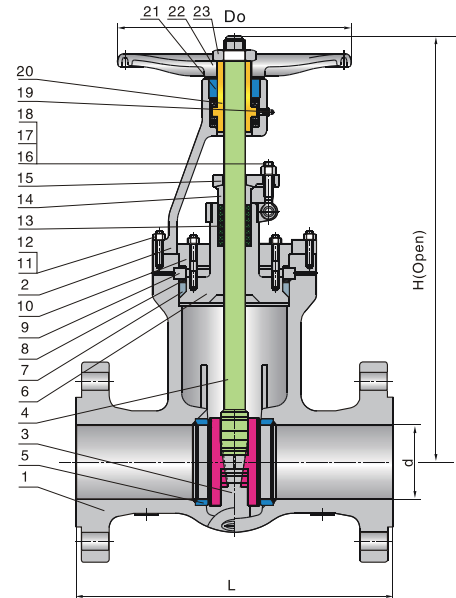
Materials of parts

No	Part Name	Carbon Steel	ASTM Material 1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	18Cr-9Ni-2Mo
1	Body	A216-WCB	A217-WC6	A351-CF8M
2	Yoke	A216-WCB	A217-WC6	A351-CF8M
3	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 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	
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.



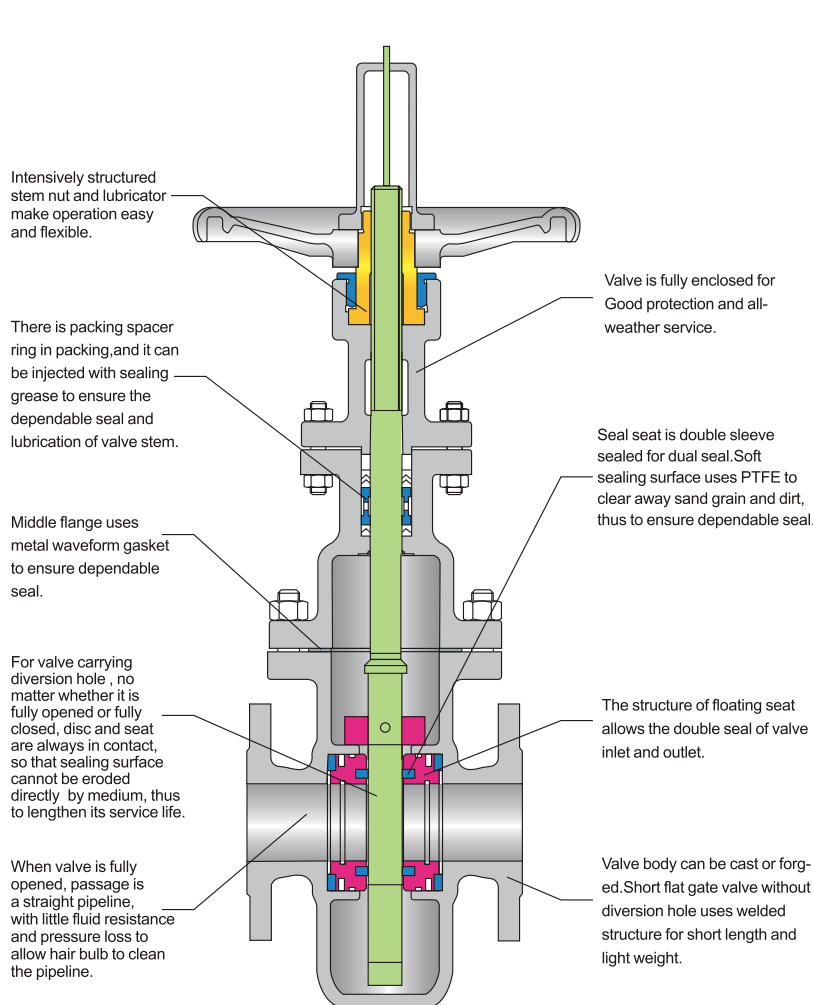
Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 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	32 800	34 850	36 900	in mm
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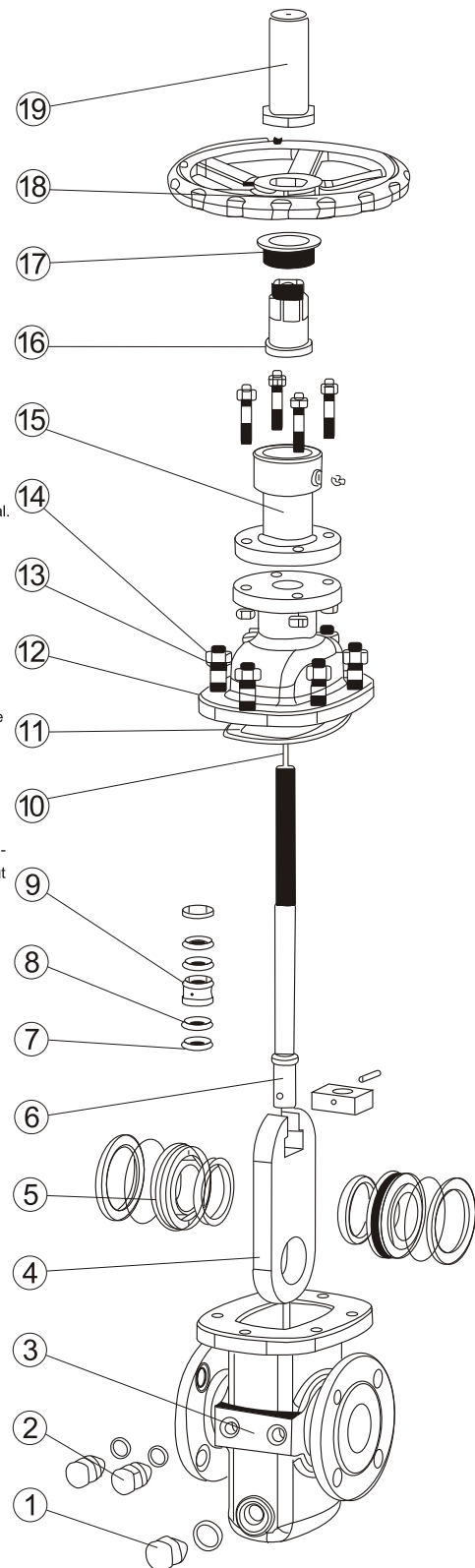
ANSI Class 2500Lb

L1 (BW)	11.00 279	13.00 330	14.50 368	18.00 457	24.00 610	30.00 762	36.00 914	41.00 1041	44.01 1118	49.01 1245	55.00 1397	55.00 1397	63.97 1625	70.00 1778	75.00 1905	80.00 2032	85.98 2184	95.00 2413	in mm
L (RF)	17.75 451	20.00 508	22.75 578	26.50 673	36.00 914	40.25 1022	50.00 1270	56.00 1422	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	in mm
L2 (RTJ)	17.88 454	20.50 514	23.00 584	26.88 683	36.50 927	40.88 1038	50.88 1292	56.88 1445	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	in mm
H (OPEN)	22.5 570	22.5 570	25.62 650	30 760	36.62 930	41.38 1050	44.88 1140	60.25 1530	54.29 1379	58.30 1481	65.00 1651	71.29 1811	75.00 1905	80.00 2032	82.99 2108	92.99 2362	96.96 2463	120.59 3063	in mm
D0	14 350	14 350	18 450	24 600	28 700	34 850	34 850	34 850	40.15 1020	40.15 1020	40.15 1020	40.15 1020	- -	- -	- -	- -	- -	- -	in mm
WT (kg)	110 165	110 195	150 235	175 316	380 635	575 910	980 1780	1570 2680	3200 -	4100 -	5200 -	6800 -	9500 -	11000 -	13100 -	17200 -	19300 -	25000 -	BW RF/RTJ

FLAT GATE VALVE



NO.	Part Name	ASTM	ASTM
1	Blown down Stopple	A276-420	A276-304
2	Grease injection joint	A105	A105
3	Body	A216-WCB	A216-WCB
4	Gate disc	A182-F6a	A182-F304
5	Seat	A105+F4+NBR	A182-F304+F4+FPM
6	Stem	A276-410	A276-304
7	Lower Packin	F4	F4
8	Lantern ring	A276-420	A276-420
9	Upper Packing	F4	F4
10	Indicating Finger	A276-420	A276-420
11	Gasket	Graphite+Stainless Steel	
12	Bonnet	A216-WCB	A216-WCB
13	Stud	A193-B7	A193-B7
14	Nut	A194-2H	A194-2H
15	Yoke	A216-WCB	A216-WCB
16	Stem Nut	B148 C95600	B148 C95600
17	Stem Nut Retainer	A108 1020	A108 1020
18	Handwheel	A197	A197
19	Indicating Cover	A108 1020	A108 1020





FLAT GATE VALVE

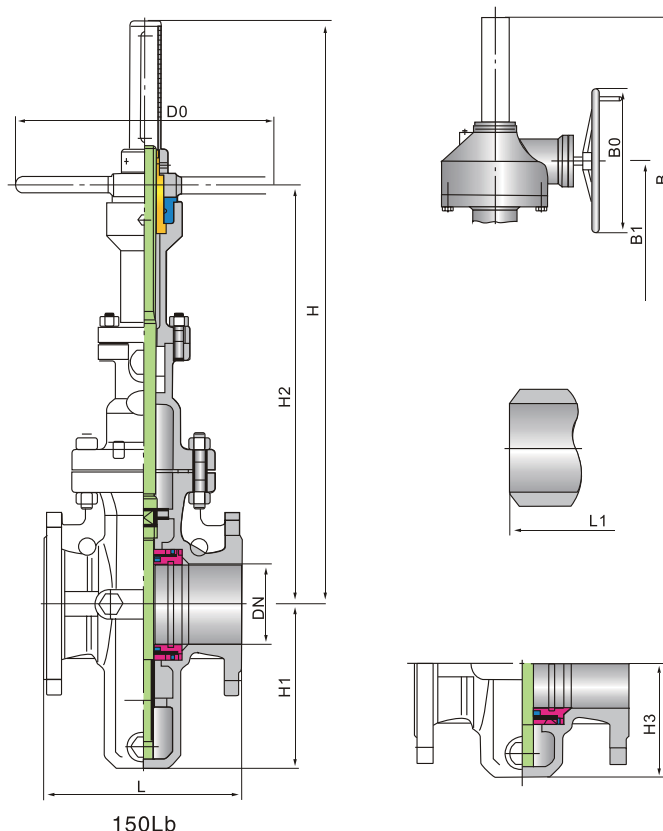
150Lb

Applicable standards:

STEEL GATE VALVES, AAPI 6D
STEEL GATE VALVES, ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 6D

Design description:

FULL PATH DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
PARALLEL SINGLE OR DOUBLE DISC TYPE
“K” TYPE OR “V” TYPE OPEN DOUBLE WEDGE DISC
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR
CONDUCTION CURRENT OR NO CONDUCTION CURRENT PATTEN



Dimensions data

NPS DN	1 25	1 1/4 32	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	18 450	20 500	24 600	28 700	32 800	36 900	40 1000
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ANSI Class 150Lb

L	127	14	165	178	190	203	229	267	292	330	356	381	406	432	457	508	610	660	711	811
L1	127	140	165	216	241	283	305	403	419	457	502	572	610	660	711	813	914	965	1016	-
L2	-	-	-	-	-	-	150	150	180	180	200	200	218	218	229	248	286	286	-	-
H	360	375	410	450	550	610	700	895	1130	1290	1480	1660	1850	2080	2300	2680	3080	3491	3897	4317
H2	250	260	290	315	420	428	494	625	784	937	1080	1283	1417	1489	1672	2012	2250	2550	2850	3250
D0	180	180	250	250	300	300	300	350	350	400	450	500	500	600	700	800	800	1000	1000	1200
B	-	-	-	-	-	-	770	965	1200	1360	1560	1740	1930	2160	2420	2800	3200	3640	4050	4467
B1	-	-	-	-	-	-	650	800	960	1080	1200	1350	1500	1680	1850	2120	2450	2800	3080	3400
B0	-	-	-	-	-	-	310	310	310	310	310	460	460	460	460	460	460	460	600	600
Geared driving	-	-	-	-	-	-	BA-0	BA-0	BA-0	BA-0	BA-0	BA-1	BA-1	BA-1	BA-1	BA-2	BA-2	BA-2	BA-3	BA-3
H3	60	71	75	85	91	109	121	178	211	215	245	280	310	346	363	442	505	560	610	715
H1	85	103	115	122	154	169	193	283	352	440	514	602	678	785	855	1045	1190	1350	1510	1715



FLAT GATE VALVE

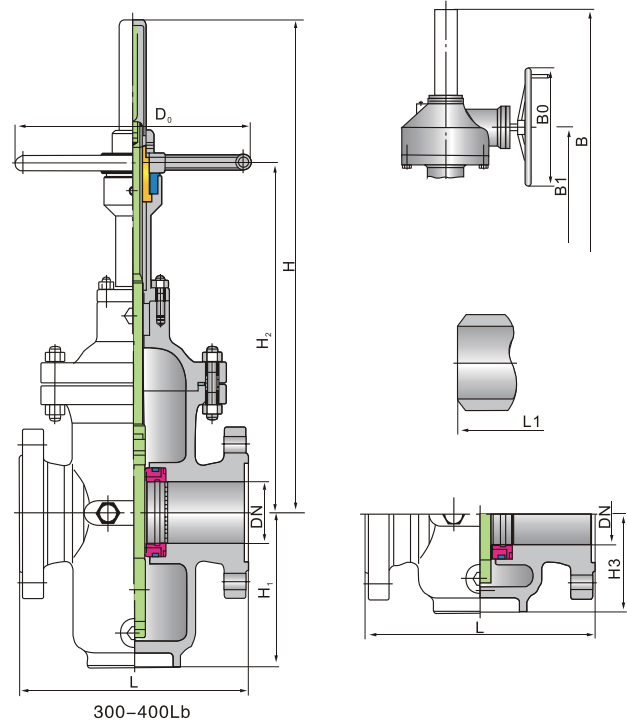
300Lb/400Lb

Applicable standards:

STEEL GATE VALVES, AAPI 6D
STEEL GATE VALVES, ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 6D

Design description:

FULL PATH DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
PARALLEL SINGLE OR DOUBLE DISC TYPE
"K" TYPE OR "V" TYPE OPEN DOUBLE WEDGE DISC
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR
CONDUCTION CURRENT OR NO CONDUCTION CURRENT PATTEM



Dimensions data

NPS DN	1 25	1 1/4 32	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	18 450	20 500	24 600	28 700	32 800	36 900
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ANSI Class 300Lb

L	165	178	190	216	241	283	305	403	419	457	502	762	838	914	991	1143	1346	1524	1727
L ₁	165	178	190	216	241	283	305	403	419	457	502	762	838	914	991	1143	1346	1524	1727
L ₂	-	-	-	-	-	-	150	150	180	180	200	200	218	218	229	248	286	286	-
H	370	385	420	458	555	615	710	900	1135	1401	1580	-	-	-	-	-	-	-	-
H ₂	260	270	300	325	420	430	500	625	790	1040	1150	-	-	-	-	-	-	-	-
D ₀	180	180	250	250	300	300	300	350	350	400	450	-	-	-	-	-	-	-	-
B	-	-	-	-	-	-	770	965	1200	1360	1560	1740	1930	2160	2420	2800	3200	3640	4050
B ₁	-	-	-	-	-	-	650	800	960	1090	1200	1350	1540	1700	1850	2120	2460	2800	3080
B ₀	-	-	-	-	-	-	310	310	310	310	310	460	460	460	460	460	460	460	600
Geared driving	-	-	-	-	-	-	BA-0	BA-0	BA-0	BA-0	BA-1	BA-1	BA-1	BA-1	BA-2	BA-2	BA-2	BA-2	BA-3
H ₃	70	80	85	100	106	124	146	206	241	251	281	325	360	400	430	497	560	620	610
H ₁	90	115	130	137	169	184	1218	311	382	476	545	645	728	800	930	1100	1260	1420	1510

ANSI Class 400Lb

L				292	330	356	406	495	597	673	762	826	902	978	1054	1232	1397		
L ₁				292	330	356	406	495	597	673	762	826	902	978	1054	1232	1397		
H				458	555	615	710	900	1135	1401	1580	-	-	-	-	-	-		
H ₂				325	420	430	500	625	790	1040	1150	-	-	-	-	-	-		
D ₀				300	300	350	350	400	500	500	600	-	-	-	-	-	-		
B				305	560	610	770	965	1200	1370	1560	1740	1970	2260	2420	2800	3230		
B ₁				430	470	510	650	800	960	1090	1200	1350	1540	1700	1850	2120	2460		
B ₀				310	310	310	310	310	310	460	460	460	460	460	460	600	600		
Geared driving				BA-0	BA-0	BA-0	BA-0	BA-0	BA-0	BA-1	BA-1	BA-1	BA-2	BA-2	BA-2	BA-3	BA-3		
H ₃				108	125	145	165	220	280	330	380	430	480	530	580	670	770		
H ₁				158	190	225	255	330	410	490	570	650	735	810	905	1070	1230		



FLAT GATE VALVE

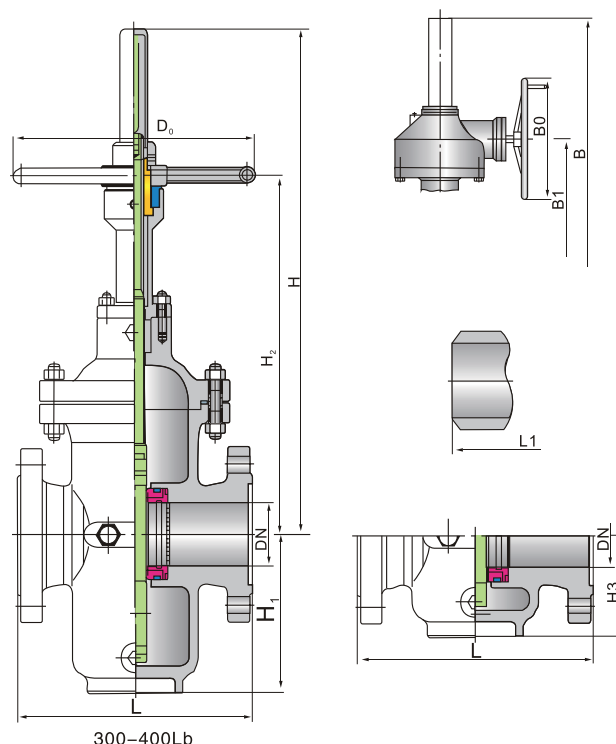
600Lb/900Lb

Applicable standards:

STEEL GATE VALVES, AAPI 6D
STEEL GATE VALVES, ISO 14313
STEEL VALVES, ASME B 16.34
FACE TO FACE, ASME B 16.10
END FLANGES, ASME B 16.5
BUTTWELDING ENDS, ASME B 16.25
INSPECTION AND TEST, API 6D

Design description:

FULL PATH DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
PARALLEL SINGLE OR DOUBLE DISC TYPE
“K” TYPE OR “V” TYPE OPEN DOUBLE WEDGE DISC
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR
CONDUCTION CURRENT OR NO CONDUCTION CURRENT PATTEM



NPS DN	1 25	1¼ 32	1½ 40	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
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ANSI Class 600Lb

L				292	330	356	432	559	660	787	838	889	991	1092	1194	
L ₁				292	330	356	432	559	660	787	838	889	991	1092	1194	
H				468	565	625	720	910	1145	1411	1590	-	-	-	-	
H ₂				335	430	440	510	630	800	1050	1160	-	-	-	-	
D ₀				300	300	350	350	400	500	500	600	-	-	-	-	
B				505	560	610	770	965	1200	1370	1560	1740	1970	2260	2420	
B ₁				430	470	510	650	800	960	1090	1200	1350	1540	1700	1850	
B ₀				310	310	310	310	310	310	460	460	460	460	460	460	
Geared driving				BA-0	BA-0	BA-0	BA-0	BA-0	BA-1	BA-1	BA-1	BA-2	BA-2	BA-2	BA-2	
H ₃				108	125	145	165	220	280	330	380	430	480	530	580	
H ₁				158	190	225	255	330	410	490	570	650	735	810	905	

ANSI Class 900Lb

L(RF)	254	279	305	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
L(BW)	254	279	305	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
H	325	405	503	550	618	693	810	1052	1263	1583	1698	-	-	-	-	-
H ₂	253	312	387	416	491	531	618	791	942	1136	1271	-	-	-	-	-
D ₀	250	300	300	350	400	500	600	650	700	800	1000	-	-	-	-	-
B	-	-	-	-	-	833	950	1212	1423	1813	1928	2230	-	-	-	-
B ₁	-	-	-	-	-	616	703	886	1037	1276	1411	1585	-	-	-	-
B ₀	-	-	-	-	-	305	305	458	458	458	458	458	-	-	-	-
H ₃	73	85	91	97	110	121	133	176	206	255	290	321	351	395	436	515
H ₁	100	128	40	147	184	216	266	418	508	600	726	775	871	966	1060	1416