

Gate Valve, Cast Steel, Bolted Bonnet



Design

SS VALVE 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.

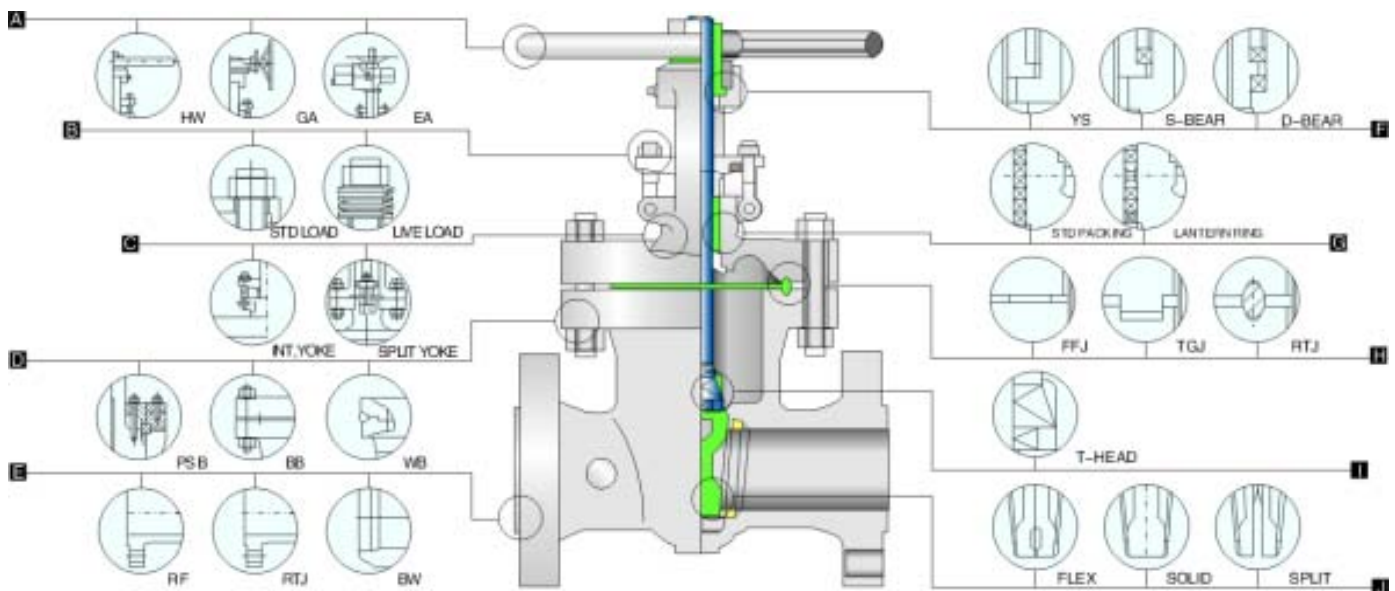
Ranges of Materials

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 SS VALVE 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 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 by requiring less stunts. 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 butt welding 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

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

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 strengthened, 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. available in solid, flex split and his designs.

Gate Valve, Cast Steel, Bolted Bonnet, 150Lb/300Lb

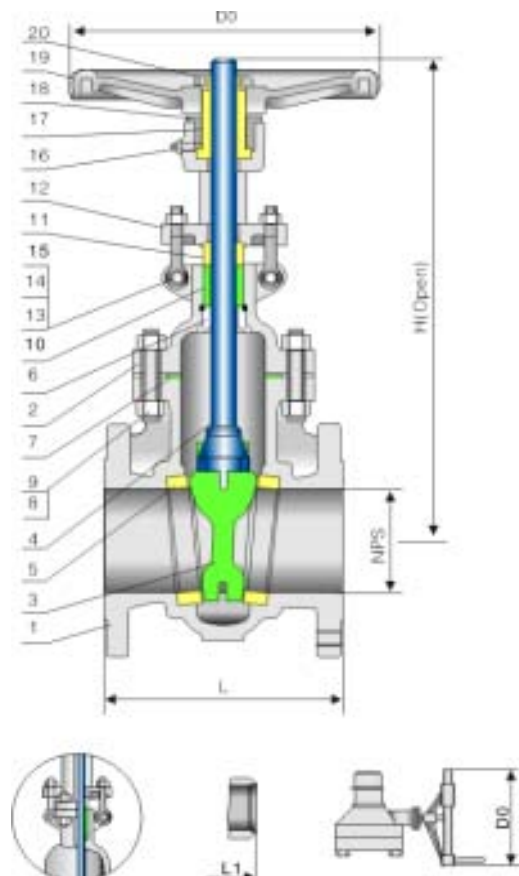


Applicable Standards:

- STEEL GATE VALVES API 600/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:

- 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	Carbon Steel		ASTM Materials
1	Body	A216-WCB	A352-LCB	A217-WC6
2	Bonnet	A216-WCB	A352-LCB	A217-WC6
3	Wedge	A216-WCB+CR13	A352-LCB+CR13	A217-WC6+HF
4	Stem	A182-F6a	A182-F6a	CR-MO-V
5	Seat ring	A105+CR13	A350-LF2+CR13	A182-F11+HF
6	Back seat	A276-420	A276-420	A276-304
7	Gasket	Spiral wound(Graphite+304)		
8	Stud	A193-B7	A320-L7	A193-B16
9	Stud Nut	A194-2H	A194-4	A194-7
10	Packing	GRAPHITE		
11	Gland	A276-420	A276-420	A276-304
12	Gland Flange	A216-WCB	A352-LCB	A217-WC6
13	Eye Bolt Pin	Carbon steel	Carbon steel	A276-420
14	Eye bolt	Carbon steel	Carbon steel	A193-B7
15	Eye bolt Nut	Carbon steel	Carbon steel	A194-2H
16	Grease Fitting	Brass+Steel		
17	Sleeve	Aluminum-Bronze		
18	Sleeve nut	Carbon Steel		
19	Handwheel	Malleable Iron		
20	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)	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)	in (mm)
L	7	7.5	8	9	10.5	11.5	13	14	15	16	17	18	20	22	24	24	28	28	in
(RF)	178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	711	711	mm
L1 (BW)	85	9.5	11.12	12	15.8	16.5	18	19.75	22.5	24	26	28	32	34	36	36	38	40	in
H	216	241	283	305	403	419	457	502	572	610	660	711	813	864	914	914	965	1016	mm
(open)	15.25	17	18.88	23	30.5	37.62	45.5	53.12	59.38	67	74.5	83.5	98.25	110.5	116.5	124	129	146.5	in
Do	386	434	480	584	765	956	1149	1350	1508	1703	1892	2119	2500	2806	2960	3150	3280	3720	mm
	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)	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)	in (mm)
L/L1 (RF/BW)	8.5 216	9.5 241	11.12 283	12 305	15.88 403	16.5 419	18 457	19.75 502	30 762	33 838	36 914	39 991	45 1143	49 1245	53 1346	55 1397	60 1524	68 1727	in mm
L2 (RTJ)	9.12 232	10.12 257	11.75 298	12.62 321	16.5 419	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 1270	54 1372	56 1422	61.12 1553	69.12 1756	in mm
H (open)	16.12 410	17.88 453	20 509	24 612	31.75 805	39.38 1000	47.62 1210	55.75 1415	62.25 1580	67.88 1725	77.12 1960	86.38 2195	102 2590	117 2975	122 3100	126 3200	130 3300	152 3860	in mm
Do	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	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	RF BW

Gate Valve, Cast Steel, Bolted Bonnet, 600Lb/900Lb



Applicable Standards:

- STEEL GATE VALVES API 600/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:

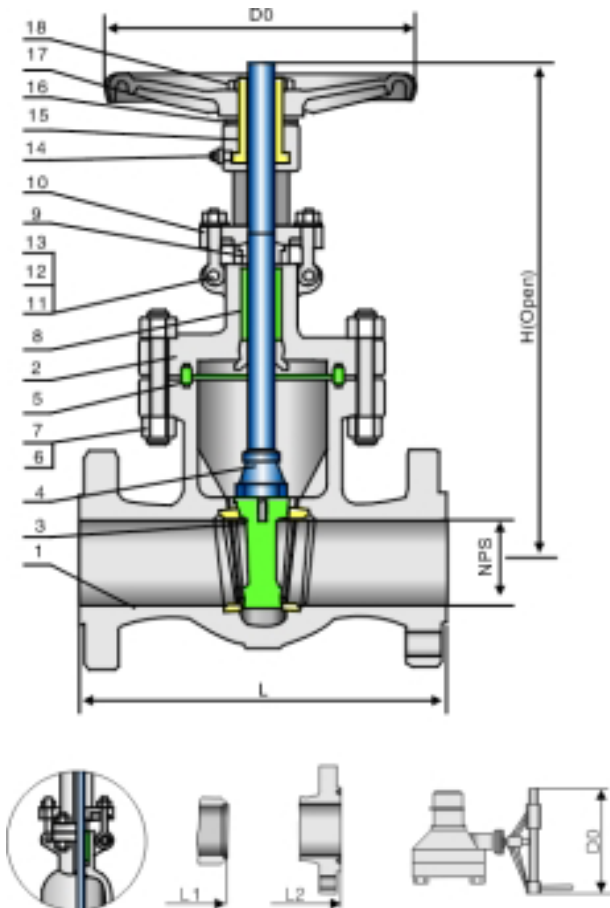
- FULL PORT DESIGN
- OS&Y OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- FLEXIBLE WEDGE, FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T-HEAD STEM
- RISING STEM AND NON-RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Materials of parts

NO	Part Name	Carbon Steel		ASTM Materials
				1 1/2 Cr-1/4 Mo
1	Body	A216-WCB	A352-LCB	A217-WC6
2	Bonnet	A216-WCB	A352-LCB	A217-WC6
3	Wedge	A216-WCB+CR13	A352-LCB+CR13	A217-WC6+HF
4	Stem	A182-F6a	A182-F6a	CR-MO-V
5	Seat ring	A105+CR13	A350-LF2+CR13	A182-F11+HF
6	Back seat	A276-420	A276-420	A276-304
7	Gasket	Spiral wound (Graphite+304)		
8	Stud	A193-B7	A320-L7	A193-B16
9	Stud Nut	A194-2H	A194-4	A194-7
10	Packing	GRAPHITE		
11	Gland	A276-420	A276-420	A276-304
12	Gland Flange	A216-WCB	A352-LCB	A217-WC6
13	Eye Bolt Pin	Carbon steel	Carbon steel	A276-420
14	Eye bolt	Carbon steel	Carbon steel	A193-B7
15	Eye bolt Nut	Carbon steel	Carbon steel	A194-2H
16	Grease Fitting	Brass+Steel		
17	Sleeve	Aluminum-Bronze		
18	Sleeve nut	Carbon Steel		
19	Handwheel	Malleable Iron		
20	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 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)	11.5 292	13 330	14 356	17 432	22 559	26 660	31 787	33 838	35 889	39 991	43 1092	47 1194	55 1397	57 1448	61 1549	65 1651	70 1778	82 2083	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	57.5 1461	61.5 1562	65.5 1664	70.62 1794	82.62 2099	in mm
H (open)	16.5 418	18.75 476	20.38 518	25.5 646	33 840	40.38 1025	48.38 1230	57 1450	62 1575	70.62 1795	76 1930	87 2210	101.5 2580	105 2665	109.5 2780	114 2895	124 3150	140 3560	in mm
Do	8 200	10 250	10 250	12 300	18 450	20 500	24 600	24 600	24 600	26 640	26 640	26 640	29 720	29 720	32 800	32 800	38 950	40 1000	in mm
wt (kg)	36 29	52 42	67 53	112 83	170 125	393 310	610 472	890 730	1245 1055	1530 1240	1965 1625	2450 2030	2995 2590	3475 2855	3725 3065	4045 3440	4185 3780	4480 4085	RF BW

Dimensional datas of ANSI class 900Lb

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)	14.5 368	16.5 419	15 381	18 457	24 610	29 737	33 838	38 965	40.5 1029	44.5 1130	48 1219	52 1321	61 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	48.5 1232	52.5 1334	61.75 1568	in mm
H (open)	19.62 498	21.5 547	22.5 573	26.62 678	35.5 900	4.5 1103	53 1345	60 1525	74.88 1900	81 2055	87 2215	101 2565	104 264	in mm
Do	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 3485	3935 3250	49 4065	RF BW

Gate Valve, Cast Steel, Bolted Bonnet, 1500Lb/2500Lb



Applicable Standards:

- STEEL GATE VALVES API 600/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:

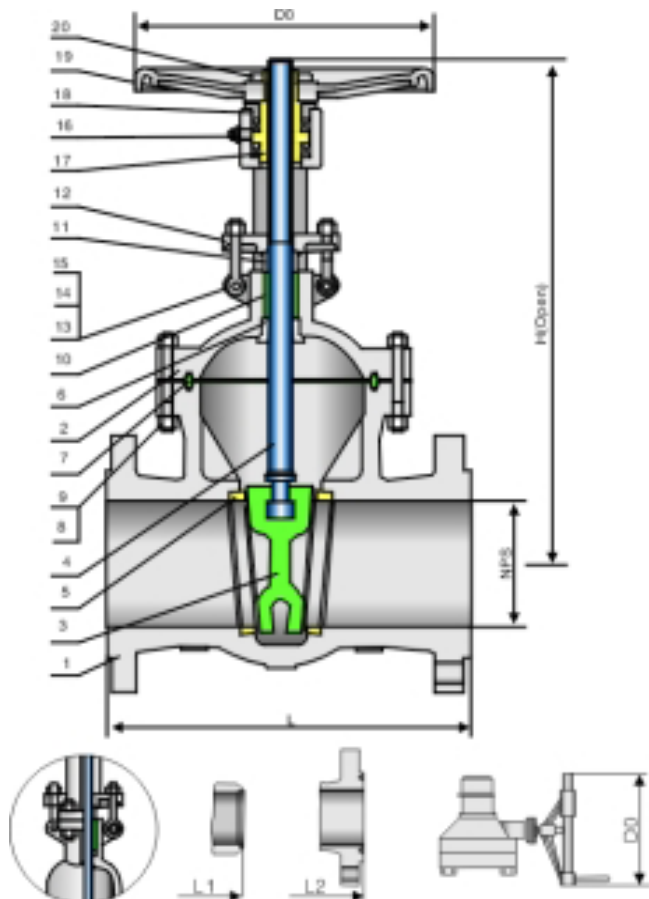
- FULL PORT DESIGN
- OS&Y OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- FLEXIBLE WEDGE, FULLY GUIDED
- CHOICE OF SOLID OR SPLIT WEDGE
- RENEWABLE SEAT RINGS
- FORGED T-HEAD STEM
- RISING STEM AND NON-RISING HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Materials of parts

NO	Part Name	Carbon Steel		ASTM Materials 1 1/2 Cr 1/4 Mo
1	Body	A216-WCB	A352-LCB	A217-WC6
2	Bonnet	A216-WCB	A352-LCB	A217-WC6
3	Wedge	A216-WCB+CR13	A352-LCB+CR13	A217-WC6+HF
4	Stem	A182-F6a	A182-F6a	CR-MO-V
5	Seat ring	A105+CR13	A350-LF2+CR13	A182-F11+HF
6	Back seat	A276-420	A276-420	A276-304
7	Gasket	Spiral wound(Graphite+304)		
8	Stud	A193-B7	A320-L7	A193-B16
9	Stud Nut	A194-2H	A194-4	A194-7
10	Packing	GRAPHITE		
11	Gland	A276-420	A276-420	A276-304
12	Gland Flange	A216-WCB	A352-LCB	A217-WC6
13	Eye Bolt Pin	Carbon steel	Carbon steel	A276-420
14	Eye bolt	Carbon steel	Carbon steel	A193-B7
15	Eye bolt Nut	Carbon steel	Carbon steel	A194-2H
16	Grease Fitting	Brass+Steel		
17	Sleeve	Aluminum-Bronze		
18	Sleeve nut	Carbon Steel		
19	Handwheel	Malleable Iron		
20	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)	14.5 368	16.5 419	18.5 470	21.5 546	27.75 705	32.75 832	39 991	44.5 1130	49.5 1257	54.5 1384	60.5 1537	65.5 1664	76.5 1943	in mm
L2 (RTJ)	15.5 371	16.62 422	18.62 473	21.62 549	28 711	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	26 658	30 760	34.12 868	39.5 1005	45 1145	54 1370	61 1550	74.88 1900	80.5 2050	93.75 2380	101.5 2580	114.75 2915	in mm
Do	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 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)	17.75 451	20 508	22.75 578	26.5 673	36 914	40.25 1022	50 1270	56 1422	- -	- -	- -	- -	- -	in mm
L2 (RTJ)	17.88 454	20.5 514	23 584	26.88 683	36.5 927	40.88 1038	50.88 1292	56.88 1445	- -	- -	- -	- -	- -	in mm
H (open)	24.88 631	29 736	35 890	41.5 1055	57 1450	63.38 1610	81.75 2075	89.75 2280	- -	- -	- -	- -	- -	in mm
Do	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 BW