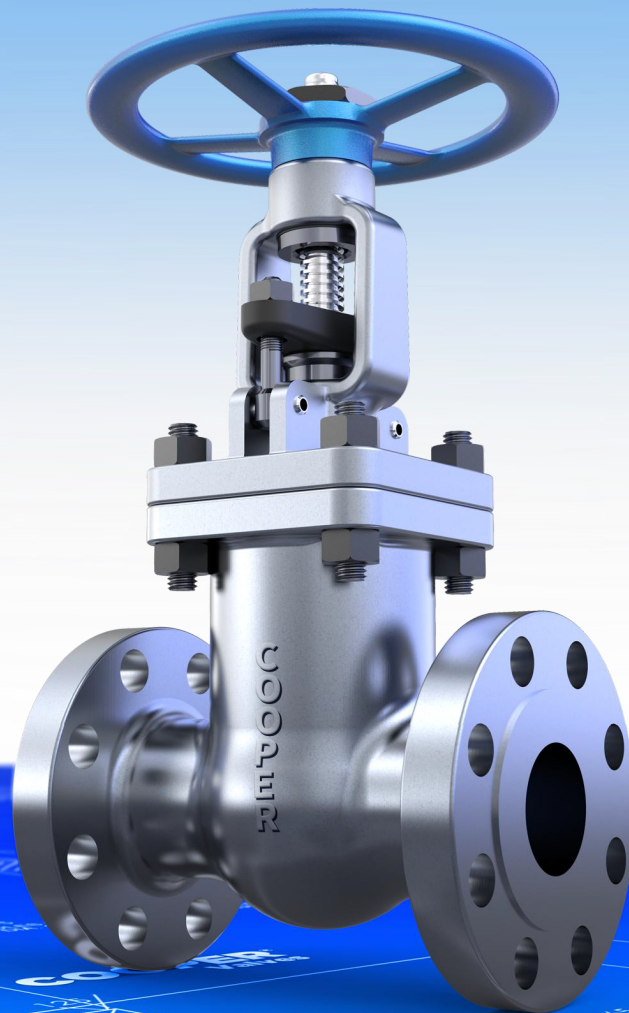




Smart Solutions. Powerful Products.

Gate Valve



Gate Valve



The open-close member of the gate valve is the wedge disc, the moving direction of which is perpendicular to that of the fluid. The gate valve can be fully opened or closed and can not work as regulation and throttle. The wedge disc holds two sealing faces and the most common mode is the two sealing faces form a wedge type, with the wedge angle varying from the parameters, usually as 50 and as 2°52' when the medium temperature is not high. When a hard-seal gate valve is closed, the sealing face can be sealed only with the medium pressure, that means pressing the sealing face of the wedge disc by means of the medium pressure onto the seat ring on the other side to ensure the sealing of it, just as the self-sealing. While most of the gate valves are sealed in a forced way, i.e. when the valve is closed, the wedge disc is externally forced to be pressed onto the seat ring so as to ensure the tightness of the sealing face. This valve uses the compensating action from the micro-elastic deformation produced with the elastic wedge disc to get a good sealing effect and features light open-close, reliable sealing, good elastic memory and a long duration etc. notable advantages and can be used as a regulation and cut-off device for the pipeline in rap water, sewage, construction, petroleum, chemical, food, medicine, light-textile industry, electric power, metallurgy, energy system, etc.

Gate Valve

Design

ADVANCED TECHNOLOGY 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 carbon steel, 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 ADVANCED TECHNOLOGY Cast Steel Valves

*Trim Changes

*End Connection Modifications

*Packing and Gasket Changes

*Operator Mounting

*Handwheel Extensions

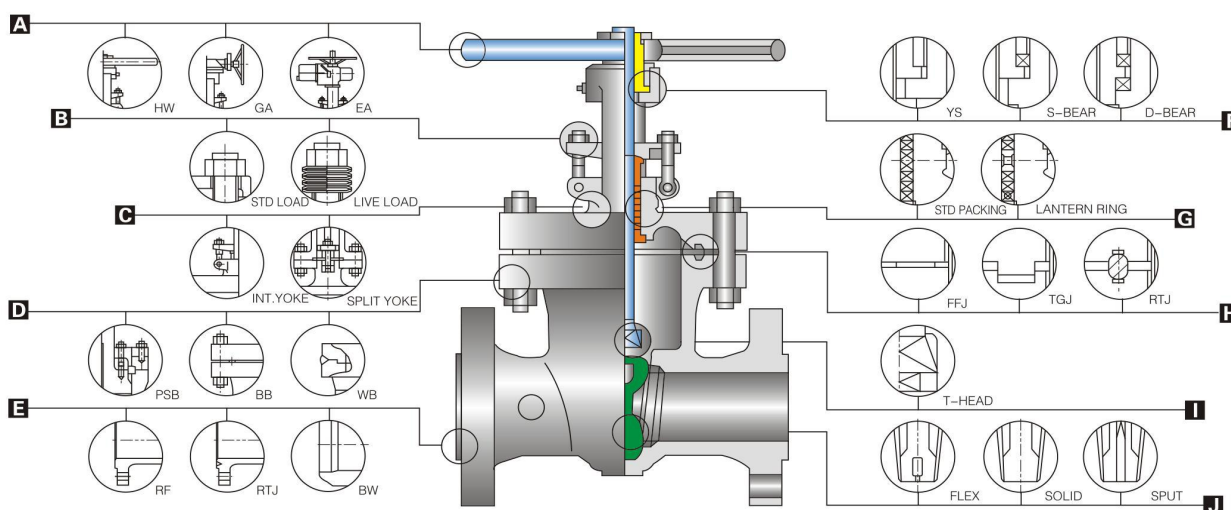
*Pressure Equalizing

*By-Pass

*Customer Specified Coatings

*Weld End Bore Changes

*Oxygen & Chlorine Cleaning & Packaging



A Operating

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 frequent packing gland adjustments. 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 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.

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 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.

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 to self-align, eliminating the 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.

COOPER®

Cast Steel Gate Valve 150Lb/300Lb

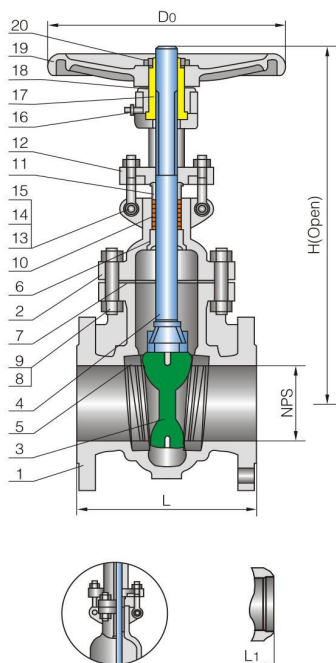
Applicable Standards

- ★ STEEL GATE VALVES, API 600
- ★ 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 Description

- ▲ FULL PORT DESIGN
- ▲ OUTSIDE SCREW AND YOKE
- ▲ BOLTED BONNET
- ▲ FLEXIBLE WEDGE
- ▲ CHOICE OF SOLID OR SPLIT WEDGE
- ▲ RENEWABLE SEAT RINGS
- ▲ FORGED T-THREAD STEM
- ▲ RISING STEM AND NON-RISING HANDWHEEL
- ▲ FLANGED OR BUTT WELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR

Materials of Parts



No	Part Name	ASTM Material				
		Carbon Steel		Alloy Steel	Stainless Steel	
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Wedge ¹⁾	A216-WCB+Cr13	A352-LCB	A217-WC6+HF	A351-CF8	A351-CF8M
4	Stem	A182-F6a	A182-F6a	A182-F11	A276-304	A182-F316S
5	Seat ring ²⁾	A105+Cr13	A350-LF2	A182-F11+HF	A351-CF8	A351-CF8M
6	Backseat	A276-420	A276-420	A276-304	A276-304	A182-F316S
7	Gasket	Spiral wound(Graphite+304)				
8	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
9	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
10	Packing	Graphite				
11	Gland	A105	A350-LCB	A276-304	A182-F304	A182-F316
12	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
13	Eyebolt Pin	Carbon Steel	Carbon Steel	A276-420	A276-304	A276-F316
14	Eyebolt	A194-2H	Carbon Steel	A193-B7	A193-B8	A193-B8
15	Eyebolt Nut	Carbon Steel	A194-2H	A194-2H	A194-8	A194-8
16	Grease Fitting	Brass-Brone			A351-CF8	A182-F316
17	Yokesleeve ¹⁾	Aluminum-Bronze				
18	Yokesleeve Jam nut	Carbon Steel			A194-8	
19	Handwheel	Malleable Iron				
20	Handwheel Nut	Carbon Steel			A194-8	

Notes: 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 ANSI Class 150Lb

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 (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)	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	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
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

Dimensions Data ANSI Class 300Lb

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 (RF)	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
L1 (BW)	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
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
- ★ 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 Description

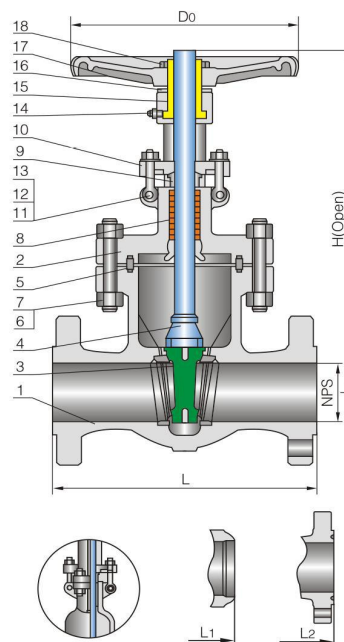
- ▲ FULL PORT DESIGN
- ▲ OS&Y, OUTSIDE SCREW AND YOKE
- ▲ BB, BOLTED BONNET
- ▲ FLEXIBLE WEDGE, FULLY GUIDED
- ▲ CHOICE OF SOLID OR SPLIT WEDGE
- ▲ RENEWABLE SEAT RINGS
- ▲ FORGED T-HEAD STEM
- ▲ RISING STEM AND NON-RISING HANDWHEEL
- ▲ FLANGED OR BUTTWELDING ENDS
- ▲ AVAILABLE WITH GEAR OPERATOR

Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		Alloy Steel	Stainless Steel	
1	Body	A216–WCB	A352–LCB	A217–WC6	A351–CF8	A351–CF8M
2	Bonnet	A216–WCB	A352–LCB	A217–WC6	A351–CF8	A351–CF8M
3	Wedge	A216–WCB+Cr13	A352–LCB	A217–WC6+HF	A351–CF8	A351–CF8M
4	Stem	A182–F6a	A182–F6a	A182–F11	A276–304	A182–F316
5	Seat ring	A105+Cr13	A350–LF2	A182–F11+HF	A351–CF8	A351–CF8M
6	Stem Backseat	A276–420	A276–420	A276–304	A276–304	A182–F316S
7	Bonnet Gasket	Spiral wound(Graphite+304)				
8	Bonnet Stud	A193–B7	A320–L7	A193–B7	A193–B8	A193–B8
9	Bonnet Stud Nut	A194–2H	A194–4	A194–2H	A194–8	A194–8
10	Packing	Graphite				
11	Gland	A105	A350–LCB	A276–304	A182–F304	A182–F316
12	Gland Flange	A216–WCB	A352–LCB	A217–WC6	A351–CF8	A351–CF8M
13	Eyebolt Pin	Carbon Steel	Carbon Steel	A276–420	A276–F304	A276–F316
14	Eyebolt	Carbon Steel	Carbon Steel	A193–B7	A193–B8	A193–B8
15	Eyebolt Nut	A194–2H	A194–2H	A194–2H	A194–8	A194–8
16	Grease Fitting	Brass–Brone			A351–CF8	A182–F316
17	Yokesleeve ¹⁾	Aluminum–Bronze				
18	Yokesleeve Jam nut	Carbon Steel			A194–8	
19	Handwheel	Malleable Iron				
20	Handwheel Nut	Carbon Steel			A194–8	

Notes: 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 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/L ₁ (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
L ₂ (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
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

Dimensions Data 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/L ₁ (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
L ₂ (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	43.4	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	2640	mm
WT(kg)	74	131	101	172	335	640	1100	1600	2250	2850	3060	3935	4900	RF/RTJ
	54	105	78	135	260	515	920	1380	2010	2565	3485	3250	4065	BW

Cast Steel Gate Valve 1500Lb/2500Lb

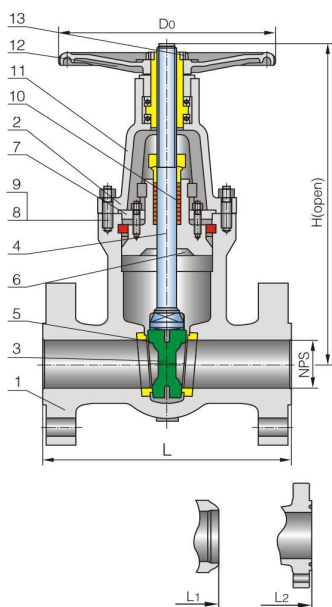
Applicable Standards

- ★ STEEL GATE VALVES, API 600
- ★ STEEL GATE VALVES, ISO10434/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 Description

- ▲ FULL PORT DESIGN
- ▲ OUTSIDE SCREW AND YOKE
- ▲ PRESSURE SEAL
- ▲ 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 GEAR OPERATOR

Materials of Parts



No	Part Name	ASTM Material				
		Carbon Steel		1 1/4Cr-1/2Mo	Stainless Steel	
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Bonnet	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Wedge	A216-WCB+Cr13	A352-LCB	A217-WC6+HF	A351-CF8	A351-CF8M
4	Stem	A182-F6a	A182-F6a	A182-F11	A276-304	A182-F316
5	Seat ring	A105+Cr13	A350-LF2	A182-F11+HF	A351-CF8	A351-CF8M
6	Backseat	A276-420	A276-420	A276-304	A276-304	A182-F316
7	Gasket	Spiral wound(Graphite+304)				
8	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
9	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
10	Packing	Graphite				
11	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
12	Handwheel	Malleable Iron				
13	Handwheel Nut	Carbon Steel			A194-8	

Notes: 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 ANSI Class 1500Lb

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	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
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

Dimensions Data ANSI Class 2500Lb

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)	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
WT(kg)	155	210	310	580	1600	2450	4570	7150	-	-	-	-	-	RF
	124	160	245	460	1310	2010	3800	6000	-	-	-	-	-	BW

Forged Steel Gate Valve

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

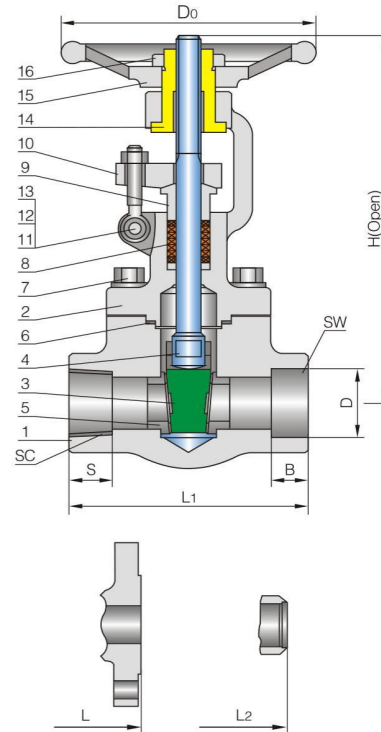
Design Description

- ▲ OUTSIDE SCREW AND YOKE (OS&Y)
- ▲ BOLTED BONNET
- ▲ CHOICE OF WB, WELDING BONNET
- ▲ SINGLE WEDGE
- ▲ 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 Material			
		CS	Alloy Steel	Stainless Steel	
1	Body	A105	A182-F11	A182-F304	A182-F316
2	Bonnet	A105	A182-F11	A182-F304	A182-F316
3	Wedge	A182-F6a	A182-F6a+HF	A182-F304	A182-F316
4	Stem	A276-410	A276-410	A276-410	A276-410
5	Seat Ring	A276-410	A276-410+HF	A182-F304	A182-F316
6	Gasket ¹⁾	Spiral wound(Graphite+304)		Spiral wound(Graphite+316)	
7	Bonnet Stud	A193-B7	A193-B16	A193-B8	A193-B8M
8	Packing	Graphite			
9	Gland	A276-410	A276-410	A276-F304	A276-F316
10	Gland Flange	A105	A182-F11	A182-304	A182-F316
11	Eyebolt Pin	A276-410		A276-F304	A276-F316
12	Eyebolt	A193-B7	A193-B16	A193-B8	A193-B8M
13	Eyebolt Nut	A194-2H	A194-4	A194-8	A194-8M
14	Yokesleeve	A276-410			
15	Handwheel	Malleable Iron			
16	Handwheel nut	Carbon Steel		A194-8	

Notes: 1). Spiral wound construction.



Dimensions Data

NPS DN	Unit	L ₁ ¹⁾ /L ₂	L(Flanged Ends)			d	SW		SC		H(open)	D ₀	WT ²⁾ (kg)
			150Lb	300Lb	600Lb		D	B	NPT	S			
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)

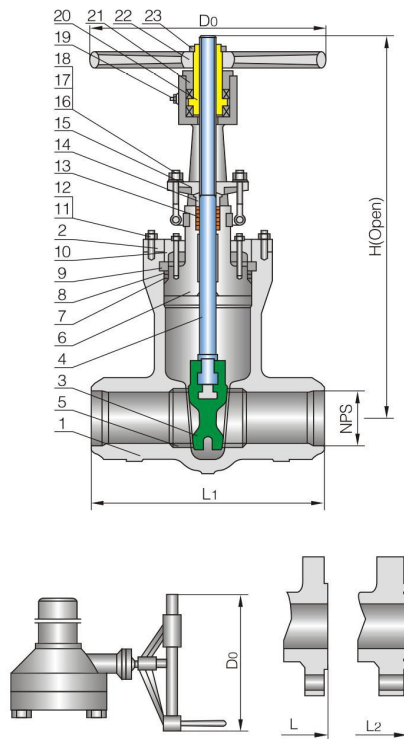
Pressure Seal, Cast Steel Gate Valve 900Lb

Applicable Standards

- ★ STEEL GATE VALVES, API 600/API 6D
- ★ STEEL GATE VALVES, ISO 10434/ISO 14313
- ★ STEEL VALVES, ASME 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 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 GEAR OPERATOR



Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		1¼Cr–½Mo	Stainless Steel	
1	Body	A216–WCB	A352–LCB	A217–WC6	A351–CF8	A351–CF8M
2	Yoke	A216–WCB	A352–LCB	A217–WC6	A351–CF8	A351–CF8M
3	Wedge	A216–WCB+Cr13	A352–LCB	A217–WC6+HF	A351–CF8	A351–CF8M
4	Stem	A182–F6a	A182–F6a	A182–F11	A276–304	A182–F316S
5	Seat Ring	A105+HF	A350–LF2	A182–F11+HF	A240–304+FL	A240–316+FL
6	Bonnet	A105	A182–F6a	A182–F11	A276–304	A182–F316S
7	Bonnet Gasket	Spiral wound(Graphite+304)			Spiral wound(Graphite+316)	
8	Adapter	Carbon Steel		A276–420	A276–304	A276–316
9	Retainer Ring	Carbon Steel		A276–420	A276–304	A276–316
10	Yoke Cap	Carbon Steel			Stainless Steel	
11	Bonnet Stud	A193–B7	A320–L7	A193–B7	A193–B8	A193–B8
12	Bonnet Nut	A194–2H	A194–4	A194–2H	A194–8	A194–8
13	Packing	Graphite				
14	Gland	A105	A350–LCB	A276–304	A182–F304	A182–F316
15	Gland Flange	A216–WCB	A352–LCB	A217–WC6	A351–CF8	A351–CF8M
16	Eyebolt Pin	Carbon Steel	Carbon Steel	A276–420	A276–304	A276–316
17	Eyebolt	Carbon Steel	Carbon Steel	A193–B7	A193–B8	A193–B8
18	Eyebolt Nut	A194–2H	A194–4	A194–2H	A194–8	A194–8
19	Grease Fitting	Brass– Bronze			A351–CF8	A182–F316
20	Yokesleeve	Aluminum-Bronze				
21	Yokesleeve Jam Nut	Caron Steel			A194–8	
22	Handwheel	Malleable Iron				
23	Handwheel Nut	Carbon Steel			A194–8	

- Notes: 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 ANSI Class 900Lb

NPS	2	2 1/2	3	4	6	8	10	12	14	16	in
DN	50	65	80	100	150	200	250	300	350	400	mm
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	37.59	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 Valve 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

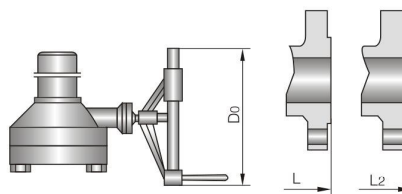
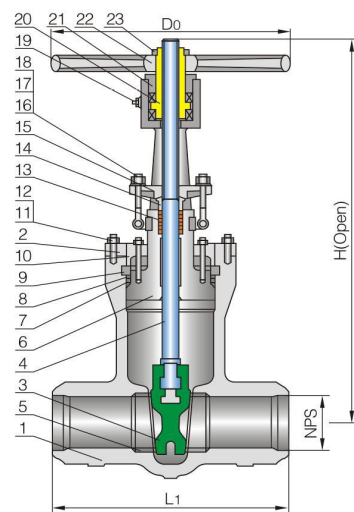
Design Description

- ▲ 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 GEAR OPERATOR

Materials of Parts

No	Part Name	ASTM Material				
		Carbon Steel		1 1/4Cr-1/2Mo	Stainless Steel	
1	Body	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
2	Yoke	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
3	Wedge	A216-WCB+Cr13	A352-LCB	A217-WC6+HF	A351-CF8	A351-CF8M
4	Stem	A182-F6a	A182-F6a	A182-F11	A276-304	A182-F316S
5	Seat Ring	A105+HF	A350-LF2	A182-F11+HF	A240-304+FL	A240-316+FL
6	Bonnet	A105	A182-F6a	A182-F11	A276-304	A182-F316S
7	Bonnet Gasket	Spiral wound(Graphite+304)			Spiral wound(Graphite+316)	
8	Adapter	Carbon Steel		A276-420	A276-304	A276-316
9	Retainer Ring	Carbon Steel		A276-420	A276-304	A276-316
10	Yoke Cap	Carbon Steel			Stainless Steel	
11	Bonnet Stud	A193-B7	A320-L7	A193-B7	A193-B8	A193-B8
12	Bonnet Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
13	Packing	Graphite				
14	Gland	A105	A350-LCB	A276-304	A182-F304	A182-F316
15	Gland Flange	A216-WCB	A352-LCB	A217-WC6	A351-CF8	A351-CF8M
16	Eyebolt Pin	Carbon Steel	Carbon Steel	A276-420	A276-304	A276-316
17	Eyebolt	Carbon Steel	Carbon Steel	A193-B7	A193-B8	A193-B8
18	Eyebolt Nut	A194-2H	A194-4	A194-2H	A194-8	A194-8
19	Grease Fitting	Brass- Bronze			A351-CF8	A182-F316
20	Yokesleeve	Aluminum-Bronze				
21	Yokesleeve Jam Nut	Caron Steel			A194-8	
22	Handwheel	Malleable Iron				
23	Handwheel Nut	Carbon Steel			A194-8	

- Notes: 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

ANSI Class 1500Lb

ANSI Class 2500Lb

NPS	2	2 1/2	3	4	6	8	10	12	14	16	2	2 1/2	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
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	54.48	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

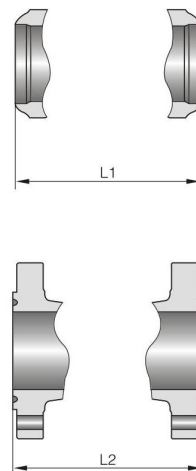
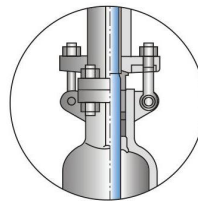
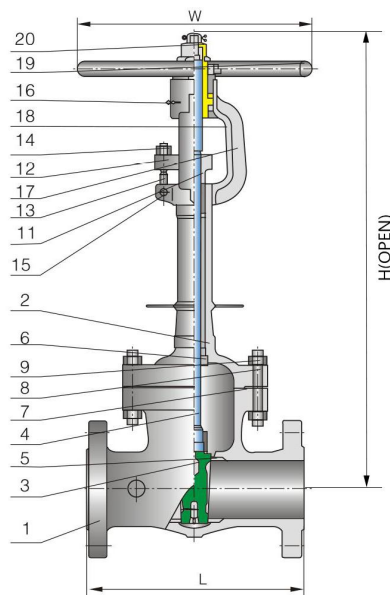
Cryogenic Gate Valve

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 Description

- ▲ FULL PORT DESIGN
- ▲ OS & Y, OUTSIDE SCREW AND YOKE
- ▲ BB, BOLTED BONNET
- ▲ FLEXIBLE WEDGE
- ▲ 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



Standard Material Specifications

No	Part Name	ASTM Material							
		Carbon steel	2.5Ni	3.5Ni	304 Type	316 Type	304L Type	316L Type	20 Alloy
1	Body	A352 LCB	A352 LC2	A352 LC3	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
2	Bonnet	A352 LCB	A352 LC2	A352 LC3	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
3	Wedge	LCB+304 *1	LCB+304 *1	LCB+304 *1	A351 CF8	A351 CF8M	A351 CF3	A351 CF3M	A351 CN7M
4	Stem	A182 F304	A182 F304	A182 F304	A182 F304	A182 F316	A182 F304L	A182 F316L	20-Alloy
5	Seat Ring	A182+F304 *1	A182+F304 *1	A182+F304 *1	NA				NA
6	Back Seat	A276 304	A276 304	A276 304	NA				NA
7A	Bonnet Gasket	304+graphite	304+graphite	304+graphite	304+graphite	316+graphite	304L+graphite	316L+graphite	316+graphite
7B	Ring Gasket	Soft steel	A182 F304	A182 F304	A182 F304	A182 F316	A182 F304L	A182 F316L	20-Alloy
8	Bonnet Bolt	A193 L7	A193 L7	A193 L7	A193 B8	A193 B8M	A193 B8	A193 B8M	A193 B8M
9	Bonnet Nut	A194 4	A194 4	A194 4	A194 8	A194 8M	A194 8	A194 8M	A194 8M
10	Packing	Graphite	Graphite	Graphite	Graphite *2	Graphite *2	Graphite *2	Graphite *2	Graphite *2
11	Gland	A276 410	A276 410	A276 410	A276 304	A276 316	A276 304L	A276 316L	20-Alloy
12	Gland Flange	A352 LCB	A352 LC2	A352 LC3	A351 CF8	A351 CF8	A351 CF8	A351 CF8	A351 CF8
13	Eyebolt	A193 L7	A193 L7	A193 L7	A193 B8	A193 B8	A193 B8	A193 B8	A193 B8
14	Eyebolt Nut	A194 4	A194 4	A194 4	A194 8	A194 8	A194 8	A194 8	A194 8
15	Eyebolt Pin	A276 410	A276 410	A276 410	A276 304	A276 304	A276 304	A276 304	A276 304
16	Grease Fitting	Commercial	Commercial	Commercial	Commercial				Commercial
17	stem Nut	Bronze	Bronze	Bronze	Bronze				Bronze
18	Jam Nut	Carbon steel	Carbon steel	Carbon steel	Stainless steel				Stainless steel
19	Hand Wheel	Malleable iron	Malleable iron	Malleable iron	Malleable iron				Malleable iron
20	Wheel Nut	Carbon steel	Carbon steel	Carbon steel	Carbon steel+Zn				Carbon steel+Zn
*1	PN≥600 CLASS seal face will be HF								
*2	PTFE Optional								
*3	Ductile Ni-Resist iron Optional								
NA	Integral with vessel								

Cryogenic Gate Valve

Dimensions Data ANSI Class 150

NPS		in	2	2½	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42	48	52
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050	1200	1300
L		in	7.0	7.5	8.0	9.0	10.5	11.5	13.0	14.0	15.0	16.0	17.0	18.0	20.0	24.0	24.0	28.0	30.0	31.0	34.0	36.0
		mm	178	190	203	229	267	292	330	356	381	406	432	457	508	610	610	711	762	813	864	914
L ₁		in	8.5	9.5	11.12	12.0	15.87	16.5	18.0	19.75	22.5	24.0	26.0	28.0	32.0	36.0	36.0	40.0	42.0	43.0	46.0	54
		mm	216	241	283	305	403	419	457	502	572	610	660	711	813	914	914	1016	1067	1092	1168	1372
H		in	15.4	16.7	18.1	22.8	30.6	38.4	46.4	54.6	60.0	68.7	79.1	91.7	109.6	127.4	134.5	161.8	183.9	174.4	217.5	227
		mm	390	425	461	580	776	976	1178	1387	1523	1745	2010	2330	2748	3236	3417	4109	4670	4430	5525	5766
W		in	7.9	7.9	7.9	9.8	11.8	14.0	17.7	17.7	19.7	22.0	13.8	17.7	17.7	22.0	22.0	27.9	31.5	31.5	35.4	35.4
		mm	200	200	200	250	300	355	450	450	500	560	350	450	450	560	560	710	800	800	900	900
WT	RF	lb	48.5	55.1	66.2	99.2	187	295.5	445	639	816	1177	1475	1786	3153	4558	4827	7856	10370	10143	15677	18742
		kg	22	25	30	45	85	134	202	290	370	534	669	810	1430	2067	2189	3563	4703	4600	7110	8500
	BW	lb	44.1	46.3	61.7	92.6	161	244	399	584	750	1111	1365	1697	3336	4756	4981	8011	10436	10198	15545	18853
		kg	20	21	28	42	73	111	181	265	340	504	619	770	1513	2157	2259	3633	4733	4625	7050	8550

Dimensions Data ANSI Class 300

NPS		in	2	2½	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42	48
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050	1200
L & L ₁		in	8.5	9.5	11.12	12.0	15.88	16.5	18.0	19.75	30.0	33.0	36.0	39.0	45.0	53.0	55.0	68.0	76.0	78.0	87.2
		mm	216	241	283	305	403	419	457	502	762	838	914	991	1143	1346	1397	1727	1930	1981	2215
L ₂		in	9.12	10.12	11.75	12.62	16.5	17.12	18.62	20.37	30.62	33.62	36.62	39.75	45.88	54.0	56.0	69.12	—	—	—
		mm	232	257	298	321	419	435	473	518	778	854	930	1010	1165	1372	1422	1756	—	—	—
H		in	16.2	17.7	19.0	23.7	32.0	40.2	48.8	56.8	66.1	78.4	85.9	93.5	112.6	130.0	148.5	169.8	188.6	198.1	217.4
		mm	412	450	483	601	813	1020	1239	1443	1679	1993	2181	2376	2860	3302	3772	4312	4791	5032	5522
W		in	7.9	7.9	8.8	9.8	14.0	15.7	17.7	19.7	17.7	17.7	22.0	22.0	27.9	35.4	35.4	30.0	30.0	30.0	30.0
		mm	200	200	224	250	355	400	450	500	450	450	560	560	710	900	900	760	760	760	760
WT	RF	lb	63.9	88.2	105.8	163.2	313.1	485.1	721.0	1094	1530	2170	2880	3409	5204	8052	9591.6	15104.3	18654.3	20947.5	27342
		kg	29	40	48	74	142	220	327	496	694	984	1306	1546	2360	3660	4350	6850	8460	9500	12400
	BW	lb	52.9	77.2	81.6	141.1	269.0	379.2	510.4	862	1420	1839	2317	2703	4212	6637	7629.3	11003	13582.6	14994	19845
		kg	24	35	37	64	122	172	232	391	644	834	1051	1226	1910	3010	3460	4990	6160	6800	9000

Dimensions Data ANSI Class 600

NPS		in	2	2½	3	4	6	8	10	12	14	16	18	20	24	28	30	36	40	42
		mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750	900	1000	1050
L & L ₁		in	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0	61.0	65.0	82.0	94.0	98.0
		mm	292	330	356	432	556	660	787	838	889	991	1092	1194	1397	1594	1651	2083	2387	2489
L ₂		in	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	61.5	65.5	82.62	–	–
		mm	295	333	359	435	562	664	791	841	892	994	1095	1200	1406	1562	1663	2098	–	–
H		in	18.5	19.5	22.1	26.7	37.2	43.7	52.1	65.9	72.1	82.9	98.0	104.8	116.9	140.2	152.8	179.5	207.6	240.0
		mm	471	495	561	677	944	1110	1323	1675	1832	2106	2489	2662	2970	3562	3880	4560	5273	6098
W		in	8.8	8.8	9.8	11.8	17.7	19.7	24.8	22.0	22.0	27.9	27.9	31.5	35.4	30.0	30.0	30.0	30.0	30.0
		mm	224	224	250	300	450	500	630	560	560	710	710	800	900	512	512	512	512	512
WT	RF	lb	94.3	132.3	154.4	295.5	628	988	1499	2355	2836	4059	5700	6853	10337	13340.6	15313.7	21476.7	23262.8	24144.8
		kg	43	60	70	134	285	448	680	1068	1286	1841	2585	3108	4688	6050	6945	9740	10550	10950
	BW	lb	61.7	99.2	132.3	229.3	452	690	1180	2145	2571	3332	4741	5640	8595	10980.9	12590.6	17948.7	18830.7	19337.9
		kg	28	45	60	104	205	313	535	973	1166	1511	2150	2558	3898	4980	5710	8140	8540	8770

About us



Our History

COOPER®Valves was founded in 1930 and in 1934 COOPER's foundry developed the first successful technique to pour 304 stainless steel. Since then COOPER has become a well-respected and approved valve manufacturer that specializes in exotic alloy valves, serving the downstream and mid-stream chemical, petrochemical, oil and gas, water, power, mining and refining industries for over 90 years. COOPER's success is derived from its dedication to building dependable valves through advanced engineering, experienced personnel, controlled manufacturing processes, and a wide level of end-user's approvals.

Our Mission Statement

To manufacture and deliver to our customers the finest valves in the world.

Our motto is "Quality without Compromise". We strive to make every valve we produce "bullet proof" because we know that our quality directly impacts our end users, our community, and our environment. An American classic, Cooper's vision is to grow and maintain our market position as the leading manufacturer and supplier of high alloy and nickel valves in a global market.

We believe through hard work, intelligent decision making and effective management we can deliver the highest quality, shortest delivery products to our client base at a fair price. We believe that our employees and their dedication to preserving and protecting our core values will be our basis for success. We are all like-minded people with shared beliefs in striving to always do the best.

COOPER VALVES

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