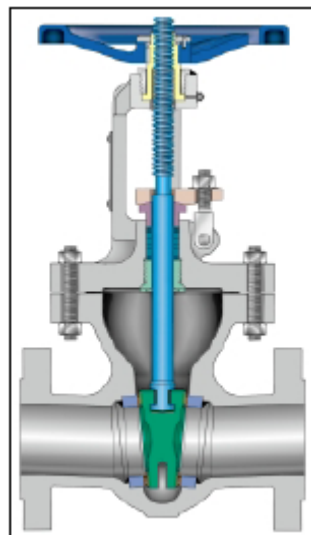




## Documentation Package

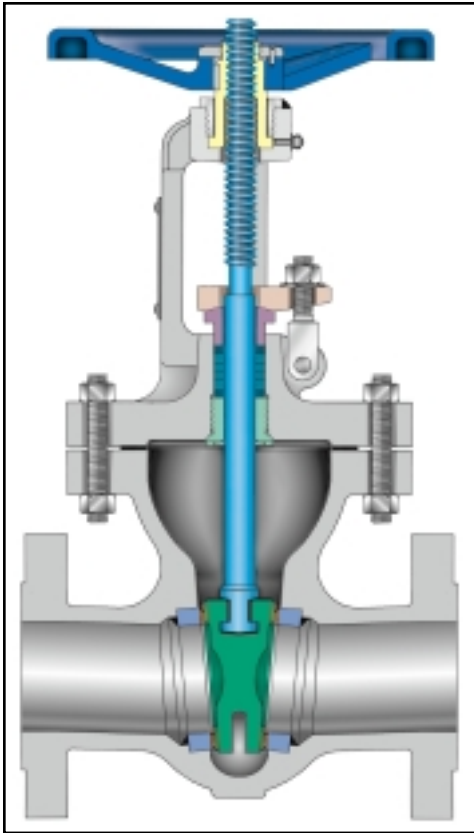
01.1

**“API 600 Cast Steel Gate Valves”**





# CAST CARBON, STAINLESS OR ALLOY STEEL API 600 BOLTED BONNET GATE VALVES, 2 – 60" (50 – 1500 mm) ASME CLASSES 150, 300, 600, 900 AND 1500



CLASS	FIGURE NUMBER
150	0064C
300	1064C
600	2064C
900	7064C
1500	3064C

## DESIGN FEATURES:

- **Universal Trim.** 13 CR stem, wedge in CA 15 or 13 CR faced, and Stellite seat API Trim 8 suitable for applications up to 850°F (454°C).
- **Seat face** Stellite, ground and lapped to a mirror finish.
- **Flexible Wedge** with low center stem-wedge contact, in solid CA15 (13 CR) or hardfaced with 13 CR, SS 316, Monel or Stellite. Wedge is ground and lapped to a mirror finish and tightly guided to prevent dragging and seat damage. A Stellite 6 hardfaced CF8M wedge is also available.
- **Non-rotating stem** with precision Acme threads and burnished finish. Double Acme for faster operation.
- **Body and bonnet joint** accurately machined. Gasket materials on page 3, details on page 13.

## STANDARD MATERIALS

PART	MATERIALS			
	WCB	WC6	WC9	CF8M
Body <sup>(1)</sup>	WCB	WC6	WC9	CF8M
Bonnet <sup>(1)</sup>	WCB	WC6	WC9	CF8M
Stem <sup>(1)(3)</sup>	SS 410			SS 630, 600 or SS 316
Wedge <sup>(1)</sup>	CA 15 or 13 CR faced WCB	CA 15 or 13 CR faced WC6	CA 15 or 13 CR faced WC9	CF8M
Seat <sup>(1)(2)</sup>	Stellite 6 faced carbon steel	Stellite 6 faced F11	Stellite 6 faced F22	Stellite 6 faced F316
Packing flange	Carbon steel			Stainless steel
Gland bushing	Carbon steel			Stainless steel
Packing ring <sup>(1)</sup>	Graphite			Graphite
Gland stud	Gr. B or B7 <sup>(4)</sup>			F316, B8M or 630 <sup>(5)</sup>
Gland nut	Gr. 2H			Gr. 8M
Body/bonnet nut	Gr. 2H	Gr. 4		Gr. 8M
Body/bonnet stud	B7	B16		B8M or 630
Back seat <sup>(1)(3)</sup>	SS 410			SS 316
Gasket <sup>(1)</sup>	Class 150: corrugated steel/graphite Class 300-1500: spiral wound stainless steel/graphite			
Key	Carbon steel			
Yoke bushing	Carbon steel			Stainless steel
Bearing	Steel			
Handwheel nut	Malleable iron or steel			
Handwheel <sup>(1)</sup>	Malleable iron or steel			
Grease fitting	Steel			
Groove pin	Carbon steel			Stainless steel
Bushing	Carbon steel			Stainless steel
Washer	Carbon steel			Stainless steel
Name plate	Stainless steel			
Identification tag	Stainless steel			
Rivet	Stainless steel			
Stem nut	A 439 Austenitic ductile iron Gr. D-2C			

- (1) Other materials available. (2) Stellite. (3) Hardened.  
(4) For eye bolts Gr.B, for studs B7 is used.  
(5) For eye bolts F316, for studs B8M or 630 is used.

## DESIGN SPECIFICATIONS

ITEM	APPLICABLE SPECIFICATION
Wall thickness and general valve design	API 600, BS1414
Pressure-temperature rating	ASME B16.34
Face to face dimensions for butt weld and flanged valves	ASME B16.10
Flange design	ASME B16.5
Butt welding design	ASME B16.25
Materials	ASTM

- **Body and bonnet** castings are precision machined. One-piece bonnet up to 12" (300 mm) for better alignment and fewer parts.
- **Gland** has two-piece construction for easy alignment.
- **Flanges:**  
Classes 150–300: 1/16" raised face,  
Class 600 –1500: 1/4" raised face.  
Finish 125–250 AARH for all valves.
- **Rotating stem nut** is Austenitic ductile iron Gr. D-2C renewable in line (as shown). Thrust bearings are supplied as follows:  
**150 –300:** 10–12" (250–300 mm), 1 bearing (top),  
16" (400 mm) and up, two bearings  
**600:** 6" (150 mm) and up  
**900–1500:** 6" (150 mm) and up.

For information on BELLOWS SEAL VALVES see VEL-BS catalog.

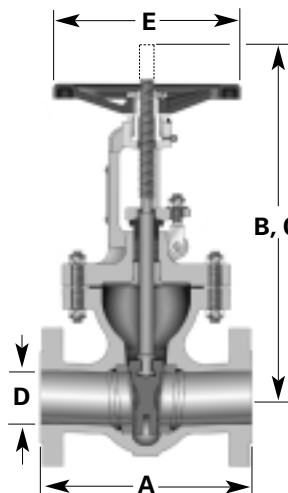
**GATE VALVE DIMENSIONS (CLASSES 150-600)**

SIZE	ASME 150 (PN 20)						ASME 300 (PN 50)					ASME 600 (PN 100)				
	A		B <sup>(1)</sup>	C <sup>(1)</sup>	D	E	A <sup>(3)</sup>	B <sup>(1)</sup>	C <sup>(1)</sup>	D	E	A <sup>(3)</sup>	B <sup>(1)</sup>	C <sup>(1)</sup>	D	E
	BW	FL														
2	8.50	7.00	15.63	20.38	2.00	8	8.50	15.63	20.38	2.00	8	11.50	15.66	20.51	2.00	8
50	216	178	397	518	51	203	216	397	518	51	203	292	398	521	51	203
2½	9.50	7.50	16.88	22.14	2.50	8	9.50	16.94	22.20	2.50	8	13.00	18.59	24.19	2.50	10
65	241	191	429	562	64	203	241	430	564	64	203	330	472	614	64	254
3	11.12	8.00	18.56	24.26	3.00	10	11.12	20.22	26.38	3.00	10	14.00	21.63	27.78	3.00	10
80	282	203	471	616	76	254	283	514	670	76	254	356	549	706	76	254
4	12.00	9.00	22.25	28.32	4.00	10	12.00	23.90	30.95	4.00	10	17.00	25.75	32.76	4.00	14
100	305	229	565	719	102	254	305	607	786	102	254	432	654	832	102	356
6	15.88	10.50	31.19	38.00	6.00	14	15.87	32.31	40.38	6.00	14	22.00	36.28	44.18	6.00	20
150	403	267	792	965	152	356	403	821	1026	152	356	559	922	1122	152	508
8	16.50	11.50	38.19	46.13	8.00	18	16.50	40.94	50.16	8.00	18	26.00	43.72	53.25	7.88	24
200	419	292	970	1172	203	457	419	1040	1274	203	457	660	1110	1353	200	610
10	18.00	13.00	47.16	56.28	10.00	20	18.00	49.19	59.87	10.00	20	31.00	49.06	59.87	9.75	30
250	457	330	1198	1430	254	508	457	1249	1521	254	508	787	1246	1521	248	762
12	19.75	14.00	55.91	66.75	12.00	20	19.75	59.00	70.61	12.00	20	33.00	61.13	72.74	11.75	30
300	502	356	1420	1695	305	508	502	1499	1763	305	508	838	1553	1848	298	762
14	22.50	15.00	61.50	75.50	13.25	24	30.00	61.38	77.75	13.25	24	35.00	72.50	83.50	12.88	(2)
350	572	381	1562	1918	337	610	762	1559	1975	337	610	889	1842	2121	327	(2)
16	24.00	16.00	68.75	85.00	15.25	24	33.00	68.75	85.50	15.25	30	39.00	82.25	91.00	14.75	(2)
400	610	406	1746	2159	387	610	838	1746	2172	387	762	991	2089	2311	375	(2)
18	26.00	17.00	73.25	90.00	17.25	24	36.00	77.88	94.00	17.00	(2)	43.00	87.06	116.00	16.50	(2)
450	660	432	1861	2286	438	610	914	1978	2388	432	(2)	1092	2211	2946	419	(2)
20	28.00	18.00	83.00	100.00	19.25	30	39.00	86.50	100.00	19.00	(2)	47.00	103.00	123.00	18.25	(2)
500	711	457	2108	2540	489	762	991	2197	2540	483	(2)	1194	2616	3124	464	(2)
24	32.00	20.00	97.00	115.00	23.25	30	45.00	101.25	125.00	23.00	(2)	55.00	115.00	132.00	22.00	(2)
600	813	508	2464	2921	591	762	1143	2572	3175	584	(2)	1397	2921	3353	559	(2)
26	34.00	22.00	114.50	125.00	25.00	(2)	49.00	114.50	125.00	25.00	(2)	-	-	-	-	-
650	864	559	2908	3175	635	(2)	1245	2908	3175	635	(2)	-	-	-	-	-
28	36.00	24.00	118.63	130.00	27.00	(2)	53.00	118.63	130.00	27.00	(2)	-	-	-	-	-
700	914	610	3013	3302	686	(2)	1346	3013	3302	686	(2)	-	-	-	-	-
30	36.00	24.00	124.12	140.00	29.25	(2)	55.00	124.13	145.00	29.25	(2)	65.00	122.50	150.00	24.75	(2)
750	914	610	3153	3556	743	(2)	1397	3153	3683	743	(2)	1651	3112	3810	629	(2)
32	38.00	26.00	129.63	150.00	30.75	(2)	60.00	129.63	150.00	30.75	(2)	-	-	-	-	-
750	965	660	3293	3810	781	(2)	1524	3293	3810	781	(2)	-	-	-	-	-
36	40.00	28.00	146.68	170.00	35.25	(2)	68.00	147.81	185.00	35.25	(2)	68.00	145.13	170.00	29.00	(2)
900	1016	711	3726	4318	895	(2)	1727	3754	4699	895	(2)	1727	3686	4318	737	(2)
40	42.00	30.00	158.66	188.00	38.50	(2)	-	-	-	-	-	-	-	-	-	-
1000	1067	762	4030	4775	978	(2)	-	-	-	-	-	-	-	-	-	-
42	44.00	31.00	166.50	195.00	40.25	(2)	-	-	-	-	-	-	-	-	-	-
1050	1118	787	4229	4953	1022	(2)	-	-	-	-	-	-	-	-	-	-
48	-	36.00	189.81	225.00	46.00	(2)	-	-	-	-	-	-	-	-	-	-
1200	-	914	4821	5715	1168	(2)	-	-	-	-	-	-	-	-	-	-
54	52.00	40.00	216.56	248.00	51.50	(2)	-	-	-	-	-	-	-	-	-	-
1350	1321	1016	5501	6299	1308	(2)	-	-	-	-	-	-	-	-	-	-
60	-	42.00	238.80	275.00	57.50	(2)	-	-	-	-	-	-	-	-	-	-
1500	-	1067	6066	6985	1461	(2)	-	-	-	-	-	-	-	-	-	-

**CLASSES 900-1500**

SIZE	ASME 900 (PN 150)					ASME 1500 (PN 250)				
	A <sup>(3)</sup>	B <sup>(1)</sup>	C <sup>(1)</sup>	D	E	A <sup>(3)</sup>	B <sup>(1)</sup>	C <sup>(1)</sup>	D	E
2	14.50	21.25	29.00	1.88	10	14.50	21.25	29.00	1.88	10
50	368	540	737	48	254	368	540	737	48	254
3	15.00	25.75	34.50	2.88	14	18.50	25.75	34.50	2.75	14
80	381	654	876	73	356	470	654	876	70	356
4	18.00	28.75	37.50	3.88	18	21.50	28.75	37.50	3.63	18
100	457	730	953	99	457	546	730	953	92	457
6	24.00	39.00	49.00	5.75	20	27.75	39.00	49.00	5.38	(2)
150	610	991	1245	146	508	705	991	1245	137	(2)
8	29.00	51.75	62.75	7.50	(2)	32.75	45.25	60.00	7.00	(2)
200	737	1315	1594	191	(2)	832	1149	1524	178	(2)
10	33.00	57.75	67.25	9.38	(2)	39.00	57.75	71.00	8.75	(2)
250	838	1467	1708	238	(2)	991	1467	1803	222	(2)
12	38.00	66.57	83.00	11.12	(2)	-	-	-	-	-
300	965	1691	2108	283	(2)	-	-	-	-	-
14	40.50	73.88	90.00	12.25	(2)	-	-	-	-	-
350	1029	1877	2286	311	(2)	-	-	-	-	-
16	44.50	80.44	100.00	14.00	(2)	-	-	-	-	-
400	1130	2043	2540	356	(2)	-	-	-	-	-

(1) Height does not include actuator. (2) Gear actuator. (3) Butt weld & flanged valves have the same end-to-end dimensions for Class 300 and up.



BW = Butt weld  
FL = Flanged

B = Center-to-Top, Open  
C = Dismantling Height

Classes 900-2500  
forged gate valves  
also available.  
See page 32 & 33 for valve  
weights and CVs.