

Cast Steel Gate Valves (Bolted Bonnet)

FlowBiz Gate Valves are commonly used to either completely shut off fluid flow or provide full flow in a pipeline. Hence it is used either in fully closed or fully open positions. When the gate is fully drawn up into the valve, it retracts entirely, allowing the fluid to flow through without reducing pressure.

FlowBiz non-rising stem gate valves are primarily used in underground applications, also where vertical space is limited because they don't take extra space. Gate Valve is the multi-turn valve, slow in operation due to the threaded stem, preventing water hammer effects. To allow the pipeline differential pressure to be balanced, the Gate valve is given By-pass, which lowers the valve's torque requirement and permits one-person operation. While the by-pass is open, the main valve is closed, continual flow is allowed, avoiding stagnation.

FlowBiz also offers non-rising stem gate valves are primarily used in underground applications, also where vertical space is limited because they don't take extra space.

Industries We Serve :

- Refineries, power stations, process and general industry
- For water, steam, gas, oil, and other media
- Other application on request

Size Range : 2 inch to 36 inch (50mm to 900mm)

Class : 150 class - 600 Class

Operating Date

- Maximum allowable pressure 1500 psi (106 bar)
- Maximum allowable temperature 1500° F (816° C)
- Pressure/Temperature retings par ASME B16.34

MOC Options	
ASTM A216 WCB	up to 800° F (427° C)
ASTM A217 WC6	up to 1100° F (593° C)
ASTM A217 WC9	up to 1100° F (593° C)
ASTM A217 C5	up to 1200° F (649° C)
ASTM A217 C12	up to 1200° F (649° C)
ASTM A352 LCB	up to 650° F (343° C)
ASTM A352 LCC	up to 650° F (343° C)
ASTM A351 CF8	up to 1500° F (816° C)
ASTM A352 CF8M	up to 1500° F (816° C)

Trims : As per API 600

Design Specification :

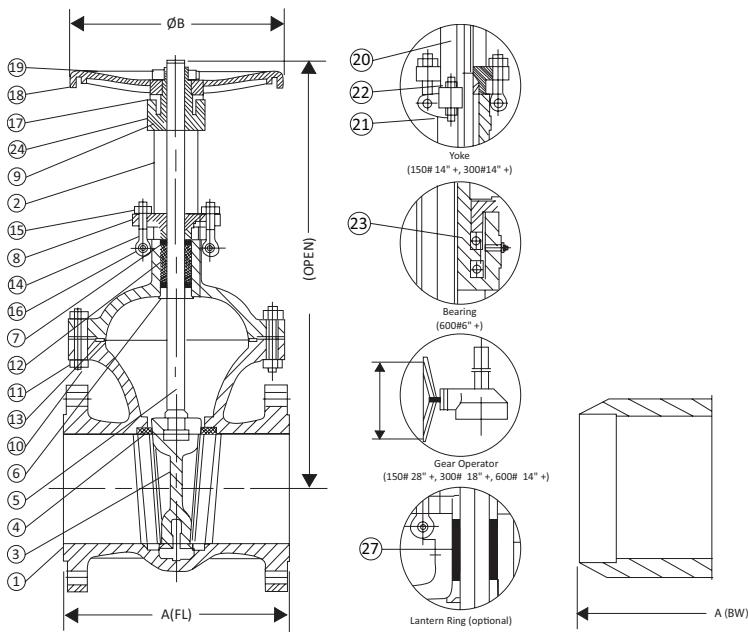
- Gate Valve Design per API 600
- Testing per API 598
- End to End Dimension per ASME B16.10
- Pressure / Temperature Rating per ASME B16.34
- Flange Dimensions per ASME B16.5 and MSS SP44
- Flexible Wedge
- Non-Rotating Stem
- Outside screw and yoke
- Graphite Packing
- Bolted Bonnet
- Stainless Steel / Graphite Gaskets

Add - Ons On Request :

- Gear Operators
- Electric Actuators
- Bypass Execution
- Radiography
- Butt-Weld ends par ASME B16.25
- Other variants



Gate Valves



Design Specification :

General Valve design	: API 600
Pressure/Temperature Rating	: ASME B16.43
Flange Dimensions (2" - 24")	: ASME B16.5
Flange Dimensions (>24")	: MSS SP44
Buttwelds Ends	: ASME B16.25
End-to-End	: ASME B16.10
Testing	: API 598

How To Select?

- Valve Type
- ANSI Pressure Class
- Size
- Design Pressure
- Design Temperature
- Differential Pressure-shut off
- Flow Medium
- Material of Construction
- Trim Material (API Trim Number)
- Type of End Connection
- Pipe Schedule (For Butt-welded Ends)
- Add-Ons
- Valve data sheet if applicable

Class 150

SIZE		2	2.5	3	4	6	8	10	12	14	16	18	20	24	30	36
A (FL)	inch	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	24.00	28.00
	mm	178	191	203	229	267	292	330	356	381	406	432	457	508	610	711
A (BW)	inch	8.50	9.50	11.13	12.00	15.88	16.50	18.00	19.75	22.50	24.00	26.00	28.00	32.00	36.00	40.00
	mm	216	241	282	305	403	419	457	502	572	610	660	711	813	914	1016
B	inch	8	8	10	10	14	14	18	20	20	24	27.5	31.5	31.5	24	24
	mm	200	200	250	250	350	350	450	500	500	610	700	800	800	610	610
C	inch	14.6	17.3	17.0	20.1	28.7	36.7	45.6	54.9	65.2	75.1	80.7	89.0	105.1	142	154
	mm	372	439	433	510	730	933	1158	1395	1657	1908	2051	2260	2669	3606	3924
Wt.	lbs	33	51	55	88	154	276	441	617	948	1290	1565	1896	2778	5236	7920
	kg	15	23	25	40	70	125	200	280	430	585	710	860	1260	2380	3600

Class 300

SIZE		2	2.5	3	4	6	8	10	12	14	16	18	20	24	30
A (FL)	inch	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	55.00
	mm	216	241	282	305	403	419	457	502	762	838	914	991	1143	1397
A (BW)	inch	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	55.00
	mm	216	241	283	305	403	419	457	502	762	838	914	991	1143	1397
B	inch	8	10	10	10	14	18	20	20	24	27.5	24	24	24	24
	mm	200	250	250	250	350	450	500	500	610	700	610	610	610	610
C	inch	15.5	19.9	19.5	24.3	32.7	40.2	48.7	56.2	68.4	75.6	77.1	86.4	102	131
	mm	394	505	496	618	831	1022	1237	1427	1738	1920	1959	2194	2598	3320
Wt.	lbs	62	99	99	143	298	485	827	1036	1885	2447	2717	3641	5104	10846
	kg	28	45	45	65	135	220	375	470	855	1110	1235	1655	2320	4930



Class 600

SIZE		2	2.5	3	4	6	8	10	12	14	16	18	20	24
A (FL)	inch	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
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
A (BW)	inch	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
	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
B	inch	10	10	10	14	20	20	20	24	24	24	24	24	24
	mm	250	250	250	350	500	500	500	610	610	610	610	610	610
C	inch	16.9	23.1	20.7	25.2	34.8	41.7	49.1	60.9	63.9	71.5	89.0	107	110.6
	mm	428	588	526	641	884	1060	1246	1546	1623	1816	2260	2705	2810
Wt.	lbs	71	121	132	231	463	805	1323	1808	2896	3678	4554	5291	10010
	kg	32	55	60	105	210	365	600	820	1316	1672	2070	2405	4550

Materials :

Part No.	Part Name	WCB	WC6	WC9	C5	C12	LCB	LCC	CF8	CF8M	
1	Body	A216 WCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A352 LCB	A352 LCC	A351 CF8	A351 CF8M	
2	Bonnet	A216 WCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A352 LCB	A352 LCC	A351 CF8	A351 CF8M	
3	Wedge Base	A216 WCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A352 LCB	A352 LCC	A351 CF8	A351 CF8M	
4	Seat Ring Base	A105	A182 F11	A182 F22	A182 F5	A182 F9	A350 LF2	A350 LF2	Integral		
5	Stem	See Trim Material Table									
6	Backseat Bushing	See Trim Material Table									
7	Gland	13Cr	13Cr	13Cr	13Cr	13Cr	304	304	304	316	
8	Gland Flange	A216 WCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A352 LCB	A352 LCC	A351 CF8	A351 CF8M	
9	Stem Nut	A439 Gr. D2c									
10	Bonnet Studs	A193 B7	A193 B16	A193 B16	A193 B16	A193 B16	A320 L7	A320 L7	A193 B8	A193 B8	
11	Bonnet Nuts	A194 2H	A194 Gr. 4	A194 Gr. 4	A194 Gr. 4	A194 Gr. 4	A194 Gr. 4	A194 Gr. 4	A194 Gr. 8	A194 Gr. 8	
12	Packing	Graphite									
13	Gasket	Graphite + Stainless Steel									
14	Eyebolts	A307 Gr. B	A193 B16	A193 B16	A193 B16	A193 B16	A320 L7	A320 L7	A193 B8	A193 B8	
15	Eyebolt Nuts	A194 2H	A194 Gr. 4	A194 Cr. 4	A194 Cr. 4	A194 Cr. 4	A194 Gr. 4	A194 Gr. 4	A194 Gr. 8	A194 Gr. 8	
16	Eyebolt Pins	Carbon Steel							Stainless Steel		
17	Retaining Nut	Carbon Steel							Stainless Steel		
18	Handwheel	Ductile or S.G Iron									
19	Handwheel Nut	Carbon Steel							Stainless Steel		
20	Yoke	A216 WCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A352 LCB	A352 LCC	A351 CF8	A351 CF8M	
21	Yoke Bolts	A193 B7	A193 B16	A193 B16	A193 B16	A193 B16	A320 L7	A320 L7	A193 B8	A193 B8	
22	Yoke Nuts	A194 2H	A194 Gr. 4	A194 Gr. 4	A194 Cr. 4	A194 Cr. 4	A194 Gr. 4	A194 Gr. 4	A194 Gr. 8	A194 Gr. 8	
23	Bearing	Steel									
24	Grease Fitting	Steel							Stainless Steel		
25	Lantern Ring	13Cr	13Cr	13Cr	13Cr	13Cr	304	304	304	316	



Trim Materials :

Part No.	Part Name	Trim 1 13Cr/13Cr	Trim 2 304/304	Trim 5 Stellite/Stellite	Trim 8 Stellite/13Cr	Trim 10 316/316
3	Wedge Face	13Cr	304 Stainless Steel	Stellite	13Cr	316 Stainless Steel
4	Seat Ring Face	13Cr	304 Stainless Steel	Stellite	Stellite	316 Stainless Steel
5	Stem	13Cr	304 Stainless Steel	13Cr	13Cr	316 Stainless Steel
6	Backseat Bushing	13Cr	304 Stainless Steel	13Cr	13Cr	316 Stainless Steel

Test Requirements :

Test	Medium	Class 150		Class 300		Class 600	
		psi	bar	psi	bar	psi	bar
Shell	Water	450	32	1125	78	2225	153
Backseat	Water	315	23	815	56	1630	112
Seat	Air	60-100	4-7	60-100	4-7	60-100	4-7

Note : A216 WCB test pressures



Gate Valve Bolted Bonnet Ring Type Joint



Gate Valve Pressure Seal Body OS&Y Type Butt Weld



Gate Valve Pressure Seal Body Butt Weld

