

Charlies

GATE VALVE, BB, CS

Design

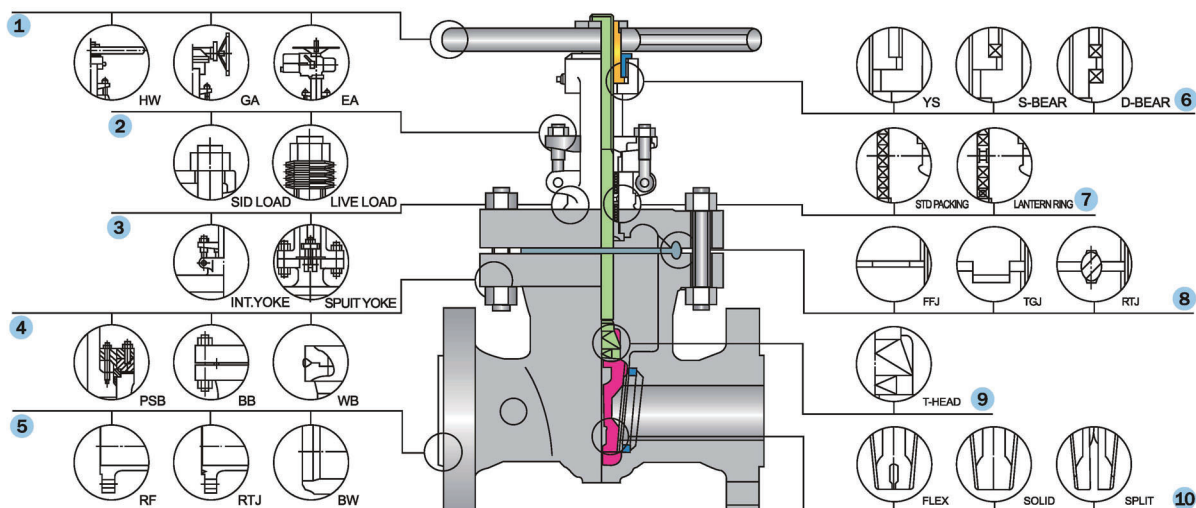
Cast steel gate valve are designed and manufactured to provide maximum service life and dependability. All gate valves are full ported and meet the design requirements of American petroleum Institute Standard API 600 & API 6D, British Standard BS 1414 & BS EN 1984 and generally conform to American Society 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 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-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

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.

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:

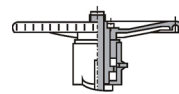
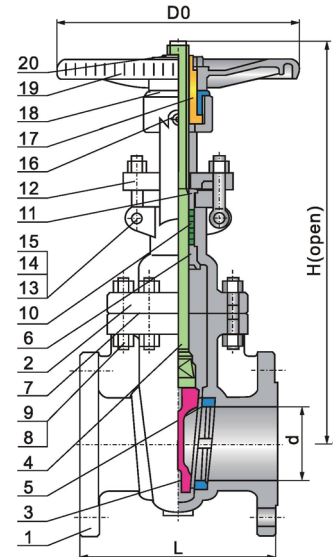
FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
FLEXIBLE WEDGE, FULLY GUIDED
CHOICE OF SOLID OR SPLIT WEDGE
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

Materials of parts

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



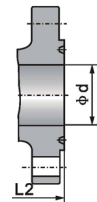
For NPS10 & Larger



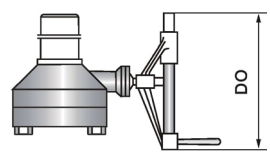
Yoke For NPS10 & Larger



L1



RTJ End



D0

Dimensions data

NPS	2	2 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