

Charlies

GATE VALVE, BB, CS

Design

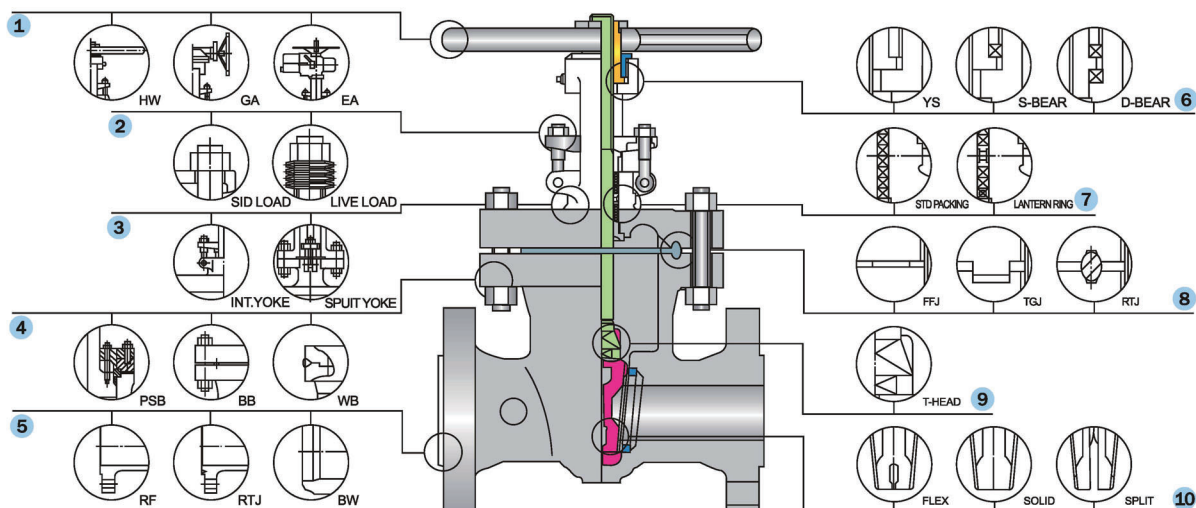
Cast steel gate valve are designed and manufactured to provide maximum service life and dependability. All gate valves are full ported and meet the design requirements of American petroleum Institute Standard API 600 & API 6D, British Standard BS 1414 & BS EN 1984 and generally conform to American Society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

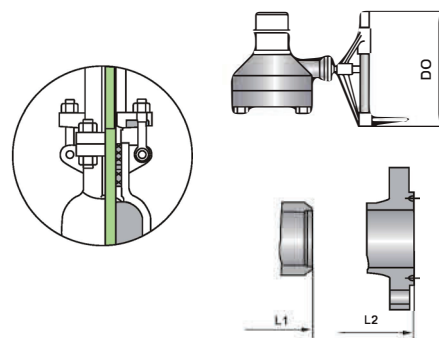
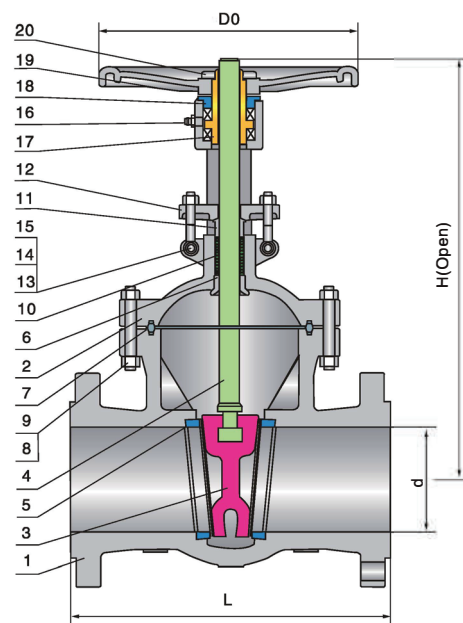
FULL PORT DESIGN
OS & Y, OUTSIDE SCREW AND YOKE
BB, BOLTED BONNET
FLEXIBLE WEDGE, FULLY GUIDED
CHOICE OF SOLID OR SPLIT WEDGE
RENEWABLE SEAT RINGS
FORGED T-HEAD STEM
RISING STEM AND NON-RISING HANDWHEEL
FLANGED OR BUTTWELDING ENDS
AVAILABLE WITH BG OPERATOR

Materials of parts

No	Part Name	ASTM Material		
		Carbon Steel	1 $\frac{1}{4}$ Cr- $\frac{1}{2}$ Mo	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	SeatRing	A105+CR13	A182-F11+HF	A350-LF2+CR13
6	Stem Back Seat	A276-420	A276-304	A276-420
7	Bonnet Gasket	Steel Ring	304SS Ring	Steel Ring
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.



Dimensions data

NPS DN	2 50	2 $\frac{1}{2}$ 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
ANSI Class 1500Lb														
L/L1 (RF/BW)	14.50 368	16.50 419	18.50 470	21.50 546	27.75 705	32.75 832	39.00 991	44.50 1130	49.50 1257	54.50 1384	60.50 1537	65.50 1664	76.50 1943	in mm
L2 (RTJ)	15.50 371	16.62 422	18.62 473	21.62 549	28.00 711	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	26.00 658	30.00 760	34.12 868	39.50 1005	45.00 1145	54.00 1370	61.00 1550	74.88 1900	80.50 2050	93.75 2380	101.50 2580	114.75 2915	in mm
(d)	47	57	69	92	136	177	222	263	288	330	371	415	498	mm
D0	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/RTJ BW
Toqure	54	76	108	167	426	801	1268	2078	2392	-	-	-	-	mm