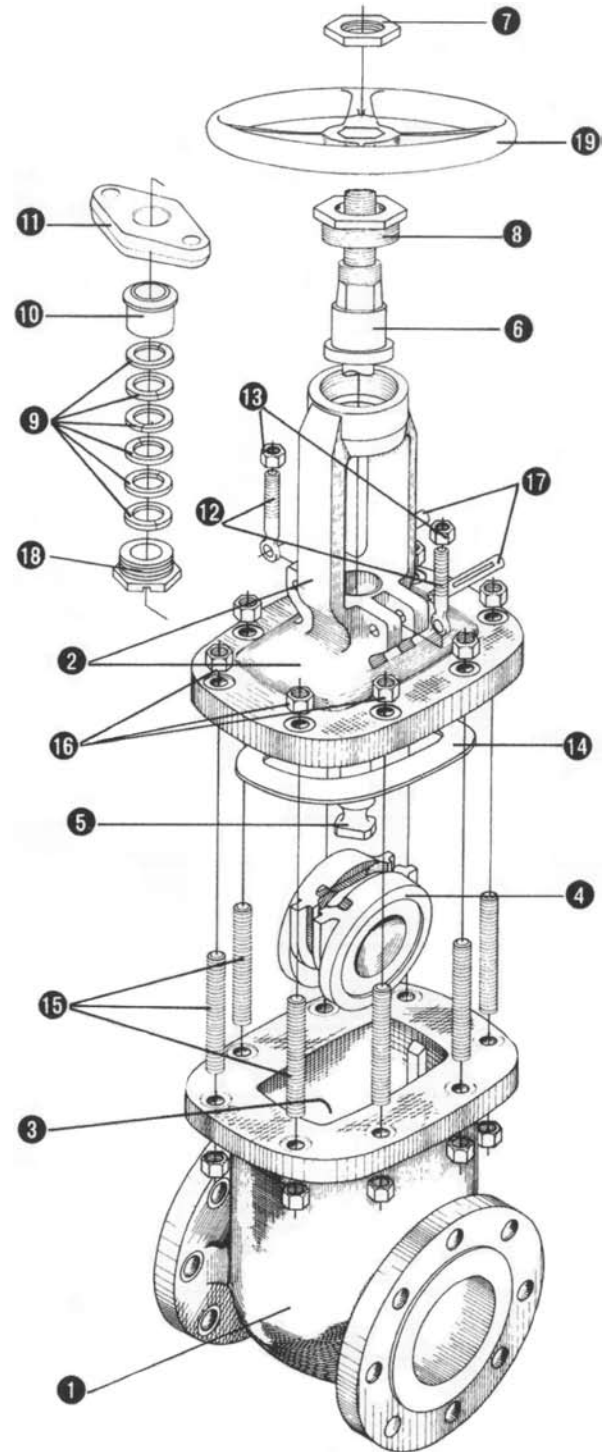


## Typical Bolted Bonnet Gate Valve Features

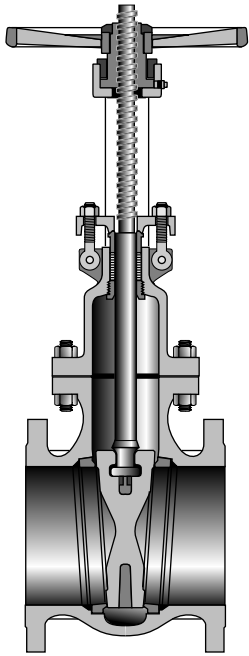
Crane gate valves offer the ultimate in dependable service for steam, air, gas, oil, oil vapor, and high pressure installations. All have straight-through ports to assure minimum turbulence, erosion, and resistance to flow. They are available in a wide variety of trims.

1. **Body:** Body is cast to provide liberal strength to meet operating conditions and to permit unobstructed flow. Turbulence, erosion and pressure drop are minimized.  
Flanged End-Crane cast steel gate valves are available in flanged end and butt weld ends. All flanged and butt welding end valves are designed to conform to ASME B16.5 and ASME B16.34 standards.
2. **Integral Yoke & Bonnet:** Some designs incorporate a two-piece bonnet and yoke. All bonnet assemblies are cast and finished to the same exacting tolerances as the bodies for accurate alignment of stems and ease of sealing. Bonnet joint varies from flat face gasket-joint to ring-type bonnet joint, depending on class.
3. **Seat Rings:** Seat rings are seal welded to eliminate leak path behind rings and for long trouble-free service. The surfaces are precision ground to fit accurately with the disc.
4. **Disc:** Crane's one piece flexible disc provides accurate alignment of mating seating surfaces so the valve can absorb piping strains without leakage. Also, it avoids any tendency to stick in the seated position.
5. **Stem:** The tee-head disc-stem connection prevents lateral strain on the stem for smooth, easy operation. Accurately cut threads engage the yoke sleeve for positive control of disc position.
6. **Yoke Sleeve**
7. **Handwheel Nut**
8. **Yoke Sleeve Retaining Nut**
9. **Packing:** Packing contains corrosion inhibitor to avoid stem pitting. Stuffing box is deep, assuring long packing life.
10. **Gland:** Gland is a two-piece ball-type which exerts even pressure on the packing without binding the stem.
11. **Gland Flange**
12. **Gland Eye Bolts:** Eyebolts swing aside for ease in repacking the stuffing box.
13. **Gland Eye Bolt Nuts**
14. **Bonnet Gasket**
15. **Bonnet Studs:** Number is dependent on valve size and class.
16. **Bonnet Nuts:** Number is dependent on valve size and class.
17. **Gland Eyebolt Pins**
18. **Bonnet Bushing**
19. **Handwheel:** Crane gate valves can also be supplied with gear or motor operators.
20. **Hydraulic Grease Fitting:** Hydraulic grease fitting provides for lubrication of yoke sleeve bearing surfaces (not shown).



**NOTE:** Crane recommends the use of gear assistance for certain multi-turn valves for optimal functional performance in larger sizes and high flow-rate applications. Please refer to the note on specific product pages.

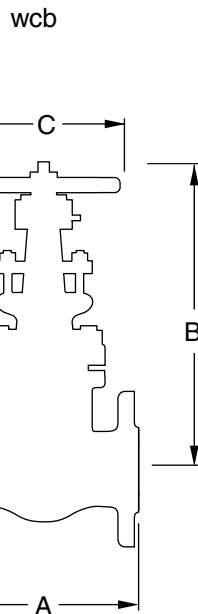
**Class 150 • Outside Screw & Yoke • Flexible Wedge Disc**



**Figure 47**  
Flanged  
**Figure 47½**  
Butt Weld

**Size Range:**  
2 through 24 inches  
(50 - 600 mm)

**Pressure Temperature Rating**  
Carbon Steel  
ASTM A216 Grade WCB  
285 psi @ -20°F to 100°F  
(20 bar @ -28°C to 37°C)



**Industry Standards**

Steel Valves	ASME B16.34
Face-to-Face/End-to-End	ASME B16.10
Flange Dimensions	ASME B16.5
Weld End	ASME B.16.25
Basic Design	API 600
Testing	API 598

**Material of Construction\***

Description	Material
Body	WCB
Bonnet	WCB
Seat Rings	Hardfaced
Disc	CA-15 or 13% CR Overlay
Stem	410 SS
Packing	Graphite
Bonnet Gasket	Corrugated Soft Steel or Steel/ Stainless Steel w/Graphite
Back Seat	410 SS
Yoke Sleeve	D2 Ni-Resist
Retaining Nut	Malleable or Steel
Gland	Steel
Gland Flange	Steel
Eye Bolt	Steel
Eye Bolt Nuts	Steel
Pins	Steel
Bonnet Studs	A193 Gr. B7
Bonnet Nuts	A194 Gr. 2H
Handwheel	Malleable, Ductile or Steel
Handwheel Nut	Ductile or Steel
I.D. Tags	SS
I.D. Pins	Steel
Spacer	Steel
Grease Fittings	Steel

**NOTES:**

\*Standard construction: WCB-Trim 8, other options are available. Crane recommends the use of manual or powered gear assistance for sizes 10" and larger.

**Dimensions and Weights**

Inches (millimeters) - pounds (kilograms)

Valves	2 (50)	2½ (65)	3 (80)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	14 (350)	16 (400)	18 (450)	20 (500)	24 (600)
A	7.00 (178)	7.50 (191)	8.00 (203)	9.00 (229)	10.50 (267)	11.50 (292)	13.00 (330)	14.00 (356)	15.00 (381)	16.00 (406)	17.00 (432)	18.00 (457)	20.00 (508)
A (47½)	8.50 (216)	9.50 (241)	11.12 (282)	12.00 (305)	15.88 (403)	16.50 (419)	18.00 (457)	19.75 (502)	22.50 (572)	24.00 (610)	26.00 (660)	28.00 (711)	32.00 (813)
B (Open)	17 (432)	17 (432)	19 (483)	23 (584)	31 (787)	39 (990)	47 (1193)	55 (1397)	61 (1549)	71 (1803)	78 (1981)	90 (2286)	99 (2515)
C	8 (203)	8 (203)	9 (229)	10 (254)	12 (305)	14 (356)	16 (406)	18 (457)	22 (559)	24 (610)	25 (635)	27 (686)	30 (762)
Wt. (47)	49 (22)	55 (25)	74 (33)	110 (50)	192 (87)	300 (136)	420 (190)	630 (285)	905 (410)	1260 (571)	1590 (721)	2580 (1170)	3240 (1469)
Wt. (47½)	45 (20)	48 (21)	67 (30)	98 (44)	180 (81)	290 (131)	430 (195)	625 (283)	910 (412)	1260 (571)	1590 (721)	2580 (1170)	3250 (1474)

## Class 300 • Outside Screw & Yoke • Flexible Wedge Disc

### Material of Construction\*

Description	Material
Body	WCB
Bonnet	WCB
Seat Rings	Hardfaced
Disc	CA-15 or 13% CR Overlay
Stem	410 SS
Packing	Graphite
Bonnet Gasket	Stainless Steel spiral wound Graphite
Back Seat	410 SS
Yoke Sleeve	D2 Ni-Resist
Retaining Nut	Malleable or Steel
Gland	Steel
Gland Flange	Steel
Eye Bolt	Steel
Eye Bolt Nuts	Steel
Pins	Steel
Bonnet Studs	A193 Gr. B7
Bonnet Nuts	A194 Gr. 2H
Handwheel	Malleable, Ductile or Steel
Handwheel Nut	Ductile or Steel
I.D. Tags	SS
I.D. Pins	Steel
Spacer	Steel
Grease Fittings	Steel

**NOTES:**

\*Standard construction: WCB-Trim 8, other options are available. Crane recommends the use of manual or powered gear assistance for sizes 8" and larger.

**Figure 33**

Flanged

**Figure 33½**

Butt Weld

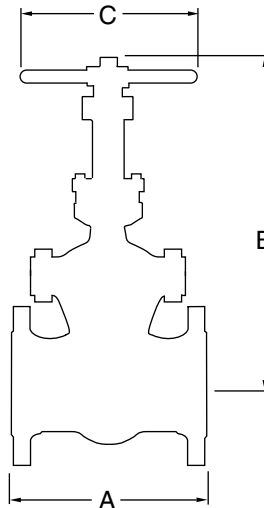
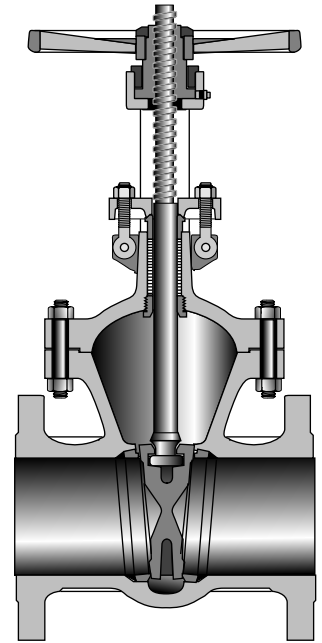
**Size Range:**

2 through 24 inches  
(50 - 600 mm)

**Pressure Temperature Rating**

Carbon Steel

ASTM A216 Grade WCB  
740 psi @ -20°F to 100°F  
(51 bar @ -28°C to 37°C)



### Industry Standards

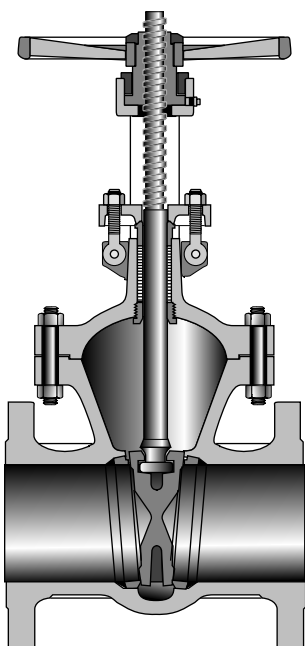
Steel Valves	ASME B16.34
Face-to-Face/End-to-End	ASME B16.10
Flange Dimensions	ASME B16.5
Weld End	ASME B.16.25
Basic Design	API 600
Testing	API 598

### Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	2 (50)	2 ½ (65)	3 (80)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	14 (350)	16 (400)	18 (450)	20 (500)	24 (600)
A	8.50 (216)	9.50 (241)	11.12 (282)	12.00 (305)	15.88 (403)	16.50 (419)	18.00 (457)	19.75 (502)	30.00 (762)	33.00 (838)	36.00 (914)	39.00 (990)	45.00 (1143)
B (Open)	18 (457)	18 (457)	21 (533)	24 (609)	33 (838)	42 (1066)	50 (1270)	58 (1473)	62 (1574)	71 (1803)	79 (2006)	85 (2154)	100 (2540)
C	8 (203)	8 (203)	9 (229)	10 (254)	14 (356)	16 (406)	18 (457)	20 (508)	22 (559)	24 (610)	25 (635)	30 (762)	30 (762)
Wt. (33)	69 (31)	77 (34)	112 (50)	165 (74)	310 (140)	500 (226)	760 (344)	1050 (476)	1530 (693)	2380 (1079)	2722 (1234)	3650 (1655)	5115 (2320)
Wt. (33½)	57 (25)	64 (29)	92 (41)	132 (59)	256 (116)	410 (185)	650 (294)	880 (399)	1530 (693)	2380 (1079)	2000 (907)	3370 (1528)	4675 (2120)

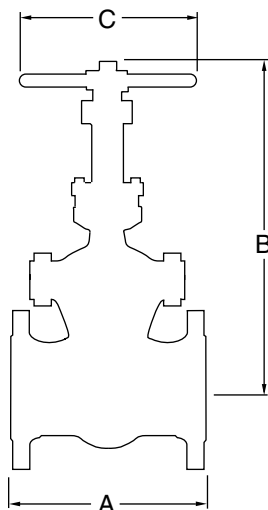
**Class 600 • Outside Screw & Yoke • Flexible Wedge Disc**



**Figure 76**  
Flanged  
**Figure 76½**  
Butt Weld

**Size Range:**  
2 through 12 inches  
(50 - 300 mm)

**Pressure Temperature Rating**  
Carbon Steel  
ASTM A216 Grade WCB  
1480 psi @ -20°F to 100°F  
(102 bar @ -28°C to 37°C)



**Industry Standards**

Steel Valves	ASME B16.34
Face-to-Face/End-to-End	ASME B16.10
Flange Dimensions	ASME B16.5
Weld End	ASME B.16.25
Basic Design	API 600
Testing	API 598

**Material of Construction\***

Description	Material
Body	WCB
Bonnet	WCB
Seat Rings	Hardfaced
Disc	CA-15 or 13% CR Overlay
Stem	410 SS
Packing	Graphite
Bonnet Gasket	Ring Type Joint
Back Seat	410 SS
Yoke Sleeve	D2 Ni-Resist
Retaining Nut	Malleable or Steel
Gland	Steel
Gland Flange	Steel
Eye Bolt	Steel
Eye Bolt Nuts	Steel
Pins	Steel
Bonnet Studs	A193 Gr. B7
Bonnet Nuts	A194 Gr. 2H
Handwheel	Malleable, Ductile or Steel
Handwheel Nut	Ductile or Steel
I.D. Tags	SS
I.D. Pins	Steel
Spacer	Steel
Grease Fittings	Steel

**NOTES:**

\*Standard construction: WCB-Trim 8, other options are available. Crane recommends the use of manual or powered gear assistance for sizes 6" and larger.

**Dimensions and Weights**

Inches (millimeters) - pounds (kilograms)

Valves	2 (50)	2 ½ (65)	3 (80)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)
A	11.50 (292)	13.00 (330)	14.00 (355)	17.00 (431)	22.00 (558)	26.00 (660)	31.00 (787)	33.00 (838)
B (Open)	17 (431)	19 (482)	23 (584)	27 (685)	36 (914)	42 (1066)	51 (1295)	58 (1473)
C	10 (254)	10 (254)	12 (304)	14 (355)	18 (457)	20 (508)	25 (635)	27 (685)
Wt. (76)	99 (44)	121 (54)	170 (77)	280 (127)	590 (267)	1080 (489)	1660 (752)	2070 (938)
Wt. (76½)	85 (38)	110 (49)	167 (75)	280 (127)	610 (276)	1070 (485)	1670 (757)	2070 (938)