

Overview Class 150, 300, 600, 900 & 1500 Check Valves

Features

Disc Type

- For class 600 valves, a ring joint bonnet gasket assures positive seal against leakage and accurate alignment of moving parts

Welded-in Seat Ring

- Seat ring is seal welded to eliminate leak path.

Basic Standards

These valves comply with the applicable requirements of the following standards:

- API 594
- API 598
- ASME B16.34
- ASME B16.25
- ASME B16.10
- ASME B16.5

Notes

- Standard material is ASTM A216 Grade WCB.
- Standard trim is XU (13% Cr to hardface) which is suitable for a wide range of applications.
- Butt weld end dimensions shall be in accordance with ASME B16.25 Figure 2a or Figure 3a (without backing ring) for standard pipe schedules, unless otherwise specified in the purchase order. Butt weld ends shall not be produced from flanged end castings unless specifically authorized in writing by CRANE Energy Flow Solutions.

Class	Schedule
150/300	Standard
600	Extra Strong
900/1500	Schedule 160

- See "Technical Data" section for locations of bypasses, taps and drains.

Class 150 • Bolted Cap

Figure 147

- Swing Check, Flanged

Figure 147½

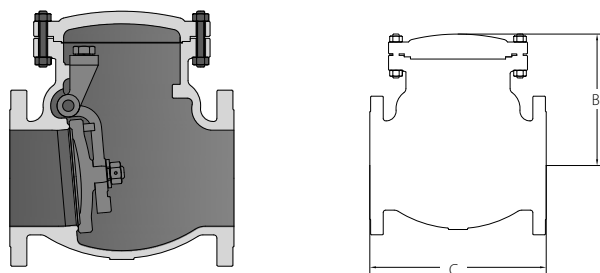
- Swing Check, Butt Weld

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)


Material of Construction*

Description	Material
Body	ASTM A216 GR.WCB
Seat Ring	ASTM A105N + Alloy 6 Hardfaced
Disc	ASTM A216 GR.WCB + 13Cr Faced
Disc Washer	ASTM A29 GR.1020
Disc Nut Pin	ASTM A276 Type 410
Disc Nut	ASTM A29 GR.1045
Hinge	ASTM A216 GR.WCB
Hinge Pin	ASTM A182 GR.F6a
Bearing Bracket	ASTM A216 GR.WCB
Spring Washer	ASTM A29 GR.1045
Hex Bolt	ASTM A29 GR.1035
Gasket	304SS + Graphite
Cover Bolt	ASTM A193 GR.B7
Cover Bolt Nut	ASTM A194 GR.2H
Cover	ASTM A216 GR.WCB
Eye Bolt	ASTM A181
Nameplate	SS304
Screw	SS304

*Standard construction: WCB-Trim 8, other options are available.

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
Testing	API 598
Basic Design	API 594

Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	2	2 ½	3	4	6	8	10	12	14	16	18	20	24
	(50)	(65)	(80)	(100)	(150)	(200)	(250)	(300)	(350)	(400)	(450)	(500)	(600)
A	8.00	8.50	9.50	11.50	16.00	19.50	24.50	27.50	31.00	36.00	38.50	38.50	51.00
(147)	(203)	(216)	(241)	(292)	(406)	(495)	(622)	(698)	(787)	(914)	(978)	(978)	(1295)
B	6.02	7.01	7.13	8.39	12.17	14.45	17.01	19.76	22.09	23.31	27.64	26.50	32.56
(Open)	(153)	(178)	(181)	(213)	(309)	(367)	(432)	(502)	(561)	(592)	(702)	(673)	(827)
Wt.	48.50	55.12	66.14	110.23	171.96	308.65	458.56	784.85	981.06	1322.77	2259.74	2303.83	2601.45
(147)	(22)	(25)	(30)	(50)	(78)	(140)	(208)	(356)	(445)	(600)	(1025)	(1045)	(1180)
Wt.	22.05	26.46	37.48	63.93	125.66	211.64	315.26	500.45	648.16	1031.76	1216.95	1664.49	1832.04
(147½)	(10)	(12)	(17)	(29)	(57)	(96)	(143)	(227)	(294)	(468)	(552)	(755)	(831)

(2) Flanged end and butt-weld valves share same face-to-face dimensions.

Class 300 • Bolted Cap

Figure 159

- Swing Check, Flanged

Figure 159½

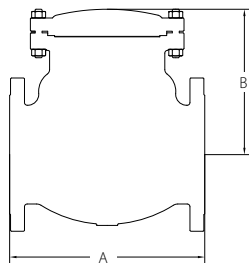
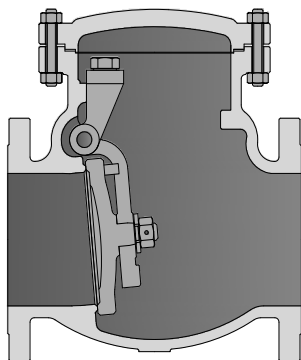
- Swing Check, Butt Weld

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)


Material of Construction*

Description	Material
Body	ASTM A216 GR.WCB
Seat Ring	ASTM A105N + Alloy 6 Hardfaced
Disc	ASTM A216 GR.WCB + 13Cr Faced
Disc Washer	ASTM A29 GR.1020
Disc Nut Pin	ASTM A276 Type 410
Disc Nut	ASTM A29 GR.1045
Hinge	ASTM A216 GR.WCB
Hinge Pin	ASTM A182 GR.F6a
Bearing Bracket	ASTM A216 GR.WCB
Spring Washer	ASTM A29 GR.1045
Hex Bolt	ASTM A29 GR.1035
Gasket	304SS + Graphite
Cover Bolt	ASTM A193 GR.B7
Cover Bolt Nut	ASTM A194 GR.2H
Cover	ASTM A216 GR.WCB
Eye Bolt	ASTM A181
Nameplate	SS304
Screw	SS304

*Standard construction: WCB-Trim 8, other options are available.

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
Testing	API 598
Basic Design	API 594

Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	2	2 ½	3	4	6	8	10	12	14	16	18	20	24
	(50)	(65)	(80)	(100)	(150)	(200)	(250)	(300)	(350)	(400)	(450)	(500)	(600)
A	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00
(159)	(267)	(292)	(318)	(356)	(444)	(533)	(622)	(711)	(838)	(864)	(978)	(1016)	(1346)
B	6.97	8.00	9.09	10.47	12.72	15.47	17.87	21.30	23.98	25.71	28.19	27.40	31.34
(Open)	(177)	(203)	(231)	(266)	(323)	(393)	(454)	(541)	(609)	(653)	(716)	(696)	(796)
Wt.	61.73	66.00	97.00	154.32	282.19	445.33	462.97	573.20	1477.10	1763.70	2259.74	2976.24	4303.42
(159)	(28)	(29)	(44)	(70)	(128)	(202)	(210)	(260)	(670)	(800)	(1025)	(1350)	(1952)
Wt.	35.27	48.50	66.14	116.84	222.67	346.13	511.47	912.71	1003.10	1688.74	1706.38	2116.44	3950.68
(159½)	(16)	(22)	(30)	(53)	(101)	(157)	(232)	(414)	(455)	(766)	(774)	(960)	(1792)

(2) Flanged end and butt-weld valves share same face-to-face dimensions.

Class 600 • Bolted Cap

Figure 175

- Swing Check, Flanged

Figure 175½

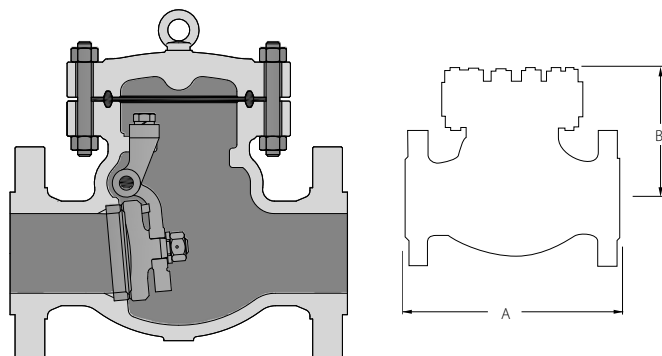
- Swing Check, Butt Weld

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)


Material of Construction*

Description	Material
Body	ASTM A216 GR.WCB
Seat Ring	ASTM A105N + Alloy 6 Hardfaced
Disc	ASTM A216 GR.WCB + 13Cr Faced
Disc Washer	ASTM A29 GR.1020
Disc Nut Pin	ASTM A276 Type 410
Disc Nut	ASTM A29 GR.1045
Hinge	ASTM A216 GR.WCB
Hinge Pin	ASTM A182 GR.F6a
Bearing Bracket	ASTM A216 GR.WCB
Spring Washer	ASTM A29 GR.1045
Hex Bolt	ASTM A29 GR.1035
Gasket	304SS + Graphite
Cover Bolt	ASTM A193 GR.B7
Cover Bolt Nut	ASTM A194 GR.2H
Cover	ASTM A216 GR.WCB
Eye Bolt	ASTM A181
Nameplate	SS304
Screw	SS304

*Standard construction: WCB-Trim 8, other options are available.

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
Testing	API 598
Basic Design	API 594

Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	2	2 ½	3	4	6	8	10	12	14	16	18	20
	(50)	(65)	(80)	(100)	(150)	(200)	(250)	(300)	(350)	(400)	(450)	(500)
A	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00
(175)	(292)	(330)	(356)	(432)	(559)	(660)	(787)	(838)	(889)	(991)	(1092)	(1194)
B	9.17	7.99	10.79	12.28	15.63	18.39	21.81	23.19	25.98	28.31	32.72	31.93
(Open)	(233)	(203)	(274)	(312)	(397)	(467)	(554)	(589)	(660)	(719)	(831)	(811)
Wt.	72.75	143.30	149.91	242.51	493.84	842.17	1309.55	1355.84	2105.41	2612.48	3571.49	4673.80
(175)	(33)	(65)	(68)	(110)	(224)	(382)	(594)	(615)	(955)	(1185)	(1620)	(2120)
Wt.	110.23	149.91	169.76	249.12	507.06	853.19	1393.32	1986.36	2511.07	3556.06	5842.25	7826.41
(175½)	(50)	(68)	(77)	(113)	(230)	(387)	(632)	(901)	(1139)	(1613)	(2650)	(3550)

(2) Flanged end and butt-weld valves share same face-to-face dimensions.

Class 900 • Bolted Cap

Figure 187

- Swing Check, Flanged

Figure 187½

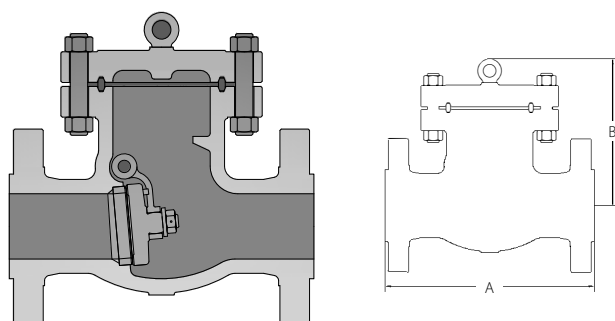
- Swing Check, Butt Weld

Size Range:

- 2 through 12 inches
- (50 - 300 mm)

Pressure Temperature Rating

- Carbon Steel
- ASTM A216 Grade WCB
- 2220 psi @ -20°F to 100°F
- (153 bar @ -28°C to 37°C)


Material of Construction*

Description	Material
Body	ASTM A216 GR.WCB
Seat Ring	ASTM A105N +Alloy 6 Hardfaced
Disc	ASTM A216 GR.WCB+13Cr Faced
Disc Washer	ASTM A29 GR.1020
Disc Nut Pin	ASTM A276 Type 410
Disc Nut	ASTM A29 GR.1045
Hinge	ASTM A216 GR.WCB
Hinge Pin	ASTM A182 GR.F6a
Plug	ASTM A276 Type 410
Gasket Ring	Soft Steel
Cover Bolt	ASTM A193 GR.B7
Cover Bolt Nut	ASTM A194 GR.2H
Cover	ASTM A216 GR.WCB
Eye Bolt	ASTM A181
Nameplate	SS304
Screw	SS304

*Standard construction: WCB-Trim 8, other options are available.

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
Testing	API 598
Basic Design	API 594

Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	2	3	4	6	8	10	12
	(50)	(80)	(100)	(150)	(200)	(250)	(300)
A	14.50	15.00	18.00	24.00	29.00	33.00	38.00
(187)	(368)	(381)	(457)	(610)	(737)	(838)	(965)
B	11.18	12.01	11.85	16.65	19.96	22.91	25.59
(Open)	(284)	(305)	(301)	(423)	(507)	(582)	(650)
Wt.	198.42	202.83	308.65	626.11	1113.33	1155.22	2380.99
(187)	(90)	(92)	(140)	(284)	(505)	(524)	(1080)
Wt.	198.42	200.62	308.65	626.11	1113.33	1433.00	1322.77
(187½)	(90)	(91)	(140)	(284)	(505)	(650)	(600)

(2) Flanged end and butt-weld valves share same face-to-face dimensions.

Class 1500 • Bolted Cap

Figure 199

- Swing Check, Flanged

Figure 199½

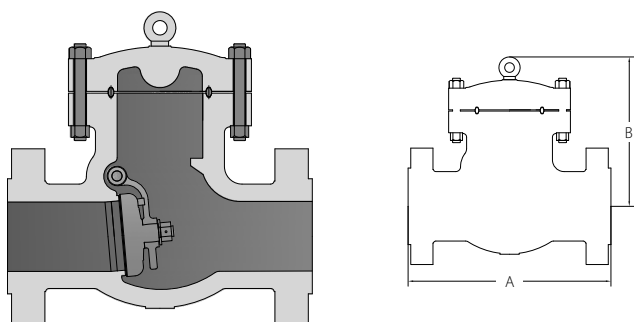
- Swing Check, Butt Weld

Size Range:

- 2 through 10 inches
- (50 - 250 mm)

Pressure Temperature Rating

- Carbon Steel
- ASTM A216 Grade WCB
- 3705 psi @ -20°F to 100°F
- (255 bar @ -28°C to 37°C)


Material of Construction*

Description	Material
Body	ASTM A216 GR.WCB
Seat Ring	ASTM A105N +Alloy 6 Hardfaced
Disc	ASTM A216 GR.WCB+13Cr Faced
Disc Washer	ASTM A29 GR.1020
Disc Nut Pin	ASTM A276 Type 410
Disc Nut	ASTM A29 GR.1045
Hinge	ASTM A216 GR.WCB
Hinge Pin	ASTM A182 GR.F6a
Plug	ASTM A276 Type 410
Plug Gasket	ASTM A276 Type 316
Gasket Ring	Soft Steel
Cover Bolt	ASTM A193 GR.B7
Cover Bolt Nut	ASTM A194 GR.2H
Cover	ASTM A216 GR.WCB
Eye Bolt	ASTM A181
Nameplate	SS304
Screw	SS304

*Standard construction: WCB-Trim 8, other options are available.

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
Testing	API 598
Basic Design	API 594

Dimensions and Weights

Inches (millimeters) - pounds (kilograms)

Valves	2	3	4	6	8	10
	(50)	(80)	(100)	(150)	(200)	(250)
A	14.50	18.50	21.50	27.75	32.75	39.00
(199)	(368)	(470)	(546)	(705)	(832)	(991)
B	11.18	13.07	14.69	19.76	23.94	25.55
(Open)	(284)	(332)	(373)	(502)	(608)	(649)
Wt.	132.28	462.97	540.13	1697.56	1862.91	3284.89
(199)	(60)	(210)	(245)	(770)	(845)	(1490)
Wt.	110.23	253.53	418.88	996.49	1653.47	2231.08
(199½)	(50)	(115)	(190)	(452)	(750)	(1012)

(2) Flanged end and butt-weld valves share same face-to-face dimensions.