

### Design Features

- Retainerless design meets industry fugitive emissions control requirements. This design eliminates the potential leak path to atmosphere associated with competitors' valves with threaded retaining plugs.
- Available in wafer, lug and double flanged body styles.
- Suitable for installation between RF or RTJ (Optional) flanges.
- Valve sizes 6" and larger are supplied with a valve lifting lug.
- Upper and lower stainless steel thrust washers are standard.
- Available with resilient or metal-to-metal seats.
- Seat design lifts then swings disc to minimize seat wear.
- Discs are equipped with shock bumpers to minimize stress in hinge pins.
- Body meets ASME B16.34 and API 598.

### Parts List and Standard Materials

Part	Description	Cast Iron	Carbon Steel <sup>1</sup>	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
		Resilient Seal	Resilient Seal	API Trim #1 Metal Overlay Seal	API Trim #5 Metal Overlay Seal	API Trim #8 Metal Overlay Seal	API Trim #10 Metal Overlay Seal
1	Body	A126-B	A216-WCB A352-LCC	A216-WCB	A216-WCB	A216-WCB	A352-LCC
2	Plates <sup>1</sup>	A351-CF8M	A351-CF8M	A217 CA15	A217 CA15	A217 CA15	A351-CF8M
3	Body Seat	Buna-N / EPDM	Viton	410 SS	Stellite 6	Stellite 6	316 SS
4	Plate Seat	As Plate	As Plate	As Plate	Stellite 6	As Plate	As Plate
5	Guide	316 SS	316 SS	410 SS	410 SS	410 SS	316 SS
6	Hinge Pin	316 SS	316 SS	410 SS	410 SS	410 SS	316 SS
7	Spring <sup>2</sup>	316 SS	316 SS	Inconel X750	Inconel X750	Inconel X750	Inconel X750
8	Thrust Washers	316 SS	316 SS	410 SS	410 SS	410 SS	316 SS
9	Stop Pin	316 SS	316 SS	410 SS	410 SS	410 SS	410 SS
10	Set Screw	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS

Part	Description	Carbon Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
		API Trim #12 Metal Overlay Seal	Resilient Seal	Resilient Seal	API Trim #5 Metal Overlay Seal	API Trim #10 Metal Overlay Seal	API Trim #12 Metal Overlay Seal
1	Body	A352-LCC	A351-CF8M	A351-CF8M	A351-CF8M	A351-CF8M	A351-CF8M
2	Plates <sup>1</sup>	A351-CF8M	A351-CF8M	A351-CF8M	A351-CF8M	A351-CF8M	A351-CF8M
3	Body Seat	Stellite 6	Viton	PTFE	Stellite 6	As Body	Stellite 6
4	Plate Seat	As Plate	As Plate	As Plate	Stellite 6	As Plate	As Plate
5	Guide	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS
6	Hinge Pin	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS
7	Spring <sup>2</sup>	Inconel X750	316 SS	316 SS	Inconel X750	Inconel X750	Inconel X750
8	Thrust Washers	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS
9	Stop Pin	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS
10	Set Screw	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS

### Notes:

1. If required plates are available in 316 SS (CF8M) instead of 410 SS (CA15).
2. Springs are available in either 316 SS or Inconel X750. Other spring material available upon request.
3. Various body, plate and trim combinations are available. Contact factory for materials not shown.
4. A352-LCC material not to be used above 650°F.

### Upper Temperature Limits

Spring Material	Upper Limit °F (°C)
316 SS	250° (121°)
Inconel X750	1000° (537°)
Monel	400° (204°)
Hastelloy	800° (426°)
Inconel 625	1000° (537°)
Alloy 20	250° (121°)

Seat Material	Upper Limit °F (°C)
Buna-N	250° (121°)
EPDM	300° (149°)
Viton	400° (204°)
PTFE	450° (232°)
Metal Overlay	As Body
Metal to Metal	As Body

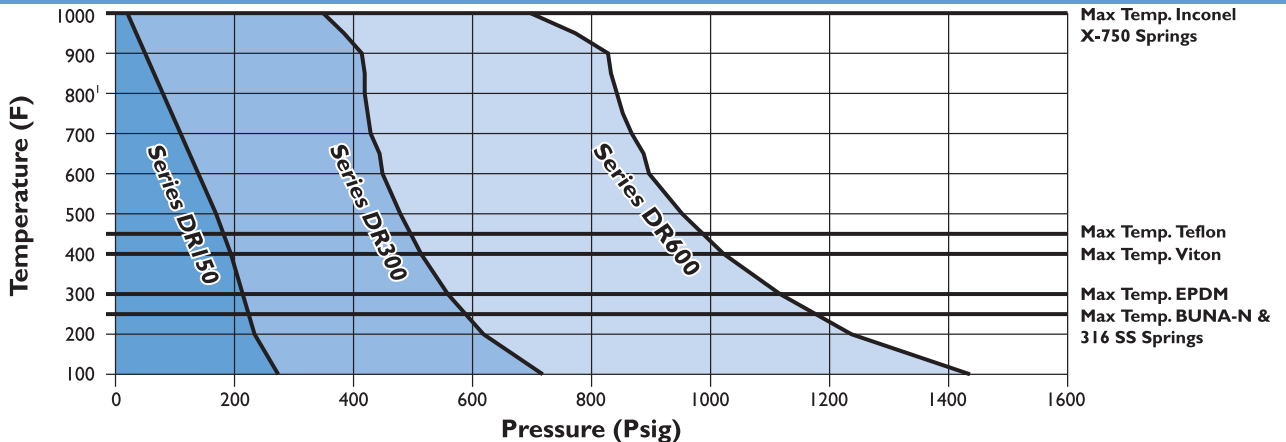
### Lower Temperature Limits<sup>1</sup>

Material	Lower Limit °F (°C)
A126-B/WCB	-20° (-28.9°)
LCC	-50° (-45.6°)
CF8M	-450° (-268°)
Buna-N	-70° (-56.7°)
EPDM	-14° (-25.6°)
Viton	-40° (-40°)
PTFE	-200° (-129°)
Metal	As Body

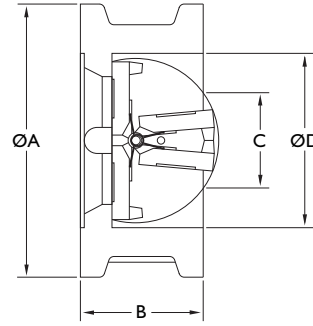
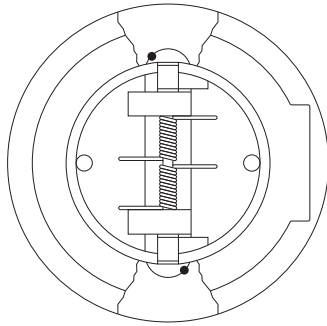
### Upper Pressure Limits (Non-Shock)

IFC Model	Body Material	MAWP psig (bars)
DR125	A126-B	200 (13.79)
	A126-B (>12")	150 (10.34)
DR150	WCB	285 (19.65)
	LCC	290 (19.99)
	CF8M	275 (18.96)
DR300	WCB	740 (51.02)
	LCC	750 (51.71)
	CF8M	720 (51.02)
DR600	WCB	1480 (102.04)
	LCC	1500 (103.42)
	CF8M	1440 (99.28)
DR900	WCB	2220 (153.06)
	LCC	2250 (155.13)
	CF8M	2160 (148.93)
DR1500	WCB	3705 (255.45)
	LCC	3750 (258.55)
	CF8M	3600 (248.21)
DR2500	WCB	6170 (425.41)
	LCC	6250 (430.92)
	CF8M	6000 (413.69)

### Pressure Temperature Chart (In Accordance with ASME B16.34, CF8M)



**Notes:** 1. Upon prolonged exposure to temperatures above 800°F, the carbide phase of carbon steel may be converted to graphite.

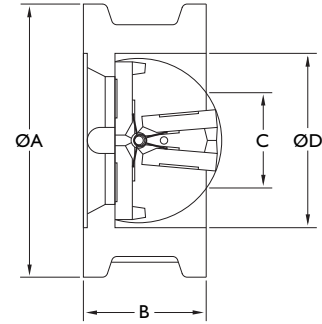
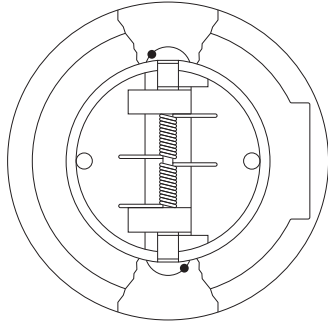


Dimensional Data (Class 125-2500)							Stud Selection			
Size in. (mm)	ANSI Rating	End Facing	A in. (mm)	B in. (mm)	C <sup>1</sup> in. (mm)	D in. (mm)	Qty.	Dia. in. (mm)	Length in. (mm)	Weight lb. (Kg.)
2 (50)	125	FF	4.09 (104)	2.13 (54)	-	2.38 (60)	4	0.63 (16)	5.75 (146)	6 (2.7)
	150	RF	4.13 (105)	2.38 (60)	-	2.38 (60)	4	0.63 (16)	6.00 (152)	7 (3.2)
	300	RF/RJ-23	4.38 (111)	2.38 (60)	-	2.38 (60)	8	0.63 (16)	6.88 (175)	7 (3.2)
	600	RF/RJ-23	4.38 (111)	2.38 (60)	-	2.38 (60)	8	0.63 (16)	6.88 (175)	7 (3.2)
	900	RF/RJ-24	5.63 (143)	2.75 (70)	-	2.25 (57)	8	0.88 (22)	8.75 (222)	18 (8.2)
	1500	RF/RJ-24	5.63 (143)	2.75 (70)	-	2.25 (57)	8	0.88 (22)	8.75 (222)	18 (8.2)
	2500	RF/RJ-26	5.75 (146)	2.75 (70)	-	2.25 (57)	8	1.00 (25)	10.00 (254)	29 (13.2)
2.5 (65)	125	FF	4.88 (124)	2.13 (54)	-	2.88 (73)	4	0.63 (16)	6.00 (152)	6 (2.7)
	150	RF	4.88 (124)	2.38 (60)	-	3.00 (76)	4	0.63 (16)	6.38 (162)	11 (5)
3 (80)	125	FF	5.38 (137)	2.25 (57)	2.00 (51)	3.75 (76)	4	0.63 (16)	6.25 (159)	8 (3.6)
	150	RF	5.38 (137)	2.88 (73)	2.00 (51)	3.50 (89)	8	0.63 (16)	7.00 (178)	13 (5.9)
	300	RF	5.88 (149)	2.88 (73)	2.00 (51)	3.50 (89)	8	0.75 (19)	8.13 (207)	13 (5.9)
	600	RF	5.88 (149)	2.88 (73)	2.00 (51)	3.50 (89)	8	0.75 (19)	8.13 (207)	13 (5.9)
	900	RF/RJ-31	6.63 (168)	3.25 (83)	2.38 (60)	3.50 (89)	8	0.88 (22)	9.50 (241)	26 (12)
	1500	RF/RJ-35	6.88 (175)	3.25 (83)	2.38 (60)	3.50 (89)	8	1.13 (29)	10.50 (267)	28 (12.7)
	2500	RF/RJ-32	7.75 (197)	3.38 (86)	2.38 (60)	3.50 (89)	8	1.25 (32)	12.25 (311)	35 (15.9)
4 (100)	125	FF	6.88 (175)	2.50 (64)	3.50 (89)	4.50 (114)	8	0.63 (16)	6.25 (159)	14 (6.4)
	150	RF	6.88 (175)	2.88 (73)	3.50 (89)	4.50 (114)	8	0.63 (16)	7.00 (178)	18 (8.2)
	300	RF	7.13 (181)	2.88 (73)	3.50 (89)	4.50 (114)	8	0.75 (19)	8.13 (207)	18 (8.2)
	600	RF/RJ-37	7.63 (194)	3.13 (80)	3.50 (89)	4.50 (114)	8	0.88 (22)	9.50 (241)	28 (12.8)
	900	RF/RJ-37	8.13 (207)	4.00 (102)	3.25 (83)	4.50 (114)	8	1.13 (29)	11.00 (279)	42 (19.1)
	1500	RF/RJ-39	8.25 (210)	4.00 (102)	3.25 (83)	4.50 (114)	8	1.25 (32)	12.00 (305)	45 (20.5)
	2500	RF/RJ-38	9.25 (235)	4.13 (105)	3.25 (83)	4.50 (114)	8	1.50 (38)	14.63 (371)	64 (29.1)
6 (150)	125	FF	8.75 (222)	3.00 (76)	5.50 (140)	6.63 (168)	8	0.75 (19)	8.00 (203)	27 (12.3)
	150	RF	8.75 (222)	3.88 (99)	5.50 (140)	6.63 (168)	8	0.75 (19)	8.25 (210)	35 (15.9)
	300	RF	9.88 (251)	3.88 (99)	5.50 (140)	6.63 (168)	12	0.75 (19)	9.63 (245)	44 (20)
	600	RF/RJ-45	10.50 (267)	5.38 (137)	3.50 (89)	6.50 (168)	12	1.00 (25)	12.38 (314)	80 (36.4)
	900	RF/RJ-45	11.38 (289)	6.25 (159)	3.50 (89)	6.50 (168)	12	1.13 (29)	14.00 (356)	119 (54.1)
	1500	RF/RJ-46	11.13 (283)	6.25 (159)	3.50 (89)	6.50 (168)	12	1.38 (35)	16.75 (425)	116 (53)
	2500	RF/RJ-47	12.50 (318)	6.25 (159)	3.50 (89)	6.50 (168)	8	2.00 (51)	20.50 (521)	154 (70)

(Continued...)

**Notes:** See Page 13

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1. For pressure loss information please see page 14.
  2. For ordering information please see page 18.
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Dimensional Data (Class 125-2500)							Stud Selection			
Size in. (mm)	ANSI Rating	End Facing	A in. (mm)	B in. (mm)	C <sup>6</sup> in. (mm)	D in. (mm)	Qty.	Dia. in. (mm)	Length in. (mm)	Weight lb. (Kg.)
8 (200)	125	FF	11.00 (279)	3.75 (95)	6.75 (171)	8.63 (219)	8	0.75 (19)	9.50 (241)	50 (22.8)
	150	RF	11.00 (279)	5.00 (127)	6.75 (171)	8.63 (219)	8	0.75 (19)	9.75 (248)	63 (28.6)
	300	RF	12.13 (308)	5.00 (127)	6.75 (171)	8.63 (219)	12	0.88 (22)	11.25 (286)	76 (34.5)
	600	RF/RJ-49	12.63 (321)	6.50 (165)	6.63 (168)	8.13 (207)	12	1.13 (29)	14.50 (368)	160 (72.7)
	900	RF/RJ-49	14.13 (359)	8.13 (207)	5.13 (130)	8.13 (207)	12	1.38 (35)	17.13 (435)	271 (123.2)
	1500	RF/RJ-50	13.88 (353)	8.13 (207)	5.13 (130)	8.13 (207)	12	1.63 (41)	20.25 (514)	257 (116.8)
2500	RF/RJ-51	15.25 (387)	8.13 (207)	5.63 (143)	8.13 (207)	12	2.00 (51)	24.00 (610)	293 (133.2)	
10 (250)	125	FF	13.38 (340)	4.25 (108)	9.25 (235)	10.75 (273)	12	0.88 (22)	10.50 (267)	70 (31.8)
	150	RF	13.38 (340)	5.75 (146)	9.25 (235)	10.75 (273)	12	0.88 (22)	11.00 (279)	106 (48.2)
	300	RF	14.25 (362)	5.75 (146)	9.25 (235)	10.75 (273)	16	1.00 (25)	12.75 (324)	126 (57.3)
	600	RF/RJ-53	15.75 (400)	8.38 (213)	7.88 (200)	10.25 (260)	16	1.25 (32)	17.13 (435)	260 (118.2)
	900	RF/RJ-53	17.13 (435)	9.50 (241)	7.69 (195)	10.25 (260)	16	1.38 (35)	19.00 (483)	434 (197.3)
	1500	RF/RJ-54	17.13 (435)	9.75 (248)	7.25 (184)	10.25 (260)	12	1.88 (48)	23.50 (597)	449 (204.1)
2500	RF/RJ-55	18.75 (476)	10.00 (254)	7.50 (191)	10.25 (260)	12	2.50 (64)	30.50 (775)	480 (218.2)	
12 (300)	125	FF	16.00 (406)	5.63 (143)	10.25 (260)	12.50 (318)	12	0.88 (22)	10.75 (273)	110 (50)
	150	RF	16.13 (410)	7.13 (181)	10.25 (260)	12.75 (324)	12	0.88 (22)	12.25 (311)	180 (81.8)
	300	RF	16.63 (422)	7.13 (181)	10.25 (260)	12.75 (324)	16	1.13 (29)	14.63 (372)	200 (90.9)
	600	RF/RJ-57	18.00 (457)	9.00 (229)	9.13 (232)	11.82 (300)	20	1.25 (32)	18.00 (457)	360 (163.6)
	900	RF/RJ-57	19.63 (499)	11.50 (292)	8.13 (207)	11.82 (300)	20	1.38 (35)	21.75 (552)	644 (292.7)
	1500	RF/RJ-58	20.50 (521)	12.00 (305)	8.25 (210)	11.82 (300)	16	2.00 (51)	27.50 (699)	824 (374.5)
2500	RF/RJ-60	21.63 (549)	12.00 (305)	8.88 (226)	11.82 (300)	12	2.75 (70)	34.50 (876)	870 (395)	
14 (350)	125	FF	17.75 (451)	7.25 (184)	11.25 (286)	14.00 (356)	12	1.00 (25)	13.00 (330)	170 (77.3)
	150	RF	17.75 (451)	7.25 (184)	11.25 (286)	13.38 (340)	12	1.00 (25)	13.00 (330)	270 (122.7)
	300	RF	19.38 (486)	8.75 (222)	11.25 (286)	13.34 (339)	20	1.13 (29)	16.50 (419)	390 (177.3)
	600	RF/RJ-61	19.38 (486)	10.75 (273)	9.13 (232)	13.38 (340)	20	1.38 (35)	20.25 (419)	410 (186.4)
	900	RF/RJ-62	20.50 (521)	14.00 (356)	-	13.38 (340)	20	1.50 (38)	25.50 (648)	872 (396.4)
	1500	RF/RJ-63	22.75 (521)	14.00 (356)	-	13.38 (340)	16	2.25 (57)	31.50 (800)	1068 (485.5)

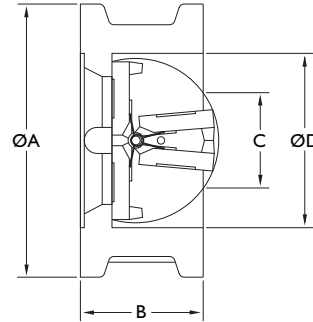
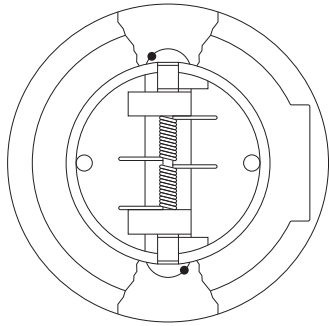
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Dimensional Data (Class 125-2500)							Stud Selection			
Size in. (mm)	ANSI Rating	End Facing	A in. (mm)	B in. (mm)	C <sup>a</sup> in. (mm)	D in. (mm)	Qty.	Dia. in. (mm)	Length in. (mm)	Weight lb. (Kg.)
16 (400)	125	FF	20.25 (514)	7.50 (191)	13.00 (330)	16.63 (422)	16	1.00 (25)	13.50 (343)	225 (102.3)
	150	RF	20.25 (514)	7.50 (191)	13.00 (330)	15.25 (387)	16	1.00 (25)	13.50 (343)	295 (134.1)
	300	RF	21.25 (540)	9.13 (232)	13.00 (330)	15.25 (387)	20	1.25 (32)	17.38 (441)	458 (208.2)
	600	RF/RJ-65	22.25 (565)	12.00 (305)	13.00 (330)	15.25 (387)	20	1.50 (38)	22.25 (565)	728 (330.9)
	900	RF/RJ-66	22.63 (575)	15.13 (384)	6.38 (162)	15.25 (387)	20	1.63 (38)	27.13 (689)	1174 (533.6)
	1500	RF/RJ-67	25.25 (641)	15.13 (384)	6.38 (162)	15.25 (387)	16	2.50 (64)	34.25 (870)	1295 (588.6)
18 (450)	125	FF	21.61 (549)	8.00 (203)	15.50 (394)	18.00 (457)	16	1.13 (29)	14.50 (368)	280 (127.3)
	150	RF	21.63 (549.5)	8.00 (203)	15.50 (394)	17.25 (438)	16	1.13 (29)	14.50 (368)	312 (141.8)
	300	RF	23.50 (597)	10.38 (264)	15.38 (391)	17.25 (438)	24	1.25 (32)	18.88 (480)	650 (295.5)
	600	RF/RJ-69	24.13 (613)	14.25 (362)	13.00 (330)	17.25 (438)	20	1.63 (41)	25.25 (641)	870 (395.5)
	900	RF/RJ-70	25.13 (638)	17.75 (451)	9.63 (245)	17.25 (438)	20	1.88 (48)	34.50 (876)	1344 (610.9)
	1500	RF/RJ-71	27.75 (705)	18.44 (468)	7.25 (184)	17.25 (438)	16	2.75 (70)	39.75 (1010)	1745 (793.2)
20 (450)	125	FF	23.86 (606)	8.38 (213)	17.25 (438)	20.16 (512)	20	1.13 (29)	15.25 (387)	390 (177.3)
	150	RF	23.88 (607)	8.63 (219)	17.25 (438)	19.19 (487)	20	1.13 (29)	15.13 (384)	472 (214.5)
	300	RF	25.75 (654)	11.50 (292)	17.25 (438)	19.19 (487)	24	1.25 (32)	20.50 (521)	801 (364.1)
	600	RF/RJ-73	26.88 (683)	14.50 (368)	17.00 (432)	19.19 (487)	24	1.63 (41)	26.25 (667)	1196 (543.6)
	900	RF/RJ-74	27.50 (699)	17.75 (451)	16.00 (406)	19.19 (487)	20	2.00 (51)	32.50 (826)	1406 (639.1)
	1500	RF/RJ-75	29.75 (756)	21.00 (533)	8.25 (210)	19.19 (487)	16	3.00 (76)	44.25 (1124)	2812 (1278.2)
24 (600)	125	FF	28.25 (718)	8.75 (222)	21.13 (537)	23.75 (603)	20	1.25 (32)	16.25 (413)	590 (268.2)
	150	RF	28.25 (718)	8.75 (222)	21.13 (537)	22.75 (578)	20	1.25 (32)	16.25 (413)	788 (358.2)
	300	RF	30.50 (775)	12.50 (318)	20.63 (524)	22.75 (578)	24	1.50 (38)	22.75 (578)	1150 (526.4)
	600	RF/RJ-77	31.13 (791)	17.25 (438)	20.63 (524)	22.75 (578)	24	1.88 (48)	30.75 (781)	1802 (819.1)
	900	RF/RJ-78	33.00 (838)	19.50 (495)	17.50 (445)	22.75 (578)	20	2.50 (64)	38.00 (965)	2713 (1233.2)
	1500	RF/RJ-79	35.50 (902)	22.00 (559)	15.38 (391)	22.75 (578)	16	3.50 (89)	48.50 (1232)	5968 (2712.7)
30 (750)	125	FF	34.75 (883)	12.00 (305)	25.25 (641)	30.00 (762)	28	1.25 (32)	21.00 (533)	1450 (659.1)
	150	RF	34.75 (883)	12.00 (305)	25.25 (641)	28.93 (735)	28	1.25 (32)	21.00 (533)	1456 (661.8)
36 (750)	125	FF	41.25 (1048)	14.50 (368)	25.50 (648)	36.00 (914)	32	1.50 (38)	25.88 (657)	1505 (684.1)
	150	RF	41.25 (1048)	14.50 (368)	25.50 (648)	34.00 (864)	32	1.50 (38)	25.88 (657)	1505 (684.1)

- Notes:**
1. Dimensions are in accordance with API 594 except face to face dimension of 2.5" through 12" cast iron body (A126-B) valves.
  2. Valve sizes 2" and 3" Class 150, 300 and 600 lb. are multi/dual pressure class rated.
  3. Valve sizes 4" Class 150 and 300 lb. are multi/dual pressure class rated.
  4. Valves sizes through 24" are designed for installation between flanges in dimensional accordance with ASME B16.1 and ASME B16.5.
  5. Valves sizes 30" and larger are designed for installation between flanges in dimensional accordance with ASME B16.47 Series A.
  6. Minimum Bore Diameter of companion flanges.

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