

Flange



FITOK

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Flanges Information

Flange-Basic Knowledge

A Flange is a method of connecting pipes, valves, pumps and other equipment to form a pipework system. It also provides easy access for cleaning, inspection or modification. Flanges are usually welded or screwed into such systems and then joined with bolts.

Flange Specifications

- © Design: ASME B16.5
- © Test: ASME B16.5
- © Mark: ASME B16.5
- © Socket Weld End: ASME B16.11
- © Butt Weld End: ASME B16.25
- © Thread End: ASME B1.20.1

Flange Features

- © All sizes and grades compatible to standard pipe ranges and wall thicknesses (pressure ratings) are available. The table below provides a summary.
- © There are various face configurations for flanges. Typically: flat face, raised face, tongue , groove, female, male, ring joint.
- © The finish on the face of a flange is measured as an Arithmetical Average Roughness Height (AARH). The finish is determined by the standard used.

Flange rating

Class	Class
Class 150	Class 900
Class 300	Class 1500
Class 600	Class 2500

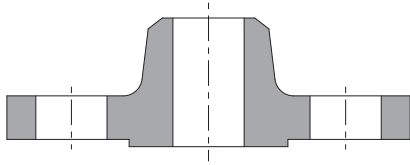
Flange Nominal Diameter and Outside Diameter

Nominal Diameter	DN	15	20	25	32	40	50	65	80	90	100
	NPS	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Outside Diameter		21.3	26.7	33.4	42.2	48.3	60.3	73	88.9	101.6	114.3

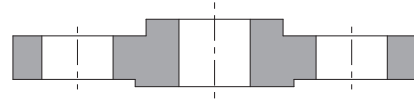
Nominal Diameter	DN	125	150	200	250	300	350	400	450	500	600
	NPS	5	6	8	10	12	14	16	18	20	24
Outside Diameter		141.3	168.3	219.1	273.1	323.9	355.6	406.4	457.2	508	609.6

Flange Type

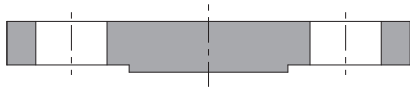
There are various type for flanges. Typically: Weld neck, Slip-on, Blind, Socket weld, Threaded, Lap Joint Flange



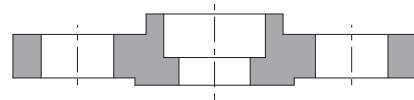
Welding Neck Flange
(WN)



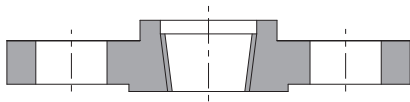
Slip On Flange
(SO)



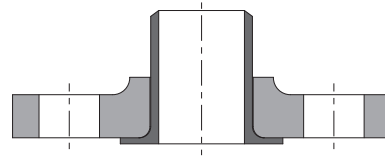
Blind Flange
(BL)



Socket Welding Flange
(SW)



Threaded Flange
(Th)

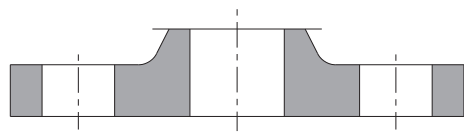


Lap Joint Flange
(LF/SE)

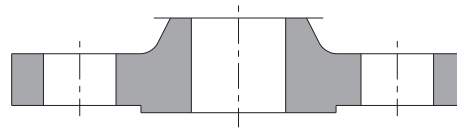
3 Flange

Flange Faces

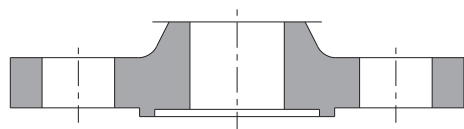
There are various face configurations for flanges. Typically: flat face, raised face, tongue , groove male, female, ring joint.



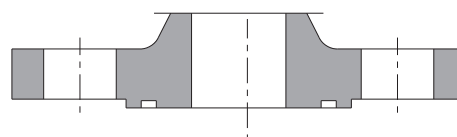
Flat Face (FF)



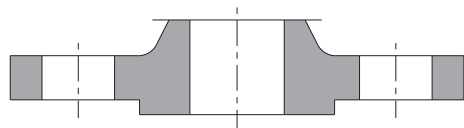
Raised Face (RF)



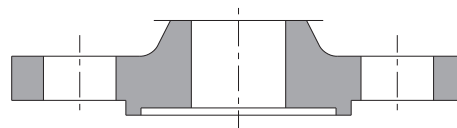
Tongue Face (T)



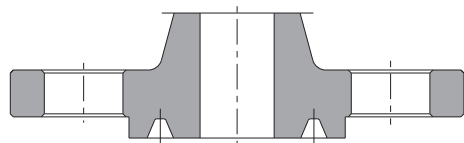
Groove (G)



Male (M)

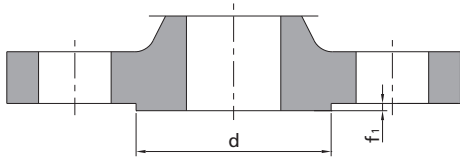


Female (FM)

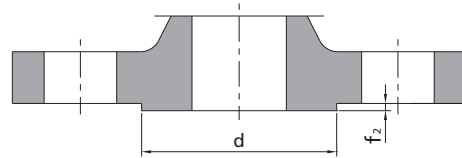


Ring Joint Face (RJ)

Dimensions of Raised Faces



PN ≤ Class 300

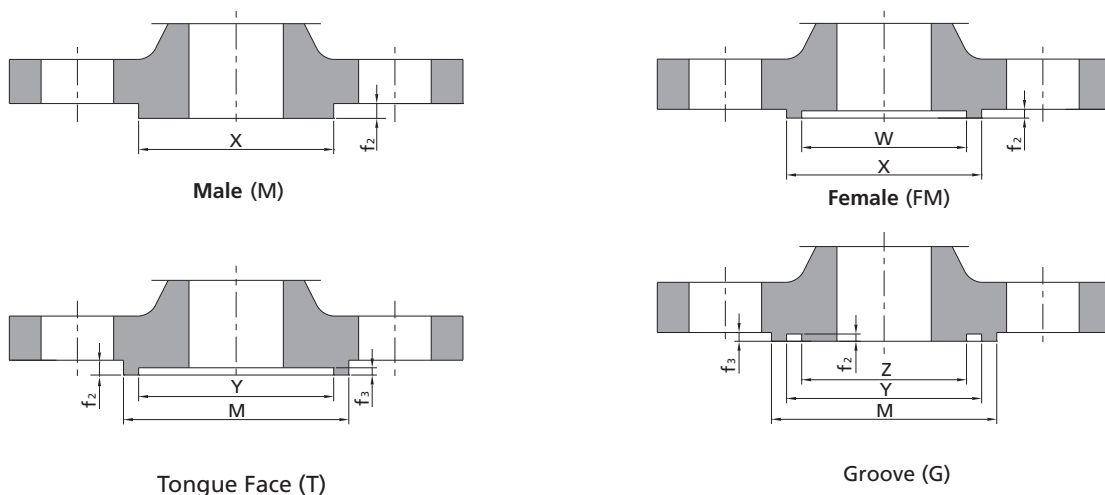


PN ≥ Class 600

Nominal Diameter		Dimension in. (mm)		
NPS	DN	d	f ₁	f ₂
1/2	15	1.38 (34.9)	0.079 (2.0)	0.276 (7.0)
3/4	20	1.69 (42.9)		
1	25	2.01 (50.8)		
1 1/4	32	2.50 (63.5)		
1 1/2	40	2.87 (73.0)		
2	50	3.62 (92.1)		
2 1/2	65	4.13 (104.8)		
3	80	5.00 (127.0)		
3 1/2	90	5.50 (139.7)		
4	100	6.20 (157.2)		

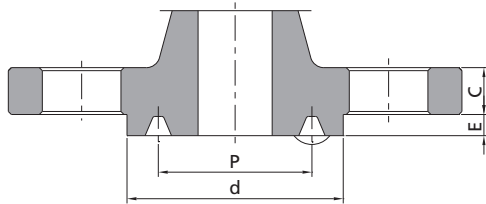
Nominal Diameter		Dimension in. (mm)		
NPS	DN	d	f ₁	f ₂
5	125	7.31 (185.7)	0.079 (2.0)	0.276 (7.0)
6	150	8.5 (215.9)		
8	200	10.63 (269.9)		
10	250	12.7 (323.8)		
12	300	15 (381.0)		
14	350	3.62 (412.8)		
16	400	16.3 (469.9)		
18	450	21 (533.4)		
20	500	21.6 (548.2)		
24	600	27.3 (692.2)		

Dimensions of Male (M),Female (FM), Tongue Face (T),Groove Face (G).

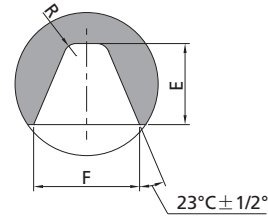


Nominal Diameter		Dimension in. (mm)					f_2	f_3
NPS	DN	W	X	M	Y	Z		
1/2	15	1.00 (25.5)	1.38 (34.9)	1.81 (46.0)	1.44 (36.5)	0.94 (24.0)	0.276 (7.0)	0.197 (5.0)
3/4	20	1.32 (33.5)	1.69 (42.9)	2.13 (54.0)	1.75 (44.5)	1.26 (32.0)		
1	25	1.50 (38.0)	2.01 (50.8)	2.44 (62.0)	2.07 (52.5)	1.44 (36.5)		
1 1/4	32	1.87 (47.5)	2.50 (63.5)	2.95 (75.0)	2.56 (65.0)	1.81 (46.0)		
1 1/2	40	2.13 (54.0)	2.87 (73.0)	3.31 (84.0)	2.93 (74.5)	2.07 (52.5)		
2	50	2.87 (73.0)	3.62 (92.1)	4.06 (103.0)	3.68 (93.5)	2.81 (71.5)		
2 1/2	65	3.37 (85.5)	4.13 (104.8)	4.57 (116.0)	4.19 (106.5)	3.31 (84.0)		
3	80	4.25 (108.0)	5.00 (127.0)	5.43 (138.0)	5.06 (128.5)	4.19 (106.5)		
3 1/2	90	4.75 (120.6)	5.5 (139.7)	5.94 (151.0)	5.56 (141.3)	4.69 (119.1)		
4	100	5.20 (132.0)	6.20 (157.5)	6.61 (168.0)	6.26 (159.0)	5.14 (130.5)		
5	125	6.31 (160.3)	7.31 (185.7)	7.76 (197.0)	7.37 (187.3)	5.25 (158.8)		
6	150	7.5 (190.5)	8.5 (215.9)	8.94 (227.0)	8.56 (217.5)	7.43 (188.9)		
8	200	9.37 (238.1)	10.63 (269.9)	11.06 (281.0)	10.69 (271.5)	9.31 (236.5)		
10	250	11.3 (285.8)	12.75 (323.8)	13.19 (335.0)	12.81 (325.4)	11.19 (284.2)		
12	300	13.5 (342.9)	15 (381.0)	15.43 (392.0)	15.06 (382.6)	13.43 (341.3)		
14	350	14.75 (374.6)	16.25 (412.8)	16.7 (424.0)	16.31 (414.3)	14.69 (373.1)		
16	400	16.75 (425.4)	18.5 (469.9)	18.94 (481.0)	18.56 (471.5)	16.69 (423.9)		
18	450	19.25 (489.0)	21 (533.4)	21.42 (544.0)	21.06 (535.0)	19.19 (487.4)		
20	500	21 (533.4)	23 (584.2)	23.43 (595.0)	23.06 (585.8)	20.94 (531.8)		
24	600	25.25 (641.4)	27.25 (692.2)	27.68 (703.0)	27.31 (693.7)	25.19 (639.8)		

Dimensions of Ring Joint Faces



Ring Joint Face (RJ)



Nominal Diameter		Dimension in. (mm)											
NPS	DN	Class 150					Class 300 and Class 600						
		Ring Num	d _{min}	P	E	F	R _{max}	Ring Num	d _{min}	P	E	F	R _{max}
1/2	15	R11	2.01 (51.0)	1.34 (34.14)	0.13 (5.56)	0.28 (7.14)	0.03 (0.8)	R13	2.50 (63.5)	1.69 (42.88)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
3/4	20		2.76 (70.0)	2.00 (50.80)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)		3.13 (79.5)	2.38 (60.32)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
1	25	R15	3.25 (82.5)	2.56 (65.07)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R16	3.56 (90.5)	2.69 (68.27)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
1 1/4	32	R17	4.02 (102.0)	3.25 (82.55)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R18	4.25 (108.0)	3.25 (82.55)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
1 1/2	40	R19	4.76 (121.0)	4.00 (101.6)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R20	5.00 (127.0)	4.00 (101.60)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
2	50	R22	5.24 (133.0)	4.50 (114.3)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R23	5.75 (146.0)	4.87 (123.82)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
2 1/2	65	R25	6.06 (154.0)	5.19 (131.78)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R26	6.26 (159.0)	5.19 (131.78)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
3	80	R29	6.73 (171.0)	5.87 (149.22)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R31	6.89 (175.0)	5.87 (149.22)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
3 1/2	90	R33	7.64 (194.0)	6.75 (171.45)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R34	8.27 (210.0)	7.13 (180.98)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
4	100	R36	8.62 (219.0)	7.63 (193.68)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R37	9.49 (241.0)	8.31 (211.12)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
5	125	R40	10.75 (273.0)	9.75 (247.65)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R41	11.89 (302.0)	10.63 (269.88)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
6	150	R43	13.0 (330.0)	12.0 (304.8)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R45	14.01 (356.0)	12.75 (323.85)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
8	200	R48	16.0 (406.0)	15.0 (381.0)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R49	16.26 (413.0)	15.0 (381.0)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
10	250	R52	16.73 (425.0)	15.63 (396.88)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R53	18.0 (457.0)	16.5 (419.1)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
12	300	R56	19.01 (483.0)	17.88 (454.03)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R57	20.0 (508.0)	18.5 (469.9)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
14	350	R59	21.5 (546.0)	20.38 (517.53)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R61	22.64 (575.0)	21.0 (533.4)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
16	400	R64	23.5 (597.0)	22.0 (558.8)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R65	25.0 (635.0)	23.0 (584.2)	0.38 (9.53)	0.53 (13.49)	0.06 (1.5)
18	450	R68	28.0 (711.0)	26.5 (673.1)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R69	29.49 (749.0)	26.5 (673.1)	0.44 (11.13)	0.66 (16.66)	0.06 (1.5)
20	500	R72						R73					
24	600	R76						R77					

7 Flange

Nominal Diameter		Dimension in. (mm)											
NPS	DN	Class 900						Class 1500					
		Ring Num	d _{min}	P	E	F	R _{max}	Ring Num	d _{min}	P	E	F	R _{max}
1/2	15	R12	2.38 (60.5)	1.56 (39.67)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R12	2.38 (60.5)	1.56 (39.67)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
3/4	20	R14	2.62 (66.5)	1.75 (44.45)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R14	2.62 (66.5)	1.75 (44.45)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
1	25	R16	2.81 (71.5)	2.00 (50.80)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R16	2.81 (71.5)	2.00 (50.80)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
1 1/4	32	R18	3.19 (81.0)	2.38 (60.32)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R18	3.19 (81.0)	2.38 (60.32)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
1 1/2	40	R20	3.62 (92.0)	2.69 (68.27)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)	R20	3.62 (92.0)	2.69 (68.27)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)
2	50	R24	4.88 (124.0)	3.75 (95.25)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R24	4.88 (124.0)	3.75 (95.25)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)
2 1/2	65	R27	5.39 (137.0)	4.25 (107.95)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R27	5.39 (137.0)	4.25 (107.95)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)
3	80	R31	6.14 (156.0)	4.87 (123.82)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R35	6.61 (168.0)	5.37 (136.52)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
4	100	R37	7.13 (181.0)	5.87 (149.22)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R39	7.64 (194.0)	6.37 (161.92)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
5	125	R41	8.50 (216.0)	7.13 (180.98)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R44	9.01 (229.0)	7.63 (193.68)	0.32 (7.92)	0.47 (11.91)	0.03 (0.8)
6	150	R45	9.49 (241.0)	8.31 (211.12)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R46	9.76 (248.0)	8.31 (211.14)	0.38 (9.53)	0.53 (13.49)	0.06 (1.5)
8	200	R49	12.13 (308.0)	10.63 (269.88)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R50	12.51 (318.0)	10.63 (269.88)	0.44 (11.13)	0.66 (16.66)	0.06 (1.5)
10	250	R53	14.25 (362.0)	12.75 (323.85)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R54	14.6 (371.0)	12.75 (323.85)	0.44 (11.13)	0.66 (16.66)	0.06 (1.5)
12	300	R57	16.5 (419.0)	15.0 (381.0)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)	R58	17.24 (438.0)	15.0 (381.0)	0.56 (14.27)	0.91 (23.01)	0.06 (1.5)
14	350	R62	18.9 (467.0)	16.5 (419.1)	0.44 (11.13)	0.66 (16.66)	0.06 (1.5)	R63	19.3 (489.0)	16.5 (419.1)	0.63 (15.88)	1.06 (26.97)	0.09 (2.4)
16	400	R66	20.63 (524.0)	18.5 (469.9)	0.44 (11.13)	0.66 (16.66)	0.06 (1.5)	R67	21.5 (546.0)	18.5 (469.9)	0.69 (17.48)	1.19 (30.18)	0.09 (2.4)
18	450	R70	23.39 (594.0)	21.0 (533.4)	0.50 (12.7)	0.78 (19.84)	0.06 (1.5)	R71	24.13 (613.0)	21.0 (533.4)	0.69 (17.48)	1.19 (30.18)	0.09 (2.4)
20	500	R74	25.5 (648.0)	23.0 (584.2)	0.50 (12.7)	0.78 (19.84)	0.06 (1.5)	R75	26.5 (673.0)	23.0 (584.2)	0.69 (17.48)	1.31 (33.32)	0.09 (2.4)
24	600	R78	30.4 (772.0)	27.25 (692.15)	0.63 (15.88)	1.06 (26.97)	0.09 (2.4)	R79	31.3 (794.0)	27.25 (692.15)	0.81 (20.62)	1.44 (36.53)	0.09 (2.4)
NPS	DN	Class 2500											
		Ring Num	d _{min}	P	E	F	R _{max}						
1/2	15	R13	2.56 (65.0)	1.69 (42.88)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)						
3/4	20	R16	2.87 (73.0)	2.00 (50.80)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)						
1	25	R18	3.25 (82.5)	2.38 (60.32)	0.25 (6.35)	0.34 (8.74)	0.03 (0.8)						
1 1/4	32	R21	4.02 (102.0)	2.84 (72.24)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)						
1 1/2	40	R23	4.49 (114.0)	3.25 (82.55)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)						
2	50	R26	5.24 (133.0)	4.00 (101.60)	0.31 (7.92)	0.47 (11.91)	0.03 (0.8)						
2 1/2	65	R28	5.87 (149.0)	4.37 (111.12)	0.37 (9.52)	0.53 (13.49)	0.06 (1.5)						
3	80	R32	6.61 (168.0)	5.00 (127.00)	0.37 (9.52)	0.53 (13.49)	0.06 (1.5)						
4	100	R38	7.99 (203.0)	6.19 (157.18)	0.44 (11.13)	0.66 (16.66)	0.06 (1.5)						
5	125	R42	9.5 (241.0)	7.5 (190.5)	0.5 (12.7)	0.78 (19.84)	0.06 (1.5)						
6	150	R47	10.98 (279.0)	9.0 (228.6)	0.5 (12.7)	0.78 (19.84)	0.06 (1.5)						
8	200	R51	13.4 (340.0)	11.0 (279.4)	0.56 (14.27)	0.91 (23.01)	0.06 (1.5)						
10	250	R55	16.73 (425.0)	13.5 (342.9)	0.69 (17.48)	1.19 (30.18)	0.09 (2.4)						
12	300	R60	19.49 (495.0)	16.0 (406.4)	0.69 (17.48)	1.19 (30.18)	0.09 (2.4)						

Pressure-Temperature Ratings

Pressure-Temperature Ratings for A105 Materials

Temp.	Working Pressure (bar)					
	150	300	600	900	1500	2500
-29 to 38	19.0	49.6	102.1	153.2	255.3	425.5
50	18.4	48.1	100.2	150.4	250.6	417.7
100	16.2	42.2	93.2	139.8	233.0	388.3
150	14.8	38.5	90.2	135.2	225.4	375.6
200	13.7	35.7	87.6	131.4	219.0	365.0
250	12.1	33.4	83.9	125.8	209.7	349.5
300	10.2	39.8	79.6	119.5	199.1	331.8
325	9.3	38.7	77.4	116.1	193.6	322.6
350	8.4	37.6	75.1	112.7	187.8	313.0
375	7.4	36.4	72.7	109.1	181.8	303.1
400	6.5	34.7	69.4	104.2	173.6	289.3
425	5.5	28.8	57.5	86.3	143.8	239.7
450	4.6	23.0	46.0	69.0	115.0	191.7
475	3.7	17.4	34.9	52.3	87.2	145.3
500	2.8	11.8	23.5	35.3	58.8	97.9
538	1.4	5.9	11.8	17.7	29.5	49.2

Pressure-Temperature Ratings for F304/A182 Materials

Temp.	Working Pressure (bar)					
	150	300	600	900	1500	2500
-29 to 38	19.0	49.6	99.3	148.9	248.2	413.7
50	18.3	47.8	95.6	143.5	239.1	398.5
100	15.7	40.9	81.7	122.6	204.3	340.4
150	14.2	37.0	74.0	111.0	185.0	308.4
200	13.2	34.5	69.0	103.4	172.4	287.3
250	12.1	32.5	65.0	97.5	162.4	270.7
300	10.2	30.9	61.8	92.7	154.6	257.6
325	9.3	30.2	60.4	90.7	151.1	251.9
350	8.4	29.6	59.3	88.9	148.1	246.9
375	7.4	29.0	58.1	87.1	145.2	241.9
400	6.5	28.4	56.9	85.3	142.2	237.0
425	5.5	28.0	56.0	84.0	140.0	233.3
450	4.6	27.4	54.8	82.2	137.0	228.4
475	3.7	26.9	53.9	80.8	134.7	224.5
500	2.8	26.5	53.0	79.5	132.4	220.7
538	1.4	24.4	48.9	73.3	122.1	203.6
550	-	23.6	47.1	70.7	117.8	196.3
575	-	20.8	41.7	62.5	104.2	173.7
600	-	16.9	33.8	50.6	84.4	140.7
625	-	13.8	27.6	41.4	68.9	114.9
650	-	11.3	22.5	33.8	56.3	93.8
675	-	9.3	18.7	28.0	46.7	77.9
700	-	8.0	16.1	24.1	40.1	66.9
725	-	6.8	13.5	20.3	33.8	56.3
750	-	5.8	11.6	17.3	28.9	48.1
775	-	4.6	9.0	13.7	22.8	38.0
800	-	3.5	7.0	10.5	17.4	29.2
816	-	2.8	5.9	8.6	14.1	23.8

9 Flange

Pressure-Temperature Ratings for F316/A182 Materials

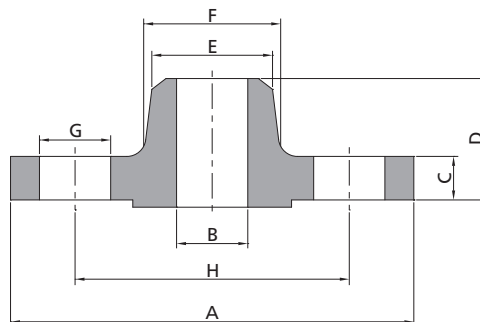
Temp.	Working Pressure (bar)					
°C	150	300	600	900	1500	2500
-29 to 38	19.0	49.6	99.3	148.9	248.2	413.7
50	18.4	48.1	96.2	144.3	240.6	400.9
100	16.2	42.2	84.4	126.6	211.0	351.6
150	14.8	38.5	77.0	115.5	192.5	320.8
200	13.7	35.7	71.3	107.0	178.3	297.2
250	12.1	33.4	66.8	100.1	166.9	278.1
300	10.2	31.6	63.2	94.9	158.1	263.5
325	9.3	30.9	61.8	92.7	154.4	257.4
350	8.4	30.3	60.7	91.0	151.6	252.7
375	7.4	29.9	59.8	89.6	149.4	249.0
400	6.5	29.4	58.9	88.3	147.2	245.3
425	5.5	29.1	58.3	87.4	145.7	242.9
450	4.6	28.8	57.7	86.5	144.2	240.4
475	3.7	28.7	57.3	86.0	143.4	238.9
500	2.8	28.2	56.5	84.7	140.9	235.0
538	1.4	25.2	50.0	75.2	125.5	208.9
550	-	25.0	49.8	74.8	124.9	208.0
575	-	24.0	47.9	71.8	119.7	199.5
600	-	19.9	39.8	59.7	99.5	165.9
625	-	15.8	31.6	47.4	79.1	131.8
650	-	12.7	25.3	38.0	63.3	105.5
675	-	10.3	20.6	31.0	51.6	86.0
700	-	8.4	16.8	25.1	41.9	69.8
725	-	7.0	14.0	21.0	34.9	58.2
750	-	5.9	11.7	17.6	29.3	48.9
775	-	4.6	9.0	13.7	22.8	38.0
800	-	3.5	7.0	10.5	17.4	29.2
816	-	2.8	5.9	8.6	14.1	23.8

Pressure-Temperature Ratings for F316L, F304L/A182 Materials

Temp.	Working Pressure (bar)					
°C	150	300	600	900	1500	2500
-29 to 38	15.9	41.4	82.7	124.1	206.8	344.7
50	15.3	40.0	80.0	120.1	200.1	333.5
100	13.3	34.8	69.6	104.4	173.9	289.9
150	12.0	31.4	62.8	94.2	157.0	261.6
200	11.2	29.2	58.3	87.5	145.8	243.0
250	10.5	27.5	54.9	82.4	137.3	228.9
300	10.0	26.1	52.1	78.2	130.3	217.2
325	9.3	25.5	51.0	76.4	127.4	212.3
350	8.4	25.1	50.1	75.2	125.4	208.9
375	7.4	24.8	49.5	74.3	123.8	206.3
400	6.5	24.3	48.6	72.9	121.5	202.5
425	5.5	23.9	47.7	71.6	119.3	198.8
450	4.6	23.4	46.8	70.2	117.1	195.1

Construction and Dimension

Weld Neck Flange



Class 150 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	3.50 (90)	0.62 (15.8)	0.38 (9.6)	1.81 (46)	0.84 (21.3)	1.19 (30)	0.62 (15.7)	2.38 (60.3)	4
3/4	3.88 (100)	0.82 (20.9)	0.44 (11.2)	2.00 (51)	1.05 (26.7)	1.50 (38)	0.62 (15.7)	2.75 (69.9)	4
1	4.25 (110)	1.05 (26.6)	0.50 (12.7)	2.12 (54)	1.32 (33.4)	1.94 (49)	0.62 (15.7)	3.12 (79.4)	4
1 1/4	4.82 (115)	1.38 (35.1)	0.56 (14.3)	2.19 (56)	1.66 (42.2)	2.31 (59)	0.62 (15.7)	3.50 (88.9)	4
1 1/2	5.00 (125)	1.61 (40.9)	0.62 (15.9)	2.38 (60)	1.90 (48.3)	2.56 (65)	0.62 (15.7)	3.88 (98.4)	4
2	6.00 (150)	2.07 (52.5)	0.69 (17.5)	2.44 (62)	2.38 (60.3)	3.06 (78)	0.75 (19.1)	4.75 (120.7)	4
2 1/2	7.00 (180)	2.47 (62.7)	0.81 (20.7)	2.69 (68)	2.88 (73.0)	3.56 (90)	0.75 (19.1)	5.50 (139.7)	4
3	7.50 (190)	3.07 (77.9)	0.88 (22.3)	2.69 (68)	3.50 (88.9)	4.25 (108)	0.75 (19.1)	6.00 (152.4)	4
3 1/2	8.50 (215)	3.55 (90.1)	0.88 (22.3)	2.75 (70)	4.00 (101.6)	4.81 (122)	0.75 (19.1)	7.00 (177.8)	8
4	9.00 (230)	4.03 (102.3)	0.88 (22.3)	2.94 (75)	4.50 (114.3)	5.31 (135)	0.75 (19.1)	7.50 (190.5)	8
5	10.04 (255)	5.05 (128.2)	0.88 (22.3)	3.43 (87)	5.56 (141.3)	6.46 (164)	0.88 (22.2)	8.50 (215.9)	8
6	11.02 (280)	6.07 (154.1)	0.94 (23.9)	3.43 (87)	6.63 (168.3)	7.6 (192)	0.88 (22.2)	9.50 (241.3)	8
8	13.6 (345)	8.0 (202.7)	1.06 (27.0)	3.94 (100)	8.63 (219.1)	9.7 (246)	0.88 (22.2)	11.75 (298.5)	8
10	15.94 (405)	10.02 (254.6)	1.13 (28.6)	3.94 (100)	10.75 (273.0)	12.0 (305)	1.0 (25.4)	14.25 (362.0)	12
12	19.1 (485)	12.0 (304.8)	1.19 (30.2)	4.45 (113)	12.75 (323.8)	14.37 (365)	1.0 (25.4)	17.0 (431.8)	12
14	21.1 (535)	To be specified by Purchaser	1.31 (33.4)	4.9 (125)	14.0 (355.6)	15.75 (400)	1.13 (28.58)	18.75 (476.3)	12
16	23.4 (595)		1.38 (35.0)	4.9 (125)	16.0 (406.4)	18.0 (457)	1.13 (28.58)	21.25 (539.8)	16
18	25.0 (635)		1.50 (38.1)	5.4 (138)	18.0 (457.0)	19.88 (505)	1.25 (31.75)	22.75 (577.9)	16
20	27.6 (700)		1.63 (41.3)	5.63 (143)	20.0 (508.0)	22.0 (559)	1.25 (31.75)	25.0 (635.0)	20
24	32.1 (815)		1.81 (46.1)	5.9 (151)	24.0 (610.0)	26.1 (663)	1.375 (34.93)	29.5 (749.3)	20

11 Flange

Class 300 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	3.75 (95)	0.62 (15.8)	0.50 (12.7)	2.00 (51)	0.84 (21.3)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)	0.82 (20.9)	0.56 (14.3)	2.19 (56)	1.05 (26.7)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)	1.05 (26.6)	0.62 (15.9)	2.38 (60)	1.32 (33.4)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)	1.38 (35.1)	0.69 (17.5)	2.50 (64)	1.66 (42.2)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)	1.61 (40.9)	0.75 (19.1)	2.62 (67)	1.90 (48.3)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)	2.07 (52.5)	0.81 (20.7)	2.75 (68)	2.38 (60.3)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)	2.47 (62.7)	0.94 (22.3)	3.00 (75)	2.88 (73.0)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)	3.07 (77.9)	1.06 (25.4)	3.12 (78)	3.50 (88.9)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)	3.55 (90.1)	1.12 (28.6)	3.19 (79)	4.00 (101.6)	5.25 (133)	0.88 (22.3)	7.25 (184.2)	8
4	10.0 (255)	4.03 (102.3)	1.19 (30.2)	3.38 (84)	4.50 (114.3)	5.75 (146)	0.88 (22.3)	7.88 (200.0)	8
5	11.02 (280)	5.05 (128.2)	1.31 (33.4)	3.82 (97)	5.56 (141.3)	7.0 (178)	0.88 (22.3)	9.25 (235)	8
6	12.6 (320)	6.07 (154.1)	1.38 (35.0)	3.82 (97)	6.63 (168.3)	8.11 (206)	0.88 (22.3)	10.63 (269.9)	12
8	14.96 (380)	8.0 (202.7)	1.56 (39.7)	4.33 (110)	8.63 (219.1)	10.24 (260)	1.0 (25.4)	13.0 (330.2)	12
10	17.5 (445)	10.02 (254.6)	1.81 (46.1)	4.57 (116)	10.75 (273.0)	12.64 (321)	1.13 (28.6)	15.25 (387.4)	16
12	20.47 (520)	12.0 (304.8)	1.94 (49.3)	5.08 (129)	12.75 (323.8)	14.76 (375)	1.25 (31.8)	17.75 (450.8)	16
14	23.03 (585)	To be specified by Purchaser	2.06 (52.4)	5.56 (141)	14.0 (355.6)	16.73 (425)	1.25 (31.8)	20.25 (514.4)	20
16	25.6 (650)		2.19 (55.6)	5.67 (144)	16.0 (406.4)	19.0 (483)	1.38 (34.9)	22.5 (571.5)	20
18	27.95 (710)		2.31 (58.8)	6.18 (157)	18.0 (457.0)	20.98 (533)	1.38 (34.9)	24.75 (628.6)	24
20	30.5 (775)		2.44 (62.0)	6.30 (160)	20.0 (508.0)	23.11 (587)	1.38 (34.9)	27.0 (685.8)	24
24	36.02 (915)		2.69 (68.3)	6.57 (167)	24.0 (610.0)	27.64 (702)	1.63 (41.3)	32.0 (812.8)	24

Class 600 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	3.75 (95)	To be specified by Purchaser	0.56 (14.3)	2.06 (52)	0.84 (21.3)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)		0.62 (15.9)	2.25 (57)	1.05 (26.7)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)		0.69 (17.5)	2.44 (62)	1.32 (33.4)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)		0.81 (20.7)	2.62 (67)	1.66 (42.2)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)		0.88 (22.3)	2.75 (70)	1.90 (48.3)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)		1.00 (25.4)	2.88 (73)	2.38 (60.3)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)		1.12 (28.6)	3.12 (79)	2.88 (73.0)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)		1.25 (31.8)	3.25 (83)	3.50 (88.9)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)		1.38 (35.0)	3.38 (86)	4.00 (101.6)	5.25 (133)	1.00 (25.4)	7.25 (184.2)	8
4	10.75 (275)		1.50 (38.1)	4.00 (102)	4.50 (114.3)	6.00 (152)	1.00 (25.4)	8.50 (215.9)	8
5	13.0 (330)		1.75 (44.5)	4.49 (114)	5.56 (141.3)	7.44 (189)	1.13 (28.6)	10.5 (266.7)	8
6	13.98 (355)		1.88 (47.7)	4.6 (117)	6.63 (168.3)	8.74 (222)	1.13 (28.6)	11.5 (292.1)	12
8	16.54 (420)		2.19 (55.6)	5.24 (133)	8.63 (219.1)	10.75 (273)	1.25 (31.75)	13.75 (349.2)	12
10	20.08 (510)		2.5 (63.5)	6.0 (152)	10.75 (273.0)	13.5 (343)	1.38 (34.9)	17.0 (431.8)	16
12	22.05 (560)		2.63 (66.7)	6.14 (156)	12.75 (323.8)	15.75 (400)	1.38 (34.9)	19.25 (489)	20
14	23.8 (605)		2.75 (69.9)	6.50 (165)	14.0 (355.6)	17.0 (432)	1.5 (38.1)	20.75 (527)	20
16	26.97 (685)		3.0 (76.2)	7.0 (178)	16.0 (406.4)	19.49 (495)	1.63 (41.3)	23.75 (603.2)	20
18	29.33 (745)		3.25 (82.6)	7.24 (184)	18.0 (457.0)	21.5 (546)	1.75 (44.5)	25.75 (654)	20
20	32.08 (815)		3.5 (88.9)	7.48 (190)	20.0 (508.0)	24.0 (610)	1.75 (44.5)	28.5 (723.9)	24
24	37.0 (940)		4.0 (101.6)	8.0 (203)	24.0 (610.0)	28.3 (718)	2.0 (50.8)	33.0 (838.2)	24

13 Flange

Class 900 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	4.75 (120)	To be specified by Purchaser	0.88 (22.3)	2.38 (60)	0.84 (21.3)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)		1.00 (25.4)	2.75 (70)	1.05 (26.7)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)		1.12 (28.6)	2.88 (73)	1.32 (33.4)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)		1.12 (28.6)	2.88 (73)	1.66 (42.2)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)		1.25 (31.8)	3.25 (83)	1.90 (48.3)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)		1.50 (38.1)	4.00 (102)	2.38 (60.3)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)		1.62 (41.3)	4.12 (105)	2.88 (73.0)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	8
3	9.50 (240)		1.50 (38.1)	4.00 (102)	3.50 (88.9)	5.00 (127)	1.00 (25.4)	7.50 (190.5)	8
4	11.5 (290)		1.75 (44.5)	4.50 (114)	4.50 (114.3)	6.25 (159)	1.25 (31.7)	9.25 (235.0)	8
5	17.8 (350)		2.0 (50.8)	5.0 (127)	5.56 (141.3)	7.5 (190)	1.4 (35.5)	11.0 (279.4)	8
6	15.0 (380)		2.19 (55.6)	5.5 (140)	6.63 (168.3)	9.3 (235)	1.25 (31.7)	12.5 (317.5)	12
8	18.5 (470)		2.5 (63.5)	6.4 (162)	8.63 (219.1)	11.7 (298)	1.5 (38.1)	15.5 (393.7)	12
10	21.5 (545)		2.75 (69.9)	7.2 (184)	10.75 (273.0)	14.5 (368)	1.5 (38.1)	18.5 (469.9)	16
12	24.0 (610)		3.13 (79.4)	7.87 (200)	12.75 (323.8)	16.5 (419)	1.5 (38.1)	21.0 (533.4)	20
14	25.2 (640)		3.38 (85.8)	8.4 (213)	14.0 (355.6)	17.8 (451)	1.63 (41.3)	22.0 (558.8)	20
16	27.8 (705)		3.5 (88.9)	8.5 (216)	16.0 (406.4)	20.0 (508)	1.75 (44.5)	24.3 (616.0)	20
18	30.9 (785)		4.0 (101.6)	9.0 (229)	18.0 (457.0)	22.2 (565)	2.00 (50.8)	27.0 (685.8)	20
20	33.7 (855)		4.3 (108.0)	9.8 (248)	20.0 (508.0)	24.5 (622)	1.13 (28.6)	29.5 (749.3)	20
24	40.9 (1040)		5.50 (139.7)	11.5 (292)	24.0 (610.0)	29.5 (749)	1.63 (41.3)	35.5 (901.7)	20

Class 1500 Flange

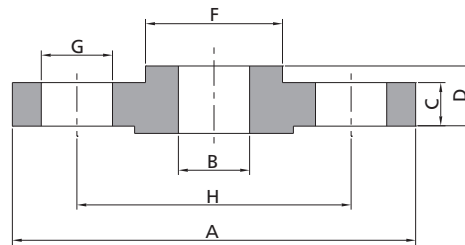
Nominal Pipe Size	Dimension in.(mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	4.75 (120)	To be specified by Purchaser	0.88 (22.3)	2.38 (60)	0.84 (21.3)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)		1.00 (25.4)	2.75 (70)	1.05 (26.7)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)		1.12 (28.6)	2.88 (73)	1.32 (33.4)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)		1.12 (28.6)	2.88 (73)	1.66 (42.2)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)		1.25 (31.8)	3.25 (83)	1.90 (48.3)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)		1.50 (38.1)	4.00 (102)	2.38 (60.3)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)		1.62 (41.3)	4.12 (105)	2.88 (73.0)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	8
3	10.50 (265)		1.88 (47.7)	4.62 (117)	3.50 (88.9)	5.25 (133)	1.25 (31.7)	8.00 (203.2)	8
4	12.25 (310)		2.12 (54.0)	4.88 (124)	4.50 (114.3)	6.38 (162)	1.38 (35.0)	9.50 (241.3)	8
5	14.8 (375)		2.88 (73.1)	6.14 (156)	5.56 (141.3)	7.76 (197)	1.63 (41.3)	11.5 (292.1)	8
6	15.6 (395)		3.3 (82.6)	6.73 (171)	6.63 (168.3)	9.01 (229)	1.5 (38.1)	12.5 (317.5)	12
8	19.1 (485)		3.6 (92.1)	8.39 (213)	8.63 (219.1)	11.5 (292)	1.75 (44.5)	15.5 (393.7)	12
10	23.0 (585)		4.25 (108)	10.0 (254)	10.75 (273.0)	14.5 (368)	2.00 (50.8)	19.0 (482.6)	12
12	26.6 (675)		4.88 (123.9)	11.14 (283)	12.75 (323.8)	17.76 (451)	2.13 (54.1)	22.5 (571.5)	16
14	29.5 (750)		5.25 (133.4)	11.73 (298)	14.0 (355.6)	19.5 (495)	2.4 (61.0)	25.0 (635.0)	16
16	32.5 (825)		5.75 (146.1)	12.24 (311)	16.0 (406.4)	21.73 (552)	2.63 (66.8)	27.75 (704.8)	16
18	36.0 (915)		6.38 (162.0)	12.87 (327)	18.0 (457.0)	23.5 (597)	2.88 (73.2)	30.5 (774.7)	16
20	38.8 (985)		7.0 (177.8)	14.0 (356)	20.0 (508.0)	25.24 (641)	3.13 (79.5)	32.75 (831.8)	16
24	46.0 (1170)		8.0 (203.2)	15.98 (406)	24.0 (610.0)	30.0 (762)	3.63 (92.1)	39.0 (990.6)	16

Class 2500 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	5.25 (135)	To be specified by Purchaser	1.19 (30.2)	2.88 (73)	0.84 (21.3)	1.69 (43)	0.88 (22.3)	3.50 (88.9)	4
3/4	5.50 (140)		1.25 (31.8)	3.12 (79)	1.05 (26.7)	2.00 (51)	0.88 (22.3)	3.75 (95.2)	4
1	6.25 (160)		1.38 (35.0)	3.50 (89)	1.32 (33.4)	2.25 (57)	1.00 (25.4)	4.25 (108.0)	4
1 1/4	7.25 (185)		1.50 (38.1)	3.75 (95)	1.66 (42.2)	2.88 (73)	1.12 (28.4)	5.12 (130.2)	4
1 1/2	8.00 (205)		1.75 (44.5)	4.38 (111)	1.90 (48.3)	3.12 (79)	1.25 (31.7)	5.75 (146.0)	4
2	9.25 (235)		2.00 (50.9)	5.00 (127)	2.38 (60.3)	3.75 (95)	1.12 (28.4)	6.75 (171.4)	8
2 1/2	10.5 (265)		2.25 (57.2)	5.62 (143)	2.88 (73.0)	4.50 (114)	1.25 (31.7)	7.75 (196.8)	8
3	12.0 (305)		2.62 (66.7)	6.62 (168)	3.50 (88.9)	5.25 (133)	1.38 (35.0)	9.00 (228.6)	8
4	14.0 (355)		3.00 (76.2)	7.50 (190)	4.50 (114.3)	6.50 (165)	1.62 (41.1)	10.75 (273.0)	8
5	16.54 (420)		3.6 (92.1)	9.01 (229)	5.56 (141.3)	8.0 (203)	1.88 (47.6)	12.75 (323.8)	8
6	19.1 (485)		4.25 (108.0)	10.75 (273)	6.63 (168.3)	9.25 (235)	2.13 (54.0)	14.5 (368.3)	8
8	21.65 (550)		5.0 (127.0)	12.5 (318)	8.63 (219.1)	12.0 (305)	2.13 (54.0)	17.25 (438.2)	12
10	26.57 (675)	6.5 (165.1)	16.5 (419)	10.75 (273.0)	14.76 (375)	2.63 (66.7)	21.3 (539.8)	12	
12	29.9 (760)	7.25 (184.2)	18.27 (464)	12.75 (323.8)	17.36 (441)	2.88 (73.0)	24.37 (619.1)	12	

15 Flange

Slip On Flange



Class 150 Flange

Nominal Pipe Size	Dimension in. (mm)							Number of Holes
	A	B	C	D	F	G	H	
1/2	3.50 (90)	0.88 (22.2)	0.38 (9.6)	0.56 (14)	1.19 (30)	0.62 (15.7)	2.38 (60.3)	4
3/4	3.88 (100)	1.09 (27.7)	0.44 (11.2)	0.56 (14)	1.50 (38)	0.62 (15.7)	2.75 (69.9)	4
1	4.25 (110)	1.36 (34.5)	0.50 (12.7)	0.62 (16)	1.94 (49)	0.62 (15.7)	3.12 (79.4)	4
1 1/4	4.82 (115)	1.70 (43.2)	0.56 (14.3)	0.75 (19)	2.31 (59)	0.62 (15.7)	3.50 (88.9)	4
1 1/2	5.00 (125)	1.95 (49.5)	0.62 (15.9)	0.81 (21)	2.56 (65)	0.62 (15.7)	3.88 (98.4)	4
2	6.00 (150)	2.44 (61.9)	0.69 (17.5)	0.94 (24)	3.06 (78)	0.75 (19.1)	4.75 (120.7)	4
2 1/2	7.00 (180)	2.94 (74.6)	0.81 (20.7)	1.06 (27)	3.56 (90)	0.75 (19.1)	5.50 (139.7)	4
3	7.50 (190)	3.57 (90.7)	0.88 (22.3)	1.12 (29)	4.25 (108)	0.75 (19.1)	6.00 (152.4)	4
3 1/2	8.50 (215)	4.07 (103.4)	0.88 (22.3)	1.19 (30)	4.81 (122)	0.75 (19.1)	7.00 (177.8)	8
4	9.00 (230)	4.57 (116.1)	0.88 (22.3)	1.25 (32)	5.31 (135)	0.75 (19.1)	7.50 (190.5)	8
5	10.04 (255)	5.67 (143.8)	0.88 (22.3)	1.38 (35.0)	6.46 (164)	0.88 (22.2)	8.50 (215.9)	8
6	11.02 (280)	6.72 (170.7)	0.94 (23.9)	1.50 (38.0)	7.6 (192)	0.88 (22.2)	9.50 (241.3)	8
8	13.6 (345)	8.72 (221.5)	1.06 (27.0)	1.70 (43.0)	9.7 (246)	0.88 (22.2)	11.75 (298.5)	8
10	15.94 (405)	10.87 (276.2)	1.13 (28.6)	1.89 (48.0)	12.0 (305)	1.0 (25.4)	14.25 (362.0)	12
12	19.1 (485)	12.87 (327.0)	1.19 (30.2)	2.13 (54.0)	14.37 (365)	1.0 (25.4)	17.0 (431.8)	12
14	21.1 (535)	14.14 (359.2)	1.31 (33.4)	2.20 (56.0)	15.75 (400)	1.13 (28.58)	18.75 (476.3)	12
16	23.4 (595)	16.2 (410.5)	1.38 (35.0)	2.44 (62.0)	18.0 (457)	1.13 (28.58)	21.25 (539.8)	16
18	25.0 (635)	18.2 (461.8)	1.50 (38.1)	2.64 (67.0)	19.88 (505)	1.25 (31.75)	22.75 (577.9)	16
20	27.6 (700)	20.2 (513.1)	1.63 (41.3)	2.80 (71.0)	22.0 (559)	1.25 (31.75)	25.0 (635.0)	20
24	32.1 (815)	24.25 (616.0)	1.81 (46.1)	3.19 (81.0)	26.1 (663)	1.375 (34.93)	29.5 (749.3)	20

Class 300 Flange

Nominal Pipe Size	Dimension in. (mm)							Number of Holes
	A	B	C	D	F	G	H	
1/2	3.75 (95)	0.88 (22.2)	0.50 (12.7)	0.81 (21)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)	1.09 (27.7)	0.56 (14.3)	0.94 (24)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)	1.36 (34.5)	0.62 (15.9)	1.00 (25)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)	1.70 (43.2)	0.69 (17.5)	1.00 (25)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)	1.95 (49.5)	0.75 (19.1)	1.12 (29)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)	2.44 (61.9)	0.81 (20.7)	1.31 (32)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)	2.94 (74.6)	0.94 (22.3)	1.50 (37)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)	3.57 (90.7)	1.06 (25.4)	1.69 (41)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)	4.07 (103.4)	1.12 (28.6)	1.75 (43)	5.25 (133)	0.88 (22.3)	7.25 (184.2)	8
4	10.0 (255)	4.57 (116.1)	1.19 (30.2)	1.88 (46)	5.75 (146)	0.88 (22.3)	7.88 (200.0)	8
5	11.02 (280)	5.67 (143.8)	1.31 (33.4)	1.93 (49.0)	7.0 (178)	0.88 (22.3)	9.25 (235)	8
6	12.6 (320)	6.72 (170.7)	1.38 (35.0)	2.0 (51.0)	8.11 (206)	0.88 (22.3)	10.63 (269.9)	12
8	14.96 (380)	8.72 (221.5)	1.56 (39.7)	2.36 (60.0)	10.24 (260)	1.0 (25.4)	13.0 (330.2)	12
10	17.5 (445)	10.87 (276.2)	1.81 (46.1)	2.56 (65.0)	12.64 (321)	1.13 (28.6)	15.25 (387.4)	16
12	20.47 (520)	12.87 (327.0)	1.94 (49.3)	2.80 (71.0)	14.76 (375)	1.25 (31.8)	17.75 (450.8)	16
14	23.03 (585)	14.14 (359.2)	2.06 (52.4)	2.95 (75.0)	16.73 (425)	1.25 (31.8)	20.25 (514.4)	20
16	25.6 (650)	16.2 (410.5)	2.19 (55.6)	3.19 (81.0)	19.0 (483)	1.38 (34.9)	22.5 (571.5)	20
18	27.95 (710)	18.2 (461.8)	2.31 (58.8)	3.43 (87.0)	20.98 (533)	1.38 (34.9)	24.75 (628.6)	24
20	30.5 (775)	20.2 (513.1)	2.44 (62.0)	3.70 (94.0)	23.11 (587)	1.38 (34.9)	27.0 (685.8)	24
24	36.02 (915)	24.25 (616.0)	2.69 (68.3)	4.13 (105.0)	27.64 (702)	1.63 (41.3)	32.0 (812.8)	24

17 Flange

Class 600 Flange

Nominal Pipe Size	Dimension in. (mm)							Number of Holes
	A	B	C	D	F	G	H	
1/2	3.75 (95)	0.88 (22.2)	0.56 (14.3)	0.88 (22)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)	1.09 (27.7)	0.62 (15.9)	1.00 (25)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)	1.36 (34.5)	0.69 (17.5)	1.06 (27)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)	1.70 (43.2)	0.81 (20.7)	1.12 (29)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)	1.95 (49.5)	0.88 (22.3)	1.25 (32)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)	2.44 (61.9)	1.00 (25.4)	1.44 (37)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)	2.94 (74.6)	1.12 (28.6)	1.62 (41)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)	3.57 (90.7)	1.25 (31.8)	1.81 (46)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)	4.07 (103.4)	1.38 (35.0)	1.94 (49)	5.25 (133)	1.00 (25.4)	7.25 (184.2)	8
4	10.75 (275)	4.57 (116.1)	1.50 (38.1)	2.12 (54)	6.00 (152)	1.00 (25.4)	8.50 (215.9)	8
5	13.0 (330)	5.67 (143.8)	1.75 (44.5)	2.36 (60)	7.44 (189)	1.13 (28.6)	10.5 (266.7)	8
6	13.98 (355)	6.72 (170.7)	1.88 (47.7)	2.64 (67)	8.74 (222)	1.13 (28.6)	11.5 (292.1)	12
8	16.54 (420)	8.72 (221.5)	2.19 (55.6)	3.00 (76)	10.75 (273)	1.25 (31.75)	13.75 (349.2)	12
10	20.08 (510)	10.87 (276.2)	2.5 (63.5)	3.39 (86)	13.5 (343)	1.38 (34.9)	17.0 (431.8)	16
12	22.05 (560)	12.87 (327.0)	2.63 (66.7)	3.62 (92)	15.75 (400)	1.38 (34.9)	19.25 (489)	20
14	23.8 (605)	14.14 (359.2)	2.75 (69.9)	3.70 (94)	17.0 (432)	1.5 (38.1)	20.75 (527)	20
16	26.97 (685)	16.2 (410.5)	3.0 (76.2)	4.17 (106)	19.49 (495)	1.63 (41.3)	23.75 (603.2)	20
18	29.33 (745)	18.2 (461.8)	3.25 (82.6)	4.61 (117)	21.5 (546)	1.75 (44.5)	25.75 (654)	20
20	32.08 (815)	20.2 (513.1)	3.5 (88.9)	5.0 (127)	24.0 (610)	1.75 (44.5)	28.5 (723.9)	24
24	37.0 (940)	24.25 (616.0)	4.0 (101.6)	5.51 (140)	28.3 (718)	2.0 (50.8)	33.0 (838.2)	24

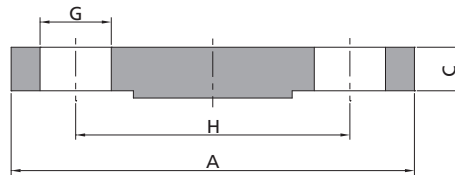
Class 900 Flange

Nominal Pipe Size	Dimension in. (mm)							Number of Holes
	A	B	C	D	F	G	H	
1/2	4.75 (120)	0.88 (22.2)	0.88 (22.3)	1.25 (32)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)	1.09 (27.7)	1.00 (25.4)	1.38 (35)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)	1.36 (34.5)	1.12 (28.6)	1.62 (41)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)	1.70 (43.2)	1.12 (28.6)	1.62 (41)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)	1.95 (49.5)	1.25 (31.8)	1.75 (44)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)	2.44 (61.9)	1.50 (38.1)	2.25 (57)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)	2.94 (74.6)	1.62 (41.3)	2.50 (64)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	8
3	9.50 (240)	3.57 (90.7)	1.50 (38.1)	2.12 (54)	5.00 (127)	1.00 (25.4)	7.50 (190.5)	8
4	11.5 (290)	4.57 (116.1)	1.75 (44.5)	2.75 (70)	6.25 (159)	1.25 (31.7)	9.25 (235.0)	8
5	17.8 (350)	5.67 (143.8)	2.0 (50.8)	3.11 (79.0)	7.5 (190)	1.4 (35.5)	11.0 (279.4)	8
6	15.0 (380)	6.72 (170.7)	2.19 (55.6)	3.39 (86.0)	9.3 (235)	1.25 (31.7)	12.5 (317.5)	12
8	18.5 (470)	8.72 (221.5)	2.5 (63.5)	4.49 (114.0)	11.7 (298)	1.5 (38.1)	15.5 (393.7)	12
10	21.5 (545)	10.87 (276.2)	2.75 (69.9)	5.0 (127.0)	14.5 (368)	1.5 (38.1)	18.5 (469.9)	16
12	24.0 (610)	12.87 (327.0)	3.13 (79.4)	5.63 (143.0)	16.5 (419)	1.5 (38.1)	21.0 (533.4)	20
14	25.2 (640)	14.14 (359.2)	3.38 (85.8)	6.14 (156.0)	17.8 (451)	1.63 (41.3)	22.0 (558.8)	20
16	27.8 (705)	16.2 (410.5)	3.5 (88.9)	6.50 (165.0)	20.0 (508)	1.75 (44.5)	24.3 (616.0)	20
18	30.9 (785)	18.2 (461.8)	4.0 (101.6)	7.48 (190.0)	22.2 (565)	2.00 (50.8)	27.0 (685.8)	20
20	33.7 (855)	20.2 (513.1)	4.3 (108.0)	8.27 (210.0)	24.5 (622)	1.13 (28.6)	29.5 (749.3)	20
24	40.9 (1040)	24.25 (616.0)	5.50 (139.7)	10.5 (267.0)	29.5 (749)	1.63 (41.3)	35.5 (901.7)	20

Class 1500 Flange

Nominal Pipe Size	Dimension in. (mm)							Number of Holes
	A	B	C	D	F	G	H	
1/2	4.75 (120)	0.88 (22.2)	0.88 (22.3)	1.25 (32)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)	1.09 (27.7)	1.00 (25.4)	1.38 (35)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)	1.36 (34.5)	1.12 (28.6)	1.62 (41)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)	1.70 (43.2)	1.12 (28.6)	1.62 (41)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)	1.95 (49.5)	1.25 (31.8)	1.75 (44)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)	2.44 (61.9)	1.50 (38.1)	2.25 (57)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)	2.94 (74.6)	1.62 (41.3)	2.50 (64)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	8

Blind Flange



Class 150 Flange

Nominal Pipe Size	Dimension in. (mm)				Number of Holes
	A	C	G	H	
1/2	3.50 (90)	0.38 (9.6)	0.62 (15.7)	2.38 (60.3)	4
3/4	3.88 (100)	0.44 (11.2)	0.62 (15.7)	2.75 (69.9)	4
1	4.25 (110)	0.50 (12.7)	0.62 (15.7)	3.12 (79.4)	4
1 1/4	4.82 (115)	0.56 (14.3)	0.62 (15.7)	3.50 (88.9)	4
1 1/2	5.00 (125)	0.62 (15.9)	0.62 (15.7)	3.88 (98.4)	4
2	6.00 (150)	0.69 (17.5)	0.75 (19.1)	4.75 (120.7)	4
2 1/2	7.00 (180)	0.81 (20.7)	0.75 (19.1)	5.50 (139.7)	4
3	7.50 (190)	0.88 (22.3)	0.75 (19.1)	6.00 (152.4)	4
3 1/2	8.50 (215)	0.88 (22.3)	0.75 (19.1)	7.00 (177.8)	8
4	9.00 (230)	0.88 (22.3)	0.75 (19.1)	7.50 (190.5)	8
5	10.04 (255)	0.88 (22.3)	0.88 (22.2)	8.50 (215.9)	8
6	11.02 (280)	0.94 (23.9)	0.88 (22.2)	9.50 (241.3)	8
8	13.6 (345)	1.06 (27.0)	0.88 (22.2)	11.75 (298.5)	8
10	15.94 (405)	1.13 (28.6)	1.0 (25.4)	14.25 (362.0)	12
12	19.1 (485)	1.19 (30.2)	1.0 (25.4)	17.0 (431.8)	12
14	21.1 (535)	1.31 (33.4)	1.13 (28.58)	18.75 (476.3)	12
16	23.4 (595)	1.38 (35.0)	1.13 (28.58)	21.25 (539.8)	16
18	25.0 (635)	1.50 (38.1)	1.25 (31.75)	22.75 (577.9)	16
20	27.6 (700)	1.63 (41.3)	1.25 (31.75)	25.0 (635.0)	20
24	32.1 (815)	1.81 (46.1)	1.375 (34.93)	29.5 (749.3)	20

Class 300 Flange

Nominal Pipe Size	Dimension in. (mm)				Number of Holes
	A	C	G	H	
1/2	3.75 (95)	0.50 (12.7)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)	0.56 (14.3)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)	0.62 (15.9)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)	0.69 (17.5)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)	0.75 (19.1)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)	0.81 (20.7)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)	0.94 (22.3)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)	1.06 (25.4)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)	1.12 (28.6)	0.88 (22.3)	7.25 (184.2)	8
4	10.0 (255)	1.19 (30.2)	0.88 (22.3)	7.88 (200.0)	8
5	11.02 (280)	1.31 (33.4)	0.88 (22.3)	9.25 (235)	8
6	12.6 (320)	1.38 (35.0)	0.88 (22.3)	10.63 (269.9)	12
8	14.96 (380)	1.56 (39.7)	1.0 (25.4)	13.0 (330.2)	12
10	17.5 (445)	1.81 (46.1)	1.13 (28.6)	15.25 (387.4)	16
12	20.47 (520)	1.94 (49.3)	1.25 (31.8)	17.75 (450.8)	16
14	23.03 (585)	2.06 (52.4)	1.25 (31.8)	20.25 (514.4)	20
16	25.6 (650)	2.19 (55.6)	1.38 (34.9)	22.5 (571.5)	20
18	27.95 (710)	2.31 (58.8)	1.38 (34.9)	24.75 (628.6)	24
20	30.5 (775)	2.44 (62.0)	1.38 (34.9)	27.0 (685.8)	24
24	36.02 (915)	2.69 (68.3)	1.63 (41.3)	32.0 (812.8)	24

Class 600 Flange

Nominal Pipe Size	Dimension in. (mm)				Number of Holes
	A	C	G	H	
1/2	3.75 (95)	0.56 (14.3)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)	0.62 (15.9)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)	0.69 (17.5)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)	0.81 (20.7)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)	0.88 (22.3)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)	1.00 (25.4)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)	1.12 (28.6)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)	1.25 (31.8)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)	1.38 (35.0)	1.00 (25.4)	7.25 (184.2)	8
4	10.75 (275)	1.50 (38.1)	1.00 (25.4)	8.50 (215.9)	8
5	13.0 (330)	1.75 (44.5)	1.13 (28.6)	10.5 (266.7)	8
6	13.98 (355)	1.88 (47.7)	1.13 (28.6)	11.5 (292.1)	12
8	16.54 (420)	2.19 (55.6)	1.25 (31.75)	13.75 (349.2)	12
10	20.08 (510)	2.5 (63.5)	1.38 (34.9)	17.0 (431.8)	16
12	22.05 (560)	2.63 (66.7)	1.38 (34.9)	19.25 (489)	20
14	23.8 (605)	2.75 (69.9)	1.5 (38.1)	20.75 (527)	20
16	26.97 (685)	3.0 (76.2)	1.63 (41.3)	23.75 (603.2)	20
18	29.33 (745)	3.25 (82.6)	1.75 (44.5)	25.75 (654)	20
20	32.08 (815)	3.5 (88.9)	1.75 (44.5)	28.5 (723.9)	24
24	37.0 (940)	4.0 (101.6)	2.0 (50.8)	33.0 (838.2)	24

Class 900 Flange

Nominal Pipe Size	Dimension in. (mm)				Number of Holes
	A	C	G	H	
1/2	4.75 (120)	0.88 (22.3)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)	1.00 (25.4)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)	1.12 (28.6)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)	1.12 (28.6)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)	1.25 (31.8)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)	1.50 (38.1)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)	1.62 (41.3)	1.12 (28.4)	7.50 (190.5)	8
3	9.50 (240)	1.50 (38.1)	1.00 (25.4)	7.50 (190.5)	8
4	11.5 (290)	1.75 (44.5)	1.25 (31.7)	9.25 (235.0)	8
5	17.8 (350)	2.0 (50.8)	1.4 (35.5)	11.0 (279.4)	8
6	15.0 (380)	2.19 (55.6)	1.25 (31.7)	12.5 (317.5)	12
8	18.5 (470)	2.5 (63.5)	1.5 (38.1)	15.5 (393.7)	12
10	21.5 (545)	2.75 (69.9)	1.5 (38.1)	18.5 (469.9)	16
12	24.0 (610)	3.13 (79.4)	1.5 (38.1)	21.0 (533.4)	20
14	25.2 (640)	3.38 (85.8)	1.63 (41.3)	22.0 (558.8)	20
16	27.8 (705)	3.5 (88.9)	1.75 (44.5)	24.3 (616.0)	20
18	30.9 (785)	4.0 (101.6)	2.00 (50.8)	27.0 (685.8)	20
20	33.7 (855)	4.3 (108.0)	1.13 (28.6)	29.5 (749.3)	20
24	40.9 (1040)	5.50 (139.7)	1.63 (41.3)	35.5 (901.7)	20

21 Flange

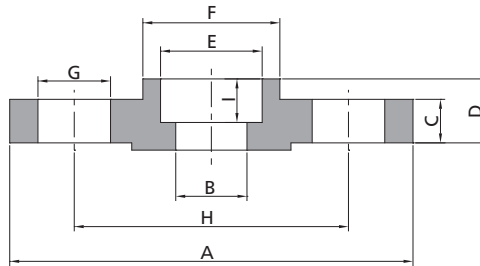
Class 1500 Flange

Nominal Pipe Size	Dimension in. (mm)				Number of Holes
	A	C	G	H	
1/2	4.75 (120)	0.88 (22.3)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)	1.00 (25.4)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)	1.12 (28.6)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)	1.12 (28.6)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)	1.25 (31.8)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)	1.50 (38.1)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)	1.62 (41.3)	1.12 (28.4)	7.50 (190.5)	8
3	10.50 (265)	1.88 (47.7)	1.25 (31.7)	8.00 (203.2)	8
4	12.25 (310)	2.12 (54.0)	1.38 (35.0)	9.50 (241.3)	8
5	14.8 (375)	2.88 (73.1)	1.63 (41.3)	11.5 (292.1)	8
6	15.6 (395)	3.3 (82.6)	1.5 (38.1)	12.5 (317.5)	12
8	19.1 (485)	3.6 (92.1)	1.75 (44.5)	15.5 (393.7)	12
10	23.0 (585)	4.25 (108)	2.00 (50.8)	19.0 (482.6)	12
12	26.6 (675)	4.88 (123.9)	2.13 (54.1)	22.5 (571.5)	16
14	29.5 (750)	5.25 (133.4)	2.4 (61.0)	25.0 (635.0)	16
16	32.5 (825)	5.75 (146.1)	2.63 (66.8)	27.75 (704.8)	16
18	36.0 (915)	6.38 (162.0)	2.88 (73.2)	30.5 (774.7)	16
20	38.8 (985)	7.0 (177.8)	3.13 (79.5)	32.75 (831.8)	16
24	46.0 (1170)	8.0 (203.2)	3.63 (92.1)	39.0 (990.6)	16

Class 2500 Flange

Nominal Pipe Size	Dimension in. (mm)				Number of Holes
	A	C	G	H	
1/2	5.25 (135)	1.19 (30.2)	0.88 (22.3)	3.50 (88.9)	4
3/4	5.50 (140)	1.25 (31.8)	0.88 (22.3)	3.75 (95.2)	4
1	6.25 (160)	1.38 (35.0)	1.00 (25.4)	4.25 (108.0)	4
1 1/4	7.25 (185)	1.50 (38.1)	1.12 (28.4)	5.12 (130.2)	4
1 1/2	8.00 (205)	1.75 (44.5)	1.25 (31.7)	5.75 (146.0)	4
2	9.25 (235)	2.00 (50.9)	1.12 (28.4)	6.75 (171.4)	8
2 1/2	10.5 (265)	2.25 (57.2)	1.25 (31.7)	7.75 (196.8)	8
3	12.0 (305)	2.62 (66.7)	1.38 (35.0)	9.00 (228.6)	8
4	14.0 (355)	3.00 (76.2)	1.62 (41.1)	10.75 (273.0)	8
5	16.54 (420)	3.6 (92.1)	1.88 (47.6)	12.75 (323.8)	8
6	19.1 (485)	4.25 (108.0)	2.13 (54.0)	14.5 (368.3)	8
8	21.65 (550)	5.0 (127.0)	2.13 (54.0)	17.25 (438.2)	12
10	26.57 (675)	6.5 (165.1)	2.63 (66.7)	21.3 (539.8)	12
12	29.9 (760)	7.25 (184.2)	2.88 (73.0)	24.37 (619.1)	12

Socket Welding Flange



Class 150 Flange

Nominal Pipe Size	Dimension in. (mm)									Number of Holes
	A	B	C	D	E	F	G	H	I	
1/2	3.50 (90)	0.62 (15.8)	0.38 (9.6)	0.56 (14)	0.88 (22.2)	1.19 (30)	0.62 (15.7)	2.38 (60.3)	0.38 (10)	4
3/4	3.88 (100)	0.82 (20.9)	0.44 (11.2)	0.56 (14)	1.09 (27.7)	1.50 (38)	0.62 (15.7)	2.75 (69.9)	0.44 (11)	4
1	4.25 (110)	1.05 (26.6)	0.50 (12.7)	0.62 (16)	1.36 (34.5)	1.94 (49)	0.62 (15.7)	3.12 (79.4)	0.50 (13)	4
1 1/4	4.82 (115)	1.38 (35.1)	0.56 (14.3)	0.75 (19)	1.70 (43.2)	2.31 (59)	0.62 (15.7)	3.50 (88.9)	0.56 (14)	4
1 1/2	5.00 (125)	1.61 (40.9)	0.62 (15.9)	0.81 (21)	1.95 (49.5)	2.56 (65)	0.62 (15.7)	3.88 (98.4)	0.62 (16)	4
2	6.00 (150)	2.07 (52.5)	0.69 (17.5)	0.94 (24)	2.44 (61.9)	3.06 (78)	0.75 (19.1)	4.75 (120.7)	0.69 (17)	4
2 1/2	7.00 (180)	2.47 (62.7)	0.81 (20.7)	1.06 (27)	2.94 (74.6)	3.56 (90)	0.75 (19.1)	5.50 (139.7)	0.75 (19)	4
3	7.50 (190)	3.07 (77.9)	0.88 (22.3)	1.12 (29)	3.57 (90.7)	4.25 (108)	0.75 (19.1)	6.00 (152.4)	0.81 (21)	4

Class 300 Flange

Nominal Pipe Size	Dimension in. (mm)									Number of Holes
	A	B	C	D	E	F	G	H	I	
1/2	3.75 (95)	0.62 (15.8)	0.50 (12.7)	0.81 (21)	0.88 (22.2)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	0.38 (10)	4
3/4	4.62 (115)	0.82 (20.9)	0.56 (14.3)	0.94 (24)	1.09 (27.7)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	0.44 (11)	4
1	4.88 (125)	1.05 (26.6)	0.62 (15.9)	1.00 (25)	1.36 (34.5)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	0.50 (13)	4
1 1/4	5.25 (135)	1.38 (35.1)	0.69 (17.5)	1.00 (25)	1.70 (43.2)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	0.56 (14)	4
1 1/2	6.12 (155)	1.61 (40.9)	0.75 (19.1)	1.12 (29)	1.95 (49.5)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	0.62 (16)	4
2	6.50 (165)	2.07 (52.5)	0.81 (20.7)	1.31 (32)	2.44 (61.9)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	0.69 (17)	8
2 1/2	7.50 (190)	2.47 (62.7)	0.94 (22.3)	1.50 (37)	2.94 (74.6)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	0.75 (19)	8
3	8.25 (210)	3.07 (77.9)	1.06 (25.4)	1.69 (41)	3.57 (90.7)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	0.81 (21)	8

23 Flange

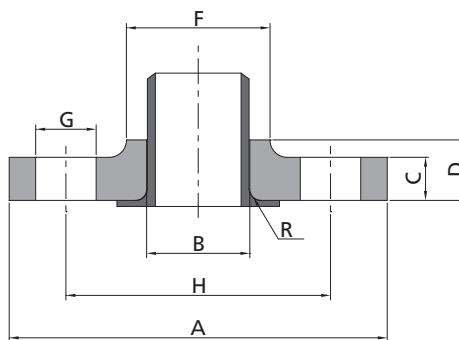
Class 600 Flange

Nominal Pipe Size	Dimension in. (mm)									Number of Holes
	A	B	C	D	E	F	G	H	I	
1/2	3.75 (95)	To be specified by Purchaser	0.56 (14.3)	0.88 (22)	0.88 (22.2)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	0.38 (10)	4
3/4	4.62 (115)		0.62 (15.9)	1.00 (25)	1.09 (27.7)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	0.44 (11)	4
1	4.88 (125)		0.69 (17.5)	1.06 (27)	1.36 (34.5)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	0.50 (13)	4
1 1/4	5.25 (135)		0.81 (20.7)	1.12 (29)	1.70 (43.2)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	0.56 (14)	4
1 1/2	6.12 (155)		0.88 (22.3)	1.25 (32)	1.95 (49.5)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	0.62 (16)	4
2	6.50 (165)		1.00 (25.4)	1.44 (37)	2.44 (61.9)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	0.69 (17)	8
2 1/2	7.50 (190)		1.12 (28.6)	1.62 (41)	2.94 (74.6)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	0.75 (19)	8
3	8.25 (210)		1.25 (31.8)	1.81 (46)	3.57 (90.7)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	0.81 (21)	8

Class 1500 Flange

Nominal Pipe Size	Dimension in. (mm)									Number of Holes
	A	B	C	D	E	F	G	H	I	
1/2	4.75 (120)	To be specified by Purchaser	0.88 (22.3)	1.25 (32)	0.88 (22.2)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	0.38 (10)	4
3/4	5.12 (130)		1.00 (25.4)	1.38 (35)	1.09 (27.7)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	0.44 (11)	4
1	5.88 (150)		1.12 (28.6)	1.62 (41)	1.36 (34.5)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	0.50 (13)	4
1 1/4	6.25 (160)		1.12 (28.6)	1.62 (41)	1.70 (43.2)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	0.56 (14)	4
1 1/2	7.00 (180)		1.25 (31.8)	1.75 (44)	1.95 (49.5)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	0.62 (16)	4
2	8.50 (215)		1.50 (38.1)	2.25 (57)	2.44 (61.9)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	0.69 (17)	8
2 1/2	9.62 (245)		1.62 (41.3)	2.50 (64)	2.94 (74.6)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	0.75 (19)	8

Lap Joint Flange



Class 150 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	F	G	H	R	
1/2	3.50 (90)	0.90 (22.9)	0.38 (9.6)	0.62 (16)	1.19 (30)	0.62 (15.7)	2.38 (60.3)	0.12 (3)	4
3/4	3.88 (100)	1.11 (28.2)	0.44 (11.2)	0.62 (16)	1.50 (38)	0.62 (15.7)	2.75 (69.9)	0.12 (3)	4
1	4.25 (110)	1.38 (34.9)	0.50 (12.7)	0.69 (17)	1.94 (49)	0.62 (15.7)	3.12 (79.4)	0.12 (3)	4
1 1/4	4.82 (115)	1.72 (43.7)	0.56 (14.3)	0.81 (21)	2.31 (59)	0.62 (15.7)	3.50 (88.9)	0.19 (5)	4
1 1/2	5.00 (125)	1.97 (50.0)	0.62 (15.9)	0.88 (22)	2.56 (65)	0.62 (15.7)	3.88 (98.4)	0.25 (6)	4
2	6.00 (150)	2.46 (62.5)	0.69 (17.5)	1.00 (25)	3.06 (78)	0.75 (19.1)	4.75 (120.7)	0.31 (8)	4
2 1/2	7.00 (180)	2.97 (75.4)	0.81 (20.7)	1.12 (29)	3.56 (90)	0.75 (19.1)	5.50 (139.7)	0.31 (8)	4
3	7.50 (190)	3.60 (91.4)	0.88 (22.3)	1.19 (30)	4.25 (108)	0.75 (19.1)	6.00 (152.4)	0.38 (10)	4
3 1/2	8.50 (215)	4.10 (104.1)	0.88 (22.3)	1.25 (32)	4.81 (122)	0.75 (19.1)	7.00 (177.8)	0.38 (10)	8
4	9.00 (230)	4.60 (116.8)	0.88 (22.3)	1.31 (33)	5.31 (135)	0.75 (19.1)	7.50 (190.5)	0.44 (11)	8
5	10.04 (255)	5.69 (144.4)	0.88 (22.3)	1.42 (36.0)	6.46 (164)	0.88 (22.2)	8.50 (215.9)	0.44 (11)	8
6	11.02 (280)	6.75 (171.4)	0.94 (23.9)	1.57 (40.0)	7.6 (192)	0.88 (22.2)	9.50 (241.3)	0.51 (13)	8
8	13.6 (345)	8.75 (222.2)	1.06 (27.0)	1.73 (44.0)	9.7 (246)	0.88 (22.2)	11.75 (298.5)	0.51 (13)	8
10	15.94 (405)	10.92 (277.4)	1.13 (28.6)	1.93 (49.0)	12.0 (305)	1.0 (25.4)	14.25 (362.0)	0.51 (13)	12
12	19.1 (485)	12.92 (328.2)	1.19 (30.2)	2.20 (56.0)	14.37 (365)	1.0 (25.4)	17.0 (431.8)	0.51 (13)	12
14	21.1 (535)	14.18 (360.2)	1.31 (33.4)	2.24 (57.0)	15.75 (400)	1.13 (28.58)	18.75 (476.3)	0.51 (13)	12
16	23.4 (595)	16.19 (411.2)	1.38 (35.0)	2.52 (64.0)	18.0 (457)	1.13 (28.58)	21.25 (539.8)	0.51 (13)	16
18	25.0 (635)	18.2 (462.3)	1.50 (38.1)	2.68 (68.0)	19.88 (505)	1.25 (31.75)	22.75 (577.9)	0.51 (13)	16
20	27.6 (700)	20.25 (514.4)	1.63 (41.3)	2.87 (73.0)	22.0 (559)	1.25 (31.75)	25.0 (635.0)	0.51 (13)	20
24	32.1 (815)	24.25 (616.0)	1.81 (46.1)	3.27 (83.0)	26.1 (663)	1.375 (34.93)	29.5 (749.3)	0.51 (13)	20

25 Flange

Class 300 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	F	G	H	R	
1/2	3.75 (95)	0.90 (22.9)	0.56 (14.3)	0.88 (22)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	0.12 (3)	4
3/4	4.62 (115)	1.11 (28.2)	0.62 (15.9)	1.00 (25)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	0.12 (3)	4
1	4.88 (125)	1.38 (34.9)	0.69 (17.5)	1.06 (27)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	0.12 (3)	4
1 1/4	5.25 (135)	1.72 (43.7)	0.75 (19.1)	1.06 (27)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	0.19 (5)	4
1 1/2	6.12 (155)	1.97 (50.0)	0.81 (20.7)	1.19 (30)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	0.25 (6)	4
2	6.50 (165)	2.46 (62.5)	0.94 (22.3)	1.31 (33)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	0.31 (8)	8
2 1/2	7.50 (190)	2.97 (75.4)	1.06 (25.4)	1.50 (38)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	0.31 (8)	8
3	8.25 (210)	3.60 (91.4)	1.12 (28.6)	1.69 (43)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	0.38 (10)	8
3 1/2	9.00 (230)	4.10 (104.1)	1.19 (30.2)	1.75 (44)	5.25 (133)	0.88 (22.3)	7.25 (184.2)	0.38 (10)	8
4	10.0 (255)	4.60 (116.8)	1.25 (31.8)	1.88 (48)	5.75 (146)	0.88 (22.3)	7.88 (200.0)	0.44 (11)	8
5	11.02 (280)	5.69 (144.4)	1.38 (35.0)	2.0 (51.0)	7.0 (178)	0.88 (22.3)	9.25 (235)	0.44 (11)	8
6	12.6 (320)	6.75 (171.4)	1.44 (36.6)	2.05 (52.0)	8.11 (206)	0.88 (22.3)	10.63 (269.9)	0.51 (13)	12
8	14.96 (380)	8.75 (222.2)	1.63 (41.3)	2.44 (62.0)	10.24 (260)	1.0 (25.4)	13.0 (330.2)	0.51 (13)	12
10	17.5 (445)	10.92 (277.4)	1.88 (47.7)	3.74 (95.0)	12.64 (321)	1.13 (28.6)	15.25 (387.4)	0.51 (13)	16
12	20.47 (520)	12.92 (328.2)	2.0 (50.8)	4.01 (102.0)	14.76 (375)	1.25 (31.8)	17.75 (450.8)	0.51 (13)	16
14	23.03 (585)	14.18 (360.2)	2.13 (54.0)	4.37 (111.0)	16.73 (425)	1.25 (31.8)	20.25 (514.4)	0.51 (13)	20
16	25.6 (650)	16.19 (411.2)	2.25 (57.2)	4.76 (121.0)	19.0 (483)	1.38 (34.9)	22.5 (571.5)	0.51 (13)	20
18	27.95 (710)	18.2 (462.3)	2.38 (60.4)	5.11 (130.0)	20.98 (533)	1.38 (34.9)	24.75 (628.6)	0.51 (13)	24
20	30.5 (775)	20.25 (514.4)	2.50 (63.5)	5.51 (140.0)	23.11 (587)	1.38 (34.9)	27.0 (685.8)	0.51 (13)	24
24	36.02 (915)	24.25 (616.0)	2.75 (69.9)	5.98 (152.0)	27.64 (702)	1.63 (41.3)	32.0 (812.8)	0.51 (13)	24

Class 600 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	F	G	H	R	
1/2	3.75 (95)	0.90 (22.9)	0.56 (14.3)	0.88 (22)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	0.12 (3)	4
3/4	4.62 (115)	1.11 (28.2)	0.62 (15.9)	1.00 (25)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	0.12 (3)	4
1	4.88 (125)	1.38 (34.9)	0.69 (17.5)	1.06 (27)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	0.12 (3)	4
1 1/4	5.25 (135)	1.72 (43.7)	0.81 (20.7)	1.12 (29)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	0.19 (5)	4
1 1/2	6.12 (155)	1.97 (50.0)	0.88 (22.3)	1.25 (32)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	0.25 (6)	4
2	6.50 (165)	2.46 (62.5)	1.00 (25.4)	1.44 (37)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	0.31 (8)	8
2 1/2	7.50 (190)	2.97 (75.4)	1.12 (28.6)	1.62 (41)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	0.31 (8)	8
3	8.25 (210)	3.60 (91.4)	1.25 (31.8)	1.81 (46)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	0.38 (10)	8
3 1/2	9.00 (230)	4.10 (104.1)	1.38 (35.0)	1.94 (49)	5.25 (133)	1.00 (25.4)	7.25 (184.2)	0.38 (10)	8
4	10.75 (275)	4.60 (116.8)	1.50 (38.1)	2.12 (54)	6.00 (152)	1.00 (25.4)	8.50 (215.9)	0.44 (11)	8
5	13.0 (330)	5.69 (144.4)	1.75 (44.5)	2.36 (60.0)	7.44 (189)	1.13 (28.6)	10.5 (266.7)	0.44 (11)	8
6	13.98 (355)	6.75 (171.4)	1.88 (47.7)	2.64 (67.0)	8.74 (222)	1.13 (28.6)	11.5 (292.1)	0.51 (13)	12
8	16.54 (420)	8.75 (222.2)	2.19 (55.6)	3.00 (76.0)	10.75 (273)	1.25 (31.75)	13.75 (349.2)	0.51 (13)	12
10	20.08 (510)	10.92 (277.4)	2.5 (63.5)	4.37 (111.0)	13.5 (343)	1.38 (34.9)	17.0 (431.8)	0.51 (13)	16
12	22.05 (560)	12.92 (328.2)	2.63 (66.7)	1.25 (117.0)	15.75 (400)	1.38 (34.9)	19.25 (489)	0.51 (13)	20
14	23.8 (605)	14.18 (360.2)	2.75 (69.9)	5.0 (127.0)	17.0 (432)	1.5 (38.1)	20.75 (527)	0.51 (13)	20
16	26.97 (685)	16.19 (411.2)	3.0 (76.2)	5.51 (140.0)	19.49 (495)	1.63 (41.3)	23.75 (603.2)	0.51 (13)	20
18	29.33 (745)	18.2 (462.3)	3.25 (82.6)	5.99 (152.0)	21.5 (546)	1.75 (44.5)	25.75 (654)	0.51 (13)	20
20	32.08 (815)	20.25 (514.4)	3.5 (88.9)	6.50 (165.0)	24.0 (610)	1.75 (44.5)	28.5 (723.9)	0.51 (13)	24
24	37.0 (940)	24.25 (616.0)	4.0 (101.6)	7.24 (184.0)	28.3 (718)	2.0 (50.8)	33.0 (838.2)	0.51 (13)	24

27 Flange

Class 900 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	F	G	H	R	
1/2	4.75 (120)	0.90 (22.9)	0.88 (22.3)	1.25 (32)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	0.12 (3)	4
3/4	5.12 (130)	1.11 (28.2)	1.00 (25.4)	1.38 (35)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	0.12 (3)	4
1	5.88 (150)	1.38 (34.9)	1.12 (28.6)	1.62 (41)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	0.12 (3)	4
1 1/4	6.25 (160)	1.72 (43.7)	1.12 (28.6)	1.62 (41)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	0.19 (5)	4
1 1/2	7.00 (180)	1.97 (50.0)	1.25 (31.8)	1.75 (44)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	0.25 (6)	4
2	8.50 (215)	2.46 (62.5)	1.50 (38.1)	2.25 (57)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	0.31 (8)	8
2 1/2	9.62 (245)	2.97 (75.4)	1.62 (41.3)	2.50 (64)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	0.31 (8)	8
3	9.50 (240)	3.60 (91.4)	1.50 (38.1)	2.12 (54)	5.00 (127)	1.00 (25.4)	7.50 (190.5)	0.38 (10)	8
4	11.5 (290)	4.60 (116.8)	1.75 (44.5)	2.75 (70)	6.25 (159)	1.25 (31.7)	9.25 (235.0)	0.44 (11)	8
5	17.8 (350)	5.69 (144.4)	2.0 (50.8)	3.11 (79.0)	7.5 (190)	1.4 (35.5)	11.0 (279.4)	0.44 (11)	8
6	15.0 (380)	6.75 (171.4)	2.19 (55.6)	3.39 (86.0)	9.3 (235)	1.25 (31.7)	12.5 (317.5)	0.51 (13)	12
8	18.5 (470)	8.75 (222.2)	2.5 (63.5)	4.02 (102.0)	11.7 (298)	1.5 (38.1)	15.5 (393.7)	0.51 (13)	12
10	21.5 (545)	10.92 (277.4)	2.75 (69.9)	4.25 (108.0)	14.5 (368)	1.5 (38.1)	18.5 (469.9)	0.51 (13)	16
12	24.0 (610)	12.92 (328.2)	3.13 (79.4)	4.60 (117.0)	16.5 (419)	1.5 (38.1)	21.0 (533.4)	0.51 (13)	20
14	25.2 (640)	14.18 (360.2)	3.38 (85.8)	2.12 (130.0)	17.8 (451)	1.63 (41.3)	22.0 (558.8)	0.51 (13)	20
16	27.8 (705)	16.19 (411.2)	3.5 (88.9)	5.24 (133.0)	20.0 (508)	1.75 (44.5)	24.3 (616.0)	0.51 (13)	20
18	30.9 (785)	18.2 (462.3)	4.0 (101.6)	5.98 (152.0)	22.2 (565)	2.00 (50.8)	27.0 (685.8)	0.51 (13)	20
20	33.7 (855)	20.25 (514.4)	4.3 (108.0)	6.26 (159.0)	24.5 (622)	1.13 (28.6)	29.5 (749.3)	0.51 (13)	20
24	40.9 (1040)	24.25 (616.0)	5.50 (139.7)	8.00 (203.0)	29.5 (749)	1.63 (41.3)	35.5 (901.7)	0.51 (13)	20

Class 1500 Flange

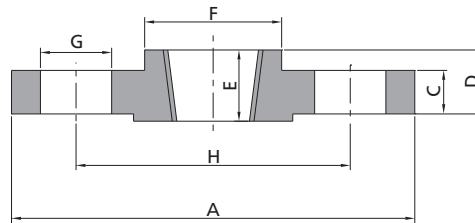
Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	F	G	H	R	
1/2	4.75 (120)	0.90 (22.9)	0.88 (22.3)	1.25 (32)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	0.12 (3)	4
3/4	5.12 (130)	1.11 (28.2)	1.00 (25.4)	1.38 (35)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	0.12 (3)	4
1	5.88 (150)	1.38 (34.9)	1.12 (28.6)	1.62 (41)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	0.12 (3)	4
1 1/4	6.25 (160)	1.72 (43.7)	1.12 (28.6)	1.62 (41)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	0.19 (5)	4
1 1/2	7.00 (180)	1.97 (50.0)	1.25 (31.8)	1.75 (44)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	0.25 (6)	4
2	8.50 (215)	2.46 (62.5)	1.50 (38.1)	2.25 (57)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	0.31 (8)	8
2 1/2	9.62 (245)	2.97 (75.4)	1.62 (41.3)	2.50 (64)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	0.31 (8)	8
3	10.50 (265)	3.60 (91.4)	1.88 (47.7)	2.88 (73)	5.25 (133)	1.25 (31.7)	8.00 (203.2)	0.38 (10)	8
4	12.25 (310)	4.60 (116.8)	2.12 (54.0)	3.56 (90)	6.38 (162)	1.38 (35.0)	9.50 (241.3)	0.44 (11)	8
5	14.8 (375)	5.69 (144.4)	2.88 (73.1)	1.94 (105)	7.76 (197)	1.63 (41.3)	11.5 (292.1)	0.44 (11)	8
6	15.6 (395)	6.75 (171.4)	3.3 (82.6)	4.69 (119)	9.01 (229)	1.5 (38.1)	12.5 (317.5)	0.51 (13)	12
8	19.1 (485)	8.75 (222.2)	3.6 (92.1)	5.63 (143)	11.5 (292)	1.75 (44.5)	15.5 (393.7)	0.51 (13)	12
10	23.0 (585)	10.92 (277.4)	4.25 (108)	7.0 (178)	14.5 (368)	2.00 (50.8)	19.0 (482.6)	0.51 (13)	12
12	26.6 (675)	12.92 (328.2)	4.88 (123.9)	8.62 (219)	17.76 (451)	2.13 (54.1)	22.5 (571.5)	0.51 (13)	16
14	29.5 (750)	14.18 (360.2)	5.25 (133.4)	9.49 (241)	19.5 (495)	2.4 (61.0)	25.0 (635.0)	0.51 (13)	16
16	32.5 (825)	16.19 (411.2)	5.75 (146.1)	10.24 (260)	21.73 (552)	2.63 (66.8)	27.75 (704.8)	0.51 (13)	16
18	36.0 (915)	18.2 (462.3)	6.38 (162.0)	10.86 (276)	23.5 (597)	2.88 (73.2)	30.5 (774.7)	0.51 (13)	16
20	38.8 (985)	20.25 (514.4)	7.0 (177.8)	11.50 (292)	25.24 (641)	3.13 (79.5)	32.75 (831.8)	0.51 (13)	16
24	46.0 (1170)	24.25 (616.0)	8.0 (203.2)	13.0 (330)	30.0 (762)	3.63 (92.1)	39.0 (990.6)	0.51 (13)	16

Class 2500 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	F	G	H	R	
1/2	5.25 (135)	0.90 (22.9)	1.19 (30.2)	1.56 (40)	1.69 (43)	0.88 (22.3)	3.50 (88.9)	0.12 (3)	4
3/4	5.50 (140)	1.11 (28.2)	1.25 (31.8)	1.69 (43)	2.00 (51)	0.88 (22.3)	3.75 (95.2)	0.12 (3)	4
1	6.25 (160)	1.38 (34.9)	1.38 (35.0)	1.88 (48)	2.25 (57)	1.00 (25.4)	4.25 (108.0)	0.12 (3)	4
1 1/4	7.25 (185)	1.72 (43.7)	1.50 (38.1)	2.06 (52)	2.88 (73)	1.12 (28.4)	5.12 (130.2)	0.19 (5)	4
1 1/2	8.00 (205)	1.97 (50.0)	1.75 (44.5)	2.38 (60)	3.12 (79)	1.25 (31.7)	5.75 (146.0)	0.25 (6)	4
2	9.25 (235)	2.46 (62.5)	2.00 (50.9)	2.75 (70)	3.75 (95)	1.12 (28.4)	6.75 (171.4)	0.31 (8)	8
2 1/2	10.5 (265)	2.97 (75.4)	2.25 (57.2)	3.12 (79)	4.50 (114)	1.25 (31.7)	7.75 (196.8)	0.31 (8)	8
3	12.0 (305)	3.60 (91.4)	2.62 (66.7)	3.62 (92)	5.25 (133)	1.38 (35.0)	9.00 (228.6)	0.38 (10)	8
4	14.0 (355)	4.60 (116.8)	3.00 (76.2)	4.25 (108)	6.50 (165)	1.62 (41.1)	10.75 (273.0)	0.44 (11)	8
5	16.54 (420)	5.69 (144.4)	3.6 (92.1)	5.12 (130)	8.0 (203)	1.88 (47.6)	12.75 (323.8)	0.44 (11)	8
6	19.1 (485)	6.75 (171.4)	4.25 (108.0)	5.98 (152)	9.25 (235)	2.13 (54.0)	14.5 (368.3)	0.51 (13)	8
8	21.65 (550)	8.75 (222.2)	5.0 (127.0)	7.00 (178)	12.0 (305)	2.13 (54.0)	17.25 (438.2)	0.51 (13)	12
10	26.57 (675)	10.9 (277.4)	6.5 (165.1)	9.01 (229)	14.76 (375)	2.63 (66.7)	21.3 (539.8)	0.51 (13)	12
12	29.9 (760)	12.9 (328.2)	7.25 (184.2)	10.0 (254)	17.36 (441)	2.88 (73.0)	24.37 (619.1)	0.51 (13)	12

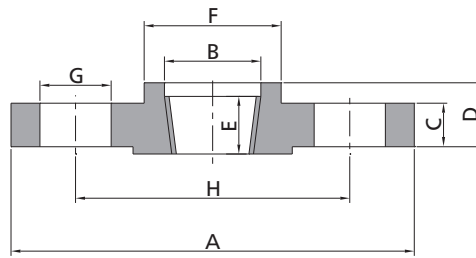
29 Flange

Threaded Flange



Class 150 Flange

Nominal Pipe Size	Dimension in. (mm)							Number of Holes
	A	C	D	E	F	G	H	
1/2	3.50 (90)	0.38 (9.6)	0.56 (14)	0.62 (16)	1.19 (30)	0.62 (15.7)	2.38 (60.3)	4
3/4	3.88 (100)	0.44 (11.2)	0.56 (14)	0.62 (16)	1.50 (38)	0.62 (15.7)	2.75 (69.9)	4
1	4.25 (110)	0.50 (12.7)	0.62 (16)	0.69 (17)	1.94 (49)	0.62 (15.7)	3.12 (79.4)	4
1 1/4	4.82 (115)	0.56 (14.3)	0.75 (19)	0.81 (21)	2.31 (59)	0.62 (15.7)	3.50 (88.9)	4
1 1/2	5.00 (125)	0.62 (15.9)	0.81 (21)	0.88 (22)	2.56 (65)	0.62 (15.7)	3.88 (98.4)	4
2	6.00 (150)	0.69 (17.5)	0.94 (24)	1.00 (25)	3.06 (78)	0.75 (19.1)	4.75 (120.7)	4
2 1/2	7.00 (180)	0.81 (20.7)	1.06 (27)	1.12 (29)	3.56 (90)	0.75 (19.1)	5.50 (139.7)	4
3	7.50 (190)	0.88 (22.3)	1.12 (29)	1.19 (30)	4.25 (108)	0.75 (19.1)	6.00 (152.4)	4
3 1/2	8.50 (215)	0.88 (22.3)	1.19 (30)	1.25 (32)	4.81 (122)	0.75 (19.1)	7.00 (177.8)	8
4	9.00 (230)	0.88 (22.3)	1.25 (32)	1.31 (33)	5.31 (135)	0.75 (19.1)	7.50 (190.5)	8
5	10.04 (255)	0.88 (22.3)	1.38 (35.0)	1.42 (36)	6.46 (164)	0.88 (22.2)	8.50 (215.9)	8
6	11.02 (280)	0.94 (23.9)	1.50 (38.0)	1.57 (40)	7.6 (192)	0.88 (22.2)	9.50 (241.3)	8
8	13.6 (345)	1.06 (27.0)	1.70 (43.0)	1.73 (44)	9.7 (246)	0.88 (22.2)	11.75 (298.5)	8
10	15.94 (405)	1.13 (28.6)	1.89 (48.0)	1.93 (49)	12.0 (305)	1.0 (25.4)	14.25 (362.0)	12
12	19.1 (485)	1.19 (30.2)	2.13 (54.0)	2.20 (56)	14.37 (365)	1.0 (25.4)	17.0 (431.8)	12
14	21.1 (535)	1.31 (33.4)	2.20 (56.0)	2.24 (57)	15.75 (400)	1.13 (28.58)	18.75 (476.3)	12
16	23.4 (595)	1.38 (35.0)	2.44 (62.0)	2.52 (64)	18.0 (457)	1.13 (28.58)	21.25 (539.8)	16
18	25.0 (635)	1.50 (38.1)	2.64 (67.0)	2.68 (68)	19.88 (505)	1.25 (31.75)	22.75 (577.9)	16
20	27.6 (700)	1.63 (41.3)	2.80 (71.0)	2.87 (73)	22.0 (559)	1.25 (31.75)	25.0 (635.0)	20
24	32.1 (815)	1.81 (46.1)	3.19 (81.0)	3.27 (83)	26.1 (663)	1.375 (34.93)	29.5 (749.3)	20



Class 300 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	3.75 (95)	0.93 (23.6)	0.50 (12.7)	0.81 (21)	0.62 (16)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)	1.14 (29.0)	0.56 (14.3)	0.94 (24)	0.62 (16)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)	1.41 (35.8)	0.62 (15.9)	1.00 (25)	0.69 (18)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)	1.75 (44.4)	0.69 (17.5)	1.00 (25)	0.81 (21)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)	1.98 (50.3)	0.75 (19.1)	1.12 (29)	0.88 (23)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)	2.50 (63.5)	0.81 (20.7)	1.31 (32)	1.12 (29)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)	3.00 (76.2)	0.94 (22.3)	1.50 (37)	1.25 (32)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)	3.63 (92.2)	1.06 (25.4)	1.69 (41)	1.25 (32)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)	4.13 (104.9)	1.12 (28.6)	1.75 (43)	1.44 (37)	5.25 (133)	0.88 (22.3)	7.25 (184.2)	8
4	10.0 (255)	4.63 (117.6)	1.19 (30.2)	1.88 (46)	1.44 (37)	5.75 (146)	0.88 (22.3)	7.88 (200.0)	8
5	11.02 (280)	5.69 (144.4)	1.31 (33.4)	1.93 (49.0)	1.69 (43)	7.0 (178)	0.88 (22.3)	9.25 (235)	8
6	12.6 (320)	6.75 (171.4)	1.38 (35.0)	2.0 (51.0)	1.85 (47)	8.11 (206)	0.88 (22.3)	10.63 (269.9)	12
8	14.96 (380)	8.75 (222.2)	1.56 (39.7)	2.36 (60.0)	2.00 (51)	10.24 (260)	1.0 (25.4)	13.0 (330.2)	12
10	17.5 (445)	10.87 (276.2)	1.81 (46.1)	2.56 (65.0)	2.20 (56)	12.64 (321)	1.13 (28.6)	15.25 (387.4)	16
12	20.47 (520)	12.94 (328.6)	1.94 (49.3)	2.80 (71.0)	2.40 (61)	14.76 (375)	1.25 (31.8)	17.75 (450.8)	16
14	23.03 (585)	14.19 (360.4)	2.06 (52.4)	2.95 (75.0)	2.52 (64)	16.73 (425)	1.25 (31.8)	20.25 (514.4)	20
16	25.6 (650)	16.19 (411.2)	2.19 (55.6)	3.19 (81.0)	2.72 (69)	19.0 (483)	1.38 (34.9)	22.5 (571.5)	20
18	27.95 (710)	18.19 (462.0)	2.31 (58.8)	3.43 (87.0)	2.76 (70)	20.98 (533)	1.38 (34.9)	24.75 (628.6)	24
20	30.5 (775)	20.19 (512.8)	2.44 (62.0)	3.70 (94.0)	2.91 (74)	23.11 (587)	1.38 (34.9)	27.0 (685.8)	24
24	36.02 (915)	24.19 (614.4)	2.69 (68.3)	4.13 (105.0)	3.27 (83)	27.64 (702)	1.63 (41.3)	32.0 (812.8)	24

31 Flange

Class 600 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	3.75 (95)	0.93 (23.6)	0.56 (14.3)	0.88 (22)	0.62 (16)	1.50 (38)	0.62 (15.7)	2.62 (66.7)	4
3/4	4.62 (115)	1.14 (29.0)	0.62 (15.9)	1.00 (25)	0.62 (16)	1.88 (48)	0.75 (19.1)	3.25 (82.6)	4
1	4.88 (125)	1.41 (35.8)	0.69 (17.5)	1.06 (27)	0.69 (18)	2.12 (54)	0.75 (19.1)	3.50 (88.9)	4
1 1/4	5.25 (135)	1.75 (44.4)	0.81 (20.7)	1.12 (29)	0.81 (21)	2.50 (64)	0.75 (19.1)	3.88 (98.4)	4
1 1/2	6.12 (155)	1.98 (50.3)	0.88 (22.3)	1.25 (32)	0.88 (23)	2.75 (70)	0.88 (22.3)	4.50 (114.3)	4
2	6.50 (165)	2.50 (63.5)	1.00 (25.4)	1.44 (37)	1.12 (29)	3.31 (84)	0.75 (19.1)	5.00 (127.0)	8
2 1/2	7.50 (190)	3.00 (76.2)	1.12 (28.6)	1.62 (41)	1.25 (32)	3.94 (100)	0.88 (22.3)	5.88 (149.2)	8
3	8.25 (210)	3.63 (92.2)	1.25 (31.8)	1.81 (46)	1.38 (35)	4.62 (117)	0.88 (22.3)	6.62 (168.3)	8
3 1/2	9.00 (230)	4.13 (104.9)	1.38 (35.0)	1.94 (49)	1.56 (40)	5.25 (133)	1.00 (25.4)	7.25 (184.2)	8
4	10.75 (275)	4.63 (117.6)	1.50 (38.1)	2.12 (54)	1.62 (42)	6.00 (152)	1.00 (25.4)	8.50 (215.9)	8
5	13.0 (330)	5.69 (144.4)	1.75 (44.5)	2.36 (60)	1.89 (48)	7.44 (189)	1.13 (28.6)	10.5 (266.7)	8
6	13.98 (355)	6.75 (171.4)	1.88 (47.7)	2.64 (67)	2.00 (51)	8.74 (222)	1.13 (28.6)	11.5 (292.1)	12
8	16.54 (420)	8.75 (222.2)	2.19 (55.6)	3.00 (76)	2.28 (58)	10.75 (273)	1.25 (31.75)	13.75 (349.2)	12
10	20.08 (510)	10.87 (276.2)	2.5 (63.5)	3.39 (86)	2.60 (66)	13.5 (343)	1.38 (34.9)	17.0 (431.8)	16
12	22.05 (560)	12.94 (328.6)	2.63 (66.7)	3.62 (92)	2.76 (70)	15.75 (400)	1.38 (34.9)	19.25 (489)	20
14	23.8 (605)	14.19 (360.4)	2.75 (69.9)	3.70 (94)	2.91 (74)	17.0 (432)	1.5 (38.1)	20.75 (527)	20
16	26.97 (685)	16.19 (411.2)	3.0 (76.2)	4.17 (106)	3.07 (78)	19.49 (495)	1.63 (41.3)	23.75 (603.2)	20
18	29.33 (745)	18.19 (462.0)	3.25 (82.6)	4.61 (117)	3.15 (80)	21.5 (546)	1.75 (44.5)	25.75 (654)	20
20	32.08 (815)	20.19 (512.8)	3.5 (88.9)	5.0 (127)	3.27 (83)	24.0 (610)	1.75 (44.5)	28.5 (723.9)	24
24	37.0 (940)	24.19 (614.4)	4.0 (101.6)	5.51 (140)	3.66 (93)	28.3 (718)	2.0 (50.8)	33.0 (838.2)	24

Class 900 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	4.75 (120)	0.93 (23.6)	0.88 (22.3)	1.25 (32)	0.88 (23)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)	1.14 (29.0)	1.00 (25.4)	1.38 (35)	1.00 (26)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)	1.41 (35.8)	1.12 (28.6)	1.62 (41)	1.12 (29)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)	1.75 (44.4)	1.12 (28.6)	1.62 (41)	1.19 (31)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)	1.98 (50.3)	1.25 (31.8)	1.75 (44)	1.25 (32)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)	2.50 (63.5)	1.50 (38.1)	2.25 (57)	1.50 (39)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)	3.00 (76.2)	1.62 (41.3)	2.50 (64)	1.88 (48)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	8
3	9.50 (240)	3.63 (92.2)	1.50 (38.1)	2.12 (54)	1.62 (42)	5.00 (127)	1.00 (25.4)	7.50 (190.5)	8
4	11.5 (290)	4.63 (117.6)	1.75 (44.5)	2.75 (70)	1.88 (48)	6.25 (159)	1.25 (31.7)	9.25 (235.0)	8
5	17.8 (350)	5.69 (144.4)	2.0 (50.8)	3.11 (79.0)	2.13 (54)	7.5 (190)	1.4 (35.5)	11.0 (279.4)	8
6	15.0 (380)	6.75 (171.4)	2.19 (55.6)	3.39 (86.0)	2.28 (58)	9.3 (235)	1.25 (31.7)	12.5 (317.5)	12
8	18.5 (470)	8.75 (222.2)	2.5 (63.5)	4.02 (102.0)	2.52 (64)	11.7 (298)	1.5 (38.1)	15.5 (393.7)	12
10	21.5 (545)	10.87 (276.2)	2.75 (69.9)	4.25 (108.0)	2.83 (72)	14.5 (368)	1.5 (38.1)	18.5 (469.9)	16
12	24.0 (610)	12.94 (328.6)	3.13 (79.4)	4.60 (117.0)	3.03 (77)	16.5 (419)	1.5 (38.1)	21.0 (533.4)	20
14	25.2 (640)	14.19 (360.4)	3.38 (85.8)	2.12 (130.0)	3.27 (83)	17.8 (451)	1.63 (41.3)	22.0 (558.8)	20
16	27.8 (705)	16.19 (411.2)	3.5 (88.9)	5.24 (133.0)	3.38 (86)	20.0 (508)	1.75 (44.5)	24.3 (616.0)	20
18	30.9 (785)	18.19 (462.0)	4.0 (101.6)	5.98 (152.0)	3.50 (89)	22.2 (565)	2.00 (50.8)	27.0 (685.8)	20
20	33.7 (855)	20.19 (512.8)	4.3 (108.0)	6.26 (159.0)	3.66 (93)	24.5 (622)	1.13 (28.6)	29.5 (749.3)	20
24	40.9 (1040)	24.19 (614.4)	5.50 (139.7)	8.00 (203.0)	4.01 (102)	29.5 (749)	1.63 (41.3)	35.5 (901.7)	20

33 Flange

Class 1500 Flange

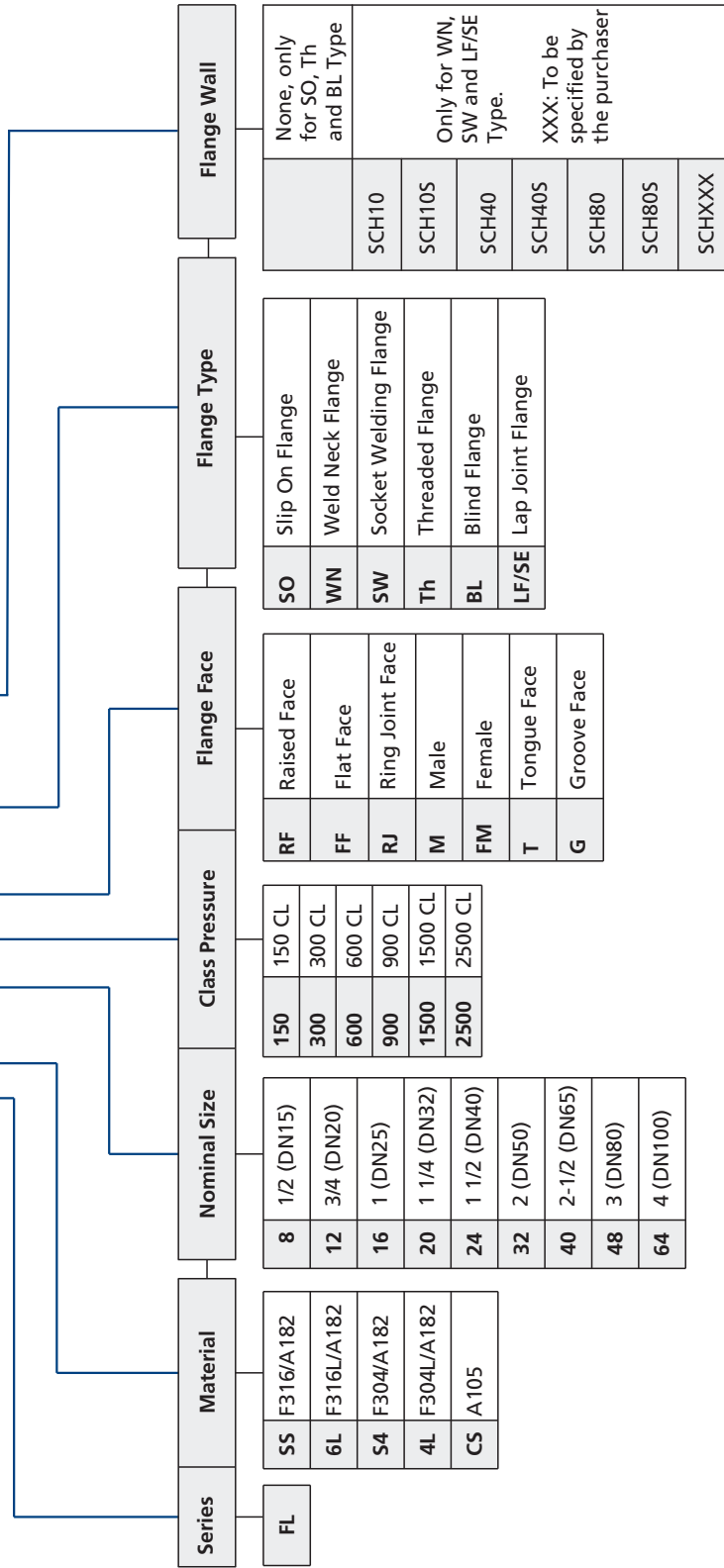
Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	4.75 (120)	0.93 (23.6)	0.88 (22.3)	1.25 (32)	0.88 (23)	1.50 (38)	0.88 (22.3)	3.25 (82.6)	4
3/4	5.12 (130)	1.14 (29.0)	1.00 (25.4)	1.38 (35)	1.00 (26)	1.75 (44)	0.88 (22.3)	3.50 (88.9)	4
1	5.88 (150)	1.41 (35.8)	1.12 (28.6)	1.62 (41)	1.12 (29)	2.06 (52)	1.00 (25.4)	4.00 (101.6)	4
1 1/4	6.25 (160)	1.75 (44.4)	1.12 (28.6)	1.62 (41)	1.19 (31)	2.50 (64)	1.00 (25.4)	4.38 (111.1)	4
1 1/2	7.00 (180)	1.98 (50.3)	1.25 (31.8)	1.75 (44)	1.25 (32)	2.75 (70)	1.12 (28.4)	4.88 (123.8)	4
2	8.50 (215)	2.50 (63.5)	1.50 (38.1)	2.25 (57)	1.50 (39)	4.12 (105)	1.00 (25.4)	6.50 (165.1)	8
2 1/2	9.62 (245)	3.00 (76.2)	1.62 (41.3)	2.50 (64)	1.88 (48)	4.88 (124)	1.12 (28.4)	7.50 (190.5)	8

Class 2500 Flange

Nominal Pipe Size	Dimension in. (mm)								Number of Holes
	A	B	C	D	E	F	G	H	
1/2	5.25 (135)	0.93 (23.6)	1.19 (30.2)	1.56 (40)	1.12 (29)	1.69 (43)	0.88 (22.3)	3.50 (88.9)	4
3/4	5.50 (140)	1.14 (29.0)	1.25 (31.8)	1.69 (43)	1.25 (32)	2.00 (51)	0.88 (22.3)	3.75 (95.2)	4
1	6.25 (160)	1.41 (35.8)	1.38 (35.0)	1.88 (48)	1.38 (35)	2.25 (57)	1.00 (25.4)	4.25 (108.0)	4
1 1/4	7.25 (185)	1.75 (44.4)	1.50 (38.1)	2.06 (52)	1.50 (39)	2.88 (73)	1.12 (28.4)	5.12 (130.2)	4
1 1/2	8.00 (205)	1.98 (50.3)	1.75 (44.5)	2.38 (60)	1.75 (45)	3.12 (79)	1.25 (31.7)	5.75 (146.0)	4
2	9.25 (235)	2.50 (63.5)	2.00 (50.9)	2.75 (70)	2.00 (51)	3.75 (95)	1.12 (28.4)	6.75 (171.4)	8
2 1/2	10.5 (265)	3.00 (76.2)	2.25 (57.2)	3.12 (79)	2.25 (58)	4.50 (114)	1.25 (31.7)	7.75 (196.8)	8

Part Number Description

FLSS – 16150RF – WN – SCH80S



Notes: (1) "Part Number Description" is used for composition rules of FITOK product model, not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.
 (2) RF, FF sealing surface has a standard water lines.

Wall Thickness(ANSI B36.10,B36.19M)

Nominal Size		Outside Diameter		Normal Wall Thickness T																	
NPS	DN	OD	OD	SCH5S	SCH10S	SCH10	SCH20	SHC30	SCH40S	STD	SCH40	SCH60	SCH80	XS	SCH80S	SCH100	SCH120	SCH140	SCH160	XXS	
1/8	6	10.3	-	-	1.24	-	-	-	1.73	1.73	1.73	-	2.41	2.41	2.41	-	-	-	-	-	-
1/4	8	13.7	-	-	1.65	-	-	-	2.24	2.24	2.24	-	3.02	3.02	3.02	-	-	-	-	-	-
3/8	10	17.1	-	-	1.65	-	-	-	2.31	2.31	2.31	-	3.2	3.2	3.2	-	-	-	-	-	-
1/2	15	21.3	-	-	2.11	-	-	-	2.77	2.77	2.77	-	3.73	3.73	3.73	-	-	-	-	-	7.47
3/4	20	26.7	-	-	2.11	-	-	-	2.87	2.87	2.87	-	3.91	3.91	3.91	-	-	-	-	-	7.82
1	25	33.4	-	-	2.77	-	-	-	3.38	3.38	3.38	-	4.55	4.55	4.55	-	-	-	-	-	9.09
1 1/4	32	42.2	-	-	2.77	-	-	-	3.56	3.56	3.56	-	4.85	4.85	4.85	-	-	-	-	-	9.7
1 1/2	40	48.3	-	-	2.77	-	-	-	3.68	3.68	3.68	-	5.08	5.08	5.08	-	-	-	-	-	10.15
2	50	60.3	-	-	2.77	-	-	-	3.91	3.91	3.91	-	5.54	5.54	5.54	-	-	-	-	-	11.07
2 1/2	65	73	-	-	3.05	-	-	-	5.16	5.16	5.16	-	7.01	7.01	7.01	-	-	-	-	-	14.02
3	80	88.9	-	-	3.05	-	-	-	5.49	5.49	5.49	-	7.62	7.62	7.62	-	-	-	-	-	15.24
3 1/2	90	101.6	-	-	3.05	-	-	-	5.74	5.74	5.74	-	8.08	8.08	8.08	-	-	-	-	-	-
4	100	114.3	-	-	3.05	-	-	-	6.02	6.02	6.02	-	8.56	8.56	8.56	-	11.13	-	-	-	17.12
5	125	141.3	-	-	3.4	-	-	-	6.55	6.55	6.55	-	9.53	9.53	9.53	-	12.7	-	-	-	19.05
6	150	168.3	-	-	3.4	-	-	-	7.11	7.11	7.11	-	10.97	10.97	10.97	-	14.27	-	-	-	21.95
8	200	219.1	-	-	3.76	-	6.35	7.04	8.18	8.18	8.18	10.31	12.7	12.7	12.7	15.09	18.26	20.62	23.01	22.23	-
10	250	273.1	-	-	4.19	-	6.35	7.8	9.27	9.27	9.27	12.7	12.7	12.7	15.09	18.26	21.44	25.4	28.58	25.4	-
12	300	323.9	-	-	4.57	-	6.35	8.38	9.53	9.53	10.31	14.27	12.7	12.7	17.48	21.44	25.4	28.58	33.32	25.4	-
14	350	355.6	-	-	4.78	6.35	7.92	9.53	-	9.53	11.13	15.09	-	12.7	19.05	23.83	27.79	31.75	35.71	-	-
16	400	406.4	-	-	4.78	6.35	7.92	9.53	-	9.53	12.7	16.66	-	12.7	21.44	26.19	30.96	36.53	40.49	-	-
18	450	457.2	-	-	4.78	6.35	7.92	11.13	-	9.53	14.27	19.05	-	12.7	23.83	29.36	34.96	39.67	45.24	-	-
20	500	508	-	-	5.54	6.35	9.53	12.7	-	9.53	15.09	20.62	-	12.7	26.19	32.54	38.1	44.45	50.01	-	-
22	550	558.8	-	-	5.54	6.35	9.53	12.7	-	9.53	-	22.23	-	12.7	28.58	34.93	41.28	47.63	53.98	-	-
24	600	609.6	-	-	6.35	6.35	9.53	14.27	-	9.53	17.48	24.61	-	12.7	30.96	38.89	46.02	52.37	59.54	-	-

SCH15S, 10S, 40S, 80S applies for stainless steel.

Note:
1) All dimensions are in millimeters.

Dimension Tolerances

Thread, Socket-Welding, Slip-on, Lap joint and Blind			Welding Neck		
Outside Diameter	When O.D. is 24" or less	±1/16" (1.6mm)	Outside Diameter	When O.D. is 24" or less	±1/16" (1.6mm)
	When O.D. is Over 24"	±1/8" (3.2mm)		When O.D. is Over 24"	±1/8" (3.2mm)
Inside Diameter	Thread	Within limits on boring gauge	Inside Diameter	Thread	Within limits on boring gauge
	Socket-Welding, Slip-on Lap joint and Blind.	10" & Smaler +1/32" (0.8mm). -0 12" & Larger +1/16" (1.6mm), -0"		Socket-Welding, Slip-on Lap joint and Blind.	10" & Smaler +1/32" (0.8mm). -0 12" & Larger +1/16" (1.6mm),-0"
Outside Diameter of Hub	12" and Smaller	+3/32" (2.4mm) -1/16" (1.6mm)	Outside Diameter of Hub at Base	When Hub Base is 24" or Smaller	±1/16" (1.6mm)
	14" and Smaller	±1/8" (3.2mm)		When Hub Base is Over 24"	±1/8" (3.2mm)
Diameter of Contact Face	1/16" Raised Face	±1/32" (0.8mm)	Diameter of Contact Face	1/16" Raised Face	±1/32" (0.8mm)
	1/4" Raised Face Tongue & Groove Male, Female	±1/64" (0.4mm)		1/4" Raised Face Tongue & Groove Male, Female	±1/64" (0.4mm)
Diameter of Counterbore	Same as for inside Diameter		Diameter of Hub at point of Welding	5" and Smaller	+3/32" (2.4mm) -1/32" (0.8mm)
				6" and Larger	+5/32" (4.0mm) -1/32" (0.8mm)
Drilling	Bolt circle	±1/16" (1.6mm)	Drilling	Bolt circle	±1/16" (1.6mm)
	Bolt hole spacing	±1/32" (0.8mm)		Bolt hole spacing	±1/32" (0.8mm)
	Eccentricity of Bolt Circle with Respect to Facing	2-1/2" & Smaller 1/32" (0.8mm) max 3" & Larger 1/16" (1.6mm) max		Eccentricity of Bolt Circle with Respect to Facing	2-1/2" & Smaller 1/32" (0.8mm) max 3" & Larger 1/16" (1.6mm)max
Thickness	18" and Smaller	+1/8" (3.2mm), -0	Thickness	18" and Smaller	+1/8" (3.2mm), -0
	20" and Larger	+3/16" (4.8mm), -0		20" and Larger	+3/16" (4.8mm), -0
Length Thru Hub	18" and Smaller	+1/8" (3.2mm), -1/32" (0.8mm)	Length Thru Hub	18" and Smaller	±1/16" (1.6mm)
	20" and Larger	+3/16" (4.8mm), -1/16" (1.6mm)		20" and Larger	±1/8" (3.2mm)

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