

DIMENSION OF PIPE FLANGES AS PER TABLE BS- 10

Table D: For Working Steam Pressure upto 50 lbs per sq. inch

Nominal Pipe size	O.D of Pipe	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	21.3	95.3	66.7	4	12.7	4.8
3/4"	26.7	101.6	73.0	4	12.7	4.8
1"	33.4	114.3	82.6	4	12.7	4.8
1 1/4"	42.2	120.7	87.6	4	12.7	6.4
1 1/2"	48.3	133.4	98.4	4	12.7	6.4
2"	60.3	152.4	114.3	4	15.9	7.9
2 1/2"	73.0	165.1	127.0	4	15.9	7.9
3"	88.9	184.2	146.1	4	15.9	9.5
3 1/2"	101.6	203.2	165.1	4	15.9	9.5
4"	114.3	215.9	177.8	4	15.9	9.5
5"	141.3	254.0	209.6	8	15.9	12.7
6"	168.3	279.4	228.6	8	15.9	12.7
7"	190.5	304.8	260.4	8	15.9	12.7
8"	219.1	336.6	292.1	8	15.9	12.7
9"	244.5	368.3	323.9	8	15.9	15.9
10"	273.0	406.4	355.6	8	19.1	15.9
12"	323.9	457.2	406.4	12	19.1	15.9
14"	355.6	527.1	469.9	12	22.2	19.1
16"	406.4	577.9	520.7	12	22.2	19.1
18"	457.2	641.4	584.2	12	22.2	22.2
20"	508.0	704.9	641.4	16	22.5	25.4
24"	609.6	825.5	755.7	16	25.4	28.6

Table E: For Working Steam Pressure 50 lbs upto 100 lbs per sq. inch

Nominal Pipe Size	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	95.3	66.7	4	12.7	6.4
3/4"	101.6	73.0	4	12.7	6.4
1"	114.3	82.6	4	12.7	7.1
1 1/4"	120.7	87.3	4	12.7	7.9
1 1/2"	133.4	98.4	4	12.7	8.7
2"	152.4	114.3	4	15.9	9.5
2 1/2"	165.1	127.0	4	15.9	10.3
3"	184.2	146.1	4	15.9	11.1
3 1/2"	203.2	165.1	8	15.9	11.9
4"	215.9	177.8	8	15.9	12.7
5"	254.0	209.6	8	15.9	14.3
6"	279.4	228.6	8	19.1	17.5
7"	304.8	260.4	8	19.1	19.1
8"	336.6	292.1	8	19.1	19.1
9"	368.3	323.9	12	19.1	20.6
10"	406.4	355.6	12	19.1	22.2
12"	457.2	406.4	12	22.2	25.4
14"	527.2	469.9	12	22.2	25.4
16"	577.9	520.7	12	22.2	25.4
18"	641.4	584.2	16	22.2	28.6
20"	704.9	647.4	16	22.2	31.8
24"	825.5	755.7	16	25.4	38.1

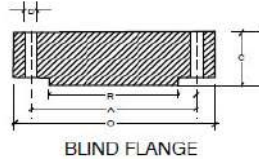
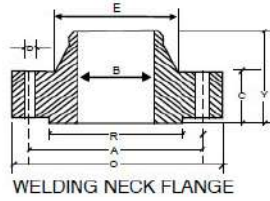
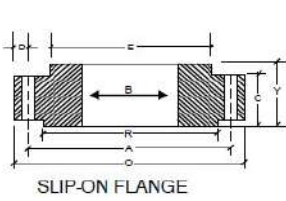
Table F: For Working Steam Pressure above 100 lbs and upto 150 lbs per sq. inch

Nominal Pipe Size	O.D. of Pipe	Dia of Flange	Dia of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	21.3	95.3	66.7	4	12.7	9.5
3/4"	26.7	101.6	73.0	4	12.7	9.5
1"	33.4	120.7	87.3	4	15.9	9.5
1 1/4"	42.2	133.4	98.4	4	15.9	12.7
1 1/2"	48.3	139.7	104.8	4	15.9	12.7
2"	60.3	165.1	127.0	4	15.9	15.9
2 1/2"	73.0	184.2	146.1	8	15.9	15.9
3"	88.9	203.2	165.1	8	15.9	15.9
3 1/2"	101.6	215.9	177.8	8	15.9	19.1
4"	114.3	228.6	190.5	8	15.9	19.1
5"	141.3	279.4	235.0	8	19.1	22.2
6"	168.3	304.8	260.4	12	19.1	22.2
7"	190.3	336.6	292.1	12	19.1	22.2
8"	219.1	368.3	323.9	12	19.1	25.4
9"	244.5	406.4	355.6	12	22.2	25.4
10"	273.0	431.8	381.0	12	22.2	25.4
12"	323.0	489.0	438.2	16	22.2	28.6
14"	355.6	552.5	495.3	16	25.4	31.8
16"	406.4	609.6	552.5	20	25.4	31.8
18"	457.2	673.1	609.6	20	28.6	34.9
20"	508.0	736.6	673.1	24	28.6	38.1
24"	609.6	850.9	781.1	24	31.8	41.3

Table H: For Working Steam Pressure above 150 lbs and upto 250 lbs per sq. inch

Nominal Pipe size	Dia of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	114.3	82.6	4	15.9	12.7
3/4"	114.3	82.6	4	15.9	12.7
1"	120.78	87.3	4	15.9	14.3
1 1/4"	133.4	98.4	4	15.9	17.5
1 1/2"	139.7	104.8	4	15.9	17.5
2"	165.1	127.0	4	15.9	19.1
2 1/2"	184.2	146.1	8	15.9	19.1
3"	203.2	165.1	8	15.9	22.2
3 1/2"	215.9	177.8	8	15.9	22.2
4"	228.6	190.5	8	15.9	25.4
5"	279.4	235.0	8	19.1	28.6
6"	304.8	260.4	12	19.1	28.6
7"	336.6	292.1	12	19.1	31.8
8"	368.3	323.9	12	19.1	31.8
9"	406.4	355.6	12	22.2	34.9
10"	431.8	381.0	12	22.2	34.9
12"	489.0	438.2	16	22.2	38.1
14"	552.5	495.3	16	25.4	41.3
16"	609.6	552.5	20	25.4	44.5
18"	673.1	609.6	20	28.6	47.6
20"	736.6	673.1	24	28.6	50.8
24"	850.9	781.1	24	31.8	57.2

FORGED FLANGES TO ANSI B 16.5 (ASA 150 / 300 LBS)



150LBS

Nominal Pipe Size (MM) (INCH.)	Flange Dia O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thk. of Flange C	Dia of Hub E	Length through Hub			Dia of Bore		Dia of R/F R	Depth of Socket F
							S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B		
15	1/2	88.9	60.3	4	11.1	30.2	15.9	47.6	15.9	22.3	22.9	34.9	9.5
20	3/4	98.4	69.8	4	12.7	38.1	15.9	52.4	15.9	27.7	28.2	42.9	11.1
25	1	107.9	79.4	4	14.3	49.2	17.5	55.6	17.5	34.5	35.0	50.8	12.7
32	1 1/4	117.5	88.9	4	15.9	58.7	20.6	57.1	20.6	43.2	43.7	63.5	14.3
40	1 1/2	127.0	98.4	4	17.5	65.1	22.2	61.9	22.2	49.5	50.0	73.0	15.9
50	2	152.4	120.6	4	19.0	77.8	25.4	63.5	25.4	62.0	62.5	92.1	17.5
65	2 1/2	177.8	139.7	4	22.2	90.5	28.6	69.8	28.6	74.7	75.4	104.8	19.0
80	3	190.5	152.4	4	23.8	107.9	30.2	69.8	30.2	90.7	91.4	127.0	20.6
100	4	228.6	190.5	8	23.8	134.9	33.3	76.2	33.3	116.1	116.8	157.2	23.8
125	5	254.0	215.9	8	23.8	163.5	36.5	88.9	36.5	143.8	144.5	185.7	23.8
150	6	279.4	241.3	8	25.4	192.1	39.7	88.9	39.7	170.7	171.4	215.9	27.0
200	8	342.9	298.4	8	28.6	246.1	44.4	101.6	44.4	221.5	222.2	269.9	31.7
250	10	406.4	361.9	12	30.2	304.8	49.2	101.6	49.2	276.3	277.4	323.8	33.3
300	12	482.6	431.8	12	31.8	365.1	55.6	114.3	55.6	327.1	328.2	381.0	39.7
350	14	533.4	476.2	12	34.9	400.0	57.1	127.0	79.4	359.1	360.2	412.7	41.3
400	16	596.9	539.7	16	36.5	457.2	63.5	127.0	87.3	410.5	411.2	469.9	44.4
450	18	635.0	577.8	16	39.7	504.8	68.3	139.7	96.8	461.8	462.3	533.4	49.2
500	20	698.5	635.0	20	42.9	558.8	73.0	144.5	103.2	513.1	514.3	584.2	54.0
600	24	812.8	749.3	20	47.6	663.6	82.5	152.4	111.1	615.9	615.9	692.1	63.5

300LBS

Nominal Pipe Size (MM) (INCH.)	Flange Dia O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thk. of Flange C	Dia of Hub E	Length through Hub			Dia of Bore		Dia of R/F R	Depth of Socket F
							S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B		
15	1/2	95.2	66.7	4	14.3	38.1	22.2	52.4	22.2	22.3	22.9	34.9	9.5
20	3/4	117.5	82.5	4	15.9	47.6	25.4	57.1	25.4	27.7	28.2	42.9	11.1
25	1	123.8	88.9	4	17.5	54.0	27.0	61.9	27.0	34.5	35.0	50.8	12.7
32	1 1/4	133.3	98.4	4	19.0	63.5	27.0	65.1	27.0	43.2	43.7	63.5	14.3
40	1 1/2	155.6	114.3	4	20.6	69.8	30.2	68.3	30.2	49.5	50.0	73.0	15.9
50	2	165.1	127.0	8	22.2	84.1	33.3	69.8	33.3	62.0	62.5	92.1	17.5
65	2 1/2	190.5	149.2	8	25.4	100.0	38.1	76.2	38.1	74.7	75.4	104.8	19.0
80	3	209.5	168.3	8	28.6	117.5	42.9	79.4	42.9	90.7	91.4	127.0	20.6
100	4	254.0	200.0	8	31.8	146.0	47.6	85.7	47.6	116.1	116.8	157.2	23.8
125	5	279.4	234.9	8	34.9	177.8	50.8	98.4	50.8	143.8	144.5	185.7	-
150	6	317.5	269.9	12	36.5	206.4	52.4	98.4	52.4	170.7	171.4	215.9	-
200	8	381.0	330.2	12	41.3	260.3	61.9	111.1	61.9	221.5	222.2	269.9	-
250	10	444.5	387.3	16	47.6	320.7	66.7	117.5	95.2	276.3	277.4	323.8	-
300	12	520.7	450.8	16	50.8	374.6	73.0	130.2	101.6	327.1	328.2	381.0	-
350	14	584.2	514.3	20	54.0	425.4	76.2	142.9	111.1	359.1	360.2	412.7	-
400	16	647.7	571.5	20	57.2	482.6	82.5	146.0	120.6	410.5	411.2	469.9	-
450	18	711.2	628.5	24	60.3	533.4	88.9	158.7	130.2	461.8	462.3	533.4	-
500	20	774.7	685.8	24	63.5	587.4	95.2	161.9	139.7	513.1	514.3	584.2	-
600	24	914.4	812.8	24	69.8	701.7	106.4	168.3	152.4	615.9	615.9	692.1	-

DIMENSIONAL TOLERANCES

Threaded, 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"	± 1/18" (3.2mm)
Inside Diameter	Threaded	Within limits on boring guage	Inside Diameter	10" and Smaller	+ 1/32" (0.8mm)
	Socket-Welding, Slip-on and Lap joint	10" 7 Smaller + 1/32" (0.8mm) - 0" 12" & Larger + 1/16" (1.6mm) - 0"		12" thru 18"	+ 1/16" (1.6mm)
Outside Diameter of Hub	12" and Smaller	+ 1/32" (0.8mm) - 1/16" (1.6mm)	Diameter of Contact Face	20" and Larger	+ 1/8" (3.2mm) - 1/16" (1.6mm)
	14" and Larger	± 1/8" (3.2mm)		1/16" Raised Face	+1/32" (0.8mm)
Diameter of Contact Face	1/16" Raised Face	±1/32" (0.8mm)	Diameter of Hub at Base	1/4" Raised Face Tongue & Groove Male, Female	+ 1/64" (0.4mm)
	1/4" Raised Face Tongue & Groove Male, Female	± 1/64" (0.4mm)		When Hub Base is 24" or Smaller	= 1/16" (1.6mm)
Diameter of Counterbore	Same as for Inside Diameter		Diameter of Hub at Point of Welding	When Hub Base is Over 24"	- 1/8" (3.2mm)
	Bolt Circle	± 1/16" (1.6mm)		5" and Smaller	+ 3/32" (2.4mm) - 1/32" (0.8mm)
Drilling	Bolt hole Spacing	± 1/32" (0.8mm)	Drilling	6" and Larger	+ 5/32" (4.0mm) - 1/32" (0.8mm)
	Eccentricity of Both Circle with Respect to Facing	2 1/2" & Smaller 1/32" (0.8mm) max 3" & Larger 1/16" (1.6mm) max		Bolt Circle	+ 1/16" (1.6mm)
	Eccentricity of Both Circle with Respect to Bore	1/32" (0.8mm) max		Bolt hole spacing	+ 1/32" (0.8mm)
	Eccentricity of Facing with Respect to Bore	1/32" (0.8mm) 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	Eccentricity of Bolt Circle with Respect to Bore	1/32" (0.8mm) max
	20" and Larger	+ 3/16" (4.8mm) - 0"		Eccentricity of Facing with Respect to Bore	1/32" (0.8mm) max
Length	10" and Smaller	± 1/16" (1.6mm)	Length	18" and Smaller	+ 1/8" (3.2mm)-0"
Thru Hub	12" and Larger	± 1/8" (3.2mm)	Thru Hub	20" and Larger	+ 3/16" (4.8mm)-0"
				10" and Smaller	+ 1/16" (1.6mm)
				12" and Larger	+ 1/8" (3.2mm)