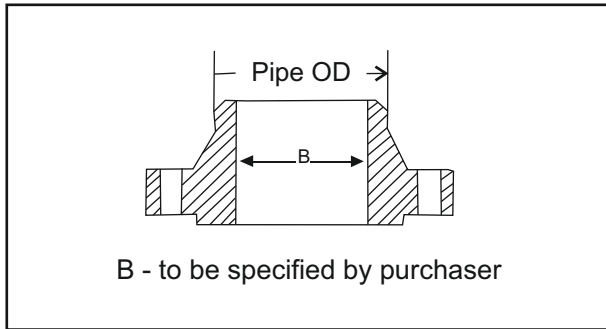
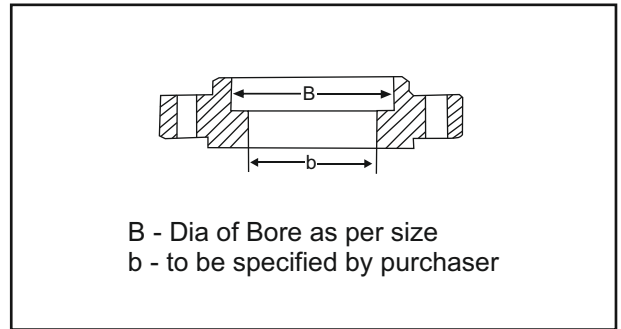


**WELDING NECK FLANGE**



**SOCKET NECK FLANGE**

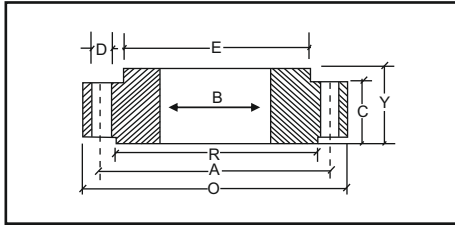


**WELDING NECK FLANGE BORE (B)**

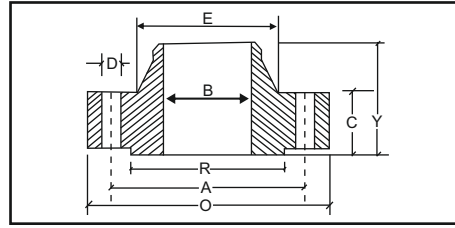
Nominal Pipe Size	Outside Diam	Sch. 10	Sch. 20	Sch. 30	Sch. Std.	Sch. 40	Sch. XS	Sch. 80	Sch. 120	Sch. 160	Double Extra Strong
15	21.33	17.1	-	-	15.7	15.7	13.8	13.8	-	11.7	6.4
20	26.67	22.5	-	-	20.8	20.8	18.8	18.8	-	15.5	11.0
25	33.40	27.9	-	-	26.6	25.4	24.3	24.3	-	20.7	15.2
32	42.16	36.6	-	-	35.0	35.0	32.4	32.4	-	29.4	22.7
40	48.26	42.7	-	-	40.8	40.8	38.1	38.1	-	33.7	27.9
50	60.31	54.8	-	-	52.3	52.3	49.2	49.2	-	42.8	38.1
65	73.02	66.9	-	-	62.4	62.4	59.0	59.0	-	53.9	44.9
80	88.90	82.8	-	-	77.9	77.9	73.6	73.6	-	66.6	58.4
100	114.30	108.2	-	-	102.2	102.2	97.1	97.1	92.0	87.3	80.0
125	141.30	134.5	-	-	128.1	128.1	122.2	122.2	115.9	109.5	103.2
150	168.27	161.5	-	-	154.0	154.0	146.3	146.3	139.7	131.7	124.3
200	219.07	211.6	206.2	204.9	202.7	202.7	193.6	193.6	182.5	173.0	174.6
250	273.05	264.7	260.3	257.4	254.5	254.5	247.6	242.8	230.1	215.9	222.2
300	323.85	314.7	311.1	307.0	304.8	303.2	298.4	288.8	273.0	257.2	273.0
350	355.60	346.2	337.8	336.5	336.5	333.3	330.2	317.5	300.0	284.1	-
400	406.40	396.7	390.3	387.3	387.3	381.0	381.0	363.5	344.5	325.4	-
450	457.20	447.5	441.1	434.9	438.1	428.6	431.8	409.5	387.3	366.7	-
500	508.00	497.3	488.9	482.6	488.9	477.8	482.6	455.6	431.8	407.9	-
600	609.60	596.9	590.5	581.0	590.5	574.6	584.2	547.6	517.5	490.5	-

All dimensions are in Millimeters

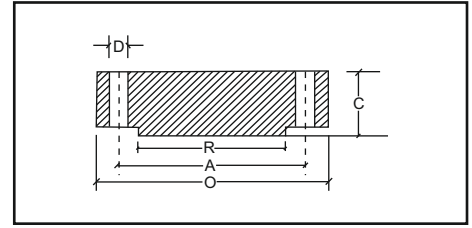
**SLIP - ON FLANGE**



**WELDING NECK FLANGE**



**BLIND FLANGE**



**DIMENSIONS OF CLASS 150 FLANGES AS PER ANSI B 16.5**

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			
							Y	Y	Y	B	B			
15	1/2	88.9	60.3	15.9	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	15.9	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	15.9	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	15.9	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	15.9	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	19.0	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	19.0	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	19.0	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	19.0	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	22.2	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	22.2	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	22.2	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	25.4	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	25.4	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	28.6	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	28.6	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	31.7	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	31.7	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	34.9	20	47.6	663.6	82.5	152.4	111.1	615.9	615.9	692.1	63.5

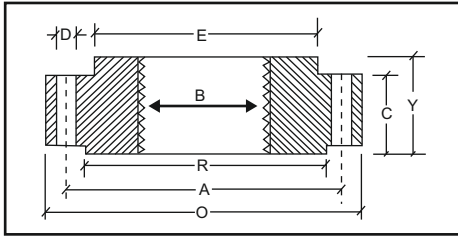
**DIMENSIONS OF CLASS 300 FLANGES AS PER ANSI B 16.5**

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			
							Y	Y	Y	B	B			
15	1/2	95.2	66.7	15.9	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	19.0	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	19.0	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	19.0	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	22.2	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	19.0	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	22.2	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	22.2	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	22.2	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	22.2	8	34.9	177.8	50.8	98.4	50.8	143.8	144.5	185.7	-
150	6	317.5	269.9	22.2	12	36.5	206.4	52.4	98.4	52.4	170.7	171.4	215.9	-
200	8	381.0	330.2	25.4	12	41.3	260.3	61.9	111.1	61.9	221.5	222.2	269.9	-
250	10	444.5	387.3	28.6	16	47.6	320.7	66.7	117.5	95.2	276.3	277.4	323.8	-
300	12	520.7	450.8	31.7	16	50.8	374.6	73.0	130.2	101.6	327.1	328.2	381.0	-
350	14	584.2	514.3	31.7	20	54.0	425.4	76.2	142.9	111.1	359.1	360.2	412.7	-
400	16	647.7	571.5	34.9	20	57.2	482.6	82.5	146.0	120.6	410.5	411.2	469.9	-
450	18	711.2	628.5	34.9	24	60.3	533.4	88.9	158.7	130.2	461.8	462.3	533.4	-
500	20	774.7	685.8	34.9	24	63.5	587.4	95.2	161.9	139.7	513.1	514.3	584.2	-
600	24	914.4	812.8	41.3	24	69.8	701.7	106.4	168.3	152.4	615.9	615.9	692.1	-

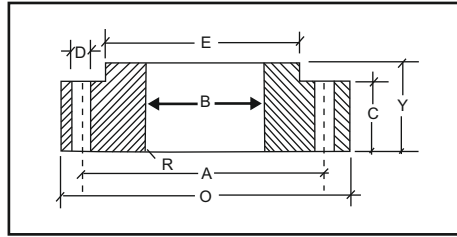
1) All Dimensions are in Millimeters 2) Welding neck flange bore (B) see page No.1 to be specified by purchaser.

3) Flanges except Lap Joint will be furnished with (1.6mm) Raised Face, which is included in Thickness (C) and Length through Hub (Y).

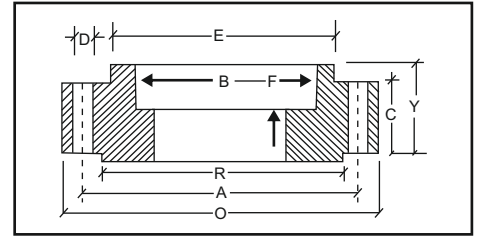
### THREADED FLANGES



### LAP JOINT FLANGES



### SOCKET WELD FLANGES



## DIMENSIONS OF CLASS 600 FLANGES AS PER ANSI B 16.5

Nominal Pipe Size	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	W/N	L/J	S/O & S/W	L/J		
							Y	Y	Y	B	B		
15	95.2	66.7	15.9	4	14.3	38.1	22.2	52.4	22.3	22.3	22.8	34.9	9.5
20	117.5	82.5	19.0	4	15.9	47.6	25.4	57.1	25.4	27.7	28.1	42.9	11.1
25	123.8	88.9	19.0	4	17.5	54.0	27.0	61.9	26.9	34.5	35.0	50.8	12.7
32	133.3	98.4	19.0	4	20.6	63.5	28.6	66.7	28.4	43.2	43.6	63.5	14.2
40	155.6	114.3	22.2	4	22.2	69.8	31.7	69.8	31.7	49.5	50.0	73.0	15.8
50	165.1	127.0	19.0	8	25.4	84.1	36.5	73.0	36.5	62.0	62.4	92.1	17.4
65	190.5	149.2	22.2	8	28.6	100.0	41.3	79.4	41.1	74.7	75.4	104.8	19.0
80	209.5	168.3	22.2	8	31.8	117.5	46.0	82.5	45.9	90.7	91.4	127.0	-
100	273.0	215.9	25.4	8	38.1	152.4	54.0	101.6	53.8	116.1	116.8	157.2	-
125	330.2	266.7	28.6	8	44.4	188.9	60.3	114.3	60.4	143.8	141.5	185.7	-
150	355.6	292.1	28.6	12	47.6	222.2	66.7	117.5	66.5	170.7	171.4	215.9	-
200	419.1	349.2	31.7	12	55.6	273.0	76.2	133.3	76.2	221.5	222.2	269.9	-
250	508.0	431.8	34.9	16	63.5	342.9	85.7	152.4	111.2	276.3	277.3	323.8	-
300	558.8	488.9	34.9	20	66.7	400.0	92.1	155.6	117.3	327.1	328.1	381.0	-
350	603.2	527.0	38.1	20	69.9	431.8	93.7	165.1	127.0	359.1	360.1	412.7	-
400	685.8	603.2	41.3	20	76.2	495.3	106.4	177.8	139.7	410.5	411.2	469.9	-
450	742.9	654.0	44.4	20	82.6	546.1	117.5	184.1	152.4	461.8	462.2	533.4	-
500	812.8	723.9	44.4	24	88.9	609.6	127.0	190.5	165.1	513.1	514.3	584.2	-
600	939.8	838.2	50.8	24	101.6	717.5	139.7	203.2	184.1	615.9	615.9	692.1	-

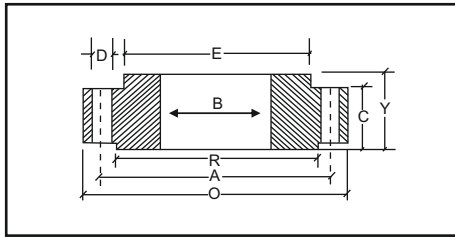
## DIMENSIONS OF CLASS 900 FLANGES AS PER ANSI B 16.5

Nominal Pipe Size	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	W/N	L/J	S/O & S/W	L/J		
							Y	Y	Y	B	B		
15	120.6	82.5	22.2	4	22.2	38.1	31.7	60.3	31.7	22.3	22.8	34.9	9.5
20	130.2	88.9	22.2	4	25.4	44.4	34.9	69.8	35.0	27.7	28.1	42.9	11.1
25	149.2	101.6	25.4	4	28.6	52.4	41.3	73.0	41.1	34.5	35.0	50.8	12.7
32	158.7	111.1	25.4	4	28.6	63.5	41.3	73.0	41.1	43.2	43.6	63.5	14.2
40	177.8	123.8	28.6	4	31.8	69.8	44.4	82.5	44.4	49.5	50.0	73.0	15.8
50	215.9	165.1	25.4	8	38.1	104.8	57.1	101.6	57.1	62.0	62.4	92.1	17.4
65	244.5	190.5	28.6	8	41.3	123.8	63.5	104.8	63.5	74.7	75.4	104.8	19.0
80	241.3	190.5	25.4	8	38.1	127.0	53.9	101.6	53.8	90.7	91.4	127.0	-
100	292.1	234.9	31.7	8	44.4	158.7	69.8	114.3	69.8	116.0	116.8	157.1	-
125	349.2	279.4	35.0	8	50.8	190.5	79.3	127.0	79.2	143.7	144.5	185.7	-
150	381.0	317.5	31.7	12	55.6	234.9	85.8	139.7	85.8	170.6	171.4	215.9	-
200	469.9	393.7	38.1	12	63.5	298.4	101.6	162.0	114.3	221.4	222.2	269.3	-
250	546.1	469.9	38.1	16	69.8	368.3	107.9	184.1	127.0	276.3	277.3	323.8	-
300	609.6	533.4	38.1	20	79.3	419.1	117.4	200.0	142.7	327.1	328.1	381.0	-

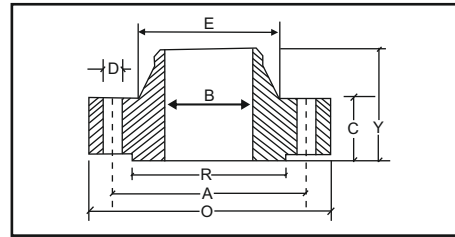
1) All Dimensions are in Millimeters 2) Welding neck flange bore (B) see page No.1 to be specified by purchaser.

3) Flanges except Lap Joint will be furnished with (1.6mm) Raised Face, which is included in Thickness (C) and Length through Hub (Y).

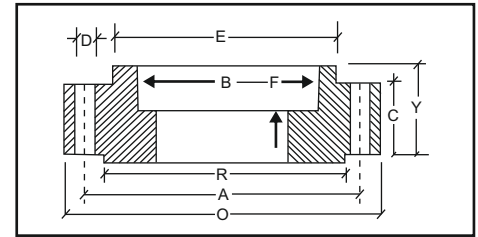
**SLIP - ON FLANGE**



**WELDING NECK FLANGE**



**SOCKET WELD FLANGES**



**DIMENSIONS OF CLASS 1500 FLANGES AS PER ANSI B 16.5**

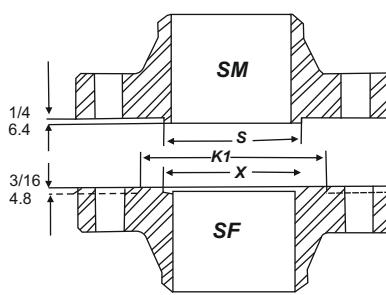
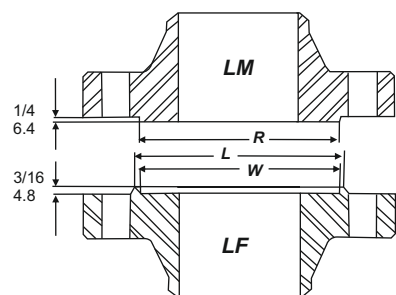
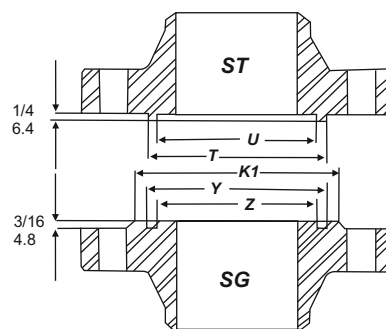
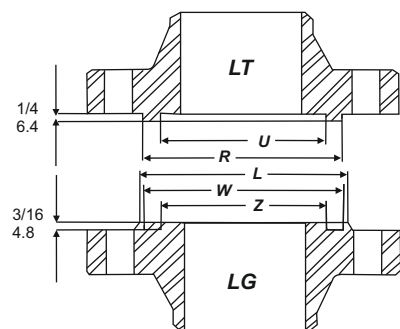
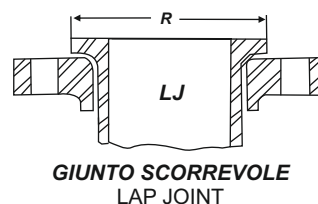
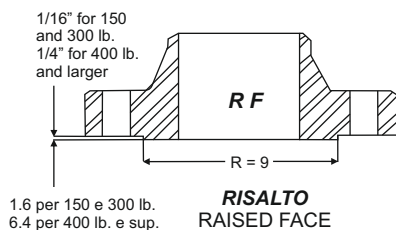
Nominal Pipe Size	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No. of Holes	Thk of Flange	Dia of Hub	Length through Hub			Dia of Bore		Dia of R/F	Depth of Socket	
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
(MM) (INCH.)	O	A	D		C	E	Y	Y	Y	B	B	R	F	
15	1/2	120.6	82.5	22.2	4	22.2	38.1	31.7	60.3	31.7	22.3	22.8	34.9	9.5
20	3/4	130.2	88.9	22.2	4	25.4	44.4	34.9	69.8	34.9	27.7	28.1	42.9	11.1
25	1	149.2	101.6	25.4	4	28.6	52.4	41.3	73.0	41.3	34.5	35.0	50.8	12.7
32	1 1/4	158.7	111.1	25.4	4	28.6	63.5	41.3	73.0	41.3	43.2	43.6	63.5	14.2
40	1 1/2	177.8	123.8	28.6	4	31.8	69.8	44.4	82.5	44.4	49.5	50.0	73.0	15.8
50	2	215.9	165.1	25.4	8	38.1	104.8	57.1	101.6	57.1	62.0	62.0	92.1	17.4
65	2 1/2	244.5	190.5	28.6	8	41.3	123.8	63.5	104.8	63.5	74.7	75.4	104.8	19.0
80	3	266.7	203.2	31.7	8	47.6	133.3	73.0	117.5	73.0	90.7	91.4	127.0	-
100	4	311.1	241.3	34.9	8	54.0	161.9	90.5	123.0	90.4	116.1	116.8	157.2	-
125	5	374.6	292.1	41.3	8	73.0	196.8	104.8	155.6	104.8	143.8	144.5	185.7	-
150	6	393.7	317.5	38.1	12	82.6	228.6	119.1	171.4	119.1	170.7	171.4	215.9	-
200	8	482.6	393.7	44.4	12	92.1	292.1	142.9	212.7	142.8	221.5	222.2	269.9	-
250	10	584.2	482.6	50.8	12	107.9	368.3	158.7	254.0	177.8	276.3	277.3	323.8	-
300	12	673.1	571.5	54.0	16	123.8	450.8	181.0	282.5	218.9	327.1	328.1	381.0	-

**DIMENSIONS OF CLASS 2500 FLANGES AS PER ANSI B 16.5**

Nominal Pipe Size	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No. of Holes	Thk of Flange	Dia of Hub	Length through Hub			Dia of Bore		Dia of R/F	Depth of Socket	
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
(MM) (INCH.)	O	A	D		C	E	Y	Y	Y	B	B	R	F	
15	1/2	133.3	88.9	22.2	4	30.2	42.9	39.7	73.0	39.7	22.3	22.3	34.9	-
20	3/4	139.7	95.2	22.2	4	31.7	50.8	42.9	79.4	42.9	27.7	27.7	42.9	-
25	1	158.7	107.9	25.4	4	34.9	57.1	47.7	88.9	47.7	34.5	34.5	50.8	-
32	1 1/4	184.1	130.2	28.6	4	38.1	73.0	52.4	95.2	52.4	43.2	43.2	63.5	-
40	1 1/2	203.2	146.0	31.7	4	44.4	79.4	60.3	111.1	60.3	49.5	49.5	73.0	-
50	2	234.9	171.4	28.6	8	50.8	95.2	69.8	127.0	69.8	62.4	62.0	92.1	-
65	2 1/2	266.7	196.8	31.7	8	57.1	114.3	79.4	142.9	79.4	74.7	74.7	104.8	-
80	3	304.8	228.6	34.9	8	66.7	133.3	92.1	168.3	92.1	90.7	90.7	127.0	-
100	4	355.6	273.0	41.3	8	76.2	165.1	107.9	190.5	107.9	116.1	116.1	157.2	-
125	5	419.1	323.8	47.6	8	92.1	203.2	130.0	228.6	130.0	143.8	143.8	185.7	-
150	6	482.6	368.3	54.0	8	107.9	234.9	152.4	273.0	152.4	170.7	170.7	215.9	-
200	8	552.4	438.1	54.0	12	127.0	304.8	177.8	317.5	177.8	221.5	221.5	269.9	-
250	10	673.1	539.7	66.7	12	165.1	374.6	228.6	419.1	228.6	276.3	276.3	323.8	-
300	12	762.0	619.1	73.0	12	184.1	441.3	254.0	463.5	254.0	327.1	327.1	381.0	-

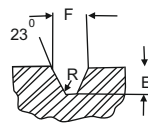
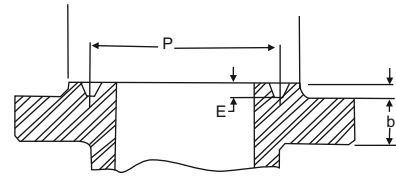
1) All Dimensions are in Millimeters 2) Welding neck flange bore (B) see page No.1 to be specified by purchaser.  
3) Flanges except Lap Joint will be furnished with (1.6mm) Raised Face, which is included in Thickness (C) and Length through Hub (Y).

## FINITURE FACCE DI CONTATTO FLANGE FACINGS



Ø	R	S	T	U	W	X	Y	Z		K1	L	
1/2"	34.9	18.3	34.9	25.4	36.5	19.8	36.5	23.8		44.5	46.0	
3/4"	42.9	23.8	42.9	33.3	44.4	25.4	44.4	31.7		52.4	54.0	
1"	50.8	30.2	47.6	38.1	52.4	31.7	49.2	36.5		57.1	61.9	
1 1/4"	63.5	38.1	57.1	47.6	65.1	39.7	58.8	46.0		66.7	74.6	
1 1/2"	73.0	44.4	63.5	54.0	74.6	46.0	65.1	52.4		73.0	84.1	
2"	92.1	57.1	82.5	73.0	93.7	58.8	84.1	71.4		92.1	103.2	
2 1/2"	104.8	68.3	95.2	85.7	106.4	69.8	96.8	84.1		104.8	115.9	
3"	127.0	84.1	117.5	108.0	128.6	85.7	119.1	106.4		127.0	138.1	
4"	157.2	109.5	144.5	131.8	158.8	111.1	146.1	130.2		157.2	168.3	
5"	185.7	136.5	173.0	160.3	187.3	138.1	174.6	158.8		185.7	196.9	
6"	215.9	161.9	203.2	190.5	217.5	163.5	204.8	188.9		215.9	227.0	
8"	269.9	212.7	254.0	238.1	271.5	214.3	255.6	236.5		269.9	281.0	
10"	323.8	266.7	304.8	285.7	325.4	268.3	306.4	284.2		323.8	335.0	
12"	381.0	317.5	361.9	342.9	382.6	319.1	363.5	341.3		381.0	392.1	
14"	412.7	349.2	393.7	374.6	414.3	350.8	395.3	373.1		412.7	423.9	
16"	469.9	400.0	447.7	425.4	471.5	401.6	449.3	423.9		469.9	481.0	
18"	533.4	450.8	511.2	488.9	535.0	452.4	512.3	487.4		533.4	544.5	
20"	584.2	501.6	558.8	533.4	585.8	503.2	560.4	531.8		584.2	595.4	
24"	692.1	603.2	666.7	641.2	693.7	604.8	668.3	639.8		692.1	703.3	

**Dimensioni Scanalature per Ring-Joint**  
**Facing Dimensions of Ring-Joint grooves**  
**150-300-400-600-900 lbs**



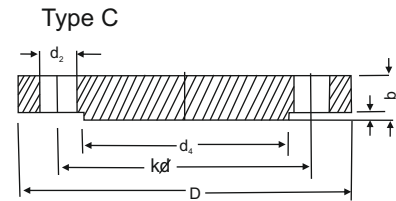
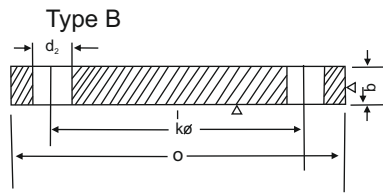
b = minimum flange thickness  
minimo spessore flange  
L = E

Nominal Pipe Size		150 lbs					
DN		Ring number N° dell'anello	Pitch diameter of groove Diam. medio scanalatura	Width of Groove Largh. scanal.	Diameter of Raised Face Diam. risalto	Depth of Groove Profond. scanal.	Corner Radius Raggio sul fondo
		P	F	K	E	R	
1/2"	Inches	-	-	-	-	-	-
3/4"	Inches	-	-	-	-	-	-
1"	Inches	R15	17/8 47.6	11/32 8.7	21/2 63.5	1/4 6.4	1/32 0.8
1 1/4"	Inches	R17	21/4 57.1	11/32 8.7	27/8 73.0	1/4 6.4	1/32 0.8
1 1/2"	Inches	R19	29/16 65.1	11/32 8.7	31/4 82.5	1/4 6.4	1/32 0.8
2"	Inches	R22	31/4 82.5	11/32 8.7	4 101.6	1/4 6.4	1/32 0.8
2 1/2"	Inches	R25	4 101.6	11/32 8.7	43/4 120.6	1/4 6.4	1/32 0.8
3"	Inches	R29	41/2 114.3	11/32 8.7	51/4 133.3	1/4 6.4	1/32 0.8
3 1/2"	Inches	R33	53/16 131.8	11/32 8.7	61/16 154.0	1/4 6.4	1/32 0.8
4"	Inches	R36	57/8 149.2	11/32 8.7	63/4 171.4	1/4 6.4	1/32 0.8
5"	Inches	R40	63/4 171.4	11/32 8.7	75/8 193.7	1/4 6.4	1/32 0.8
6"	Inches	R43	75/8 193.7	11/32 8.7	85/8 219.1	1/4 6.4	1/32 0.8
8"	Inches	R48	93/4 247.6	11/32 8.7	103/4 273.0	1/4 6.4	1/32 0.8
10"	Inches	R52	12 304.8	11/32 8.7	13 330.2	1/4 6.4	1/32 0.8
12"	Inches	R56	15 381.0	11/32 8.7	16 406.4	1/4 6.4	1/32 0.8
14"	Inches	R59	15 5/8 396.9	11/32 8.7	163/4 425.4	1/4 6.4	1/32 0.8
16"	Inches	R64	17 7/8 454.0	11/32 8.7	19 482.6	1/4 6.4	1/32 0.8
18"	Inches	R68	20 3/8 517.5	11/32 8.7	21 1/2 546.1	1/4 6.4	1/32 0.8
20"	Inches	R72	22 558.8	11/32 8.7	23 1/2 596.9	1/4 6.4	1/32 0.8
22"	Inches	R80	24 1/4 615.9	11/32 8.7	25 1/2 647.7	1/4 6.4	1/32 0.8
24"	Inches	R76	26 1/2 673.1	11/32 8.7	28 711.2	1/4 6.4	1/32 0.8
26"	Inches		28 5/8 727.1	13/32 10.3	30 3/4 771.5	5/16 7.9	1/32 0.8
28"	Inches		-	-	-	-	-
30"	Inches		32 7/8 835.0	13/32 10.3	34 5/8 7.9	5/16 7.9	1/32 0.8
32"	Inches		-	-	-	-	-
34"	Inches		37 939.8	17/32 13.5	38 7/8 987.4	3/8 9.5	
36"	Inches		39 1/4 996.9	17/32 13.5	41 1/8 1044.6	3/8 9.5	
42"	Inches		46 1168.4	17/32 13.5	47 7/8 1216.0	3/8 9.5	

Nominal Pipe Size		300-400-600 lbs					
DN		Ring number N° dell'anello	Pitch diameter of groove Diam. medio scanalatura	Width of Groove Largh. scanal.	Diameter of Raised Face Diam. risalto	Depth of Groove Profond. scanal.	Corner Radius Raggio sul fondo
		P	F	K	E	R	
R11	11 1/16 34.1	9/32 7.1	2 50.8	7/32 5.6	1/32 0.8		
R13	11 1/16 42.9	11/32 8.7	2 1/2 63.5	1/4 6.4	1/32 0.8		
R16	2 50.8	11/32 8.7	2 3/4 69.8	1/4 6.4	1/32 0.8		
R18	2 3/8 60.3	11/32 8.7	3 1/8 79.4	1/4 6.4	1/32 0.8		
R20	2 11/16 68.3	11/32 8.7	3 9/16 90.5	1/4 6.4	1/32 0.8		
R23	3 1/4 82.5	15/32 11.9	4 1/4 107.9	5/16 7.9	1/32 0.8		
R26	4 101.6	15/32 11.9	5 127.0	5/16 7.9	1/32 0.8		
R31	4 7/8 123.8	15/32 11.9	5 3/4 146.0	5/16 7.9	1/32 0.8		
R34	5 3/16 131.8	15/32 11.9	6 1/4 158.7	5/16 7.9	1/32 0.8		
R37	5 7/8 149.2	15/32 11.9	6 7/8 174.6	5/16 7.9	1/32 0.8		
R41	7 1/8 181.0	15/32 11.9	8 1/4 209.5	5/16 7.9	1/32 0.8		
R45	8 5/16 211.1	15/32 11.9	9 1/2 241.3	5/16 7.9	1/32 0.8		
R49	10 5/8 269.9	15/32 11.9	11 7/8 301.6	5/16 7.9	1/32 0.8		
R53	12 3/4 323.8	15/32 11.9	14 355.6	5/16 7.9	1/32 0.8		
R57	15 381.0	15/32 11.9	16 1/4 412.7	5/16 7.9	1/32 0.8		
R61	16 1/2 419.1	15/32 11.9	18 457.2	5/16 7.9	1/32 0.8		
R65	18 1/2 469.9	15/32 11.9	20 508.0	5/16 7.9	1/32 0.8		
R69	21 533.4	15/32 11.9	22 5/8 574.1	5/16 7.9	1/32 0.8		
R73	23 584.2	17/32 13.5	25 635.0	3/8 9.5	1/15 1.6		
R81	25 635.0	19/32 15.1	27 685.8	7/16 11.1	1/15 1.6		
R87	27 1/4 692.1	21/32 16.7	29 1/2 749.3	7/16 11.1	1/15 1.6		
R93	29 749.3	25/32 19.8	31 7/8 809.6	1/2 12.7	1/15 1.6		
R94	31 1/2 800.1	25/32 19.8	33 7/8 860.4	1/2 12.7	1/15 1.6		
R95	33 3/4 857.2	25/32 19.8	36 1/8 917.6	1/2 12.7	1/15 1.6		
R96	36 914.4	29/32 23.0	38 3/4 984.2	9/16 14.3	1/15 1.6		
R97	38 965.2	29/32 23.0	40 3/4 1035	9/16 14.3	1/15 1.6		
R98	40 1/4 1022.3	29/32 23.0	43 1092.2	9/16 14.3	1/15 1.6		
	47 1193.8	11/16 27.0	50 3/16 1274.7	5/8 15.9			

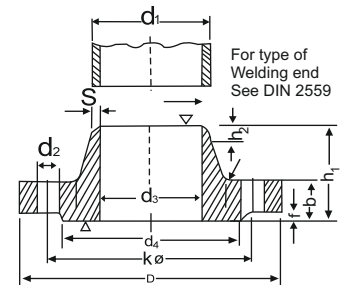
Nominal Pipe Size		900 lbs					
DN		Ring number N° dell'anello	Pitch diameter of groove Diam. medio scanalatura	Width of Groove Largh. scanal.	Diameter of Raised Face Diam. risalto	Depth of Groove Profond. scanal.	Corner Radius Raggio sul fondo
		P	F	K	E	R	
1/2"	Inches	R12	19/16 39.7	11/32 8.7	2 3/8 60.3	1/4 6.4	1/32 0.8
3/4"	Inches	R14	13/4 44.4	11/32 8.7	2 5/8 66.7	1/4 6.4	1/32 0.8
1"	Inches	R16	2 50.8	11/32 8.7	2 13/16 71.4	1/4 6.4	1/32 0.8
1 1/4"	Inches	R18	2 3/8 60.3	11/32 8.7	2 3/16 81.0	1/4 6.4	1/32 0.8
1 1/2"	Inches	R20	2 11/16 68.3	11/32 8.7	3 5/8 92.1	1/4 6.4	1/32 0.8
2"	Inches	R24	3 3/4 95.2	15/32 11.9	4 7/8 123.8	5/16 7.9	1/32 0.8
2 1/2"	Inches	R27	4 1/4 107.9	15/32 11.9	5 3/8 136.5	5/16 7.9	1/32 0.8
3"	Inches	R31	4 7/8 123.8	15/32 11.9	6 1/8 155.6	5/16 7.9	1/32 0.8
4"	Inches	R37	5 7/8 149.2	15/32 11.9	7 1/8 181.0	5/16 7.9	1/32 0.8
5"	Inches	R41	5 7/8 181.0	15/32 11.9	8 1/2 215.9	5/16 7.9	1/32 0.8
6"	Inches	R45	8 5/16 211.1	15/32 11.9	9 1/2 241.3	5/16 7.9	1/32 0.8
8"	Inches	R49	10 5/8 269.9	15/32 11.9	12 1/8 308.0	5/16 7.9	1/32 0.8
10"	Inches	R53	12 3/4 323.8	15/32 11.9	14 1/4 361.9	5/16 7.9	1/32 0.8
12"	Inches	R57	15 381.0	15/32 11.9	16 1/2 419.1	5/16 7.9	1/32 0.8
14"	Inches	R62	16 1/2 419.1	21/32 16.7	18 3/8 466.7	7/16 11.1	1/16 1.6
16"	Inches	R66	18 1/2 469.9	21/32 16.7	20 5/8 523.9	7/16 11.1	1/16 1.6
18"	Inches	R70	21 533.4	25/32 19.8	23 3/8 583.7	1/2 12.7	1/16 1.6
20"	Inches	R74	23 584.2	25/32 19.8	25 1/2 647.7	1/2 12.7	1/16 1.6
24"	Inches	R78	27 1/4 692.1	11/16 27.0	30 3/8 771.5	5/8 15.9	3/32 2.4
26"	Inches	R100	29 1/2 749.3	13/16 30.2	32 3/4 831.9	11/16 17.5	3/32 2.4
28"	Inches	R101	31 1/2 800.1	15/16 33.3	35 889.0	11/16 17.5	3/32 2.4
30"	Inches	R102	33 3/4 857.2	15/16 33.3	37 1/4 946.2	11/16 17.5	3/32 2.4
32"	Inches	R103	36 914.4	15/16 33.3	39 1/2 1003.3	11/16 17.5	3/32 2.4
34"	Inches	R104	38 965.2	17/16 36.5	42 1066.8	13/16 20.6	3/32 2.4
36"	Inches	R105	40 1/4 1022.3	17/16 36.5	44 1/4 1124.0	13/16 20.6	3/32 2.4





**DIN 2527**

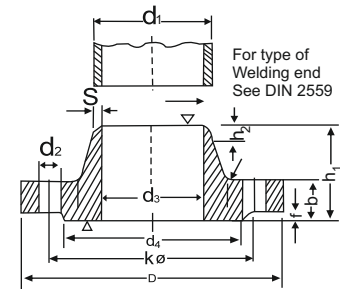
NW	D	Flange		Raised face		No.	Bolts		Dia of Bolt Hole	Weight of One Flange (7.85 Kg./dm <sup>3</sup> )	
		b	k	d <sub>1</sub>	f		Number	Thread		Type-B	Type-C
10	75	12	50	35	2	4	M 10	-	11.5	0.38	0.33
15	80	12	55	40	2	4	M 10	-	11.5	0.44	0.38
20	90	14	65	50	2	4	M 10	-	11.5	0.65	0.59
25	100	14	75	60	2	4	M 10	-	11.5	0.82	0.74
32	120	14	90	70	2	4	M 12	(1/2")	14	1.17	1.07
40	130	14	100	80	3	4	M 12	(1/2")	14	1.39	1.21
50	140	14	110	90	3	4	M 12	(1/2")	14	1.62	1.43
65	160	14	130	110	3	4	M 12	(1/2")	14	2.44	2.21
80	190	16	150	128	3	4	M 16	(5/8")	18	3.43	3.09
100	210	16	170	148	3	4	M 16	(5/8")	18	4.76	4.37
125	240	18	200	178	3	8	M 16	(5/8")	18	6.11	5.68
150	265	18	225	202	3	8	M 16	(5/8")	18	7.51	7.02
175	295	20	255	232	3	8	M 16	(5/8")	18	10.40	9.85
200	320	20	280	258	3	8	M 16	(5/8")	18	12.30	11.70
250	375	22	335	312	3	12	M 16	(3/8")	18	18.30	17.60
300	440	22	395	365	4	12	M 20	(3/4")	23	25.30	24.00
350	490	22	445	415	4	12	M 20	(3/4")	23	31.60	30.10
400	540	22	495	465	4	16	M 20	(3/4")	23	38.40	36.40
500	645	24	600	570	4	20	M 20	(3/4")	23	60.40	58.10



**DIN 2632**  
**Welding Neck Flanges for Nominal pressure 10**

Pipe		Flange				Neck				Raised face		Bolts		Weight of One Flange (7.85 Kg./dm <sup>3</sup> )kg	
NW	d <sub>1</sub>	D	b	k	h <sub>1</sub>	d <sub>3</sub>	s	-s	h <sub>2</sub>	d <sub>4</sub>	f	Number	Thread		d <sub>2</sub>
200	216	340	24	295	62	232	5.9	10	16	268	3	8			
	219.1					235									
250	267	395	26	350	68	285	6.3	12	16	320	3				
	273					292									
300	318	445	26	400	68	335	7.1	12	16	370	4	12	M 20	(3/4")	23
	323.9					344									
350	355.6	505	26	460	68	385	7.1	12	16	430	4				
	368														
400	406.4	565	26	515	72	440	7.1	12	16	482	4	16			
	419														
500	508	670	28	620	75	542	7.1	12	16	585	4		M 24	(7/8")	27
	521														
600	609.6	780	28	725	80	642	7.1	12	18	685	5	20	M 27	(1")	30
	622														

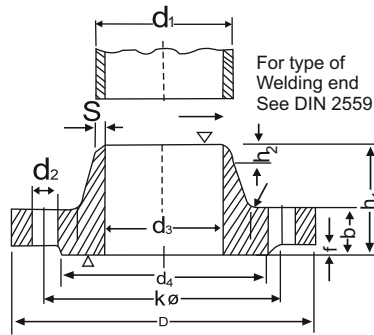
Note : For nominal sizes 10 upto 175 see DIN - 2633.



**DIN 2633**  
**Welding Neck Flanges for Nominal pressure 16**

Pipe		Flange				Neck						Bolts			Weight of One Flange (7.85 Kg./dm <sup>3</sup> )kg	
NW	d <sub>1</sub>	D	b	k	h <sub>1</sub>	d <sub>3</sub>	s	r	h <sub>2</sub>	d <sub>4</sub>	f	Number	Thread	d <sub>2</sub>		
10	14	90	14	60	35	25	1.8	4	6	40	2					0.580
	17.2					28										
15	20	95	14	65	35	30	2	4	6	45	2		M 12	(1/2")	14	0.648
	21.3					32										
20	25	105	16	75	38	38	2.3	4	6	58	2					0.952
	26.9					40										
25	30	115	16	85	38	42	2.6	4	6	68	2	4				1.14
	33.7					45										
32	38	140	16	100	40	52	2.6	6	6	78	2					1.69
	42.4					56										
40	44.5	150	16	110	42	60	2.6	6	7	88	3					1.86
	48.3					64										
50	57	165	18	125	45	72	2.9	6	8	102	3					2.53
	60.3					75										
65	76.1	185	18	145	45	90	2.9	6	10	122	3					3.06
	80					105										
80	88.9	200	20	160	50	105	3.2	8	10	138	3	4*8	M 16	(5/8*)	18	3.70
	100					125										
100	108	220	20	180	52	125	3.6	8	12	158	3					4.62
	114.3					131										
125	133	250	22	210	55	150	4	8	12	188	3	8				6.30
	139.7					156										
150	159	285	22	240	55	175	4.5	10	12	212	3		M 20	(3/4")	23	11.0
	168.3					184										
175	191	315	24	270	60	208	5.4	10	12	242	3	8				10.0
	193.7					210										
200	216	340	24	295	62	232	5.9	10	16	268	3		M 20	(3/4")	23	7.5
	219.1					235										
250	267	405	26	355	70	285	6.3	12	16	320	3	12				15.6
	273					292										
300	318	460	28	410	78	338	7.1	12	16	378	4		M 24	(7/8")	27	22.0
	323.9					344										
350	355.6	520	30	470	82	390	8	12	16	438	4	16				28.7
	368															
400	406.4	580	32	525	85	445	8	12	16	490	4		M 27	(1")	30	36.3
	419															
500	508	715	34	650	90	548	8	12	16	610	4	20	M 30	(1 1/8")	33	59.3
	521															
600	609.6	840	36	770	95	652	8.8	12	18	725	5		M 33	(1 1/4")	36	73.4
	622															
700	711.2	910	36	840	100	755	8.8	12	18	795	5	24				75.0
	720															
800	812.8	1025	38	950	105	855	10	12	20	900	5		M 36	(1 3/8")	39	99.0
	820															
900	914.4	1125	40	1050	110	955	10	12	20	1000	5	28				119
	920															
1000	1016	1255	42	1170	120	1058	10	16	22	1115	5		M 39	(1 1/2")	42	159
	1020															





## DIN 2635 Welding Neck Flanges for Nominal pressure 40

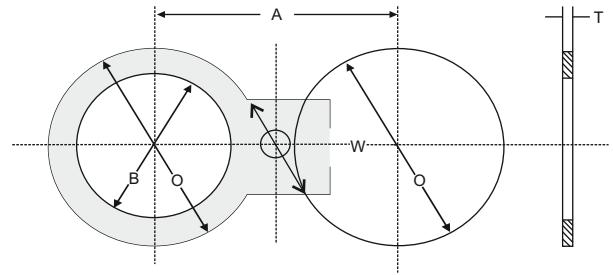
Pipe		Flange				Neck				Raised face		Bolts			Weight of One Flange (7.85 Kg./dm <sup>3</sup> )kg	
NW	d <sub>1</sub>	D	b	k	h <sub>1</sub>	d <sub>3</sub>	s	r	h <sub>2</sub>	d <sub>4</sub>	f	No.	Thread	d <sub>2</sub>		
10	14	90	16	60	35	25	1.8	4	6	40	2					0.661
	17.2					28										0.746
15	20	95	16	65	38	30	2	4	6	45	2					0.746
	21.3					32										1.06
20	25	105	18	75	40	38	2.3	4	6	58	2		M 12	(1/2")	14	1.06
	26.9					40										1.29
25	30	115	18	85	40	42	2.6	4	6	68	2	4				1.29
	33.7					46										1.88
32	38	140	18	100	42	52	2.6	6	6	78	2					1.88
	42.4					56										2.33
40	44.5	150	18	110	45	60	2.6	6	7	88	3					2.33
	48.3					64										2.82
50	57	165	20	125	48	72	2.9	6	8	102	3		M 16	(5/8")	18	2.82
	60.3					75										3.74
65	76.1	185	22	145	52	90	2.9	6	10	122	3					3.74
80	88.9	200	24	160	58	105	3.2	8	12	138	3					4.75
100	108	235	24	190	65	128	3.6	8	12	162	3	8	M 20	(3/4")	23	6.52
	114.3					134										9.07
125	133	270	26	220	68	155	4	8	12	188	3	8	M 24	(7/8")	27	9.07
	139.7					162										11.8
150	159	300	28	250	75	182	4.5	10	12	218	3					11.8
	168.3					192										18.2
175	191	350	32	295	82	215	5.6	10	15	260	3					18.2
	193.7					218										21.5
200	216	375	34	320	88	240	6.3	10	16	285	3	12	M 27	(1")	30	21.5
	219.1					244										34.9
250	267	450	38	385	105	298	7.1	12	18	345	3					34.9
	273					306										49.7
300	318	515	42	450	115	352	8	12	18	410	4		M 30	(1 1/8")	33	49.7
	323.9					362										68.1
350	355.6	580	46	510	125	408	8.8	12	20	460	4	16	M 33	(1 1/4")	36	68.1
	368					462										96.5
400	406.4	660	50	585	135	462	11	12	20	535	4		M 36	(1 3/8")	39	96.5
	419					562										117
500	508	755	52	670	140	562	14.2	12	20	615	4	20	M 39	(1 1/2")	42	117
	521					117										

\* 4 bolts for ND 10 (nominal pressure) (the order than reeds welding neck flange 80/88.9 ND 10 DIN 2633)

## ANSI / ASME B-16.48

### Spectacle Flg8 RF & FF, Spacer & Blanks Spectacle Flanges

150 Class, 300 Class, 600 Class, 900 Class



CLASS 150					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness T	Web Width W
1/2"	16	44	60	6	38
3/4"	21	54	70	6	38
1"	27	64	79	6	38
1 1/4"	42	73	88	6	38
1 1/2"	48	83	99	6	38
2"	60	102	121	6	51
2 1/2"	73	121	140	6	51
3"	89	133	152	6	64
3 1/2"	102	159	178	10	64
4"	114	171	190	10	64
5"	141	194	216	10	76
6"	168	219	241	13	76
8"	219	276	298	13	76
10"	273	337	362	16	102
12"	324	406	432	19	102
14"	356	448	476	19	108
16"	406	511	540	22	108
18"	457	546	578	26	114
20"	508	603	635	28	121
24"	610	714	749	32	140

CLASS 300					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness T	Web Width W
1/2"	16	51	67	6	38
3/4"	21	64	83	6	38
1"	27	70	89	6	38
1 1/4"	42	79	99	6	38
1 1/2"	48	92	114	6	51
2"	60	108	127	10	51
2 1/2"	73	127	149	10	64
3"	89	146	168	10	64
3 1/2"	102	162	184	13	64
4"	114	178	200	13	64
5"	141	213	235	16	76
6"	168	248	220	16	76
8"	219	305	330	22	89
10"	273	359	387	25	102
12"	324	419	451	28	102
14"	356	483	514	32	121
16"	406	537	572	38	124
18"	457	594	629	41	114
20"	508	651	686	44	121
24"	610	772	813	51	140

CLASS 600					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness T	Web Width W
1/2"	16	51	67	6	36
3/4"	21	64	83	6	38
1"	27	70	89	10	57
1 1/4"	37	79	99	10	57
1 1/2"	43	92	114	10	67
2"	55	108	127	10	57
2 1/2"	67	127	149	13	67
3"	83	146	168	13	67
3 1/2"	96	159	184	16	76
4"	108	191	216	16	76
5"	135	238	267	19	86
6"	162	264	292	22	86
8"	212	318	349	28	95
10"	265	397	432	35	105
12"	315	454	489	41	105
14"	346	489	527	44	114
16"	397	562	600	51	124
18"	448	610	654	54	133
20"	497	678	724	64	133
24"	597	787	838	73	152

CLASS 900					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness T	Web Width W
1/2"	16	60	83	6	38
3/4"	21	67	89	6	41
1"	27	76	102	6	57
1 1/4"	37	86	111	10	57
1 1/2"	43	95	124	10	57
2"	55	140	165	13	57
2 1/2"	67	162	190	13	67
3"	83	165	190	16	67
4"	108	203	235	19	78
5"	135	244	279	22	86
6"	162	286	318	25	86
8"	212	356	394	35	95
10"	265	432	470	41	105
12"	315	495	533	48	105
14"	346	518	559	54	114
16"	397	572	616	60	124
18"	448	635	686	67	138
20"	497	695	749	73	133
24"	507	835	902	89	152

Notes

- (1) Thickness (dimension t) includes a corrosion allowance of 0.05 inch (1.3 millimeters) for material groups 1.1, 1.7, 1.9, 1.10, and 1, 12, Corrosion allowance is 0.00 inch for material groups 2.1, 2.2, 2.4 and 2.5
- (2) Hole size (where required due to bolt spacing) shall be the same as the flanges bolt hole.
- (3) The thickness of the web (or the bar) dimension Wt. shall be 0.25 inch (6.4 millimeter) minimum, except when r is less than 0.25 inch Wt. shall equal.

## 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
½"	21.3	95.3	66.7	4	12.7	4.8
¾"	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"	323.0	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 and upto 100 lbs per sq. inch

Nominal Pipe Size	Dia of Flange	Dia of Bolt Circle	No. of Bolt	Dia of Bolt	Thickness
½"	95.3	66.7	4	12.7	6.4
¾"	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 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
½"	21.3	95.3	66.7	4	12.7	9.5
¾"	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"	190.5	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 150 lbs and upto 250 lbs per sq. inch

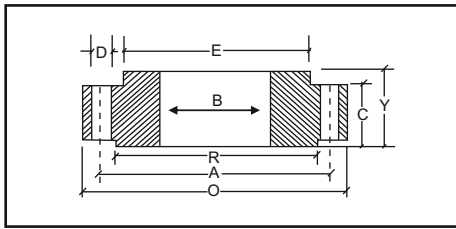
Nominal Pipe Size	Dia of Flange	Dia of Bolt Circle	No. of Bolt	Dia of Bolt	Thickness
½"	114.3	82.6	4	15.9	12.7
¾"	114.3	82.6	4	15.9	12.7
1"	120.78	87.3	4	15.9	14.3
1.1/4"	133.4	98.4	4	15.9	17.5
1.1/2"	139.7	104.8	4	15.9	17.5
2"	165.1	127.0	4	15.9	19.1
2.1/2"	184.2	146.1	8	15.9	19.1
3"	203.2	165.1	8	15.9	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	25	31.8	57.2

## WEIGHTS FOR FLANGES

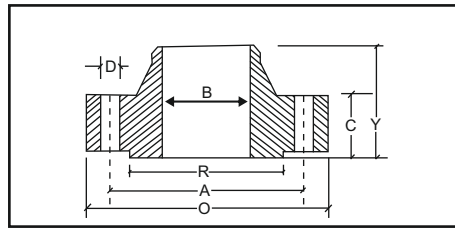
	NB	NB	WNRF	SORF	BLRF	LAPPED	THRD
<b>150#</b>	1/2"	15	0.7	0.4	0.5	0.4	0.4
	3/4"	20	0.8	0.7	0.8	0.7	0.7
	1"	25	1.1	0.8	0.9	0.8	0.8
	1 1/4"	32	1.5	1.2	1.3	1.1	1.2
	1 1/2"	40	1.8	1.4	1.6	1.4	1.5
	2"	50	2.7	2.2	2.6	2.2	2.3
	2 1/2"	65	4.4	3.5	4.1	3.5	3.7
	3"	80	5.2	3.8	5.1	3.8	4.1
	3 1/2"	90	6.4	5.0	6.5	5.0	5.1
	4"	100	7.5	5.6	7.5	5.6	5.9
	5"	125	9.2	6.5	9.2	6.5	7.0
	6"	150	11	8.1	11.8	8.1	8.4
	8"	200	18.4	13	20.4	13	13
	10"	250	25.5	18.4	31	18.4	18
	12"	300	37	28.5	47	28.5	29
	14"	350	51	37.5	60	41.5	39
	16"	400	61.5	44.5	81	53	47
	18"	450	71.5	54	93	59	57
20"	500	85	72	127	74	76	
24"	600	119	95	190	99	97	
<b>300#</b>	1/2"	15	0.8	0.7	0.8	0.7	0.7
	3/4"	20	1.4	1.2	1.2	1.2	1.2
	1"	25	1.7	1.4	1.5	1.4	1.4
	1 1/4"	32	2.2	1.8	2.0	1.8	1.9
	1 1/2"	40	3.2	2.7	2.9	2.7	2.8
	2"	50	3.6	3.2	3.5	3.2	3.3
	2 1/2"	65	5.4	4.5	5.3	4.5	4.6
	3"	80	7.3	5.9	7.2	5.9	6.3
	3 1/2"	90	8.9	7.5	9.2	7.5	7.8
	4"	100	11.8	10	12.2	10	10.2
	5"	125	16	12.5	16	12.5	12.9
	6"	150	20.2	16.5	22	16.5	16.8
	8"	200	31.2	25.5	36	25.5	26
	10"	250	44.3	35	55	35	37.5
	12"	300	63.5	52	82.5	62	53
	14"	350	86	73	108	86	73
	16"	400	112	88	139	113	88
	18"	450	141	115	178	134	115
20"	500	173	139	228	167	139	
24"	600	249	212	350	240	212	
<b>600#</b>	1/2"	15	0.9	0.8	0.8	0.8	0.9
	3/4"	20	1.6	1.4	1.4	1.4	1.4
	1"	25	1.9	1.7	1.7	1.7	1.8
	1 1/4"	32	2.6	2.1	2.4	2.1	2.3
	1 1/2"	40	3.6	3.1	3.4	3.1	3.3
	2"	50	4.7	3.9	4.4	3.9	4.0
	2 1/2"	65	4.8	5.4	6.8	3.4	5.5
	3"	80	8.7	7.3	8.8	7.3	7.4
	3 1/2"	90	11.6	9.8	12.7	9.0	9.2
	4"	100	16.4	16.5	18.6	16.1	16.8
	5"	125	31	28.5	30.8	27.5	28.5
	6"	150	37	36.2	38	35.4	36.2
	8"	200	54.5	51.5	62.2	49.5	21.5
	10"	250	98.5	76.2	102	74	76.2
	12"	300	105	69.5	132	89	89.5
	14"	350	150	102	168	114	102
	16"	400	177	150	225	165	150
	18"	450	228	100	285	194	180
20"	500	285	231	385	255	231	
24"	600	372	330	532	362	330	

	NB	NB	WNRF	SORF	BLRF	LAPPED	THRD
<b>900#</b>	1/2"	15	2.1	1.8	1.9	1.8	1.8
	3/4"	20	2.7	2.4	2.7	2.3	2.3
	1"	25	3.9	3.6	3.7	3.6	3.6
	1 1/4"	32	4.5	4.1	4.3	4.1	4.1
	1 1/2"	40	6.2	5.4	5.9	5.4	5.4
	2"	50	11.3	10.5	11.3	10.5	10.5
	2 1/2"	65	16.3	15.8	16	15.8	15.8
	3"	80	15	12.3	16.8	11.8	12.3
	3 1/2"	90					
	4"	100	24	23.2	24.5	22.6	23.2
	5"	125	38.5	37.5	39.5	36.5	37.5
	6"	150	50	48.3	51.5	47.5	48.3
	8"	200	85	75	89	86	75
	10"	250	123	110	131	124	110
	12"	300	168	146	187	167	146
	14"	350	198	172	224	180	172
	16"	400	225	192	259	210	192
	18"	450	318	272	383	294	272
20"	500	376	330	482	365	330	
24"	600	690	632	905	700	632	
<b>1500#</b>	1/2"	15	2.1	1.8	1.9	1.8	1.8
	3/4"	20	2.7	2.4	2.7	2.3	2.3
	1"	25	3.9	3.6	3.7	3.6	3.6
	1 1/4"	32	4.5	4.1	4.3	4.1	4.1
	1 1/2"	40	6.2	5.4	5.9	5.4	5.4
	2"	50	11.3	10.5	11.3	10.5	10.5
	2 1/2"	65	16.3	15.8	16	15.8	15.8
	3"	80	21	21.5	19.5	18.5	18.5
	3 1/2"	90					
	4"	100	31.8	31	33	29	29
	5"	125	59	58.8	60	54	53
	6"	150	72	74	75	62	61
	8"	200	124	112	125	106	105
	10"	250	207	184	215	173	172
	12"	300	306	264	316	262	264
	14"	350	416				
	16"	400	567				
	18"	450	736				
20"	500	929					
24"	600	1504					
<b>2500#</b>	1/2"	15	3.2		3	3	3
	3/4"	20	3.6		4.5	4	4
	1"	25	5.4		5	5	5
	1 1/4"	32	7.8		8	8	8
	1 1/2"	40	11.5		11	11	11
	2"	50	19		17	17	17
	2 1/2"	65	24		25	25	25
	3"	80	42.6	42.6	39	38	38
	3 1/2"	90					
	4"	100	64		60	58	58
	5"	125	111		101	95	95
	6"	150	171		156	146	146
	8"	200	261		242	220	220
	10"	250	495		465	420	420
	12"	300	698		665	590	590
	14"	350					
	16"	400					
	18"	450					
20"	500						
24"	600						

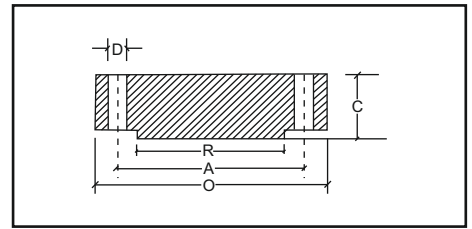
**SLIP - ON FLANGE**



**WELDING NECK FLANGE**



**BLIND FLANGE**



**DIMENSIONAL TOLERANCES**

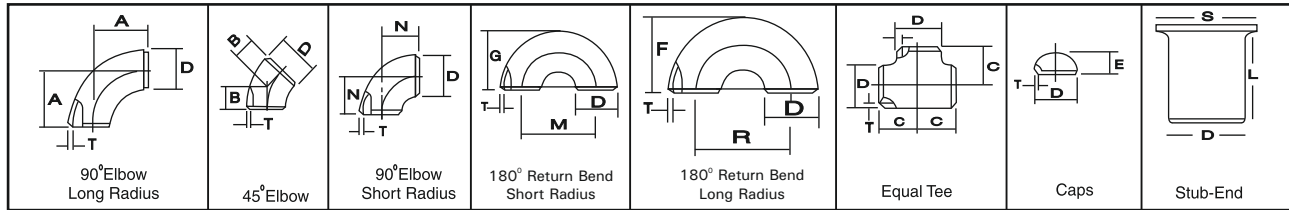
<b>Welding Neck</b>			
* Outside diameter	O.D. 600 or smaller O.D. over 600	± 1.6 ± 3.1	
inside diameter (bore)	250 and smaller	± 0.7	
	12 through 450	± 1.6	
	500 and larger	± 3.1	- 1.6
diameter of contact face	1.6 raised face	± 0.7	
	6.3 raised face : tongue & grooved male and female	± 0.4	
* diameter of hub at base	When E is 600 or smaller	± 1.6	
	When E is over 600	± 3.1	
diameter of hub at point of welding	125 and smaller	+ 0.7	± 0.7
	150 and larger	+ 0.4	± 0.0
thickness	450 and smaller	+ 3.1	- 0.0
	500 and larger	+ 4.7	- 0.0
length through hub	250 and smaller	± 1.6	
	300 and larger	± 3.1	
drilling	bolt circle	± 1.6	
	bolt hole spacing	± 0.7	
	eccentricity with respect to bore	0.7 max	

<b>Threaded, slip on, lap joint, socket welding and blind</b>			
* Outside diameter	O.D. 500 or smaller O.D. over 600	± 1.6 ± 3.1	
inside diameter (bore)	threaded	<i>to standard gauge limits slip-on : lap joint : socket welding :</i>	
	250 and smaller	+ 0.7	- 0.0
	300 and larger	+ 1.6	- 0.0
diameter of counter bore	threaded		
	250 and smaller 300 and larger	+ 0.7 + 1.6	- 0.0 - 0.0
* outside diameter of hub	300 and smaller 350 and larger	+ 2.3	- 1.6 ± 3.1
	diameter of contact face	1.6 raised face	± 0.7
6.3 raised : tongue & grooved. male & female		± 0.4	
thickness	450 and smaller	+ 3.1	- 0.0
	500 and larger	+4.7	- 0.0
	* length through hub	250 and smaller	± 1.6
300 and larger		± 3.1	
drilling	bolt circle	± 1.6	
	bolt hole spacing	± 0.7	
	eccentricity with respect to bore	0.7 max	

\* Not covered by ANSI-B 16.5

All dimensions are in Millimeters.

## BUTT WELDING PIPE FITTINGS



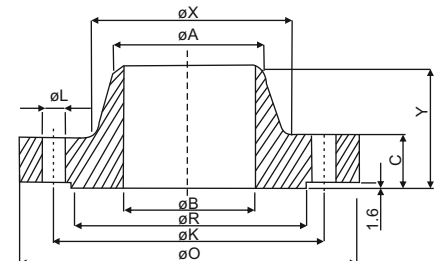
### DIMENSIONAL STANDARD ANSI B-16.9, B-16.28 MSS SP-43

Nominal Pipe Size		Outside Diameter	Center to Face				Back to Face			Center to Center			Length 'L'	
Inch.	mm		A	B	C	N	E	F	G	R	M	S	MSS SP43	ANSI B16.9
1/2	15	21.3	38	16	25	-	25	48	-	76	-	34.9	50.8	76.2
3/4	20	26.7	29	11	29	-	25	43	-	57	-	42.8	50.8	76.2
1	25	33.4	38	22	38	25	38	56	41	76	51	50.8	50.8	101.6
1 1/4	32	42.2	48	25	48	32	38	70	52	95	64	63.5	50.8	101.6
1 1/2	40	48.3	57	29	57	38	38	83	62	114	76	73	50.8	101.6
2	50	60.3	76	35	64	51	38	106	81	152	102	92	63.5	152.4
2 1/2	65	73.0	95	44	76	64	38	132	100	191	127	104.8	63.5	152.4
3	80	88.9	114	51	86	76	51	159	121	229	152	127	63.5	152.4
3 1/2	90	101.6	133	57	95	89	64	184	140	267	178	139.7	76.2	152.4
4	100	114.3	152	64	105	102	64	210	159	305	203	157.2	76.2	152.4
5	125	141.3	190	79	124	127	76	262	197	381	254	185.7	76.2	203.2
6	150	168.3	229	95	143	152	89	313	237	457	305	215.9	88.9	203.2
8	200	219.1	305	127	178	203	102	414	313	610	406	270	101.6	203.2
10	250	273.1	381	159	216	254	127	518	391	762	508	324	127	254

Nominal Pipe Size	Flange				Hub		Raised Face	Drilling Template		
	O	B	C	Y	A	X	R	No. of Holes	L	K
25	124.0	⊗	38.1	82.6	33.5	53.9	50.8	4	17.5	88.9
40	155.5	⊗	38.1	85.9	48.3	69.9	73.2	4	20.6	114.3
50	165.1	⊗	38.1	85.9	60.5	84.1	92.0	8	17.5	127.0
65	190.5	⊗	38.1	88.9	73.2	100.1	104.7	8	20.6	149.4
80	209.6	⊗	38.1	88.9	88.9	117.4	127.0	8	20.6	168.2
100	254.0	⊗	38.1	92.0	114.3	146.1	157.2	8	20.6	200.2
150	317.5	⊗	38.1	100.1	168.4	206.3	215.9	12	22.4	269.8
200	381.0	⊗	41.2	111.3	219.2	260.4	269.8	12	25.4	330.2
250	444.5	⊗	47.8	117.4	273.1	320.6	323.9	16	28.5	387.4
300	520.7	⊗	50.8	130.1	323.9	374.7	381.0	16	31.8	450.9
350	584.2	⊗	53.9	142.8	355.6	425.5	412.8	20	31.8	514.4
400	647.7	⊗	57.2	146.1	406.4	482.6	469.9	20	35.1	571.5
450	711.2	⊗	60.5	158.8	457.2	533.4	533.4	24	35.1	628.7
500	774.7	⊗	63.5	162.1	508.0	587.3	584.2	24	35.1	685.8
600	914.4	⊗	69.9	168.2	609.6	701.6	692.2	24	41.2	812.8

**Dimensions as per  
ANSI B 16.36 300#  
Orifice Flanges**

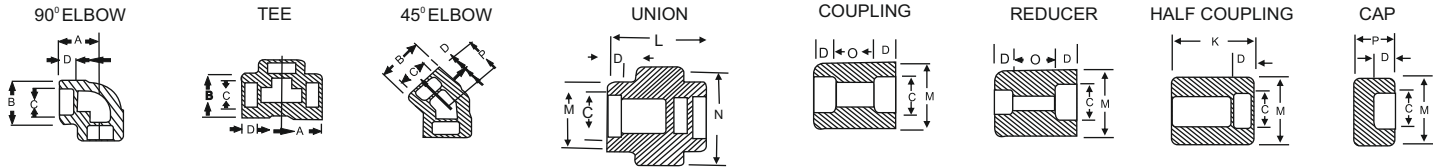
NOTE 4



**Dimensions as per  
ANSI B 16.36 300#  
Orifice Flanges**

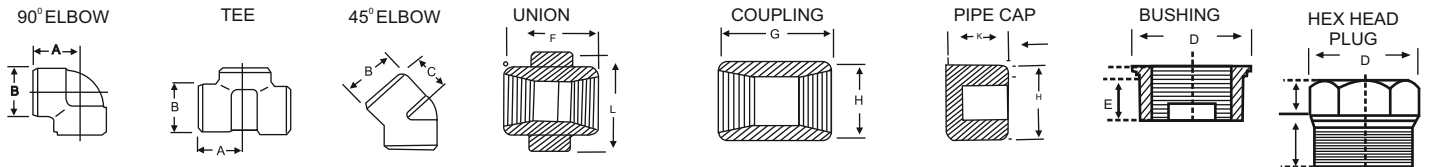


## Socket Weld Fitting To ANSI B-16.11



NOM BORE	PIPE O.D.	3000 LBS									COMMON FACTORS				6000 LBS				
		A max.	B max.	K	J	L	M	N	P	Q	C min.	D min.	O min.	O max.	A	B	M	K	N
1/8"	10.3	22	18.5	26	16	40	17.3	32	15	10	10.7	10	5	8	22	22	20	25	46
1/4"	13.7	22	22	26	18	43	21.2	32	15	10	14.1	10	5	8	27	25	24	25	51
3/8"	17.2	25	25	26	19	48	25.4	36	16.5	10	17.6	10	3	9	27	28	28	26	60
1/2"	21.3	27	32	30	21	51	31	41	16.5	10	21.7	10	6	13	31	34	34	31	72
3/4"	26.7	34	38	36	24	57	37	50	19.5	13	27	13	6	13	37	42	41	35	80
1"	33.4	37	46	40	25	64	45.2	60	22.5	13	33.8	13	9	17	42	50	50	40	94
1 1/4"	42.2	42	56	40	29	70	55	70	22.5	13	42.6	13	9	17	47	59	58	41	100
1 1/2"	48.3	47	62	40	30	79	61.4	78	24	13	48.7	13	9	17	53	67	66	43	122
2"	60.3	56	75	55	37	89	75	95	29	13	61.2	16	15	23	59	84	83	55	
2 1/2"	73.02	60	92	65	48	114	91.3	125	32	16	73.8	16	14	24		102		56	
3"	89.00	76	110	65	51	127	108.8	140	35	16	89.8	16	14	24		121		58	
4"	114.50	88	137	70		150	136.9		42	19	115.5	19	14	24		152		64	

## Forged Screwed Fitting To ANSI B-16.11 3000/6000 LBS. Threaded To ASA B 2.1



(DIMENSIONS IN MM)

NOM BORE	PIPE O.D.	3000 LBS						COMMON FACTORS						6000 LBS					
		A	B	C	G	H	K	D	E	F	I	J	L	A	B	C	G	H	K
1/8"	10.3	21	22	17	32	16	19	11	10	40	-	6	-	25	25	19	32	22	-
1/4"	13.7	25	25	19	35	19	25	16	11	43	3	6	32	29	33	22	35	25	27
3/8"	17.2	29	33	22	38	22	25	17.5	13	48	4	8	38	33	38	25	38	32	27
1/2"	21.3	33	38	25	48	29	32	22	15	51	5	8	46	38	46	29	48	38	33
3/4"	26.7	38	46	29	51	35	37	27	16	57	6	10	51	44	56	33	51	44	38
1"	33.4	44	56	33	60	44	41	35	19	64	6	10	60	51	62	35	60	57	43
1 1/4"	42.2	51	62	35	67	57	44	44.5	21	70	7	14	72	60	75	43	67	64	46
1 1/2"	48.3	60	75	43	79	64	44	51	21	79	8	16	80	64	84	44	79	76	48
2"	60.3	64	84	45	86	76	48	63.5	22	88	9	17	94	83	102	52	86	92	51
2 1/2"	73.02	83	102	52	92	92	60	76	27	118	10	21	122	95	121	64	92	108	64
3"	89.0	95	121	64	108	108	65	89	29	121	10	25	140	106	146	79	108	127	68
4"	114.5	114	152	79	121	140	68	117.5	32	150	13	25	180	114	152	79	121	159	75

DIMENSIONS AND OTHERS SPECIFICATIONS AS PER CUSTOMERS REQUIREMENTS ARE AVAILABLE ON REQUEST

## Swaged Nippolets

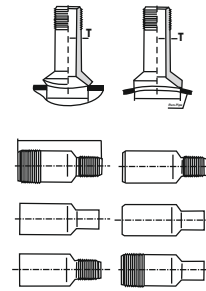
(in millimeters)

3000# (in millimeters)

Run-Pipe Size	Outlet Size	Wall-T	G	Unit Weight (kg)
36-34	1/2	7.3	23.9	0.36
36-1	3/4	7.9	30.2	0.56
36-1 1/4	1	8.9	36.6	0.84
36-1 1/2	1 1/4	9.7	44.5	1.22
36-2	1 1/2	10.2	50.8	2.00
36-2 1/2	2	11/2	65/0	3.12

MSS SP-95

TBE Threaded both end  
PBE Plain both end  
BLE/PSE Beveled large end-Threaded small end  
BLE/PSE Beveled large-Plain small end  
TLE/PSE Threaded large end-Plain small end

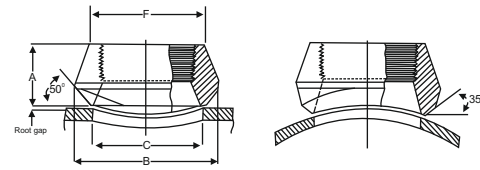


Large end Size	Small end Size	Length-L
1/2	3/8-1/8	70
3/4	1/2-1/8	76
1	3/4-1/8	89
1 1/4	1-1/8	102
1 1/2	1 1/4-1/8	114
2	1 1/2-1/8	165
2 1/2	2 - 1/8	178
3	2 1/2 - 1/8	203
3 1/2	3-1/8	203
4	3 1/2-1/8	229

## Forged Steel Outlet Fittings Sockolets, Weldolet & Thredolets

3000#, 6000#

Outlet Size	A		B		C	
	3000#	6000#	3000#	6000#	3000#	6000#
1/2	25.4	31.8	34.9	44.5	23.8	19.1
3/4	27.0	36.5	44.5	50.8	30.2	25.4
1	33.3	39.7	54.0	61.9	36.5	33.3
1 1/4	33.3	41.3	65.1	69.9	44.5	38.1
1 1/2	34.9	42.9	73.0	82.6	50.8	49.2
2	38.1	52.4	88.9	103.2	65.1	69.9
2 1/2	46.0	-	103.2	-	76.2	-
3	50.8	-	122.2	-	93.7	-
4	57.2	-	152.4	-	120.7	-



Applicable Run Pipe Size are From out-Let to 36"

For the 3000# and 6000# Sockolets and Thredolets, Inside Bore,

Thread, Socket Bore and Socket depth Dimensions are According to ANSI B 16.11

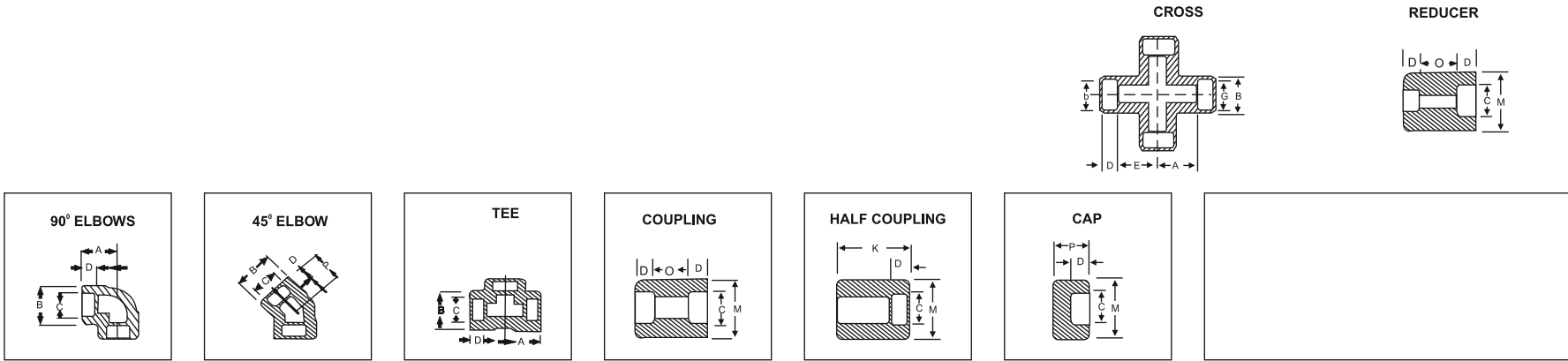
Pipe Schedule Numbers and Weight Designation are in Accordance With ANSI B36.10

When Ordering Sockolets and Thredolets, Include The Quantity, Run and Out-Let Size Item And Rating (or Schedule Number) and Material

## Formulae of Calculating Weight

- Weight of Stainless Steel Pipe  
O.E. (mm) - W. Thick (mm) X W. Thick (mm) X 0.0248 = Wt. Per Mtr.  
O.D. (mm) - W. Thick (mm) X W. Thick (mm) X 0.00756 = Wt. Per Feet
- Weight of Stainless Steel Round Bar  
Dia (mm) X Dia (mm) X 0.00623 = Wt. per Mtr.  
Dia (mm) X Dia (mm) X 0.0019 = Wt. per Feet
- Weight of Stainless Steel Square Bar  
Dia (mm) X Dia (mm) X 0.00788 = Wt. per Mtr.  
Dia (mm) X Dia (mm) X 0.0024 = Wt. per Feet
- Weight of Stainless Steel Hexagonal Bar  
A/F (mm) X A/F (mm) X 0.00680 = Wt. per Mtr.  
A/F (mm) X A/F (mm) X 0.002072 = Wt. per Feet
- Weight of Stainless Steel Sheets & Plates  
Lenght (Mtrs) X Width (Mtrs) X Thick (mm) X 8 = Weight per PC  
Lenght (Feet) X Width (Feet) X Thick (mm) X 3/4 = Weight per PC
- Weight of Stainless Steel Circle  
Dia (mm) x Dia (mm) x Thick (mm) x 160000 Weight per PC  
Dia (mm) x Dia (mm) x Thick (mm) x 0.0000063 - Kg Per PC
- Weight of Brass Pipe / Copper Pipe  
OD - Thick x Thick x 0.00876 = Per Ft.  
OD - Thick x Thick x 0.0260 = Per Mtr.
- Weight of Aluminium Pipe  
O.D. (mm) - Thick (mm) X Thick (mm) X 0.0083 = Wt. Per Mtr.
- Formula For Making of Pipe From Sheet  
O.D. - Wt x Thickness x 3.14 = Width of Sheet
- Weight of Aluminium Sheet  
Lenght (Mtrs) X Width (Mtrs) X Thick (mm) X 2.69 = Weight per PC
- Weight Conversion of Mtrs. to Ft. (Pipe)  
Meter = 3.2808 Foot = Wt. Per Feet

## SOCKET - WELDING PIPE FITTINGS



<b>DIMENSIONAL STANDARD ANSI B 16.11</b>																
Nominal Size		Socket Bore	Dept of Socket	Dimention		Centre to Face of Socket						End to End				
Inch	mm	D	F	A	B	C			E			G			H	
						3000 lbs	6000 lbs	9000 lbs	3000 lbs	6000 lbs	9000 lbs	3000 lbs	6000 lbs	9000 lbs	3000 lbs	6000 lbs
1/8	6	10.8	9.7	25.7	25.4	20.8	20.8	-	17.5	17.5	-	14.5	-	-	-	-
1/4	8	14.2	9.7	25.7	25.4	20.8	23.1	-	17.5	17.5	-	14.5	16.0	-	35.0	41.0
3/8	10	17.7	9.7	25.7	27.2	23.1	25.4	-	17.5	20.8	-	14.5	16.0	-	41.0	50.0
1/2	15	21.8	9.7	28.9	32.0	25.4	28.7	35.1	20.8	22.4	25.4	16.0	17.5	-	54.0	60.0
3/4	20	27.2	12.7	35.1	36.6	31.8	35.1	41.2	25.4	26.9	31.8	19.1	20.6	-	60.0	70.0
1	25	33.9	12.7	38.1	41.2	35.1	39.6	44.5	26.9	30.2	33.3	22.4	23.9	-	70.0	80.0
1.1/4	32	42.7	12.7	38.1	42.9	39.6	44.5	47.8	30.3	33.3	35.1	22.4	23.9	-	80.0	88.0
1.1/2	40	48.8	12.7	38.1	44.5	44.5	50.8	50.8	33.3	38.1	38.1	23.9	25.4	-	88.0	91.0
2	50	61.2	15.7	50.5	56.9	53.8	56.9	69.6	41.1	44.2	28.4	31.5	-	91.0	106.0	-
2.1/2	65	74.0	15.7	50.5	58.7	56.9	-	-	44.2	-	-	31.5	34.8	-	-	-
3	80	90.0	15.7	50.5	60.2	72.9	-	-	47.5	-	-	34.83	38.1	-	-	-
4	100	115.6	15.7	57.2	66.8	85.6	-	-	60.2	-	-	41.4	47.5	-	-	-