

॥ श्री श्रीयादेमाताजी नमः ॥



# RAJTRILOK METAL INDUSTRIES

AN ISO 9001:2015 CERTIFIED COMPANY



Quality With Integrity

[www.rajtrilokmetal.com](http://www.rajtrilokmetal.com)



## About Us

We **RAJTRILOK METAL INDUSTRIES** Mumbai take immense pleasure in introducing ourselves as one of the leading supplier in the Engineering Industry having integrated Steel Complex with modern integration to produce pipe Fittings/Forged Fittings & Fasteners. The organization has pioneered its operations in 2009 to produce Pipe Fittings & Fasteners, We have experience in this field for for past 10 years. We are manufacture & Stockist in Flanges & Pipe Fitting or Suppliers of Stainless Steel and carbon Steel, Flanges & Pipe Fittings, Plates, Flats, Rods, Round Bar, Pipes, Tubes, Fasteners, Fittings Etc.

Each of our department right from procurement, Production, Inventory, Market, Sales and Services are fully automated for a better supply chain management, so as to offer the best product quality and prompt service to our clients. Along with technological equipment, manpower is also given special attention. All our professionals are highly dedicated and committed to their client's requirements. Our efficient team of workers certainly stand up to provide quality service to you according to your specification.

Strict quality assurance system is being followed in all our departments and Total Quality Managements is applied to streamline and all the procedures and practices in operation to achieve high standard of efficiency. Continuous efforts are being made for improvement of materials technology and equipments to give best quality products at the most affordable prices. The materials supplied by us are as per the norms tested by Government recognized laboratories. & with IBR Test Certificate under Third Party Inspection Like EIL, TCE, MECON, PDIL, BAXCOUNSEL, BV, FEDO, UDHE, IBR, DNV, H & G, M.N. DASTUR & CO., DPG, BUREAU VERTIAS, ICB, IRS AND TPL ETC.

In this connection we are humbly requesting you to kindly instruct your departments to sent the valuable day to day enquiries us.

Trust to receive your valuable enquiries and we would assure you that we will serve to with Quality and professionalism to the best of our ability.

With Regards,  
For **RAJTRILOK METAL INDUSTRIES**  
Mumbai

## Testing Facility Available

- Chemical Analysis
- Hydrostatic
- Radiography
- Mechanical Test
- Corrsion Test
- Miscellaneous Test
- Metallography Test
- Ultrasonic Test





## FLANGES

- Nickel Alloy
- Stainless Steel & Duplex Steel
- Carbon Steel
- Alloy Steel
- Copper & Brass
- Aluminium

**Duplex & Super Duplex** : UNS S31803, UNS S32750, UNS S32760,

**Hastelloy Alloy** : ASTM B564 Hastelloy B2, C276, C22

**Incoloy Alloys** : ASTM B564 Alloy 20, Alloy A286  
Alloy 800H/800HT, Alloy 825,

**Inconel Alloys** : ASTM B564 Alloy 600, Alloy 601, Alloy  
625, Alloy 718, Alloy 725,

**Monel Alloys** : ASTM B564 Monel 400, Monel K500.

**Stainless Steel** : ASTM A182, F304, 304L, 304H, 316,  
316L, 317, 317L, 321, 310, 347, 904L

**Carbon Steel** : ASTM A105, A694 F42, A350 LF2

**Alloy Steel** : ASTM A182 F1, F5, F9, F11, F22, F91

**Size** : 1/2" NB TO 72" NB

**Class** : 150#, 300#, 600#, 900#, 1500# & 2500#.

### TYPE

- PLATE BLANK FLANGE
- LAP JOINT FLANGE
- WELDNECK FLANGE
- ORIFACE FLANGE
- LONG WELD NECK FLANGE
- SILIPON
- DECK FLANGES
- DRAWING FLANGES
- SCREWED FLANGE
- SOCKETWELD FLANGE
- BLIND FLANGE
- RTJ FLANGE
- THREADED FLANGE
- SPECTACLE
- LARGE RINGS
- REDUCING FLANGES

### Standard

ANSI Flanges : 150#, 300#, 600#, 900#, 1500# & 2500#.

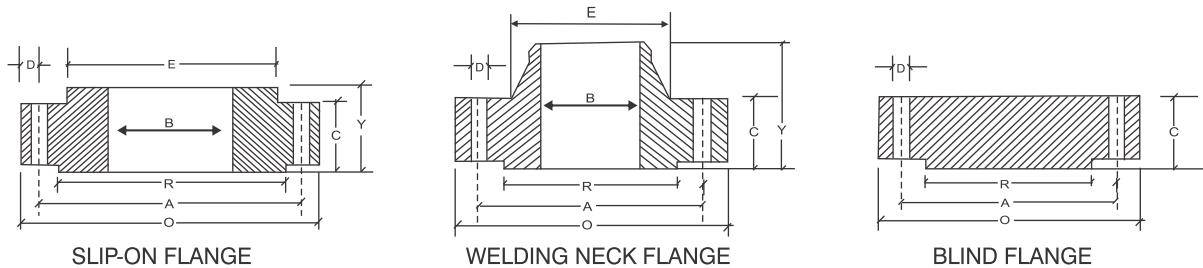
DIN : PN6, PN10, PN16, PN25, PN40

JIS : 5K, 10K

BS-10 : Table D, E, F, H.



## DIMENSIONS OF FORGED FLANGES ANSI 16.5



### ASA 150 CLASS

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	Pipe Dia	
							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	X		
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	21.33
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	26.67
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	33.40
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	42.16
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	48.26
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	60.31
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	73.02
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	88.90
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	114.30
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	141.30
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	168.27
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	219.07
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	273.05
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	323.85
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	355.60
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	406.40
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	457.20
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	508.00
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	609.60

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

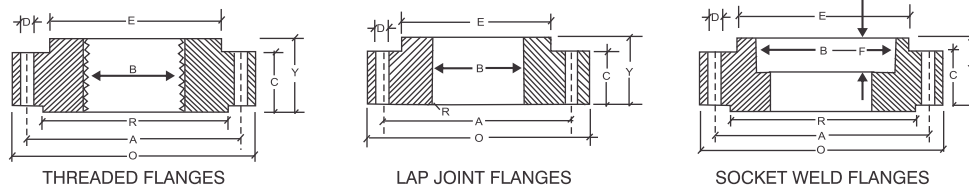
### ASA 300 CLASS

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	Pipe Dia	
							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	X		
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	21.33
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	26.67
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	33.40
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	42.16
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	48.26
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	60.31
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	73.02
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	88.90
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	114.30
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	-	141.30
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	-	168.27
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	-	219.07
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	-	273.05
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	-	323.85
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	-	355.60
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	-	406.40
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	-	457.20
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	-	508.00
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	-	609.60

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



## DIMENSIONS OF FORGED FLANGES ANSI B 16.5



### ASA 600 CLASS

Nominal Pipe Size (MM)	Flange Dia O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thk of Flange C	Dia of Hub E	Lenght through Hub			Dia of Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							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	21.33
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	26.67
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	33.40
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	42.16
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	48.26
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	60.31
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	73.02
80	209.5	168.3	22.2	8	31.8	117.5	46.0	82.5	45.9	90.7	91.4	127.0	-	88.90
100	273.0	215.9	25.4	8	38.1	152.4	54.0	101.6	53.8	116.1	116.8	157.2	-	114.30
125	330.2	266.7	28.6	8	44.4	188.9	60.3	114.3	60.4	143.8	144.5	185.7	-	141.30
150	355.6	292.1	28.6	12	47.6	222.2	66.7	117.5	66.5	170.7	171.4	215.9	-	168.27
200	419.1	349.2	31.7	12	55.6	273.0	76.2	133.3	76.2	221.5	222.2	269.9	-	219.07
250	508.0	431.8	34.9	16	63.5	342.9	85.7	152.4	111.2	276.3	277.4	323.8	-	273.05
300	558.8	488.9	34.9	20	66.7	400.0	92.1	155.6	117.3	327.1	328.2	381.0	-	323.85
350	603.2	527.0	38.1	20	69.9	431.8	93.7	165.1	127.0	359.1	360.1	412.7	-	355.60
400	685.8	603.2	41.3	20	76.2	495.3	106.4	177.8	139.7	410.5	411.2	469.9	-	406.40
450	742.9	654.0	44.4	20	82.6	546.1	117.5	184.1	152.4	461.8	462.3	533.4	-	457.20
500	812.8	723.9	44.4	24	88.9	609.9	127.0	190.5	165.1	513.1	514.3	584.2	-	508.00
600	939.8	838.2	50.8	24	101.6	717.5	139.7	203.2	184.1	615.9	615.9	692.1	-	609.60

All Dimensions are in Millimeters • Flanges except Lap Joint will be furnished with(6.35mm) Raised Face, which is not included in Thickness(C) and Lenght through Hub(Y).

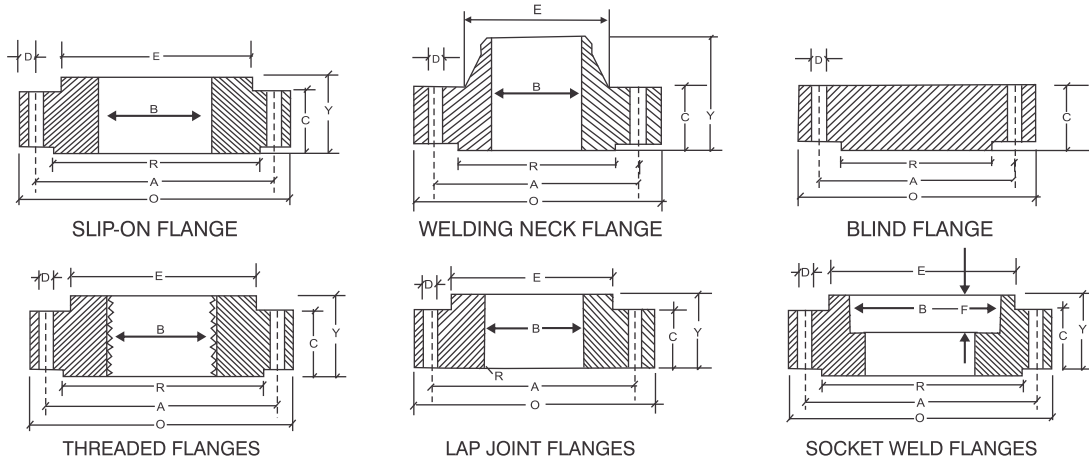
### ASA 900 CLASS

Nominal Pipe Size (MM)	Flange Dia O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thk of Flange C	Dia of Hub E	Lenght through Hub			Dia of Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							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	21.33
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	26.67
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	33.40
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	42.16
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	48.26
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	60.31
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	73.02
80	241.3	190.5	25.4	8	38.1	127.0	53.9	101.6	53.8	90.7	91.4	127.0	-	88.90
100	292.1	234.9	31.7	8	44.4	158.7	69.8	114.3	69.8	116.0	116.8	157.2	-	114.30
125	349.2	279.4	35.0	8	50.8	190.5	79.3	127.0	79.2	143.7	144.5	185.7	-	141.30
150	381.0	317.5	31.7	12	55.6	234.9	85.8	139.7	85.8	170.6	171.4	215.9	-	168.27
200	469.9	393.7	38.1	12	63.5	298.4	101.6	162.0	114.3	221.4	222.2	269.9	-	219.07
250	546.1	469.9	38.1	16	69.8	368.3	107.9	184.1	127.0	276.3	277.3	323.8	-	273.05
300	609.6	533.4	38.1	20	79.3	419.1	117.4	200.0	142.7	327.1	328.1	381.0	-	323.85

- All Dimensions are in Millimeters • Flanges except Lap Joint will be furnished with(6.35mm) Raised Face, which is not included in Thickness(C) and Lenght through Hub(Y).
- Flanges except Lap Joint will be furnished with (1.6) Raised Face, which is included in "Thickness(C)" and "Length through Hub(Y)".



## DIMENSIONS OF FORGED FLANGES ANSI B 16.5



### ASA 1500 CLASS

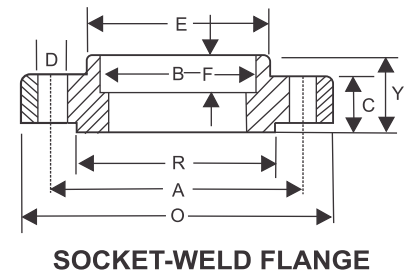
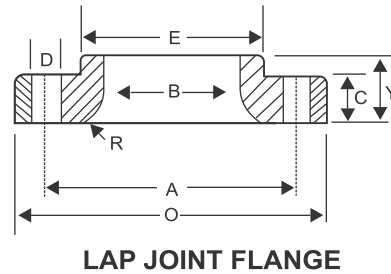
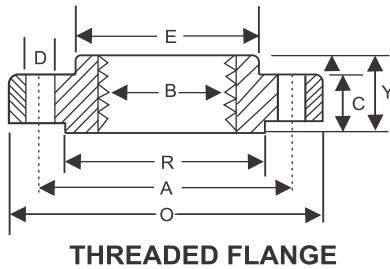
Nominal Pipe Size	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No. of Holes	Thk of Flange	Dia of Hub	Length Through Hub			Dia of Bore		Dia of R/F	Depth of Socket	Pipe Dia	
							S/O & S/W	W/N	L/J	S/O & S/W	L/J				
(MM)	(INCH.)	O	A	D	C	E	Y	Y	Y	B	B	R	F	X	
For Dimensions from 1/2" to 2 1/2" kindly refer ASA 900 LBS Table.															
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	-	88.90
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	-	114.30
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	-	141.30
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	-	168.27
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	-	219.07
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	-	273.05
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	-	323.85

All Dimensions are in Millimeters • Flanges except Lap Joint will be furnished with(6.35mm) Raised Face, which is not included in Thickness(C) and Length through Hub(Y).

### ASA 2500 CLASS

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	Pipe Dia	
							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	X	
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	-	21.33
20	3/4	139.7	95.3	22.2	4	31.7	50.8	42.9	79.4	42.9	27.7	27.7	42.9	-	26.67
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	-	33.40
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	-	42.16
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	-	48.26
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	-	60.31
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	-	73.02
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	-	88.90
100	4	355.6	273.0	41.2	8	76.2	165.1	107.9	190.5	107.9	116.1	116.1	157.2	-	114.30
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	-	141.30
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	-	168.27
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	-	129.07
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	-	273.05
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	-	323.85

All Dimensions are in Millimeters • Flanges except Lap Joint will be furnished with(6.35mm) Raised Face, which is not included in Thickness(C) and Length through Hub(Y).



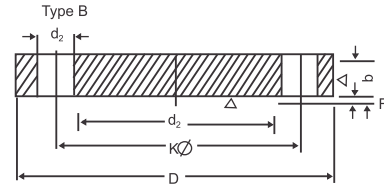
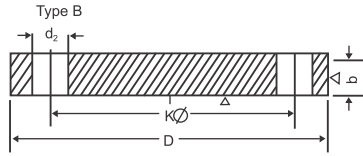
## WELDING NECK FLANGE BORE (B)

NPS (NB)	O.D. (MM)	Sch. 10	Sch. 20	Sch. 30	Sch. Std	Sch. 40	Sch. XS	Sch. 80	Sch. 120	Sch. 160	Sch. XXS
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	-





**DIN 2527**



	NW	D	Flange		Raised Face		No.	Bolts		Dia. of Bolt Holes d <sub>2</sub>	Weight of One Flange (7.85 Kg/dm <sup>3</sup> ) (Type-B Type-C) Kg Kg	
			b	K	d <sub>4</sub>	f						
ND-6	10	75	12	50	35	2	4	M10	-	11.5	0.38	0.33
	15	80	12	55	40	2	4	M10	-	11.5	0.44	0.38
	20	90	14	65	50	2	4	M10	-	11.5	0.65	0.59
	25	100	14	75	60	2	4	M10	-	11.5	0.82	0.74
	32	120	14	90	70	2	4	M12	(1/2")	14	1.17	1.07
	40	130	14	100	80	3	4	M12	(1/2")	14	1.39	1.21
	50	140	14	110	90	3	4	M12	(1/2")	14	1.62	1.43
	65	160	14	130	110	3	4	M12	(1/2")	14	2.44	2.21
	80	190	16	150	128	3	4	M16	(5/8")	18	3.43	3.09
	100	210	16	170	148	3	4	M16	(5/8")	18	4.76	4.37
	125	240	18	200	178	3	8	M16	(5/8")	18	6.11	5.68
	150	265	18	225	202	3	8	M16	(5/8")	18	7.51	7.02
	(175)	295	20	255	232	3	8	M16	(5/8")	18	10.4	9.85
	200	320	20	280	258	3	8	M16	(5/8")	18	12.3	11.7
	250	375	22	335	312	3	12	M16	(5/8")	18	18.3	17.6
300	440	22	395	365	4	12	M20	(3/4")	23	25.3	24.0	
350	490	22	445	415	4	12	M20	(3/4")	23	31.6	30.1	
400	540	22	495	465	4	16	M20	(3/4")	23	38.4	36.4	
500	645	24	600	570	4	20	M20	(3/4")	23	60.4	58.1	
ND-10 Note from 10 mm to 175 mm see ND-16	200	340	24	295	268	3	8	M20	(3/4")	23	16.5	15.8
	250	395	26	350	320	3	12	M20	(3/4")	23	24.0	23.1
	300	445	26	400	370	4	12	M20	(3/4")	23	30.9	29.4
	350	505	26	460	430	4	16	M20	(3/4")	23	40.6	38.0
	400	565	26	515	482	4	16	M24	(3/4")	27	49.4	47.5
500	670	28	620	585	4	20	M24	(3/4")	27	75.0	72.7	
ND-16 Note : For DIN 2527ND-10-4 Holes	10	90	14	60	40	2	4	M12	(1/2")	14	0.63	0.56
	15	95	14	65	45	2	4	M12	(1/2")	14	0.72	0.64
	20	105	16	75	58	2	4	M12	(1/2")	14	1.01	0.93
	25	115	16	85	68	2	4	M12	(1/2")	14	1.23	1.13
	32	140	16	100	78	2	4	M16	(5/8")	18	1.80	1.66
	40	150	16	110	88	3	4	M16	(5/8")	18	2.09	1.85
	50	165	18	125	102	3	4	M16	(5/8")	18	2.88	2.59
	65	185	18	145	122	3	4	M16	(5/8")	18	3.66	3.33
	80	200	20	160	138	3	4/8	M16	(5/8")	18	4.77	4.34
	100	220	20	180	158	3	8	M16	(5/8")	18	5.65	5.26
	125	250	22	210	188	3	8	M16	(5/8")	18	8.42	7.67
	150	285	22	240	212	3	8	M20	(3/4")	23	10.4	9.85
	(175)	315	24	270	242	3	8	M20	(3/4")	23	14.0	13.5
	200	340	24	295	268	3	12	M20	(3/4")	23	16.1	15.6
	250	405	26	355	320	3	12	M24	(7/8")	27	24.9	23.9
300	460	28	410	378	4	12	M24	(7/8")	27	35.1	33.6	
350	520	30	470	438	4	16	M24	(7/8")	27	47.8	46.2	
400	580	32	525	490	4	16	M27	(1")	30	63.5	61.5	
500	715	34	650	610	4	20	M30	(1 1/8")	33	102	99.5	





## 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**

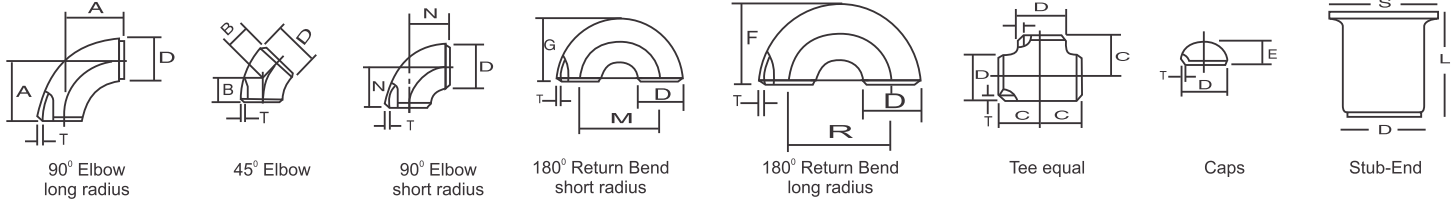
Nominal Pipe Size	O.D. of Pipe	Dia of Flange	Dia of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	21.3	95.3	66.7	4	12.7	9.5
3/4"	26.7	101.6	73.0	4	12.7	9.5
1"	33.4	120.7	87.3	4	15.9	9.5
1 1/4"	42.2	133.4	98.4	4	15.9	12.7
1 1/2"	48.3	139.7	104.8	4	15.9	12.7
2"	60.3	165.1	127.0	4	15.9	15.9
2 1/2"	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



## BUTT WELDING PIPE FITTING DIMENSIONAL STANDARD ANSI B-16.9 / 16.28 / MSS SP-43



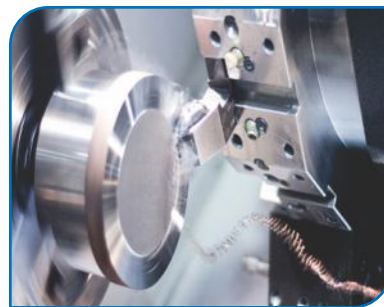
Nominal Pipe Size		Outside Diameter	Center to Face				Back to Face			Center to Center			Length 'L'	
Inch.	mm	D	A	B	C	N	E	F	G	R	M	S	MSS SP43	ANSI B 16.9
1/2	15	21.3	19	16	25	—	25	48	—	38	—	34.9	50.8	76.2
3/4	20	26.7	29	11	29	—	25	43	—	57	—	42.8	50.8	76.2
1	25	33.4	38	22	38	25	38	56	41	76	51	50.8	50.8	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	127.0	254.0
12	300	323.9	457	190	254	305	152	619	467	914	610	381	152.4	254.0
14	350	355.6	533	222	279	356	165	711	533	1067	711	412.8	152.4	305.0
16	400	406.4	610	254	305	406	178	813	610	1219	813	470	152.4	305.0
18	450	457.2	686	286	343	457	203	914	686	1372	914	533.4	152.4	305.0
20	500	508.0	762	318	381	508	229	1016	762	1524	1016	584.2	152.4	305.0
22	550	559.0	838	343	419	559	254	1118	838	1676	1118	614.4	152.4	305.0
24	600	610.0	914	381	432	610	267	1219	914	1829	1219	692.2	152.4	305.0
26	650	660.0	991	406	495	660	267	—	—	—	—	—	—	—
28	700	711.0	1067	438	521	711	267	—	—	—	—	—	—	—
30	750	762.0	1143	470	559	762	267	—	—	—	—	—	—	—
32	800	813.0	1219	502	597	813	267	—	—	—	—	—	—	—
34	850	864.0	1295	533	635	864	267	—	—	—	—	—	—	—
36	900	914.0	1372	565	673	914	267	—	—	—	—	—	—	—
38	950	965.0	1448	600	711	965	305	—	—	—	—	—	—	—
40	1000	1016.0	1524	632	749	1016	305	—	—	—	—	—	—	—
42	1050	1067.0	1600	660	762	1067	305	—	—	—	—	—	—	—
44	1100	1118.0	1676	695	813	1118	343	—	—	—	—	—	—	—
46	1150	1168.0	1753	727	851	1168	343	—	—	—	—	—	—	—
48	1200	1219.0	1829	759	889	1219	343	—	—	—	—	—	—	—





## FORMULA OF CALCULATING WEIGHT

- 1) Weight of Stainless Steel Pipe  
O.D. (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
- 2) 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
- 3) 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
- 4) 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
- 5) Weight of Stainless Steel Flat Bar  
Width (mm) X Thickness (mm) X 0.00798 = Weight per Mtr.  
Width (mm) X Thickness (mm) X 0.00243 = Weight per Feet
- 6) 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
- 7) Weight of Stainless Steel Circle  
Dia (mm) X Dia (mm) X Thick (mm) ÷ 160 = Gms. per PC  
Dia (mm) X Dia (mm) X Thick (mm) X 0.0000063 = Kg. per PC
- 8) Weight of Brass Pipes / Copper Pipes  
O.D. (mm) - W. Thick (mm) X W. Thick (mm) X 0.0260 = Wt. Per Mtr.
- 9) Weight Lead Pipe  
O.D (mm) - W. Thick (mm) X W. Thick (mm) X 0.0345 = Wt. Per Mtr
- 10) Weight of Aluminium Pipe  
O.D. (mm) - W. Thick (mm) X W. Thick (mm) X 0.0083 = Wt. per Mtr.
- 11) Weight of Aluminium Sheet  
Lenght (Mtrs) X Width(Mtrs) X Thick (mm) X 2.69 = Weight per PC
- 12) Weight Conversion of Mtr. to Ft.  
Meter = 3.2808 Foot
- 13) Barlow's Formula for calculating bursting pressure  
 $P = 2ST/D$  or  $t-DP/2S$  or  $S-DP/2T$  or  $D=2ST/P$   
P = Bursting Pressure P Si., S = Tensile Strenght of tube, T = Wall Thickness (in inches)  
D = Outside Diameter (in inches)
- 14) Formula for Healthy Business  
Honesty + Quality of Goods + Quick Service + Reasonable Rate = Good Healthy Business



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