



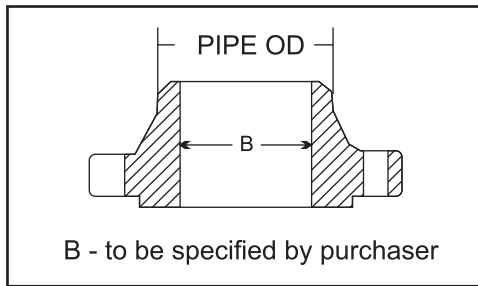
FORCIBLE FORGE INDUSTRIES
AN ISO 9001 : 2015 & PED Certified Company

COMPLETE PIPING SOLUTIONS

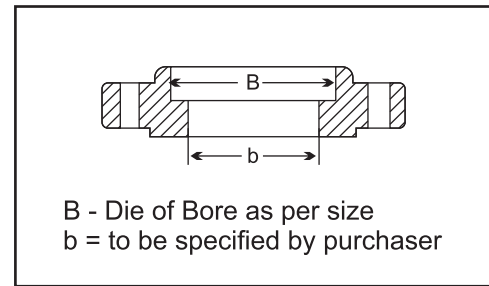




WELDING NECK FLANGE



SOCKET-WELD FLANGE



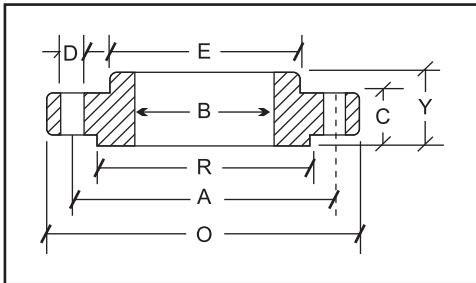
WELDING NECK FLANGE BORES (B)

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

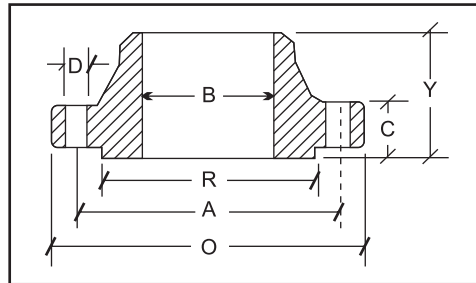
All dimensions are in Millimeters



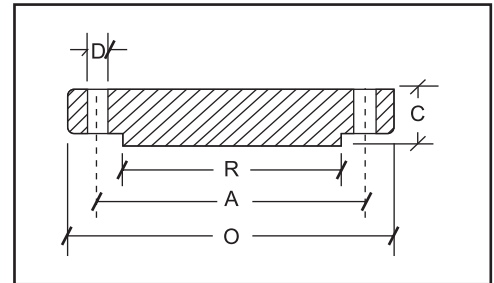
SLIP-ON FLANGE



WELDING NECK FLANGE



BLIND FLANGE



DIMENSIONS OF CLASS 150 FLANGES AS PER ANSI B 16.5

Nominal Pipe Size	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 & SW	W/N	L/J	S/O & SW	L/J		
							Y	Y	Y	B	B		
15	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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

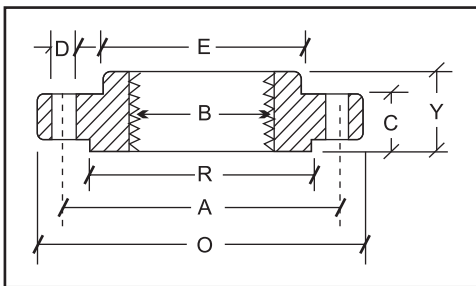
DIMENSIONS OF CLASS 300 FLANGES AS PER ANSI B 16.5

Nominal Pipe Size	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 & SW	W/N	L/J	S/O & SW	L/J		
							Y	Y	Y	B	B		
15	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	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	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	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	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	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	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	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	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	279.4	234.9	22.2	8	34.9	177.8	50.8	98.4	50.8	143.8	144.5	185.7	-
150	317.5	269.9	22.2	12	36.5	206.4	52.4	98.4	52.4	170.7	171.4	215.9	-
200	381.0	330.2	25.4	12	41.3	260.3	61.9	111.1	61.9	221.5	222.2	269.9	-
250	444.5	387.3	28.6	16	47.6	320.7	66.7	117.5	95.2	276.3	277.4	323.8	-
300	520.7	450.8	31.7	16	50.8	374.6	73.0	130.2	101.6	327.1	328.2	381.0	-
350	584.2	514.3	31.7	20	54.0	425.4	76.2	142.9	111.1	359.1	360.2	412.7	-
400	647.7	571.5	34.9	20	57.2	482.6	82.5	146.0	120.6	410.5	411.2	469.9	-
450	711.2	628.5	34.9	24	60.3	533.4	88.9	158.7	130.2	461.8	462.3	533.4	-
500	774.7	685.8	34.9	24	63.5	587.4	95.2	161.9	139.7	513.1	514.3	584.2	-
600	914.4	812.8	41.3	24	69.8	701.7	106.4	168.3	152.4	615.9	615.9	692.1	-

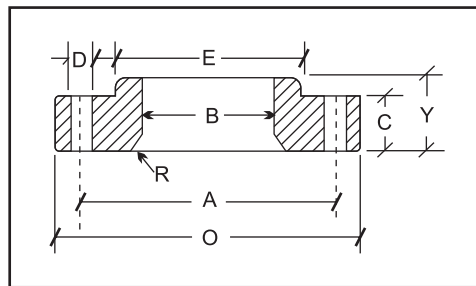
- 1) All dimensions are in Millimeters. 2) Welding neck flange bore (B) see page no. 1 to be specified by purchaser.
- 3) Flanges except Lap Joint will be furnished with (1.6) Raised Face, which is included in "Thickness (C)" and "Length through Hub (Y)".



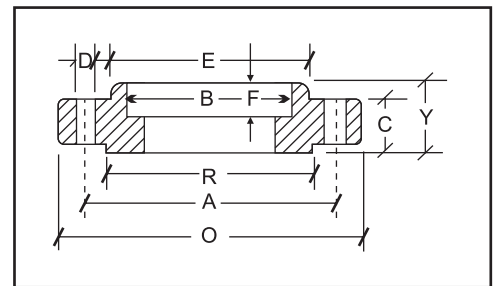
THREADED FLANGE



LAP JOINT FLANGE



SOCKET-WELD FLANGE



DIMENSIONS OF CLASS 600 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 & SW	W/N	L/J	S/O & SW	L/J		
O	A	D	C	E	Y	Y	Y	B	B	R	F		
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	-

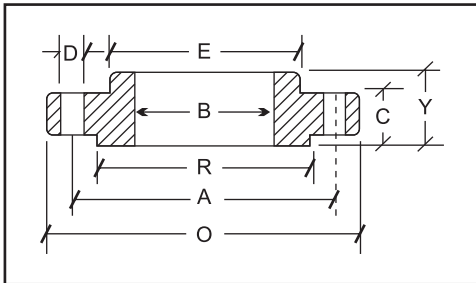
DIMENSIONS OF CLASS 900 FLANGES AS PER ANSI B 16.5

Nominal Pipe Size	Flange Dia	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 & SW	W/N	L/J	S/O & SW	L/J		
O	A	D	C	E	Y	Y	Y	B	B	R	F		
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	144.3	221.4	222.2	269.8	-
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	-

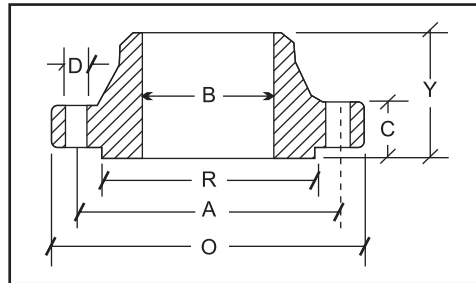
- 1) All dimensions are in Millimeters. 2) Welding neck flange bore (B) see page no. 1 to be specified by purchaser.
- 3) Flanges except Lap Joint will be furnished with (6.35) Raised Face, which is included in "Thickness (C)" and "Length through Hub (Y)".



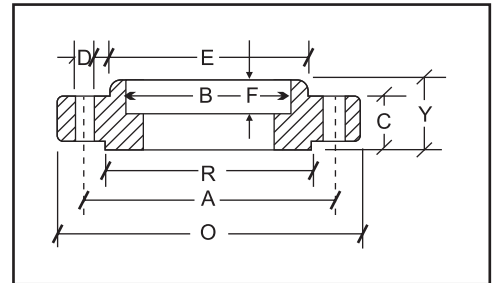
SLIP-ON FLANGE



WELDING NECK FLANGE



SOCKET-WELD FLANGE



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 & SW	W/N	L/J	S/O & SW	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	34.9	27.7	28.1	42.9	11.1
25	149.2	101.6	25.4	4	28.6	52.4	41.3	73.0	41.3	34.5	35.0	50.8	12.7
32	158.7	111.1	25.4	4	28.6	63.5	41.3	73.0	41.3	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	62.0	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	266.7	203.2	31.7	8	47.6	133.3	73.0	117.5	73.0	90.7	91.4	127.0	-
100	311.1	241.3	34.9	8	54.0	161.9	90.5	123.0	90.4	116.1	116.8	157.2	-
125	374.6	292.1	41.3	8	73.0	196.8	104.8	155.6	104.8	143.8	144.5	185.7	-
150	393.7	317.5	38.1	12	82.6	228.6	119.1	171.4	119.1	170.7	171.4	215.9	-
200	482.6	393.7	44.4	12	92.1	292.1	142.9	212.7	142.8	221.5	222.2	269.9	-
250	584.2	482.6	50.8	12	107.9	368.3	158.7	254.0	177.8	276.3	277.3	323.8	-
300	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

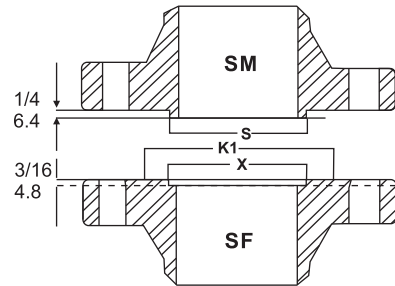
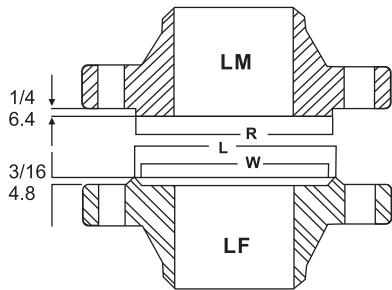
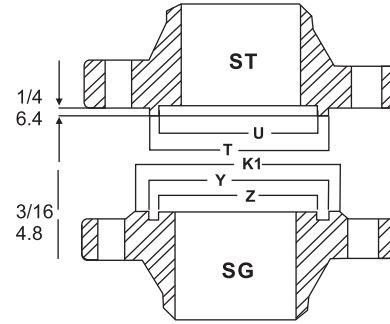
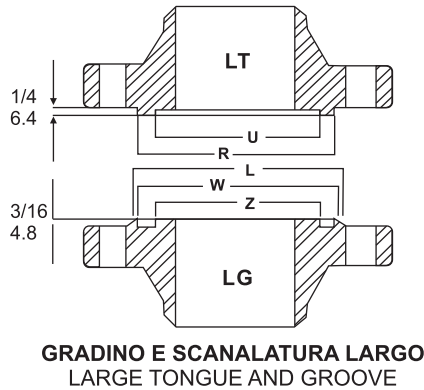
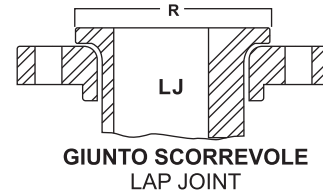
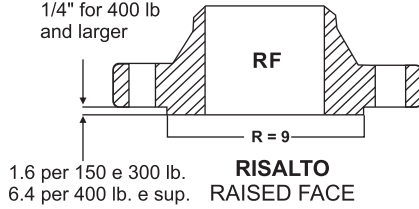
Nominal Pipe Size	Flange Dia	Dia of Bolt Circle	Dia of Bolt Holes	No. of Holes	Thk of Flange	Dia of Hub	Length through Hub			Dia of Bore		Dia of R/F	Depth of Socket
							S/O & SW	W/N	L/J	S/O & SW	L/J		
							Y	Y	Y	B	B		
15	133.3	88.9	22.2	4	30.2	42.9	39.7	73.0	39.7	22.3	22.3	34.9	-
20	139.7	95.2	22.2	4	31.7	50.8	42.9	79.4	42.9	27.7	27.7	42.9	-
25	158.7	107.9	25.4	4	34.9	57.1	47.7	88.9	47.7	34.5	34.5	50.8	-
32	184.1	130.2	28.6	4	38.1	73.0	52.4	95.2	52.4	43.2	43.2	63.5	-
40	203.2	146.0	31.7	4	44.4	79.4	60.3	111.1	60.3	49.5	49.5	73.0	-
50	234.9	171.4	28.6	8	50.8	95.2	69.8	127.0	69.8	62.4	62.0	92.1	-
65	266.7	196.8	31.7	8	57.1	114.3	79.4	142.9	79.4	74.7	74.7	104.8	-
80	304.8	228.6	34.9	8	66.7	133.3	92.1	168.3	92.1	90.7	90.7	127.0	-
100	355.6	273.0	41.3	8	76.2	165.1	107.9	190.5	107.9	116.1	116.1	157.2	-
125	419.1	323.8	47.6	8	92.1	203.2	130.0	228.6	130.0	143.8	143.8	185.7	-
150	482.6	368.3	54.0	8	107.9	234.9	152.4	273.0	152.4	170.7	170.7	215.9	-
200	552.4	438.1	54.0	12	127.0	304.8	177.8	317.5	177.8	221.5	221.5	269.9	-
250	673.1	539.7	66.7	12	165.1	374.6	228.6	419.1	228.6	276.3	276.3	323.8	-
300	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 (6.35) Raised Face, which is included in "Thickness (C)" and "Length through Hub (Y)".



Finiture facce di contatto
Flange Facings

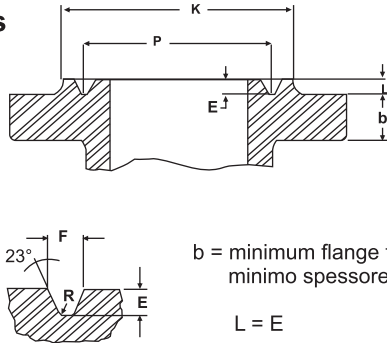
1/6" for 150 and 300 lb.
1/4" for 400 lb and larger



Ø	R	S	T	U	W	X	Y	Z		K1	I	
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	512.8	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	595.3	
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



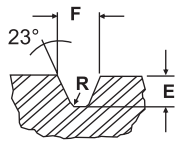
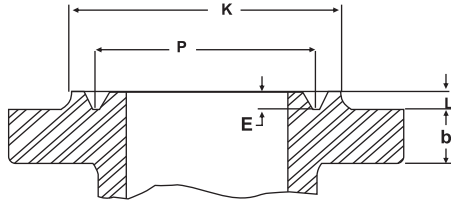
Nominal Pipe Size DN	Ring number No dell anello	150 lbs					
		Pitch diameter of groove Diam. medio scanalatura	Width of groove Largh. scanal.	Diameter of raised face Diam. risalto	Depth of Groove Profond. scanal.	Corner Radius Raaggio sul fondo	
1/2"							
3/4"							
1"	R15	1 1/8 47.6	11/32 8.7	2 1/2 63.5	1/4 6.4	1/32 0.8	
1 1/4"	R17	2 1/4 57.1	11/32 8.7	2 7/8 73.0	1/4 6.4	1/32 0.8	
1 1/2"	R19	2 9/16 65.1	11/32 8.7	3 1/4 82.5	1/4 6.4	1/32 0.8	
2"	R22	3 1/4 82.5	11/32 8.7	4 101.6	1/4 6.4	1/32 0.8	
2 1/2"	R25	4 101.6	11/32 8.7	4 3/4 120.3	1/4 6.4	1/32 0.8	
3"	R29	4 1/2 114.3	11/32 8.7	5 1/4 133.3	1/4 6.4	1/32 0.8	
3 1/2"	R33	5 3/16 131.8	11/32 8.7	6 1/16 154.0	1/4 6.4	1/32 0.8	
4"	R36	5 7/8 149.2	11/32 8.7	6 3/4 171.4	1/4 6.4	1/32 0.8	
5"	R40	6 3/4 171.4	11/32 8.7	7 7/8 193.7	1/4 6.4	1/32 0.8	
6"	R43	7 7/8 193.7	11/32 8.7	8 5/8 219.1	1/4 6.4	1/32 0.8	
8"	R48	9 3/4 247.6	11/32 8.7	10 3/4 273.0	1/4 6.4	1/32 0.8	
10"	R52	12 304.8	11/32 8.7	13 330.2	1/4 6.4	1/32 0.8	
12"	R56	15 381.0	11/32 8.7	16 406.4	1/4 6.4	1/32 0.8	
14"	R59	15 5/8 396.9	11/32 8.7	16 3/4 425.1	1/4 6.4	1/32 0.8	
16"	R64	17 7/8 454.0	11/32 8.7	19 482.6	1/4 6.4	1/32 0.8	
18"	R68	20 517.5	11/32 8.7	21 1/2 546.1	1/4 6.4	1/32 0.8	
20"	R72	22 558.8	11/32 8.7	23 1/2 596.9	1/4 6.4	1/32 0.8	
22"	R80	24 1/4 615.9	11/32 8.7	25 1/2 647.7	1/4 6.4	1/32 0.8	
24"	R76	26 1/2 673.1	11/32 8.7	28 711.2	1/4 6.4	1/32 0.8	
26"		28 5/8 727.1	11/32 10.3	30 3/8 771.5	5/16 7.9	1/32 0.8	
28"							
30"		32 7/8 835.0	13/32 10.3	34 5/8 879.5	5/16 7.9	1/32 0.8	
32"							
34"		37 939.8	17/32 13.5	38 7/8 987.4	3/8 9.5		
36"		39 3/4 996.9	17/32 13.5	41 1/8 1044.6	3/8 9.5		
42"		46 1168.4	17/32 13.5	47 7/8 1216.0	3/8 9.5		

Nominal Pipe Size DN	Ring number No dell anello	300-400-600 lbs					
		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 Raaggio sul fondo	
R11	1 11/32 34.1	9/32 7.1	2 50.8	7/32 5.6	1/32 0.8		
R13	1 11/16 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 1/8 60.3	11/32 8.7	3 3/8 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 1/8 131.8	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 3/4 174.6	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 1/8 269.9	15/32 11.9	11 1/8 301.6	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 3/8 574.7	5/16 7.9	1/32 0.8		
R73	23 584.2	17/32 13.5	25 635.0	3/8 9.5	1/16 1.6		
R81	25 635.0	19/32 15.1	27 685.8	7/16 11.1	1/16 1.6		
R77	27 1/4 692.1	21/32 16.7	29 1/2 749.3	7/16 12.7	1/16 1.6		
R93	29 749.3	25/32 19.8	31 3/8 809.6	1/2 12.7	1/16 1.6		
R94	31 1/2 800.1	25/32 19.8	33 3/8 860.4	1/2 12.7	1/16 1.6		
R95	33 3/4 857.2	25/32 19.8	36 1/8 917.6	1/2 12.7	1/16 1.6		
R96	36 914.4	29/32 23.0	38 3/4 984.2	9/16 14.3	1/16 1.6		
R97	38 965.2	29/32 23.0	40 3/4 1035	9/16 14.3	1/16 1.6		
R98	40 3/4 1022.3	29/32 23.0	43 1092.2	9/16 14.3	1/16 1.6		
	47 1193.8	1 1/16 27.0	50 3/16 1274.7	15.9			

Nominal Pipe Size DN	Ring number No dell anello	900 lbs					
		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 Raaggio sul fondo	
1/2"	R12	1 9/16 39.7	11/32 8.7	2 3/8 60.3	1/4 6.4	1/32 0.8	
3/4"	R14	1 3/4 44.4	1/32 8.7	2 5/8 66.7	1/4 6.4	1/32 0.8	
1"	R16	2 50.8	11/32 8.7	2 13/16 71.4	1/4 6.4	1/32 0.8	
1 1/4"	R18	2 3/8 60.3	11/32 8.7	2 31/16 81.0	1/4 6.4	1/32 0.8	
1 1/2"	R20	2 11/16 68.3	11/32 8.7	3 3/8 92.1	1/4 6.4	1/32 0.8	
2"	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"	R27	4 1/4 107.9	15/32 11.9	5 3/8 136.5	5/16 7.9	1/32 0.8	
3"	R31	4 7/8 123.8	15/32 11.9	6 1/8 155.6	5/16 7.9	1/32 0.8	
4"	R37	5 7/8 149.2	15/32 11.9	7 1/8 181.0	5/16 7.9	1/32 0.8	
5"	R41	7 1/8 181.0	15/32 11.9	8 1/2 215.9	5/16 7.9	1/32 0.8	
6"	R45	8 5/16 211.1	15/32 11.9	9 1/2 241.3	5/16 7.9	1/32 0.8	
8"	R49	10 5/8 269.9	15/32 11.9	12 1/8 308.0	5/16 7.9	1/32 0.8	
10"	R53	12 3/4 323.8	15/32 11.9	14 1/4 361.9	5/16 7.9	1/32 0.8	
12"	R57	15 381.0	15/32 11.9	16 1/2 419.1	5/16 7.9	1/32 0.8	
14"	R62	16 1/2 419.1	21/32 16.7	18 3/8 466.7	7/16 11.1	1/16 1.6	
16"	R66	18 1/2 469.9	21/32 16.7	20 3/8 523.9	7/16 11.1	1/16 1.6	
18"	R70	21 533.4	25/32 19.8	23 3/8 593.7	1/2 12.7	1/16 1.6	
20"	R74	23 584.2	25/32 19.8	25 1/2 647.7	1/2 12.7	1/16 1.6	
24"	R78	27 1/4 692.1	1 1/16 27.0	30 3/8 771.5	5/8 15.9	3/32 2.4	
26"	R100	29 1/2 749.3	1 3/16 30.2	32 3/4 831.9	1 1/16 17.5	3/32 2.4	
28"	R101	31 1/2 800.1	1 5/16 33.3	35 889.0	1 1/16 17.5	3/32 2.4	
30"	R102	33 3/4 857.2	1 5/16 33.3	37 1/4 946.2	1 1/16 17.5	3/32 2.4	
32"	R103	36 914.4	1 5/16 33.3	39 3/8 1003.3	1 1/16 17.5	3/32 2.4	
34"	R104	38 965.2	1 7/16 36.5	42 1066.8	1 3/16 20.6	3/32 2.4	
36"	R105	40 1/4 1022.3	1 7/16 36.5	44 1/4 1124.0	1 3/16 20.6	3/32 2.4	



Dimensioni scanalature per Ring-Joint
Facing Dimensions of Ring-Joint grooves
1500-2500 lbs



b = minimum flange thickness
 minimo spessore flangia

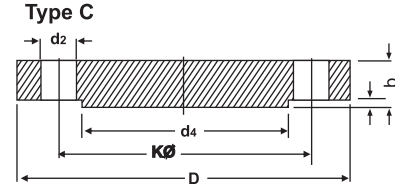
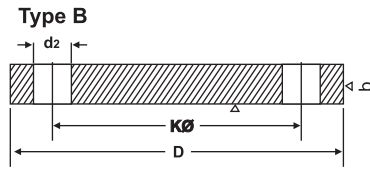
L = E

Nominal Pipe Size	DN	1500 lbs					
		Ring number No 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 mm	R12	19/16 39.7	11/32 8.7	23/64 60.3	1/4 6.4	1/32 0.8
3/4"	inches mm	R14	1 44.4	1/32 8.7	23/64 66.7	1/4 6.4	1/32 0.8
1"	inches mm	R16	2 50.8	11/32 8.7	213/16 71.4	1/4 6.4	1/32 0.8
1 1/4"	inches mm	R18	2 3/8 60.3	11/32 8.7	231/16 81.0	1/4 6.4	1/32 0.8
1 1/2"	inches mm	R20	2 11/16 68.3	11/32 8.7	35/8 92.1	1/4 6.4	1/32 0.8
2"	inches mm	R24	3 3/4 95.2	15/32 11.9	47/8 123.8	5/16 7.9	1/32 0.8
2 1/2"	inches mm	R27	4 1/4 107.9	15/32 11.9	5 136.5	5/16 7.9	1/32 0.8
3"	inches mm	R35	5 1/8 136.5	15/32 11.9	6 168.3	5/16 7.9	1/32 0.8
4"	inches mm	R39	6 3/8 161.9	15/32 11.9	7 193.7	5/16 7.9	0 1/32 0.8
5"	inches mm	R44	7 5/8 193.7	15/32 11.9	9 228.6	5/16 7.9	1/32 0.8
6"	inches mm	R46	8 5/16 211.1	17/32 13.5	9 3/4 247.6	3/8 9.5	1/16 1.6
8"	inches mm	R50	10 5/8 269.9	21/32 16.7	12 1/2 317.5	7/16 11.1	1/16 1.6
10"	inches mm	R54	12 3/4 323.8	21/32 16.7	14 3/8 371.5	7/16 11.1	1/16 1.6
12"	inches mm	R58	15 381.0	29/32 23.0	17 1/4 438.1	9/16 14.3	1/16 1.6
14"	inches mm	R63	16 1/2 419.1	11/16 27.0	19 1/4 488.9	5/8 15.9	3/32 2.4
16"	inches mm	R67	18 1/2 469.1	13/16 30.2	21 1/2 546.1	11/16 17.5	3/32 2.4
18"	inches mm	R71	21 533.4	13/16 30.2	24 1/8 612.8	11/16 17.5	3/32 2.4
20"	inches mm	R75	23 584.2	15/16 33.3	26 1/2 673.1	11/16 17.5	3/32 2.4
24"	inches mm	R79	27 1/4 692.1	17/16 36.5	31 1/4 795.7	13/16 20.6	3/32 2.4

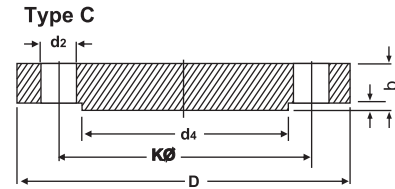
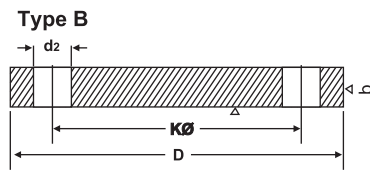
Nominal Pipe Size	DN	2500 lbs					
		Ring number No dell anello	Pitch diameter of groove Diam. medio scanalatura	Width of groove Largh. scanal.	Diameter of Raised Face Diam. risalto	Depth of Groove Profond. scanal.	Corner Radius Raggio sul fondo
		P	F	K	E	R	
1/2"	inches mm	R13	111/16 42.9	11/32 8.7	29/16 65.1	1/4 6.4	1/32 0.8
3/4"	inches mm	R16	2 50.8	11/32 8.7	27/8 73.0	1/4 6.4	1/32 0.8
1"	inches mm	R18	2 3/8 60.3	11/32 8.7	3 1/4 82.5	1/4 6.4	1/32 0.8
1 1/4"	inches mm	R21	2 27/32 72.2	15/32 11.9	4 101.6	5/16 7.9	1/32 0.8
1 1/2"	inches mm	R23	3 1/4 82.5	15/32 11.9	4 114.3	5/16 7.9	1/32 0.8
2"	inches mm	R26	4 101.6	15/32 11.9	5 1/4 133.3	5/16 7.9	1/32 0.8
2 1/2"	inches mm	R28	4 3/8 111.1	17/32 13.5	5 3/8 149.2	3/8 9.5	1/16 1.6
3"	inches mm	R32	5 127.0	17/32 13.5	6 3/8 168.3	3/8 9.5	1/16 1.6
4"	inches mm	R38	6 3/16 157.2	21/32 16.7	8 203.2	7/16 11.1	1/16 1.6
5"	inches mm	R42	7 1/2 190.5	25/32 19.8	9 1/2 241.3	1/2 12.7	1/16 1.6
6"	inches mm	R47	9 228.6	25/32 19.8	11 279.4	1/2 12.7	1/16 1.6
8"	inches mm	R51	11 279.4	29/32 23.0	13 3/8 339.7	9/16 14.3	1/16 1.6
10"	inches mm	R55	13 1/2 342.9	13/16 30.2	16 3/4 425.4	11/16 17.5	3/32 2.4
12"	inches mm	R60	16 406.4	15/16 33.3	19 1/2 495.3	11/16 17.5	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 ³)	
			b	k	d ₄	f					Type-B	Type-C
											d ₂	kg kg
ND-6	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	(5/8")	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	
ND-10 Note from 10 mm to 175 mm see ND-16	200	340	24	295	268	3	8	M 20	(3/4")	23	16.50	15.80
	250	395	26	350	320	3	12	M 20	(3/4")	23	24.00	23.10
	300	445	26	400	370	4	12	M 20	(3/4")	23	30.90	29.40
	350	505	26	460	430	4	16	M 20	(3/4")	23	40.60	38.00
	400	565	26	515	482	4	16	M 24	(7/8")	27	49.40	47.50
	500	670	28	620	585	4	20	M 24	(7/8")	27	75.00	72.70
ND-16 Note : For DIN 2527ND-10-4 Holes	10	90	14	60	40	2	4	M 12	(1/2")	14	0.63	0.56
	15	95	14	65	45	2	4	M 12	(1/2")	14	0.72	0.64
	20	105	16	75	58	2	4	M 12	(1/2")	14	1.01	0.93
	25	115	16	85	68	2	4	M 12	(1/2")	14	1.23	1.13
	32	140	16	100	78	2	4	M 16	(5/8")	18	1.80	1.66
	40	150	16	110	88	3	4	M 16	(5/8")	18	2.09	1.85
	50	165	18	125	102	3	4	M 16	(5/8")	18	2.88	2.59
	65	185	18	145	122	3	4	M 16	(5/8")	18	3.66	3.33
	80	200	20	160	138	3	4/8	M 16	(5/8")	18	4.77	4.34
	100	220	20	180	158	3	8	M 16	(5/8")	18	5.65	5.26
	125	250	22	210	188	3	8	M 16	(5/8")	18	8.42	7.67
	150	285	22	240	212	3	8	M 20	(3/4")	23	10.40	9.85
	(175)	315	24	270	242	3	8	M 20	(3/4")	23	14.00	13.50
	200	340	24	295	268	3	12	M 20	(3/4")	23	16.10	15.60
	250	405	26	355	320	3	12	M 24	(7/8")	27	24.90	23.90
300	460	28	410	378	4	12	M 24	(7/8")	27	35.10	33.60	
350	520	30	470	438	4	16	M 24	(7/8")	27	47.80	46.20	
400	580	32	525	490	4	16	M 27	(1")	30	63.50	61.50	
500	715	34	650	610	4	20	M 30	(1 1/8")	33	102	99.50	



DIN 2527

	NW	D	Flange		Raised face		No.	Bolts		Dia. of Bolt Hole	Weight of One Flange (7.85 kg/dm ³)	
			b	k	d ₄	f					Type-B	Type-C
											d ₂	kg kg
ND-25 Note : From 10 mm to 150 mm see ND-40	(175)	330	28	280	248	3	12	M 24	(7/8")	27	17.3	16.5
	200	360	30	310	278	3	12	M 24	(7/8")	27	22.3	21.5
	250	425	32	370	335	3	12	M 27	(1")	30	33.5	32.5
	300	485	34	430	395	4	16	M 27	(1")	30	46.3	44.7
	350	555	38	490	450	4	16	M 30	(1 1/8")	33	68.0	65.9
	400	620	40	550	505	4	16	M 33	(1 1/4")	36	89.7	87.0
ND-40	500	730	44	660	615	4	20	M 33	(1 1/4")	36	138	134
	10	90	16	60	40	2	4	M 12	(1/2")	14	0.72	0.62
	15	95	16	65	45	2	4	M 12	(1/2")	14	0.81	0.74
	20	105	18	75	58	2	4	M 12	(1/2")	14	1.24	1.05
	25	115	18	85	68	2	4	M 12	(1/2")	14	1.38	1.31
	32	140	18	100	78	2	4	M 16	(5/8")	18	2.03	1.82
	40	150	18	110	88	3	4	M 16	(5/8")	18	2.35	2.11
	50	165	20	125	102	3	4	M 16	(5/8")	18	3.20	2.91
	65	185	22	145	122	3	8	M 16	(5/8")	18	4.29	4.13
	80	200	24	160	138	3	8	M 16	(5/8")	18	5.88	5.21
	100	236	24	190	162	3	8	M 12	(3/4")	23	7.54	7.08
	125	270	26	220	188	3	8	M 24	(7/8")	27	10.8	10.4
	150	300	28	250	218	3	8	M 24	(7/8")	27	14.5	13.9
	175	350	32	295	260	3	12	M 27	(1")	30	22.1	21.3
	200	375	34	320	285	3	12	M 27	(1")	30	27.2	26.2
	250	450	38	385	345	3	12	M 30	(1 1/8")	33	43.8	43.1
	300	515	42	450	410	4	16	M 30	(1 1/8")	33	63.3	62.2
350	580	46	510	465	4	16	M 33	(1 1/4")	36	89.5	87.2	
400	660	50	585	535	4	16	M 36	(1 3/8")	39	127	124	
500	755	52	670	615	4	20	M 39	(1 1/2")	42	172	168	

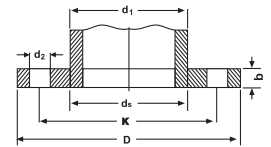
FLANGE FACINGS TONGUE AND GROOVE, NOMINAL PRESSURE 10 TO 100 ACORDING TO DIN 2512	Nominal		Groove				Nominal		Tongue		Groove			
	Pipe Size		d ₄₃	f ₁	d ₄₁	d ₄₄	f ₂	Pipe Size	d ₄₂	d ₄₃	f ₁	d ₄₁	d ₄₄	f ₂
			-0.5	+0.5	-0.5	+0.5	-0.5		+0.5	-0.5	+0.5	-0.5	+0.5	-0.5
GROOVE	10	24	34	4	23	35	3	175	213	233	4.5	212	234	3.5
	15	29	39	4	28	40	3	200	239	259	4.5	238	260	3.5
	20	36	50	4	35	51	3	250	292	312	4.5	291	313	3.5
	25	47	57	4	42	58	3	300	343	363	4.5	342	364	3.5
	32	51	65	4	50	66	3	350	395	421	5	394	422	4
	40	61	75	4	60	76	3	400	447	473	5	446	474	4
	50	73	87	4	72	88	3	500	549	575	5	548	576	4
	65	95	109	4	94	110	3	600	649	675	5	648	676	4
	80	106	120	4	105	121	3	700	751	777	5	750	778	4
	100	129	149	4.5	128	150	3.5	800	856	882	5	855	883	4
	125	155	175	4.5	154	176	3.5	900	961	987	5	960	988	4
	150	183	203	4.5	182	204	3.5	1000	1061	1091	6	1060	1092	5



DIN 2576

Flanges, Slip-on type for Bracing or Welding nominal pressure 10

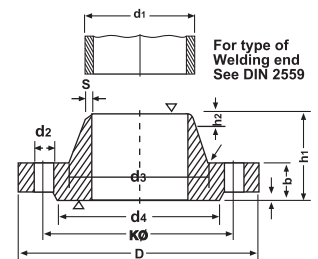
Pipe		Flange				Bolts			Weight of one flange 7.85 kg. /dm ³ kg
NW	d ₁	ds	D	b ₁	k	Number	Thread	d ₂	
10	14 17.2*)	14.5 17.7	90	14	60	4	M 12 (1/2")	14	0.613 0.605
15	20 21.3*)	20.5 21.8	95	14	65	4	M 12 (1/2")	14	0.675 0.669
20	25 26.9*)	25.5 27.4	105	16	75	4	M 12 (1/2")	14	0.947 0.936
25	30 33.7*)	30.5 34.2	115	16	85	4	M 12 (1/2")	14	1.14 1.11
32	38 42.4*)	38.5 42.9	140	16	100	4	M 16 (5/8")	18	1.66 1.62
40	44.5 48.3*)	45 48.8	150	16	110	4	M 16 (5/8")	18	1.89 1.86
50	57 60.3*)	57.5 60.8	165	18	125	4	M 16 (5/8")	18	2.51 2.47
65	76.1*)	76.6	185	18	145	4	M 16 (5/8")	18	3.00
80	88.9*)	89.4	200	20	160	4	M 16 (5/8")	18	3.79
100	108 114.3*)	108.5 114.8	220	20	180	8	M 16 (5/8")	18	4.20 4.03
125	133 139.7*)	133.5 140.2	250	22	210	8	M 16 (5/8")	18	5.71 5.46
150	159 168.3*)	159.5 168.8	285	22	240	8	M 20 (3/4")	23	6.72 6.57
175	191 193.7*)	192 194.7	315	24	270	8	M 20 (3/4")	23	8.60 8.45
200	216 219.1*)	217 220.1	340	24	295	8	M 20 (3/4")	23	9.50 9.31
250	267 273*)	268 274	395	26	350	12	M 20 (3/4")	23	12.5 11.9
300	318 323.9*)	319 324.9	445	26	400	12	M 20 (3/4")	23	14.4 13.8
350	355.6*) 368	356.6 369	505	28	460	18	M 20 (3/4")	23	20.6 19.0
400	406.4*) 419	407.4 420	565	32	515	16	M 24 (7/8")	27	27.9 25.9
500	508*) 521	509 522	670	38	620	20	M 24 (7/8")	27	37.9 41.1



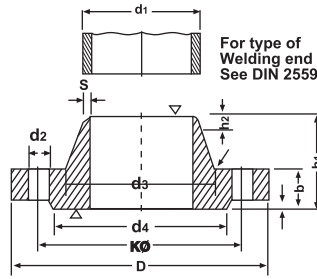
DIN 2632

Welding Neck Flanges for Nominal pressure 10

Pipe		Flange				Neck				Raised Face		Bolts		Weight of one flange 7.85 kg. /dm ³ kg	
NW	d ₁	D	b	k	h ₁	d ₃	s	-s	h ₂	d ₄	f	No.	Thread		d ₂
200	216 219.1	340	24	295	62	232 235	5.9	10	16	268	3	8			11.3
250	267 273	395	26	350	68	285 292	6.3	12	16	320	3				14.7
300	318 323.9	445	26	400	68	335 344	7.1	12	16	370	4	12	M 20 (3/4")	23	17.6
350	355.6 368	505	26	460	68	385	7.1	12	16	430	4				21.4
400	406.4 419	565	26	515	72	440	7.1	12	16	482	4	16			26.1
500	508 521	670	28	620	75	542	7.1	12	16	585	4		M 24 (7/8")	27	34.7
600	609.6 622	780	28	725	80	642	7.1	12	18	685	5	20	M 27 (1")	30	42.2



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



DIN 2633
Welding Neck Flanges for Nominal pressure 16

Pipe		Flange				Neck				Raisd face		Bolts			Weight of one flange 7.85 kg./dm ³ kg					
NW	d ₁	D	b	k	h ₁	d ₃	s	r	h ₂	d ₄	f	No.	Thread	d ₂						
10	14	90	14	60	35	25	1.8	4	6	40	2	4			14	0.580				
	17.2					28										0.648				
15	20.	95	14	65	35	30	2	4	6	45	2									0.952
	21.3					32														1.14
20	25	105	16	75	38	38	2.3	4	6	58	2									1.69
	26.9					40														1.86
25	30	115	16	85	38	42	2.6	4	6	68	2									2.53
	33.7					45														3.06
32	38	140	16	100	40	52	2.6	6	6	78	2									3.70
	42.4					56														4.62
40	44.5	150	16	110	42	60	2.6	6	7	88	3									6.30
	48.3					64														7.75
50	57	165	18	125	45	72	2.9	6	8	102	3					10.0				
	60.3					75										11.0				
65	76.1	185	18	145	45	90	2.9	6	10	122	3	8	M 16	(5/8")	18	15.6				
80	88.9	200	20	160	50	105	3.2	8	10	138	3					8	M 20	(3/4")	23	22.0
100	108	220	20	180	52	125	3.6	8	12	158	3					28.7				
	114.3					131										36.3				
125	133	250	22	210	55	150	4	8	12	188	3					36.3				
	139.7					156										42.0				
150	159	285	22	240	55	175	4.5	10	12	212	3					49.0				
	168.3					184										59.3				
175	191	315	24	270	60	208	5.4	10	12	242	3					63.4				
	193.7					210										73.4				
200	216	340	24	295	62	232	5.9	10	16	268	3					75.0				
	219.1					235										89.0				
250	267	405	26	355	70	285	6.3	12	16	320	3					99.0				
	273					292										119				
300	318	460	28	410	78	338	7.1	12	16	378	4					125.0				
	323.9					344										159				
350	355.6	520	30	470	82	390	8	12	16	438	4					169.0				
	368					445										189				
400	406.4	580	32	525	85	445	8	12	16	490	4					219.0				
	419					490										248				
500	508	715	34	650	90	548	8	12	16	610	4					287.0				
	521					610										317				
600	609.6	840	36	770	95	652	8.8	12	18	725	5					374.0				
	622					725										403				
700	711.2	910	36	840	100	755	8.8	12	18	795	5					452.0				
	720					795										471				
800	812.8	1025	38	950	105	855	10	12	20	900	5					551.0				
	820					855										551				
900	914.4	1125	40	1050	110	955	10	12	20	1000	5					630.0				
	920					955										630				
1000	1016	1255	42	1170	120	1058	10	16	22	1115	5					774.0				
	1020					1058										774				

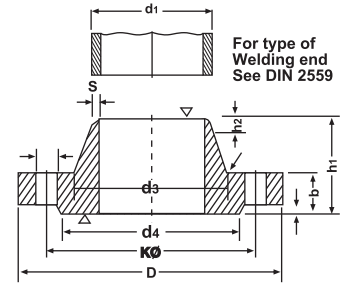
* 4 bolts for ND 10 (nominal pressure) (the order than reeds welding neck flange 80/88.9 ND 10 DIN 2633)



DIN 2634
Welding Neck Flanges for Nominal pressure 25

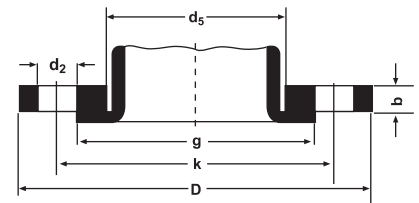
Pipe		Flange				Neck				Raised face		Bolts			Weight of one flange 7.85 kg./dm ³ kg	
NW	d ₁	D	b	k	h ₁	d ₃	s	r	h ₂	h ₄	f	No.	Thread	d ₂		
175	(191)	330	28	280	75	215	5.6	10	15	248	3	12	M 24	(7/8")	27	13.4
	193.7					218										17.0
200	216	360	30	310	80	240	6.3	10	16	278	3	16	M 27	(1")	30	24.4
	219.1					244										31.2
250	267	425	32	370	88	292	7.1	12	18	335	3	16	M 30	(1 1/8")	33	45.0
	273					298										58.7
300	318	485	34	430	92	345	8	12	18	395	4	16	M 33	(1 1/4")	36	86.1
	323.9					352										101
350	355.6	555	38	490	100	398	8	12	20	450	4	20	M 36	(1 3/8")	39	101
	368					419										
400	406.4	620	40	550	110	452	8.8	12	20	505	4	20	M 33	(1 1/4")	36	86.1
	419					452										101
500	508	730	44	660	125	558	10	12	20	615	4	20	M 36	(1 3/8")	39	101
	521					558										
600	609.6	845	46	770	125	660	11	12	20	720	5	20	M 36	(1 3/8")	39	101
	622					660										

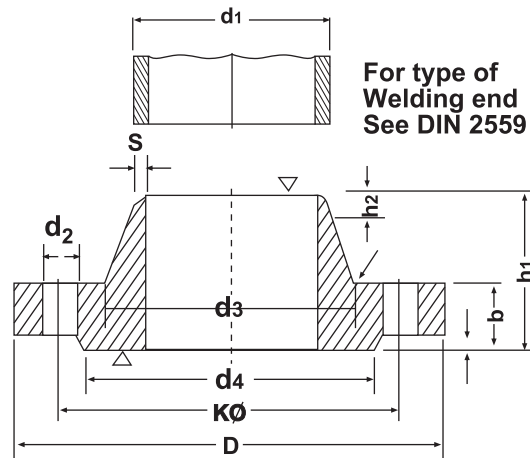
For nominal sizes 10 up to 150 see DIN 2635



LOOSE Flange for Flange Collar PN 10
(DIN 2642, DIN Connections)

Nom Pipe size	Flange D mm	d ₅ mm	b mm	r mm	k mm	Drilling Number	d ₂ mm	Weight kg	Collar & mm
10	90	16	16	5	60	4	15	0.23	45
15	95	23	16	5	65	4	15	0.26	50
20	105	28	16	5	75	4	15	0.30	60
25	115	33	16	5	85	4	15	0.37	70
32	140	42	16	5	100	4	18	0.54	82
40	150	50	16	5	110	4	18	0.59	92
50	165	62	18	5	125	4	18	0.80	107
65	185	81	18	5	145	4	18	0.90	127
80	200	94	20	5	160	4	18	1.28	142
100	220	113	20	5	180	8	18	1.37	162
125	250	138	22	6	210	8	18	1.78	192
150	285	164	22	6	240	8	22	2.27	218
175	315	195	24	6	270	8	22	2.90	248
200	340	222	24	7	295	8	22	3.16	273
250	395	273	26	7	350	12	22	4.22	328
300	445	324	26	7	400	12	22	4.80	378
350	505	374	26	8	460	16	22	5.85	438
400	565	426	32	8	515	16	25	8.45	490
450	615	475	32	8	565	20	25	9.45	540
500	670	530	34	8	620	20	25	11.35	595
600	780	630	36	10	725	20	30	15.30	695
700	895	730	40	10	840	24	30	21.40	810
800	1015	832	44	10	950	24	34	30.50	916





DIN 2635
Welding Neck Flanges for Nominal pressure 10

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



British Standard Pipe Flanges

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"	27/32"	3.3/4"	2.5/8"	4	1/2"	3/16"
3/4"	1.1/16"	4"	2.7/8"	4	1/2"	3/16"
1"	1.11/32"	4.1/2"	3.1/4"	4	1/2"	3/16"
1.1/4"	1.11/16"	4.3/4"	3.7/16"	4	1/2"	1/4"
1.1/2"	1.29/32"	5.1/4"	3.7/8"	4	1/2"	1/4"
2"	2.3/8"	6"	4.1/2"	4	5/8"	5/16"
2.1/2"	3"	6.1/2"	5"	4	5/8"	5/16"
3"	3.1/2"	7.1/4"	5.3/4"	4	5/8"	3/8"
3.1/2"	4"	8"	6.1/2"	4	5/8"	3/8"
4"	4.1/2"	8.1/2"	7"	4	5/8"	3/8"
5"	5.1/2"	10"	8.1/4"	8	5/8"	1/2"
6"	6.1/2"	11"	9.1/4"	8	5/8"	1/2"
7"	7.1/2"	12"	10.1/4"	8	5/8"	1/2"
8"	8.5/8"	13.1/4"	11.1/2"	8	5/8"	1/2"
9"	9.5/8"	14.1/2"	12.3/4"	8	5/8"	5/8"
10"	10.3/4"	16"	14"	8	3/4"	5/8"
12"	12.3/4"	18"	16"	12	3/4"	5/8"
14"	14"	20.3/4"	18.1/2"	12	7/8"	3/4"
16"	16"	22.3/4"	20.1/2"	12	7/8"	3/4"
18"	18"	25.1/4"	23"	12	7/8"	7/8"
20"	20"	27.3/4"	25.1/4"	16	7/8"	1"
24"	24"	32.1/2"	29.3/4"	16	1"	1.1/8"

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
1/2"	3.3/4"	2.5/8"	4	1/2"	1/4"
3/4"	4"	2.7/8"	4	1/2"	1/4"
1"	4.1/2"	3.1/4"	4	1/2"	9/32"
1.1/4"	4.3/4"	3.7/16"	4	1/2"	5/16"
1.1/2"	5.1/4"	3.7/8"	4	1/2"	11/32"
2"	6"	4.1/2"	4	5/8"	3/8"
2.1/2"	6.1/2"	5"	4	5/8"	13/32"
3"	7.1/4"	5.3/4"	4	5/8"	7/16"
3.1/2"	8"	6.1/2"	8	5/8"	15/32"
4"	8.1/2"	7"	8	5/8"	1/2"
5"	10"	8.1/4"	8	5/8"	9/16"
6"	11"	9.1/4"	8	3/4"	11/16"
7"	12"	10.1/4"	8	3/4"	3/4"
8"	13.1/4"	11.1/2"	8	3/4"	3/4"
9"	14.1/2"	12.3/4"	12	3/4"	13/16"
10"	16"	14"	12	3/4"	7/8"
12"	18"	16"	12	7/8"	1"
14"	20.3/4"	18.1/2"	12	7/8"	1"
16"	22.3/4"	20.1/2"	12	7/8"	1"
18"	25.1/4"	23"	16	7/8"	1.1/8"
20"	27.3/4"	25.1/4"	16	7/8"	1.1/4"
24"	32.1/2"	29.3/4"	16	1.1/8"	1.1/2"

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

Nominal Pipe Size	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	3.3/4"	2.5/8"	4	1/2"	3/8"
3/4"	4"	2.7/8"	4	1/2"	3/8"
1"	4.3/4"	3.7/16"	4	5/8"	3/8"
1.1/4"	5.1/4"	3.7/8"	4	5/8"	1/2"
1.1/2"	5.1/2"	4.1/8"	4	5/8"	1/2"
2"	6.1/2"	5"	4	5/8"	5/8"
2.1/2"	7.1/4"	5.3/4"	8	5/8"	5/8"
3"	8"	6.1/2"	8	5/8"	5/8"
3.1/2"	8.1/2"	7"	8	5/8"	3/4"
4"	9"	7.1/2"	8	5/8"	3/4"
5"	11"	9.1/4"	8	3/4"	7/8"
6"	12"	10.1/4"	12	3/4"	7/8"
7"	13.1/4"	11.1/2"	12	3/4"	7/8"
8"	14.1/2"	12.3/4"	12	3/4"	1"
9"	16"	14"	12	7/8"	1"
10"	17"	15"	12	7/8"	1"
12"	19.1/4"	17.1/2"	16	7/8"	1.1/8"
14"	21.3/4"	19.1/2"	16	1"	1.1/4"
16"	24"	21.3/4"	20	1"	1.1/4"
18"	26.1/2"	24"	20	1.1/8"	1.3/8"
20"	29"	26.1/2"	24	1.1/8"	1.1/2"
24"	33.1/2"	30.3/4"	24	1.1/4"	1.5/8"

Table H : For Working Steam Pressure 50 lbs above 150 lb 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"	4.1/2"	3.1/4"	4	5/8"	1/2"
3/4"	4.1/2"	3.1/4"	4	5/8"	1/2"
1"	4.3/4"	3.7/16"	4	5/8"	9/16"
1.1/4"	5.1/4"	3.7/8"	4	5/8"	11/16"
1.1/2"	5.1/2"	4.1/8"	4	5/8"	11/16"
2"	6.1/2"	5"	4	5/8"	3/4"
2.1/2"	7.1/4"	5.3/4"	8	5/8"	3/4"
3"	8"	6.1/2"	8	5/8"	7/8"
3.1/2"	8.1/2"	7"	8	5/8"	7/8"
4"	9"	7.1/2"	8	5/8"	1"
5"	11"	9.1/4"	8	3/4"	1.1/8"
6"	12"	10.1/4"	12	3/4"	1.1/8"
7"	13.1/4"	11.1/2"	12	3/4"	1.1/4"
8"	14.1/2"	12.3/4"	12	3/4"	1.1/4"
9"	16"	14"	12	7/8"	1.3/8"
10"	17"	15"	12	7/8"	1.3/8"
12"	19.1/4"	17.1/4"	16	7/8"	1.1/2"
14"	21.3/4"	19.1/2"	16	1"	1.5/8"
16"	24"	21.3/4"	20	1"	1.3/4"
18"	26.1/2"	24"	20	1.1/8"	1.7/8"
20"	29"	26.1/2"	24	1.1/8"	2"
24"	33.1/2"	30.3/4"	24	1.1/4"	2.1/4"



British Standard Pipe Flanges

Table J : For Working Steam Pressure above 250 lbs and upto 350 lbs per sq. inch

Table K : For Working Steam Pressure above 350 lbs upto 450 lbs per sq. inch

Nominal Pipe Size	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	4.1/2"	3.1/4"	4	5/8"	5/8"
3/4"	4.1/2"	3.1/4"	4	5/8"	5/8"
1"	4.3/4"	3.7/16"	4	5/8"	3/4"
1.1/4"	5.1/4"	3.7/8"	4	5/8"	3/4"
1.1/2"	5.1/2"	4.1/8"	4	5/8"	7/8"
2"	6.1/2"	5"	4	3/4"	1"
2.1/2"	7.1/4"	5.3/4"	8	3/4"	1"
3"	8"	6.1/2"	8	3/4"	1.1/4"
3.1/2"	8.1/2"	7"	8	3/4"	1.1/4"
4"	9"	7.1/2"	8	3/4"	1.3/8"
5"	11"	9.1/4"	8	7/8"	1.1/2"
6"	12"	10.1/4"	12	7/8"	1.1/2"
7"	13.1/4"	11.1/2"	12	7/8"	1.5/8"
8"	14.1/2"	12.3/4"	12	7/8"	1.5/8"
9"	16"	14"	12	1"	1.3/4"
10"	17"	15"	12	1"	1.7/8"
12"	19.1/4"	17.1/4"	16	1"	2"
14"	21.3/4"	19.1/2"	16	1.1/8"	2.1/8"
16"	24"	21.3/4"	20	1.1/8"	2.1/4"
18"	26.1/2"	24"	20	1.1/4"	2.3/8"
20"	29"	26.1/2"	24	1.1/4"	2.1/2"
24"	33.1/2"	30.3/4"	24	1.3/8"	2.3/4"

Nominal Pipe Size	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	4.1/2"	3.1/4"	4	5/8"	3/4"
3/4"	4.1/2"	3.1/4"	4	5/8"	3/4"
1"	5"	3.3/4"	4	5/8"	7/8"
1.1/4"	5.1/4"	3.7/8"	4	5/8"	7/8"
1.1/2"	6"	4.1/2"	4	3/4"	1"
2"	6.1/2"	5"	8	5/8"	1"
2.1/2"	7.1/4"	5.3/4"	8	3/4"	1.1/8"
3"	8"	6.1/2"	8	3/4"	1.1/4"
3.1/2"	9"	7.1/4"	8	7/8"	1.1/4"
4"	9.1/2"	7.3/4"	8	7/8"	1.3/8"
5"	11"	9.1/4"	12	7/8"	1.5/8"
6"	12"	10.1/4"	12	7/8"	1.5/8"
7"	13.1/2"	11.1/2"	12	1"	1.3/4"
8"	14.1/2"	12.1/2"	12	1"	1.7/8"
9"	16"	14"	16	1"	2"
10"	17"	15"	16	1"	2"
12"	19.1/4"	17"	16	1.1/8"	2.1/4"
14"	22.1/2"	20"	16	1.1/4"	2.3/4"
16"	24.3/4"	22.1/4"	20	1.1/4"	2.5/8"
18"	28.1/4"	25.3/4"	20	1.3/8"	3"
20"	31"	28"	20	1.1/2"	3.1/4"

For 1/2" and 5/8" Bolts the diameters of the holes 1/6" in larger than the bolts.
 For 3/4" Bolts and size above, the diameter shall be 1/8" in larger than the bolts.

BRITISH STANDARD PIPE FLANGES

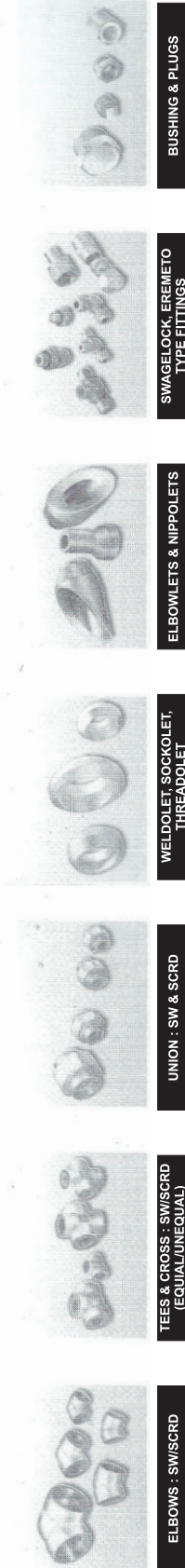
PRESSURE TEMPERATURE RATINGS FOR CARBON STEEL FLANGES

TEMPERATURE

Table	⁰ F 0-450	500	550	600	650	700	750	800	825	850	875	900	Max. Hydraulic Test Pressure
	⁰ C -17.8 to 232.2	260.0	287.8	315.6	343.3	371.1	399	427	441	454	468	482	
D	100	95	85	80	70	65	55	50	-	-	-	-	150
E	200	185	170	155	140	130	115	100	-	-	-	-	300
F	300	280	255	235	215	195	170	150	-	-	-	-	450
H	500	465	430	395	355	320	285	250	215	180	150	115	750
J	700	650	600	550	500	450	400	350	300	255	210	160	1050
K	900	835	770	705	645	580	515	450	390	325	265	205	1350
R	1200	1115	1030	945	855	770	685	600	520	435	355	275	1800
S	1800	1670	1545	1415	1285	1155	1030	900	780	655	535	415	2700
T	2800	2600	2400	2200	2000	1800	1600	1400	1210	1025	835	645	4200



SOCKET - WELDING PIPE FITTINGS



ELBOWS : SW/SCRD

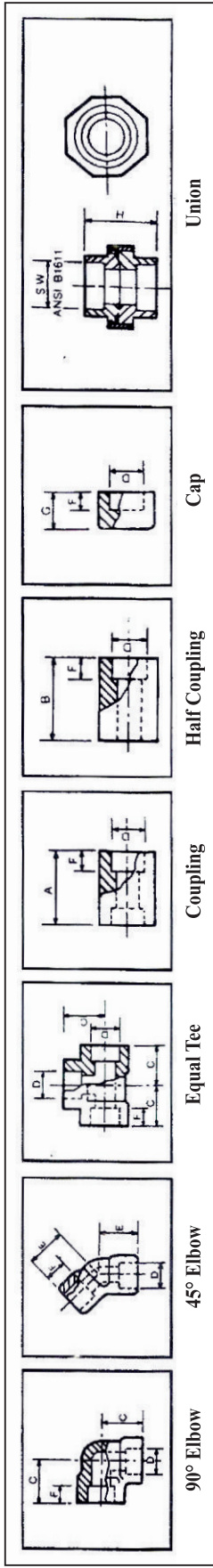
UNION : SW & SCRD

WELDOLET, SOCKOLET, THREADDLET

ELBOWLETS & NIPPOLETS

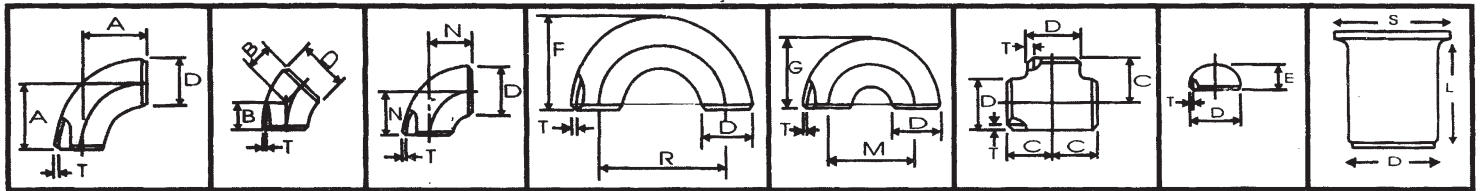
SWAGELock, ERIMETO TYPE FITTINGS

BUSHING & PLUGS



DIMENSIONAL STANDARD ANSI B 16-11

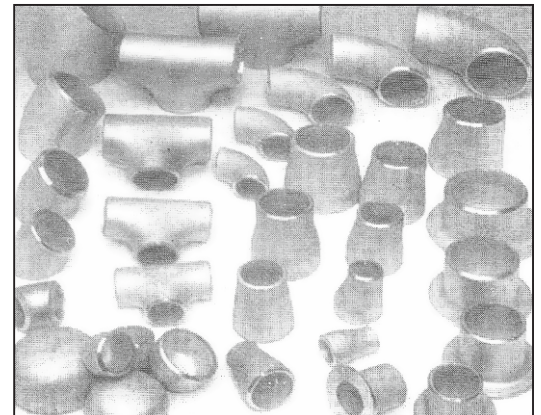
Nominal Size	Socket Bore	Depth of Socket	Dimension	Centre to Centre Socket						End to End					
				C		E		G		H					
Inch	mm	D	A	B	3000 lbs	6000 lbs	9000 lbs	3000 lbs	6000 lbs	9000 lbs	3000 lbs	6000 lbs	9000 lbs	3000 lbs	6000 lbs
1/8	6	10.8	25.7	25.4	20.8	20.8	-	17.5	17.5	-	14.5	14.5	-	-	-
1/4	8	14.2	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	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	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	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	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	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	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	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	50.5	58.7	56.9	-	44.2	-	-	31.5	34.8	-	-	-	-
3	80	90.0	50.5	60.2	72.9	-	-	47.5	-	-	34.8	38.1	-	-	-
4	100	115.6	57.2	66.8	85.6	-	-	60.2	-	-	41.4	47.5	-	-	-



BUTT-WELDING PIPE FITTINGS

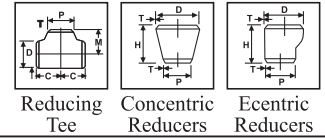
DIMENSIONAL STANDARD ANSI B 16.9 AND B 16.28

Nominal Pipe Size		Outside Diameter D	Center to Face				Back to Face			Center to Center			Length 'L'	
Inch	mm		A	B	C	N	E	F	G	R	M	S	MSS SP 43	ANSI B 16.9
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	127.0	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	152.4	305.0
16	400	406.4	610	254	305	406	178	813	610	1219	813	470	152.4	305.0
18	450	457.0	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	6144	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	991.0	406.0	495	660	267							
28	700	771.0	1067.0	438.0	521	771	267							
30	750	762.0	1143.0	470.0	559	762	267							
32	800	813.0	1219.0	502.0	597	813	267							
34	850	864.0	1295.0	533.0	635	864	267							
36	900	914.0	1372.0	565.0	673	914	267							
38	950	965.0	1448.0	600.0	711	965	305							
40	1000	1016.0	1524.0	632.0	749	1016	305							
42	1050	1067.0	1600.0	660.0	762	1067	305							
44	1100	1118.0	1676.0	695.0	813	1118	343							
46	1150	1168.0	1753.0	727.0	851	1168	343							
48	1200	1219.0	1829.0	759.0	889	1219	343							





BUTT-WELDING PIPE FITTINGS

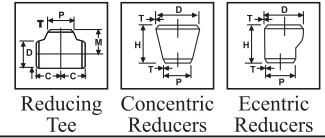


DIMENSIONAL STANDARD ANSI B 16.9

Nominal Pipe Size		Outside Diameter		Center to end		Length	Nominal Pipe Size		Outside Diameter		Center to end		Length
Inch	mm	D	P	C	M	H	Inch	mm	D	P	C	M	H
1/2 x 3/8	15 x 10	21.3	17.1	25	25	-	8 x 6	200 x 150	219.1	168.3	178	168	152
1/2 x 1/4	15 x 8	21.3	13.7	25	25	-	8 x 5	200x 125	219.1	141.3	178	162	152
3/4 x 1/2	20 x 15	26.7	21.3	29	29	38	8 x 4	200 x 100	219.1	114.3	178	156	152
3/4 x 3/8	20 x 10	26.7	17.1	29	29	38	8 x 3.1/2	200 x 90	219.1	101.6	178	152	152
1 x 3/4	25 x 20	33.4	26.7	38	38	51	10 x 8	250 x 200	273.1	219.1	216	203	178
1 x 1/2	25 x 15	33.4	21.3	38	38	51	10 x 6	250 x 150	273.1	168.1	216	194	178
1.1/4 x 1	32 x 25	42.2	33.4	48	48	51	10 x 5	250 x 125	273.1	141.3	216	191	178
1.1/4 x 3/4	32 x 20	42.2	26.7	48	48	51	10 x 4	250 x 100	273.1	114.3	216	184	178
1.1/4 x 1/2	32 x 15	42.2	21.3	48	48	51	12 x 10	300 x 250	323.9	273.1	254	241	203
1.1/2 x 1.1/2	40 x 32	48.3	42.2	57	57	64	12 x 8	300 x 200	323.9	219.1	254	229	203
1.1/2 x 1	40 x 25	48.3	33.4	57	57	64	12 x 6	300 x 150	323.9	168.3	254	219	203
1.1/2 x 3/4	40 x 20	48.3	26.7	57	57	64	12 x 5	300 x 125	323.9	141.3	254	216	203
1.1/2 x 1/2	40x 15	48.3	21.3	57	57	64	14 x 12	350 x 300	355.6	323.9	279	270	330
2 x 1.1/2	50 x 40	60.3	48.2	64	60	76	14 x 10	50 x 250	355.6	273.1	279	257	330
2 x 1 1/4	50 x 32	60.3	42.2	64	57	76	14 x 8	350 x 200	355.6	219.1	279	248	330
2 x 1	50 x 25	60.3	33.4	64	51	76	14 x 6	350 x 150	355.6	168.3	279	238	330
2 x 3/4	50 x 20	60.3	26.7	64	44	76	"16 x 14"	"400 x 350"	"406.4"	"355.6"	305	305	356
2.1/2 x 2	65 x 50	73.0	60.3	76	70	89	16 x 12	400 x 300	406.4	323.9	305	295	356
2.1/2 x 1.1/2	65 x 40	73.0	48.3	76	67	89	16 x 10	400 x 250	406.4	273.1	305	283	356
2.1/2 x 1.1/4	65 x 32	73.0	42.2	76	64	89	16 x 8	400 x 200	406.4	219.1	305	273	356
2.1/2 x 1	65 x 25	73.0	33.4	76	57	89	16 x 6	400 x 150	406.4	168.3	305	264	-
3 x 2.1/2	80 x 65	88.9	73.0	86	83	89	18 x 16	450 x 400	457.0	406.4	343	330	381
3 x 2	80 x 50	88.9	60.3	86	76	89	18 x 14	450 x 350	457.0	355.6	343	330	381
3 x 1.1/2	80 x 40	88.9	48.3	86	73	89	18 x 12	450 x 300	457.0	323.9	343	321	381
3 x 1.1/4	80 x 32	88.9	42.2	86	70	89	18 x 10	450 x 250	457.0	273.1	343	308	381
3.1/2 x 3	90 x 80	101.6	88.9	95	92	102	18 x 8	450 x 200	457.0	219.1	343	298	-
3.1/2 x 2.1/2	90 x 65	101.6	73.0	95	89	102	20 x 18	500 x 450	508.0	457.0	381	368	508
3.1/2 x 2	90 x 50	101.6	60.3	95	83	102	20 x 16	500 x 400	508.0	406.4	381	356	508
3.1/2 x 1.1/2	90 x 40	101.6	48.3	95	79	102	20 x 14	500 x 350	508.0	355.6	381	356	508
3.1/2 x 1.1/4	90 x 32	101.6	42.2	-	-	102	20 x 12	500 x 300	508.0	323.9	381	346	508
4 x 3.1/2	100 x 90^	114.3	101.6	105	102	102	20 x 10	500 x 250	508.0	273.1	381	333	-
4 x 3	100 x 80	114.3	88.9	105	98	102	20 x 8	500 x 200	508.0	219.1	381	324	-
4 x 2.1/2	100 x 65	114.3	73.0	105	95	102	22 x 20	550 x 500	559.0	508.0	419	406	508
4 x 2	100 x 50	114.3	60.3	105	89	102	22 x 18	550 x 450	559.0	457.0	419	394	508
4 x 1.1/2	100 x 40	114.3	48.3	105	86	102	22 x 16	550 x 400	559.0	406.0	419	381	508
5 x 4	125 x 100	141.3	114.3	124	117	127	22 x 14	550 x 350	559.0	355.6	419	381	508
5 x 3.1/2	125 x 90	141.3	101.6	124	114	127	22 x 12	550 x 300	559.0	323.9	419	371	-
5 x 3	125 x 80	141.3	88.9	124	111	127	22 x 10	550 x 250	559.0	273.1	419	359	-
5 x 2.1/2	125 x 65	141.3	73.0	124	108	127	24 x 22	600 x 550	610.0	559.0	432	432	508
5 x 2	125 x 50	141.3	60.3	124	105	127	24 x 20	600 x 500	610.0	508.0	432	432	508
6 x 5	150 x 125	168.3	141.3	143	137	140	24 x 18	600 x 450	610.0	457.0	432	419	508
6 x 4	150 x 100	168.3	114.3	143	130	140	24 x 16	600 x 400	610.0	406.4	432	406	508
6 x 3.1/2	150 x 90	168.3	101.6	143	127	140	24 x 14	600 x 350	610.0	355.6	432	406	-
6 x 3	150 x 80	168.3	88.9	143	124	140	24 x 12	600 x 300	610.0	323.9	432	397	-
6 x 2.1/2	150 x 65	168.3	73.0	143	121	140	24 x 10	600 x 250	610.0	273.1	432	384	-



BUTT-WELDING PIPE FITTINGS

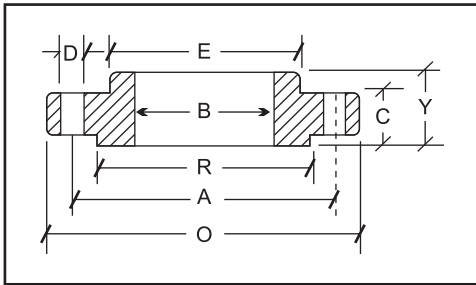


DIMENSIONAL STANDARD ANSI B 16.9

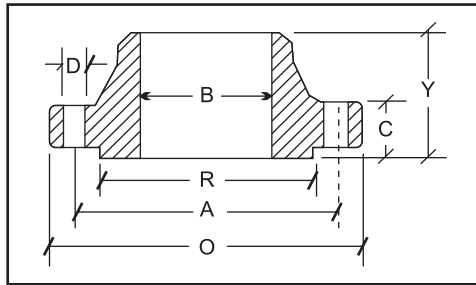
Nominal Pipe Size		Outside Diameter		Center to end		Length	Nominal Pipe Size		Outside Diameter		Center to end		Length
Inch	mm	D	P	C	M	H	Inch	mm	D	P	C	M	H
26 x 24	650 x 600	660.0	610.0	495	483	610	36 x 22	900 x 550	914.0	559.0	673	597	610
26 x 22	650 x 550	660.0	559.0	495	470	610	36 x 20	900 x 500	914.0	508.0	673	584	610
26 x 20	650 x 500	660.0	508.0	495	457	610	36 x 18	900 x 450	914.0	457.0	673	572	610
26 x 18	650 x 450	660.0	457.0	495	444	610	38 x 36	950 x 900	965.0	914.0	711	711	610
26 x 16	650 x 400	660.0	406.4	495	432	610	38 x 34	950 x 850	965.0	864.0	711	698	610
26 x 14	650 x 350	660.0	355.6	495	432	610	38 x 32	950 x 800	965.0	813.0	711	686	610
26 x 12	650 x 300	660.0	323.9	495	432	610	38 x 30	950 x 750	965.0	762.0	711	673	610
28 x 26	700 x 650	771.0	660.0	521	521	610	38 x 28	950 x 700	965.0	771.0	711	648	610
28 x 24	700 x 600	771.0	610.0	521	508	610	38 x 26	950 x 650	965.0	660.0	711	648	610
28 x 22	700 x 550	771.0	559.0	521	495	610	38 x 24	950 x 600	965.0	610.0	711	635	610
28 x 20	700 x 500	771.0	508.0	521	483	610	38 x 22	950 x 550	965.0	559.0	711	622	610
28 x 18	700 x 450	771.0	457.0	521	470	610	40 x 38	1000 x 950	1016.0	965.0	749	749	610
28 x 16	700 x 400	771.0	406.4	521	457	610	40 x 36	1000 x 900	1016.0	914.0	749	737	610
28 x 14	700 x 350	771.0	355.6	521	457	610	40 x 34	1000 x 850	1016.0	864.0	749	724	610
28 x 12	700 x 300	771.0	323.9	521	448	610	40 x 32	1000 x 800	1016.0	813.0	749	711	610
30 x 28	750 x 700	762.0	771.0	559	546	610	40 x 30	1000 x 750	1016.0	762.0	749	698	610
30 x 26	750 x 650	762.0	660.0	559	546	610	40 x 28	1000 x 700	1016.0	771.0	749	673	610
30 x 24	750 x 600	762.0	610.0	559	533	610	40 x 26	1000 x 650	1016.0	660.0	749	673	610
30 x 22	750 x 550	762.0	559.0	559	521	610	40 x 24	1000 x 600	1016.0	610.0	749	660	610
30 x 20	750 x 500	762.0	508.0	559	508	610	40 x 22	1000 x 550	1016.0	559.0	749	648	610
30 x 18	750 x 450	762.0	457.0	559	495	610	42 x 40	1050 x 1000	1067.0	1016.0	762	711	610
30 x 16	750 x 400	762.0	406.4	559	483	610	42 x 38	1050 x 950	1067.0	965.0	762	711	610
30 x 14	750 x 350	762.0	355.6	559	483	610	42 x 36	1050 x 900	1067.0	914.0	762	711	610
30 x 12	750 x 300	762.0	323.9	559	473	610	42 x 34	1050 x 850	1067.0	864.0	762	711	610
30 x 10	750 x 250	762.0	273.1	559	460	610	42 x 32	1050 x 800	1067.0	813.0	762	711	610
32 x 30	800 x 750	813.0	762.0	597	584	610	42 x 30	1050 x 750	1067.0	762.0	762	711	610
32 x 28	800 x 700	813.0	771.0	597	572	610	42 x 28	1050 x 700	1067.0	771.0	762	698	610
32 x 26	800 x 650	813.0	660.0	597	572	610	42 x 26	1050 x 650	1067.0	660.0	762	698	610
32 x 24	800 x 600	813.0	610.0	597	559	610	42 x 24	1050 x 600	1067.0	610.0	762	660	610
32 x 22	800 x 550	813.0	559.0	597	546	610	42 x 22	1050 x 550	1067.0	559.0	762	660	610
32 x 20	800 x 500	813.0	508.0	597	533	610	44 x 42	1100 x 1050	1118.0	1067.0	813	762	610
32 x 18	800 x 450	813.0	457.0	597	521	610	44 x 40	1100 x 1000	1118.0	1016.0	813	749	610
32 x 16	800 x 400	813.0	406.4	597	508	610	44 x 38	1100 x 950	1118.0	965.0	813	737	610
32 x 14	800 x 350	813.0	355.6	597	508	610	44 x 36	1100 x 900	1118.0	914.0	813	724	610
34 x 32	850 x 800	864.0	813.0	635	622	610	44 x 34	1100 x 850	1118.0	864.0	813	724	610
34 x 30	850 x 750	864.0	762.0	635	610	610	44 x 32	1100 x 800	1118.0	813.0	813	711	610
34 x 28	850 x 700	864.0	771.0	635	597	610	44 x 30	1100 x 750	1118.0	762.0	813	711	610
34 x 26	850 x 650	864.0	660.0	635	597	610	44 x 28	1100 x 700	1118.0	771.0	813	698	610
34 x 24	850 x 600	864.0	610.0	635	584	610	44 x 26	1100 x 650	1118.0	660.0	813	698	610
34 x 22	850 x 550	864.0	559.0	635	572	610	46 x 44	1150 x 1100	1168.0	1118.0	851	800	711
34 x 20	850 x 500	864.0	508.0	635	559	610	46 x 42	1150 x 1050	1168.0	1067.0	851	787	711
34 x 18	850 x 450	864.0	457.0	635	546	610	46 x 40	1150 x 1000	1168.0	1016.0	851	775	711
36 x 34	900 x 850	914.0	864.0	673	660	610	46 x 38	1150 x 950	1168.0	965.0	851	762	711
36 x 32	900 x 800	914.0	813.0	673	648	610	46 x 36	1150 x 900	1168.0	914.0	851	762	711
36 x 30	900 x 750	914.0	762.0	673	635	610	46 x 34	1150 x 850	1168.0	864.0	851	749	711
36 x 28	900 x 700	914.0	771.0	673	622	610	46 x 32	1150 x 800	1168.0	813.0	851	749	711
36 x 26	900 x 650	914.0	660.0	673	622	610	46 x 30	1150 x 750	1168.0	762.0	851	737	711
36 x 24	900 x 600	914.0	610.0	673	610	610	46 x 28	1150 x 700	1168.0	771.0	851	737	711



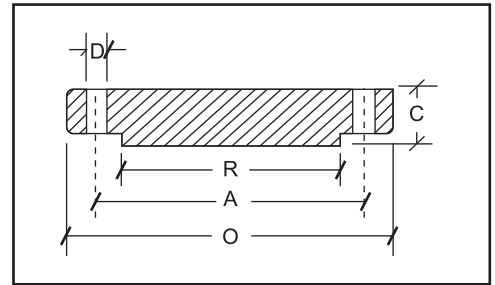
SLIP-ON FLANGE



WELDING NECK FLANGE



BLIND FLANGE



DIMENSIONAL TOLERANCES

Welding Neck			Threaded, slip on, lap joint, socket welding and blind				
★ Outside diameter	O. D. 600 or smaller	±1.6		★ Outside diameter	O. D. 50 or smaller	± 1.6	
	O. D. over 600	±3.1			O. D. over 600	± 3.1	
inside diameter (bore)	250 and smaller		± 0.7	inside diameter (bore)	threaded :	to standard gauge limits slip on : lap join : socket-welding :	
	12 through 450		± 1.6		250 and smaller	+0.7	-0.0
	500 and larger	+3.1	-1.6		300 and larger	+1.6	-0.0
diameter of contact face	1.6 raised face	± 0.7		diameter of counter bore	threaded		
	6.3 raised face : tongue & grooved male and female	± 0.4			250 and smaller	+0.7	-0.0
★ diameter of hub at base	When E is 600 or smaller	± 1.6			300 and larger	+1.6	-0.0
	When E is over 600	+3.1		★ outside diameter of hub	300 and smaller	+2.3	-1.6
diameter of hub at point of welding	125 and smaller	+0.7	± 0.7	diameter of contact face	1.6 raised face	± 0.7	
	150 and larger	+4.0	± 0.0		6.3 raised : tongue & grooved. male & female	± 0.4	
thickness	450 and smaller	+3.1	-0.0	thickness	450 and smaller	+3.1	-0.0
	500 and larger	+4.7	-0.0		500 and larger	+4.7	-0.0
length through hub	250 and smaller	± 1.6			★ length through hub	250 and smaller	± 1.6
	300 and larger	± 3.1		300 and larger		± 3.1	
drilling	bolt circle	± 1.6		drilling	bolt circle	± 1.6	
	bolt hole spacing	± 0.7			bolt hole spacing	± 0.7	
	eccentricity with respect to bore	0.7 max			eccentricity with respect to bore	0.7 max	

★ Not covered by ANSI-B 16.5

All dimensions are in Millimeters.

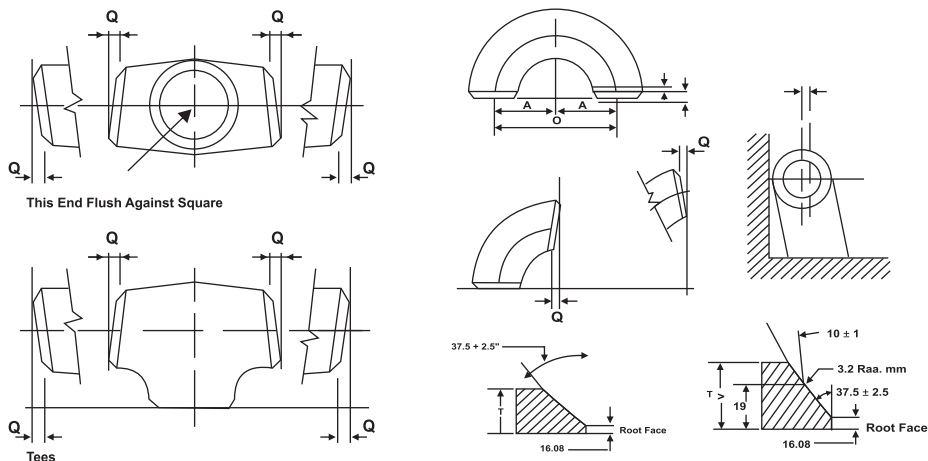


DIMENSIONAL TOLERANCES AS PER

ANSI B 16.9 / B 16.28 / MSS SP - 43

BUTT WELD FITTING

ALL FITTINGS				90°, 60°/45°/30° ELBOWS & TEES		REDUCERS		180° RETURNS				CAPS		ANGULARITY							
Nominal Pipe Size Inch/mm	Outside (1) Diameter at Level	Inside Diameter	Wall Thickness at End	Center to End		Overall Length Dimension		Centre to End		Back to Face Dimension		Alignment of End Dimension		Overall Length		Nominal Pipe Size	Off Angle Inch/mm	Off Plane			
D				T		A, B, C, M,		H		O		K		U		E		Q		P	
	(1) B16.9	MSS SP43	(2) B16.9	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43		B16.9	MSS SP75	B16.9		
1/2" TO 2.1/2 80 to 90	±1.0		±0.8			FROM 1/2" To 10" 15 To 250	FROM 3/4" To 10" 15 To 250	FROM 1/2" To 10" 15 To 250	FROM 1/2" To 8" 15 To 200							± 4	± 3.17	1/2" To 4" 15 To 100	1	1	
3" TO 3.1/2 80 to 90		± 0.7 9	±1.6			± 2	± 1.59	± 2	± 1.59	± 7	± 6.35	± 7	± 6.35	± 1.0	± 0.7 9			5" To 8" 125 To 200	2	4	
4" 100	+2 -1																	10" To 12" 250 To 300	3	5	
5" TO 6" 125 to 150	+3 -1	+ 1.5 9		Not less than 87.5% Nominal Thk.	Not less than 87.5% Nominal Thk.											± 7	± 6.35	14" To 16" 350 To 400	3	16" To 24" 400 To 600	7
8" 200	±2	-0.79																18" To 24" 450 To 600	4	To 600 1.6	10
10" TO 18" 250 to 450	+4 -3	+2.3 8 -0.79	±3.2			FROM 12" To 30" ± 3 300 To 750			10" To 24" + 2.38 250 To 600									26" To 30" 650 To 750	5	26" To 36" 650 To 900	10
20" TO 24" 500 to 600	+6 -5	3.17 0.79	±4.8							± 10	± 9.5 3			± 2.0	± 1.59			32" To 42" 800 To 1050	5	To 900 2.4	13
26" TO 30" 550 to 750	+7 -5															± 10		44" To 48" 1100 To 1200	5	38" To 48" 950 To 1200	20
32" TO 48" 800 to 1200	+7 -5					± 5												42" To 48" 1050 To 1200	± 5	120 0 3.2	± 20

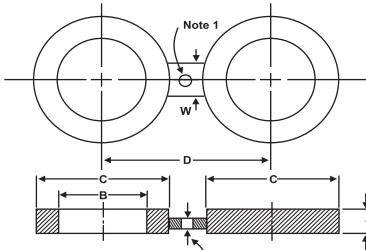


1. Out of round is the sum of absolute values of plus and minus tolerance.
2. The inside diameter at ends and the nominal wall thickness are to be specified by the purchaser.
3. Out of roundness tolerances shall be the difference between the max. dia measured on any radial cross-section.
4. All dimensions are in millimeters except nominal pipe sizes which are in inches.

WELDING BEVEL STANDARDS ANSI B 16.25



SPECTACLE BLINDS TO API 590
ANSI Class 150, 300 & 600



CLASS 150

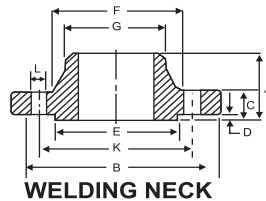
CLASS 300

CLASS 600

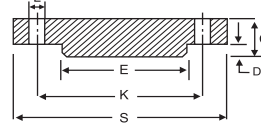
Nominal Pipe Size	Outside Diameter Of Pipe	Inside Diameter	Outside Diameter	Centre line Spacing	Thickness	Web Width	CLASS 150					CLASS 300					CLASS 600					Nominal Pipe Size	
							B	C	D	t	W	B	C	D	t	W	B	C	D	t	W		
mm. (in)	A	B	C	D	t	W	B	C	D	t	W	B	C	D	t	W	B	C	D	t	W	mm. (in)	
15 1/2	21.3	16	44	60	3	38	16	51	67	6	38	16	51	67	6	38	15	1/2					
20 3/4	26.7	21	54	70	3	38	21	64	83	6	38	21	64	83	6	38	20	3/4					
25 1	33.4	27	64	79	3	38	27	70	89	6	38	27	70	89	6	38	25	1					
32 1 1/4	42.2	42	73	89	6	38	42	79	99	6	38	37	79	99	10	57	32	1 1/4					
40 1 1/2	48.3	48	83	99	6	38	48	92	114	6	51	43	92	114	10	67	40	1 1/2					
50 2	60.3	60	102	121	6	51	60	108	127	10	51	55	108	127	10	57	50	2					
65 2 1/2	73	73	121	140	6	51	73	127	149	10	64	67	127	149	13	67	65	2 1/2					
80 3	88.9	89	133	152	6	64	89	146	168	10	64	83	146	168	13	67	80	3					
100 4	114.3	114	171	190	10	64	114	178	200	13	64	108	191	216	16	76	100	4					
125 5	141.3	141	194	216	10	76	141	213	235	16	76	135	238	267	19	86	125	5					
150 6	168.3	168	219	241	13	76	168	248	270	16	76	162	264	292	22	86	150	6					
200 8	219.1	219	276	298	13	76	219	305	330	22	89	212	318	349	28	95	200	8					
250 10	273.1	273	337	362	16	102	273	359	387	25	102	265	397	432	35	105	250	10					
300 12	323.8	324	406	432	19	102	324	419	451	28	102	315	454	489	41	105	300	12					
350 14	355.6	356	448	476	19	108	356	483	514	32	121	346	489	527	44	114	350	14					
400 16	406.4	406	511	540	22	108	406	537	572	38	124	397	562	603	51	124	400	16					
450 18	457	457	546	578	25	114	457	594	629	41	114	448	610	654	54	133	450	18					
500 20	508	508	603	635	28	121	508	651	686	44	121	497	679	724	64	133	500	20					
600 24	610	610	714	749	32	140	610	772	813	51	140	597	787	838	73	152	600	24					

NOTES : 1. HOLE SIZE SHALL BE THE SAME AS THE FLANGE BOLT HOLE.
 2. THE THICKNESS OF WEB SHALL BE THE LEAST OF 't' OR 6.4 mm.
 3. ALSO AVAILABLE IN LARGER SIZES & RING TYPE JOINT FACING.

ASME B 16.47 - 1996



WELDING NECK



BLANK

Series A
Class 150

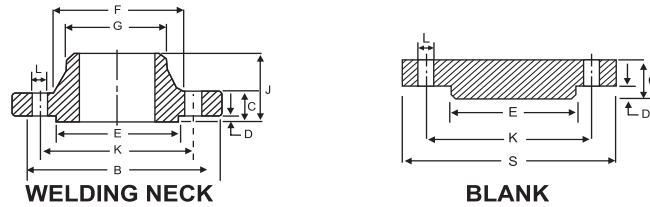
CLASS 150

Nominal Pipe Size	Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind C1	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size
										Bolt Circle Diameter	Diameter of Bolt Holes	Number of Bolts	
mm. (in)	A	B	C	D	E	F	G	J	K	L	M	mm. (in)	
650 26	660.4	870.0	68.3	68.3	1.6	749.3	676.1	660.4	120.7	806.5	35.1	24	650 26
700 28	711.2	927.1	71.4	71.4	1.6	800.1	726.9	711.2	125.5	863.6	35.1	28	700 28
750 30	762.0	984.3	74.7	74.7	1.6	857.3	781.1	762.0	136.7	914.4	35.1	28	750 30
800 32	812.8	1060.5	81.0	81.0	1.6	914.4	831.9	812.8	144.5	977.9	41.1	28	800 32
850 34	863.6	1111.3	82.6	82.6	1.6	965.2	882.7	863.6	149.4	1028.7	41.1	32	850 34
900 36	914.4	1168.4	90.4	90.4	1.6	1022.4	933.5	914.4	157.2	1085.9	41.1	32	900 36
950 38	965.2	1238.3	87.4	87.4	1.6	1073.2	990.6	965.2	157.2	1149.4	41.1	32	950 38
1000 40	1016.0	1289.1	90.4	90.4	1.6	1124.0	1041.4	1016.0	163.6	1200.2	41.1	36	1000 40
1050 42	1066.8	1346.2	96.8	96.8	1.6	1193.8	1092.2	1066.8	171.5	1257.3	41.1	36	1050 42
1100 44	1117.6	1403.4	101.6	101.6	1.6	1244.6	1143.0	1117.6	177.8	1314.5	41.1	40	1100 44
1150 46	1168.4	1454.2	103.1	103.1	1.6	1295.4	1196.8	1168.4	185.7	1365.3	41.1	40	1150 46
1200 48	1219.2	1511.3	108.0	108.0	1.6	1358.9	1247.6	1219.2	192.0	1422.4	41.1	44	1200 48
1250 50	1270.0	1568.5	111.3	111.3	1.6	1409.7	1301.8	1270.0	203.2	1479.6	47.8	44	1250 50
1300 52	1320.8	1625.6	115.8	115.8	1.6	1460.5	1352.6	1320.8	209.6	1536.7	47.8	44	1300 52
1350 54	1371.6	1682.8	120.7	120.7	1.6	1511.3	1403.4	1371.6	215.9	1593.9	47.8	44	1350 54
1400 56	1422.4	1746.3	124.0	124.0	1.6	1574.8	1457.5	1422.4	228.6	1651.0	47.8	48	1400 56
1450 58	1473.2	1803.4	128.5	128.5	1.6	1625.6	1508.3	1473.2	235.0	1708.2	47.8	48	1450 58
1500 60	1524.0	1854.2	131.8	131.8	1.6	1676.4	1559.1	1524.0	239.8	1759.0	47.8	52	1500 60

NOTE : 1. DIMENSIONS ARE IN MM. 2. BORE IS TO BE SPECIFIED BY THE CUSTOMER TO SUIT PIPES. 3. RING TYPE JOINT ALSO AVAILABLE PREVIOUSLY MSS SP44



ASME B 16.47 - 1996 Series A Class 300



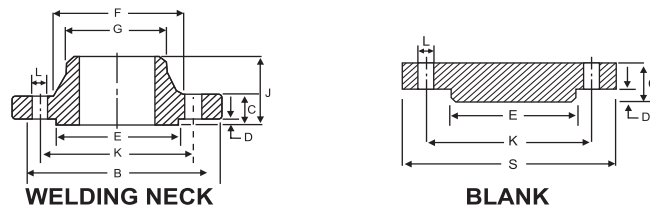
CLASS 300

Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	mm.	(in)
650	26	660.4	971.6	79.2	84.1	1.6	749.3	720.9	660.4	184.2	876.3	44.5	28	650	26
700	28	711.2	1035.1	85.9	90.4	1.6	800.1	774.7	711.2	196.9	939.8	44.5	28	700	28
750	30	762.0	1092.2	91.9	95.3	1.6	857.3	827.0	762.0	209.6	997.0	47.8	28	750	30
800	32	812.8	1149.4	98.6	100.1	1.6	914.4	881.1	812.8	222.3	1054.1	50.8	28	800	32
850	34	863.6	1206.5	101.6	104.6	1.6	965.2	936.8	863.6	231.6	1104.9	50.8	28	850	34
900	36	914.4	1270.0	104.6	111.3	1.6	1022.4	990.6	914.4	241.3	1168.4	53.8	32	900	36
950	38	965.2	1168.4	108.0	108.0	1.6	1028.7	993.6	965.2	180.8	1092.2	41.1	32	950	38
1000	40	1016.0	1238.3	114.3	114.3	1.6	1124.0	1047.8	1016.0	193.5	1155.7	44.5	32	1000	40
1050	42	1066.8	1289.1	119.1	119.1	1.6	1085.9	1098.6	1066.8	200.2	1206.5	44.5	32	1050	42
1100	44	1117.6	1352.6	124.0	124.0	1.6	1136.7	1149.4	1117.6	206.2	1263.7	47.8	32	1100	44
1150	46	1168.4	1416.1	128.5	128.5	1.6	1193.8	1203.5	1168.4	215.9	1320.8	50.8	28	1150	46
1200	48	1219.2	1466.9	133.4	133.4	1.6	1244.6	1254.3	1219.2	223.8	1371.6	50.8	32	1200	48
1250	50	1270.0	1530.4	139.7	139.7	1.6	1301.8	1305.1	1270.0	231.6	1428.8	53.8	32	1250	50
1300	52	1320.8	1581.2	144.5	144.5	1.6	1409.7	1355.9	1320.8	238.3	1479.6	53.8	32	1300	52
1350	54	1371.6	1657.4	152.4	152.4	1.6	1466.9	1409.7	1371.6	252.5	1549.4	60.5	28	1350	54
1400	56	1422.4	1708.2	153.9	153.9	1.6	1517.7	1463.5	1422.4	260.4	1600.2	60.5	28	1400	56
1450	58	1473.2	1759.0	158.8	158.8	1.6	1574.8	1514.3	1473.2	266.7	1651.0	60.5	32	1450	58
1500	60	1524.0	1809.8	163.6	163.6	1.6	1625.6	1565.1	1524.0	273.1	1701.8	60.5	32	1500	60

- NOTES : 1. Dimensions are in mm.
 2. Bore is to be specified by the customer to suit pipes.
 3. Ring type joint also available.

Previously MSS SP44

ASME B 16.47 - 1996 Series A Class 600



CLASS 300

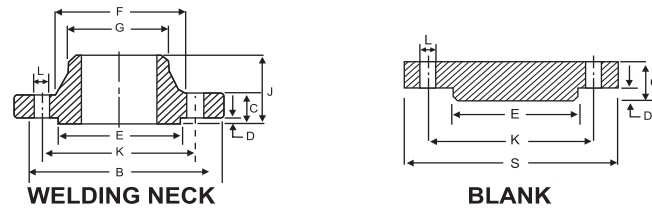
Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	mm.	(in)
650	26	660.4	1016.0	108.0	125.5	6.4	749.3	747.8	660.4	222.3	914.4	50.8	28	650	26
700	28	711.2	1073.2	111.3	131.8	6.4	800.1	803.1	711.2	235.0	965.2	53.8	28	700	28
750	30	762.0	1130.3	114.3	139.7	6.4	857.3	862.1	762.0	247.7	1022.4	53.8	28	750	30
800	32	812.8	1193.8	117.3	147.6	6.4	914.4	917.4	812.8	260.4	1079.5	60.5	28	800	32
850	34	863.6	1244.6	120.7	153.9	6.4	965.2	973.1	863.6	269.7	1130.3	60.5	28	850	34
900	36	914.4	1314.5	124.0	162.1	6.4	1022.4	1031.7	914.4	282.4	1193.8	66.5	28	900	36
950	38	965.2	1270.0	152.4	155.4	6.4	1054.1	1022.2	965.2	254.0	1162.1	60.5	28	950	38
1000	40	1016.0	1320.8	158.8	162.1	6.4	1111.3	1073.2	1016.0	263.7	1212.9	60.5	32	1000	40
1050	42	1066.8	1403.4	168.1	171.5	6.4	1168.4	1127.3	1066.8	279.4	1282.7	66.5	28	1050	42
1100	44	1117.6	1454.2	173.0	177.8	6.4	1225.6	1181.1	1117.6	289.1	1333.5	66.5	32	1100	44
1150	46	1168.4	1511.3	179.3	185.7	6.4	1276.4	1234.9	1168.4	300.0	1390.7	66.5	32	1150	46
1200	48	1219.2	1593.9	189.0	195.3	6.4	1333.5	1289.1	1219.2	316.0	1460.5	73.2	32	1200	48
1250	50	1270.0	1670.1	196.9	203.2	6.4	1384.3	1343.2	1270.0	328.7	1524.0	79.2	28	1250	50
1300	52	1320.8	1720.9	203.2	209.6	6.4	1435.1	1394.0	1320.8	336.6	1574.8	79.2	32	1300	52
1350	54	1371.6	1778.0	209.6	217.4	6.4	1492.3	1447.8	1371.6	349.3	1632.0	79.2	32	1350	54
1400	56	1422.4	1854.2	217.4	225.6	6.4	1543.1	1501.6	1422.4	362.0	1695.5	85.9	32	1400	56
1450	58	1473.2	1905.0	222.3	231.6	6.4	1600.2	1552.4	1473.2	369.8	1746.3	85.9	32	1450	58
1500	60	1524.0	1993.9	233.4	242.8	6.4	1657.4	1609.9	1524.0	388.9	1822.5	91.9	28	1500	60

- NOTES : 1. Dimensions are in mm.
 2. Bore is to be specified by the customer to suit pipes.
 3. Ring type joint also available.

Previously MSS SP44



ASME B 16.47 - 1996 Series B Class 150



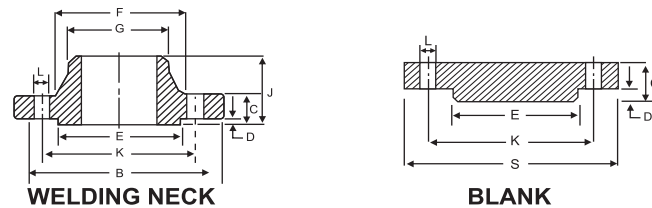
CLASS 150

Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	mm.	(in)
650	26	660.4	785.9	41.1	44.5	1.6	711.2	684.3	661.9	88.9	744.5	22.4	36	650	26
700	28	711.2	836.7	44.5	47.8	1.6	762.0	735.1	712.7	95.3	795.3	22.4	40	700	28
750	30	762.0	887.5	44.5	50.8	1.6	812.8	787.4	763.5	100.1	846.1	22.4	44	750	30
800	32	812.8	941.3	46.0	53.8	1.6	863.6	839.7	814.3	108.0	900.2	22.4	48	800	32
850	34	863.6	1004.8	49.3	57.2	1.6	920.8	892.0	865.1	110.2	957.3	25.4	40	850	34
900	36	914.4	1057.1	52.3	58.7	1.6	971.6	944.6	915.9	117.3	1009.7	25.4	44	900	36
950	38	965.2	1124.0	53.8	63.5	1.6	1022.4	997.0	968.2	124.0	1069.8	28.4	40	950	38
1000	40	1016.0	1174.8	55.6	66.5	1.6	1079.5	1049.3	1019.0	128.5	1120.6	28.4	44	1000	40
1050	42	1066.8	1225.6	58.7	68.3	1.6	1130.3	1101.9	1069.8	133.4	1171.4	28.4	48	1050	42
1100	44	1117.6	1276.4	60.5	71.4	1.6	1181.1	1152.7	1120.6	136.7	1222.2	28.4	52	1100	44
1150	46	1168.4	1341.4	62.0	74.7	1.6	1234.9	1205.0	1171.4	144.5	1284.2	31.8	40	1150	46
1200	48	1219.2	1392.2	65.0	77.7	1.6	1289.1	1257.3	1222.2	149.4	1335.0	31.8	44	1200	48
1250	50	1270.0	1443.0	68.3	80.8	1.6	1339.9	1308.1	1273.0	153.9	1385.8	31.8	48	1250	50
1300	52	1320.8	1493.8	69.9	84.1	1.6	1390.7	1360.4	1323.8	157.2	1436.6	31.8	52	1300	52
1350	54	1371.6	1549.4	71.4	87.4	1.6	1441.5	1412.7	1374.6	162.1	1492.3	31.8	56	1350	54
1400	56	1422.4	1600.2	73.2	90.4	1.6	1492.3	1465.3	1425.4	166.6	1543.1	31.8	60	1400	56
1450	58	1473.2	1674.9	74.7	93.5	1.6	1543.1	1516.1	1476.2	174.8	1611.4	35.1	48	1450	58
1500	60	1524.0	1725.7	76.2	96.8	1.6	1600.2	1570.0	1527.0	179.3	1662.2	35.1	52	1500	60

NOTES : 1. Dimensions are in mm.
 2. Bore is to be specified by the customer to suit pipes.
 3. Ring type joint also available.

Previously MSS SP44

ASME B 16.47 - 1996 Series B Class 300



Class 300

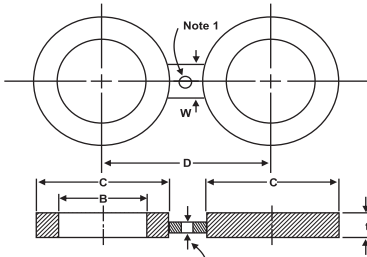
Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	mm.	(in)
650	26	660.4	866.6	88.9	88.9	1.6	736.6	701.5	665.2	144.5	803.1	35.1	32	650	26
700	28	711.2	920.8	88.9	88.9	1.6	787.4	755.7	716.0	149.4	857.3	35.1	36	700	28
750	30	762.0	990.6	93.7	93.7	1.6	844.6	812.8	768.4	158.0	920.8	38.1	36	750	30
800	32	812.8	1054.1	103.1	103.1	1.6	901.7	863.6	819.2	168.1	977.9	41.1	32	800	32
850	34	863.6	1107.9	103.1	103.1	1.6	952.5	917.4	870.0	173.0	1031.7	41.1	36	850	34
900	36	914.4	1171.4	103.1	103.1	1.6	1009.7	965.2	920.8	180.8	1089.2	44.5	32	900	36
950	38	965.2	1222.2	111.3	111.3	1.6	1060.5	1016.0	971.6	192.0	1140.0	44.5	36	950	38
1000	40	1016.0	1273.0	115.8	115.8	1.6	1114.6	1066.8	1022.4	198.4	1190.8	44.5	40	1000	40
1050	42	1066.8	1333.5	119.1	119.1	1.6	1168.4	1117.6	1074.7	204.7	1244.6	47.8	36	1050	42
1100	44	1117.6	1384.3	127.0	127.0	1.6	1219.2	1173.2	1125.5	214.4	1295.4	47.8	40	1100	44
1150	46	1168.4	1460.5	130.0	128.5	1.6	1270.0	1228.9	1176.3	222.3	1365.3	50.8	36	1150	46
1200	48	1219.2	1511.3	134.9	128.5	1.6	1327.2	1277.9	1227.1	223.8	1416.1	50.8	40	1200	48
1250	50	1270.0	1562.1	139.7	138.2	1.6	1378.0	1330.5	1277.9	235.0	1466.9	50.8	44	1250	50
1300	52	1320.8	1612.9	144.3	142.7	1.6	1428.8	1382.8	1328.7	242.8	1517.7	50.8	48	1300	52
1350	54	1371.6	1673.4	149.4	136.7	1.6	1479.6	1435.1	1379.5	239.8	1577.8	50.8	48	1350	54
1400	56	1422.4	1765.3	157.0	153.9	1.6	1536.7	1493.8	1430.3	268.2	1651.0	60.5	36	1400	56
1450	58	1473.2	1827.3	162.1	153.9	1.6	1593.9	1547.9	1481.1	274.6	1713.0	60.5	40	1450	58
1500	60	1524.0	1878.1	166.6	150.9	1.6	1651.0	1598.7	1531.9	271.5	1763.8	60.5	40	1500	60

NOTES : 1. Dimensions are in mm.
 2. Bore is to be specified by the customer to suit pipes.
 3. Ring type joint also available.

Previously MSS SP44



**SPECTACLE BLINDS TO API 590
ANSI Class 150, 300 & 600**



CLASS 150

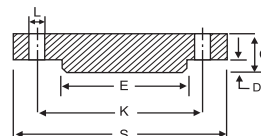
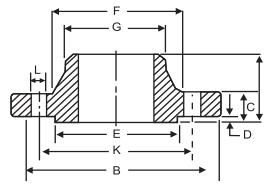
CLASS 300

CLASS 600

Nominal Pipe Size	Outside Diameter Of Pipe	Inside Diameter	Outside Diameter	Centre line Spacing	Thickness	Web Width	CLASS 150					CLASS 300					CLASS 600					Nominal Pipe Size	
							B	C	D	t	W	B	C	D	t	W	B	C	D	t	W	mm.	(in)
15	21.3	16	44	60	3	38	16	51	67	6	38	16	51	67	6	38	15	1/2					
20	26.7	21	54	70	3	38	21	64	83	6	38	21	64	83	6	38	20	3/4					
25	33.4	27	64	79	3	38	27	70	89	6	38	27	70	89	6	38	25	1					
32	42.2	42	73	89	6	38	42	79	99	6	38	37	79	99	10	57	32	1 1/4					
40	48.3	48	83	99	6	38	48	92	114	6	51	43	92	114	10	67	40	1 1/2					
50	60.3	60	102	121	6	51	60	108	127	10	51	55	108	127	10	57	50	2					
65	73	73	121	140	6	51	73	127	149	10	64	67	127	149	13	67	65	2 1/2					
80	88.9	89	133	152	6	64	89	146	168	10	64	83	146	168	13	67	80	3					
100	114.3	114	171	190	10	64	114	178	200	13	64	108	191	216	16	76	100	4					
125	141.3	141	194	216	10	76	141	213	235	16	76	135	238	267	19	86	125	5					
150	168.3	168	219	241	13	76	168	248	270	16	76	162	264	292	22	86	150	6					
200	219.1	219	276	298	13	76	219	305	330	22	89	212	318	349	28	95	200	8					
250	273.1	273	337	362	16	102	273	359	387	25	102	265	397	432	35	105	250	10					
300	323.8	324	406	432	19	102	324	419	451	28	102	315	454	489	41	105	300	12					
350	355.6	356	448	476	19	108	356	483	514	32	121	346	489	527	44	114	350	14					
400	406.4	406	511	540	22	108	406	537	572	38	124	397	562	603	51	124	400	16					
450	457	457	546	578	25	114	457	594	629	41	114	448	610	654	54	133	450	18					
500	508	508	603	635	28	121	508	651	686	44	121	497	679	724	64	133	500	20					
600	610	610	714	749	32	140	610	772	813	51	140	597	787	838	73	152	600	24					

NOTES : 1. HOLE SIZE SHALL BE THE SAME AS THE FLANGE BOLT HOLE.
2. THE THICKNESS OF WEB SHALL BE THE LEAST OF 't' OR 6.4 mm.
3. ALSO AVAILABLE IN LARGER SIZES & RING TYPE JOINT FACING.

ASME B 16.47 - 1996



**Series A
Class 150**

CLASS 150

WELDING NECK

BLANK

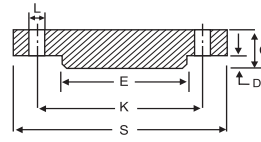
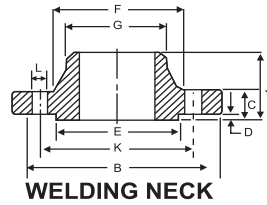
DRILLING DATA

Nominal Pipe Size	Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	Bolt Circle Diameter	Diameter of Bolt Holes	Number of Bolts	Nominal Pipe Size		
													mm.	(in)	
650	26	660.4	870.0	68.3	68.3	1.6	749.3	676.1	660.4	120.7	806.5	35.1	24	650	26
700	28	711.2	927.1	71.4	71.4	1.6	800.1	726.9	711.2	125.5	863.6	35.1	28	700	28
750	30	762.0	984.3	74.7	74.7	1.6	857.3	781.1	762.0	136.7	914.4	35.1	28	750	30
800	32	812.8	1060.5	81.0	81.0	1.6	914.4	831.9	812.8	144.5	977.9	41.1	28	800	32
850	34	863.6	1111.3	82.6	82.6	1.6	965.2	882.7	863.6	149.4	1028.7	41.1	32	850	34
900	36	914.4	1168.4	90.4	90.4	1.6	1022.4	933.5	914.4	157.2	1085.9	41.1	32	900	36
950	38	965.2	1238.3	87.4	87.4	1.6	1073.2	990.6	965.2	157.2	1149.4	41.1	32	950	38
1000	40	1016.0	1289.1	90.4	90.4	1.6	1124.0	1041.4	1016.0	163.6	1200.2	41.1	36	1000	40
1050	42	1066.8	1346.2	96.8	96.8	1.6	1193.8	1092.2	1066.8	171.5	1257.3	41.1	36	1050	42
1100	44	1117.6	1403.4	101.6	101.6	1.6	1244.6	1143.0	1117.6	177.8	1314.5	41.1	40	1100	44
1150	46	1168.4	1454.2	103.1	103.1	1.6	1295.4	1196.8	1168.4	185.7	1365.3	41.1	40	1150	46
1200	48	1219.2	1511.3	108.0	108.0	1.6	1358.9	1247.6	1219.2	192.0	1422.4	41.1	44	1200	48
1250	50	1270.0	1568.5	111.3	111.3	1.6	1409.7	1301.8	1270.0	203.2	1479.6	47.8	44	1250	50
1300	52	1320.8	1625.6	115.8	115.8	1.6	1460.5	1352.6	1320.8	209.6	1536.7	47.8	44	1300	52
1350	54	1371.6	1682.8	120.7	120.7	1.6	1511.3	1403.4	1371.6	215.9	1593.9	47.8	44	1350	54
1400	56	1422.4	1746.3	124.0	124.0	1.6	1574.8	1457.5	1422.4	228.6	1651.0	47.8	48	1400	56
1450	58	1473.2	1803.4	128.5	128.5	1.6	1625.6	1508.3	1473.2	235.0	1708.2	47.8	48	1450	58
1500	60	1524.0	1854.2	131.8	131.8	1.6	1676.4	1559.1	1524.0	239.8	1759.0	47.8	52	1500	60

NOTE : 1. DIMENSIONS ARE IN MM. 2. BORE IS TO BE SPECIFIED BY THE CUSTOMER TO SUIT PIPES. 3. RING TYPE JOINT ALSO AVAILABLE PREVIOUSLY MSS SP44



ASME B 16.47 - 1996 Series A Class 300



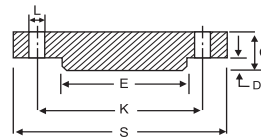
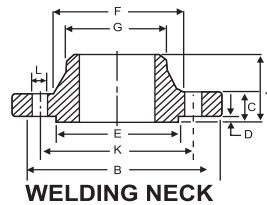
CLASS 300

Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	mm.	(in)
650	26	660.4	971.6	79.2	84.1	1.6	749.3	720.9	660.4	184.2	876.3	44.5	28	650	26
700	28	711.2	1035.1	85.9	90.4	1.6	800.1	774.7	711.2	196.9	939.8	44.5	28	700	28
750	30	762.0	1092.2	91.9	95.3	1.6	857.3	827.0	762.0	209.6	997.0	47.8	28	750	30
800	32	812.8	1149.4	98.6	100.1	1.6	914.4	881.1	812.8	222.3	1054.1	50.8	28	800	32
850	34	863.6	1206.5	101.6	104.6	1.6	965.2	936.8	863.6	231.6	1104.9	50.8	28	850	34
900	36	914.4	1270.0	104.6	111.3	1.6	1022.4	990.6	914.4	241.3	1168.4	53.8	32	900	36
950	38	965.2	1168.4	108.0	108.0	1.6	1028.7	993.6	965.2	180.8	1092.2	41.1	32	950	38
1000	40	1016.0	1238.3	114.3	114.3	1.6	1124.0	1047.8	1016.0	193.5	1155.7	44.5	32	1000	40
1050	42	1066.8	1289.1	119.1	119.1	1.6	1085.9	1098.6	1066.8	200.2	1206.5	44.5	32	1050	42
1100	44	1117.6	1352.6	124.0	124.0	1.6	1136.7	1149.4	1117.6	206.2	1263.7	47.8	32	1100	44
1150	46	1168.4	1416.1	128.5	128.5	1.6	1193.8	1203.5	1168.4	215.9	1320.8	50.8	28	1150	46
1200	48	1219.2	1466.9	133.4	133.4	1.6	1244.6	1254.3	1219.2	223.8	1371.6	50.8	32	1200	48
1250	50	1270.0	1530.4	139.7	139.7	1.6	1301.8	1305.1	1270.0	231.6	1428.8	53.8	32	1250	50
1300	52	1320.8	1581.2	144.5	144.5	1.6	1409.7	1355.9	1320.8	238.3	1479.6	53.8	32	1300	52
1350	54	1371.6	1657.4	152.4	152.4	1.6	1466.9	1409.7	1371.6	252.5	1549.4	60.5	28	1350	54
1400	56	1422.4	1708.2	153.9	153.9	1.6	1517.7	1463.5	1422.4	260.4	1600.2	60.5	28	1400	56
1450	58	1473.2	1759.0	158.8	158.8	1.6	1574.8	1514.3	1473.2	266.7	1651.0	60.5	32	1450	58
1500	60	1524.0	1809.8	163.6	163.6	1.6	1625.6	1565.1	1524.0	273.1	1701.8	60.5	32	1500	60

NOTES : 1. Dimensions are in mm.
2. Bore is to be specified by the customer to suit pipes.
3. Ring type joint also available.

Previously MSS SP44

ASME B 16.47 - 1996 Series A Class 600



CLASS 300

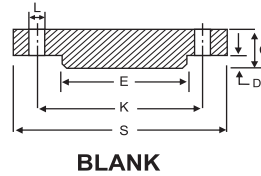
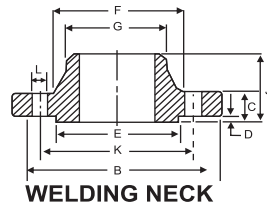
Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	mm.	(in)
650	26	660.4	1016.0	108.0	125.5	6.4	749.3	747.8	660.4	222.3	914.4	50.8	28	650	26
700	28	711.2	1073.2	111.3	131.8	6.4	800.1	803.1	711.2	235.0	965.2	53.8	28	700	28
750	30	762.0	1130.3	114.3	139.7	6.4	857.3	862.1	762.0	247.7	1022.4	53.8	28	750	30
800	32	812.8	1193.8	117.3	147.6	6.4	914.4	917.4	812.8	260.4	1079.5	60.5	28	800	32
850	34	863.6	1244.6	120.7	153.9	6.4	965.2	973.1	863.6	269.7	1130.3	60.5	28	850	34
900	36	914.4	1314.5	124.0	162.1	6.4	1022.4	1031.7	914.4	282.4	1193.8	66.5	28	900	36
950	38	965.2	1270.0	152.4	155.4	6.4	1054.1	1022.2	965.2	254.0	1162.1	60.5	28	950	38
1000	40	1016.0	1320.8	158.8	162.1	6.4	1111.3	1073.2	1016.0	263.7	1212.9	60.5	32	1000	40
1050	42	1066.8	1403.4	168.1	171.5	6.4	1168.4	1127.3	1066.8	279.4	1282.7	66.5	28	1050	42
1100	44	1117.6	1454.2	173.0	177.8	6.4	1225.6	1181.1	1117.6	289.1	1333.5	66.5	32	1100	44
1150	46	1168.4	1511.3	179.3	185.7	6.4	1276.4	1234.9	1168.4	300.0	1390.7	66.5	32	1150	46
1200	48	1219.2	1593.9	189.0	195.3	6.4	1333.5	1289.1	1219.2	316.0	1460.5	73.2	32	1200	48
1250	50	1270.0	1670.1	196.9	203.2	6.4	1384.3	1343.2	1270.0	328.7	1524.0	79.2	28	1250	50
1300	52	1320.8	1720.9	203.2	209.6	6.4	1435.1	1394.0	1320.8	336.6	1574.8	79.2	32	1300	52
1350	54	1371.6	1778.0	209.6	217.4	6.4	1492.3	1447.8	1371.6	349.3	1632.0	79.2	32	1350	54
1400	56	1422.4	1854.2	217.4	225.6	6.4	1543.1	1501.6	1422.4	362.0	1695.5	85.9	32	1400	56
1450	58	1473.2	1905.0	222.3	231.6	6.4	1600.2	1552.4	1473.2	369.8	1746.3	85.9	32	1450	58
1500	60	1524.0	1993.9	233.4	242.8	6.4	1657.4	1609.9	1524.0	388.9	1822.5	91.9	28	1500	60

NOTES : 1. Dimensions are in mm.
2. Bore is to be specified by the customer to suit pipes.
3. Ring type joint also available.

Previously MSS SP44



ASME B 16.47 - 1996 Series B Class 150



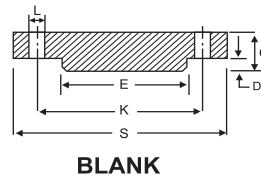
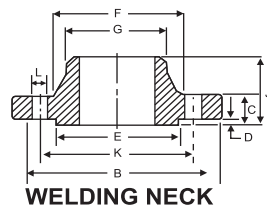
CLASS 150

Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)										A	B	C	C1	D
650	26	660.4	785.9	41.1	44.5	1.6	711.2	684.3	661.9	88.9	744.5	22.4	36	650	26
700	28	711.2	836.7	44.5	47.8	1.6	762.0	735.1	712.7	95.3	795.3	22.4	40	700	28
750	30	762.0	887.5	44.5	50.8	1.6	812.8	787.4	763.5	100.1	846.1	22.4	44	750	30
800	32	812.8	941.3	46.0	53.8	1.6	863.6	839.7	814.3	108.0	900.2	22.4	48	800	32
850	34	863.6	1004.8	49.3	57.2	1.6	920.8	892.0	865.1	110.2	957.3	25.4	40	850	34
900	36	914.4	1057.1	52.3	58.7	1.6	971.6	944.6	915.9	117.3	1009.7	25.4	44	900	36
950	38	965.2	1124.0	53.8	63.5	1.6	1022.4	997.0	968.2	124.0	1069.8	28.4	40	950	38
1000	40	1016.0	1174.8	55.6	66.5	1.6	1079.5	1049.3	1019.0	128.5	1120.6	28.4	44	1000	40
1050	42	1066.8	1225.6	58.7	68.3	1.6	1130.3	1101.9	1069.8	133.4	1171.4	28.4	48	1050	42
1100	44	1117.6	1276.4	60.5	71.4	1.6	1181.1	1152.7	1120.6	136.7	1222.2	28.4	52	1100	44
1150	46	1168.4	1341.4	62.0	74.7	1.6	1234.9	1205.0	1171.4	144.5	1284.2	31.8	40	1150	46
1200	48	1219.2	1392.2	65.0	77.7	1.6	1289.1	1257.3	1222.2	149.4	1335.0	31.8	44	1200	48
1250	50	1270.0	1443.0	68.3	80.8	1.6	1339.9	1308.1	1273.0	153.9	1385.8	31.8	48	1250	50
1300	52	1320.8	1493.8	69.9	84.1	1.6	1390.7	1360.4	1323.8	157.2	1436.6	31.8	52	1300	52
1350	54	1371.6	1549.4	71.4	87.4	1.6	1441.5	1412.7	1374.6	162.1	1492.3	31.8	56	1350	54
1400	56	1422.4	1600.2	73.2	90.4	1.6	1492.3	1465.3	1425.4	166.6	1543.1	31.8	60	1400	56
1450	58	1473.2	1674.9	74.7	93.5	1.6	1543.1	1516.1	1476.2	174.8	1611.4	35.1	48	1450	58
1500	60	1524.0	1725.7	76.2	96.8	1.6	1600.2	1570.0	1527.0	179.3	1662.2	35.1	52	1500	60

NOTES : 1. Dimensions are in mm.
2. Bore is to be specified by the customer to suit pipes.
3. Ring type joint also available.

Previously MSS SP44

ASME B 16.47 - 1996 Series B Class 300



Class 300

Nominal Pipe Size		Outside Diameter Of Pipe	Flange Outside Diameter	Thickness of Flange Min W Neck	Thickness of Flange Min Blind	Raised Face Thickness	Raised Face Diameter	Hub Diameter	Hub Dia. Start of Chamfer	Length Through Hub	DRILLING DATA			Nominal Pipe Size	
mm.	(in)										A	B	C	C1	D
650	26	660.4	866.6	88.9	88.9	1.6	736.6	701.5	665.2	144.5	803.1	35.1	32	650	26
700	28	711.2	920.8	88.9	88.9	1.6	787.4	755.7	716.0	149.4	857.3	35.1	36	700	28
750	30	762.0	990.6	93.7	93.7	1.6	844.6	812.8	768.4	158.0	920.8	38.1	36	750	30
800	32	812.8	1054.1	103.1	103.1	1.6	901.7	863.6	819.2	168.1	977.9	41.1	32	800	32
850	34	863.6	1107.9	103.1	103.1	1.6	952.5	917.4	870.0	173.0	1031.7	41.1	36	850	34
900	36	914.4	1171.4	103.1	103.1	1.6	1009.7	965.2	920.8	180.8	1089.2	44.5	32	900	36
950	38	965.2	1222.2	111.3	111.3	1.6	1060.5	1016.0	971.6	192.0	1140.0	44.5	36	950	38
1000	40	1016.0	1273.0	115.8	115.8	1.6	1114.6	1066.8	1022.4	198.4	1190.8	44.5	40	1000	40
1050	42	1066.8	1333.5	119.1	119.1	1.6	1168.4	1117.6	1074.7	204.7	1244.6	47.8	36	1050	42
1100	44	1117.6	1384.3	127.0	127.0	1.6	1219.2	1173.2	1125.5	214.4	1295.4	47.8	40	1100	44
1150	46	1168.4	1460.5	130.0	128.5	1.6	1270.0	1228.9	1176.3	222.3	1365.3	50.8	36	1150	46
1200	48	1219.2	1511.3	134.9	128.5	1.6	1327.2	1277.9	1227.1	223.8	1416.1	50.8	40	1200	48
1250	50	1270.0	1562.1	139.7	138.2	1.6	1378.0	1330.5	1277.9	235.0	1466.9	50.8	44	1250	50
1300	52	1320.8	1612.9	144.3	142.7	1.6	1428.8	1382.8	1328.7	242.8	1517.7	50.8	48	1300	52
1350	54	1371.6	1673.4	149.4	136.7	1.6	1479.6	1435.1	1379.5	239.8	1577.8	50.8	48	1350	54
1400	56	1422.4	1765.3	157.0	153.9	1.6	1536.7	1493.8	1430.3	268.2	1651.0	60.5	36	1400	56
1450	58	1473.2	1827.3	162.1	153.9	1.6	1593.9	1547.9	1481.1	274.6	1713.0	60.5	40	1450	58
1500	60	1524.0	1878.1	166.6	150.9	1.6	1651.0	1598.7	1531.9	271.5	1763.8	60.5	40	1500	60

NOTES : 1. Dimensions are in mm.
2. Bore is to be specified by the customer to suit pipes.
3. Ring type joint also available.

Previously MSS SP44



COMPANY PROFILE

ABOUT US

For over 27 years, Forcible Forge Industries has been a leader in designing and manufacturing top-quality irrigation equipment and products. Each item we produce showcases our commitment to craftsmanship, workmanship, and quality.

Who are we?

We are one of the renowned manufacturers, exporters, and suppliers of a wide array of industrial products. Forcible Forge Industries offers a proven range of items, including metal pipes, metal plates, metal pipe fittings, industrial flanges, steel scraps, sugar mill spares, alloy steel tubes, industrial valves, and more. Our products are crafted using high-quality raw materials such as plates, forgings, and rounds, and are available in various sizes, shapes, and surface finishes.

Our industrial products are known for their durability, dimensional accuracy, corrosion resistance, and ability to withstand temperature variations. They are used in a variety of industries, including oil and gas, marine equipment, pharmaceuticals, sugar, food and beverages, cement, steel, and chemicals. Additionally, we offer customized packaging for our products according to clients' specifications.





COMPANY DETAILS

Office Address : Plot No. A/77, Sector 12, Kharghar, Navi
Mumbai - 410210

Factory Address-

Unit 1: Plot No. 273, Near Ganesh Hotel, Kolsabunder Road,
Darukhana, Reay Road, Mumbai - 400010

Unit 2: Plot No. B/18, Dhruv Logistics Park, Koyana Village,
Panvel, Dist. RAIGAD - 410208

UDYAM Reg No. : UDYAM-MH-27-0047283 (Micro)

GSTIN/UIN : 27LERPS9788HIZY

Mobile : 8286638330, 9326861773

Email : forcibleforge@gmail.com

Website : www.forcibleforge.com

