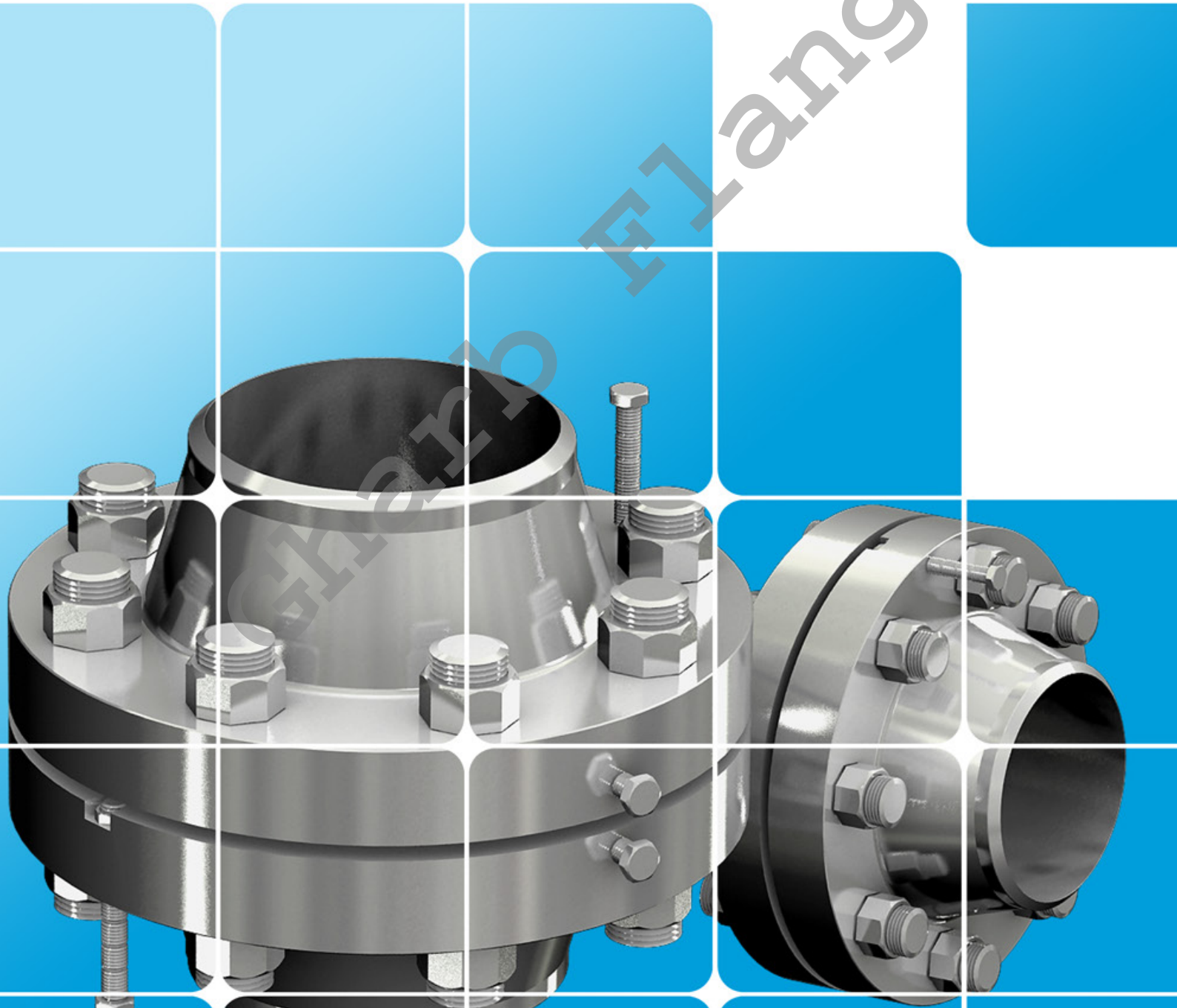




GharbFlange
Since 1979

ORIFICE FLANGES

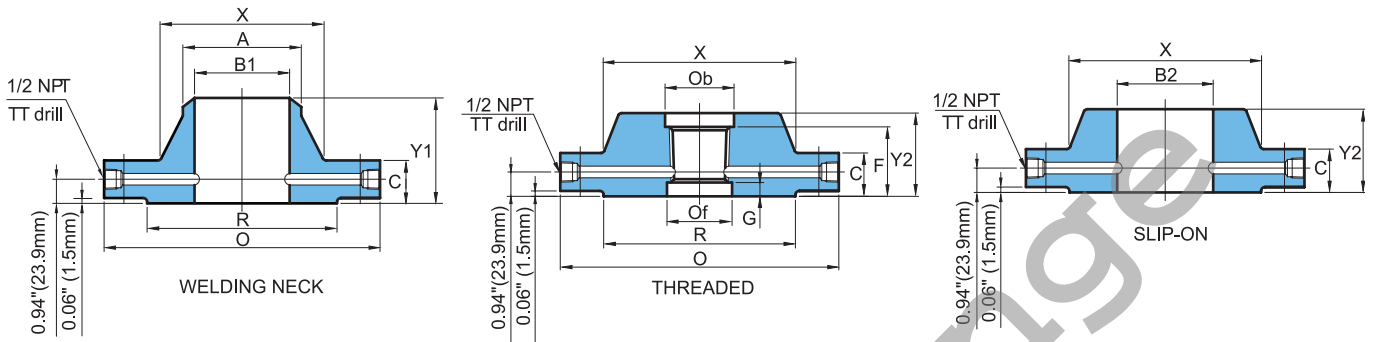
- Class 300 Flanges
- Class 400 Flanges
- Class 600 Flanges
- Class 900 Flanges
- Class 1500 Flanges
- Class 2500 Flanges





CLASS 300 FLANGES

ASME B16.36



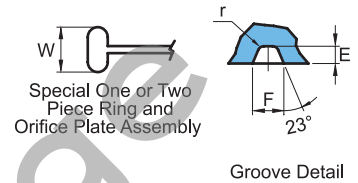
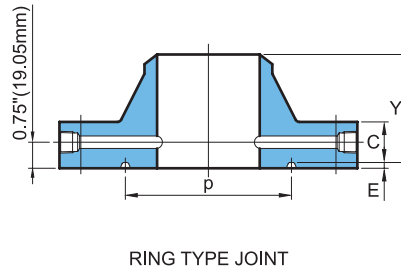
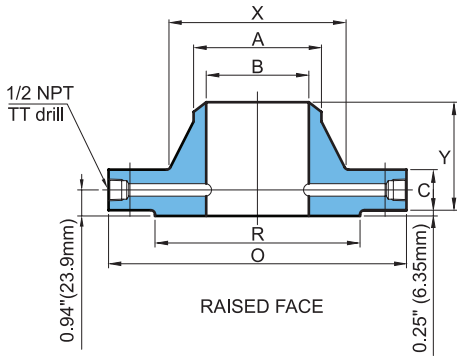
Unit : mm

Nominal Pipe Size	O. D. of Raised Face	O. D. of Flange	Thick-ness of Flange, Min.	Length Through Hub		Diam. of Hub	Hub Diam. Beginning of Chamfer (W.N)	Diam. of Counterbore		Counterbore Depth (From Face)		Bore		Diam. of Pressure Connection (inch)	Drilling Template				Bolt Length	
				Slip-On and Threaded	Weld Neck			Back	Face	F	G	Slip-On	Weld Neck		Bolt Circle	Number of Holes	Diam. of Holes	Diam. of Bolts (inch)	Machine Bolts	Stud Bolts
1	50.8	124.0	38.1	47.8	82.6	53.8	33.5	35.8	33.0	36.6	19.1	34.5	To be specified by purchaser.	1/4	88.9	4	17.5	5/8	114.3	127.0
1 1/2	73.2	155.4	38.1	47.8	85.9	69.9	48.3	50.5	48.0	37.3	18.3	49.5		1/4	114.3	4	20.6	3/4	120.7	133.4
2	91.9	165.1	38.1	49.3	85.9	84.1	60.5	63.5	59.9	38.1	17.5	62.0		1/4	127.0	8	17.5	5/8	114.3	127.0
2 1/2	104.6	190.5	38.1	50.8	88.9	100.1	73.2	76.2	72.1	44.5	14.2	74.7		1/4	149.4	8	20.6	3/4	120.7	133.4
3	127.0	209.6	38.1	52.3	88.9	117.3	88.9	92.2	87.9	46.0	14.2	90.7		3/8	168.1	8	20.6	3/4	120.7	133.4
4	157.2	254.0	38.1	53.8	91.9	146.1	114.3	117.6	113.0	47.8	14.2	116.1		1/2	200.2	8	20.6	3/4	120.7	133.4
6	215.9	317.5	38.1	53.8	100.1	206.2	168.4	171.5	166.9	47.8	7.9	170.7		1/2	269.7	12	22.4	3/4	120.7	133.4
8	269.7	381.0	41.8	62.0	111.3	260.4	219.2	222.3	217.2	55.6	11.2	221.5		1/2	330.2	12	25.4	7/8	127.0	146.1
10	323.9	444.5	47.8	66.5	117.3	320.5	273.1	Threaded flanges are furnished in NPS 1-8 only.				276.4		1/2	387.4	16	28.4	1	146.1	165.1
12	381.0	520.7	50.8	73.2	130.0	374.7	323.9					327.2		1/2	450.9	16	31.8	1 1/8	158.8	177.8
14	412.8	584.2	53.8	76.2	142.7	425.5	355.6					359.2		1/2	514.4	20	31.8	1 1/8	165.1	184.2
16	469.9	647.7	57.2	82.6	146.1	482.6	406.4					410.5		1/2	571.5	20	35.1	1 1/4	177.8	196.9
18	533.4	711.2	60.5	88.9	158.8	533.4	457.2					461.8		1/2	628.7	24	35.1	1 1/4	184.2	203.2
20	584.2	774.7	63.5	95.3	162.1	587.2	508.0					513.1		1/2	685.8	24	35.1	1 1/4	190.5	215.9
24	692.2	914.4	69.9	106.4	168.1	701.5	609.6					616.0		1/2	812.8	24	41.1	1 1/2	209.6	241.3



CLASS 400 FLANGES

ASME B16.36



Groove Detail

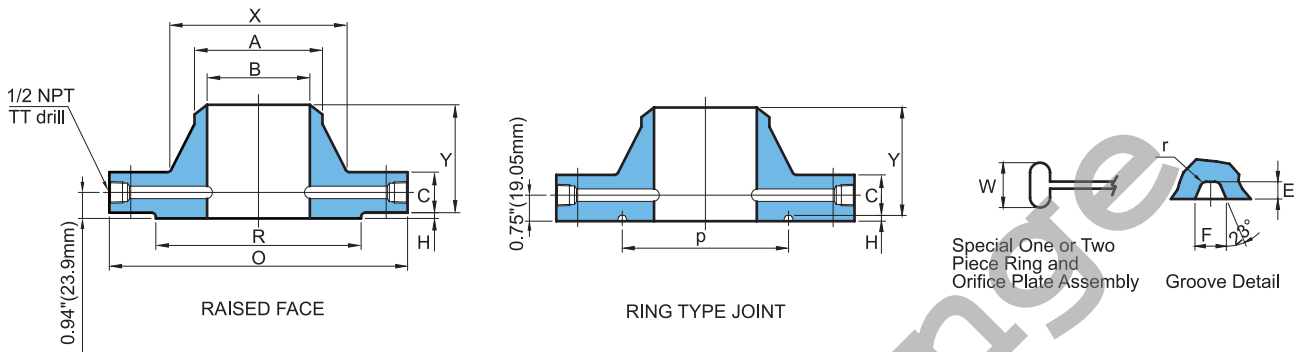
Unit : mm

Nominal Pipe Size	O. D. of Raised Face	O. D. of Flange	Thick-ness of Flange, Min.	Length Through Hub	Ring Type Joint								Hub Diam. Beginning of Cham-fer	Bore	Diam. of Press-ure Con-nection (inch)	Drilling Template				Lengh of Stud Bolts	
					Groove Number	Pitch Diam.	Groove Depth	Groove Width	Radius at Bottom	Special Oval Ring Height	Diam. of Hub	Diam. of Bolt Circle				Number of Holes	Diam. of Holes	Diam. of Bolts (inch)	Raised Face	Ring Joint	
						P	E	F	r max.	W											X
1	50.8	124.0	36.6	81.0	R16	50.8	6.4	8.7	0.8	25.4	53.8	33.5	To be specified by purchaser.	1/4	88.9	4	17.5	5/8	127.0	139.7	
1 1/2	73.2	155.4	36.6	84.3	R20	68.3	6.4	8.7	0.8	25.4	69.9	48.3		1/4	114.3	4	20.6	3/4	133.4	139.7	
2	91.9	165.1	36.6	84.3	R23	82.6	7.9	11.9	0.8	26.9	84.1	60.5		1/4	127.0	8	17.5	5/8	127.0	139.7	
2 1/2	104.6	190.5	36.6	87.4	R26	101.6	7.9	11.9	0.8	26.9	100.1	73.2		1/4	149.4	8	20.6	3/4	133.4	146.1	
3	127.0	209.6	36.6	87.4	R31	123.8	7.9	11.9	0.8	26.9	117.3	88.9		3/8	168.1	8	20.6	3/4	133.4	146.1	
4	157.2	254.0	38.1	88.9	R37	149.2	7.9	11.9	0.8	26.9	146.1	114.3		1/2	200.2	8	25.4	7/8	139.7	152.4	
6	215.9	317.5	41.1	103.1	R45	211.1	7.9	11.9	0.8	26.9	206.2	168.4		1/2	269.7	12	25.4	7/8	158.8	165.1	
8	269.7	381.0	47.8	117.3	R49	269.9	7.9	11.9	0.8	26.9	260.4	219.2		1/2	330.2	12	28.4	1	171.5	184.2	
10	323.9	444.5	53.8	124.0	R53	323.9	7.9	11.9	0.8	26.9	320.5	273.1		1/2	387.4	16	31.8	1 1/8	190.5	203.2	
12	381.0	520.7	57.2	136.7	R57	381.0	7.9	11.9	0.8	26.9	374.7	323.9		1/2	450.9	16	35.1	1 1/4	203.2	215.9	
14	412.8	584.2	60.7	149.4	R61	419.1	7.9	11.9	0.8	26.9	425.5	355.6		1/2	514.4	20	35.1	1 1/4	209.6	228.6	
16	469.9	647.7	63.5	152.4	R65	469.9	7.9	11.9	0.8	30.2	482.6	406.4		1/2	571.5	20	38.1	1 3/8	222.3	235.0	
18	533.4	711.2	66.5	165.1	R69	533.4	7.9	11.9	0.8	30.2	533.4	457.2		1/2	628.7	24	38.1	1 3/8	235.0	241.3	
20	584.2	774.7	69.9	168.1	R73	584.2	9.5	13.5	1.5	31.8	587.2	508.0		1/2	685.8	24	41.1	1 1/2	247.7	260.4	
24	692.2	914.4	76.2	174.8	R77	692.2	23.8	16.7	1.5	36.6	701.5	609.6		1/2	812.8	24	47.8	1 3/4	279.4	292.1	



CLASS 600 FLANGES

ASME B16.36



Unit : mm

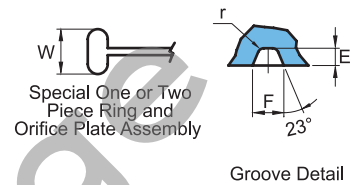
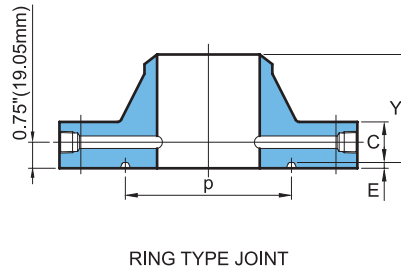
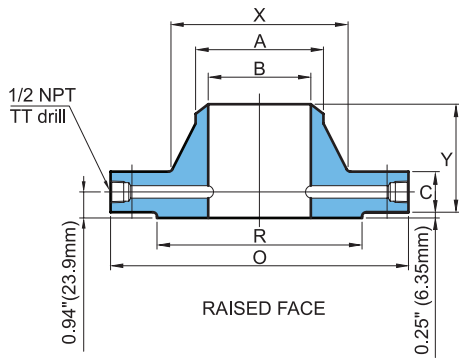
Nominal Pipe Size	O. D. of Raised Face	O.D. of Flange	Thick-ness of Flange, Min.	Length Through Hub	Height of Raised Face	Ring Type Joint						Hub Diam. Beginning of Chamfer	Bore	Diam. of Pressure Connection (inch)	Drilling Template				Lengh of Stud Bolts			
						Groove Number	Pitch Diam.	Groove Depth	Groove Width	Radius at Bottom	Special Oval Ring Height				Diam. of Hub	Bolt Circle	Number of Holes	Diam. of Holes		Diam. of Bolts (inch)	Raised Face	Ring Joint
																		Raised Face	Ring Joint			
R	O	C	Y	H	P	E	F	r max.	W	X	A	B	TT									
1	50.8	124.0	36.6	81.0	1.5	R16	50.8	6.4	8.7	0.8	25.4	53.8	33.5	1/4	88.9	4	17.5	19.1	5/8	127.0	139.7	
1 1/2	73.2	155.4	36.6	84.3	1.5	R20	68.3	6.4	8.7	0.8	25.4	69.9	48.3	1/4	114.3	4	20.6	22.4	3/4	133.4	139.7	
2	91.9	165.1	36.6	84.3	1.5	R23	82.6	7.9	11.9	0.8	26.9	84.1	60.5	1/4	127.0	8	17.5	19.1	5/8	127.0	139.7	
2 1/2	104.6	190.5	36.6	87.4	1.5	R26	101.6	7.9	11.9	0.8	26.9	100.1	73.2	1/4	149.4	8	20.6	22.4	3/4	133.4	146.1	
3	127.0	209.6	36.6	87.4	1.5	R31	123.8	7.9	11.9	0.8	26.9	117.3	88.9	3/8	168.1	8	20.6	22.4	3/4	133.4	146.1	
4	157.2	273.1	38.1	101.6	6.4	R37	149.2	7.9	11.9	0.8	26.9	152.4	114.3	1/2	215.9	8	25.4	25.4	7/8	152.4	165.1	
6	215.9	355.6	47.8	117.3	6.4	R45	211.1	7.9	11.9	0.8	26.9	222.3	168.4	1/2	292.1	12	28.4	28.4	1	177.8	190.5	
8	269.7	419.1	55.6	133.4	6.4	R49	269.9	7.9	11.9	0.8	26.9	273.1	219.2	1/2	349.3	12	31.8	31.8	1 1/8	196.9	209.6	
10	323.9	508.0	63.5	152.4	6.4	R53	323.9	7.9	11.9	0.8	26.9	342.9	273.1	1/2	431.8	16	35.1	35.1	1 1/4	222.3	235.0	
12	381.0	558.8	66.5	155.4	6.4	R57	381.0	7.9	11.9	0.8	26.9	400.1	323.9	1/2	489.0	20	35.1	35.1	1 1/4	228.6	241.3	
14	412.8	603.3	69.9	165.1	6.4	R61	419.1	7.9	11.9	0.8	26.9	431.8	355.6	1/2	527.1	20	38.1	38.1	1 3/8	241.3	254.0	
16	469.9	685.8	76.2	177.8	6.4	R65	469.9	7.9	11.9	0.8	30.2	495.3	406.4	1/2	603.3	20	41.1	41.1	1 1/2	260.4	273.1	
18	533.4	743.0	82.6	184.2	6.4	R69	533.4	7.9	11.9	0.8	30.2	546.1	457.2	1/2	654.1	20	44.5	44.5	1 5/8	279.4	292.1	
20	584.2	812.8	88.9	190.5	6.4	R73	584.2	9.5	13.5	1.5	31.8	609.6	508.0	1/2	723.9	24	44.5	44.5	1 5/8	298.5	317.5	
24	692.2	939.8	101.6	203.2	6.4	R77	692.2	11.1	16.7	1.5	36.6	717.6	609.6	1/2	838.2	24	50.8	50.8	1 7/8	336.6	349.3	

To be specified by purchaser.



CLASS 900 FLANGES

ASME B16.36



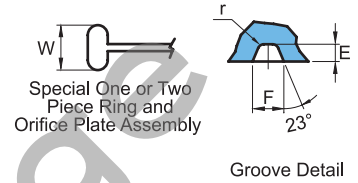
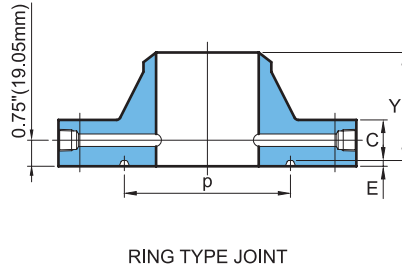
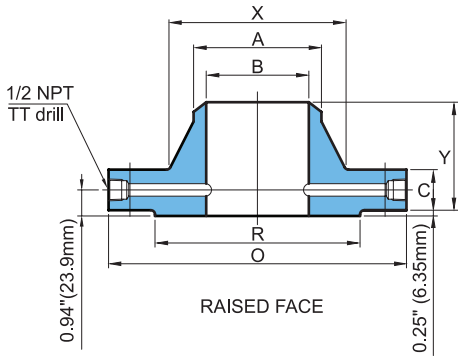
Unit : mm

Nominal Pipe Size	O. D. of Raised Face	O. D. of Flange	Thick-ness of Flange, Min.	Length Through Hub	Ring Type Joint								Hub Diam. Beginning of Cham-fer	Bore	Diam. of Press-ure Convec-tion (inch)	Drilling Template				Lengh of Stud Bolts	
					Groove Number	Pitch Diam.	Groove Depth	Groove Width	Radius at Bottom	Special Oval Ring Height	Diam. of Hub	Diam. of Bolts (inch)				Raised Face	Ring Joint				
						P	E	F	r max.	W								X	A	Bolt Circle	Number of Holes
R	O	C	Y		P	E	F	r max.	W	X	A	B	TT								
1	50.8	149.4	38.1	82.6	R16	50.8	6.4	8.7	0.8	25.4	52.3	33.5	To be specified by purchaser.	1/4	101.6	4	25.4	7/8	152.4	158.8	
1 1/2	73.2	177.8	38.1	88.9	R20	68.3	6.4	8.7	0.8	25.4	69.9	48.3		1/4	124.0	4	28.4	1	158.8	165.1	
2	91.9	215.9	38.1	101.6	R24	95.3	7.9	11.9	0.8	26.9	104.6	60.5		1/4	165.1	8	25.4	7/8	152.4	165.1	
2 1/2	104.6	244.3	41.1	104.6	R27	108.0	7.9	11.9	0.8	26.9	124.0	73.2		1/4	190.5	8	28.4	1	165.1	177.8	
3	127.0	241.3	38.1	101.6	R31	123.8	7.9	11.9	0.8	26.9	127.0	88.9		3/8	190.5	8	25.4	7/8	152.4	165.1	
4	157.2	292.1	44.5	114.3	R37	149.2	7.9	11.9	0.8	26.9	158.8	114.3		1/2	235.0	8	31.8	1 1/8	177.8	190.5	
6	215.9	381.0	55.6	139.7	R45	211.1	7.9	11.9	0.8	26.9	235.0	168.4		1/2	317.5	12	31.8	1 1/8	196.9	209.6	
8	269.7	469.9	63.5	162.1	R49	269.9	7.9	11.9	0.8	26.9	298.5	219.2		1/2	393.7	12	38.1	1 3/8	228.6	241.3	
10	323.9	546.1	69.9	184.2	R53	323.9	7.9	11.9	0.8	26.9	368.3	273.1		1/2	469.9	16	38.1	1 3/8	241.3	254.0	
12	381.0	609.6	79.2	200.2	R57	381.0	7.9	11.9	0.8	26.9	419.1	323.9		1/2	533.4	20	38.1	1 3/8	260.4	273.1	
14	412.8	641.4	85.9	212.9	R62	419.1	11.1	16.7	1.5	33.3	450.9	355.6		1/2	558.8	20	41.1	1 1/2	279.4	292.1	
16	469.9	704.9	88.9	215.9	R66	469.9	11.1	16.7	1.5	36.6	508.0	406.4		1/2	616.0	20	44.5	1 5/8	292.1	304.8	
18	533.4	787.4	101.6	228.6	R70	533.4	12.7	19.8	1.5	39.6	565.2	457.2		1/2	685.8	20	50.8	1 7/8	330.2	349.3	
20	584.2	857.3	108.0	247.7	R74	584.2	12.7	19.8	1.5	39.6	622.3	508.0		1/2	749.3	20	53.8	2	355.6	374.7	
24	692.2	1041.4	139.7	292.1	R78	692.2	15.9	27.0	2.3	47.8	749.3	609.6		1/2	901.7	20	66.5	2 1/2	444.5	469.9	



CLASS 1500 FLANGES

ASME B16.36



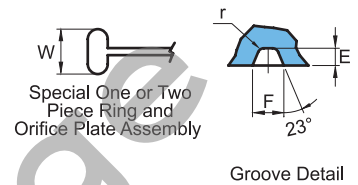
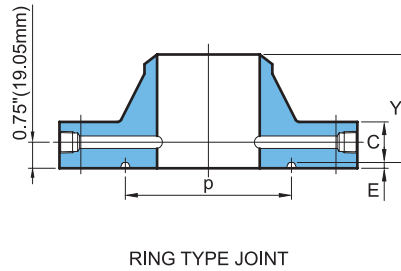
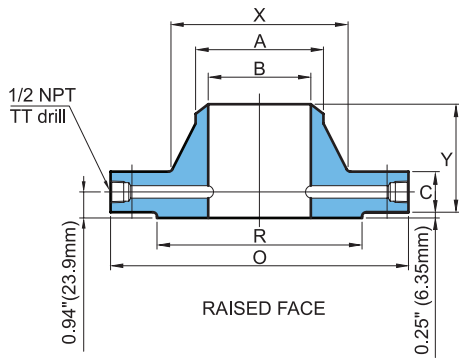
Unit : mm

Nominal Pipe Size	O. D. of Raised Face	O. D. of Flange	Thick-ness of Flange, Min.	Length Through Hub	Ring Type Joint								Hub Diam. Beginning of Cham-fer	Bore	Diam. of Press-ure Convec-tion (inch)	Drilling Template				Lengh of Stud Bolts		
					Groove Number	Pitch Diam.	Groove Depth	Groove Width	Radius at Bottom	Special Oval Ring Height	Diam. of Hub	Diam. of Bore				TT	Bolt Circle	Number of Holes	Diam. of Holes	Diam. of Bolts (inch)	Raised Face	Ring Joint
						P	E	F	r max.	W												
1	50.8	149.4	38.1	82.6	R16	50.8	6.4	8.7	0.8	25.4	52.3	33.5	To be specified by purchaser.	1/4	101.6	4	25.4	7/8	152.4	158.8		
1 1/2	73.2	177.8	38.1	88.9	R20	68.3	6.4	8.7	0.8	25.4	69.9	48.3		1/4	124.0	4	28.4	1	158.8	165.1		
2	91.9	215.9	38.1	101.6	R24	95.3	7.9	11.9	0.8	26.9	104.6	60.5		1/4	165.1	8	25.4	7/8	152.4	165.1		
2 1/2	104.6	244.3	41.1	104.6	R27	108.0	7.9	11.9	0.8	26.9	124.0	73.2		1/4	190.5	8	28.4	1	165.1	177.8		
3	127.0	266.7	47.8	117.3	R35	136.5	7.9	11.9	0.8	26.9	133.4	88.9		3/8	203.2	8	31.8	1 1/8	184.2	184.2		
4	157.2	311.2	53.8	124.0	R39	161.9	7.9	11.9	0.8	26.9	162.1	114.3		1/2	241.3	8	35.1	1 1/4	203.2	215.9		
6	215.9	393.7	82.6	171.5	R46	211.1	9.5	13.5	1.5	28.4	228.6	168.4		1/2	317.5	12	38.1	1 3/8	266.7	279.4		
8	269.7	482.6	91.9	212.9	R50	269.9	11.1	16.7	1.5	33.3	292.1	219.2		1/2	393.7	12	44.5	1 5/8	298.5	311.2		
10	323.9	584.2	108.0	254.0	R54	323.9	11.1	16.7	1.5	33.3	368.3	273.1		1/2	482.6	12	50.8	1 7/8	342.9	355.6		
12	381.0	673.1	124.0	282.4	R58	381.0	14.3	20.5	1.5	39.6	450.9	323.9		1/2	571.5	16	53.8	2	381.0	400.1		
14	412.8	749.3	133.4	298.5	R63	419.1	15.9	27.0	2.3	44.5	495.3	355.6		1/2	635.0	16	60.5	2 1/4	412.8	445.0		
16	469.9	825.5	146.1	311.2	R67	469.9	17.5	30.1	2.3	50.8	552.5	406.4		1/2	704.9	16	66.5	2 1/2	450.9	482.6		
18	533.4	914.4	162.1	327.2	R71	533.4	17.5	30.2	2.3	50.8	596.9	457.2		1/2	774.7	16	73.2	2 3/4	501.7	533.4		
20	584.2	984.3	177.8	355.6	R75	584.2	17.5	33.3	2.3	53.8	641.4	508.0		1/2	831.9	16	79.2	3	546.1	571.5		
24	692.2	1168.4	203.2	406.4	R79	692.2	20.6	36.5	2.3	58.7	762.0	609.6		1/2	990.6	16	91.9	3 1/2	622.3	660.4		



CLASS 2500 FLANGES

ASME B16.36



Unit : mm

Nominal Pipe Size	O. D. of Raised Face	O.D. of Flange	Thick-ness of Flange, Min.	Length Through Hub	Ring Type Joint								Hub Diam. Beginning of Chamfer	Bore	Diam. of Press-ure Con-nection (inch)	Drilling Template				Lengh of Stud Bolts	
					Groove Number	Pitch Diam.	Groove Depth	Groove Width	Radius at Bottom	Special Oval Ring Height	Diam. of Hub	Diam. of Bolts (inch)				Raised Face	Ring Joint				
						P	E	F	r max.	W								X	A	Bolt Circle	Number of Holes
1	50.8	158.8	38.1	91.9	R18	60.3	6.4	8.7	0.8	25.4	57.2	33.5	To be specified by purchaser.	1/4	108.0	4	25.4	7/8	152.4	158.8	
1 1/2	73.2	203.2	44.5	111.3	R23	82.6	7.9	11.9	0.8	26.9	79.2	48.3		1/4	146.1	4	31.8	1 1/8	177.8	190.5	
2	91.9	235.0	50.8	127.0	R26	101.6	7.9	11.9	0.8	26.9	95.3	60.5		1/4	171.5	8	28.4	1	184.2	196.9	
2 1/2	104.6	266.7	57.2	142.7	R28	111.1	9.5	13.5	1.5	30.2	114.3	73.2		1/4	196.9	8	31.8	1 1/8	203.2	215.9	
3	127.0	304.8	66.5	168.1	R32	127.0	9.5	13.5	1.5	30.2	133.4	88.9		3/8	228.6	8	35.1	1 1/4	228.6	241.3	
4	157.2	355.6	76.2	190.5	R38	157.2	11.1	16.7	1.5	33.3	165.1	114.3		1/2	273.1	8	41.1	1 1/2	260.4	273.1	
6	215.9	482.6	108.0	273.1	R47	228.6	12.7	19.8	1.5	36.6	235.0	168.4		1/2	368.3	8	53.8	2	349.3	368.3	
8	269.7	552.5	127.0	317.5	R51	279.4	14.3	23.0	1.5	39.6	304.8	219.2		1/2	438.2	12	53.8	2	387.4	406.4	
10	323.9	673.1	165.1	419.1	R55	342.9	17.5	30.2	2.3	47.8	374.7	273.1		1/2	539.8	12	66.5	2 1/2	489.0	514.4	
12	381.0	762.0	184.2	463.6	R60	406.4	17.5	33.3	2.3	50.8	441.5	323.9		1/2	619.3	12	73.2	2 3/4	539.8	571.5	