



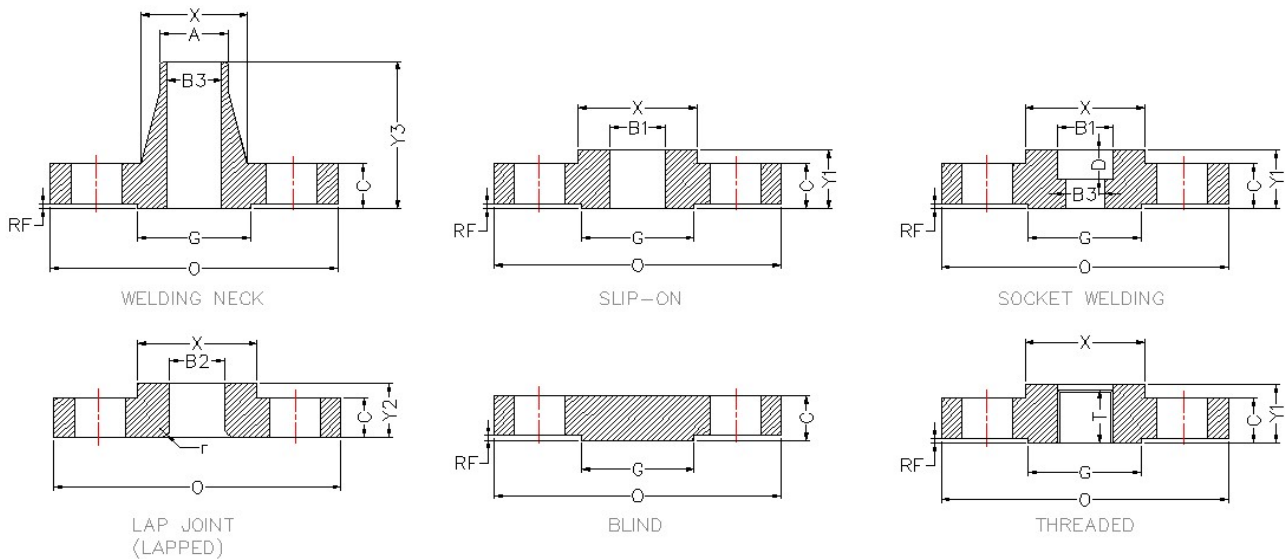
## What is a Flange?

A flange is an external or internal ridge, or rim (lip), for strength, as the flange of an iron beam such as an I-beam or a T-beam; or for attachment to another object, as the flange on the end of a pipe, steam cylinder, etc., or on the lens mount of a camera; or for a flange of a rail car or tram wheel. Thus flanged wheels are wheels with a flange on one side to keep the wheels from running off the rails. The term "flange" is also used for a kind of tool used to form flanges. Pipes with flanges can be assembled and disassembled easily.

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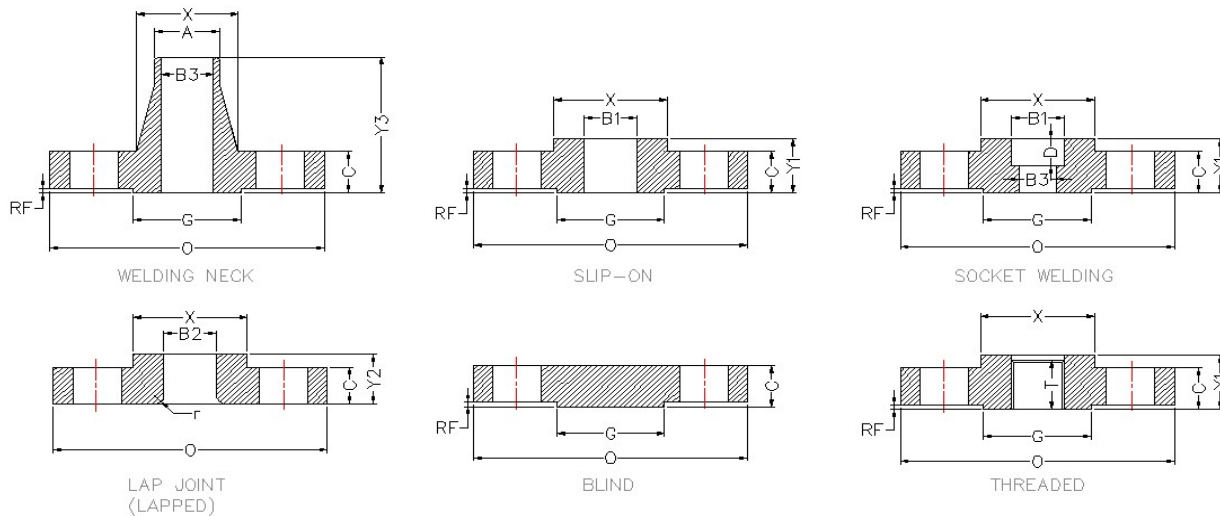
• **FLANGES B16.5 CLASS 150**



Nominal pipe Size	Outside Dia of flanges	Thick Of Flange Min	Dimension Of hub	OD of Raised face	Hub Diameter of Chamfer Weld neck	Length through HUB			Thread length
						Threaded slip on socket weld	lapped	Welding Neck	
	O	C	X	G	A	Y1	Y2	Y3	T
15	89	11.2	30.2	35.1	21.3	15.7	15.7	47.8	15.7
20	98.5	12.7	38.1	42.9	26.7	15.7	15.7	52.3	15.7
25	108	14.2	49.3	50.8	33.5	17.5	17.5	55.6	17.5
32	117.5	15.7	58.7	63.5	42.2	20.6	20.6	57.2	20.6
40	127	17.5	65	73.2	48.3	22.4	22.4	62	22.4
50	152.5	19.1	77.7	91.9	60.5	25.4	25.4	63.5	25.4
65	178	22.4	90.4	104.6	73.2	28.4	28.4	69.9	28.4
80	190.5	23.9	108	127	88.9	30.2	30.2	69.9	30.2
90	216	23.9	122.2	139.7	101.6	31.8	31.8	71.4	31.8
100	228.5	23.9	134.9	157.2	114.3	33.3	33.3	76.2	33.3
125	254	23.9	163.6	185.7	141.2	36.6	36.6	88.9	36.6
150	279.5	25.4	192	215.9	168.4	39.6	39.6	88.9	39.6
200	343	28.4	246.1	269.7	219.2	44.5	44.5	101.6	44.5
250	406.5	30.2	304.8	323.9	273.1	49.3	49.3	101.6	49.3
300	482.5	31.8	365.3	381	323.9	55.6	55.6	114.9	55.6
350	533.5	35.1	400.1	412.8	355.6	79.2	79.2	127	57.2
400	597	36.6	457.2	469.9	406.4	87.4	87.4	127	63.5
450	635	39.6	505	533.4	457.2	96.8	96.8	139.7	68.3
500	698	42.9	558.8	584.2	508	103.1	103.1	144.5	73.2
600	813	47.8	663.4	692.2	609.6	111.3	111.3	152.4	82.6



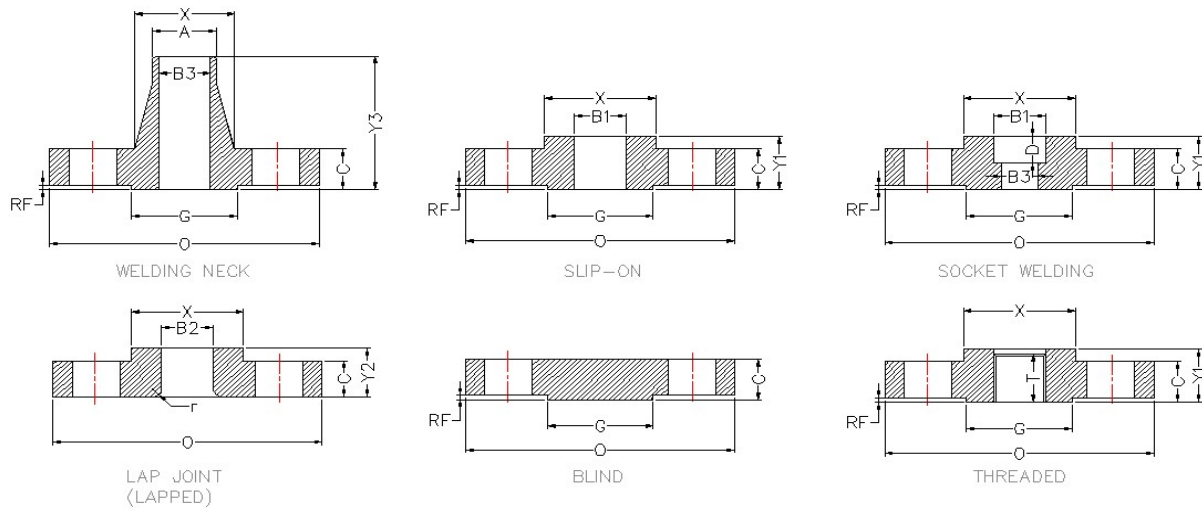
• **FLANGES B16.5 CLASS 150**



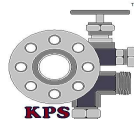
Bore			Corner Radius of bore of lapped flanges	Depth of socket	Drilling			
Slip On socket welding	Lapped	Weld Neck Socket Welding			Dimension of Bolt	Dimension of Bolt holes	Number of bolts	Diameter of bolts
B1	B2	B3	R	D				
22.4	22.9		3	9.7	60.5	15.8	4	12.7
27.7	28.2		3	11.2	69.9	15.8	4	12.7
34.5	35.1		3	12.7	79.3	15.8	4	12.7
43.2	43.7		4.8	14.2	88.9	15.8	4	12.7
49.5	50		6.4	15.8	98.6	15.8	4	12.7
62	62.5		7.9	17.5	120.7	19.05	4	15.87
74.7	75.4		7.9	19.1	139.7	19.05	4	15.87
90.7	91.4		9.7	20.6	152.4	19.05	4	15.87
103.4	104.1		9.7		177.8	19.05	8	15.87
116.1	116.8		11.2		190.5	19.05	8	15.87
143.8	144.5		11.2		215.9	22.4	8	19.01
170.7	171.5		12.7		241.3	22.4	8	19.01
221.5	222.3		12.7		298.35	22.4	8	19.01
276.4	277.4		12.7		362	25.4	12	22.25
327.2	328.2		12.7		431.8	25.4	12	22.25
359.21	360.2		12.7		476.3	28.5	12	25.4
410.5	411.2		12.7		539.8	28.5	16	25.4
461.8	463.3		12.7		577.9	31.8	16	28.57
513.1	514.4		12.7		635	31.8	20	28.57
616	616		12.7		749.3	35.1	20	28.57



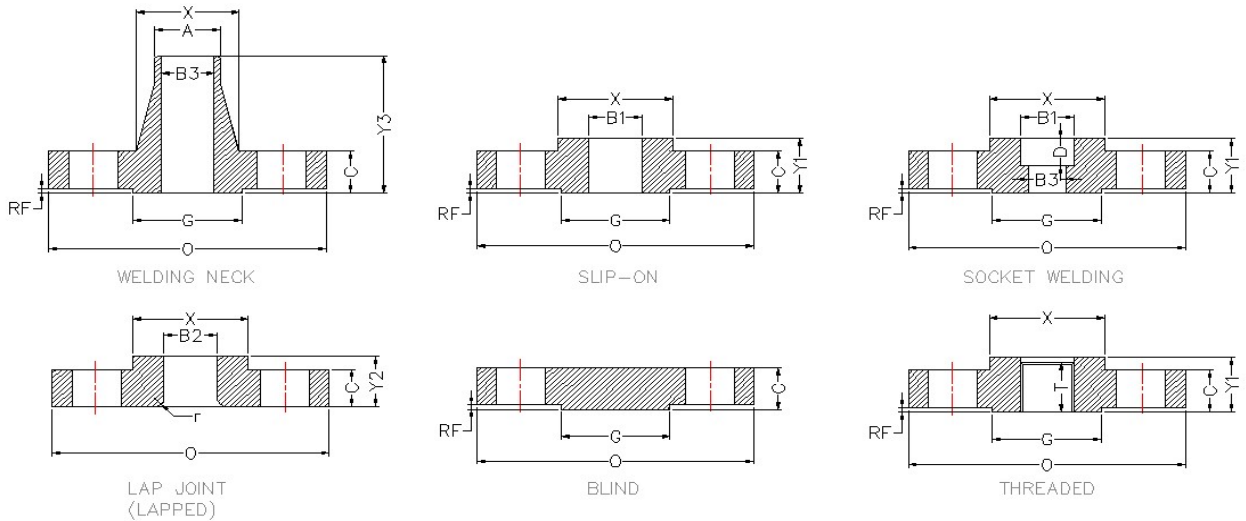
• **FLANGES B16.5 CLASS 300**



Nominal pipe Size	Outside Dia of flanges	Thick Of Flange Min	Dimension Of hub	OD of Raised face	Hub Diameter of Chamfer Weld neck	Length through HUB			Thread length
						Threaded slip on socket weld	lapped	Welding Neck	
	O	C	X	G	A	Y1	Y2	Y3	T
15	95.5	14.2	38.1	35.1	21.3	22.4	22.4	52.3	15.7
20	117.5	15.7	47.8	42.9	26.7	25.4	25.4	57.2	15.7
25	124	17.5	53.8	50.8	33.5	26.9	26.9	62	17.5
32	133.5	19.1	63.5	63.5	42.2	26.9	26.9	65	20.6
40	155.5	20.6	69.9	73.2	48.3	30.2	30.2	68.3	22.4
50	165	22.4	84.1	91.9	60.5	33.3	33.3	69.9	28.4
65	190.5	25.4	100.1	104.6	73.2	38.1	38.1	76.2	31.8
80	209.5	28.4	117.3	127	88.9	42.9	42.9	79.2	31.8
90	228.5	30.2	133.4	139.7	101.6	44.5	44.5	81	36.6
100	254	31.8	146.1	157.2	114.3	47.8	47.8	85.9	36.6
125	279.5	35.1	177.8	185.7	141.2	50.8	50.8	98.6	42.9
150	317.5	36.6	206.2	215.9	168.4	52.3	52.3	98.6	46
200	381	41.1	260.4	269.7	219.2	62	62	111.3	50.8
250	444.5	47.8	320.5	323.9	273.1	66.5	95.3	117.3	55.6
300	520.5	50.8	374.7	381	323.9	73.2	101.6	130	60.5
350	584	53.8	425.5	412.8	355.6	76.2	111.3	142.7	63.5
400	647.5	57.2	482.6	469.9	406.4	82.6	120.7	146.1	68.3
450	711	60.5	533.4	533.4	457.2	88.9	130	158.8	69.9
500	774.5	63.5	587.2	584.2	508	95.3	139.7	162.1	73.2
600	914.5	69.9	701.5	692.2	609.6	106.4	152.4	168.1	82.6



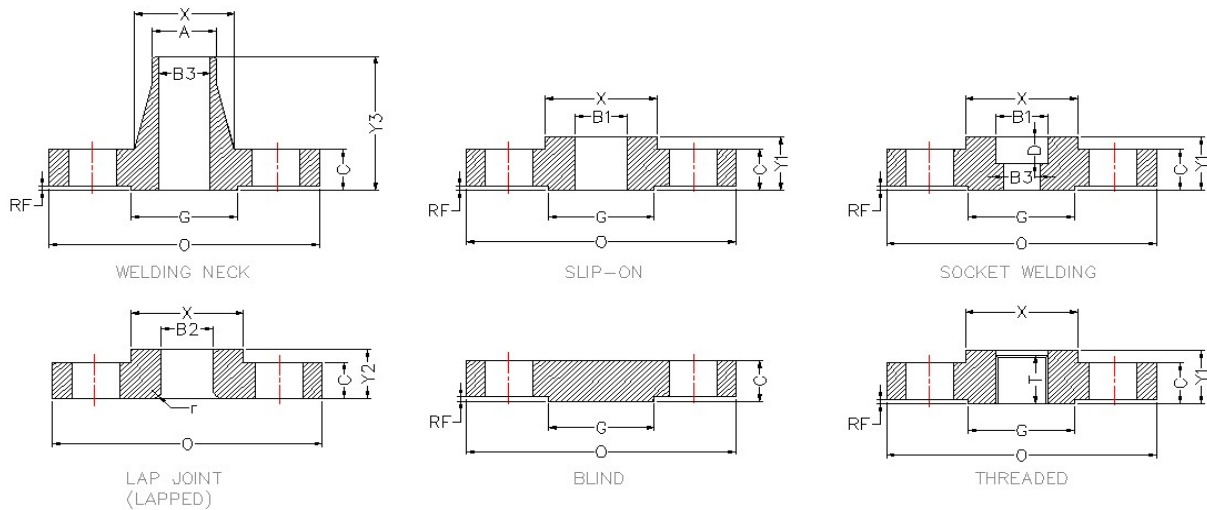
• **FLANGES B16.5 CLASS 300**



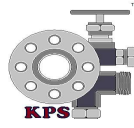
Bore			Corner Radius of bore of lapped flanges	Counter Bore threaded flange min.	Depth of socket	Drilling			
Slip On socket welding	Lapped	Weld Neck Socket Welding				Dimension of Bolt	Dimension of Bolt holes	Number of bolts	Diameter of bolts
B1	B2	B3	R	Q	D				
22.4	22.9		3	23.6	9.7	66.5	15.7	4	12.7
27.7	28.2		3	29	11.2	82.6	19.05	4	15.87
34.5	35.1		3	35.8	12.7	88.9	19.05	4	15.87
43.2	43.7		4.8	44.5	14.2	98.6	19.05	4	15.87
49.5	50		6.4	50.5	15.7	114.3	19.05	4	15.87
62	62.5		7.9	63.5	17.5	127	22.4	8	19.01
74.7	75.4		7.9	76.2	19.1	149.4	22.4	8	19.01
90.7	91.4		9.7	92.2	20.6	168.1	22.4	8	19.01
103.4	104.1		9.7	104.9	22.4	184.2	22.4	8	19.01
116.1	116.8		11.2	117.6		200.2	22.4	8	19.01
143.8	144.5		11.2	144.5		235	22.4	8	19.01
170.7	171.5		12.7	171.5		269.7	22.4	12	19.01
221.5	222.3		12.7	222.3		330.2	22.4	12	22.22
276.4	277.4		12.7	276.4		387.4	28.4	16	25.4
327.2	328.2		12.7	328.7		450.9	31.8	16	28.575
359.2	360.2		12.7	360.4		514.4	31.8	20	28.575
410.5	411.52		12.7	411.2		571.5	35.1	20	31.75
461.8	462.3		12.7	462		628.7	35.1	24	31.75
513.1	514.4		12.7	512.8		685.8	35.1	24	31.75
616	616		12.7	614.4		812.8	41.1	24	38.1



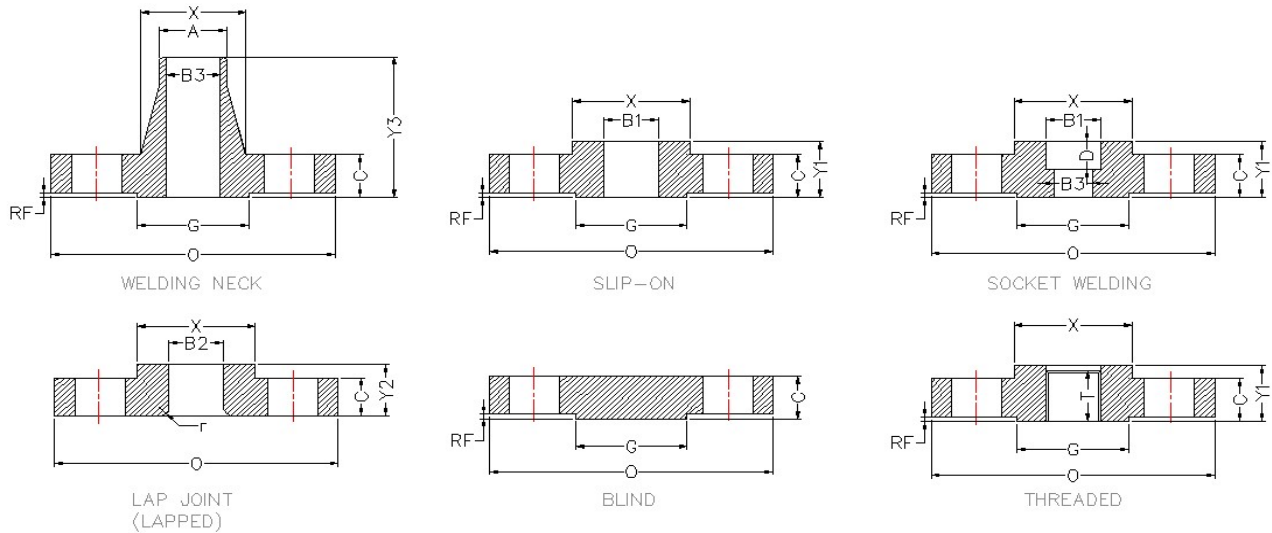
• **FLANGES B16.5 CLASS 600**



Nominal pipe Size	Outside dim of flanges	Thick Of Flange Min	Dimension Of hub	OD of Raised face	Hub Diameter of Chamfer Weld neck	Length through HUB			Thread length
						Threaded slip on socket weld	lapped	Welding Neck	
	O	C	X	G	A	Y1	Y2	Y3	T
15	95.5	14.2	38.1	35.1	21.3	22.4	22.4	52.3	15.7
20	117.5	15.7	47.8	42.9	26.7	25.4	25.4	57.2	15.7
25	124	17.5	53.8	50.8	33.5	26.9	26.9	62	17.5
32	133.5	20.6	63.5	63.5	42.2	28.4	28.4	66.5	20.6
40	155.5	22.4	69.9	73.2	48.3	31.8	31.8	69.9	22.4
50	165	25.4	84.1	91.9	60.5	36.6	36.6	73.2	28.4
65	190.5	28.4	100.1	104.6	73.2	41.1	41.1	79.2	31.8
80	209.5	31.8	117.3	127	88.9	46	46	82.6	35.1
90	228.5	35.1	133.4	139.7	101.6	49.3	49.3	85.9	39.6
100	273	38.1	152.4	157.2	114.3	53.8	53.8	101.6	41.1
125	330	44.5	189	185.7	141.2	60.5	60.5	114.3	47.8
150	355.5	47.8	222.3	215.9	168.4	66.5	66.5	117.3	50.8
200	419	55.6	273.1	269.7	219.2	76.2	76.2	133.4	57.2
250	508	63.5	342.9	323.9	273.1	85.9	111.3	152.4	65
300	559	66.5	400.1	381	323.9	97.9	117.3	155.4	69.9
350	603.5	69.9	431.8	412.8	355.6	93.7	127	165.1	73.2
400	686	76.2	495.3	469.9	406.4	106.4	139.7	177.8	77.7
450	743	82.6	546.1	533.4	457.2	117.3	152.4	184.2	79.2
500	813	88.9	609.6	584.2	508	127	165.1	190.5	82.6
600	940	101.6	717.6	692.2	609.6	139.7	184.2	203.2	91.9



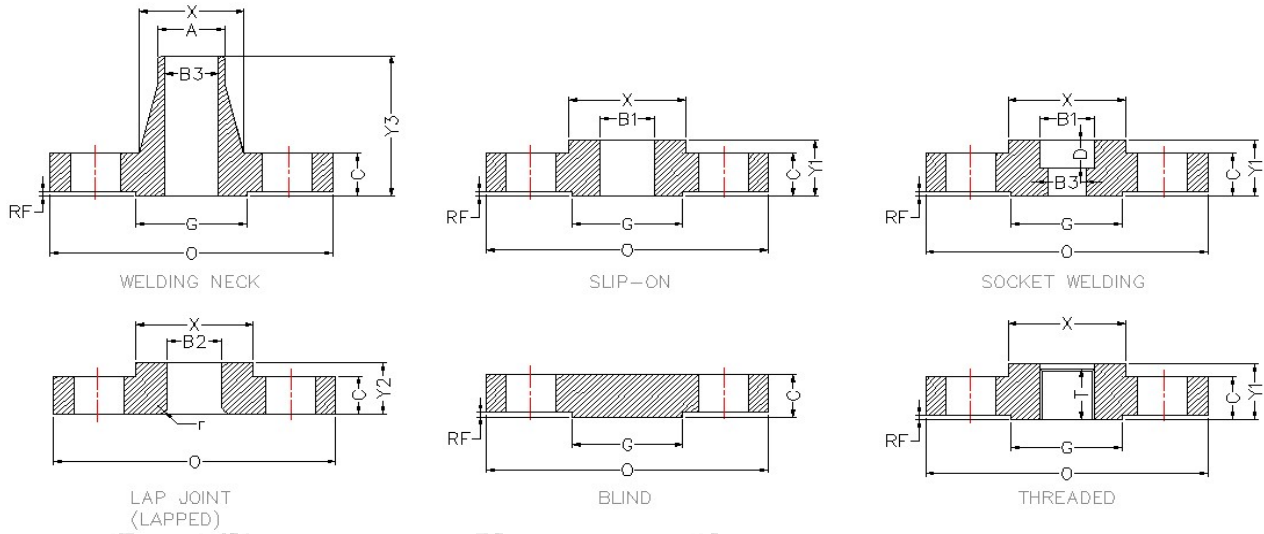
● **FLANGES B16.5 CLASS 600**



Bore			Corner Radius of bore of lapped flanges	Counter Bore threaded flange min.	Depth of socket	Drilling			
Slip On socket welding	Lapped	Weld Neck Socket Welding				Dimension of Bolt	Dimension of Bolt holes	Number of bolts	Diameter of bolts
B1	B2	B3	R	Q	D				
22.4	22.9		3	23.6	9.7	66.5	15.7	4	12.7
27.7	28.2		3	29	11.2	82.6	19.1	4	15.87
34.5	35.1		3	35.8	12.7	88.9	19.1	4	15.87
43.2	43.7		4.8	44.5	14.2	98.6	19.1	4	15.87
49.5	50		6.4	50.5	15.7	114.3	19.1	4	15.87
62	62.5		7.9	63.5	17.5	127	22.4	8	19.05
74.7	75.4		7.9	76.2	19.1	149.4	22.4	8	19.05
90.7	91.4		9.7	92.2	20.6	168.1	22.4	8	19.05
103.4	104.1		9.7	104.9	-	184.2	25.4	8	22.22
116.1	116.8		11.2	117.6		215.9	25.4	8	22.22
143.8	144.5		11.2	144.5		266.7	28.4	8	25.4
170.7	171.5		12.7	171.5		292.1	28.4	12	25.4
221.5	222.3		12.7	222.3		349.3	31.8	12	28.57
276.4	277.4		12.7	276.4		431.8	35.1	16	31.74
327.2	328.2		12.7	328.7		489	35.1	20	31.74
359.2	360.2		12.7	360.4		527.1	38.1	20	34.92
410.5	411.2		12.7	411.2		603.3	41.1	20	38.1
461.8	462.3		12.7	462		654.1	44.5	20	41.27
513.1	514.4		12.7	512.8		723.9	44.5	24	41.27
616	616		12.7	614.4		838.2	50.8	24	47.62

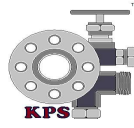


• **FLANGES B16.5 CLASS 900**

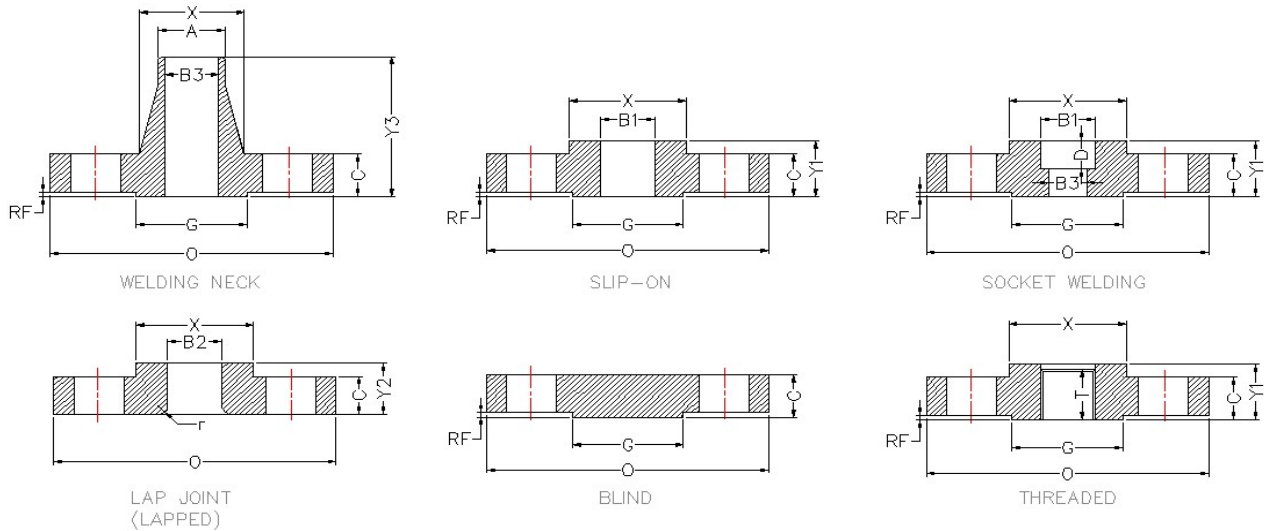


Nominal pipe Size	Outside Dia of flanges	Thick Of Flange Min	Dimension Of hub	OD of Raised face	Hub Diameter of Chamfer Weld neck	Length through HUB			Thread length
						Threaded slip on socket weld	lapped	Welding Neck	
	O	C	X	G	A	Y1	Y2	Y3	T
15	120.7	22.4	38.1		21.3	31.8	31.8	60.5	22.4
20	130	25.4	44.5		26.7	35.1	36.1	69.9	25.4
25	149.4	28.4	52.3		33.5	41.1	41.1	73.2	28.4
32	158.8	28.4	63.5		42.2	41.1	41.1	73.2	30.2
40	177.8	31.8	69.9		48.3	44.5	44.5	82.6	31.8
50	215.9	38.1	104.5		60.5	57.2	57.2	101.6	38.1
65	244.3	41.1	124		73.2	63.5	63.5	104.6	47.8
80	241.3	38.1	127		88.9	53.8	53.8	101.6	41.1
100	292.1	44.5	158.8		114.3	69.9	69.9	114.3	47.8
125	349.3	50.8	190.5		141.2	79.2	79.2	127	53.8
150	381	55.6	235		168.4	85.9	85.9	139.7	57.2
200	469.9	63.5	298.5		219.2	101.6	114.3	162.5	63.5
250	546.1	69.9	368.3		273.1	108	127	184.2	71.4
300	609.5	79.2	419.1		323.9	117.3	142.7	200.2	76.2
350	641.4	85.9	450.9		355.6	130	155.4	212.9	82.6
400	704.9	88.9	508		406.4	133.4	165.1	215.9	85.9
450	787.4	101.6	565.2		457.2	152.4	190.5	228.6	88.9
500	857.3	108	622.3		508	158.8	209.6	247.7	91.9
600	1041.4	139.7	749.3		609.6	203.2	266.7	292.1	101.6





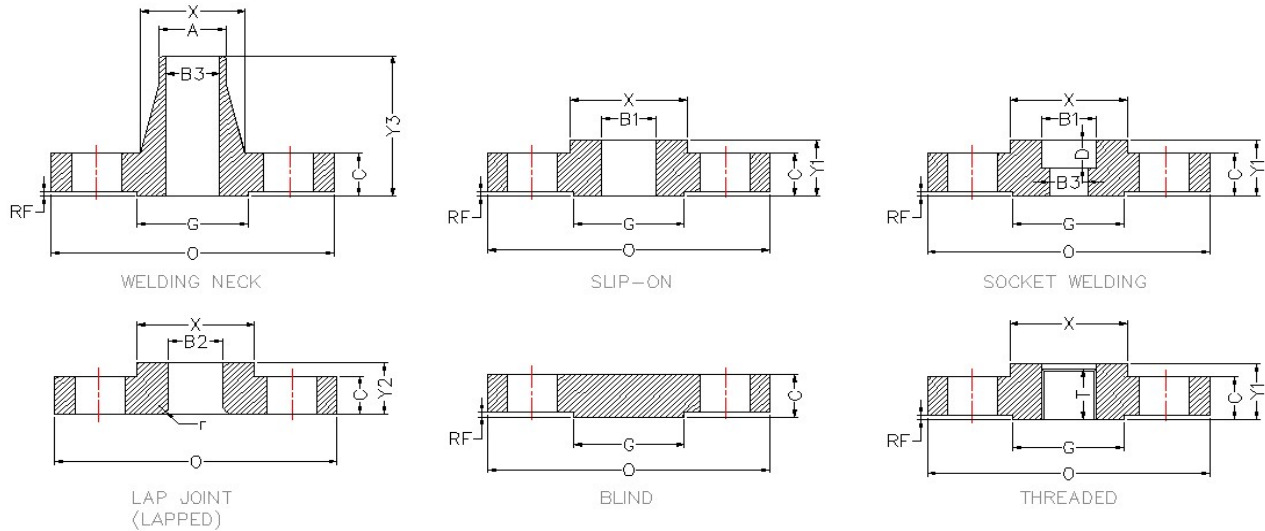
• **FLANGES B16.5 CLASS 900**



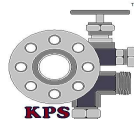
Bore			Corner Radius of bore of lapped flanges	Counter Bore threaded flange min.	Depth of socket	Drilling			
Slip On socket welding	Lapped	Weld Neck Socket Welding				Dimension of Bolt	Dimension of Bolt holes	Number of bolts	Diameter of bolts
B1	B2	B3	R	Q	D				
22.4	22.9		3	23.6	9.7	82.6	22.4	4	19.05
27.7	28.2		3	29	11.2	88.9	22.4	4	19.05
34.5	35.1		3	35.8	12.7	101.6	25.4	4	22.22
43.2	43.7		4.8	44.5	14.2	111.3	25.4	4	22.22
49.5	50		6.4	50.5	15.7	124	28.4	4	25.4
62	62.5		7.9	63.5	17.5	165.1	25.4	8	22.22
74.7	75.4		7.9	76.2	19.1	190.5	28.4	8	25.4
90.7	91.4		9.7	92.2	-	190.5	25.4	8	22.22
116.1	116.8		11.2	117.6	-	235	31.8	8	28.57
143.8	144.5		11.2	144.5		279.4	35.1	8	31.75
170.7	171.5		12.7	171.5		317.5	31.8	12	28.57
221.5	222.3		12.7	222.3		393.7	38.1	12	28.57
276.4	277.4		12.7	276.4		469.9	38.1	16	28.57
327.2	328.2		12.7	328.7		533.4	38.1	20	28.57
359.2	360.2		12.7	360.4		558.8	41.1	20	38.1
410.5	411.2		12.7	411.2		616	44.5	20	41.25
461.8	462.3		12.7	462		685.8	50.8	20	47.62
513.1	514.4		12.7	512.8		749.3	53.8	20	50.8
616	616		12.7	614.4		901.7	68.5	20	63.5



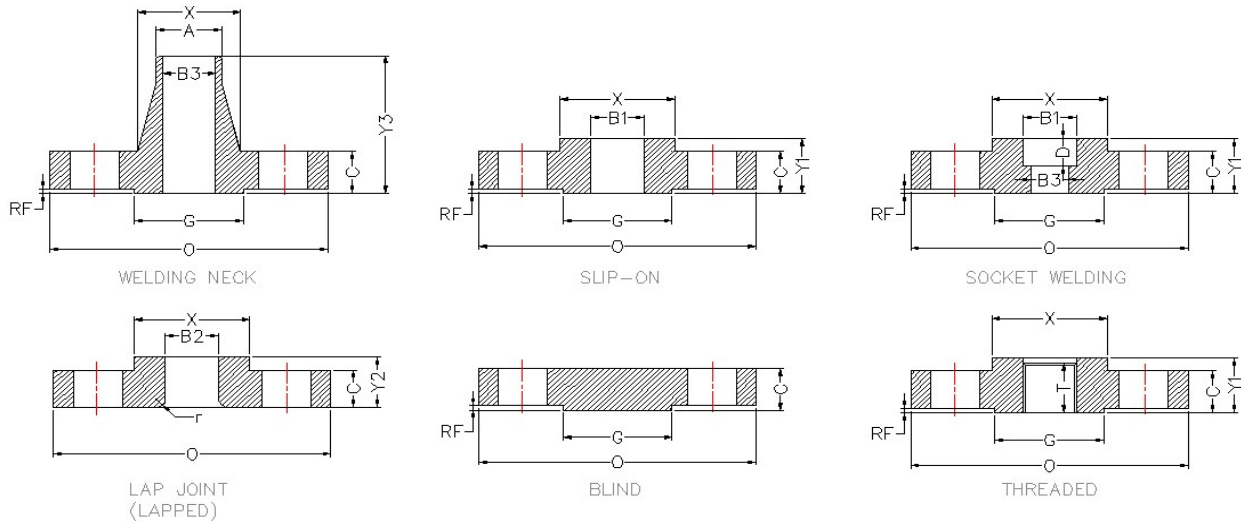
• **FLANGES B16.5 CLASS 1500**



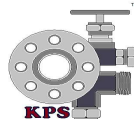
Nominal pipe Size	Outside Dia of flanges	Thick Of Flange Min	Dimension Of hub	OD of Raised face	Hub Diameter of Chamfer Weld neck	Length through HUB			Thread length
						Threaded slip on socket weld	lapped	Welding Neck	
	O	C	X	G	A	Y1	Y2	Y3	T
15	120.7	22.4	38.1		21.3	31.8	31.8	60.5	22.4
20	130	25.4	44.5		26.7	35.1	35.1	69.9	25.4
25	149.4	28.4	52.3		33.5	41.1	41.1	73.2	28.4
32	158.8	28.4	63.5		42.2	41.1	41.1	73.2	30.2
40	177.8	31.8	69.9		48.3	44.5	44.5	82.6	31.8
50	215.9	38.1	104.6		60.5	57.2	57.2	101.6	38.1
65	244.3	41.1	124		73.2	63.5	63.5	104.6	47.8
80	266.7	47.8	133.4		88.9	73	73.2	117.3	-
100	311.2	53.8	162.1		114.3	90.5	90.4	124	-
125	374.7	73.2	196.9		141.2	104.8	104.6	155.4	-
150	393.7	82.6	228.6		168.4	119.1	119.1	171.5	-
200	482.6	91.9	292.1		219.2	142.9	142.7	212.9	-
250	584.2	108	368.3		273.1	158.7	177.8	254	-
300	673.1	124	450.9		323.9	181	218.9	282.4	-
350	749.3	133.4	495.3		355.6	-	241.3	298.5	-
400	825.5	146.1	552.5		406.4	-	260.4	311.2	-
450	914.4	162.1	596.9		457.2	-	276.4	327.2	-
500	984.3	177.8	641.4		508	-	292.1	355.6	-
600	1168.4	203.2	762		609.6	-	330.2	406.4	-



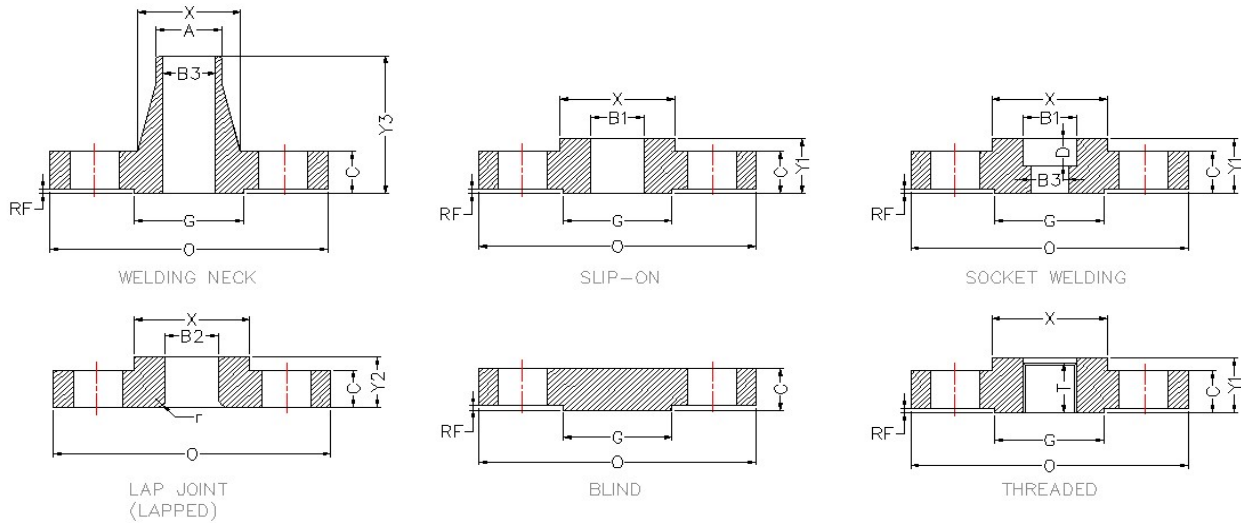
• **FLANGES B16.5 CLASS 1500**



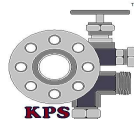
Bore			Corner Radius of bore of lapped flanges	Counter Bore threaded flange min.	Depth of socket	Drilling			
Slip On socket welding	Lapped	Weld Neck Socket Welding				Dimension of Bolt	Dimension of Bolt holes	Number of bolts	Diameter of bolts
B1	B2	B3	R	Q	D				
22.4	22.9		3	23.6	9.7	82.6	22.4	4	19.05
27.7	28.2		3	29	11.2	88.9	22.4	4	19.05
34.5	35.1		3	35.8	12.7	101.6	25.4	4	22.22
43.2	43.7		4.8	44.5	14.2	111.3	25.4	4	22.22
49.5	50		6.4	50.5	15.7	124	28.4	4	25.4
62	62.5		7.9	63.5	17.5	165.1	25.4	8	22.22
74.7	75.4		7.9	76.2	19.1	190.5	28.4	8	25.4
90.7	91.4		9.7	-	-	203.2	31.8	8	28.57
116.1	116.8		11.2	-	-	241.3	35.1	8	31.75
143.8	144.5		11.2	-	-	292.1	41.1	8	38.1
170.7	171.5		12.7	-	-	317.5	38.1	12	34.92
221.5	222.3		12.7	-	-	393.7	44.5	12	41.275
276.4	277.4		12.7	-	-	482.6	50.8	12	47.62
327.2	323.2		12.7	-	-	571.5	53.8	16	50.8
359.2	360.2		12.7	-	-	635	60.5	16	56.75
410.5	411.2		12.7	-	-	704.9	66.5	16	63.5
461.8	462.3		12.7	-	-	774.7	73.2	16	69.45
513.1	514.4		12.7	-	-	8231.9	79.2	16	76.2
616	616		12.7	-	-	990.6	91.9	16	88.9



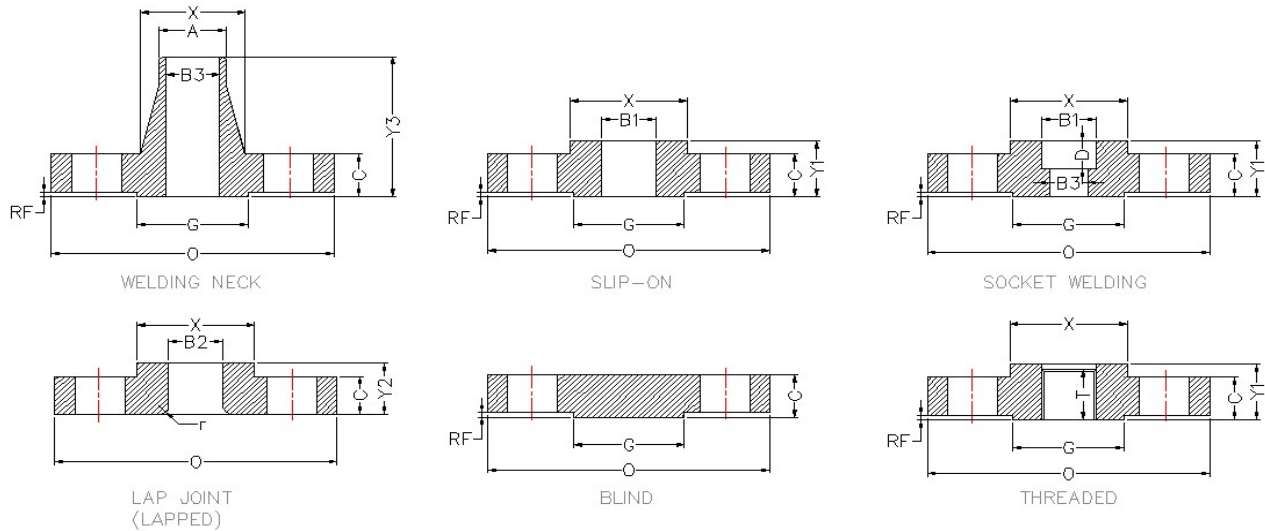
• **FLANGES B16.5 CLASS 2500**



Nominal pipe Size	Outside Dia of flanges	Thick Of Flange Min	Dimension Of hub	OD of Raised face	Hub Diameter of Chamfer Weld neck	Length through HUB			Thread length
						Threaded slip on socket weld	lapped	Welding Neck	
	O	C	X	G	A	Y1	Y2	Y3	T
15	133.4	30.2	42.9		21.3	39.6	39.6	73.2	28.4
20	139.7	31.8	50.8		26.7	42.9	42.9	79.2	31.8
25	158.8	35.1	57.2		33.5	47.8	47.8	88.9	35.1
32	184.2	38.1	73.2		42.2	52.3	52.3	95.3	38.1
40	203.2	44.5	79.2		48.3	60.5	60.5	111.3	44.5
50	235	50.8	95.3		60.5	69.9	69.9	127	50.8
65	266.7	57.2	114.3		73.2	79.2	79.2	142.7	57.2
80	304.8	66.5	133.4		88.9	92.9	92.9	168.1	-
100	355.6	76.2	165.1		114.3	108	108	190.5	-
125	419.1	91.9	203.2		141.2	130	130	228.6	-
150	482.6	108	235		168.4	12.4	12.4	273.1	-
200	552.5	127	304.8		219.2	177.8	177.8	317.5	-
250	673.1	165.1	374.7		273.1	228.6	228.6	419.1	-
300	762	184.2	441.5		323.9	254	254	463.6	-



• **FLANGES B16.5 CLASS 2500**



Bore			Corner Radius of bore of lapped flanges	Counter Bore threaded flange min.	Depth of socket	Drilling			
Slip On socket welding	Lapped	Weld Neck Socket Welding				Dimension of Bolt	Dimension of Bolt holes	Number of bolts	Diameter of bolts
B1	B2	B3	R	Q	D				
22.9	22.4		3	23.6	9.7	88.9	22.4	4	19.05
28.2	27.7		3	29	11.2	95.3	22.4	4	19.05
35.1	34.5		3	35.8	12.7	108	25.4	4	22.22
43.7	43.2		4.8	44.5	14.2	130	28.4	4	25.4
50	49.5		6.4	50.5	15.7	146.1	31.8	4	28.57
62.5	62		7.9	63.5	17.5	171.5	31.8	8	25.4
75.4	74.7		7.9	76.2	19.1	196.9	31.8	8	28.57
91.4	90.7		9.7	-	-	228.6	35.1	8	31.75
116.8	116.1		11.2	-	-	273.1	41.1	8	38.1
144.5	143.8		11.2	-	-	323.9	47.8	8	44.45
171.5	170.7		12.7	-	-	368.3	53.8	8	50.8
22.3	221.5		12.7	-	-	438.2	53.8	12	50.8
277.4	276.5		12.7	-	-	239.8	66.5	12	63.5
328.2	327.2		12.7	-	-	619.3	73.2	12	69.45



• **FLANGES B16.5**

Thread , Socket Welding , Slip-On , lap joint & Blind			
		SIZE	Tolerances
Outer Diameter		Up to 24"	±2
		24" & Above	±3
inside Diameter		Up to 10"	(+1 MM To -0 MM )
		12" & Above	(+2 MM To -0 MM )
Outer Diameter of hub		Up to 12"	(+2.4 MM To -1.6 MM )
		14" & Above	(+3.2 MM To -3.2 MM )
Raise Face		Raised Face of 2 RF	±1
		Raised Face of 7 RF Male-Female "Anular " Insert"	±0.5
Thickness		Up to 18"	(+3 MM To -0 MM )
		20" & Above	(+5 MM To -0 MM )
Height of flange		Up to 10"	±2
		12" & Above	±3

Weld Neck			
		SIZE	Tolerances
Outer Diameter		Up to 24"	±2
		24" & Above	±3
inside Diameter		Up to 10"	±0.8
		12" To 18"	±1.6
		20" & & Above	(+3.2 MM To -1.6 MM )
Outer Diameter of hub at base		Up to 12"	±1.6
		14" & Above	±3.2
Outer Diameter of hub at point of welding		Up to 5"	(+2.4 MM To -0.8 MM )
		6" & Above	(+4 MM To -0.8 MM )
Thickness		Up to 18"	(+3 MM To -0 MM )
		20" & Above	(+5 MM To -0 MM )
Height of flange		Up to 10"	±2
		12" & Above	±3