

# KALP INDUSTRIES

ISO 9001:2008



- Pipes & Tubes
- Sheets & Plates
- Flanges
- Pipe Fittings
- Round Bars

**MANUFACTURER, SUPPLIER &  
EXPORTER OF**

**Stainless Steel, Carbon Steel,  
Alloy Steel & High Nickel Alloy**

## COMPANY PROFILE :

**Kalp** is the brand name of steel flange, fittings and fasteners manufacturer Leading company kalp industries. **Kalp Industries** is one of the Mumbai based company in India. We are one of the prime manufacturers, exporters & suppliers of Stainless Steel, Carbon Steel, Alloy Steel, Copper, Brass, Monel, Inconel, Aluminium, Hastelloy, Lead in the shape of Pipes, Tubes, Rods, Sheets, Plates, Wires, Angles, Coils, Strips and the entire range of Pipe Fittings such as BW / SW / Screwed / Forges & Compression Type with Ferrules such as Elbows, Tees, Reducers, Stub ends, Flanges, Unions, Caps, Nipples, Couplings, Nuts, Bolts, Studs, Washers, Valves & Gaskets etc.

**Kalp Industries** providing critical flange, fitting, fasteners, tube and piping solutions to various range of industries & niche markets in core sectors v.i.z. Chemical, Petro-chemical, Refinery, Fertilizer, Thermal Power, Nuclear Power, Oil & Gas, Water Distribution, Sugar, Food & Dairy, Paper, Pharmaceutical, Automobile, Aeronautics & Space.....

**Kalp industries** are specialized in supplying Monel, Hastalloy, Inconel, High Speed Steel, Nickel Alloy as per the requirement of the user. The materials supplied by us are strictly tested by Govt. approved laboratories like TCR & metal lab. Test certificates are issued along with the materials.

We accept third party inspection, from agencies like PDIL, Bax Councell, Fedo, Tata, Llyod's, Pipecon, B.Mehtalia, Dalal Consultants, Development Consultants, Uhde.

One thing that part us from many other stainless steel exporters and suppliers is the extensive experience and mastery of our employees.

## QUALITY POLICY :

Quality Assurance at **Kalp Industries** starts with understanding the Customers Requirement and continues till the customer is completely satisfied with the delivery of products and services. Quality Control procedures are well defined and thoroughly implemented. At Kalp Industries our employees adhere to and contribute to the efficiency of our quality system in every aspect of our business. Our commitment guarantees to provide our clients with uncompromising quality and service. This is achieved through a team approach where all the members are aware of the company objectives and work within their own discipline to make an effective contribution.

### **Finished Goods are inspected for :**

- Surface Finish
- Final Mechanical Properties
- Mercury Contamination, Macro and Micro Properties, Inter Granular and Corrosion Properties
- Packing, Color Coding, Marking

The quality assurance system is guided by principles that support our unique working culture which incorporates respect, self management, open communication and creativity.

### **These principles are:**

We strive to be the best in our industry.

We care about our customers.

We do our absolute best to honor our commitments.

We strive to always act with integrity and fairness.

## Round Bars & Rods : \_\_\_\_\_

<b>Stainless Steel Round Bars :</b>	ASTM A276 / ASME SA276, 304, 304L, 304H, 309H, 310H, 316, 316H, 316L, 316 LN, 317, 317L, 321, 321H, 347, 347H.
<b>Carbon Steel Round Bars:</b>	ASTM / ASME A 105. ASTM / ASME A 350 LF 2.
<b>Alloy Steel Round Bars:</b>	ASTM / ASME A 182 GR F 5, F 9, F 11, F 12, F 22, F 91.
<b>Duplex Steel Round Bars:</b>	ASTM A276, A479 / ASME SA276, SA479, UNS S31803, UNS S32205, UNS32750, UNS32760
<b>Nickel Alloy Round Bars:</b>	Nickel 200 - 201, Monel 400, Monel K500 Inconel 601, Inconel 625, Inconel 825, Hastelloy C276, Hastelloy C22, Hastelloy B2, Alloy 20.
<b>Range :</b>	6 mm to 120 mm.
<b>Length :</b>	Random, Fix & Cut Length
<b>Types :</b>	Bright Bar, Hex Bar, Rods, Square Bar, Black Bars, Forged Bar, Threaded Bars, Hollow Bar, Cold Drawn Bars.

## Sheets, Plates, Circles, Strips & Flats : \_\_\_\_\_

<b>Stainless Steel Sheets &amp; Plates :</b>	A 240, SA 240, 304, 304L, 304H, 309H, 310H, 316, 316H, 316L, 316 LN, 317, 317L, 321, 321H, 347, 347H.
<b>Carbon Steel Sheets &amp; Plates:</b>	ASTM A36, A283, A572, A656, A588, A709, A131, A516, A455, A514
<b>Alloy Steel Sheets &amp; Plates:</b>	ASTM A387, ASME SA387, GR. 5, 11, 12, 22 CL
<b>Duplex Steel Sheets &amp; Plates:</b>	ASTM A276, A479 / ASME SA276, SA479, UNS S31803, UNS S32205, UNS32750, UNS32760
<b>Nickel Alloy Sheets &amp; Plates:</b>	ASTM / ASME B 161/163, ASTM / ASME B 725/730 Nickel 200 - 201, Monel 400, Monel K500 Inconel 601, Inconel 625, Inconel 825, Hastelloy C276, Hastelloy C22, Hastelloy B2, Alloy 20.
<b>Thickness:</b>	4.0mm - 100mm
<b>Size:</b>	1/4" to 4"
<b>Finish:</b>	Cold rolled sheet (CR), 2B, 2D, BA NO(8), Hot rolled plate (HR), SATIN (Met with Plastic Coated)

## Pipes & Tubes : \_\_\_\_\_

<b>Stainless Steel Pipes &amp; Tubes :</b>	ASTM / ASME A/SA 269 / 213 / 249 / 312 / 358, 304, 304L, 304H, 309H, 310H, 316, 316H, 316L, 316 LN, 317, 317L, 321, 321H, 347, 347H.
<b>Carbon Steel Pipes &amp; Tubes:</b>	ASTM A53, A106, API 5L Gr. B, API 5L Gr. X42/46/52/56/60/65/70, A333 Gr 3 / 6
<b>Alloy Steel Pipes &amp; Tubes:</b>	ASTM A335, A213, ASME SA335, SA213 Gr 1, 5, 9, 11, 12, 22, 91
<b>Duplex Steel Pipes &amp; Tubes:</b>	ASTM A790, ASTM/ASME A815 UNS S31803, UNS S32205, UNS32750, UNS32760
<b>Nickel Alloy Pipes &amp; Tubes:</b>	ASTM / ASME B 161/163, Nickel 200 - 201, Monel 400, Monel K500 Inconel 601, Inconel 625, Inconel 825, Hastelloy C276, Hastelloy C22, Hastelloy B2, Alloy20.
<b>Size - Seamless Pipes &amp; Tubes:</b>	½" NB - 16" NB
<b>ERW Pipes &amp; Tubes:</b>	½" NB - 24" NB
<b>EFW Pipes &amp; Tubes:</b>	6" NB - 100" NB
<b>Wall Thickness:</b>	Schedule 5S - Schedule XXS.



## Flanges :

<b>Stainless Steel Flanges :</b>	ASTM / ASME SA 182 F 304, 304L, 304H, 309H, 310H, 316, 316H, 316L, 316 LN, 317, 317L, 321, 321H, 347, 347 H.
<b>Carbon Steel Flanges :</b>	ASTM / ASME A 105., ASTM / ASME A 350 LF 2.
<b>Alloy Steel Flanges :</b>	ASTM / ASME A 182 GR F 5, F 9, F 11, F 12, F 22, F 91.
<b>Duplex Steel Flanges :</b>	ASTM / ASME SA 182 F 44, F 45, F51, F 53, F 55, F 60, F 61.
<b>Nickel Alloy Flanges :</b>	ASTM / ASME SB 564 Nickel 200, Nickel 201, Monel 400, Monel k500, Inconel 601, Inconel 625, Inconel 825, Hastelloy C 276, Alloy 20.
<b>Size :</b>	1/2" TO 56"
<b>Standard :</b>	ANSI, ASME, DIN, EN, BS etc.
<b>Class / Pressure :</b>	150#, 300#, 600#, 900#, 1500#, 2500#, PN6, PN10, PN16, PN25, PN40, Pn64
<b>Types :</b>	PN Flange, Plate Blank Flanges, Screwed Bars Flange, Spectacle Flanges, Blind Flanges, Lapped Flange, Reducing Flange, Welded Flange, Socket weld Flange, SORF Flange, Threaded Flange, Spectacle Flange.

## Butt weld Pipe Fittings :

<b>Stainless Steel Butt Weld Fitting :</b>	ASTM / ASME SA 403 GR WP "S" / "W" / " WX"F 304,304L, 304H, 309H, 310H, 316, 316H, 316L, 316 LN, 317, 317L, 321, 321H, 347, 347H.
<b>Carbon Steel Butt Weld Fittings :</b>	ASTM / ASME A 234 WPB, WPC, ASTM / ASME A 860 WPHY 42, WPHY 46, WPHY 52, WPH 60, WPHY 65 & WPHY 70.
<b>Alloy Steel Butt Weld Fittings :</b>	ASTM A234 WP1/ WP5/ WP9/ WP11/ WP22/ WP91/ etc.
<b>Duplex Steel Butt Weld Fittings :</b>	ASTM / ASME SA 815 UNS No.S 31803, S 32205, S 32550, S 32750, S 32760.
<b>Nickel Alloy Butt Weld Fittings :</b>	ASTM / ASME SB 336 Nickel 200 - 201, Monel 400, Inconel 601, Inconel 625, Inconel 825, Hastelloy C 276, Alloy 20.
<b>Size :</b>	½" to 48"
<b>Standard :</b>	ISO, ANSI/ASME, MSS, JIS, DIN, BS
<b>Thickness :</b>	Std XS, XXS SCH 10, 20, 30, 40, 60, 80 & 160
<b>Types :</b>	Tee, Elbow, Reducing Tee, Coupling, Long & Short Stub Bend, Plug and Union.

## Forged Fittings :

<b>Stainless Steel Forged Fittings :</b>	ASTM / ASME SA 182 F 304, 304L, 304H, 309H, 310H, 316, 316H, 316L, 316 LN, 317, 317L, 321, 321H, 347, 347 H.
<b>Carbon Steel Forged Fittings:</b>	ASTM / ASME A 105. ASTM / ASME A 350 LF 2.
<b>Alloy Steel Forged Fittings:</b>	ASTM / ASME A 182 GR F 5, F 9, F 11, F 12, F 22, F 91.
<b>Duplex Steel Forged Fittings:</b>	ASTM / ASME SA 182 F 44, F 45, F51, F 53, F 55, F 60, F 61.
<b>Nickel Alloy Forged Fittings:</b>	ASTM / ASME SB 564 Nickel 200 - 201, Monel 400, Monel K500 Inconel 601, Inconel 625, Inconel 825, Hastelloy C276, Hastelloy C22, Hastelloy B2, Alloy 20.
<b>Size :</b>	1/2"NB TO 4"NB IN
<b>Standard :</b>	ANSI / ASME B16.11, MSS SP-79, 83, 95, 97, BS 3799
<b>Class :</b>	3000#, 6000#, 9000#
<b>Types :</b>	Union, Adapter, Hex Nipple, Coupling, Socket, Plug, Full Coupling, Forged Tee, Bushing, Cross, Half Coupling, Boss, Forged Elbow, Threaded, Insert





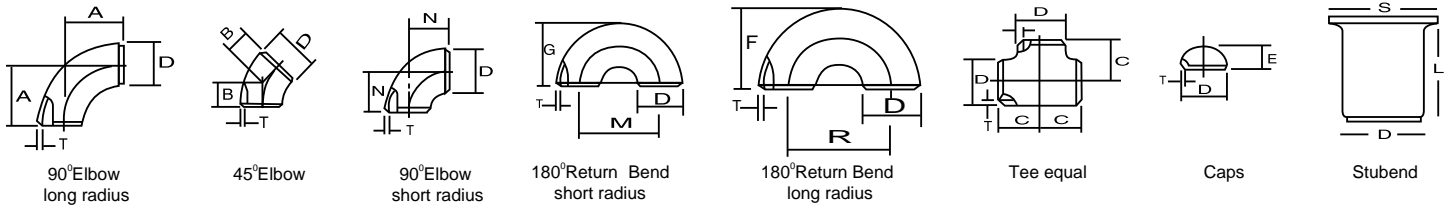
## WEIGHT & THICKNESS OF S.S GAUGE PIPES

DIMENSION		10 SWG (3.2 MM)	12 SWG (2.6 MM)	14 SWG (2.1 MM)	16 SWG (1.65 MM)	18 SWG (1.2 MM)	19 SWG (1.0 MM)
Size	OD	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR	Weight/MTR
1/2"	12.7	0.754	0.651	0.552	0.452	0.342	0.290
5/8"	15.875	1.006	0.856	0.718	0.582	0.437	0.369
3/4"	19.05	1.258	1.061	0.883	0.712	0.531	0.448
1"	25.4	1.762	1.470	1.214	0.972	0.720	0.605
1 1/4"	31.75	2.266	1.880	1.544	1.232	0.909	0.763
1 1/2"	38.1	2.770	2.289	1.875	1.492	1.098	0.920
2"	50.8	3.778	3.108	2.537	2.012	1.476	1.235
2 1/2"	63.5	4.786	3.928	3.198	2.531	1.854	1.550
3"	76.2	5.794	4.747	3.860	3.051	2.232	1.865
3 1/2"	88.9	6.802	5.566	4.521	3.571	2.610	2.180
4"	101.6	7.810	6.385	5.183	4.091	2.988	2.495

## ASTM SPECIFICATION & TOLERANCE FOR TUBING & PIPING

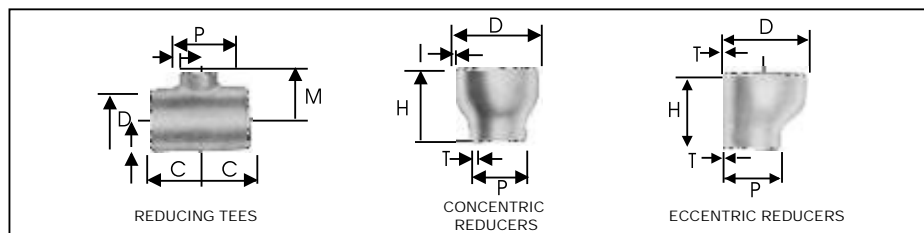
Specification	Allowable Outside Diameter Variation in mm			Allowable Wall Thickness Variation		Exact Length Tolerance in mm		Testing
	Nominal Diameter	Over	Under	%Over	%Under	Over	Under	
ASTM-A213 Seamless Boiler Superheater and Heat Exchanger Tubes	Under 25.4 25.4-38.1 incl 38.1-50.8 excl 50.8-63.5 excl 63.5-76.2 excl 76.2-101.6 incl	.1016 .1524 .2032 .254 .3048 .381	.1016 .1524 .2032 .254 .3048 .381	+20 +22 +22 +22 +22 +22	-0 -0 -0 -0 -0 -0	3.175 3.175 3.176 4.46 4.76 4.76	0 0 0 0 0 0	Flattening Test Tension Test Flare Test Hardness Test 100% Hydrostatic test Refer to ASTM A-450
ASTM-A249 Welded Boiler Superheater, Heat Exchanger And Condenser Tubes	Under 25.4 25.4-38.1 incl 38.1-50.8 Excl 50.0-63.5 excl 63.5-76.2 excl 76.2-101.6 incl	.1016 .1524 .2032 .254 .3848 .381	.1016 .1524 .2032 .254 .3048 .381	+10 +10 +10 +10 +10 +10	-10 -10 -10 -10 -10 -10	3.175 3.175 3.175 4.762 4.762 4.762	0 0 0 0 0 0	Tension Test Flattening Test Flange Test Reverse Bend Test Hardness Test 100% Hydrostatic Test Refer to ASTM A-450
ASTM-A269 Seamless & Welded Tubing for General Service	Untp 12.7 12.7-38.1 excl 38.1-88.9 excl 88.9-139.7 excl 139.7-203.2 excl	.13 .13 .25 .38 .76	.13 .13 .25 .38 .76	+15 +10 +10 +10 +10	-15 -10 -10 -10 -10	3.2 3.2 4.8 4.8 4.8	0 0 0 0 0	Flare Test (Seamless Only) Flange Test (Welded Only) Hardness Test Reverse Flattening Test (Welded only) 100% Hydrostatic Test Refer to ASTM-A269
ASTM-A270 Seamless & Welded Sanitary Tubing	25.4 38.1 50.8 60.5 76.2 101.6	.05 .05 .05 .05 .08 .08	.20 .20 .28 .28 .30 .38	+10.0 +10.0 +10.0 +10.0 +10.0 +10.0	-10.0 -10.0 -10.0 -10.0 -10.0 -10.0	3.2 3.2 3.2 3.2 3.2 4.8	0 0 0 0 0 0	Reverse flattening Test 100% Hydrostatic Test External' polish on all tubes Refer to ASTM A-270
ASTM-A312 Seemless & Welded pipe	3.175-38.1 incl 38.1-1016 incl 101.6-203.2 incl	.4 .79 1.59	.79 .79 .79	Minimum Wall 12.5% under nominal wall Specified		6.4 6.4 6.4	0 0 0	Tension Test Flattening Test 100% Hydrostatic Test Refer to ASTM A-530
ASTM A-358 Welded pipe	219.08-750mm	+0.5%		-0.3		6.0		Refer to ASTM A-530

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



Nominal Pipe Size		Outside Diameter	Center to Face				Back to Face			Center to Center			Length 'L'	
Inch.	mm	D	A	B	C	N	E	F	G	R	M	S	MSS SP43	ANSI B 16.9
1/2	15	21.3	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	73.0	50.8	101.6
2	50	60.3	76	35	64	51	38	106	81	152	102	92.0	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	127.0	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	270.0	101.6	203.2
10	250	273.1	381	159	216	254	127	518	391	762	508	324.0	127.0	254.0
12	300	323.9	457	190	254	305	152	619	467	914	610	381.0	152.4	254.0
14	350	355.6	533	222	279	356	165	711	533	1067	711	412.8	152.4	305.0
16	400	406.4	610	254	305	406	178	813	610	1219	813	470.0	152.4	305.0
18	450	457.2	686	286	343	457	203	914	686	1372	914	533.4	152.4	305.0
20	500	508.0	762	318	381	508	229	1016	762	1524	1016	584.2	152.4	305.0
22	550	559.0	838	343	419	559	254	1118	838	1676	1118	614.4	152.4	305.0
24	600	610.0	914	381	432	610	267	1219	914	1829	1219	692.2	152.4	305.0
26	650	660.0	991	406	495	660	267	—	—	—	—	—	—	—
28	700	711.0	1067	438	521	711	267	—	—	—	—	—	—	—
30	750	762.0	1143	470	559	762	267	—	—	—	—	—	—	—
32	800	813.0	1219	502	597	813	267	—	—	—	—	—	—	—
34	850	864.0	1295	533	635	864	267	—	—	—	—	—	—	—
36	900	914.0	1372	565	673	914	267							
38	950	965.0	1448	600	711	965	305							
40	1000	1016.0	1524	632	749	1016	305							
42	1050	1067.0	1600	660	762	1067	305							
44	1100	1118.0	1676	695	813	1118	343							
46	1150	1168.0	1753	727	851	1168	343							
48	1200	1219.0	1829	759	889	1219	343							

## BUTT - WELDING PIPE FITTINGS ANSI B 16.9 / 16.28



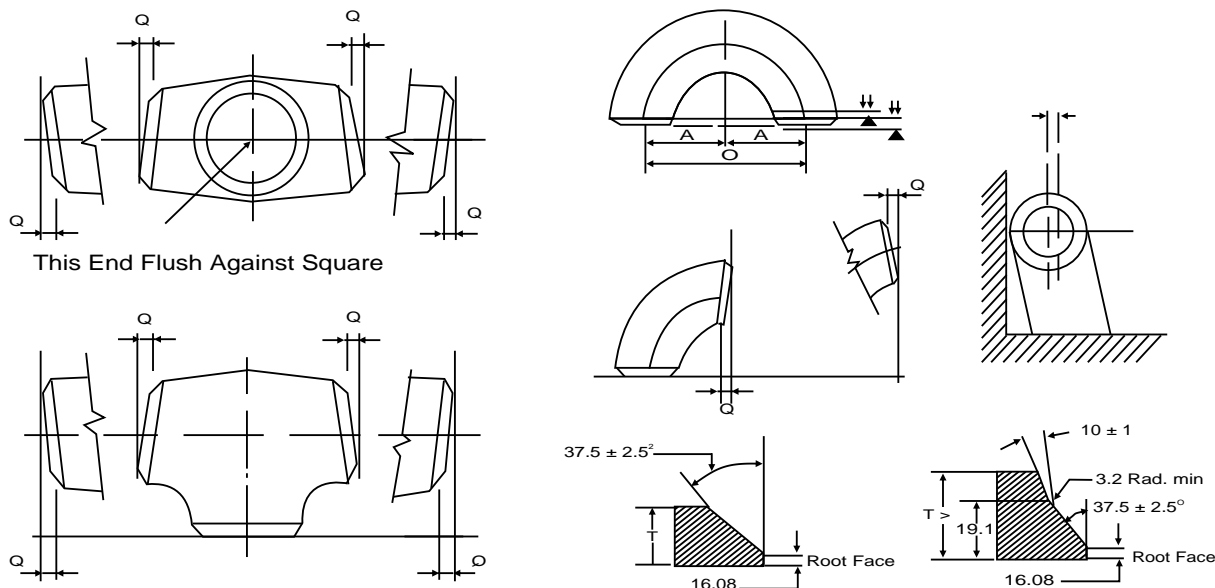
Nominal Pipe Size		Outside Diameter		Center to End		Length
Inch.	mm	D	P	C	M	H
1/2 x 3/8	15 x 10	21.3	17.1	25	25	-
1/2 x 1/4	15 x 8	21.3	13.7	25	25	-
3/4 x 1/2	20 x 15	26.7	21.3	29	29	38
3/4 x 3/8	20 x 10	26.7	17.1	29	29	38
1 x 3/4	25 x 20	33.4	26.7	38	38	51
1 x 1/2	25 x 15	33.4	21.3	38	38	51
1 1/4 x 1	32 x 25	42.2	33.4	48	48	51
1 1/4 x 3/4	32 x 20	42.2	26.7	48	48	51
1 1/4 x 1/2	32 x 15	42.2	21.3	48	48	51
1 1/2 x 1 1/2	40 x 32	48.3	42.2	57	57	64
1 1/2 x 1	40 x 25	48.3	33.4	57	57	64
1 1/2 x 3/4	40 x 20	48.3	26.7	57	57	64
1 1/2 x 1/2	40 x 15	48.3	21.3	57	57	64
2 x 1 1/2	50 x 40	60.3	48.2	64	60	76
2 x 1 1/4	50 x 32	60.3	42.2	64	57	76
2 x 1	50 x 25	60.3	33.4	64	51	76
2 x 3/4	50 x 20	60.3	26.7	64	44	76
2 1/2 x 2	65 x 50	73.0	60.3	76	70	89
2 1/2 x 1 1/2	65 x 40	73.0	48.3	76	67	89
2 1/2 x 1 1/4	65 x 32	73.0	42.2	76	64	89
2 1/2 x 1	65 x 25	73.0	33.4	76	57	89
3 x 2 1/2	80 x 65	88.9	73.0	86	83	89
3 x 2	80 x 50	88.9	60.3	86	76	89
3 x 1 1/2	80 x 40	88.9	48.3	86	73	89
3 x 1 1/4	80 x 32	88.9	42.2	86	70	89
3 1/2 x 3	90 x 80	101.6	88.9	95	92	102
3 1/2 x 2 1/2	90 x 65	101.6	73.0	95	89	102
3 1/2 x 2	90 x 50	101.6	60.3	95	83	102
3 1/2 x 1 1/2	90 x 40	101.6	48.3	95	79	102
3 1/2 x 1 1/4	90 x 32	101.6	42.2	-	-	102
4 x 3 1/2	100 x 90	114.3	101.6	105	102	102
4 x 3	100 x 80	114.3	88.9	105	98	102
4 x 2 1/2	100 x 65	114.3	73.0	105	95	102
4 x 2	100 x 50	114.3	60.3	105	89	102
4 x 1 1/2	100 x 40	114.3	48.3	105	86	102
5 x 4	125 x 100	141.3	114.3	124	117	127
5 x 3 1/2	125 x 90	141.3	101.6	124	114	127
5 x 3	125 x 80	141.3	88.9	124	111	127
5 x 2 1/2	125 x 65	141.3	73.0	124	108	127
5 x 2	125 x 50	141.3	60.3	124	105	127
6 x 5	150 x 125	168.3	141.3	143	137	140
6 x 4	150 x 100	168.3	114.3	143	130	140
6 x 3 1/2	150 x 90	168.3	101.6	143	127	140
6 x 3	150 x 80	168.3	88.9	143	124	140
6 x 2 1/2	150 x 65	168.3	73.0	143	121	140

Nominal Pipe Size		Outside Diameter		Center to End		Length
Inch.	mm	D	P	C	M	H
8 x 6	200x150	219.1	168.3	178	168	152
8 x 5	200 x 125	219.1	141.3	178	162	152
8 x 4	200 x 100	219.1	114.3	178	156	152
8 x 3 1/2	200 x 90	219.1	101.6	178	152	152
10 x 8	250 x 200	273.1	219.1	216	203	178
10 x 6	250 x 150	273.1	168.1	216	194	178
10 x 5	250 x 125	273.1	141.3	216	191	178
10 x 4	250 x 100	273.1	114.3	216	184	178
12 x 10	300 x 250	323.9	273.1	254	241	203
12 x 8	300 x 200	323.9	219.1	254	229	203
12 x 6	300 x 150	323.9	168.3	254	219	203
12 x 5	300 x 125	323.9	141.3	254	216	203
14 x 12	350 x 300	355.6	323.9	279	270	330
14 x 10	350 x 250	355.6	273.1	279	257	330
14 x 8	350 x 200	355.6	219.1	279	248	330
14 x 6	350 x 150	355.6	168.3	279	238	330
16 x 14	400 x 350	406.4	355.6	305	305	356
16 x 12	400 x 300	406.4	323.9	305	295	356
16 x 10	400 x 250	406.4	273.1	305	283	356
16 x 8	400 x 200	406.4	219.1	305	273	356
16 x 6	400 x 150	406.4	168.3	305	264	356
18 x 16	450 x 400	457.0	406.4	343	330	381
18 x 14	450 x 350	457.0	355.6	343	330	381
18 x 12	450 x 300	457.0	323.9	343	321	381
18 x 10	450 x 250	457.0	273.1	343	308	381
18 x 8	450 x 200	457.0	219.1	343	298	381
20 x 18	500 x 450	508.0	457.0	381	368	508
20 x 16	500 x 400	508.0	406.4	381	356	508
20 x 14	500 x 350	508.0	355.6	381	356	508
20 x 12	500 x 300	508.0	323.9	381	346	508
20 x 10	500 x 250	508.0	273.1	381	333	508
20 x 8	500 x 200	508.0	219.1	381	324	508
22 x 20	550 x 500	559.0	508.0	419	406	508
22 x 18	550 x 450	559.0	457.0	419	394	508
22 x 16	550 x 400	559.0	406.4	419	381	508
22 x 14	550 x 350	559.0	355.6	419	381	508
22 x 12	550 x 300	559.0	323.9	419	371	508
24 x 10	550 x 250	559.0	273.1	419	359	508
24 x 22	600 x 550	610.0	559.0	432	432	508
24 x 20	600 x 500	610.0	508.0	432	432	508
24 x 18	600 x 450	610.0	457.0	432	419	508
24 x 16	600 x 400	610.0	406.4	432	406	508
24 x 14	600 x 350	610.0	355.6	432	406	508
24 x 12	600 x 300	610.0	323.9	432	397	508
24 x 10	600 x 250	610.0	273.1	432	384	508



## DIMENSIONAL TOLERANCES AS PER ANSI B 16.9 / B 16.28 / MSS SP -43 BUTT WELD FITTING

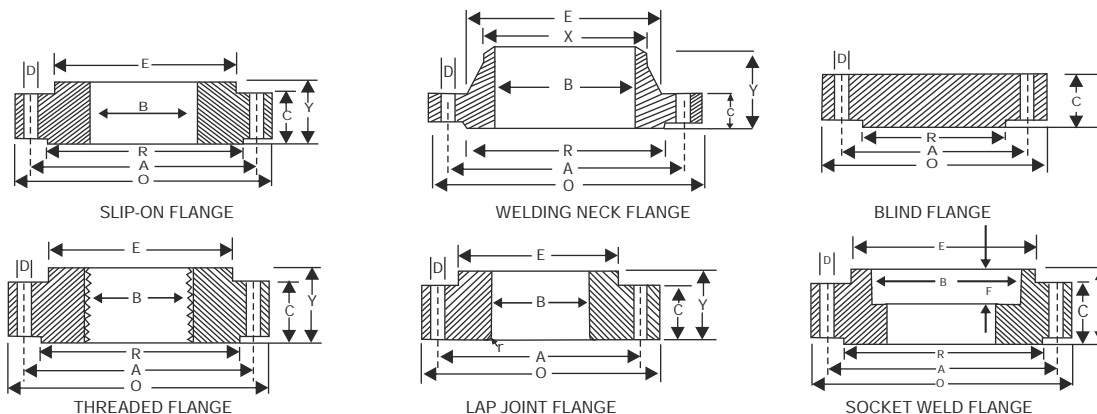
ALL FITTINGS				90/60/45 ° /30° ELBOWS & TEES		REDUCERS		180° RETURNS				CAPS		ANGULARITY TOLERANCE ± 1/6" (1.6mm)						
Nominal Pipe Size Inch/mm	Outside Diameter at Level	Inside Dia meter	Wall Thickness at End	Centre to End		Overall Length Dimensions		Centre to End	Back to Face Dimensions	Alignment of End Dimensions		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 SP43	B16.9	
1/2" TO 2 1/2" 15 TO 65	±1.0		±0.8			FROM 1/2" TO 10" 15 TO 250	FROM 3/4"	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		±0.79															5" TO 8" 125 TO 200	2		4
4" 100	+2 -1		±1.6			±2	±1.59	±2	±1.59	±7	±6.35	±7	±6.35	±1.0	±0.79		10" TO 12" 250 TO 300	3		5
5" TO 6" 125 TO 150	+3 -1	+1.59												±7	±6.35		14" TO 16" 350 TO 400	3	16" TO 24" 400 TO 600	7
8" 200	±2	-0.79		Not Less Than 87.5% Nominal Thk.	Not Less Than 87.5% Nominal Thk.												18" TO 24" 450 TO 600	4	600 TO 1.6	10
10" TO 18" 250 TO 450	+4 -3	+2.38 -0.79	±3.2			FROM 12" TO 30" ±3	±2.38	FROM 12" TO 30" ±3	10" TO 24" +2.38								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				300 TO 750		300 TO 750	250 TO 600	±10"	±9.53		±2.0"	±1.59			32" TO 42" 800 TO 1050	5	2.4	13
26" TO 30" 650 TO 750	+7 -5		±4.8											±10			44" TO 48" 1100 TO 1200	5	38" TO 48"	20
32" TO 48" 800 TO 1200	+7 -5					±5											42" TO 48" 1050 TO 1200	±5	950 TO 1200 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

## FLANGES CLASS 150 & 300



DIMENSIONS OF CLASS150 FLANGES AS PER B16.5

Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	No. Of Bolt Holes D	No. Of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J 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	21.33
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	26.67
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	33.40
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	42.16
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	48.26
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	60.31
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	73.02
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	88.90
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	114.30
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	141.30
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	168.27
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	219.07
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	273.05
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	323.85
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	355.60
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	406.40
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	457.20
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	508.00
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	609.60

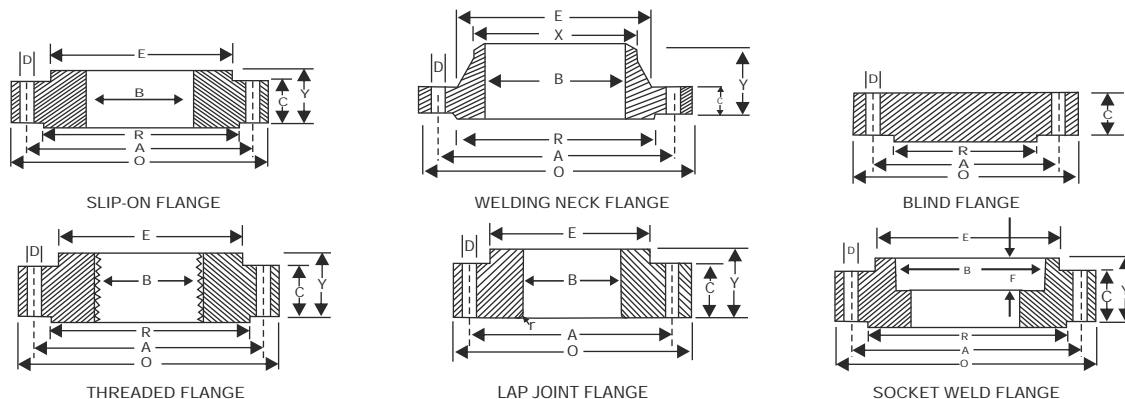
DIMENSIONS OF CLASS 300 FLANGES AS PER B16.5

Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	No. Of Bolt Holes D	No. Of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J 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	21.33
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	26.67
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	33.40
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	42.16
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	48.26
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	60.31
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	73.02
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	88.90
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	114.30
125	279.4	234.9	22.2	8	34.9	177.8	50.8	98.4	50.8	143.8	144.5	185.7	-	141.30
150	317.5	269.9	22.2	12	36.5	206.4	52.4	98.4	52.4	170.7	171.4	215.9	-	168.27
200	381.0	330.2	25.4	12	41.3	260.3	61.9	111.1	61.9	221.5	222.2	269.9	-	219.07
250	444.5	387.3	28.6	16	47.6	320.7	66.7	117.5	95.2	276.3	277.4	323.8	-	273.05
300	520.7	450.8	31.7	16	50.8	374.6	73.0	130.2	101.6	327.1	328.2	381.0	-	323.85
350	584.2	514.3	31.7	20	54.0	425.4	76.2	142.9	111.1	359.1	360.2	412.7	-	355.60
400	647.7	571.5	34.9	20	57.2	482.6	82.5	146.0	120.6	410.5	411.2	469.9	-	406.40
450	711.2	628.5	34.9	24	60.3	533.4	88.9	158.7	130.2	461.8	462.3	533.4	-	457.20
500	774.7	685.8	34.9	24	63.5	587.4	95.2	161.9	139.7	513.1	514.3	584.2	-	508.00
600	914.4	812.8	41.3	24	69.8	701.7	106.4	168.3	152.4	615.9	615.9	692.1	-	609.60

Metric values are direct conversion from Inches table of B16.5

Flanges except Lap Joint will be furnished with (1.6 mm) raised face, Which is included in "Thickness" ( C ) and Length Through Hub ( Y ).

## FLANGES CLASS 600 & 900



**DIMENSIONS OF CLASS 600 FLANGES AS PER B 16.5**

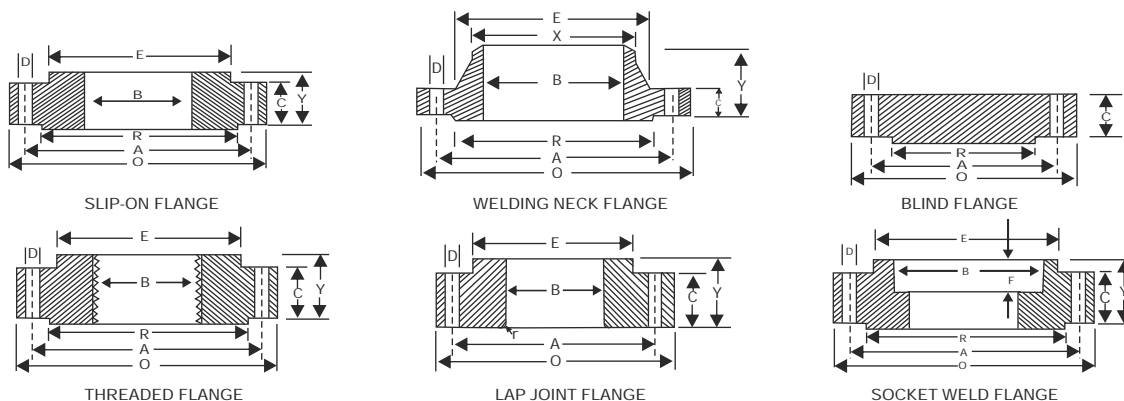
Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	No. of Bolt Holes D	No. of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
							Y	Y	Y	B	B			
15	95.2	66.7	15.9	4	14.3	38.1	22.2	52.4	22.3	22.3	22.8	34.9	9.5	21.33
20	117.5	82.5	19.0	4	15.9	47.6	25.4	57.1	25.4	27.7	28.1	42.9	11.1	26.67
25	123.8	88.9	19.0	4	17.5	54.0	27.0	61.9	26.9	34.5	35.0	50.8	12.7	33.40
32	133.3	98.4	19.0	4	20.6	63.5	28.6	66.7	28.4	43.2	43.6	63.5	14.2	42.16
40	155.6	114.3	22.2	4	22.2	69.8	31.7	69.8	31.7	49.5	50.0	73.0	15.8	48.26
50	165.1	127.0	19.0	8	25.4	84.1	36.5	73.0	36.5	62.0	62.4	92.1	17.4	60.31
65	190.5	149.2	22.2	8	28.6	100.0	41.3	79.4	41.1	74.7	75.4	104.8	19.0	73.02
80	209.5	168.3	22.2	8	31.8	117.5	46.0	82.5	45.9	90.7	91.4	127.0	-	88.90
100	273.0	215.9	25.4	8	38.1	152.4	54.0	101.6	53.8	116.1	116.8	157.2	-	114.30
125	330.2	266.7	28.6	8	44.4	188.9	60.3	114.3	60.4	143.8	141.5	185.7	-	141.30
150	355.6	292.1	28.6	12	47.6	222.2	66.7	117.5	66.5	170.7	171.4	215.9	-	168.27
200	419.1	349.2	31.7	12	55.6	273.0	76.2	133.3	76.2	221.5	222.2	269.9	-	219.07
250	508.0	431.8	34.9	16	63.5	342.9	85.7	152.4	111.2	276.3	277.3	323.8	-	273.05
300	558.8	488.9	34.9	20	66.7	400.0	92.1	155.6	117.3	327.1	328.1	381.0	-	323.85
350	603.2	527.0	38.1	20	69.9	431.8	93.7	165.1	127.0	359.1	360.1	412.7	-	355.60
400	685.8	603.2	41.3	20	76.2	495.3	106.4	177.8	139.7	410.5	411.2	469.9	-	406.40
450	742.9	654.0	44.4	20	82.6	546.1	117.5	184.1	152.4	461.8	462.2	533.4	-	457.20
500	812.8	723.9	44.4	24	88.9	609.6	127.0	190.5	165.1	513.1	514.3	584.2	-	508.00
600	939.8	838.2	50.8	24	101.6	717.5	139.7	203.2	184.1	615.9	615.9	692.1	-	609.60

**DIMENSIONS OF CLASS 900 FLANGES AS PER B 16.5**

Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							S/O & S/W	W/N	L/J	S/O & S/W	L/J			
							Y	Y	Y	B	B			
15	120.6	82.5	22.2	4	22.2	38.1	31.7	60.3	31.7	22.3	22.8	34.9	9.5	21.33
20	130.2	88.9	22.2	4	25.4	44.4	34.9	69.8	35.0	27.7	28.1	42.9	11.1	26.67
25	149.2	101.6	25.4	4	28.6	52.4	41.3	73.0	41.1	34.5	35.0	50.8	12.7	33.40
32	158.7	111.1	25.4	4	28.6	63.5	41.3	73.0	41.1	43.2	43.6	63.5	14.2	42.16
40	177.8	123.8	28.6	4	31.8	69.8	44.4	82.5	44.4	49.5	50.0	73.0	15.8	48.26
50	215.9	165.1	25.4	8	38.1	104.8	57.1	101.6	57.1	62.0	62.4	92.1	17.4	60.31
65	244.5	190.5	28.6	8	41.3	123.8	63.5	104.8	63.5	74.7	75.4	104.8	19.0	73.02
80	241.3	190.5	25.4	8	38.1	127.0	53.9	101.6	53.8	90.7	91.4	127.0	-	88.90
100	292.1	234.9	31.7	8	44.4	158.7	69.8	114.3	69.8	116.0	116.8	157.1	-	114.30
125	349.2	279.4	35.0	8	50.8	190.5	79.3	127.0	79.2	143.7	141.5	185.7	-	141.30
150	381.0	317.5	31.7	12	55.6	234.9	85.8	139.7	85.8	170.6	171.4	215.9	-	168.27
200	469.9	393.7	38.1	12	63.5	298.4	101.6	162.0	114.3	221.4	222.2	269.8	-	219.07
250	546.1	469.9	38.1	16	69.8	368.3	107.9	184.1	127.0	276.3	277.3	323.8	-	273.05
300	609.6	533.4	38.1	20	79.3	419.1	117.4	200.0	142.7	327.1	328.1	381.0	-	323.85

Metric values are direct conversion from Inches table of B16.5  
 RF Thickness 6.3 mm Extra to be provided (Except Lap Joint Flange & FF Flanges).

## FLANGES CLASS 1500 & 2500



DIMENSIONS OF CLASS 1500 FLANGES AS PER B16.5

Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. Of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B			
15	120.6	82.5	22.2	4	22.2	38.1	31.7	60.3	31.7	22.3	22.8	34.9	9.5	21.33
20	130.2	88.9	22.2	4	25.4	44.4	34.9	69.8	34.9	27.7	28.1	42.9	11.1	26.67
25	149.2	101.6	25.4	4	28.6	52.4	41.3	73.0	41.3	34.5	35.0	50.8	12.7	33.40
32	158.7	111.1	25.4	4	28.6	63.5	41.3	73.0	41.3	43.2	43.6	63.5	14.2	42.16
40	177.8	123.8	28.6	4	31.8	69.8	44.4	82.5	44.4	49.5	50.0	73.0	15.8	48.26
50	215.9	165.1	25.4	8	38.1	104.8	57.1	101.6	57.1	62.0	62.0	92.1	17.4	60.31
65	244.5	190.5	28.6	8	41.3	123.8	63.5	104.8	63.5	74.7	75.4	104.8	19.0	73.02
80	266.7	203.2	31.7	8	47.6	133.3	73.0	117.5	73.0	90.7	91.4	127.0	-	88.90
100	311.1	241.3	34.9	8	54.0	161.9	90.5	123.0	90.4	116.1	116.8	157.2	-	114.30
125	374.6	292.1	41.3	8	73.0	196.8	104.8	155.6	104.8	143.8	144.5	185.7	-	141.30
150	393.7	317.5	38.1	12	82.6	228.6	119.1	171.4	119.1	170.7	171.4	215.9	-	168.27
200	482.6	393.7	44.4	12	92.1	292.1	142.9	212.7	142.8	221.5	222.2	269.9	-	219.07
250	584.2	482.6	50.8	12	107.9	368.3	158.7	254.0	177.8	276.3	277.3	323.8	-	273.05
300	673.1	571.5	54.0	16	123.8	450.8	181.0	285.5	218.9	327.1	328.1	381.0	-	323.85

DIMENSIONS OF CLASS 2500 FLANGES AS PER B16.5

Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. Of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J 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	-	21.33
20	139.7	95.2	22.2	4	31.7	50.8	42.9	79.4	42.9	27.7	27.7	42.9	-	26.67
25	158.7	107.9	25.4	4	34.9	57.1	47.7	88.9	47.7	34.5	34.5	50.8	-	33.40
32	184.1	130.2	28.6	4	38.1	73.0	52.4	95.2	52.4	43.2	43.2	63.5	-	42.16
40	203.2	146.0	31.7	4	44.4	79.4	60.3	111.1	60.3	49.5	49.5	73.0	-	48.26
50	234.9	171.4	28.6	8	50.8	95.2	69.8	127.0	69.8	62.4	62.0	92.1	-	60.31
65	266.7	196.8	31.7	8	57.1	114.3	79.4	142.9	79.4	74.7	74.7	104.8	-	73.02
80	304.8	228.6	34.9	8	66.7	133.3	92.1	168.3	92.1	90.7	90.7	127.0	-	88.90
100	355.6	273.0	41.3	8	76.2	165.1	107.9	190.5	107.9	116.1	116.1	157.2	-	114.30
125	419.1	323.8	47.6	8	92.1	203.2	130.0	228.6	130.0	143.8	143.8	185.7	-	141.30
150	482.6	368.3	54.0	8	107.9	234.9	152.4	273.0	152.4	170.7	170.7	215.9	-	168.27
200	552.4	438.1	54.0	12	127.0	304.8	177.8	317.5	177.8	221.5	221.5	269.9	-	219.07
250	673.1	539.7	66.7	12	165.1	374.6	228.6	419.1	228.6	276.3	276.3	323.8	-	273.05
300	762.0	619.1	73.0	12	184.1	441.3	254.0	463.5	254.0	327.1	327.1	381.0	-	323.85

Metric values are direct conversion from Inches table of B16.5  
RF Thickness 6.3 mm Extra to be provided (Except Lap Joint Flange & FF Flanges).

# KALP INDUSTRIES

ISO 9001:2008

## CONTACT US

**Head Office:**

Sriniwas Building No 40, Office No 20, 1st floor,  
2 Carpenter Street Mumbai - 400004

**Tel No.:**

02266393729/23889590

**Mob.No.:**

Kushal Burad - +91 9987996455  
Ravindra Burad - +91 8779453859 / 9769254684

**Email:**

Info@kalpind.com / Sales@kalpind.com

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