KOSTEVO

BUILDING A BETTER WORLD
THROUGH ENGINEERING

PRECISION IN EVERY TURN, EXCELLENCE IN EVERY PRODUCT.

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ABOUT KOSTEVO

Kostevo Company specializes in providing a comprehensive range of high-quality flange fittings for instrumentation, hydraulics, and pneumatics Etc. catering to Industries such as oil & gas, petrochemicals, power generation, agro-genic, pharmaceuticals, and vacuum applications.

QUALITY POLICY

At kostevo, we are dedicated to maintaining the highest standards of quality in every aspect of our operations. Our commitment is to deliver products that not only meet but exceed customer expectations. To achieve this, we adhere to stringent quality control measures, continuously monitor and improve our processes, and foster a culture of excellence among our team members.

CLIENT/CUSTOMER RELATION POLICIES

Our clients are our most valuable partners, and we prioritize building long-term relationships based on trust, transparency, and mutual respect. We believe in open communication, prompt issue resolution, and a client-centric approach to ensure the highest level of customer satisfaction. At kostevo, your success is our success, and we are dedicated to supporting you every step of the way.

AFTER SALES FEEDBACK

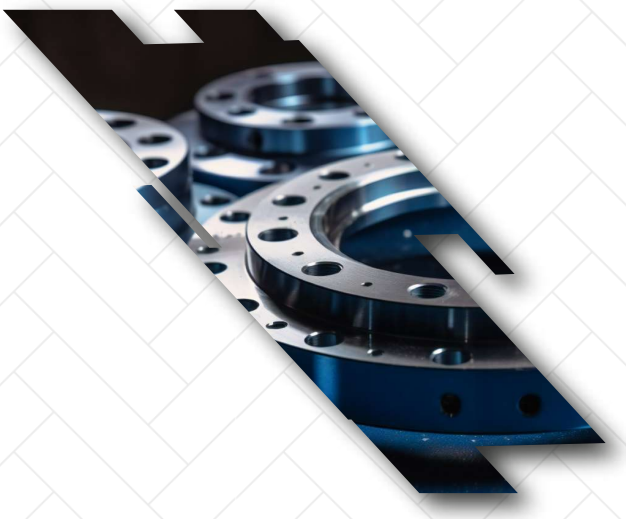
Your feedback is crucial to our continuous improvement efforts. We highly value your thoughts and experiences with our products and services, and we encourage you to share your feedback through our dedicated after-sales feedback channels. Your insights help us identify areas for enhancement and ensure that we continue to meet and exceed your expectations.

IMPROVEMENT POLICY

Continuous improvement is ingrained in our company's DNA. We are committed to ongoing innovation, optimization, and refinement of our products, processes, and services. We actively seek feedback from customers, stakeholders, and team members, analyze data to identify opportunities for improvement, and implement strategic initiatives to enhance product quality, efficiency, and overall customer satisfaction.

ENVIRONMENT, SAFETY & HEALTH POLICY FOR EMPLOYEES & WORKERS

At kostevo, we are dedicated to maintaining the highest standards of quality in every aspect of our operations. Our commitment is to deliver products that not only meet but exceed customer expectations. To achieve this, we adhere to stringent quality control measures, continuously monitor and improve our processes, and foster a culture of excellence among our team members.



DIMENSIONS CATALOGUE

FLANGES

We are engaged in providing a supreme range of Industrial Flanges widely used in diverse industrial application. The company has taken the leading position in providing the best possible Industrial Flanges available in the market. This range of Industrial Flanges is put through rigirous quality control checks to make it superior to other similar products available in the market. The Industrial Flanges are superbly engineered to fit the criteria dictated by the industry and is offered at affordable rates.

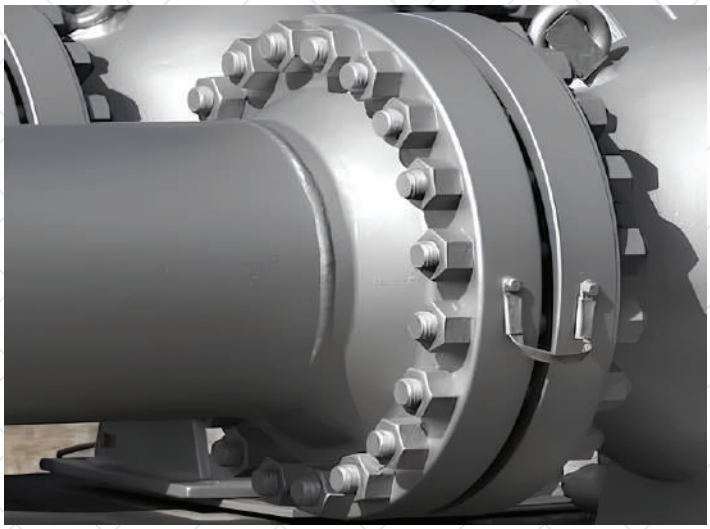
- Range Of Industrial Flanges Includes
- Plate Flanges
- Forged Flanges
- Mild Steel Flanges
- Slip On Flanges
- Welding Flanges
- Carbon Steel Flanges
- Stainless Steel Flanges

PLATE FLANGES

We have in store for our clients an extensive range of Plate Flanges that is highly popular among clients worldwide. The Plate Flanges are made in accordance withmarket demands and specifications. These Plate Flanges are available in a variety of sizes and types for their accurate and exact usage.

SALIENT FEATURES

- Rust Proof
- Available in variety of sizes
- Resistance to high temperature and pressure
- Weather proof



FLANGE DIMENSIONS

BRIEF DESCRIPTION OF ITEMS : PLATE / FORGED / MILD STEEL, CARBON STEEL AND STAINLESS STEEL FLANGES

Types	Slip-on, Weld Neck, Blind, Threaded Socket-Weld Lap Joint
Standards	BS 10 (Table - D, E, F, H, J & K) ASA 150, 300, 600, 900, 1500 and 2500 lbs. DINND6, 10, 16, 25 and 40 IS 6392, 1538. ANSI B 16.5, MSS-SP-44, API 605, AWWA 207

MATERIALS OF CONSTRUCTION :

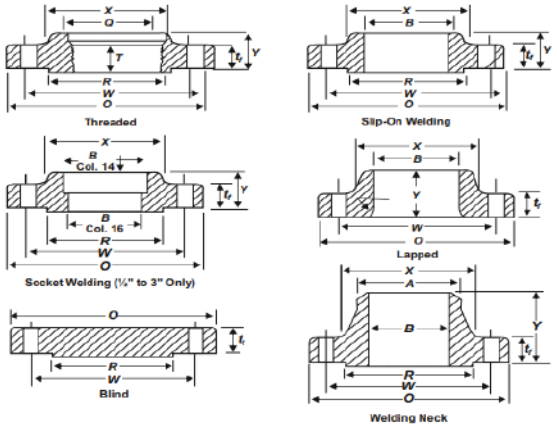
	size	
Mild Steel	½" - 90"	IS 2062
Carbon Steel	½" - 60"	ASTM A-105, IS 2002, Lf2
Stainless Steel	½ "- 24"	ASTM, A-182, F 304, F 316, F 321, F 304L, F 316L

SPECIALISATION:

•Double face •Serrated Surface •Three Gasket Grooves •IBR Certificates Raised Face
•Collar screwed •Blue Print & Also As Per Drawings.

FLANGES SUITABLE FOR UPTO 60 O.D. PIPE

DIMENSIONS OF CLASS 150 FLANGES



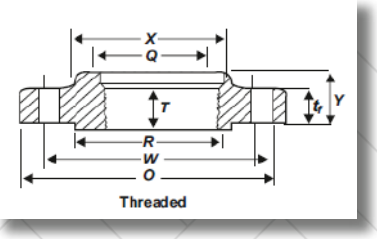
DIMENSIONS OF CLASS 150 FLANGES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
			Drilling					Length Thru Hub				Bore					
Nominal Pipe Size NPS	Outside Diameter of Flange, 0	Thickness of Flange Min., t1	Diameter of Bolt Circle W	Diameter of Bolt Holes	Number of Bolts	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, A	Threaded/ Slip-On/ Socket Welding, Y	Lapped, Y	Welding Meck, Y	Threaded/ Length Threaded Min., T	Slip-On/ Socket Welding Min., B	Lapped Min., B	Welding Neck/\ Socket Welding, B [Note (2)	Corner Radius of Bore of Lapped Flange and Pipe, r	Depth of Socket, D	Diameter of RF R
½	89.0	11.2	60.3	15.9	4	30	21.3	14	16	46	16	22.2	22.9	15.8	3	10	34.9
1	98.5	12.7	69.9	15.9	4	38	26.7	14	16	51	16	27.7	28.2	20.9	3	11	42.9
1 ½	108.0	14.3	79.4	15.9	4	49	33.4	16	17	54	17	34.5	34.9	26.6	3	13	50.8
¾	117.5	15.9	88.9	15.9	4	59	42.2	19	21	56	21	43.2	43.7	35.1	5	14	63.5
1 ¼	127.0	17.5	98.4	15.9	4	65	48.3	21	22	60	22	49.5	50.0	40.9	6	16	73.0
2	152.5	19.1	120.7	19.1	4	78	60.3	60.3	25	62	25	61.9	62.5	52.5	8	17	92.1
2 ½	178.0	22.3	139.7	19.1	4	90	73.0	73.0	29	68	29	74.6	75.4	62.7	8	19	104.8
3	190.5	23.9	152.4	19.1	4	108	88.9	88.9	30	68	30	90.7	91.4	77.9	10	21	127.0
3 ½	216.0	23.9	177.8	19.1	8	122	101.6	101.6	32	70	32	103.4	104.1	90.1	10	....	139.7
4	228.5	23.9	190.5	19.1	8	135	114.3	114.3	33	75	33	116.1	116.8	102.3	11	....	157.2
5	254.0	23.9	215.9	22.3	8	164	141.3	141.3	36	87	36	143.8	144.4	128.2	11	....	185.7
6	279.0	25.4	241.3	22.3	8	192	168.3	168.3	40	87	40	170.7	171.4	154.1	13	....	215.9
8	343.0	28.6	298.5	22.3	8	246	219.1	219.1	44	100	44	221.5	222.2	202.7	13	....	269.9
10	406.5	30.2	362.0	25.4	12	305	273.0	273.0	49	100	49	276.2	277.4	254.6	13	....	323.8
12	482.5	31.8	431.8	25.4	12	365	323.8	323.8	56	113	56	327.0	328.2	304.8	13	....	381.0
14	533.5	35.0	476.3	28.6	12	400	355.6	355.6	79	125	57	359.2	360.2	To be	13	....	412.8
16	597.0	36.6	539.8	28.6	16	457	406.4	406.4	87	125	64	410.5	411.2	Specified	13	....	469.9
18	635.0	39.7	577.9	31.8	16	505	457.0	457.0	97	138	68	461.8	462.3	by	13	....	533.4
20	698.5	42.9	635.0	31.8	20	559	508.0	508.0	103	143	73	513.1	514.4	Purchase	13	....	584.2
24	813.0	47.7	749.3	35.0	20	663	610.0	610.0	111	151	83	616.0	616.0		13	....	692.2

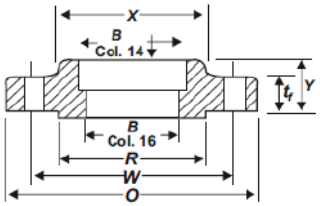
NOTE:

(1) Height of RF 2mm
(2) Dimensions in Column 16 correspond to the inside diameter of pipe as given in ASME B36, 10M for Standard Wall pipe. Thickness of Standard Wall is the same as Schedule 40 in sizes NPS 10 and smaller. These bore sizes are furnished unless otherwise specified by the purchaser.

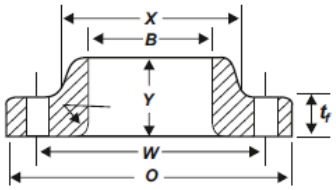
DIMENSIONS OF CLASS 300 FLANGES



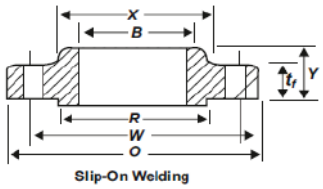
Threaded



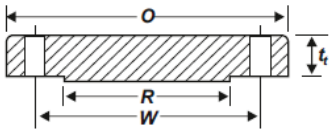
Socket Welding (½" to 3" Only)



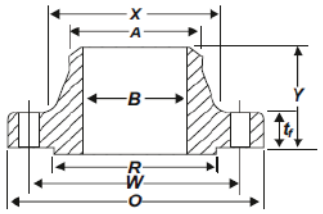
Lapped



Slip-On Welding



Blind



Welding Neck

DIMENSIONS OF CLASS 300 FLANGES

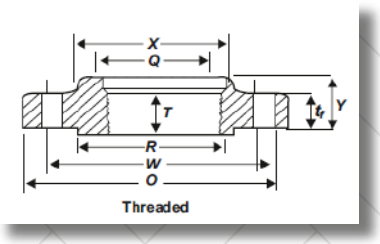
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Drilling					Length Thru Hub				Bore						
Nominal Pipe Size NPS	Outside Diameter of Flange, O	Thickness of Flange Min., t1	Diameter of Bolt Circle W	Diameter of Bolt Holes	Number of Bolts	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, A	Threaded / Slip-On/ Socket Welding, Y	Lapped, Y	Welding Meck, Y	Threaded / Length Threaded Min., T	Slip-On / Socket Welding Min., B	Lapped Min., B	Welding Neck/ Socket Welding, B [Note (2)]	Corner Radius of Bore of Lapped Flange and Pipe, r	Counter-bore Threaded FLANGE Min., Q	Depth of Socket, D	Diameter of RF R
½	95.5	14.3	66.7	15.9	4	38	21.3	24	22	51	16	22.2	22.9	15.8	3	23.6	10	34.9
¾	117.5	15,9	82.6	19.1	4	48	26.7	24	25	56	16	27.7	28.2	20.9	3	29.0	11	42.9
1	124.0	17.5	88.9	19.1	4	54	33.4	25	27	60	18	34.5	34.9	26.6	3	35.8	13	50.8
1 ¼	133.5	19.1	98.4	19.1	4	64	42.2	25	27	64	21	43.2	43.7	35.1	5	44.4	14	63.5
1 ½	155.5	20.7	114.3	22.2	4	70	48.3	29	30	67	23	49.5	50.0	40.9	6	50.3	16	73.0
2	165.0	22.3	127.0	19.0	8	84	60.3	32	33	68	29	61.9	62.5	52.5	8	63.5	17	92.1
2 ½	190.5	25.4	149.2	22.3	8	100	73.0	37	38	75	32	74.6	75.4	62.7	8	76.2	19	104.8
3	209.5	28.6	168.3	22.3	8	117	88.9	41	43	78	32	90.7	91.4	77.9	10	92.2	21	127.0
3 ½	228.5	30.2	184.2	22.3	8	133	101.6	43	44	79	37	103.4	104.1	90.1	10	104.9	....	139.7
4	254.0	31.8	200.0	22.3	8	146	114.3	46	48	84	37	116.1	116.8	102.3	11	117.6	....	157.2
5	279.5	35.0	235.0	22.3	8	178	141.3	49	51	97	43	143.8	144.4	128.2	11	144.4	....	185.7
6	317.5	36.6	269.9	22.3	12	206	168.3	51	52	97	47	170.7	171.4	154.1	13	171.4	....	215.9
8	381.0	41.3	330.2	25.4	12	260	219.1	60	62	110	51	221.5	222.2	202.7	13	222.2	....	269.9
10	444.5	47.7	387.4	28.6	16	321	273.0	65	95	116	56	276.2	277.4	254.6	13	276.2	....	323.8
12	520.5	50.8	450.8	31.8	16	375	323.8	71	102	129	61	327.0	328.2	304.8	13	328.6	....	381.0
14	584.0	54.0	514.4	31.8	20	425	355.6	75	111	141	64	359.2	360.2		13	360.4	....	412.8
16	647.5	57.2	571.5	35.0	20	483	406.4	81	121	144	69	410.5	411.2		13	411.2	....	469.9
18	711.0	60.4	628.6	35.0	24	533	457.0	87	130	157	70	461.8	462.3	To be Specified by	13	462.0	....	533.4
20	774.5	63.5	685.8	35.0	24	587	508.0	94	140	160	74	513.1	514.4		13	512.8	....	584.2
24	914.5	69.9	812.8	41.3	24	702	610.0	105	152	167	83	616.0	616.0	Purchaser	13	614.4	....	692.2

NOTE:

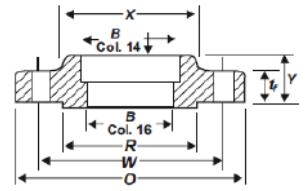
(1) Height of RF 2mm

(2) Dimensions in Column 16 correspond to the inside diameter of pipe as given in ASME B36, 10M for Standard Wall pipe. Thickness of Standard Wall is the same as Schedule 40 in sizes NPS 10 and smaller. These bore sizes are furnished unless otherwise specified by the purchaser.

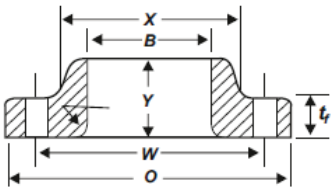
DIMENSIONS OF CLASS 400 FLANGES



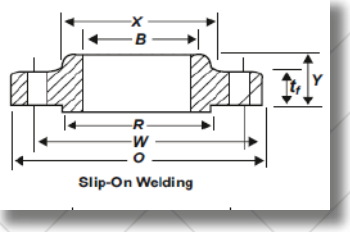
Threaded



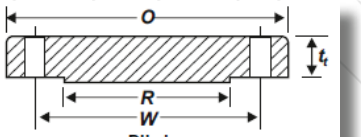
Socket Welding (⅛" to 2½" Only)



Lapped



Slip-On Welding



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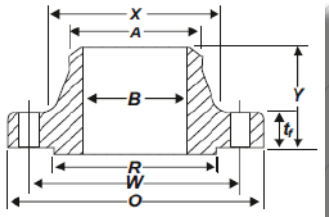


Welding Neck

DIMENSIONS OF CLASS 300 FLANGES

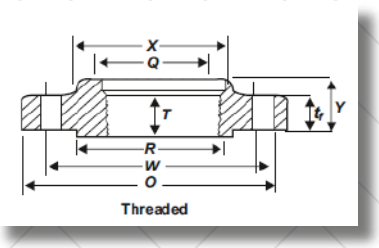
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Drilling				Length Thru Hub				Bore						
Nominal Pipe Size NPS	Outside Diameter of Flange, O	Thickness of Flange Min., t1	Diameter of Hub, X	Diameter of Bolt Circle W	Diameter of Bolt Holes, in.	Number of Bolts	Hub Diameter Beginning of Chamfer Welding Neck, A	Threaded/ Slip-On/ Y	Lapped, Y	Welding Meck, Y	Threaded / Length Threaded Min., T	Slip-On/ Min., B	Lapped Min., B	Socket Weld/ Welding, Neck,	Corner Radius of Bore of Lapped Flange and Pipe, r	Counter-bore Threaded FLANGE Min., Q	Diameter of RF R	Socket, Weld D
½	95	14.3	38	66.7	15.9	4	21.3	22	22	52	16	22.2	22.9		3	23.6	34.9	10
¾	115	15.9	48	82.6	19.0	4	26.7	25	25	57	16	27.7	28.2		3	29.0	42.9	11
1	125	17.5	54	88.9	19.0	4	33.4	27	27	62	18	34.5	34.9		3	35.8	50.8	13
1 ¼	135	20.7	64	98.4	19.0	4	42.2	29	29	67	21	43.2	43.7		5	44.4	63.5	14
1 ½	155	22.3	70	114.3	22.2	4	48.3	32	32	70	23	49.5	50.0		6	50.6	73.0	16
2	165	25.4	84	127.0	19.0	8	60.3	37	37	73	29	61.9	62.5		8	63.5	92.1	17
2 ½	190	28.6	100	149.2	22.2	8	73.0	41	41	79	32	74.6	75.4	To be Specified by Purchaser	8	76.2	104.8	19
3	210	31.8	117	168.3	22.2	8	88.9	46	46	83	35	90.7	91.4		10	92.2	127.0	....
3 ½	230	35.0	133	184.2	25.4	8	101.6	49	49	86	40	103.4	104.1		10	104.9	139.7	....
4	255	35.0	146	200.0	25.4	8	114.3	51	51	89	37	116.1	116.8		11	117.6	157.2	....
5	280	38.1	178	235.0	25.4	8	141.3	54	54	102	43	143.8	144.4		11	144.4	185.7	....
6	320	41.3	206	269.9	25.4	12	168.3	57	57	103	46	170.7	171.4		13	171.4	215.9	....
8	380	47.7	260	330.0	28.6	12	219.1	68	68	117	51	221.5	222.2		13	222.2	269.9	....
10	445	54.0	321	387.4	31.8	16	273.0	102	102	124	56	276.2	277.4		13	276.2	323.8	....
12	520	57.2	375	450.8	35.0	16	323.8	108	108	137	61	327.0	328.2		13	328.6	381.0	....
14	585	60.4	425	514.4	35.0	20	355.6	117	117	149	64	359.2	360.2		13	360.4	412.8	....
16	650	63.5	483	571.5	38.1	20	406.4	127	127	152	69	410.5	411.2		13	411.2	469.9	....
18	710	66.7	533	628.6	38.1	24	457.0	137	137	165	70	461.8	462.3		13	462.0	533.4	....
20	775	69.9	587	685.8	41.3	24	508.0	146	146	168	74	513.1	514.4		13	512.8	584.2	....
24	915	76.2	702	812.8	47.7	24	610.0	159	159	175	83	616.0	616.0		13	614.4	692.2	....

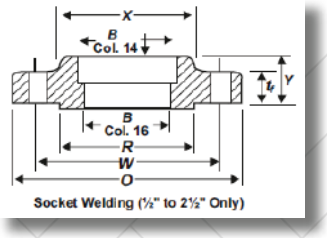
NOTE:

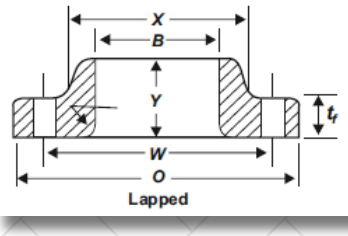
(1) Height of RF 2mm

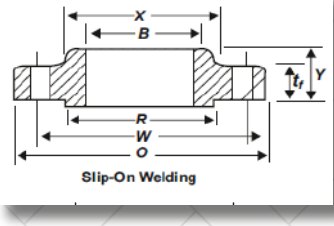
(2) Dimensions in Column 16 correspond to the inside diameter of pipe as given in ASME B36, 10M for Standard Wall pipe. Thickness of Standard Wall is the same as Schedule 40 in sizes NPS 10 and smaller. These bore sizes are furnished unless otherwise specified by the purchaser.

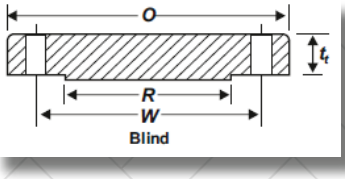
DIMENSIONS OF CLASS 600 FLANGES

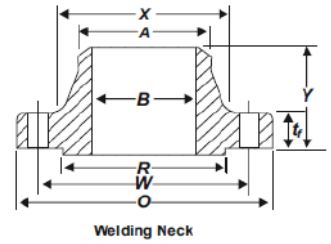












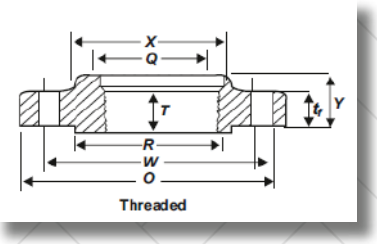
DIMENSIONS OF CLASS 600 FLANGES

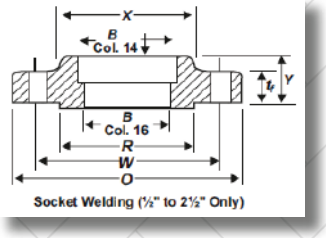
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Drilling					Length Thru Hub				Bore						
Nominal Pipe Size NPS	Outside Diameter of Flange, O	Thickness of Flange Min., t1	Diameter of Bolt Circle W	Diameter of Bolt Holes	Number of Bolts	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, A	Threaded / Slip-On/ Socket Welding, Y	Lapped, Y	Welding Meck, Y	Threaded / Length Threaded Min., T	Slip-On / Socket Welding Min., B	Lapped Min., B	Welding Neck/ Socket Welding, B [Note (2)]	Corner Radius of Bore of Lapped Flange and Pipe, r	Counter-bore Threaded FLANGE Min., Q	Depth of Socket, D	Diameter of RF R
½	95.5	14.3	66.7	15.9	4	38	21.3	22	22	52	16	22.2	22.9		3	23.6	10	34.9
¾	117.5	15.9	82.6	19.1	4	48	26.7	25	25	57	16	27.7	28.2		3	29.0	11	42.9
1	124.0	17.5	88.9	19.1	4	54	33.4	27	27	62	18	34.5	34.9		3	35.8	13	50.8
1 ¼	133.5	20.7	98.4	19.1	4	64	42.2	29	29	67	21	43.2	43.7		5	44.4	14	63.5
1 ½	155.5	22.3	114.3	22.3	4	70	48.3	32	32	70	23	49.5	50.0		6	50.3	16	73.0
2	165.0	25.4	127.0	19.1	8	84	60.3	37	37	73	29	61.9	62.5		8	63.5	17	92.1
2 ½	190.5	28.6	149.2	22.3	8	100	73.0	41	41	79	32	74.6	75.4		8	76.2	19	104.8
3	209.5	31.8	168.3	22.3	8	117	88.9	46	46	83	35	90.7	91.4		10	92.2	21	127.0
3 ½	228.5	35.0	184.2	25.4	8	133	101.6	49	49	86	40	103.4	104.1		10	104.9	....	139.7
4	273.0	38.1	215.9	25.4	8	152	114.3	54	51	102	42	116.1	116.8	To be Specified by Purchaser	11	117.6	....	157.2
5	330.0	44.5	266.7	28.6	8	189	141.3	60	54	114	48	143.8	144.4		11	144.4	....	185.7
6	355.5	47.7	292.1	28.6	12	222	168.3	67	57	117	51	170.7	171.4		13	171.4	....	215.9
8	419.0	55.6	349.2	31.8	12	273	219.1	76	68	133	58	221.5	222.2		13	222.2	....	269.9
10	508.0	63.5	431.8	35.0	16	343	273.0	86	102	152	66	276.2	277.4		13	276.2	....	323.8
12	559.0	66.7	489.0	35.0	20	400	323.8	92	108	156	70	327.0	328.2		13	328.6	....	381.0
14	603.5	69.9	527.0	38.1	20	432	355.6	94	117	165	74	359.2	360.2		13	360.4	....	412.8
16	686.0	76.2	603.2	41.3	20	495	406.4	106	127	178	78	410.5	411.2		13	411.2	....	469.9
18	743.0	82.6	654.0	44.5	20	546	457.0	117	137	184	80	461.8	462.3		13	462.0	....	533.4
20	813.0	88.9	723.9	44.5	24	610	508.0	127	146	190	83	513.1	514.4		13	512.8	....	584.2
24	940.0	101.6	838.2	50.8	24	718	610.0	140	159	203	93	616.0	616.0		13	614.4	....	692.2

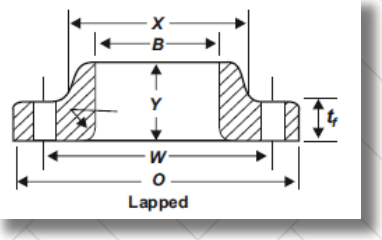
NOTE:

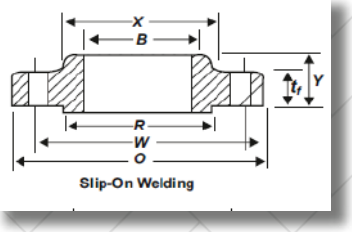
(1) Height of RF 7mm

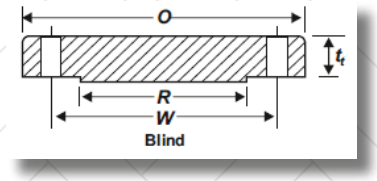
DIMENSIONS OF CLASS 900 FLANGES

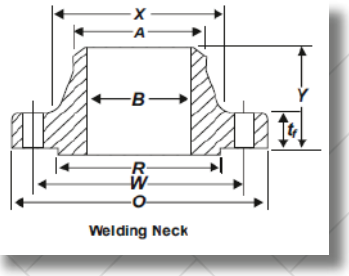












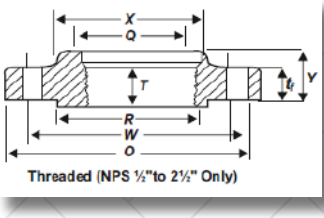
DIMENSIONS OF CLASS 900 FLANGES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
				Drilling				Length Thru Hub				Bore						
Nominal Pipe Size NPS	Outside Diameter of Flange, O	Thickness of Flange Min., t1	Diameter of Hub, X	Diameter of Bolt Circle W	Diameter of Bolt Holes, in.	Number of Bolts	Hub Diameter Beginning of Chamfer Welding Neck, A	Threaded/ Slip-On/ Y	Lapped, Y	Welding Meck, Y	Threaded / Length Threaded Min., T	Slip-On/ Min., B	Lapped Min., B	Socket Weld/ Welding, Neck,	Corner Radius of Bore of Lapped Flange and Pipe, r	Counter-bore Threaded FLANGE Min., Q	Diameter of RF R	Socket, Weld D
½	120.7	22.3	38	82.6	22.3	4	21.3	32	32	60	23	22.2	22.9		3	23.6	34.9	10
¾	130.0	25.4	44	88.9	22.3	4	26.7	35	35	70	26	27.7	28.2		3	29.0	42.9	11
1	149.4	28.6	52	101.6	25.4	4	33.4	41	41	73	29	34.5	34.9		3	35.8	50.8	13
1 ¼	158.8	28.6	64	111.1	25.4	4	42.2	41	41	73	31	43.2	43.7		5	44.4	63.5	14
1 ½	177.8	31.8	70	123.8	28.6	4	48.3	44	44	83	32	49.5	50.0		6	50.6	73.0	16
2	215.9	38.1	105	165.1	25.4	8	60.3	57	57	102	39	61.9	62.5		8	63.5	92.1	17
2 ½	244.3	41.3	124	190.5	28.6	8	73.0	64	64	105	48	74.6	75.4	To be Specified by Purchaser	8	76.2	104.8	19
3	241.3	38.1	127	190.5	25.4	8	88.9	54	54	102	42	90.7	91.4		10	92.2	127.0	....
4	292.1	44.5	159	235.0	31.8	8	114.3	70	70	114	48	103.4	104.1		10	104.9	139.7	....
												116.1	116.8		11	117.6	157.2	....
5	349.3	50.8	190	279.4	35.0	8	141.3	79	79	127	54							
6	381.0	55.6	235	317.5	31.8	12	168.3	86	86	140	58	143.8	144.4		11	144.4	185.7	....
8	469.9	63.5	298	393.7	38.1	12	219.1	102	114	162	64	170.7	171.4		13	171.4	215.9	....
10	546.1	69.9	368	469.9	38.1	16	273.0	108	127	184	72	221.5	222.2		13	222.2	269.9	....
12	609.5	79.4	419	533.4	38.1	20	323.8	117	143	200	77	276.2	277.4		13	276.2	323.8	....
												327.0	328.2		13	328.6	381.0	....
14	641.4	85.8	451	558.8	41.3	20	355.6	130	156	213	83							
16	704.9	88.9	508	616.0	44.5	20	406.4	133	165	216	86	359.2	360.2		13	360.4	412.8	....
18	787.4	101.6	565	685.8	50.8	20	457.0	152	190	229	89	410.5	411.2		13	411.2	469.9	....
20	857.3	108.0	622	749.3	54.0	20	508.0	159	210	248	93	461.8	462.3		13	462.0	533.4	....
24	1041.4	139.7	749	901.7	66.7	20	610.0	203	267	292	102	513.1	514.4		13	512.8	584.2	....
												616.0	616.0		13	614.4	692.2	....

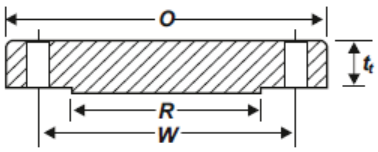
NOTE:

(1) Height of RF 7mm

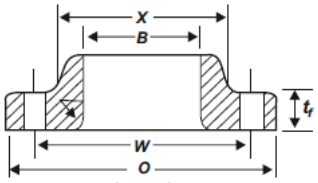
DIMENSIONS OF CLASS 1500 FLANGES



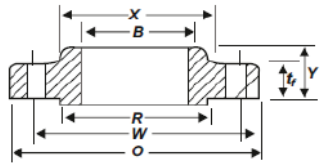
Threaded (NPS ½"to 2½" Only)



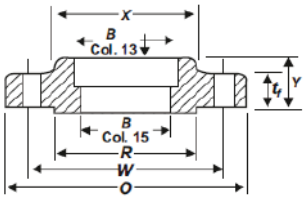
Blind



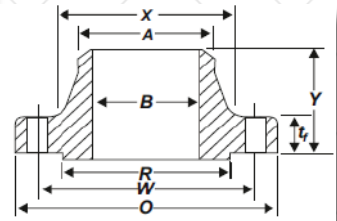
Lapped



Slip-On Welding (NPS ½" to 2½" Only)



Socket Welding (½" to 2½" Only)



Welding Neck

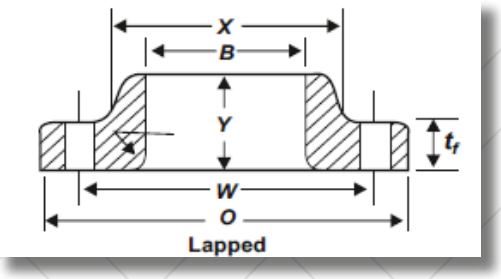
DIMENSIONS OF CLASS 1500 FLANGES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
			Drilling					Length Thru Hub				Bore						
Nominal Pipe Size NPS	Outside Diameter of Flange, O	Thickness of Flange Min., t1	Diameter of Bolt Circle W	Diameter of Bolt Holes	Number of Bolts	Diameter of Hub, X	Hub Diameter Beginning of Chamfer Welding Neck, A	Threaded / Slip-On/ Socket Welding, Y	Lapped, Y	Welding Meck, Y	Threaded / Length Threaded Min., T	Slip-On / Socket Welding Min., B	Lapped Min., B	Welding Neck/ Socket Welding, B [Note (2)	Corner Radius of Bore of Lapped Flange and Pipe, r	Counter-bore Threaded FLANGE Min., Q	Depth of Socket, D	Diameter of RF R
½	120.7	22.3	82.6	22.3	4	38	21.3	32	32	60	23	22.2	22.9		3	23.6	10	34.9
¾	130.0	25.4	88.9	22.3	4	44	26.7	35	35	70	26	27.7	28.2		3	29.0	11	42.9
1	149.4	28.6	101.6	25.4	4	52	33.4	41	41	73	29	34.5	34.9		3	35.8	13	50.8
1 ¼	158.8	28.6	111.1	25.4	4	64	42.2	41	41	73	31	43.2	43.7		5	44.4	14	63.5
2	177.8	31.8	123.8	28.6	4	70	48.3	44	44	83	32	49.5	50.0		8	50.6	16	92.1
2 ½	215.9	38.1	165.1	25.4	8	105	60.3	57	57	102	39	61.9	62.5		8	63.5	17	104.8
3	244.3	41.3	190.5	28.6	8	124	73.0	64	64	105	48	74.6	75.4		10	76.2	19	127.0
3 ½	266.7	47.7	203.2	31.8	8	133	88.9	....	73	117	....	....	91.4		10	....	....	139.7
4	311.2	54.0	241.3	35.0	8	162	114.3	....	90	124	....	....	116.8		11	....	....	157.2
5	374.7	73.1	292.1	41.3	8	197	141.3	....	105	156	....	....	144.4	To be Specified by Purchaser	11	....	....	185.7
6	393.7	82.6	317.5	38.1	12	229	168.3	....	119	171	....	....	171.4		13	....	....	215.9
8	482.6	92.1	393.7	44.5	12	292	219.1	....	143	213	....	....	222.2		13	....	....	269.9
10	584.2	108.0	482.6	50.8	12	368	273.0	....	178	254	....	....	277.4		13	....	....	323.8
12	673.1	123.9	571.5	54.0	16	451	323.8	....	219	283	....	....	328.2		13	....	....	381.0
14	749.3	133.4	635.0	60.4	16	495	355.6	....	241	298	....	....	360.2		13	....	....	412.8
16	825.5	146.1	704.8	66.7	16	552	406.4	....	260	311	....	....	411.2		13	....	....	469.9
18	914.4	162.0	774.7	73.0	16	597	457.0	....	276	327	....	....	462.3		13	....	....	533.4
20	984.3	177.8	831.8	79.4	16	641	508.0	....	292	356	....	....	514.4		13	....	....	584.2
24	1168.4	203.2	990.6	92.1	16	762	610.0	....	330	406	...	....	616.0		13	....	....	692.2

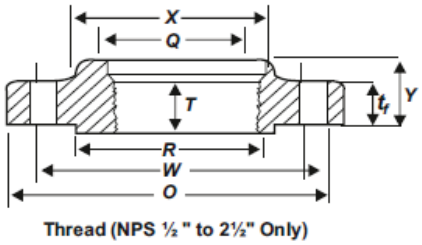
NOTE:

(1) Height of RF 7mm

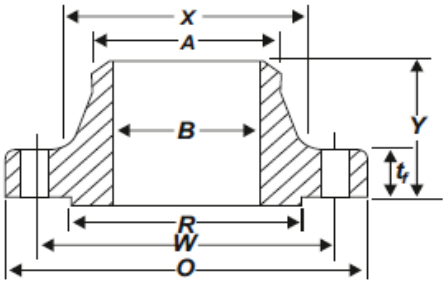
DIMENSIONS OF CLASS 2500 FLANGES



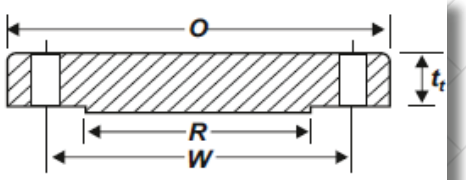
Lapped



Thread (NPS ½ " to 2½" Only)



Welding Neck



Blind

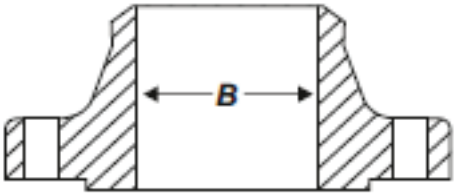
DIMENSIONS OF CLASS 2500 FLANGES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
				Drilling				Length Thru Hub				Bore				
Nominal Pipe Size NPS	Outside Diameter of Flange, 0	Thickness of Flange Min., t1	Diameter of Hub, X	Diameter of Bolt Circle W	Diameter of Bolt Holes, in.	Number of Bolts	Hub Diameter Beginning of Chamfer Welding Neck, A	Threaded/ Slip-On/ Y	Lapped, Y	Welding Meck, Y	Threaded / Length Threaded Min., T	Lapped, Min., B	Welding Neck/ Socket Welding, B	Corner Radius of Bore of Lapped Flange and Pipe, r	Counter-bore Threaded FLANGE Min., Q	Diameter of RF R
½	133.4	30.2	48	88.9	4	4	21.3	40	40	73	29	22.9		3	23.6	34.9
¾	139.7	31.8	51	95.2	4	4	26.7	43	43	79	32	28.2		3	29.0	42.9
1	158.8	35.0	57	108.0	4	4	33.4	48	48	89	35	34.9		3	35.8	50.8
1 ¼	184.2	38.1	73	130.2	4	4	42.2	52	52	95	39	43.7		5	44.4	63.5
1½	203.2	44.5	79	146.0	4	4	48.3	60	60	111	45	50.0		6	50.6	73.0
2	235.0	50.9	95	171.4	8	8	60.3	70	70	127	51	62.5		8	63.5	92.1
2½	266.7	57.2	114	196.8	8	8	73.0	79	79	143	58	75.4	To be Specified by Purchaser	8	76.2	104.8
3	304.8	66.7	133	228.6	8	8	88.9	....	92	168	....	91.4		10	....	127.0
4	355.6	76.2	165	273.0	8	8	114.3	....	108	190	....	116.8		11	....	139.7
5	419.1	92.1	203	323.8	8	8	141.3	....	130	229	....	144.4		11	....	157.2
6	482.6	108.0	235	368.3	8	8	168.3	....	152	273	....	171.4		13	....	185.7
8	552.5	127.0	305	438.2	12	12	219.1	....	178	318	....	222.2		13	....	215.9
10	673.1	165.1	375	539.8	12	12	273.0	....	229	419	....	277.4		13	....	269.9
12	762.0	184.2	441	619.1	12.	12	323.8	....	254	464	....	328.2		13	....	323.8

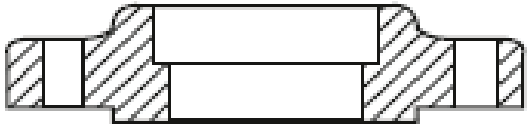
NOTE:

(1) Height of RF 7mm

BORE (W.R.T) SCHEDULES



Welding Neck



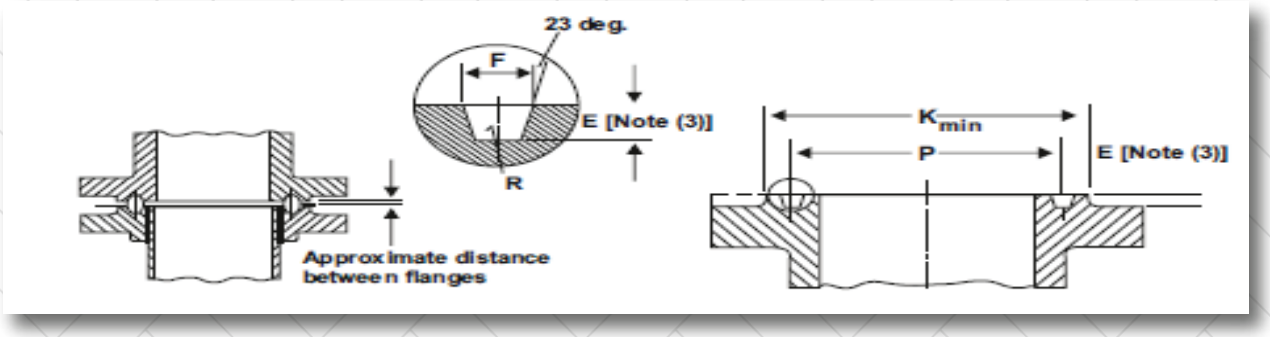
Socket Welding (½" to 3" Only)

BORE (w.r.t) SCHEDULES

N.P	PIPE DIA	5S	10/10S	20	30	STD	40/40S	XS	60	80/80S	100	120	140	160	XXS
½	21.3	18.0	17.0	N.A.	16.4	15.7	15.7	13.8	N.A.	13.8	N.A.	N.A.	N.A.	11.7	6.3
¾	26.7	23.4	22.4	N.A.	21.8	20.9	20.9	18.8	N.A.	18.8	N.A.	N.A.	N.A.	15.5	11.0
1	33.4	30.1	27.8	N.A.	27.6	26.6	26.6	24.3	N.A.	24.3	N.A.	N.A.	N.A.	20.7	15.2
1¼	42.2	38.9	36.6	N.A.	36.2	35.0	35.0	32.5	N.A.	32.5	N.A.	N.A.	N.A.	29.5	22.8
1½	48.3	45.0	42.7	N.A.	41.9	40.9	40.9	38.1	N.A.	38.1	N.A.	N.A.	N.A.	34.0	28
2	60.3	57.0	54.7	N.A.	53.9	52.4	52.4	49.2	N.A.	49.2	N.A.	N.A.	N.A.	42.8	38.1
2½	73.0	68.7	66.9	N.A.	63.4	62.6	62.6	58.9	N.A.	58.9	N.A.	N.A.	N.A.	53.9	44.9
3	88.9	84.6	82.8	N.A.	79.3	77.9	77.9	73.6	N.A.	73.6	N.A.	N.A.	N.A.	66.6	58.4
3 ½	101.6	97.3	95.5	N.A.	92.0	90.1	90.1	85.4	N.A.	85.4	N.A.	N.A.	N.A.	N.A.	N.A.
4	114.3	110.0	108.2	N.A.	104.7	102.2	102.2	97.1	N.A	97.1	N.A.	92.0	N.A.	87.3	80.0
5	141.3	135.7	134.5	N.A.	N.A.	128.2	128.2	122.2	N.A.	122.2	N.A.	115.9	N.A.	109.5	103.2
6	168.3	162.7	161.5	N.A.	N.A.	154.0	154.0	146.3	N.A.	146.3	N.A.	139.7	N.A.	131.7	124.4
8	219.1	213.5	211.5	206.4	205.0	202.7	202.7	193.7	198.4	193.7	188.9	182.5	177.8	173.0	174.6
10	273.0	266.2	264.6	260.3	257.4	254.4	254.4	247.6	247.6	242.8/247.6	236.4	230.1	222.2	215.8	222.2
12	323.8	315.8	314.6	311.1	307.0	304.7	303.1/303.7	298.4	295.2	288.8/298.4	280.9	273	266.6	257.1	273
14	355.6	347.6	342.9/346.0	339.7	336.5	336.5	333.3	330.2	347.6	317.5	307.9	300.0	292.1	284.1	N.A.
16	406.4	398.0	393.7/396.8	390.5	387.3	387.3	381	381	398.0	363.5	354.0	344.4	333.3	325.4	N.A.
18	457.2	448.6	443.3/447.6	441.1	434.7	437.9	428.4	431.6	448.6	409.3	398.2	387.1	377.6	366.5	N.A.
20	508.0	498.4	495.3/496.9	488.9	482.6	488.9	477.8	482.6	498.4	455.6	442.9	431.8	419.1	407.9	N.A.
22	559.0	549.4	546.3/547.7	539.9	533.6	539.9	N.A.	533.6	549.4	501.8	489.1	476.4	463.7	451.0	N.A.
24	610	598.9	597.3	590.9	581.4	590.9	575.0	584.6	598.9	548.0	532.2	517.9	505.2	490.9	N.A.

DIMENSION OF RING-JOINT FACINGS

(ALL PRESSURE RATING CLASSES) AS PER ASME B16.5 - 2003



DIMENSION OF RING-JOINT FACINGS (ALL PRESSURE RATING CLASSES) AS PER ASME B16.5 - 2003

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Nominal Size								Groove Dimensions				Diameter pf Baised Portion, K				
Class 150 NPS	Class 300 NPS	Class 400 NPS	Class 600 NPS	Class 900 NPS	Class 1500 NPS	Class 2500 NPS	Grove Number	Grove Number Pitch Diameter, P	Depth, E	Width, F	Radius at Bottom, R	Class 150	Class 300 400 600	Class 900	Class 1500	Class 2500
....	½	....	½	....	....	....	R11	34.14	5.54	7.14	0.8	....	51.0	....	....	....
....	...	....	...	....	½	....	12	39.67	6.35	8.74	0.8	....	....	....	60.5	....
....	¾	....	¾	....	...	½	13	42.88	6.35	8.74	0.8	....	63.5	....	....	65.0
....	....	....	....	....	¾	...	14	44.45	6.35	8.74	0.8	....	....	....	66.5	....
1	....	....	....	....	....	....	15	47.63	6.35	8.74	0.8	63.5	....	....	....	....
....	1	....	1	....	1	¾	16	50.80	6.35	8.74	0.8	....	70.0	....	71.5	73.0
1¼	....	....	....	....	....	....	17	57.15	6.35	8.74	0.8	73.0	....	....	....	....
....	1¼	....	1¼	....	1¼	1	18	60.33	6.35	8.74	0.8	....	79.5	....	81.0	82.5
1½	....	....	....	....	....	....	19	65.07	6.35	8.74	0.8	82.5	....	....	....	....
....	1½	....	1½	....	1½	....	20	68.27	6.35	8.74	0.8	....	90.5	....	92.0	....
....	....	....	....	....	....	1¼	21	72.23	7.92	11.91	0.8	....	....	....	....	102
2	....	....	....	....	....	....	22	82.55	6.35	8.74	0.8	102	....	....	....	....
....	2	....	2	....	....	1½	23	82.55	7.92	11.91	0.8	....	108	....	....	114
....	....	....	....	....	2	....	24	95.25	7.92	11.91	0.8	....	....	....	124	....
2½	....	....	....	....	....	....	25	101.60	6.35	8.74	0.8	121	....	....	....	....
....	2½	....	2½	....	....	2	26	101.60	7.92	11.91	0.8	....	127	....	....	133
....	....	....	....	....	2½	....	27	107.95	7.92	11.91	0.8	....	....	....	137	....
....	....	....	....	....	....	2½	28	111.13	9.52	13.49	0.8	....	....	....	....	149
3	....	....	....	....	....	....	29	114.30	6.35	8.74	0.8	133	....	....	....	....
....	(2)	....	(2)	....	....	....	30	117.48	7.92	11.91	0.8	....	....	....	....	....
....	3 (2)	....	3 (2)	3	....	....	31	123.83	7.92	11.91	0.8	....	146	156	....	....
....	....	....	....	....	....	3	32	127.00	9.53	13.49	1.5	....	....	....	....	168
3 ½	....	....	....	....	....	....	33	131.78	6.35	8.74	0.8	154	....	....	....	....
....	3 ½	....	3 ½	....	....	....	34	131.78	7.92	11.91	0.8	....	159	....	....	....
....	....	....	....	....	3	....	35	136.53	7.92	11.91	0.8	....	....	....	168	....
4	....	....	....	....	....	....	36	49.23	6.35	8.74	0.8	171	....	....	....	....
....	4	4	4	4	....	....	37	149.23	7.92	11.91	0.8	....	175	181	....	....
....	....	....	....	....	....	4	38	157.18	11.13	16.66	1.5	....	....	....	....	203
....	....	....	....	....	4	....	39	161.93	7.92	11.91	0.8	....	....	....	194	....
5	....	....	....	....	....	....	40	171.45	6.35	8.74	0.8	194	....	....	....	....
....	5	5	5	5	....	....	41	180.98	7.92	11.91	0.8	....	210	216	....	....
....	....	....	....	....	....	5	42	190.50	12.70	19.84	1.5	....	....	....	....	241
6	....	....	....	....	....	....	43	193.69	6.35	8.74	0.8	219	....	....	....	....
....	....	....	....	....	5	....	44	193.68	7.92	11.91	0.8	....	....	....	229	....
....	6	6	6	6	....	....	45	211.12	7.92	11.91	0.8	....	241	241	....	....
....	....	....	....	....	6	....	46	211.14	9.53	13.49	1.5	....	....	....	248	....
....	....	....	....	....	....	6	47	228.60	12.70	19.84	1.5	....	....	....	....	279
8	....	....	....	....	....	....	48	247.65	6.35	8.74	0.8	273	....	....	....	....
....	8	8	8	8	....	....	49	269.88	7.92	11.91	0.8	....	302	308	....	....

NOTE :

(1) Use class 600 for size NPS NPS ½ TO NPS 3½ FOR CLASS 400

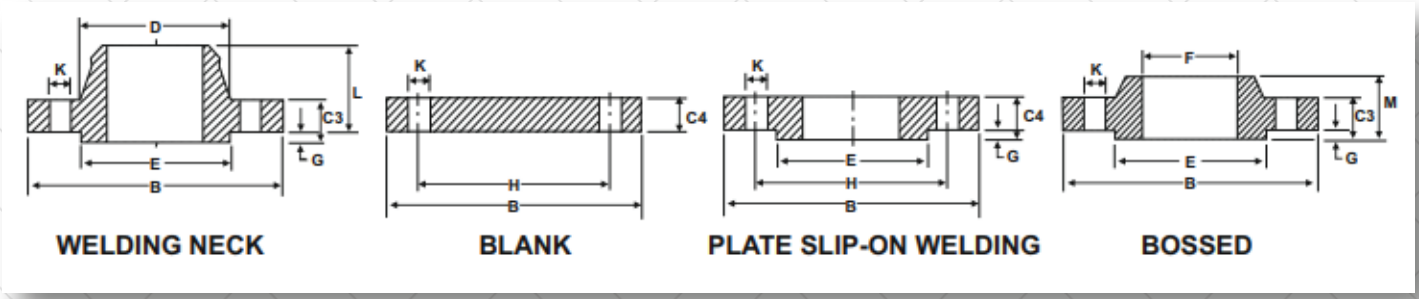
(2) Use class 1500 for size NPS ½ TO 2½ for class 900

(3) Height of raised portion is equeal to the depth of groove dimension E, but is not subjected to the tolerance for E, Former full-face contour maybe used.

(4) For ring joints with lapped flanges in Classes 300 to 600, ring and groove number R30 is used instead of R31

TOLERANCES : E (depth) +0.4, -0.0F (width) +0.2p (pitch diameter) ±0.13 R (radius at bottom) R£ 2+0.8, -0.0 R>2±0.8 23 deg (angle) ±½ deg.

BS 4504 1993 PN 6,



PN 6

NOMINAL PIPE SIZE		OUTSIDE FLANGE DIAMETER OUTSIDE OFPIPE DIAMETER		FLANGE THICKNESS BOSSED PLATE & W/NECK		BLIND	HUB DIAMETER W.NECK	RAISED FACE DIAMETER	SLIP ON BORE	RAISED FACE THICKNESS	DRILLING DATA BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	LENGTH THROUGH HUB OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED)	NOMINAL PIPE SIZE	
mm.	(in)	A	B	C1	C3	C4	D	E	F	G	H	J	K	L	M	mm.	(in)
15	(½)	21.3	80	12	12	12	30	40	22.3	2	55	4	11	30	20	15	(½)
20	(¾)	26.7	90	14	14	14	38	50	27.6	2	65	4	11	32	24	20	(¾)
25	(1)	33.4	100	14	14	14	42	60	34.5	2	75	4	11	35	24	25	(1)
32	(1 ¼)	42.2	120	16	14	14	55	70	43.1	2	90	4	14	35	26	32	(1 ¼)
40	(1 ½)	48.3	130	16	14	14	62	80	49.5	3	100	4	14	38	26	40	(1 ½)
50	(2)	60.3	140	16	14	14	74	90	61.9	3	110	4	14	38	28	50	(2)
65	(2 ½)	73	160	16	14	14	88	110	74.6	3	130	4	14	38	32	65	(2 ½)
80	(3)	88.9	190	18	16	16	102	128	90.8	3	150	4	18	42	34	80	(3)
100	(4)	114.3	210	18	16	16	130	148	116.0	3	170	4	18	45	40	100	(4)
125	(5)	141.3	240	20	18	18	155	178	143.7	3	200	8	18	48	44	125	(5)
150	(6)	168.3	265	20	18	18	184	202	170.8	3	225	8	18	48	44	150	(6)
200	(8)	219.1	320	22	20	20	236	258	221.4	3	280	8	18	55	44	200	(8)
250	(10)	273.1	375	24	22	22	290	312	276.3	3	335	12	18	60	44	250	(10)
300	(12)	323.8	440	24	22	22	342	365	327.1	4	395	12	22	62	44	300	(12)
350	(14)	355.6	490	26	22	22	385	415	359.1	4	445	12	22	62	-	350	(14)
400	(16)	406.4	540	28	22	22	438	465	410.4	4	495	16	22	65	-	400	(16)
450	(18)	457	595	30	24	24	492	520	461.7	4	550	16	22	65	-	450	(18)
500	(20)	508	645	30	24	24	538	570	513.0	4	600	20	22	68	-	500	(20)
600	(24)	610	755	32	24	34	640	670	615.9	5	705	20	26	70	-	600	(24)

BS 4504 1993 PN 10,16

PN 10

NOMINAL PIPE SIZE		OUTSIDE FLANGE DIAMETER	OUTSIDE OFPIPE DIAMETER	FLANGE THICKNESS PLATE	BOSSED & W/NECK	BLIND	HUB DIAMETER W.NECK	RAISED FACE DIAMETER	SLIP ON BORE	RAISED FACE THICKNESS	DRILLING DATA BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	LENGTH THROUGH HUB OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED)	NOMINAL PIPE SIZE	
mm.	(in)	A	B	C1	C3	C4	E	F	G	H	J	K	L	M	N	mm.	(in)
				USE PN 16 FOR SIZES BELOW 200mm													
200	(8)	219.1	340	24	24	24	246	268	221.4	3	295	8	22	62	44	200	(8)
250	(10)	273.1	395	26	26	26	298	320	276.3	3	350	12	22	68	46	250	(10)
300	(12)	323.8	445	26	26	26	350	370	327.1	4	400	12	22	68	46	300	(12)
350	(14)	355.6	505	28	26	26	400	430	359.1	4	460	16	22	68	53	350	(14)
400	(16)	406.4	565	32	26	26	456	482	410.4	4	515	16	26	72	57	400	(16)
450	(18)	457	615	36	28	28	502	532	461.7	4	565	20	26	72	63	450	(18)
500	(20)	508	670	38	28	28	559	585	513.0	4	620	20	26	75	67	500	(20)
600	(24)	610	780	42	28	34	658	685	615.9	5	725	20	30	80	75	600	(24)

NOTE

1) Dimensions are in mm
2) Larger sizes available on request
3) Available with or without raised face
4) Weld neck bore is equal to pipe

PN 16

NOMINAL PIPE SIZE		OUTSIDE FLANGE DIAMETER	OUTSIDE OFPIPE DIAMETER	FLANGE THICKNESS PLATE	BOSSED & W/NECK	BLIND	HUB DIAMETER W.NECK	RAISED FACE DIAMETER	SLIP ON BORE	RAISED FACE THICKNESS	DRILLING DATA BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	LENGTH THROUGH HUB OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED)	NOMINAL PIPE SIZE	
mm.	(in)	A	B	C1	C3	C4	D	E	F	G	H	J	K	L	M	mm.	(in)
15	(½)	21.3	95	14	14	14	35	45	22.3	2	65	4	14	35	20	15	(½)
20	(¾)	26.7	105	16	16	16	45	58	27.6	2	75	4	14	38	24	20	(¾)
25	(1)	33.4	115	16	16	16	52	68	34.5	2	85	4	14	38	24	25	(1)
32	(1 ¼)	42.2	140	18	16	16	60	78	43.1	2	100	4	18	40	26	32	(1 ¼)
40	(1 ½)	48.3	150	18	16	16	70	88	49.5	3	110	4	18	42	26	40	(1 ½)
50	(2)	60.3	165	20	18	18	84	102	81.9	3	125	4	18	45	28	50	(2)
65	(2 ½)	73	185	20	18	18	104	122	74.6	3	145	4	18	45	32	65	(2 ½)
80	(3)	88.9	200	20	20	20	118	138	90.8	3	160	8	18	50	34	80	(3)
100	(4)	114.3	220	22	20	20	140	158	116.0	3	180	8	18	52	40	100	(4)
125	(5)	141.3	250	22	22	22	168	188	143.7	3	210	8	18	55	44	125	(5)
150	(6)	168.3	285	24	22	22	195	212	170.6	3	240	8	22	55	44	150	(6)
200	(8)	219.1	340	26	24	24	246	268	221.4	3	295	12	22	62	44	200	(8)
250	(10)	273.1	405	29	26	26	298	320	276.3	3	355	12	26	70	46	250	(10)
300	(12)	323.8	460	32	28	28	350	378	327.1	4	410	12	26	78	46	300	(12)
350	(14)	355.6	520	35	30	30	400	438	359.1	4	470	16	26	82	57	350	(14)
400	(16)	406.4	580	38	32	32	456	490	410.4	4	525	16	30	85	63	400	(16)
450	(18)	457	640	42	34	34	502	550	461.7	4	585	20	30	87	68	450	(18)
500	(20)	508	715	46	34	36	559	610	513.0	4	650	20	33	90	73	500	(20)
600	(24)	610	840	52	36	44	658	725	615.9	5	770	20	36	95	83	600	(24)

BS 4504 1993 PN 10,16

PN 25

NOMINAL PIPE SIZE		OUTSIDE FLANGE DIAMETER	OUTSIDE OFPIPE DIAMETER	FLANGE THICKNESS PLATE	BOSSED & W/NECK	BLIND	HUB DIAMETER W.NECK	RAISED FACE DIAMETER	SLIP ON BORE	RAISED FACE THICKNESS	DRILLING DATA BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	LENGTH THROUGH HUB OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED)	NOMINAL PIPE SIZE	
mm.	(in)	A	B	C1	C3	C4	D	E	F	G	H	J	K	L	M	mm.	(in)
USE PN 40 FOR SIZES BELOW 200mm																	
200	((8)	219.1	360	32	30	30	256	278	221.4	3	310	12	26	80	52	200	(8)
250	(10)	273.1	425	35	32	32	310	335	278.3	3	370	12	30	88	60	250	(10)
300	(12)	323.8	485	38	34	34	364	395	327.1	4	430	16	30	92	67	300	(12)
350	(14)	355.6	555	42	38	38	418	450	359.1	4	490	16	33	100	72	350	(14)
400	(16)	406.4	620	46	40	40	472	505	410.4	4	550	16	36	110	78	400	(16)
450	(18)	457	670	50	42	42	520	555	481.7	4	600	20	36	110	84	450	(18)
500	(20)	508	730	56	44	45	580	615	513.0	4	660	20	36	125	90	500	(20)
600	(24)	610	845	68	46	54	684	720	615.9	5	770	20	39	125	100	600	(24)

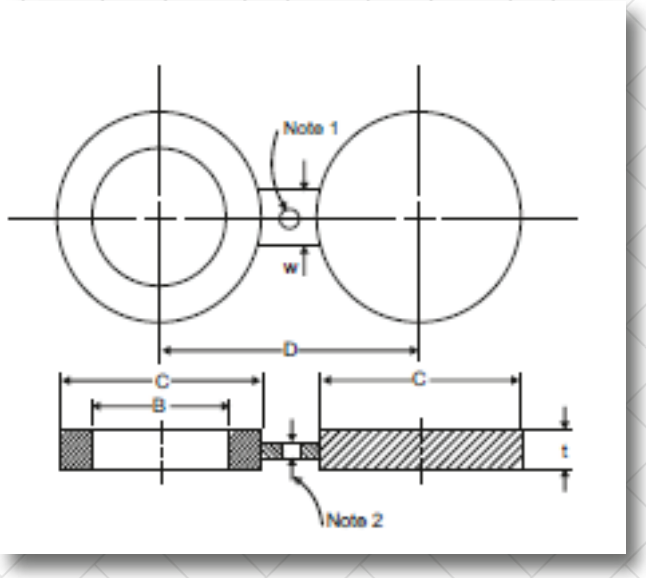
PN 40

NOMINAL PIPE SIZE		OUTSIDE FLANGE DIAMETER	OUTSIDE OFPIPE DIAMETER	FLANGE THICKNESS BOSSED PLATE	& W/NECK	BLIND	HUB DIAMETER W.NECK	RAISED FACE DIAMETER	SLIP ON BORE	RAISED FACE THICKNESS	DRILLING DATA BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	LENGTH THROUGH HUB OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED)	NOMINAL PIPE SIZE	
mm.	(in)	A	B	C1	C3	C4	D	E	F	G	H	J	K	L	M	mm.	(in)
15	(½)	21.3	95	14	16	16	35	45	22.3	2	65	4	14	38	22	15	(½)
20	(¾)	26.7	105	16	18	18	45	58	27.6	2	75	4	14	40	26	20	(¾)
25	(1)	33.4	115	16	18	18	52	68	34.5	2	85	4	14	40	28	25	(1)
32	(1 ¼)	42.2	140	18	18	18	60	78	43.1	2	100	4	18	42	30	32	(1 ¼)
40	(1 ½)	48.3	150	18	18	18	70	88	49.5	3	110	4	18	45	32	40	(1 ½)
50	(2)	60.3	165	20	20	20	84	102	81.9	3	125	4	18	48	34	50	(2)
65	(2 ½)	73	185	22	22	22	104	122	74.6	3	145	8	18	52	38	65	(2 ½)
80	(3)	88.9	200	24	24	24	118	138	90.8	3	160	8	18	58	40	80	(3)
100	(4)	114.3	235	26	24	24	145	162	118.0	3	190	8	22	65	44	100	(4)
125	(5)	141.3	270	28	26	26	170	188	143.7	3	220	8	26	68	48	125	(5)
150	(6)	168.3	300	30	28	28	200	218	170.6	3	250	8	26	75	52	150	(6)
200	(8)	219.1	375	36	34	34	260	285	221.4	3	320	12	30	88	52	200	(8)
250	(10)	273.1	450	42	38	38	312	345	276.3	3	385	12	33	105	60	250	(10)
300	(12)	323.8	515	48	42	42	380	410	327.1	4	450	16	33	115	67	300	(12)
350	(14)	355.6	580	54	46	46	424	465	359.1	4	510	16	36	125	72	350	(14)
400	(16)	406.4	660	60	50	50	478	535	410.4	4	585	16	39	135	78	400	(16)
450	(18)	457	685	66	50	54	522	560	461.7	4	610	20	39	135	84	450	(18)
500	(20)	508	755	72	52	56	576	615	513.0	4	670	20	42	140	90	500	(20)
600	(24)	610	890	84	60	70	686	735	615.9	5	795	20	48	150	100	600	(24)

NOTE

1) Dimensions are in mm
2) Larger sizes available on request
3) Available with or without raised face
4) Weld neck bore is equal to pipe

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

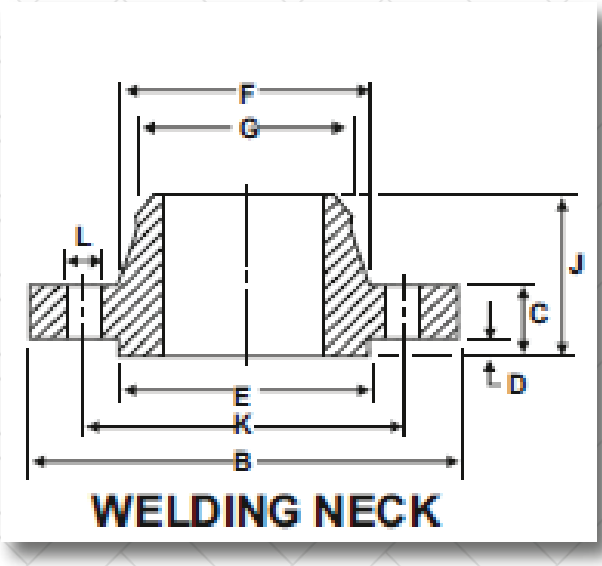


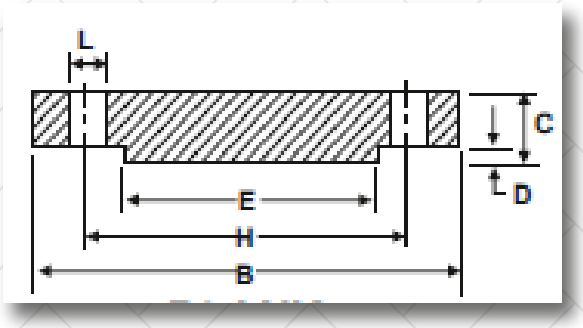
NOMINAL PIPE SIZE		CLASS 150						CLASS 300					CLASS 600					NOMINAL PIPE SIZE	
		OUTSIDE DIAMETER OF PIPE	INSIDE DIAME-TER	OUTSIDE DIAME-TER	CENTRE LINE SPACING	THICK-NESS	WEB WIDTH	INSIDE DIAME-TER	OUTSIDE DIAME-TER	CENTRE LINE SPACING	THICK-NESS	WEB WIDTH	INSIDE DIAME-TER	OUTSIDE DIAME-TER	CENTRE LINE SPACING	THICK-NESS	WEB WIDTH		
mm.	(in)	A	B	C	D	t	W	B	C	D	t	W	B	C	D	t	W	mm.	(in)
15	(½)	21.3	16	44	60	3	38	16	51	67	6	38	16	51	67	6	38	15	(½)
20	(¾)	26.7	21	54	70	3	38	21	64	83	6	38	21	64	83	6	38	20	(¾)
25	(1)	33.4	27	64	79	3	38	27	70	89	6	38	27	70	89	6	57	25	(1)
32	(1 ¼)	42.2	42	73	89	6	38	42	79	99	6	38	37	79	99	10	57	32	(1 ¼)
40	(1 ½)	48.3	48	83	99	6	38	48	92	114	6	51	43	92	114	10	67	40	(1 ½)
50	(2)	60.3	60	102	121	6	51	60	108	127	10	51	55	108	127	10	57	50	(2)
65	(2 ½)	73	73	121	140	6	51	73	127	149	10	64	67	127	149	13	67	65	(2 ½)
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	55	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.

SERIES A CLASS 150





CLASS 150

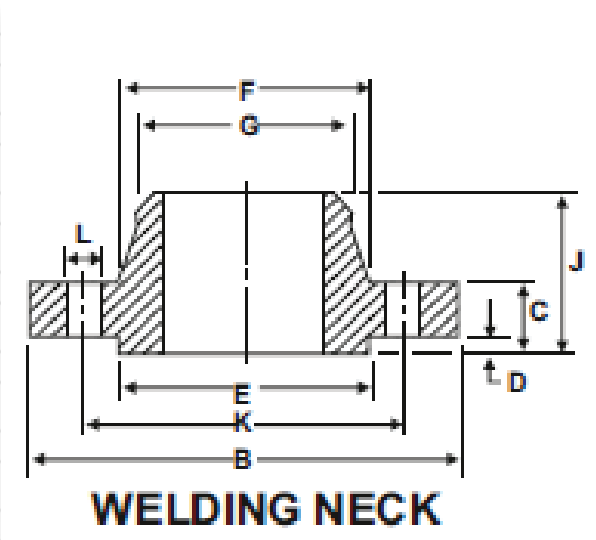
NOMINAL PIPE SIZE mm.	(in)	OUTSIDE DIAMETER OF PIPE A	FLANGE OUTSIDE DIAME-TER B	THICKNESS OF FLANGE MIN W NECK C	THICKNESS OF FLANGE MIN BLIND C1	RAISED FACE THICKN-ESS D	RAISED FACE DIAME-TER E	HUB DIAME-TER F	HUB DIA. START OF CHAMFER G	LENGTH THROUGH HUB J	BOLT CIRCLE DIAME-TER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	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	812.9	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)

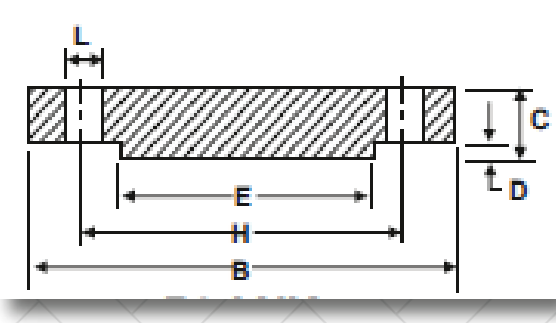
NOTES:-

1. DIMENSIONS ARE IN MM
2. BORE IS TO BE SPECIFIED BY THE CUSTOMER TO SUIT PIPE
3. RING TYPE JOINT ALSO AVAILABLE

Previously MSS SP44

ASME B16.47 - 1996 SERIES A CLASS 300





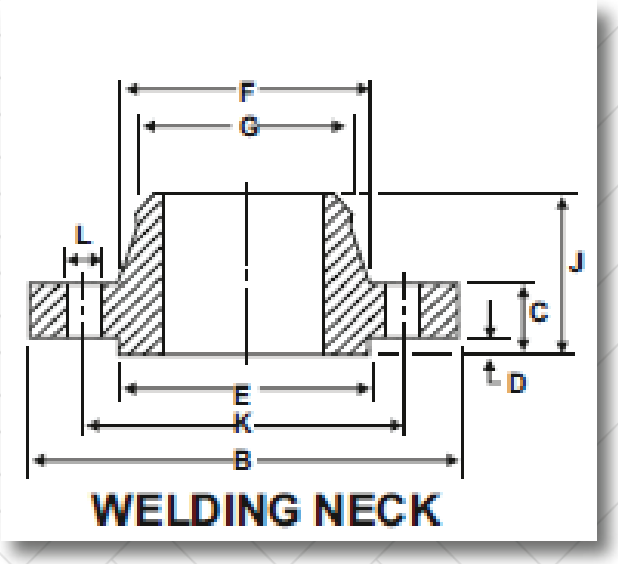
CLASS 300

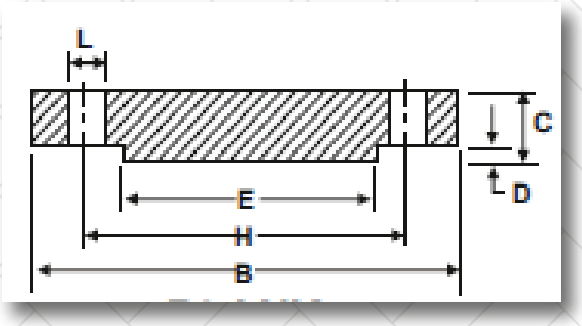
NOMINAL PIPE SIZE mm.	(in)	OUTSIDE DIAMETER OF PIPE A	FLANGE OUTSIDE DIAME-TER B	THICKNESS OF FLANGE MIN W NECK C	THICKNESS OF FLANGE MIN BLIND C1	RAISED FACE THICKN-ESS D	RAISED FACE DIAME-TER E	HUB DIAME-TER F	HUB DIA. START OF CHAMFER G	LENGTH THROUGH HUB J	BOLT CIRCLE DIAME-TER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	NOMINAL PIPE SIZE 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	1085.9	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	1136.7	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	1193.8	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	1244.6	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	1301.8	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	1358.9	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 PIPE
3. RING TYPE JOINT ALSO AVAILABLE

ASME B16.47 - 1996 SERIES A CLASS 600





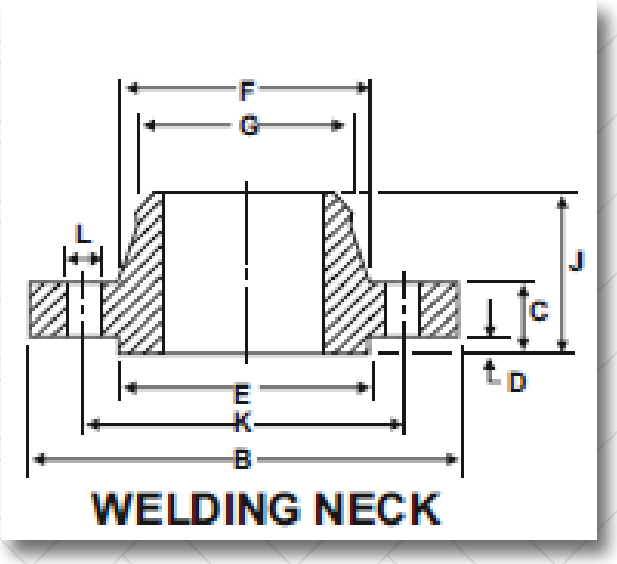
CLASS 600

NOMINAL PIPE SIZE mm.	(in)	OUTSIDE DIAMETER OF PIPE A	FLANGE OUTSIDE DIAME-TER B	THICKNESS OF FLANGE MIN W NECK C	THICKNESS OF FLANGE MIN BLIND C1	RAISED FACE THICKN-ESS D	RAISED FACE DIAME-TER E	HUB DIAME-TER F	HUB DIA. START OF CHAMFER G	LENGTH THROUGH HUB J	BOLT CIRCLE DIAME-TER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	NOMINAL PIPE SIZE mm.	(in)
650	(26)	660.4	1016.0	108.0	125.5	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	1054.1	1022.4	965.2	254.0	1162.1	60.5	28	950	(38)
1000	(40)	1016.0	1320.8	158.8	162.1	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	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	1.6	1657.4	1609.9	1524.0	388.9	1822.5	91.9	28	1500	(60)

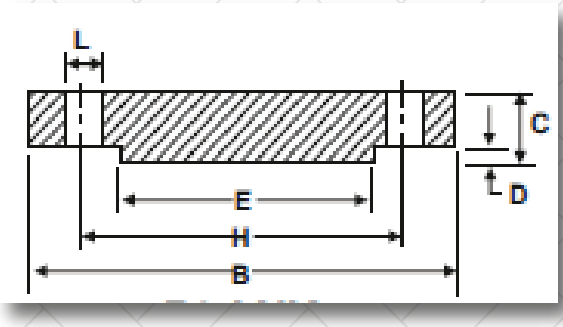
NOTES:-

1. DIMENSIONS ARE IN MM
2. BORE IS TO BE SPECIFIED BY THE CUSTOMER TO SUIT PIPE
3. RING TYPE JOINT ALSO AVAILABLE

ASME B16.47 - 1996 SERIES B CLASSES 150,300,600 & 900



WELDING NECK



CLASS 150

NOMINAL PIPE SIZE mm.	(in)	OUTSIDE DIAMETER OF PIPE A	FLANGE OUTSIDE DIAME-TER B	THICKNESS OF FLANGE MIN W NECK C	THICKNESS OF FLANGE MIN BLIND C1	RAISED FACE THICKN-ESS D	RAISED FACE DIAME-TER E	HUB DIAME-TER F	HUB DIA. START OF CHAMFER G	LENGTH THROUGH HUB J	BOLT CIRCLE DIAME-TER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	NOMINAL PIPE SIZE 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 PIPE
3. RING TYPE JOINT ALSO AVAILABLE

CLASS 300

NOMINAL PIPE SIZE mm.	(in)	OUTSIDE DIAMETER OF PIPE A	FLANGE OUTSIDE DIAME-TER B	THICKNESS OF FLANGE MIN W NECK C	THICKNESS OF FLANGE MIN BLIND C1	RAISED FACE THICKN-ESS D	RAISED FACE DIAME-TER E	HUB DIAME-TER F	HUB DIA. START OF CHAMFER G	LENGTH THROUGH HUB J	BOLT CIRCLE DIAME-TER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	NOMINAL PIPE SIZE 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	128.5	130.0	1.6	1270.0	1228.9	1176.3	222.3	1365.3	50.8	36	1150	(46)
1200	(48)	1219.2	1511.3	128.5	134.9	1.6	1327.2	1277.9	1227.1	223.8	1416.1	50.8	40	1200	(48)
1250	(50)	1270.0	1562.1	138.2	139.7	1.6	1378.0	1330.5	1277.9	235.0	1466.9	50.8	44	1250	(50)
1300	(52)	1320.8	1612.9	142.7	144.3	1.6	1428.8	1382.8	1328.7	242.8	1517.7	50.8	48	1300	(52)
1350	(54)	1371.6	1673.4	136.7	149.4	1.6	1479.6	1435.1	1379.5	239.8	1577.8	50.8	48	1350	(54)
1400	(56)	1422.4	1765.3	153.9	157.0	1.6	1536.7	1493.8	1430.3	268.2	1651.0	60.5	36	1400	(56)
1450	(58)	1473.2	1827.3	153.9	162.1	1.6	1593.9	1547.9	1481.1	274.6	1713.0	60.5	40	1450	(58)
1500	(60)	1524.0	1878.1	150.9	166.6	1.6	1651.0	1598.7	1531.9	271.5	1763.8	60.5	40	1500	(60)

CLASS 600

NOMINAL PIPE SIZE mm.	(in)	OUTSIDE DIAMETER OF PIPE A	FLANGE OUTSIDE DIAME-TER B	THICKNESS OF FLANGE MIN W NECK C	THICKNESS OF FLANGE MIN BLIND C1	RAISED FACE THICKN-ESS D	RAISED FACE DIAME-TER E	HUB DIAME-TER F	HUB DIA. START OF CHAMFER G	LENGTH THROUGH HUB J	DRILLING DATA BOLT CIRCLE DIAME-TER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	NOMINAL PIPE SIZE mm.	(in)
650	(26)	660.4	889.0	111.3	111.3	6.4	726.9	698.5	660.4	180.8	806.5	44.5	28	650	(26)
700	(28)	711.2	952.5	115.8	115.8	6.4	784.4	752.3	711.2	190.5	863.6	47.8	28	700	(28)
750	(30)	762.0	1022.4	125.5	127.0	6.4	841.2	806.5	762.0	204.7	927.1	50.8	28	750	(30)
800	(32)	812.8	1085.9	130.0	134.9	6.4	895.4	860.6	812.8	215.9	984.3	53.8	28	800	(32)
850	(34)	863.6	1162.1	141.2	144.3	6.4	952.5	914.4	863.6	233.4	1054.1	60.5	24	850	(34)
900	(36)	914.4	1212.9	146.1	150.9	6.4	1009.7	968.2	914.4	242.8	1104.9	60.5	28	900	(36)

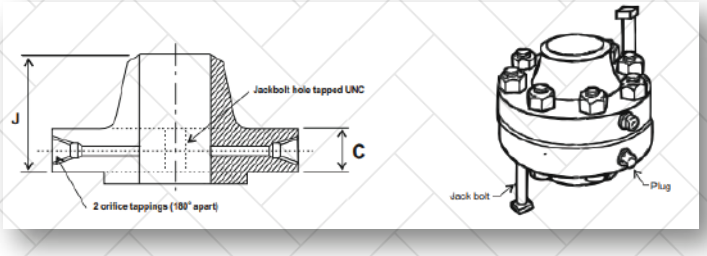
CLASS 900

NOMINAL PIPE SIZE mm.	(in)	OUTSIDE DIAMETER OF PIPE A	FLANGE OUTSIDE DIAME-TER B	THICKNESS OF FLANGE MIN W NECK C	THICKNESS OF FLANGE MIN BLIND C1	RAISED FACE THICKN-ESS D	RAISED FACE DIAME-TER E	HUB DIAME-TER F	HUB DIA. START OF CHAMFER G	LENGTH THROUGH HUB J	DRILLING DATA BOLT CIRCLE DIAME-TER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	NOMINAL PIPE SIZE mm.	(in)
650	(26)	660.4	889.0	111.3	111.3	6.4	726.9	698.5	660.4	180.8	806.5	44.5	28	650	(26)
700	(28)	711.2	952.5	115.8	115.8	6.4	784.4	752.3	711.2	190.5	863.6	47.8	28	700	(28)
750	(30)	762.0	1022.4	125.5	127.0	6.4	841.2	806.5	762.0	204.7	927.1	50.8	28	750	(30)
800	(32)	812.8	1085.9	130.0	134.9	6.4	895.4	860.6	812.8	215.9	984.3	53.8	28	800	(32)
850	(34)	863.6	1162.1	141.2	144.3	6.4	952.5	914.4	863.6	233.4	1054.1	60.5	24	850	(34)
900	(36)	914.4	1212.9	146.1	150.9	6.4	1009.7	968.2	914.4	242.8	1104.9	60.5	28	900	(36)

NOTES:-

1. DIMENSIONS ARE IN MM
2. BORE IS TO BE SPECIFIED BY THE CUSTOMER TO SUIT PIPE
3. RING TYPE JOINT ALSO AVAILABLE

ANSI B1.36 - 1988 ORIFICE FLANGES



Tapping Bore size :
100nb & over: 12.7 mm
80nb 9.5mm, 65nb & less: 6.3mm
Orifice flanges are supplied in sets comprising:
2 flanges, jack bolts and 1/2" npt hex plugs in tapped hole.
Dimensions not shown here are shown in ANSI B16.5a

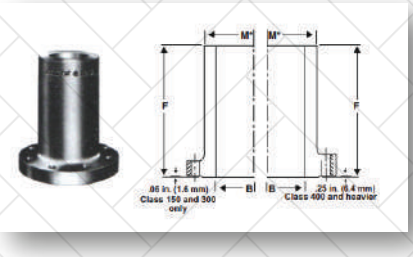
	CLASS 300		CLASS 600		CLASS 900		CLASS 1500		
NOMINAL PIPE SIZE	THICKNESS	LENGTH THRU NECK	THICKNESS	LENGTH THRU NECK	THICKNESS	LENGTH THRU NECK	THICKNESS	LENGTH THRU NECK	NOMINAL PIPE SIZE
mm. (in)	C	J	C	J	C	J	C	J	mm. (in)
25 (1)	38.1	82.6					38.1	82.6	25 (1)
32 (1 ¼)									32 (1 ¼)
40 (1 ½)	38.1	85.7	Use ANSI 300 in this range		Use ANSI 1500 in this range		38.1	88.9	40 (1 ½)
50 (2)	38.1	85.7					38.1	101.6	50 (1 ½)
65 (2 ½)	38.1	88.9					41.1	104.6	65 (2 ½)
80 (3)	38.1	88.9			38.1	101.6	47.8	117.3	80 (3)
100 (4)	38.1	92.1	38.1	101.6	44.5	114.3	53.8	124.0	100 (4)
125 (5)									125 (5)
150 (6)	38.1	100.0	47.7	117.3	55.6	139.7	82.6	171.5	150 (6)
200 (8)	41.3	111.1	55.6	133.4	63.5	162.1	91.9	212.9	200 (8)
250 (10)	47.7	117.5	63.6	152.4	69.9	184.2	108.0	254.0	250 (10)
300 (12)	50.9	130.2	66.7	155.4	79.2	200.2	124.0	282.4	300 (12)
350 (14)	54.0	142.9	69.9	165.1	85.9	212.9	133.4	298.5	350 (14)
400 (16)	57.2	146.1	76.3	177.8	88.9	215.9	146.1	311.2	400 (16)
450 (18)	60.4	158.8	82.6	184.2	101.6	228.6	162.1	327.2	450 (18)
500 (20)	63.6	161.9	89.0	190.5	108.0	247.7	177.8	355.6	500 (20)
600 (24)	69.9	168.3	101.7	203.2	139.7	292.1	203.2	406.4	600 (24)

Also available in larger sizes and ring joint facing

NOTE:

1) Where raised face is 1.6mm then this dimension is included in c, h & j
2) Where raised face is 6.4mm then it is additional to g, h & j
3) Bore is to be specified by the purchaser
4) Jack bolt holes can be supplied with tapped holes or milled nut slot
5) Slip on flanges also available

LONG WELDING NECKS



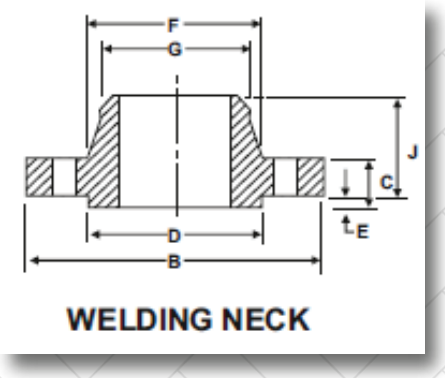
NOMINAL SIZE AND BORE B	LENGTH THRU HUB		HUB DIAMETER CLASS 150 PN 20 *M	WEIGHTS						
	CLASS 150 THRU 600	CLASS 900 THRU 2500		CLASS 150 PN 20	CLASS 300 PN 50	CLASS 400 PN 64	CLASS 600 PN 100	CLASS 900 PN 160	CLASS 1500 PN 250	CLASS 2500 PN 400
	PN 20 THRU 100 F	PN 160 THRU 400 F								
1.00 25.4	9 229	9 229	2.00 50.8	8 3.6	10 4.5	11 5	11 5	15 7	15 7	20 9
1.25 31.8	9 229	9 229	2.38 60.3	10 4.5	14 6.5	14 6.5	14 6.5	18 8	18 8	30 13.5
1.50 38.1	9 229	9 229	2.62 66.7	12 5.5	17 7.7	17 7.7	17 7.7	23 10.5	23 10.5	38 17
2.00 50.8	9 229	9 229	3.25 82.6	17 7.7	19 9	21 9.5	21 9.5	44 20	44 20	55 25
2.50 63.5	9 229	12 305	3.75 95.3	22 10	28 13	29 13	29 13	72 32.5	72 32.5	85 38.5
3.00 76.2	9 229	12 305	4.25 108.0	26 12	36 16.5	38 17.5	38 17.5	65 29.5	84 38	125 57
3.50 88.9	9 229	- -	4.88 123.8	32 14.5	45 20.5	48 21.5	48 22	- -	- -	- -
4.00 101.6	12 305	12 305	5.50 139.7	47 21.5	54 24.5	67 30	80 36.5	98 44	118 53	185 84
5.00 127.0	12 305	12 305	6.50 165.1	58 26.5	86 39	90 41	128 58	143 65	195 88	300 135
6.00 152.4	12 305	12 305	7.75 196.9	77 35	108 49	115 52	158 72	199 90	235 106	450 203
8.00 203.2	12 305	12 305	9.75 247.7	103 47	150 68	160 72	215 98	310 140	366 165	600 270
10.00 254.0	12 305	12 305	12.00 304.8	144 66	218 99	230 104	343 156	356 161	594 268	1045 471
12.00 304.8	12 305	12 305	14.38 365.1	207 94	289 131	301 136	409 186	541 244	872 393	1420 639
14.00 355.6	12 305	12 305	16.00 406.4	212 96	342 155	357 161	432 196	568 256	1030 464	- -
16.00 406.4	12 305	12 305	18.00 457.2	250 114	426 193	443 199	564 256	670 302	1335 601	- -
18.00 457.2	12 305	12 305	20.00 508.0	274 125	493 224	513 231	654 297	949 427	1750 788	- -
20.00 508.0	12 305	12 305	22.00 558.8	314 143	575 261	602 271	840 381	1040 468	2130 959	- -
24.00 609.6	12 305	12 305	26.25 666.8	426 194	823 374	856 385	1100 499	1775 799	3180 1431	- -

SPECIFICATIONS :

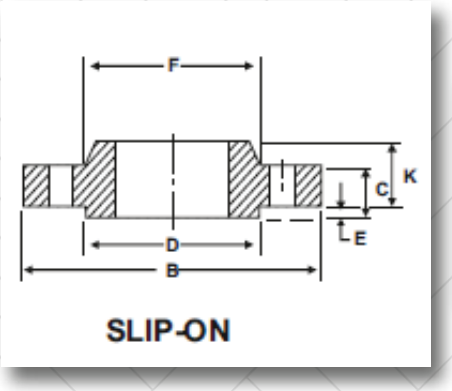
Long Welding Necks conform to ASTM specification A-105. Except as shown above, Long Welding Necks conform dimensionally to ASME / ANSI Standard B16.5

*Dimension "M" is given here for Class 150 Long Welding Necks only. For Class 300 and higher pressure ratings, outside diameter of the neck is the same as dimension "M" of ANSI flanges of comparable pressure rating.

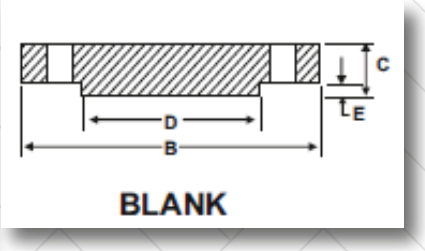
CLASSES 150, 300 & 600 BS 3293



WELDING NECK



SLIP-ON



BLANK

CLASS 150

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAME-TER	THICKNESS OF FLANGE MIN	TRAISED FACE Diam-eter NOTE 4	RAISED FACE THICKN-ESS	HUB DIAMETER	NECK DIAMETER	DRILLING DATA			LENGTH THROUGH HUB NOTE 4		NOMINAL PIPE SIZE	
mm.	(in)	A	B	C	D	E	F	G	BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	OVERALL THICKNESS (W.NECK) J	OVERALL THICKNESS (BOSSED) K	mm.	(in)
650	(26)	660.4	870.0	50.9	743.0	1.6	724.0	660.5	806.4	24	34.9	127.1	85.5	650	(26)
700	(28)	711.2	927.2	52.4	793.8	1.6	781.1	711.3	863.6	28	34.9	128.6	87.5	700	(28)
750	(30)	762.0	984.3	54.0	857.3	1.6	831.9	762.1	914.4	28	34.9	130.2	89.0	750	(30)
800	(32)	812.8	1060.5	57.2	908.1	1.6	889.1	812.9	977.9	28	41.2	133.4	92.0	800	(32)
850	(34)	863.6	1111.3	58.8	958.9	1.6	939.9	863.7	1028.7	32	41.2	135.0	93.5	850	(34)
900	(36)	914.4	1168.5	60.4	1022.4	1.6	997.0	914.5	1085.8	32	41.2	136.6	95.5	900	(36)
950	(38)	965.2	1238.3	60.4	1073.2	1.6	1060.5	965.3	1149.3	32	41.2	136.6	95.5	950	(38)
1000	(40)	1016.0	1289.1	63.8	1124.0	1.6	1111.3	1016.1	1200.1	36	41.2	139.8	98.5	1000	(40)
1050	(42)	1066.8	1346.3	66.7	1193.9	1.6	1168.5	1066.9	1257.3	36	41.2	142.9	101.5	1050	(42)
1100	(44)	1117.6	1403.4	66.7	1244.7	1.6	1219.3	1117.7	1314.4	40	41.2	142.9	101.5	1100	(44)
1150	(46)	1168.4	1454.2	68.3	1295.5	1.6	1270.1	1168.5	1365.2	40	41.2	144.5	103.0	1150	(46)
1200	(48)	1219.2	1511.4	69.9	1359.0	1.6	1327.2	1219.3	1422.4	44	41.2	146.1	105.0	1200	(48)

CLASSES 300 & 600 BS 3293

CLASS 300

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAME-TER	THICKNESS OF FLANGE MIN	TRAISED FACE Diam-eter	RAISED FACE THICKN-ESS	HUB DIAMETER	NECK DIAMETER	DRILLING DATA			LENGTH THROUGH HUB		NOMINAL PIPE SIZE	
					NOTE 4							NOTE 4			
mm.	(in)	A	B	C	D	E	F	G	BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	OVERALL THICKNESS (W.NECK) J	OVERALL THICKNESS (BOSSED) K	mm.	(in)
650	(26)	660.4	971.6	79.4	749.4	1.6	720.8	666.8	876.3	28	44.4	184.2	184.2	650	(26)
700	(28)	711.2	1035.1	85.8	800.2	1.6	774.8	717.6	939.8	28	44.4	196.9	196.9	700	(28)
750	(30)	762.0	1092.3	92.1	857.3	1.6	827.1	768.4	996.9	28	47.6	209.6	209.6	750	(30)
										28					
800	(32)	812.8	1149.4	98.5	914.5	1.6	881.1	819.2	1054.1	28	50.8	222.3	222.3	800	(32)
850	(34)	863.6	1206.8	101.7	965.3	1.6	936.7	871.6	1104.9	32	50.8	231.8	231.8	850	(34)
900	(36)	914.4	1270.1	104.8	1022.4	1.6	990.7	922.4	1168.4		53.9	241.4	241.4	900	(36)

CLASS 600

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAME-TER	THICKNESS OF FLANGE MIN	TRAISED FACE Diam-eter	RAISED FACE THICKN-ESS	HUB DIAMETER	NECK DIAMETER	DRILLING DATA			LENGTH THROUGH HUB		NOMINAL PIPE SIZE	
					NOTE 4							NOTE 4			
mm.	(in)	A	B	C	D	E	F	G	BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	OVERALL THICKNESS (W.NECK) J	OVERALL THICKNESS (BOSSED) K	mm.	(in)
650	(26)	660.4	1016.1	108.0	749.4	6.4	747.7	671.5	914.4	28	50.8	222.3	222.3	650	(26)
700	(28)	711.2	1073.2	111.2	800.2	6.4	803.3	724.0	965.2	28	53.9	235.0	235.0	700	(28)
750	(30)	762.0	1130.4	114.4	857.3	6.4	862.1	774.8	1022.3	28	53.9	247.7	247.7	750	(30)
800	(32)	812.8	1193.9	117.5	914.5	6.4	917.6	825.8	812.8	28	60.3	260.4	260.4	800	(32)
850	(34)	863.6	1244.7	120.7	965.3	6.4	973.2	877.9	863.6	28	60.3	269.9	269.9	850	(34)
900	(36)	914.4	1314.5	123.9	1022.4	6.4	1031.9	928.7	914.4	28	66.6	282.8	282.8	900	(36)

NOTES:-

1. DIMENSIONS ARE IN MM
2. LARGER SIZES AVAILABLE ON REQUEST
3. AVAILABLE WITH OR WITHOUT RAISED FACE
4. THICKNESS DIMENSIONS INCLUDE RAISED FACE WHEN 1.8 mm
   THICKNESS DIMENSIONS DOES NOT INCLUDE RAISED FACE WHEN IT IS 6.4 mm

APPROXIMATE WEIGHTS ANSI B16.5 FORGED FLANGES

NOTES:-

1. WEIGHTS ARE IN KILLOGRAMS
2. WEIGHTS SHOWN ARE APPROXIMATE FOR CARBON STEEL ONLY.
3. ADD 5% TO WEIGHTS SHOWN FOR STAINLESS STEEL

CLASS 150

Nominal Pipe Size mm	inch	Slip On	Screwed	Socket Weld	Lap Joint	Blind	Welding Neck
15	(½)	0.45	0.45	0.91	0.45	0.91	0.91
20	(¾)	0.68	0.68	0.91	0.68	0.91	0.91
25	(1)	0.91	0.91	0.91	0.91	0.91	1.14
32	(1 ¼)	1.14	1.14	1.36	1.14	1.36	1.14
40	(1 ½)	1.36	1.36	1.36	1.36	1.36	1.81
50	(2)	2.27	2.27	2.27	2.27	1.82	2.72
65	(2½)	3.63	3.63	3.18	3.63	3.18	4.54
80	(3)	4.09	4.09	3.63	4.09	4.09	5.22
90	(3½)	4.99	4.99	4.99	4.99	5.9	5.45
100	(4)	5.9	5.9	5.9	5.45	7.72	7.49
125	(5)	6.81	6.81	6.81	5.9	9.08	9.53
150	(6)	7.72	7.72	8.63	8.17	12.26	11.8
200	(8)	12.71	12.71	13.62	12.71	21.34	19.07
250	(10)	18.16	18.16	19.52	16.34	30.42	24.52
300	(12)	27.69	27.69	29.06	27.24	55.84	39.95
350	(14)	37.68	37.68	38.59	34.96	63.11	51.76
400	(16)	48.12	48.12	42.22	47.22	84.9	64.47
450	(18)	49.49	49.49	54.48	66.28	98.52	74.90
500	(20)	67.19	67.19	70.37	72.19	128.48	89.44
600	(24)	92.62	92.62	95.34	88.53	188.41	121.67

CLASS 300

15	(½)	0.68	0.68	1.36	0.68	0.91	0.91
20	(¾)	1.14	1.14	1.36	1.14	1.36	1.36
25	(1)	1.36	1.36	1.36	1.36	1.82	1.82
32	(1 ¼)	2.04	2.04	1.82	2.04	2.72	2.27
40	(1 ½)	2.95	2.95	2.72	2.95	3.18	3.18
50	(2)	3.18	3.18	3.18	3.18	3.63	3.63
65	(2½)	4.54	4.54	4.54	4.54	5.45	5.45
80	(3)	5.9	5.9	5.9	6.58	7.26	8.17
90	(3½)	7.26	7.26	7.72	7.26	9.53	9.08
100	(4)	10.67	10.67	9.99	10.9	12.71	12.03
125	(5)	13.17	13.17		11.8	16.8	16.34
150	(6)	16.34	16.34		17.25	21.79	20.43
200	(8)	25.42	25.42		24.97	35.87	31.33
250	(10)	34.96	34.96		39.95	55.39	45.4
300	(12)	51.3	51.3		63.11	83.08	64.47
350	(14)	72.19	72.19		83.54	109.41	93.52
400	(16)	95.34	95.34		106.24	143.01	113.05
450	(18)	114.86	114.86		138.47	187.96	138.92
500	(20)	139.38	139.38		170.25	233.18	167.53
600	(24)	222.46	222.46		240.62	363.2	235.63

CLASS 600

Nominal Pipe Size mm	inch	Slip On	Screwed	Socket Weld	Lap Joint	Blind	Welding Neck
15	(½)	0.91	0.91		0.91	0.91	1.36
20	(¾)	1.36	1.36		1.36	1.36	1.59
25	(1)	1.59	1.59		1.59	1.82	1.82
32	(1 ¼)	2.04	2.04		2.04	2.72	2.50
40	(1 ½)	2.95	2.95		2.95	3.63	3.63
50	(2)	3.63	3.63		3.63	4.54	4.54
65	(2½)	5.45	5.45		4.99	6.81	6.36
80	(3)	6.81	6.81		6.36	9.08	8.17
90	(3½)	9.53	9.53		9.08	13.17	11.80
100	(4)	14.98	14.98		14.07	18.61	16.80
125	(5)	28.60	28.60		28.60	30.87	30.87
150	(6)	36.32	36.32		35.41	39.04	33.14
200	(8)	44.04	44.04		50.85	63.11	50.85
250	(10)	80.36	80.36		88.53	104.87	85.81
300	(12)	97.61	97.61		108.96	133.93	102.60
350	(14)	117.59	117.59		131.66	148.91	157.54
400	(16)	166.16	166.16		181.60	239.26	218.37
450	(18)	216.10	216.10		212.93	301.91	251.97
500	(20)	277.85	277.85		274.22	388.17	313.26
600	(24)	397.70	397.70		393.16	533.45	443.56

CLASS 900

15	(½)	2.72	2.72		2.72	1.82	3.18
20	(¾)	2.72	2.72		2.72	2.72	3.18
25	(1)	3.41	3.41		3.41	4.09	3.86
32	(1 ¼)	4.54	4.54		4.54	4.54	4.54
40	(1 ½)	6.36	6.36		6.36	6.36	6.36
50	(2)	9.99	9.99		9.53	11.35	10.90
65	(2½)	16.34	16.34		13.17	15.89	16.34
80	(3)	14.07	14.07		11.35	14.53	13.17
100	(4)	24.06	24.06		23.15	24.52	23.15
125	(5)	37.68	37.68		36.77	39.50	39.04
150	(6)	49.03	49.03		47.67	51.30	49.94
200	(8)	78.09	78.09		85.35	89.44	84.90
250	(10)	111.23	111.23		125.76	131.66	121.67
300	(12)	148.00	148.00		168.43	187.50	168.89
350	(14)	172.52	172.52		180.24	224.28	255.15
400	(16)	208.38	208.38		221.55	281.03	310.99
450	(18)	293.74	293.74		304.18	399.52	419.50
500	(20)	359.57	359.57		394.07	502.58	528.46
600	(24)	671.92	671.92		753.19	952.95	956.58

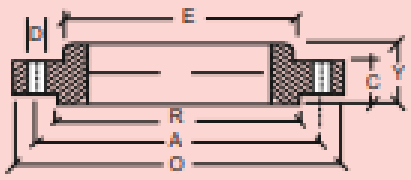
CLASS 1500

Nominal Pipe Size mm	inch	Slip On	Screwed	Socket Weld	Lap Joint	Blind	Welding Neck
15	(½)	2.72	2.72		2.72	1.82	3.18
20	(¾)	2.72	2.72		2.72	2.72	3.18
25	(1)	3.41	3.41		3.41	4.09	3.86
32	(1 ¼)	4.54	4.54		4.54	4.54	4.54
40	(1 ½)	6.36	6.36		6.36	6.36	6.36
50	(2)	9.99	9.99		9.53	11.35	10.90
65	(2½)	16.34	16.34		13.17	15.89	16.34
80	(3)	21.79	21.79		17.25	21.79	21.79
100	(4)	33.14	33.14		34.05	33.14	31.33
125	(5)	59.93	59.93		62.65	64.47	59.93
150	(6)	74.46	74.46		77.18	72.19	74.46
200	(8)	117.13	117.13		129.84	137.11	123.94
250	(10)	197.94	197.94		220.19	230.18	206.12
300	(12)	302.82	302.82		340.05	351.85	313.26

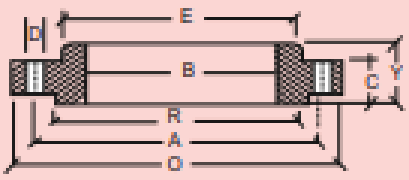
CLASS 2500

15	(½)	3.18	3.18		3.18	3.18	3.63
20	(¾)	4.09	4.09		3.63	4.54	4.09
25	(1)	5.45	5.45		5.45	5.45	5.90
32	(1 ¼)	8.17	8.17		7.72	8.17	9.08
40	(1 ½)	11.35	11.35		10.90	11.35	12.71
50	(2)	17.25	17.25		16.80	17.71	19.07
65	(2½)	24.97	24.97		24.06	25.42	23.61
80	(3)	37.68	37.68		36.32	39.04	42.68
100	(4)	57.66	57.66		55.39	60.38	66.28
125	(5)	95.34	95.34		92.62	101.24	110.78
150	(6)	146.64	146.64		142.56	156.63	171.61
200	(8)	220.19	220.19		213.83	241.98	261.50
250	(10)	419.95	419.95		407.24	465.35	484.87
300	(12)	590.20	590.20		572.95	644.66	730.03

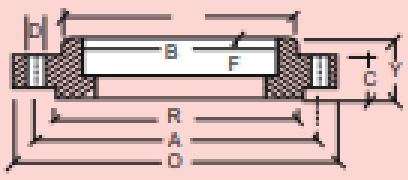
SLIP - ON FLANGE



WELDING NECK FLANGE



BLIND FLANGE



Material Specifications for forged Components as per ASTM (Flanges, Fittings & others)

	Chemical Compositon									Physical Properties (Mandatory requirement)							
	C	P si	S Mn	Max	Max	Ni	Cr	Mo	Ti	Tensile stength PSK(Kg/ mm2)	Yeild Strength PSI(Kg. MM3)	Elong. %	Reduction of area %	Impact Value Mi lbf(j)	Average lbf(j)	Test Temp oF (oC)	BHN
A 105	0.35 Max	0.35 Max	0.60 1.05	0.035	0.040	0.40 Max	0.30 Max	0.12 Max		70000 (49.3)	36000 (25.35)	22	30				
A 350 LF1	0.30 Max	0.15 0.30	1.35 Max	0.035	0.040					60000 to 85000 (42.25 to 59.86)	36000 (21.13)	25	38	10 (14)	13 (18)	-20 (-28.9)	197 Max
A350 LF2	0.30 Max	0.15 0.30	1.35 Max	0.035	0.040					70000 to 95000 (49.3 to 66.9)	36000 (25.35)	22	30	12 (16)	15 (20)	-50(-45.6)	197 Max
A 350 LF3	0.20 Max	0.20 0.35	0.90 Max	0.035	0.040	3.25 3.75				70000 to 95000 (49.3 to 66.9)	37500 (26.4)	22	35	12 (16)	15 (20)	-150(-101.1)	197 Max
A182F1	0.28 Max	0.15 0.35	0.60 0.90	0.045	0.045			0.44 0.65		70000 (49.3)	40000 (28.17)	20	30	-	-	-	143 192
A182F12	0.10 0.20	0.10 0.60	0.30 0.80	0.040	0.040		0.80 1.25	0.44 0.65		70000 (49.3)	40000 (28.17)	20	30	-	-	-	143 207
A182F11	0.10 0.20	0.50 1.00	0.30 0.80	0.040	0.040		1.00 1.50	0.44 0.65		70000 (49.3)	40000 (28.17)	20	30	-	-	-	143 207
A182F22	0.15 Max	0.50 Max	0.30 0.60	0.040	0.040		2.02 2.50	0.87 1.13		75000 (52.8)	45000 (31.7)	20	30	-	-	-	143 207
A182F5	0.15 Max	0.50 Max	0.30 0.60	0.030	0.030	0.50 Max	4.0 6.0	0.44 0.65		70000 (49.3)	40000 (28.17)	20	35	-	-	-	156 207
A182F304	0.08 Max	1.00 Max	2.00 Max	0.040	0.030	8.00 11.00	18.00 20.00			75000 (52.8)	30000 (21.13)	30	50	-	-	-	143 217
A182F304L	0.035 Max	1.00 Max	2.00 Max	0.040	0.030	8.00 13.00	18.00 20.00			70000 (49.3)	25000 (17.6)	30	50	-	-	-	-
A182F316	0.08 Max	1.00 Max	2.00 Max	0.045	0.030	10.00 14.00	16.00 18.00	2.00 3.00		75000 (52.8)	30000 (21.33)	30	50	-	-	-	-
A182F316L	0.035 Max	1.00 Max	2.00 Max	0.040	0.030	10.00 15.00	16.00 18.00	2.00 3.00		70000 (49.3)	25000 (17.6)	30	50	-	-	-	-
A182F321	0.08 Max	1.00 Max	2.00 Max	0.040	0.030	9.00 12.00	17.00 Min			75000 (52.8)	30000 (21.33)	30	50	-	-	-	-
A182F316 T	0.08 Max	1.00 Max	2.00 Max	0.040	0.030	10.00 14.00	16.00 18.00	2.00 3.00		75000 (52.8)	30000 (21.13)	30	50	-	-	-	-

a) Grade F321 TI shall have, TI not less than 5 Times of C and not more than 0.70%

GENERAL TOLERANCE

1. Facings

Required tolerances for various flange and flanged fitingfacings are as follows:
1.1 Inside and outside diameter of large and small tongue and Groove and female, ± 0.5 mm
1.2 Outside diameter, 2.0 mm Raised face, ± 1.0 mm
1.3 Outside diameter, 7.0 mm Raised face, ± 0.5 mm

Required tolerances for flange thickness are as follows.

NPS <18	+ 3.0,-0.0 MM
NPS < 20	+ 5.0,-0.0 MM

The plus tolerances is applicable to bolting bearing surfaces whether as forged, as cast, spot-faced or backfaces

3. Welding End Flange Ends and Hubs

3.1 Outside Diameter. Required tolerances for the nominal outside diameter dimension A of figs. Welding end of welding neck flanges are as follow:

NPS < 5	+ 2.0, -1.0 mm
NPS < 6	+ 4.0, -1.0 mm

3.2 Inside Diameter. Required tolerances for the nominal inside diameter of welding ends of welding neck flanges and smaller bore of socket welding flanges (dimension B in the referenced figures) are as follows.

NPS < 1	+ 1.0 mm
12 < NPS < 18	+ 1.5 mm
NPS < 20,	+ 3.0, 1.5 mm

3.3 Hub Thickness. Despite the tolerance specified for dimensions A and B, the thickness of the hub at the welding end shall not be less than 87½% of the nominal thickness of the Pipe, having an under tolerance of 2.5% for the pipe wall thickness to which the flange is to be attached, or the minimum wall thinkness as specified by the purchaser.

4.0 Length Through Hub on Welding Neck Flanges

The required tolerances for the length through hubs on welding neck flanges are as follows.

NPS <	± 1.5 mm
5 < NPS < 10	1 1.5, -3.0 mm
NPS < 12,	+ 3.0, mm -5.0 mm

5.0 Flange Bore

5.1 Lapped, Slip-on, and Socket Welding Flange Bores.

The required tolerances for the lapped, slip-on and socket welding neck flanges are as follows.

NPS <10	+ 1.0, -0.0 mm
NPS <12	+ 1.5, -0.0 mm

5.2 Counterbores, Threaded Flanges. The required tolerances for threaded flange counterbores are as follows

NPS <10	+ 1.0, -0.0 mm
NPS <12	+ 1.5, -0.0 mm

5.3 Counterbores, Socket Welding Flanges. The required tolerances for socket and counterbores is as follows

½ < NPS < 3	± 0.25 mm

6.0 Drilling and Facing

6.1 Bolt Circle Diameter. The required tolerance for all bolt circle diameters is
± 1.5 mm

6.2 Bolt Hole to Bolt Hole. The required tolerance for the center-to-center of adjustment bolt holes is ± 0.8 mm

6.3 Bolt Circle Conventricity. The required tolerance for concentricity between the flange bolt circle diameter and machined facing diameters are as follows.

NPS <2½	0.8 mm
NPS <3	1.5 mm

QA/QC DEPARTMENT

At Kostevo Meticulous Record-Keeping Is Integral To Our Operational Efficiency, and The Register Book is a Cornerstone in This Process. On the Subsequent Page Are The Defined Categories Within The Register Book, Each Accompanied By A Corresponding Sample Report To Provide A Visual Representation:

Inward :

The Inward category captures detailed records of incoming materials and components, including supplier information, quantity received, and relevant documentation. Refer to the sample report below for a visual illustration of this category.

Product No :

The Product No category involves assigning unique identification numbers to each manufactured product, streamlining traceability. Explore the sample report below to see how this coding system facilitates product identification.

Production Card :

The Production Card category meticulously documents the manufacturing process for each product, highlighting key milestones, quality checks, and modifications. See the sample report for an in-depth visual representation of the product's manufacturing journey.

Store Details :

In the Store Details category, information related to the storage and handling of finished products is recorded. Explore the sample report below to understand how we maintain comprehensive records of storage locations, inventory levels, and logistics information.

Store Details :

The Outward category focuses on recording all outgoing products, ensuring accuracy in product deliveries and movements. Refer to the sample report below to see how detailed records are maintained for products shipped to clients or transferred to other units.

OUR FUTURE PLANS

At SF Engineers, We Are Dedicated To Continual Growth and Innovation. The Future Plan Category Outlines Our Strategic Initiatives And Aspirations For Ongoing Improvement. The Key Focus Areas Include:

ISO Registration :

As part of our commitment to international quality standards, we aim to achieve ISO registration. This reflects our dedication to quality management and process excellence.

PSU Registration :

Pursuing PSU (Public Sector Undertaking) registration is a part of our strategic expansion into government collaborations. This initiative aims to broaden our scope and enhance our presence in the public sector.

Tool Improvement :

Continuous improvement in our tooling capabilities is a priority. The Tool Improvement plan outlines our efforts to invest in and enhance our tooling technologies, ensuring cutting-edge precision in our manufacturing processes.

New Technology :

Embracing emerging technologies is a key component of our future plans. The New Technology initiative focuses on staying at the forefront of innovation, adopting new methodologies, and integrating advanced technologies into our manufacturing processes.

KOSTEVO

BUILDING A BETTER WORLD THROUGH ENGINEERING

CONTACT US

+91 9867 21 9867

sales@kostevo.com /
info@kostevo.com

PAP-R-259, Near Golden Garage Rabale MIDC, Navi Mumbai 400701.

www.kostevo.com