Ranco Industries

Name of Company	:	Ranco Industries	
Office	:	**Gujarat** G-16,Radheshyam Complex, Waghawadi Road, Radhamandir, Bhavnagar - 364001 Gujarat, INDIA	**Mumbai** 19,"Satyakripa", Cama Lane, Hansoti Lane, Ghatkopar (West), Mumbai - 400086 INDIA
Factory	:	Survey No. 150, Plot No. 3[A] Sihor Ghanghli Road, Tal. Ghanghli, Vill. Sihor, Dist. Bhavnagar - 364240, Gujarat	Near Maxseal Containers Tal. Shapar, Kotda Sangani Shapar Rajkot Gujarat
Communications	:	Gujarat Office : 0278 - 2221675 / 3001675 Mumbai Office : 022-25062148 Fax : 0091-278-2429066 Website : www.indiaflanges.com E-mail : mum@indiaflanges.com, info@indiaflanges.com	
Export Import Code	:	2402000171 dtd. 22.04.2002	
G.S.T.No.	:	24141100340 dtd. 24.09.2005	
C.S.T.No.	:	24641100340 dtd. 24.09.2005	
PAN NO.	:	AAEFR 7351M	
ECC No.	:	AAEFR 7351M XM001	
Bankers	:	State Bank of Saurashtra Darbaragadh Branch, Amba Chowk, Bhavnagar - 36400,1 Gujarat Account No. 56007241003 RTGS - SSAU0001007 SWIFT CODE - SSAUINBBBVN	
Executive	:	Romil Vora - Mumbai Mobile : +91 - 093239 16162 Chetas Vora - Gujarat Mobile : +91 - 093280 53921	
Factory Area	:	25000 Square Feet	
Plant Capacity	:	350 Tons per Month	
Total Employees	:	110	
Member	:	Engineering Export Promotion Council of India - EEPC Federation of Import Export organisation - FIEO Confederation of Indian Industries - CII Small scale Industrial Association - SSI Saurashtra Chamber of Commerce and Industries. -SCCI	

Ranco Industries

An ISO 9001:2000 Company

COMPANY

Ranco Industries is established since 1995 and engaged in high quality stainless steel A.S.A. forged flanges. As a manufacturer we are in a position, we are able to supply on short lead times stock orders at prices competitive with mills, but still flexible enough to service the every day requirement of even the smallest order.

Ranco Industries is spread on 25000 sq. ft. area. The company has fully well equipped production plant where state of the art manufacturing facilities work in perfect way with built in quality systems and procedures to ensure that our product meets the exacting standards of the customer. We pride ourselves on the high quality of our flanges, in this area we leave nothing to chance our quality and traceability systems are second to none.

We are always being aware to adopt any new invention in technology, management, or in any aspect, which keeps our products, and after sales services upgraded. Today our product confirms to international Quality Standards because no compromise approach in constantly up gradation of quality according to world market needs.

Our stocks of un-machined forgings allows **Ranco Industries** to offer a prompt and efficient service. Our strength is our vast stocks of 150lbs and 2500lbs class flanges, whether you require slipons, weld necks, blinds or socket welds, **Ranco Industries** will be able to help.

Which ever part of the world you company is based **Ranco Industries** is here to serve your requirements for stainless steel A.S.A. forged flanges & as per your special pieces according to drawing.

MATERIAL CONSTRUCTION

Carbon Steel : A105, ASTM A36, ASTM 516 Gr. 60/70, Rst 37.2, S235JRG2 Or its equivalent Grades

Stainless Steel : A182 F304, 304L, 316, 316L, 321, 310

Alloy Steel : A182 F1, F5, F9, F11, F12, LF2…….various types of Inconel and Duplex Materials.

DIMENSION STANDARD

ANSI B 16.5, ASA 150, 300, 600, 900, 1500, 2500 Class

BS EN 1092-1 PN 10/16/25 Etc.

DIN - 2501, 2502, 2527, 2576, 2633, 2634, 2635, 2642, PN 6/10/16/25/40/100/160

BS - 4504 PN 6/10/16/25 and 40

SFS 8005, 8006, 4171, 4172 Etc.

Norwegian Standard : NS2545, NS2546, NS2547, NS2525, NS2526, NS2527, NS2529 Etc.

Australian Standard : NZS 4331.1 (ISO 7005-1) PN 10 & PN 16, AS 4087, PN 16 and PN 21, AS 2129 Table D and Table E

VSM (Swiss Standard) : VSM 18695, VSM18696, VSM18697, VSM18716, VSM18718, VSM18703 Etc.

Also do as per customers specifications.

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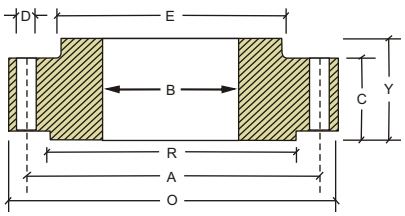
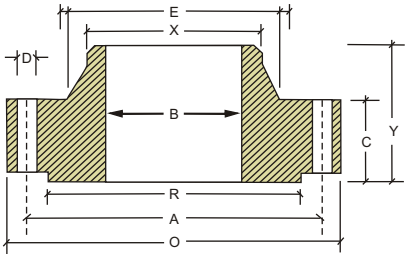
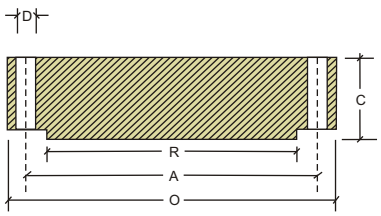


SLIP - ON



WELDING NECK



BLIND

CLASS 150

Nominal Pipe Size	Outside Diameter of Flange O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thickness of Flange C	Hub		Length Through Hub			Bore			Diameter of R/F R	Depth of Socket F
						Diameter of Hub E	Hub of W/N X	S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B	SCH STD W/N B		
15	88.9	60.3	15.9	4	11.1	30.2	21.33	15.9	47.6	15.9	22.3	22.9	15.70	34.9	9.5
20	98.4	69.8	15.9	4	12.7	38.1	26.67	15.9	52.4	15.9	27.7	28.2	20.80	42.9	11.1
25	107.9	79.4	15.9	4	14.3	49.2	33.40	17.5	55.6	17.5	34.5	35.0	26.60	50.8	12.7
32	117.5	88.9	15.9	4	15.9	58.7	42.16	20.6	57.1	20.6	43.2	43.7	35.00	63.5	14.3
40	127.0	98.4	15.9	4	17.5	65.1	48.26	22.2	61.9	22.2	49.5	50.0	40.80	73.0	15.9
50	152.4	120.6	19.0	4	19.0	77.8	60.31	25.4	63.5	25.4	62.0	62.5	53.30	92.1	17.5
65	177.8	139.7	19.0	4	22.2	90.5	73.02	28.6	69.8	28.6	74.7	75.4	62.40	104.8	19.0
80	190.5	152.4	19.0	4	23.8	107.9	88.90	30.2	69.8	30.2	90.7	91.4	77.90	127.0	20.6
100	228.6	190.5	19.0	8	23.8	134.9	114.30	33.3	76.2	33.3	116.1	116.8	102.20	157.2	23.8
125	254.0	215.9	22.2	8	23.8	163.5	141.30	36.5	88.9	36.5	143.8	144.5	128.10	185.7	23.8
150	279.4	241.3	22.2	8	25.4	192.1	168.27	39.7	88.9	39.7	170.7	171.4	154.00	215.9	27.0
200	342.9	298.4	22.2	8	28.6	246.1	219.07	44.4	101.6	44.4	221.5	222.2	202.70	269.9	31.7
250	406.4	361.9	25.4	12	30.2	304.8	273.05	49.2	101.6	49.2	276.3	277.4	254.50	323.8	33.3
300	482.6	431.8	25.4	12	31.8	365.1	323.85	55.6	114.3	55.6	327.1	328.2	304.80	381.0	39.7
350	533.4	476.2	28.6	12	34.9	400.0	355.60	57.1	127.0	79.4	359.1	360.2	336.50	412.7	41.3
400	596.9	539.7	28.6	16	36.5	457.2	406.40	63.5	127.0	87.3	410.5	411.2	387.30	469.9	44.4
450	635.0	577.8	31.7	16	39.7	504.8	457.20	68.3	139.7	96.8	461.8	462.3	438.10	533.4	49.2
500	698.5	635.0	31.7	20	42.9	558.8	508.00	73.0	144.5	103.2	513.1	514.3	488.90	584.2	54.0
600	812.8	749.3	34.9	20	47.6	663.6	609.60	82.5	152.4	111.1	615.9	615.9	590.50	692.1	63.5

CLASS 300

Nominal Pipe Size	Outside Diameter of Flange O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thickness of Flange C	Hub		Length Through Hub			Bore			Diameter of R/F R	Depth of Socket F
						Diameter of Hub E	Hub of W/N X	S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B	SCH STD W/N B		
15	95.2	66.7	15.9	4	14.3	38.1	21.33	22.2	52.4	22.2	22.3	22.9	15.70	34.9	9.5
20	117.5	82.5	19.0	4	15.9	47.6	26.67	25.4	57.1	25.4	27.7	28.2	20.80	42.9	11.1
25	123.8	88.9	19.0	4	17.5	54.0	33.40	27.0	61.9	27.0	34.5	35.0	26.60	50.8	12.7
32	133.3	98.4	19.0	4	19.0	63.5	42.16	27.0	65.1	27.0	43.2	43.7	35.00	63.5	14.3
40	155.6	114.3	22.2	4	20.6	69.8	48.26	30.2	68.3	30.2	49.5	50.0	40.80	73.0	15.9
50	165.1	127.0	19.0	8	22.2	84.1	60.31	33.3	69.8	33.3	62.0	62.5	53.30	92.1	17.5
65	190.5	149.2	22.2	8	25.4	100.0	73.02	38.1	76.2	38.1	74.7	75.4	62.40	104.8	19.0
80	209.5	168.3	22.2	8	28.6	117.5	88.90	42.9	79.4	42.9	90.7	91.4	77.90	127.0	20.6
100	254.0	200.0	22.2	8	31.8	146.0	114.30	47.6	85.7	47.6	116.1	116.8	102.20	157.2	-
125	279.4	234.9	22.2	8	34.9	177.8	141.30	50.8	98.4	50.8	143.8	144.5	128.10	185.7	-
150	317.5	269.9	22.2	12	36.5	206.4	168.27	52.4	98.4	52.4	170.7	171.4	154.00	215.9	-
200	381.0	330.2	25.4	12	41.3	260.3	219.07	61.9	111.1	61.9	221.5	222.2	202.70	269.9	-
250	444.5	387.3	28.6	16	47.6	320.7	273.05	66.7	117.5	95.2	276.3	277.4	254.50	323.8	-
300	520.7	450.8	31.7	16	50.8	374.6	323.85	73.0	130.2	101.6	327.1	328.2	304.80	381.0	-
350	584.2	514.3	31.7	20	54.0	425.4	355.60	76.2	142.9	111.1	359.1	360.2	336.50	412.7	-
400	647.7	571.5	34.9	20	57.2	482.6	406.40	82.5	146.0	120.6	410.5	411.2	387.30	469.9	-
450	711.2	628.5	34.9	24	60.3	533.4	457.20	88.9	158.7	130.2	461.8	462.3	438.10	533.4	-
500	774.7	685.8	34.9	24	63.5	587.4	508.00	95.2	161.9	139.7	513.1	514.3	488.90	584.2	-
600	914.4	812.8	41.3	24	69.8	701.7	609.60	106.4	168.3	152.4	615.9	615.9	590.50	692.1	-

❑ All Dimensions are in Millimeters. ❑ Flanges except Lap Joint will be furnished with (1.6) Raised Face, which is included in 'Thickness (C)' and 'Length through Hub (Y)'

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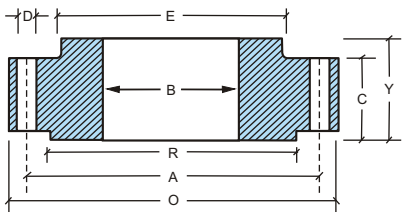
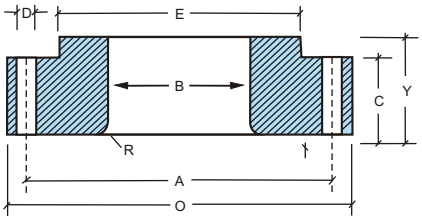
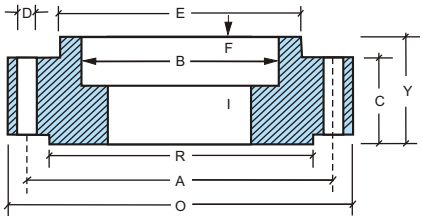


THREADED



LAP JOINT



SOCKET WELD

CLASS 600

Nominal Pipe Size	Outside Diameter of Flange O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thickness of Flange C	Hub		Length Through Hub			Bore			Diameter of R/F R	Depth of Socket F
						Diameter of Hub E	Hub of W/N X	S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B	SCH STD W/N B		
15	95.2	66.7	15.9	4	14.3	38.1	21.33	22.2	52.4	22.3	22.3	22.8	15.70	34.9	9.5
20	117.5	82.5	19.0	4	15.9	47.6	26.67	25.4	57.1	25.4	27.7	28.1	20.80	42.9	11.1
25	123.8	88.9	19.0	4	17.5	54.0	33.40	27.0	61.9	26.9	34.5	35.0	26.60	50.8	12.7
32	133.3	98.4	19.0	4	20.6	63.5	42.16	28.6	66.7	28.4	43.2	43.6	35.00	63.5	14.2
40	155.6	114.3	22.2	4	22.2	69.8	48.26	31.7	69.8	31.7	49.5	50.0	40.80	73.0	15.8
50	165.1	127.0	19.0	8	25.4	84.1	60.31	36.5	73.0	36.5	62.0	62.4	53.30	92.1	17.4
65	190.5	149.2	22.2	8	28.6	100.0	73.02	41.3	79.4	41.1	74.7	75.4	62.40	104.8	19.0
80	209.5	168.3	22.2	8	31.8	117.5	88.90	46.0	82.5	45.9	90.7	91.4	77.90	127.0	-
100	273.0	215.9	25.4	8	38.1	152.4	114.30	54.0	101.6	53.8	116.1	116.8	102.20	157.2	-
125	330.2	266.7	28.6	8	44.4	188.9	141.30	60.3	114.3	60.4	143.8	141.5	128.10	185.7	-
150	355.6	292.1	28.6	12	47.6	222.2	168.27	66.7	117.5	66.5	170.7	171.4	154.00	215.9	-
200	419.1	349.2	31.7	12	55.6	273.0	219.07	76.2	133.3	76.2	221.5	222.2	202.70	269.9	-
250	508.0	431.8	34.9	16	63.5	342.9	273.05	85.7	152.4	111.2	276.3	277.3	254.50	323.8	-
300	558.8	488.9	34.9	20	66.7	400.0	323.85	92.1	155.6	117.3	327.1	328.1	304.80	381.0	-
350	603.2	527.0	38.1	20	69.9	431.8	355.60	93.7	165.1	127.0	359.1	360.1	336.50	412.7	-
400	685.8	603.2	41.3	20	76.2	495.3	406.40	106.4	177.8	139.7	410.5	411.2	387.30	469.9	-
450	742.9	654.0	44.4	20	82.6	546.1	457.20	117.5	184.1	152.4	461.8	462.2	438.10	533.4	-
500	812.8	723.9	44.4	24	88.9	609.6	508.00	127.0	190.5	165.1	513.1	514.3	488.90	584.2	-
600	939.8	838.2	50.8	24	101.6	717.5	609.60	139.7	203.2	184.1	615.9	615.9	590.50	692.1	-

CLASS 900

Nominal Pipe Size	Outside Diameter of Flange O	Dia of Bolt Circle A	Dia of Bolt Holes D	No. of Holes	Thickness of Flange C	Hub		Length Through Hub			Bore			Diameter of R/F R	Depth of Socket F
						Diameter of Hub E	Hub of W/N X	S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B	SCH STD W/N B		
15	120.6	82.5	22.2	4	22.2	38.1	21.33	31.7	60.3	31.7	22.3	22.8	15.70	34.9	9.5
20	130.2	88.9	22.2	4	25.4	44.4	26.67	34.9	69.8	35.0	27.7	28.1	20.80	42.9	11.1
25	149.2	101.6	25.4	4	28.6	52.4	33.40	41.3	73.0	41.1	34.5	35.0	26.60	50.8	12.7
32	158.7	111.1	25.4	4	28.6	63.5	42.16	41.3	73.0	41.1	43.2	43.6	35.00	63.5	14.2
40	177.8	123.8	28.6	4	31.8	69.8	48.26	44.4	82.5	44.4	49.5	50.0	40.80	73.0	15.8
50	215.9	165.1	25.4	8	38.1	104.8	60.31	57.1	101.6	57.1	62.0	62.4	53.30	92.1	17.4
65	244.5	190.5	28.6	8	41.3	123.8	73.02	63.5	104.8	63.5	74.7	75.4	62.40	104.8	19.0
80	241.3	190.5	25.4	8	38.1	127.0	88.90	53.9	101.6	53.8	90.7	91.4	77.90	127.0	-
100	292.1	234.9	31.7	8	44.4	158.7	114.30	69.8	114.3	69.8	116.0	116.8	102.20	157.1	-
125	349.2	279.4	35.0	8	50.8	190.5	141.30	79.3	127.0	79.2	143.7	144.5	128.10	185.7	-
150	381.0	317.5	31.7	12	55.6	234.9	168.27	85.8	139.7	85.8	170.6	171.4	154.00	215.9	-
200	469.9	393.7	38.1	12	63.5	298.4	219.07	101.6	162.0	144.3	221.4	222.2	202.70	269.8	-
250	546.1	469.9	38.1	16	69.8	368.3	273.05	107.9	184.1	127.0	276.3	277.3	254.50	323.8	-
300	609.6	533.4	38.1	20	79.3	419.1	323.85	117.4	200.0	142.7	327.1	328.1	304.80	381.0	-

❑ All Dimensions are in Millimeters. ❑ Flanges except Lap Joint will be furnished with (1.6) Raised Face, which is included in 'Thickness (C)' and 'Length through Hub (Y)'

Ranco Industries

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Dimension of Pipe Flanges as per Table BS-10

TABLE - D

For Working Stream Pressure upto 50 lbs per sq. inch

Nominal Pipe Size	O.D. of Pipe	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	27/32"	3.3/4"	2.5/8"	4	1/2"	3/16"
3/4"	1.1/16"	4"	2.7/8"	4	1/2"	3/16"
1"	1.11/32"	4.1/2"	3.1/4"	4	1/2"	3/16"
1.1/4"	1.11/16"	4.3/4"	3.7/16''	4	1/2"	1/4"
1.1/2"	1.29/32"	5.1/4"	3.7/8"	4	1/2"	1/4"
2"	2.3/8"	6"	4.1/2"	4	5/8"	5/16"
2.1/2"	3"	6.1/2"	5"	4	5/8"	5/16"
3"	3.1/2"	7.1/4"	5.3/4"	4	5/8"	3/8"
3.1/2"	4"	8"	6.1/2"	4	5/8"	3/8"
4"	4.1/2"	8.1/2"	7"	4	5/8"	3/8"
5"	5.1/2	10"	8.1/4"	8	5/8"	1/2"
6"	6.1/2"	11"	9.1/4"	8	5/8"	1/2"
7"	7.1/2"	12"	10.1/4"	8	5/8"	1/2"
8"	8.5/8"	13.1/4"	11.1/2"	8	5/8"	1/2"
9"	9.5/8"	14.1/2"	12.3/4	8	5/8"	5/8"
10"	10.3/4"	16"	14"	8	3/4"	5/8"
12"	12.3/4"	18"	16"	12	3/4"	5/8"
14"	14"	20.3/4"	18.1/2"	12	7/8"	3/4"
16"	16"	22.3/4"	20.1/2"	12	7/8"	3/4"
18"	18"	25.1/4"	23"	12	7/8"	7/8"
20"	20"	27.3/4"	25.1/4"	16	7/8"	1"
24"	24"	32.1/2"	29.3/4"	16	1"	1.1/8"

TABLE - E

For Working Stream Pressure 50 lbs and upto 100 lbs per sq. inch

Nominal Pipe Size	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	3.3/4"	2.5/8"	4	1/2"	1/4"
3/4"	4"	2.7/8"	4	1/2"	1/4"
1"	4.1/2"	3.1/4"	4	1/2"	9/32"
1.1/4"	4.3/4"	3.7/16"	4	1/2"	5/16"
1.1/2"	5.1/4"	3.7/8"	4	1/2"	11/32"
2"	6"	4.1/2"	4	5/8"	3/8"
2.1/2"	6.1/2"	5"	4	5/8"	13/32"
3"	7.1/4"	5.3/4"	4	5/8"	7/16"
3.1/2"	8"	6.1/2"	8	5/8"	15/32"
4"	8.1/2"	7"	8	5/8"	1/2"
5"	10"	8.1/4"	8	5/8"	9/16"
6"	11"	9.1/4"	8	3/4"	11/16"
7"	12"	10.1/4"	8	3/4"	3/4"
8"	13.1/4"	11.1/2"	8	3/4"	3/4"
9"	14.1/2"	12.3/4"	12	3/4"	13/16"
10"	16"	14"	12	3/4"	7/8"
12"	18"	16"	12	7/8"	1"
14"	20.3/4"	18.1/2"	12	7/8"	1"
16"	22.3/4"	20.1/2"	12	7/8"	1"
18"	25.1/4"	23"	16	7/8"	1.8/8"
20"	27.3/4"	25.1/4"	16	7/8"	1.1/4"
24"	32.1/2"	29.3/4"	16	1.1/8"	1.1/2"

TABLE - F

For Working Stream Pressure above 100 lbs and upto 150 lbs per sq. inch

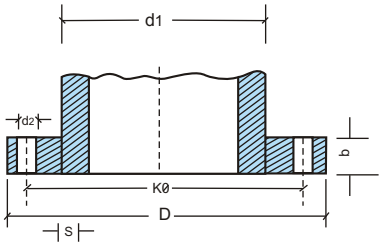
Nominal Pipe Size	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	3.3/4	2.5/8"	4	1/2"	3/8"
3/4"	4"	2.7/8"	4	1/2"'	3/8"
1"	4.3/4"	3.7/16"	4	5/8"	3/8"
1.1/4"	5.1/4"	3.7/8"	4	5/8"	1/2"
1.1/2"	5.1/2"	4.1/8"	4	5/8"	1/2"
2"	6.1/2"	5"	4	5/8"	5/8"
2.1/2"	7.1/4"	5.3/4"	8	5/8"	5/8"
3"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

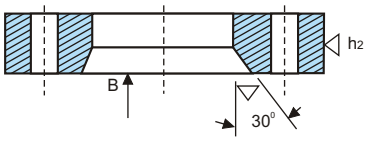
TABLE - H

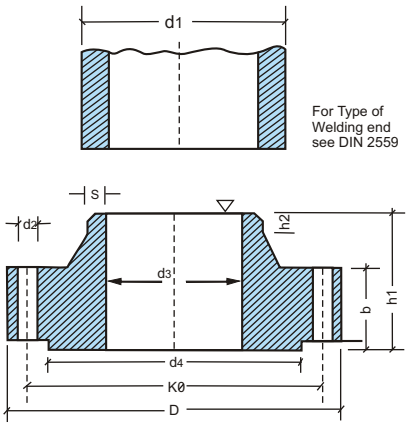
For Working Stream Pressure above 150 lbs and upto 250 lbs per sq. inch

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

❑ All Dimensions are in Inch.







DIN 2576

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

Pipe		Flange				Bolts				Weight of one flange 7.85 kg /dm³) kg
NW	d_1	ds	D	b_1	k	Number	Thread		d_2	
10	14 17.2*)	14.5 17.7	90	14	60	4	M 12	(1/2")	14	0.613 0.605
15	20 21.3*)	20.5 21.8	95	14	65	4	M 12	(1/2")	14	0.675 0.669
20	25 26.9*)	25.5 27.4	105	16	75	4	M 12	(1/2")	14	0.947 0.936
25	30 33.7*)	30.5 34.2	115	16	85	4	M 12	(1/2")	14	1.14 1.11)
32	38 42.4*)	38.5 42.9	140	16	100	4	M 16	(5/8")	18	1.66 1.62
40	44.5 48.3*)	45 48.8	150	16	110	4	M 16	(5/8")	18	1.89 1.86
50	57 60.3*)	57.5 60.8	165	18	125	4	M 16	(5/8")	18	2.51 2.47
65	76.1*)	76.6	185	18	145	4	M 16	(5/8")	18	3.00
80	88.9*)	89.4	200	20	160	4	M 16	(5/8")	18	3.79
100	108 114.3*)	108.5 114.8	220	20	180	8	M 16	(5/8")	18	4.20 4.03
125	133 139.7*)	133.5 140.2	250	22	210	8	M 16	(5/8")	18	5.71 5.46
150	159 168.3*)	159.5 168.8	285	22	240	8	M 20	(3/4")	23	6.72 6.57
175	191 193.7*)	192 194.7	315	24	270	8	M 20	(3/4")	23	8.60 8.45
200	216 219.1*)	217 220.1	340	24	295	8	M 20	(3/4")	23	9.50 9.31
250	267 273*)	268 274	395	26	350	12	M 20	(3/4")	23	12.5 11.9
300	318 323.9*)	319 324.9	445	26	400	12	M 20	(3/4")	23	14.4 13.8
350	355.6*) 368	356.6 369	505	28	460	18	M 20	(3/4")	23	20.6 19.0
400	406.4*) 419	407.4 420	565	32	515	16	M 24	(7/8")	27	27.9 25.9
500	508*) 521	509 522	670	38	620	20	M 24	(7/8")	27	37.9 41.1

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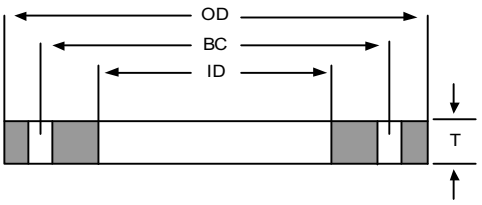
175-150 P.S.I.
Dimensions in Inches



AWWAD 207 - Table D - RINGS AND BLINDS

Nominal Size	Outer Diameter (OD)	Slip-On Bore (ID)	No of Bolt Holes	Diameter of Holes	Bolt Circle (BC)	Thickness (T)		Weight Each (Kg)	
						Slip On	Blind	Slip On	Blind
100 NB	228.6	116.08	8.00	19.05	190.5	15.87	15.87	3.49	4.81
125 NB	254	143.76	8.00	22.22	215.9	15.87	16.51	3.9	6.17
150 NB	279.4	170.69	8.00	22.22	241.3	17.48	17.6	4.84	8.03
200 NB	342.9	221.49	8.00	22.22	298.45	17.48	20.62	6.94	14.42
250 NB	406.4	276.35	12.00	25.4	361.95	17.48	24.21	8.71	23.45
300 NB	482.6	327.15	12.00	25.4	431.8	20.62	24.21	15.01	39.33
350 NB	533.4	360.43	12.00	28.57	476.25	23.83	28.78	21.27	48.72
400 NB	596.9	411.23	16.00	28.57	539.75	25.4	32.13	27.26	67.95
450 NB	635	462.03	16.00	31.75	577.85	26.97	33.81	28.85	80.6
500 NB	698.5	512.83	20	31.75	635	28.58	36.78	36.06	105.96
550 NB	749.3	563.63	20	34.93	692.15	30.18	39.83	40.78	131.77
600 NB	812.8	614.43	20	34.93	749.3	31.75	42.19	50.62	165.33
650 NB	869.95	665.23	24	34.93	806.45	33.32	45.36	---	203.3
700 NB	927.1	716.03	28	34.93	863.6	33.32	48.41	---	246.12
750 NB	984.25	766.83	28	34.93	914.4	34.93	51	---	293.61
800 NB	1060.45	817.63	28	41.28	977.9	38.1	54.61	---	362.24
850 NB	1111.25	868.43	32	41.28	1028.7	38.1	57.2	---	415.9
900 NB	1168.4	919.23	32	41.28	1085.85	41.28	60.2	---	485.8
950 NB	1238.25	970.03	32	41.28	1149.35	41.28	63.5	---	579.69
1000 NB	1289.05	1020.83	36	41.28	1200.15	41.28	66.27	---	653.17
1050 NB	1346.2	1071.63	36	41.28	1257.3	44.45	69.32	---	747.52
1100 NB	1403.35	1122.43	40	41.28	1314.45	44.45	72.36	---	847.31
1150 NB	1454.15	1173.23	40	41.28	1365.25	44.45	74.98	---	944.83
1200 NB	1511.3	1224.03	44	41.28	1422.2	47.63	78.03	---	1061.41
1250 NB	1568.45	1274.83	44	47.63	1479.55	50.8	81.18	---	1179.79
1300 NB	1625.6	1325.63	44	47.63	1536.7	50.8	84.2	---	1318.59
1350 NB	1682.75	1376.43	44	47.63	1593.85	53.97	87.25	---	1467.82
1500 NB	1854.2	1528.83	52	47.63	1758.95	57.15	95.99	---	1962.69
1650 NB	2032	1681.23	52	47.63	1930.4	63.5	105.05	---	2595.46
1800 NB	2197.1	1833.63	60	47.63	2095.5	66.68	113.79	---	3288.09

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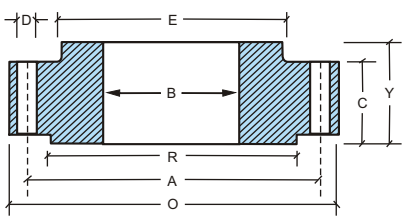
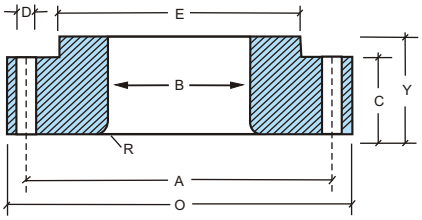
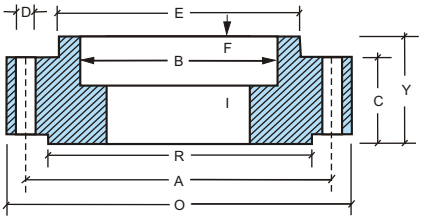


THREADED



LAP JOINT



SOCKET WELD

Welding Neck Flange Bores (B)

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

Dimensional Tolerance

Welding Neck

• Outside Diameter	O.D 600 or smaller		±1.6
	O.D. over 600		±3.1
Inside Diameter (Bore)	250 and smaller		±0.7
	12 through 450		±1.6
	500 of larger	+3.1	-1.6
Diameter of Contact Face	1.6 raised face	±0.7	
	6.3 raised face : tongue &		
	grooved male and female	±0.4	
• Diameter of Hub at Base	When E is 600 or smaller	±1.6	
	When E is over 600	±3.1	
Diameter of Hub at point	125 and smaller	+0.7	±0.7
of Welding	150 and larger	+4.0	±0.0
Thickness	450 and smaller	+3.1	-0.0
	500 and larger	+4.7	-0.0
Length through Hub	250 and smaller		±1.6
	300 and larger		±3.1
	Bolt circle		±1.6
Drilling	Bolt hole spacing		±0.7
	Eccentricity with respect to bore		0.7 max

Threaded, Slip on, Lap joint socket Welding and Blind

• Outside Diameter	O.D. 50 or smaller		±1.6
	O.D. over 600		±3.1
Inside Diameter (Bore)	Threaded : to standard gauge limits		
	Slip - on : lap joint : socket - welding :		
	250 and smaller	+0.7	-0.0
	300 and larger	+1.6	-0.0
	Threaded		
Diameter of Counter Bore	250 and smaller	+0.7	-0.0
	300 and larger	+1.6	-0.0
• Outside Diameter of Hub	300 and smaller	+2.3	1.6
	350 and larger		±3.1
Diameter of Contact Face	1.6 raised face		
	6.3 raised face : tongue &		±0.7
	grooved male and female		±0.4
Thickness	450 and smaller	+3.1	-0.0
	500 and larger	+4.7	-0.0
• Length through Hub	250 and smaller		±1.6
	300 and larger		±3.1
	Bolt circle		±1.6
Drilling	Bolt hole spacing		±0.7
	Eccentricity with respect to bore		0.7 max

❑ All Dimensions are in Millimeters. • Not Covered by ANSI-B 16.5

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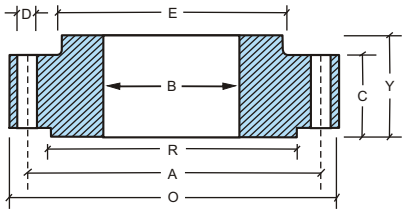
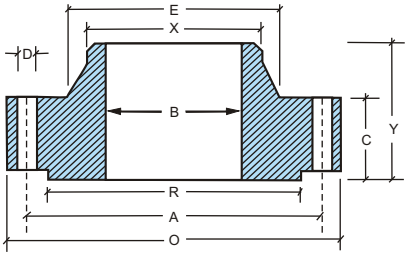
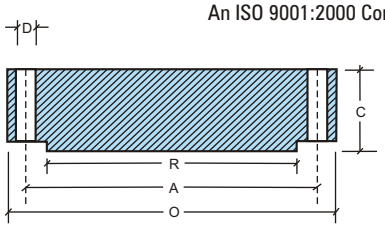


SLIP - ON



WELDING NECK



BLIND

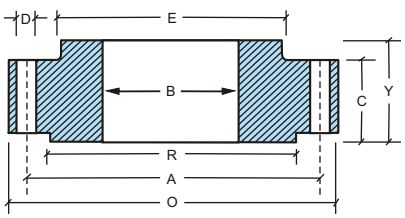
FOR FORGED COMPONENTS (Flanges, Fittings & Others)

	Chemical Composition									Physical Properties (Mandatory Requirement)							
	C	Si	Mn	P Max	S Max	Ni	Cr	Mo	Ti	Tensile Strength PSI (Kg/mm^2)	Yield Strength PSI (Kg/mm^3)	Elong. %	Reduc-tion of Area %	Impact Values		Test Temp of (oC)	BHN
														Min lbf(j)	Average lbf(j)		
A 105	0.35	0.35	0.60	0.035	0.040	0.40	0.30	0.12	-	70000	36000	22	30	-	-	-	155
	MAX	MAX	1.05			MAX	MAX	MAX		(49.3)	(25.35)						170
A350 LF1	0.30	0.15	1.35	0.035	0.040	-	-	-	-	60000 to 85000	30000	25	38	10(14)	13(18)	-20(-28.9)	197
	MAX	0.30	MAX							(42.25 to 59.86)	(21.13)						MAX
A350 LF2	0.30	0.15	1.35	0.035	0.040	-	-	-	-	70000 to 95000	36000	22	30	12(16)	15(20)	-50(-45.6)	197
	MAX	0.30	MAX							(49.3 to 66.9)	(25.35)						MAX
A350 LF3	0.20	0.20	0.90	0.035	0.040	3.25	-	-	-	70000 to 95000	37500	22	35	12(16)	15(20)	-150(-101.1)	197
	MAX	0.35	MAX			3.75				(49.3 to 66.9)	(26.4)						MAX
A182 F1	0.28	0.15	0.60	0.045	0.045	-	-	0.44	-	70000	40000	20	30	-	-	-	143
	MAX	0.35	0.90					0.65		(49.3)	(28.17)						192
A182 F12	0.10	0.10	0.30	0.040	0.040	-	0.80	0.44	-	70000	40000	20	30	-	-	-	143
	0.20	0.60	0.80				1.25	0.65		(49.3)	(28.17)						207
A182 F11	0.10	0.50	0.30	0.040	0.040	-	1.00	0.44	-	70000	40000	20	30	-	-	-	143
	0.20	1.00	0.80				1.50	0.65		(49.3)	(28.17)						207
A182 F22	0.15	0.50	0.30	0.040	0.040	-	2.00	0.87	-	75000	45000	20	30	-	-	-	145
	MAX	MAX	0.60				2.50	1.13		(52.8)	(31.7)						217
A182 F5	0.15	0.50	0.30	0.030	0.030	0.50	4.0	0.44	-	70000	40000	20	35	-	-	-	-
	MAX	MAX	0.60			MAX	6.0	0.65		(49.3)	(28.17)						
A182 F304	0.08	1.00	2.00	0.040	0.030	8.00	18.00	-	-	75000	30000	30	50	-	-	-	-
	MAX	MAX	MAX			11.0	20.00			(52.8)	(21.13)						
A182 F304L	0.035	1.00	2.00	0.040	0.030	8.00	18.00	-	-	70000	25000	30	50	-	-	-	-
	MAX	MAX	MAX			13.00	20.00			(49.3)	(17.6)						
A182 F316	0.08	1.00	2.00	0.045	0.030	10.00	16.00	2.00	-	75000	30000	30	50	-	-	-	-
	MAX	MAX	MAX			14.00	18.00	3.00		(52.8)	(21.13)						
A182 F316L	0.035	1.00	2.00	0.040	0.030	10.00	16.00	2.00	-	70000	25000	30	50	-	-	-	-
	MAX	MAX	MAX			15.00	18.00	3.00		(49.3)	(17.6)						
A182 F321	0.08	1.00	2.00	0.040	0.030	9.00	17.00	-	A	75000	30000	30	50	-	-	-	-
	MAX	MAX	MAX			12.00	MIN			(52.8)	(21.13)						
A182 F316	0.08	1.00	2.00	0.040	0.030	10.00	16.00	2.00	A	75000	30000	30	50	-	-	-	-
	MAX	MAX	MAX			14.00	18.00	3.00		(52.8)	(21.13)						

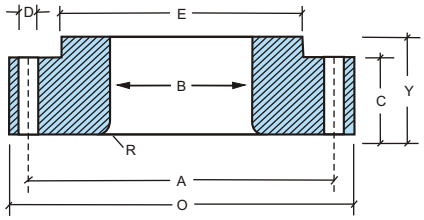
(A) Grade F321 TI shall have, TI not less than 5 Times of C and not more than 0.70%

Ranco Industries

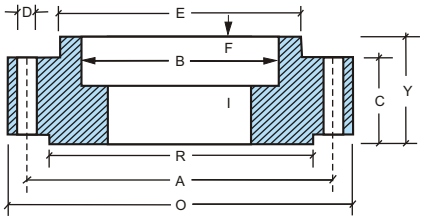
An ISO 9001:2000 Company



THREADED



LAP JOINT



SOCKET WELD

CLASS 150

Nominal Pipe Size	Approx Weight		
	S/O	Blind	W/N
15	0.4	0.4	0.5
20	0.7	0.7	0.7
25	0.8	0.9	1.1
32	1.1	1.3	1.5
40	1.4	1.6	1.8
50	2.2	2.6	2.7
65	3.6	4.1	4.4
80	4.1	5	5.2
100	5.6	7.1	7.5
125	6.3	9	9.2
150	7.5	11.8	11
200	12.6	21	18.3
250	18.5	30	25
300	28	45	39
350	36	59	51
400	46	79	60
450	50	97	71
500	64	124	88
600	89	188	119

CLASS 300

Nominal Pipe Size	Approx Weight		
	S/O	Blind	W/N
15	0.7	0.7	0.8
20	1.1	1.2	1.3
25	1.4	1.5	1.7
32	1.8	2	2.2
40	2.6	2.9	3.2
50	3.4	3.4	3.6
65	4.4	5.1	5.4
80	6.1	7	7.4
100	10.1	11.8	11.9
125	12.5	15.5	16
150	14.1	21.3	20.2
200	24.8	35.2	31
250	37.1	57	44.3
300	50	82	64
350	70	106	88
400	97	140	113
450	123	178	134
500	133	223	171
600	203	345	238

CLASS 600

Nominal Pipe Size	Approx Weight		
	S/O	Blind	W/N
15	0.8	0.7	0.9
20	1.4	1.2	1.5
25	1.6	1.5	1.9
32	2.1	2	2.6
40	3.1	3.2	3.3
50	3.7	4.3	4.7
65	5.4	6	6.5
80	7.3	8	8.7
100	15.8	18	18.1
125	24.5	28.5	30.5
150	29.5	35.5	36.2
200	43	58	49.5
250	70	98	89
300	86	125	110
350	100	151	150
400	142	215	190
450	175	275	240
500	221	350	295
600	315	532	363

CLASS 900

Nominal Pipe Size	Approx Weight		
	S/O	Blind	W/N
15	1.7	1.8	1.9
20	2.3	2.4	2.6
25	3.4	3.6	3.8
32	3.9	4.1	4.4
40	5.4	5.8	6.1
50	9.8	10.1	11.1
65	11.6	13.1	14
80	13.7	14	15.5
100	19.8	22.1	23.2
125	32	36.5	37.1
150	41.2	47.4	49.3
200	71	82.5	84
250	100	123	123
300	133	174	163
350	152	206	186
400	184	259	224
450	258	367	300
500	317	463	373
600	608	875	680

CLASS 1500

Nominal Pipe Size	Approx Weight		
	S/O	Blind	W/N
15	1.7	1.8	1.9
20	2.3	2.4	2.6
25	3.4	3.6	3.8
32	3.9	4.1	4.4
40	5.4	5.8	6.1
50	9.8	10.1	11.1
65	13.7	14	15.5
80	18	19	20.4
100	27.8	30	30.5
125	52	58	58
150	61	72	70
200	104	122	119
250	175	210	204
300	264	315	303

CLASS 2500

Nominal Pipe Size	Approx Weight		
	S/O	Blind	W/N
15	0.8	3	3.6
20	1.4	4.5	4
25	1.6	5	6
32	2.1	8	9
40	3.1	11	13
50	3.7	17	19
65	5.4	25	24
80	7.3	39	43
100	15.8	60	66
125	24.5	101	111
150	29.5	156	172
200	43	242	261
250	70	465	485
300	86	665	730

❑ All Weights are in Kilograms