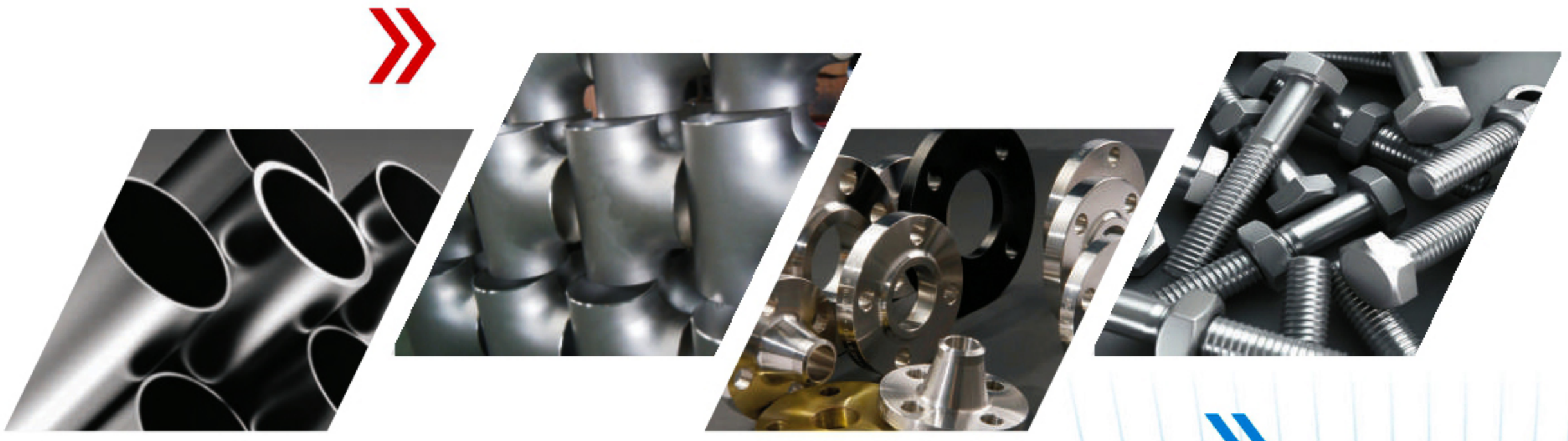
FIEO Registered Member

IAS ACCREDITED Management Systems Certification Body MSCB-197

AN ISO 9001:2015,
ISO 14001:2015,
ISO 45001:2018,
& PED CERTIFIED CO.

MELTON ALLOYS INC



Better Quality in STEEL

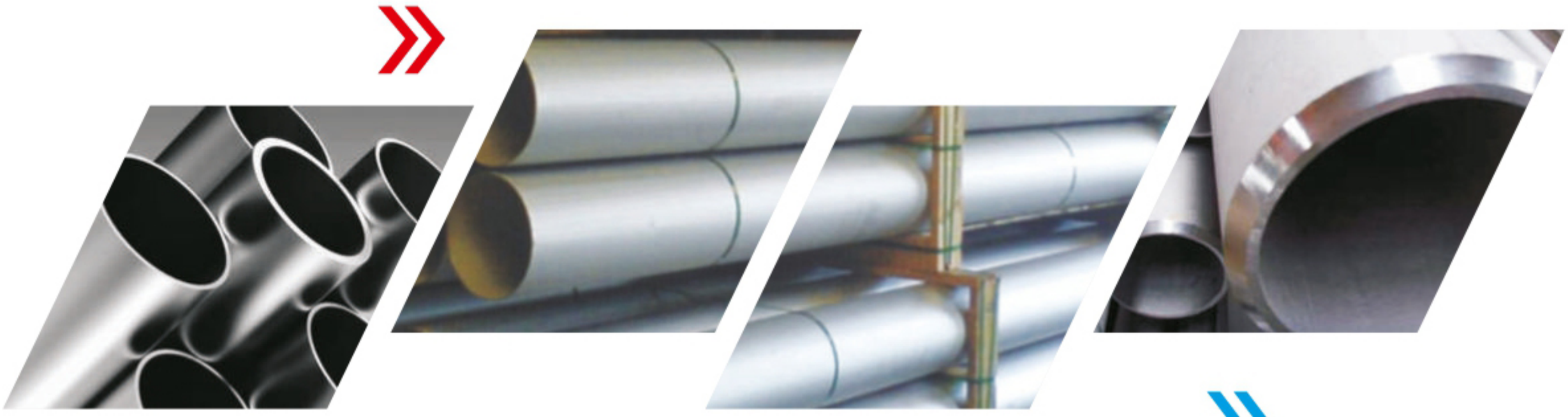
- Pipe
- Pipe Fittings
- Flanges
- Instrumentation

SPECIALIZE IN DUPLEX & SUPER DUPLEX

FORMULA OF CALCULATING WEIGHT

1)	**Weight of S.S. Pipe** O.D. (mm) - W. Thick (mm) x W. Thick (mm) x 0.0248 = Wt. Per Mtr. O.D. (mm) - W. Thick (mm) x W. Thick (mm) x 0.00756 = Wt. Per Feet.
2)	**Weight of S.S. Round Bar** DIA (mm) x DIA (mm) x 0.00623 = Wt. Per Mtr. DIA (mm) x DIA (mm) x 0.0019 = Wt. Per Feet.
3)	**Weight of S.S. Square Bar** DIA (mm) x DIA (mm) x 0.00788 = Wt. Per Mtr. DIA (mm) x DIA (mm) x 0.0024 = Wt. Per Feet.
4)	**Weight of S.S. Hexagonal Bar** A/F (mm) x A/F (mm) x 0.00680 = Wt. Per Mtr. A/F (mm) x A/F (mm) x 0.002072 = Wt. Per Feet.
5)	**Weight of S.S. Flat Bar** Width (mm) x Thick (mm) x 0.00798 = Wt. Per Mtr. Width (mm) x Thick (mm) x 0.00243 = Wt. Per Feet.
6)	**Weight of S.S. Sheets & Plates** Length (Mtrs) x Width (Mtrs) X Thick (mm) x 8 = Kg. Per Sheet Length (Ft) x Width (Ft) x Thick (mm) x 3/4 = Kg. Per Sheet
7)	**Weight of S. S. Circle** Dia (mm) x Dia (mm) x Thick (mm) ÷ 160 = Gms. Per PC Dia (mm) x Dia (mm) x Thick (mm) x 0.0000063 = Kg. Per PC
8)	**Weight of Brass Pipe / Copper Pipe** O.D. (mm) - Thick (mm) x Thick (mm) x 0.0260 = Wt. Per Mtr.
9)	**Weight of Lead Pipe** O.D. (mm) - Wt. (mm) x Wt. (mm) x 0.0345 = Wt. Per. Mtr.
10)	**Weight of Aluminium Pipe** O.D. (mm) - Thick (mm) x Thick (mm) x 0.0083 = Wt. Per Mtr.
11)	**Weight of Aluminium Sheet** Length (Mtr.) x Width (Mtr.) x Thick (mm) x 2.69 = Wt. Per PC
12)	**Weight for Conversion of Mtr. To Feet** Weight of 1 Mtr. ÷ 3.2808 = Feet
13)	**Formula for Calculating Width of Sheet for making Pipe** Outer DIA - Wall Thickness X 22/7 Width of Sheet
14)	**Formula For Healthy Business** Honesty + Quality of Goods + Quick Service + Reasonable rate = **Good Health of Business**

PIPES & TUBES



Pipes

Stainless Steel & Duplex Steel Pipe

Size	:	½" to 24"
Schedule	:	Sch. 5 to Sch. XXS
Stainless Steel	:	ASTM A312, A358 - TP 304/304H/304L/316/316H/ 316L/316Ti/309/310/317/317L/321/347/904L
Duplex Steel	:	ASTM A790 - UNS S31803, S32750, S32760, S32205

Alloy Steel, Carbon Steel & LTCS Pipe

Size	:	1/2" to 24"
Schedule	:	Sch. 5 to Sch. XXS
Alloy Steel Pipe	:	ASTM A335 Gr. P5, P9, P11, P12, P22 & P91
Carbon Steel	:	ASTM A 106 Gr. B ASTM A53
Low Temp. Pipe	:	ASTM A 333 Gr. 6
Line Pipe	:	API 5L, X 42, 46, 52, 56, 60, 70
Mild Steel & Galvanized Pipe	:	IS 1239, IS 3589

Copper & Nickel Alloys pipe

Size	:	½" NB to 10" NB
Standard	:	10S/40S/80S
Copper Nickel	:	C70600 (90:10), C71500 (70:30), C71640
Nickel	:	UNS N02200, N02201
Monel	:	UNS N04400, N05500, Alloy 20
Inconel	:	UNS N06600, N06601, N06625, N08800, N08810, N08825
Hastelloy	:	UNS N10276, N06022, N10665, N06455

Type :-

Round | Square | Rectangle | Hydraulic

Tubes

Size	:	6 mm OD to 152.4 mm OD
Thickness	:	0.6mm-10mm-Gauge : 22 SWG/BWG to 10 SWG/BWG
Form	:	Round, Square, Rectangle, Coil, 'U' Shap
Length	:	Standard Length & Cut Length
Stainless Steel Tube	:	ASTM A-213, A-249, A269-TP 304/304H/304L, 316/316H/316L/316Ti, TP 309, 310, 317L, 321, 347, 904 L etc.
Low Alloy Steel Tube	:	ASTM A 213 - T-11, T-12, T-22, T-5, T-9 etc.
Carbon Steel Tube	:	BS 3059 Gr. 360 / 440, SA 179, SA / ASTM A210 Gr. A1
Copper Nickel Tube	:	ASTM B111, C70600 (90.10), C71500 (70:30), C71640
Admiralty Brass Tube	:	ASTM B 111 C44300, C44400, C44500, C68700
Copper & Brass Tube	:	ASTM B 188 C11000, C12200, C26000, C27000, C28000
Nickel Alloy Tube	:	Nickel, Monel, Inconel, Alloy 20 etc.
Specialize	:	Capillary Tube, IBR Tubes, Copper Nickel Tube

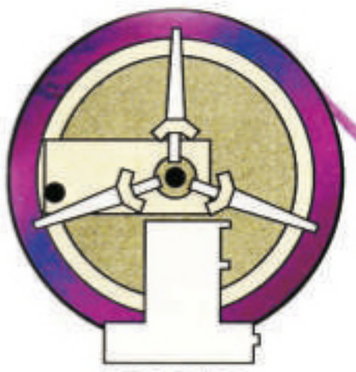
Sumitomo · JSL JINDAL STAINLESS · NIPPON & SUMITOMO (JAPAN) · MSL · सेल SAIL · RATNAMANI METALS & TUBES LTD. · PSL

Test Certificate

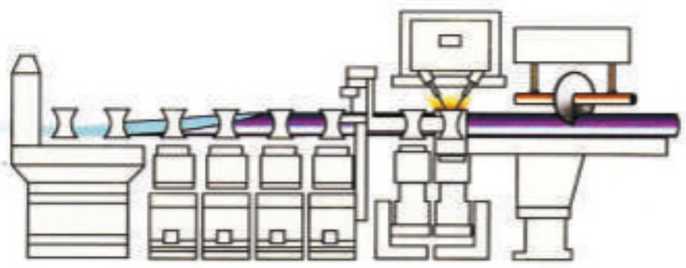
Manufacturer Test Certification
En 3.1 & 3.2 IBR Test Certificate & NACE MR 0175 / MR 0103

PROCESS FLOW CHART

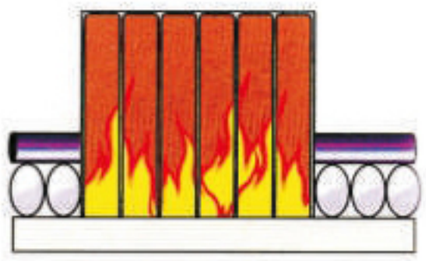
FOR AUTOMATIC WELDING STAINLESS STEEL PIPES & TUBES



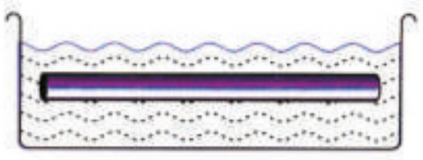
DECOILER



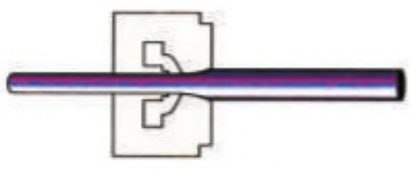
FORMING TIG WELDING



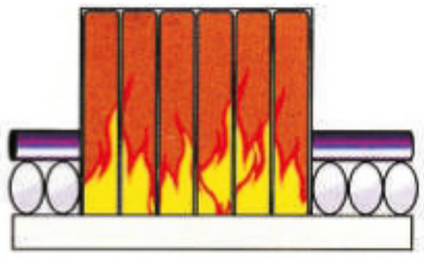
ANNEALING



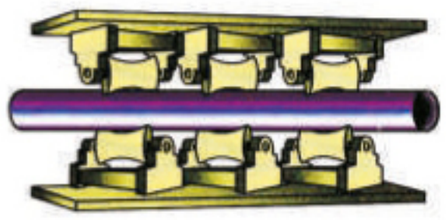
PICKLING & COATING



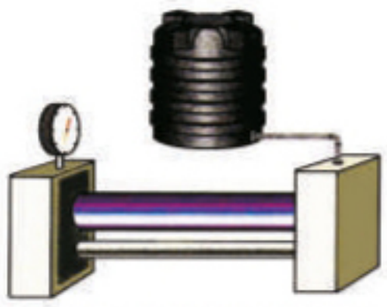
DRAWING



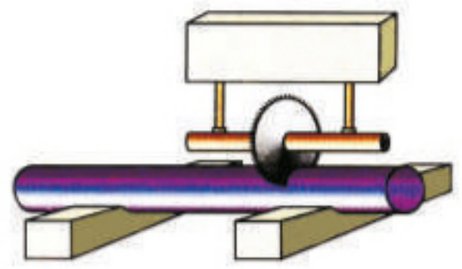
ANNEALING



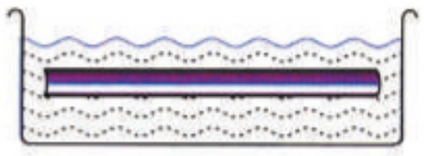
STRAIGHTENING



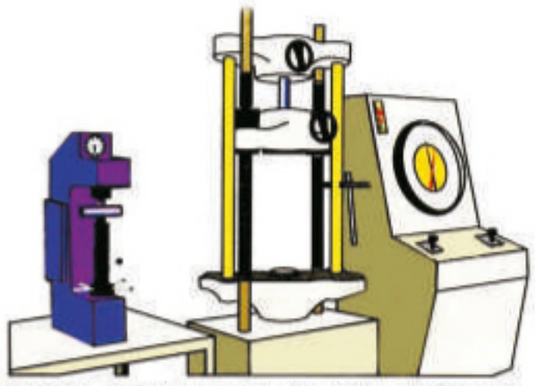
100% HYDRO TESTING



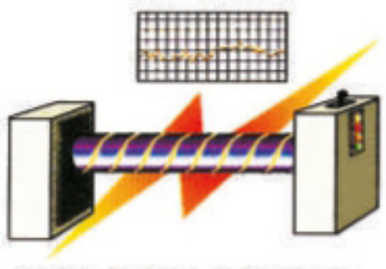
CUTTING TO LENGTH



PICKLING & PASSIVATION

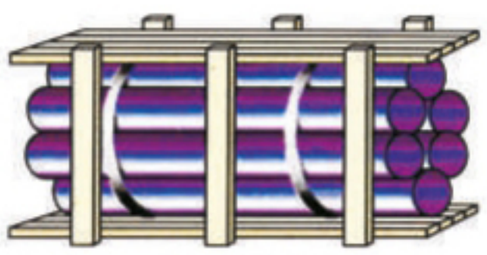


DESTRUCTIVE MECHANICAL TESTING



EDDY CURRENT TESTING

100% VISUAL INSPECTION



PACKING

Email : sales@meltonalloys.com Web : www.meltonalloys.com

S S & C S PIPE DIMENSION

STAINLESS STEEL PIPE DIMENSION AS PER ASTM AND WEIGHT-KG. PER MTR. (ANSI B 36.19-1965)

Nominal Bore		Outside Diameter	Schedule 5S		Schedule 10		Schedule 10S		Schedule 20		Schedule 40		Schedule 40S		Schedule 80S		Schedule 160S		Schedule XXS	
mm	INCH	mm	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)	Wt mm	Weight (Kg/mt)
3	1/8	10.3	1.24	0.28	1.24	0.28	1.24	0.28	1.5	0.33	1.73	0.37	1.73	0.37	2.41	0.47	-	-	-	-
6	1/4	13.7	1.24	0.39	1.65	0.49	1.65	0.49	2.00	0.58	2.24	0.64	2.24	0.64	3.02	0.80	-	-	-	-
10	3/8	17.1	1.24	0.49	1.65	0.63	1.65	0.63	2.00	0.74	2.31	0.85	2.31	0.85	3.2	1.10	-	-	-	-
15	1/2	21.3	1.65	0.80	2.11	1.00	2.11	1.00	2.30	1.07	2.77	1.27	2.77	1.27	3.75	1.63	4.75	1.95	7.47	2.56
20	3/4	26.7	1.65	1.03	2.11	1.29	2.11	1.29	2.55	1.52	2.87	1.70	2.87	1.70	3.91	2.21	5.54	2.91	7.82	3.66
25	1	33.4	1.65	1.30	2.11	2.10	2.11	2.10	3.00	2.25	3.38	2.52	3.38	2.52	4.55	3.26	6.35	4.26	9.09	5.48
32	1.1/4	42.2	1.65	1.66	2.77	2.71	2.77	2.71	3.00	2.90	3.56	3.41	3.56	3.41	4.85	4.49	6.35	5.65	9.7	7.82
40	1.1/2	48.3	1.65	1.91	2.77	3.13	2.77	3.13	3.00	3.35	3.68	4.07	3.68	4.07	5.08	5.45	7.14	7.29	10.16	9.61
50	2	60.3	1.65	2.40	2.77	3.95	2.77	3.95	3.00	4.24	3.91	5.47	3.91	5.47	5.54	7.52	8.74	11.18	11.07	13.52
65	2.1/2	73.0	2.11	3.71	3.05	5.29	3.05	5.29	3.50	6.81	5.16	8.68	5.16	8.68	7.01	11.47	9.53	15.00	14.2	20.71
80	3	88.9	2.11	4.54	3.05	6.56	3.05	6.49	4.00	8.37	5.49	11.47	5.49	11.36	7.62	15.36	11.10	21.42	15.24	27.84
100	4	114.3	2.11	5.87	3.05	8.50	3.05	8.41	4.50	12.18	6.02	16.32	6.02	16.17	8.56	22.45	13.49	33.73	17.12	41.26
125	5	141.3	2.77	9.52	3.40	11.74	3.40	11.63	5.00	16.80	6.55	22.10	6.55	21.89	9.53	31.97	15.88	49.39	19.05	57.76
150	6	168.1	2.77	11.37	3.40	14.04	3.40	13.90	6.35	25.36	7.11	28.70	7.11	28.42	10.97	42.80	18.20	67.75	21.95	79.67
200	8	219.1	2.77	14.86	3.76	20.27	3.76	20.08	6.35	33.83	8.18	43.20	8.18	42.79	12.7	65.01	23.00	111.86	22.23	108.54
250	10	273.1	3.40	22.74	4.19	28.21	4.19	27.94	6.35	42.41	9.27	61.23	9.27	60.65	12.7	82.02	28.00	172.4	25.4	156.03
300	12	323.9	3.96	31.42	4.57	36.54	4.57	36.19	6.35	50.49	10.31	80.96	9.52	74.22	12.7	98.02	33.32	240.12	25.4	188.03
350	14	355.6	3.96	34.53	6.35	55.53	4.78	41.59	7.92	68.95	11.13	96.00	11.13	95.08	19.05	159.00	35.71	283.30	-	-
400	16	406.4	4.19	41.79	6.35	63.61	4.78	47.61	7.92	79.03	12.70	125.20	12.7	124.00	21.41	204.42	40.46	367.19	-	-
450	18	457.2	4.19	47.07	6.35	71.69	4.78	53.63	7.92	89.10	14.27	158.27	14.27	156.75	23.8	255.81	45.71	466.47	-	-
500	20	508.0	4.78	59.65	6.35	79.76	5.54	69.03	9.53	118.95	15.09	186.25	15.09	184.46	26.19	312.94	49.99	567.82	-	-
600	24	609.6	5.54	82.99	6.35	95.92	6.35	95.00	9.53	143.20	17.45	258.74	17.48	256.69	30.96	444.28	59.54	812.21	-	-
650	26	660.4			7.92	129.40	7.92	129.40	12.70	205.97	-	-	9.53	155.32	12.7	205.97				
700	28	711.2			7.92	139.47	7.92	139.47	12.70	222.13	-	-	9.53	167.44	12.7	222.13				
750	30	762.0	6.35	120.11	7.92	149.55	7.92	149.55	12.70	238.28	-	-	9.53	179.56	12.7	238.28				
800	32	812.8	-	-	7.92	159.62	7.92	159.62	12.70	254.44	17.48	348.11	9.53	191.69	12.7	254.44				
850	34	863.6	-	-	7.92	169.70	7.92	169.70	12.70	270.59	17.48	370.35	9.53	203.74	12.7	270.59				
900	36	914.4	-	-	7.92	179.77	7.92	179.77	12.70	286.75	19.05	427.09	9.53	215.93	12.7	286.75				

SWG DIMENSIONS & TOLERANCE CHART

SWG DIMENSIONS AND WEIGHTS (SWG WALL THICKNESS)

Outside diameter		22 SWG 0.711mm	20 SWG 0.914mm	18 SWG 1.218mm	16 SWG 1.625mm	14 SWG 2.032mm	12 SWG 2.641mm	11 SWG 2.946mm	10 SWG 3.257mm
Inches	mm	Kg/m	Kg/m	Kg/m	Kg/m	Kg/m	Kg/m	Kg/m	Kg/m
1/4"	6.350	--	0.124	0.157	0.192	--	--	--	--
5/16"	7.950	--	0.161	0.205	0.257	--	--	--	--
3/8"	9.525	--	0197	0.253	0.321	0.381	--	--	--
1/2"	12.700	0.213	0.270	0.350	0.451	0.543	0.665	0.720	--
5/8"	15.875	0.270	0.342	0.447	0.580	0.704	0.875	0.954	--
3/4"	19.050	--	0.415	0.544	0.709	0.866	1.090	1.190	1.290
7/8"	22.225	0.383	0.488	0.641	0.838	1.030	1.300	1.420	1.550
1"	25.400	0.440	0.560	0.738	0.967	1.190	1.510	1.660	1.800
1 1/4"	31.750	0.553	0.706	0.931	1.230	1.510	1.930	2.130	2.320
1 1/2"	38.100	0.666	0.851	1.130	1.480	1.840	2.350	2.590	2.840
1 3/4"	44.450	0.779	0.996	1.320	1.740	2.160	2.770	3.060	3.350
2"	50.800	0.892	1.140	1.510	2.000	2.480	3.190	3.530	3.870
2 1/2"	63.500	--	--	1.900	2.520	3.130	4.030	4.470	4.910
3"	76.200	--	--	2.290	3.030	3.770	4.870	5.400	5.640
3 1/2"	88.900	--	--	2.670	3.550	4.420	5.700	6.340	6.970
4"	101.600	--	--	3.060	4.070	5.070	6.540	7.280	8.010
5"	127.000	--	--	3.628	4.970	6.010	7.926	--	9.673
5 1/2"	139.700	--	--	4.000	5.481	6.624	8.736	--	10.675
6"	152.400	--	--	4.360	6.000	7.330	9.545	--	11.699
6 1/2"	161.100	--	--	4.720	6.480	7.840	10.419	--	12.720

TOLERANCE OF ASTM SPECIFICATION STAINLESS STEEL TUBES AND PIPES

Specification	Allowable Outside Diameter Variation in mm			Allowable wall Thickness Variation		Exact Length Tolerences in mm		Testing
Specification	Diameter	Over	Under	Over %	Under%	Over	Under	Testin
ASTM - 270 Seamless & Welded Sanitary Tubes	25.4 38.1 50.8 63.5 76.2 101.6	.05 .05 .05 .05 .08 .08	.20 .20 .28 .28 .30 .38	+12.5 +12.5 +12.5 +12.5 +12.5 +12.5	-12.5 -12.5 -12.5 -12.5 -12.5 -12.5	3.2 3.2 3.2 3.2 3.2 3.2	0 0 0 0 0 0	Reverse Flattering test 100% Hydrostatic test External polish on all tubes Refer to ASTM A-270
ASTM A - 249 Welded Boiler, Super heater, Heat Exchanger and Condenser Tubes	Under 25.4 25.4 -38.1 incl. 38.1 - 50.8 excl. 50.8 - 63.5 excl. 63.5 - 76.2 excl. 76.2 - 101.6 incl.	0.1016 0.1524 0.2032 0.2540 0.3048 0.3810	0.1016 0.1524 0.2032 0.2540 0.3048 0.3810	+10 +10 +10 +10 +10 +10	-10 -10 -10 -10 -10 -10	3.175 3.175 3.175 3.76 4.76 4.76	0 0 0 0 0 0	Tension Test, Fletting test Flare Test * Reverse Bend Test Hardness Test 100% Hydrostatic Test *Reverse Flattering Test Refer to ASTM A-450 Whenever applicable
ASTM A - 312 Seamless & Welded Pipes Test	13.7 - 48.3 incl. 48.3 - 114.3 incl. 114.3 - 220 incl.	0.40 0.79 1.59	0.79 0.79 0.79	Minimum Wall tubes 12.5% under nominal wall Specified	6.4 6.4	0 0 6.4 (Normally Random lengths ordered)	Tension Test Fletting Test 0	100% Hydrostatic
ASTM A - 269 Seamless & Welded Service	Upto 12.7 12.7 -38.1 excl. 38.1 - 88.9 excl. 88.9 - 139.7 excl. 139.7 - 203.2 excl.	0.13 0.13 0.25 0.38 0.76	0.13 0.13 0.25 0.38 0.76	+15 +10 +10 +10 +10	-15 -10 -10 -10 -10	3.2 3.2 4.8 4.8 4.8	0 0 0 0 0	Tension Test Flange Test (Welded only) Hardness Test Reverse Flatterning test (Welded only) 100% Hydrostatic Test Refer to ASTMA-269
ASTM A - 213 Seamless Boiler, Superheater and Heat Exchanger Tubes	Upto 25.4 25.4 - 38.1 incl. 38.1 - 50.8 excl. 50.8 - 63.5 encl. 63.5 - 73.2 excl. 76.2 - 101.6 incl.	0.1016 0.1524 0.2032 0.2540 0.3048 0.3810	0.1016 0.1524 0.2032 0.2540 0.3048 0.3810	+20 +20 +22 +22 +22 +22	-0 -0 -0 -0 -0 -0	3.175 3.175 3.176 3.760 4.760 4.760	0 0 0 0 0 0	Tension Test Flattening Test Hardness test 100% Hydrostatic Test Refer to ASTMA-450
ASTM A - 268 Seamless & Welded Femtic Stainless Steel tubes	Upto 12.7 12.7 - 38.1 excl. 38.1 - 88.9 excl. 88.9 - 168.9 excl.	0.13 0.13 0.25 0.38	0.13 0.13 0.25 0.38	+15 +10 +10 +10	-15 -10 -10 -10	3.2 3.2 4.8 4.8	0 0 0 0	Tension Test Flange Test CERW only Hardness Test Reverse Flattering Test 100% Hydrostate Test
ASTM A - 358 For Welded big Diameter Pipes	For all size	+0.5%	0.5%	No Limit	-0.3 mm	Customer's Specification		

Email : sales@meltonalloys.com Web : www.meltonalloys.com

MILD STEEL PIPES & BIG DIAMETER ERW PIPES

MILD STEEL PIPES CONFIRMING TO IS : 1239 (PART 1) - 1979

Nominal Bore		Outside Diameter		Light		Medium		Heavy	
				Thickness	Weight	Thickness	Weight	Thickness	Weight
Inch	In mm	In	mm	mm	kg/mtr	mm	Kg/Mtr.	mm	Kg/Mtr.
1/8"	3 mm	0.406	10.32	1.80	0.361	2.00	0.407	2.65	0.493
1/4"	6 mm	0.532	13.49	1.80	0.517	2.35	0.650	2.90	0.769
3/8"	10 mm	0.872	17.10	1.80	0.674	2.35	0.852	2.90	1.02
1/2"	15 mm	0.844	21.43	2.00	0.952	2.65	1.122	3.25	1.45
3/4"	20 mm	1.094	27.20	2.35	1.410	2.65	1.580	3.25	1.90
1"	25 mm	1.312	33.80	2.65	2.010	3.25	2.440	4.05	2.97
1.1/4"	32 mm	1.656	42.90	2.65	2.580	3.25	3.140	4.05	3.84
1.1/2"	40 mm	1.906	48.40	2.90	3.250	3.25	3.610	4.05	4.43
2"	50 mm	2.375	60.30	2.90	4.110	3.65	5.100	4.47	6.17
2.1/2"	65 mm	3.004	76.20	3.25	5.840	3.65	6.610	4.47	7.90
3"	80 mm	3.500	88.90	3.25	6.810	4.05	8.470	4.85	10.1
4"	100 mm	4.500	114.30	3.65	9.890	4.50	12.10	5.40	14.4
5"	125 mm	5.500	139.70	-	-	4.85	16.20	5.40	17.8
6"	150 mm	6.500	165.10	-	-	4.85	19.20	5.40	21.2

BIG DIAMETER ERW PIPES CONFIRMING TO IS 3589

Wall Thickness in mm	Nominal Bore 7" NB 193.7 mm OD	Nominal Bore 8" NB 219.1 mm OD	Nominal Bore 10" NB 273 mm OD	Nominal Bore 12" NB 323.7 mm OD	Nominal Bore 14" NB 355.6 mm OD	Nominal Bore 16" NB 406.4 mm OD	Nominal Bore 18" NB 457 mm OD	Nominal Bore 20" NB 508 mm OD
kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr	kg/mtr
4.85	22.59	25.62	32.07	38.13	-	-	-	-
5.20	24.17	27.43	34.34	40.85	-	-	-	-
5.60	26.00	29.28	36.93	43.93	48.11	-	-	-
6.00	27.88	31.53	39.50	47.02	51.49	61.00	69.00	-
6.35	29.34	33.28	41.73	49.67	54.43	62.35	70.50	78.50
7.01	32.27	36.76	46.43	55.45	61.82	69.04	-	-
7.94	-	41.00	50.95	61.85	67.98	77.92	87.80	-
8.18	-	42.56	53.42	65.12	-	-	-	-
9.53	-	51.50	60.24	73.75	81.21	93.13	105.00	117.00
12.70	-	-	-	-	107.28	123.30	139.00	155.00

Tolerance on Thickness and Weight : as per IS 1239
The following manufacturing tolerance shall be permitted on the tubes and sockets.

(a) Thickness	
(1) Butt welded Light tubes	+ Not limited - 8 percent
Medium and Heavy tubes	+ Not Limited - 10 percent
(2) Seamless tubes	+ Not Limited - 12.5 percent
(b) Weight :	
(1) Single tube (light series)	+ 10 percent - 8 percent
(2) Single tube (medium and heavy series)	+ 10 percent

MAXIMUM PERMISSIBLE PRESSURE AND TEMPERATURE FOR TUBES WITH STEEL COUPLINGS OR SCREWED AND SOCKETED JOINTS

Nominal Bore mm	Maximum Permissible Presure N/mm^2	$Kg./cm^2$	Maximum Permissible Temperature ^0C
Upto and Including 25 mm	1.20	12.24	260
Over 25 mm upto and Including 40 mm	1.03	10.50	260
Over 40 mm upto and Including 80 mm	0.86	8.77	260
over 80 mm upto and Including 100 mm	0.69	7.04	260
	0.83	8.47	177
Over 100 mm upto and Including 125 mm	0.69	7.04	171
Over 125 mm upto and Inlcuding 150 mm	0.50	5.10	160

For tubes fitted with appropriate fittings of suitably butt welded together, the Max. permissible pressure shall be 21.00 Kg/cm^2 and Max. permissible temp. 260^0C

CHEMICAL COMPOSITION OF STAINLESS STEEL

Stainless Steel is essentially a low carbon steel which contains chromium at 10% or more by weight. It is this addition of chromium that gives the steel its unique stainless corrosion resisting Properties. The corrosion resistance and other useful properties of the steel are enhanced by increased chromium content and the addition of other elements such as molybdenum, nickel and nitrogen

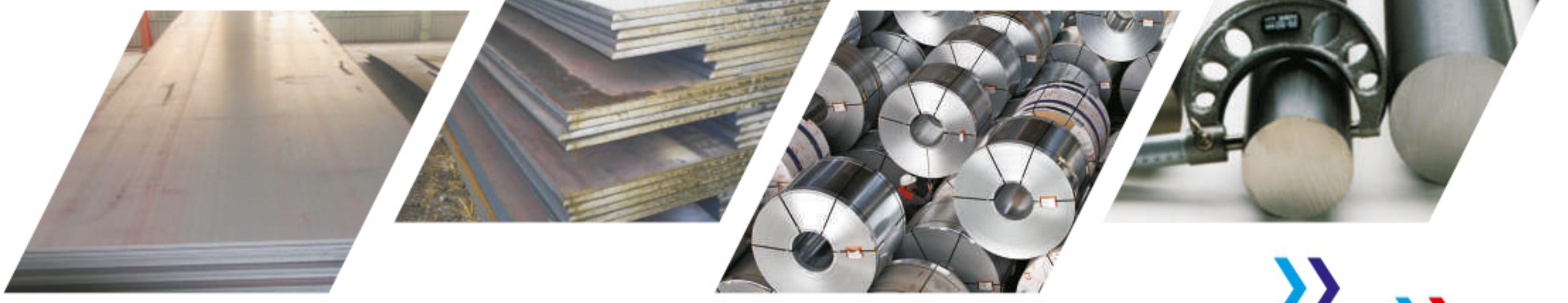
Chemical Composition of Stainless Steel											Nearest Equivalent Specification		
UNS NO.	EN	BS	AISI Grade	C Max	Mn Max	P Max	S Max	Si Max	Cr	Ni	Mo	Cu	I.S.
Austentic													
S30100	-	301S21	301	0.15	2.0max	0.045	0.040	1.0	16.0/18.0	6.0/8.0	-	-	10Cr17Ni7
S30200	-	-	302	0.15	2.0	0.045	0.030	1.0	17.0/19.0	8.0/10.0	-	-	07Cr18Ni9
S30300	-	303S31	303	0.15	2.0	0.045	0.15min	1.0	17.0/19.0	8.0/10.0	-	-	15Cr18
S30400	1.4301	-	304	0.08	2.0	0.045	0.030	1.0	18.0/20.0	8.0/10.0	-	-	04Cr18Ni10
S30403	1.4307	304S11	304L	0.030	2.0	0.045	0.030	1.0	18.0/20.0	8.0/12.0	-	-	02Cr18Ni11
S30453	1.4306	304S61	304LN	0.030	2.0	0.045	0.030	0.75	18.0/20.0	8.0/11.0	-	-	-
S30409	-	-	304H	0.05	2.0	0.045	0.03	1	18.0/20.0	8.5/9.5	-	-	-
S30900	-	309S16	309	0.20	2.0	0.045	0.030	1.0	22.0/24.0	12.0/15.0	-	-	20Cr24Ni12
S30908	1.4833	-	309S	0.08	2.0	0.045	0.030	1.0	22.0/24.0	12.0/15.0	-	-	-
S31009	-	-	310H	0.25	2.0	0.045	0.030	1.50	24.0/26.0	19.0/22.0	-	-	10Cr25Ni12
S31008	1.4845	-	310S	0.08	2.0	0.045	0.030	1.50	24.0/26.0	19.0/22.0	-	-	-
S31600	-	316S31	316	0.08	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	-	04Cr17Ni12Mo2
S31603	1.4404	316S11	316L	0.030	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	-	03Cr17Ni12Mo2
S31653	-	316S61	316LN	0.030	2.0	0.045	0.030	0.75	16.0/18.0	10.0/14.0	2.0/3.0	-	-
S31635	1.4571	320S31	316Ti	0.080	2.0	0.045	0.030	1.0	16.0/18.0	10.0/14.0	2.0/3.0	-	-
S31700	-	-	317	0.08	2.0	0.045	0.030	1.0	18.0/2.0	11.0/15.0	3.0/4.0	-	-
S31703	-	317S12	317L	0.030	2.0	0.045	0.030	1.0	18.0/20.0	11.0/15.0	3.0/4.0	-	-
S31753	-	-	317LN	0.03	2.0	0.045	0.03	1	18.0/2.0	11.0/15.0	3.0/4.0	-	-
S32100	1.4541	321S31	321	0.08	2.0	0.045	0.030	1.0	17.0/19.0	9.0/12.0	-	-	04Cr18Ni10Ti20
S34700	-	347S31	347	0.08	2.0	0.045	0.030	1.0	17.0/19.0	9.0/12.0	-	-	04Cr18Ni10Nb-40
N08904	1.4539	-	904L	0.02	2.0	0.045	0.035	1	19.0/23.0	23.0/28.0	4.0-5.0	-	-
Ferritic													
S41100	-	410S21	410	0.15	1.00	0.040	0.030	1.0	11.50-13.50	0.75	...	...	...
S41008	1.4000	403S17	410S	0.08	1.00	0.040	0.030	1.0	11.50-13.50	0.60	...	...	...
S42900	-	-	429[G]	0.12	1.00	0.040	0.030	1.0	14.00-16.00	...	...	...	...
S43000	1.4016	430S17	430	0.12	1.00	0.040	0.030	1.0	16.00-18.00	0.75	...	...	...
S43035	-	-	439	0.07	1.00	0.040	0.030	1.0	17.00-19.00	0.050	...	0.04	...
S44400	-	-	444	0.025	1.00	0.040	0.030	1.0	17.5-19.5	1.00	1.75-2.50	0.035	...
			446	0.20	1.50	0.040	0.030	0.50	11.40/13.00	-			...
	-	-	409L	≤ 0.030	≤ 1.00	≤ 1.00	-	-	-	10.50-11.75	-	-	-
Duplex & Super Duplex													
S31803	1.4462	-	-	0.030	2.0	0.030	0.020	1.0	21.0-23.0	4.5-6.5	2.5-3.5	-	0.08-0.20
S32250	-	-	255[G]	0.040	1.50	0.040	0.030	1.0	24.0-27.0	4.5-6.5	2.9-3.9	1.50-2.50	0.10-0.25
S32750	1.441	-	2507	0.030	1.20	0.035	0.020	0.8	24.0-26.0	6.0-8.0	3.0-5.0	0.50	0.24-0.32
S32760	-	-	-	0.030	1.0	0.030	0.010	1.0	24.0-26.0	6.0-8.0	3.0-4.0	0.50-1.00	0.20-0.30

U.S.A. / GROSSBRITAINNIE U.S.A. / GRANDE-BRETAGNE U.S.A. / GREAT BRITAN													
Analyses Analyses Composition													
Handelsbezeichung Designation Commercial Commercial designation	C%	Co%	Cr%	Mo%	Ni%	V%	W%	Ai%	Cu%	Nb/Cb Ta%	Ti%	Fe%	Sonstige Autres -Other %
Monel 400	0.12	-	-	-	65.0	-	-	-	32.0	-	-	1.5	Mn 1.
Monel 401	0.10	-	-	-	43.0	-	-	-	53.0	-	-	0.75	Si 0.25;Mn z25
Monel 404	0.15	-			52.0-57.0	-	-	0.05	rest/bal	-	-	0.50	Mn 0.10; Si 0.10;So.024
Monel 502	0.10	-	-	-	63.0-17.0	-	-	2.5-3.5	rest/bal	-	0.50	2.0	Mn 1.5;Si:So.010
Monel k 500	0.13	-	-	-	64.0	-	-	2.8	30.0	-	0.60	1.0	Mn 0.8
Monel B	0.10	1.25	0.60	28.0	rest/bal	0.30	-	-	31.0	-	-	1.2	Mn1.0;So,0.04
Hastelloy B2	0.02	1.0	1.0	26.0-30.0	rest/bal	-	-	-	-	-	-	2.0	Mn1.0:Si 0.10
Hastelloy C	0.07	1.25	16.0	17.0	rest/bal	0.30	40	-	-	-	-	5.75	Mn 1.0:Si 0.70
Hadselloy C4	0.015	2.0	14.0-17.0	14.0-17.0	rest/bal	-	-	-	-	-	0.70	3.0	Mn1.0;Si 0.70
Hastelloy C276	0.02	2.5	140-16.5	15.0-17.0	rest/bal	0.35	3.0-4.5	-	-	-	-	4.0-7.0	Mn 1.0;Si 0.05
Incoloy 800	0.04	-	21.0	-	32.0	-	-	0.3	-	-	0.4	45.0	-
Incoloy 801	0.05	-	20.5	-	32.0	-	-	-	-	-	1.1	45.0	-
Incoloy 802	0.35	-	21.0	-	32.0	-	-	0.6	-	-	0.7	45.0	-
Incoloy 804	0.05	-	29.5		41.0	-	-	0.3	-	-	0.6	25.4	-
Incoloy 805	0.12	-	7.5	0.50	36.0	-	-	-	0.10	-	-	rest/bal	Mn 0.60;Si 0.50
Incoloy 810	0.25	-	21.0	-	32.0	-	-	-	0.50	-	-	rest/bal	Mn 0.90; Si 0.80
Incoloy 825	0.04	-	21.0	3.0	42.0	-	-	-	2.0	-	1.0	30.0	-
Incoloy 901	0.05	-	12.5	6.0	rest/bal	-	-	-	-	-	2.9	34.0	Mn 0.24;0.12;00.015
Incoloy 903	0.02	15.0	-	-	38.0	-	-	0.7	-	Nb 3.0	1.4	41.0	-
Incoloy 904	0.02	14.0	-	-	33.0	-	-	-	-	-	1.7	50.0	-
Incoloy 600	0.05	-	15.5	-	75.0	-	-	-		-	-	8.0	-
Incoloy 601	0.05	-	23.0	-	60	-	-	1.4	-	-	-	14.0	-
Incoloy 610	0.20	-	15.5	-	rest/bal	-	-	-	0.50	Nb 1.0	-	9.0	Mn0.90;Si 2.0
Incoloy 617	0.07	12.5	22.5	9.0	54.0	-	-	1.0	-	-	-	-	-
Incoloy 625	0.05	-	21.5	9.0	61.0	-	-	0.60	-	Nb 3.65	0.60	2.5	Mn 05;Si 0.50
Incoloy 671	0.07	12.5	22.5	9.0	51.0	-	-	-	-	-	0.35	-	-
Incoloy 700	0.12	28.5	15.0	3.75	46.0	-	-	3.0	0.05	-	2.20	0.70	Mn 0.10;Si 0.30
Incoloy 702	0.04	-	15.6	-	rest/bal	-	-	3.4	0.10	-	0.70	0.35	Mn 0.05; Si 0.20
Incoloy 705	0.30	-	15.5	-	rest/bal	-	-	-	0.50	-	-	8.0	Mn 0.90; Si 5.5

CHEMICAL COMPOSITION OF TITANIUM / NICKEL BASE ALLOYS

Grade	UNS Designation	C % Max	Mn % Max	P % Max	S % Max	Si% -	Ni %	Co %	Cu %	Ag%	Fe %	Pb %	Zn % Max	N %	Ti % Max	H % Max	O %
70/30 Cu-Nu	C 71500	0.05	1.0	0.02	0.02	-	29.0-33.0	-	-	-	0.40-1.0	0.02	0.50	-	-	-	-
90/10 Cu-Ni	C 70600	0.05	1.0	0.02	0.02	-	9.0-11.0	-	-	-	1.0-1.8	0.02	0.50	-	-	-	-
Titanium Gr. 2	R 50400	0.08	0.03	-	-	-	-	-	-	-	0.30	-	-	-	-	-	0.25
Titanium Gr. 1	R 50250	0.08	0.03	-	-	-	-	-	-	-	0.20	-	-	-	-	0.015	0.18
Type 17-4PH	-	0.07	1.00	0.04	0.03	1.00	3.00-5.00	3.00-5.00	0.15-0.45	-	-	-	-	-	-	-	-
Nickel 200	2200	0.15	0.35	-	0.01	0.35	99.0	-	-	-	0.40	-	-	-	-	-	-
Nickel 201	2201	-	0.35	-	0.01	0.35	99.0	-	0.25	-	0.40	-	-	-	-	-	-

SHEET, PLATE, COIL & RODS



SHEETS/PLATES & COILS DETAILS

We are Importer, Stockiest and supplier of a extensive range of Stainless Steel Plates to our clients. Various national as well as international clients are placing bulk orders for the Stainless Steel Coils due to the unmatched quality and unsurpassable performance. Stainless Steel Coils we supply ensures high durability, tensile strength and resistivity to adverse conditions Additionally, Customers are eased with the availability of the Cold Rolled Stainless Steel Coils in varied grades, sizes dimensions and finishes as pre the specifications provided.

User Industries

Petrochemical, Chemical, Pharmaceutical, Fertiliser, Aagro Chemical, Aerospace, Desalination, Food & Beverage, Sugar, Distillery, Oil & Gas, Power Generation, Cement, Petroleum Refinery, Pulp & paper & Man Made Fiber.

Range : 0.4 mm To 150 mm thickness in Sheets, Plates & Coils

Types : Coil, Foil, Roll, Plain Sheet, Shim Sheet, Perforated Sheet, Chequered Plate, Strip, Flat, Blank (Circle), Ring (Flange)

Material of Construction

High Nickel Alloys	Hastelloy C276 & C22, Nickel 200 & 201, Monel 400 & 500, Inconel 600 & 625, Incoloy 800 & Alloy-20 & Cupro Nickel
Duplex	ASTM A815 / UNS S31803 & S32205 (2205)
Super Duplex	ASTM A815 / UNS S32750 (2507 & S32760.
Titanum	ASTM B265 Gr. - 1, 2, 3, 5 (6AL - 4V), 7, 9, 11, 12, 23 (6AL - 4V ELI)
Stainless Steel	ASTM A240, TP304, 304L, 304H, 316, 316L, 316H, 316Ti, 309, 310, 317L, 321, 347, 409, 410, 420, 430, 446, 904L, 202
Carbon Steel	ASTM A36, A275JR, IS-2062 GR. A / B, Fe 410WA, Fe 410WB, ASTM / ASME A516 / 517 GR. 60 / 70, IS 2062, IS 2002
Test Certificates	MTC, IBR & Third Party Inspection

SWG (STANDARD WIRE GAUGE) & WEIGHT (W) OF STAINLESS STEEL SHEET IN KG.

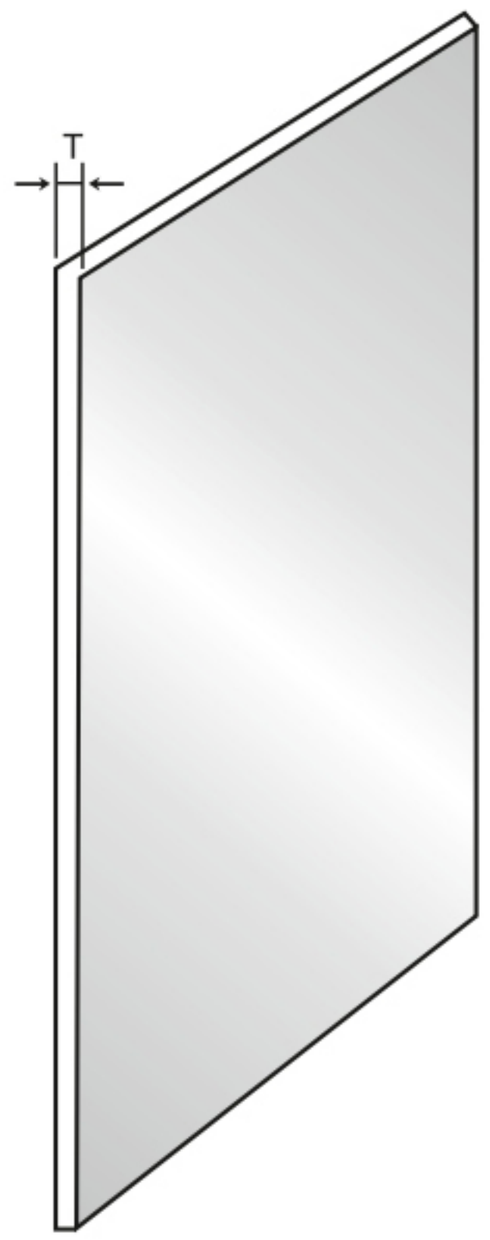
Thickness (T)			1250 x 2500 mm mm	4' x 8' ft ft	1 x 1 Mtr Mtr	14" x 4" In ft	1' x 1' ft ft
SWG	Inch	mm					
0	0.324	8.230	203.200	193.300	65.000	28.300	6.100
1	0.276	7.010	173.100	179.000	60.200	26.200	5.600
2	0.276	7.010	173.100	164.700	55.400	24.100	4.700
3	0.252	6.401	158.000	150.400	50.600	22.100	4.700
4	0.232	5.893	145.500	138.400	46.600	20.300	4.300
5	0.212	5.385	132.900	126.500	42.600	18.600	4.000
6	0.192	4.877	120.400	114.600	38.600	16.800	3.600
7	0.176	4.470	110.400	105.000	35.300	15.400	3.300
8	0.160	4.064	100.300	95.500	32.100	14.000	3.000
9	0.144	3.658	90.300	85.900	28.900	12.600	2.700
10	0.128	3.251	80.300	76.400	25.700	11.200	2.400
11	0.116	2.946	72.800	69.200	23.300	10.200	2.200
12	0.104	2.642	65.200	62.100	20.900	9.100	2.000
13	0.092	2.337	57.700	54.900	18.500	8.100	1.700
14	0.080	2.032	50.200	47.800	15.100	7.000	1.500
15	0.072	1.829	45.200	43.000	14.500	6.300	1.350
16	0.064	1.626	40.200	38.200	12.900	5.600	1.200
17	0.056	1.422	35.100	33.400	11.300	4.900	1.050
18	0.048	1.219	30.100	28.700	9.700	4.200	0.900
19	0.040	1.016	25.100	23.900	8.100	3.500	0.750
20	0.036	0.914	22.600	21.500	7.300	3.200	0.700
21	0.032	0.813	20.100	19.100	5.600	2.800	0.600
22	0.028	0.711	17.600	16.700	5.600	2.500	0.500
23	0.024	0.610	15.100	14.300	4.800	2.100	0.450
24	0.022	0.559	13.800	13.200	4.400	2.000	0.410
25	0.020	0.508	12.600	12.000	4.000	1.800	0.370
26	0.018	0.457	11.300	10.800	3.600	1.600	0.340
27	0.0164	0.417	10.300	9.800	3.300	1.500	0.310
28	0.0148	0.376	9.300	8.900	3.000	1.300	0.280
29	0.0136	0.345	8.600	8.200	2.800	1.200	0.250
30	0.0124	0.315	7.800	7.400	2.500	1.100	0.230
31	0.0116	0.295	7.300	6.900	2.400	1.000	0.220
32	0.0108	0.274	6.800	6.500	2.200	0.950	0.200
33	0.0100	0.254	6.300	6.000	2.000	0.900	0.190
34	0.0092	0.234	5.800	5.500	1.900	0.800	0.170
35	0.0084	0.213	5.300	5.000	1.700	0.750	0.160
36	0.0076	0.193	4.800	4.600	1.600	0.700	0.140
37	0.0068	0.173	4.300	4.100	1.400	0.600	0.130
38	0.0060	0.152	3.800	3.579	1.200	0.550	0.110
39	0.0052	0.132	3.300	3.100	1.100	0.500	0.100
40	0.0048	0.122	3.000	2.900	1.000	0.400	0.090

Direct Formula for
Stainless steel Sheet :

T x 7.85 Kg/m^2

T x 0.733 Kg/ft^2

T = Thickness



Weight of Following Metal's Sheet

Copper : W x 1.135

Aluminium : W x 0.349

Brass : W x 1.090

P.B. : W x 1.139

W = Weight of same size of steel Sheet from table

Example

Copper Sheet of Thickness 10 SWG having size of 4' x 8'

W x 1.135
76.400 x 1.135
= 86.714

Answer

Weight of 10 SWG
4ft x 8ft copper sheet is 86.714 kg.

STAINLESS STEEL BRIGHT BARS (PEELED/TURNED)

We, within a short span has become a major source for Stainless Steel Rolled / Forged / Peeled Rounds, Rcs, Blooms & Billets. We have huge stocks for our quality products which are supplied on time at lowest possible rates meeting most of our customer's requirement.

Product Range

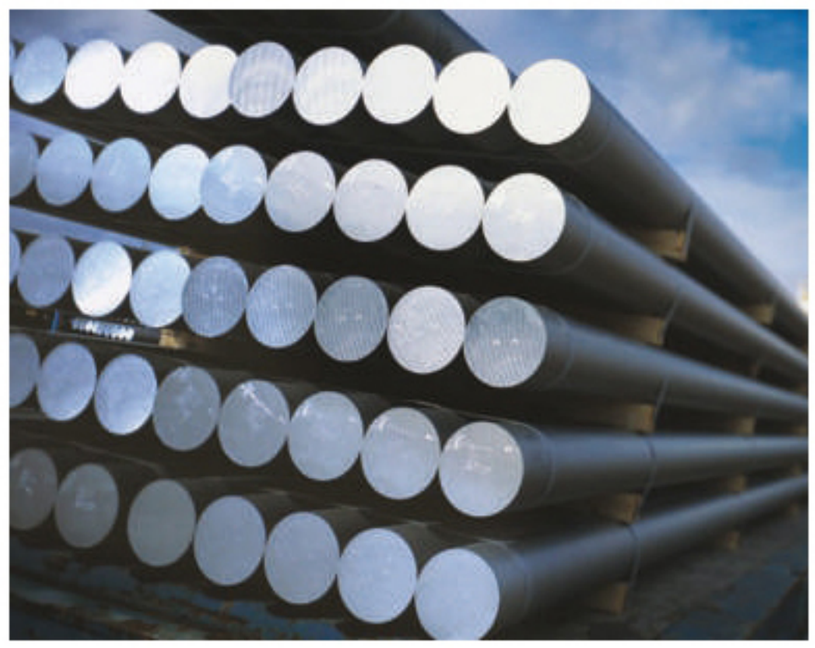
Condition	Peeled, Centreless & Polished	Peeled & Polished	Peeled (Rough Turned)	Forged, Rough Turned
Grades	201, 202, 301,303, 304, 304L, 310, 316, 316L, 321, 410, 416, 420,430, 431, 430F & others		304, 304L, 316L, 410, 416 420, 430	303, 304, 304L, 316, 316L, 410, 416, 420, 431
Diameter (Size)	20mm to 85mm (3/4" to 3-1/4")	85mm to 140mm (3-1/4" to 5 - ½")	25mm to 140mm (1" to 5-1/2")	150mm to 400mm (6" to 16")
Diameter Tolerance	h9 (Din 671) (ASTM A484)	h 11	K 12/K 13 (Din 1013)	-0mm to /+3mm (-0"/+0.12")
Length	3/4/5, 6/6 meter (12/14ft/20 feet)	3/4/5, 6/6 meter (12/14ft/20 feet)	3/4/5,6/6 meter 10 feet, 16 feet	3 meter - 5 meter
Length Tolerance	-0/+200mm of + 100mm to + 50mm (-0"/1 feet or +4" or 2")	-0/+ 200mm or +100mm or +50mm (-0"/+1 feet or +4" or 2")	-0/+ 100mm or 500mm (-0"/+3 feet or+2 feet)	-0/+2 meter - (-0/+6 feet)

Stainless Steel Wires

Diameter (Size)	Thick/Medium Wire - 1mm to 8mm (0.039" to 0.314")	
Grade	201, 202, 204Cu, 302, 302HQ, 303, 304, 304L, 304HC, 310, 316, 316L, 321, 304LER, 308LER, 316LER, 420, 430L	
Surface Finish	Matt, Bright Drawn, Bright Shiny, EPQ, Coated, De-coated	
Diameter Tolerence	Diameter	Tolerance
	0.80 mm (0.0314") to < 1.50 mm (0.0590")	+/-0.013 mm (0.0005")
	1.50 mm (0.0590") to < 2.00 mm (0.0787")	+/-0.013 mm (0.0006")
	2.00 mm (0.0787") to < 4.00 mm (0.1574")	+/-0.025 mm (0.0009")
	4.00 mm (0.1574") to < 6.00 mm (0.236")	+/-0.030 mm (0.0011")
Tensile Strength	Type	Tensile In Kg/mm^2
	Soft	60-75
	1/4 Hard	75-90
	1/2 Hard	90-140
	Full Hard	140-200 or ASTM A313 / DIN 17224
Packing	- HDPE wrapped coils of 20 kg. to 250 kg. - Pattern laid coils on MS Carriers / spiders (200 Kg. to 1000 kg.) - Coils on wooden pallets (100 kg to 800 kg) - Cheese coils (500 kg -1000 kg) - Drum Packing - Fine wire in Spools from Din 80 to Din 250	

Stainless Steel Bright Bars (Cold Drawn)

Condition	Cold Drawn and Polished	Cold Drawn, Center less Ground & Polished	Cold Drawn, Center less Ground and Polished (Strain Hardened)
Grades	201, 202, 303, 304, 304L, 310, 316, 316L, 321, 410, 420, 416, 430, 431, 430F & others		304, 304L, 316, 316L
Diameter (Size)	2mm to 5mm (1/8" to 3/16)	6mm to 22mm (1/4" to 7/8")	10mm to 40mm (3/8" to 1-1/2")
Diameter Tolerance	h9 (Din 671), h11 ASTM A 484	h9 (Din 671) ASTM A 484	h9 (Din 671), h11 ASTM A 484
Length	3/4/5, 6/6 meter (12/14ft/20 feet)	3/4/5, 6/6 meter (12/14ft/20 feet)	3/4/5, 6/6 meter (12/14/20 feet)
Length Tolerance	-0/+ 200mm of +100mm or+50mm (-0"/+1 feet or+ 4" or 2")	-0/+200mm or +100mm or +50mm (-0"/+1 feet or+4" or 2")	-0/+200mm (-0"/+1 feet)



Stainless Steel Hexagon & Square Bars

Type	Cold Drawn and Polished(Squares)	Cold Drawn and Polished (Hexagons)
Grades	304, 304L, 316, 316L	304, 304L, 316, 316L
Diameter	5mm to 40mm (1/4" to 1-1/2")	10mm to 40mm (3/8" to 1-1/2")
Diameter	h 11	h 11
Tolerance	(ASTM A 484)	(ASTM A 484)
Length	3/4/6 meter (12/14ft/20feet)	3/4/6 meter (12/14ft/20 feet)
Length Tolerance	-0/+500mm (-0"/+2 feet)	-0/+500mm or+ 100mm or +50mm (-0"/+2feet)

Stainless Steel Cold Heading Wires

Condition	Cold drawn, Annealed and Pickeled
Diameter	1.6 mm to 17 mm (1/16" to 11/16")
Tensile Strength	65kg / mm2 max
Packing	HDPE wrapped coils of 300 kg to 500 kg

WEIGHTS OF ROUND, SQUARE & HEXAGON BAR - (in kg. per meter)

Size mm	Round	Square	Hexagon
5	0.154	0.196	0.170
6	0.222	0.283	0.245
7	0.302	0.385	0.333
8	0.395	0.502	0.435
9	0.499	0.636	0.551
10	0.617	0.785	0.680
11	0.746	0.950	0.823
12	0.888	1.130	0.979
13	1.042	1.327	1.149
14	1.208	1.539	1.332
15	1.387	1.766	1.530
16	1.578	2.010	1.740
17	1.782	2.269	1.965
18	1.998	2.543	2.203
19	2.226	2.834	2.454
20	2.466	3.140	2.719
21	2.719	3.462	2.866
22	2.984	3.799	3.290
23	3.261	4.153	3.596
24	3.551	4.522	3.916
25	3.853	4.906	4.249
26	4.168	5.307	4.596
27	4.495	5.723	4.956
28	4.834	6.154	5.330
29	5.185	6.602	5.717
30	5.549	7.065	6.118
31	5.925	7.544	6.533
32	6.313	8.038	6.961
33	6.714	8.549	7.403
34	7.127	9.075	7.859
35	7.553	9.616	8.328
36	7.990	10.174	8.810
37	8.440	10.747	9.307
38	8.903	11.335	9.817
39	9.378	11.940	10.340
40	9.865	12.560	10.877
41	10.364	13.196	11.428
42	10.876	13.847	11.992
43	11.400	14.515	12.570
44	11.936	15.198	13.161
45	12.485	15.896	13.766
46	13.046	16.611	14.385
47	13.619	17.341	15.017
48	14.205	18.086	15.663
49	14.803	18.848	16.322
50	15.413	19.625	16.996
51	16.04	20.42	17.682
52	16.67	21.23	18.382
53	17.32	22.05	19.096
54	17.98	22.89	19.823
55	18.65	23.75	20.564

Size mm	Round	Square
57	20.03	25.51
58	20.74	26.41
59	21.46	27.33
60	22.20	28.26
61	22.94	29.21
62	23.70	30.18
63	24.47	31.16
64	25.25	32.15
65	26.05	33.17
66	26.86	34.20
67	27.68	35.24
68	28.51	36.30
69	29.35	37.37
70	30.21	38.47
71	31.08	39.57
72	31.96	40.69
73	32.86	41.83
74	33.76	42.99
75	34.68	44.16
76	35.61	45.34
77	36.56	46.54
78	37.51	47.76
79	38.48	48.99
80	39.46	50.24
81	40.45	51.50
82	41.46	52.78
83	42.47	54.08
84	43.50	55.39
85	44.55	56.72
86	45.60	58.06
87	46.67	59.42
88	47.75	60.79
89	48.84	62.18
90	49.94	63.59
91	51.06	65.01
92	52.18	66.44
93	53.32	67.90
94	54.48	69.36
95	55.64	70.85
96	56.82	72.35
97	58.01	73.86
98	59.21	75.39
99	60.43	76.94
100	61.65	78.50
105	67.97	86.55
110	74.60	94.99
115	81.54	103.82
120	89.78	113.04
125	96.33	122.66
130	104.19	132.67
135	112.36	143.07

Size mm	Round	Square
145	129.63	165.05
150	138.72	176.63
155	148.12	188.60
160	157.83	200.96
165	167.85	213.72
170	178.18	226.87
175	188.81	240.41
180	199.76	254.34
185	211.01	268.67
190	222.57	283.39
195	234.44	298.50
200	246.61	314.00
205	259.10	329.90
210	271.89	346.19
215	284.99	362.87
220	298.40	379.94
225	312.12	397.41
230	326.13	415.27
235	340.48	433.52
240	355.13	452.16
245	370.08	471.20
250	385.34	490.63
255	400.90	510.45
260	416.78	530.66
265	432.96	551.27
270	445.46	572.27
275	466.26	593.66
280	483.37	615.44
285	500.78	637.62
290	518.51	660.19
295	536.54	683.15
300	554.88	706.50
310	592.49	754.39
320	631.33	803.84
330	671.41	854.87
340	712.72	907.46
350	755.26	961.63
360	799.03	1017.36
370	844.04	1074.67
380	890.28	1133.54
390	937.75	1193.99
400	986.46	1256.00
410	1036.40	1319.59
420	1087.57	1384.74
430	1139.98	1451.47
440	1193.62	1519.76
450	1248.49	1589.63
460	1304.59	1661.06
470	1361.93	1734.07
480	1420.50	1808.64
490	1480.31	1884.79

BUTTWELD FITTINGS

Stainless Steel & Duplex Steel

Stainless Steel : ASTM A 403 WP - 304/304H/304L/316/316H
316/316Ti, 309, 310, 317L, 321, 347, 904L

Duplex & Super Duplex : Standard
ASTM A815 - UNS S31803, S32205 (2205)
Lean
ASTM A815, 790 - UNS S32304 (2304)
Super Duplex
ASTM A815, 790 - UNS S32750 (2507)
UNS S32760 (Zeron 100)

Hi-Nickel & Titanium

Hi-Nickel

Nickel : ASTM B 366 N02200, N02201
Inconel : ASTM B 366 N06600, N06601, N06617
ASTM B 366 N07718
ASTM B 366 N06625
Incoloy : ASTM B 366 N08800, N08810
ASTM B 366 N08825
ASTM B 366 N08020
Hastelloy : ASTM B 366 N10276, N06022
ASTM B 366 N10665
ASTM B 366 N06455

Titanium

Commercially Pure : ASTM B 363
Gr.1 R 56250 (CP4) Gr.2 R 50400 (CP3)
Gr.3 R 50550 (CP2) Gr.4 R 50700 (CP1)
Gr.7 R 52400 Gr.11 R 52250

Alloys : ASTM B 363
Gr.5 R 56400 (6Al-4V)
Gr.23 R 56401 (6Al-4V-ELI)
Gr12 R 53400

Alloy Steel & Carbon Steel

Alloy Steel : ASTM A 234 WPB WP5, WP9, WP11, WP12, WP91
Carbon Steel : ASTM A 234 WPB, IS 1239 PART II
Low Temp. CS : ASTM A-420 WPL6
Other Service : Hot Dip Galvanizing, Sand Blasting

Cupro Nickel

ASTM B 171 C70600 (90:10),
ASTM B 171 C71500 (70:30)

Monel

ASTM B 366 N04400

DIN N05500

Size

Size : ½" to 24"
Schedule : Sch. 5 to Sch. XXS

Types

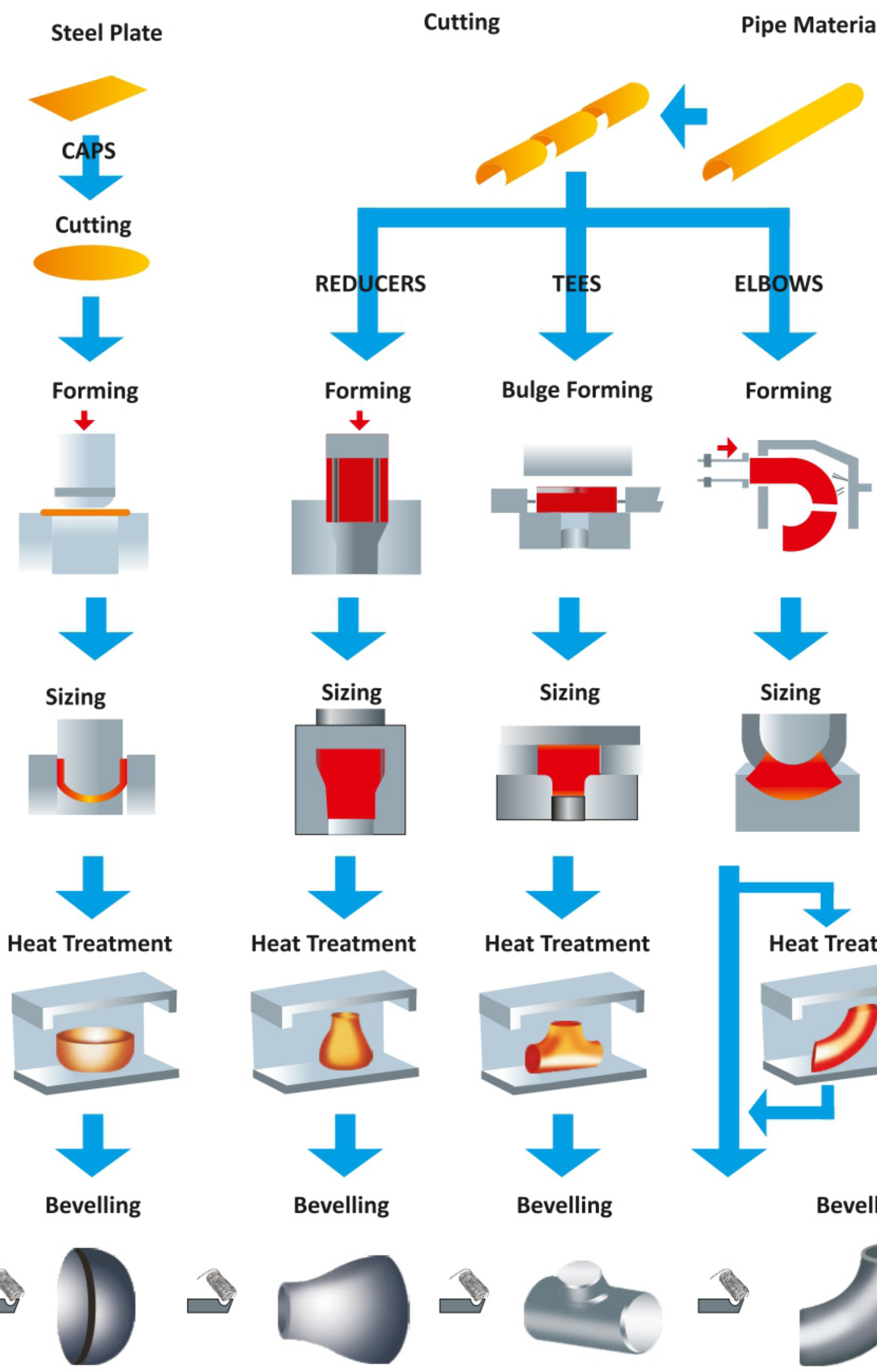
Stubend - (Long & Short)	Elbow (45 DEG, 90 DEG, 180 DEG)
U Bend	Tee - (Barred, Equal, Reducing)
End Cap	Reducer - (Concentric & Eccentric)
Laterals	Nipple - (Swage & Barrel)

Specializing in : Hi-Nickel Series

Test Certificate

Manufacturer Test Certification
En 3.1 & 3.2
IBR Test Certificate & NACE
MR 0175 / MR 0103

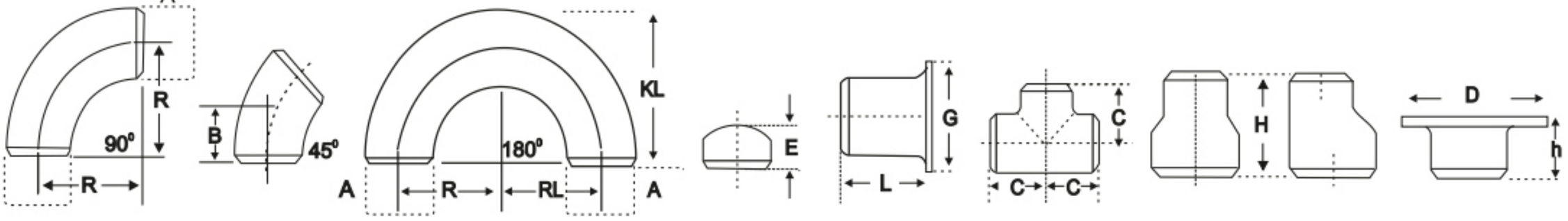
BUTTWELD MANUFACTURING FLOW CHART



DIMENSION OF BUTT WELD FITTINGS

DIMENSIONS IN M.M OF BUTT WELDING FITTINGS TO ANSI B 16.9

ELBOW | RETURN BENDS | CAP | LAP JOINT STUBENDS | TEES | CONG. AND ECC. REDUCERS | SHORT STUBENDS



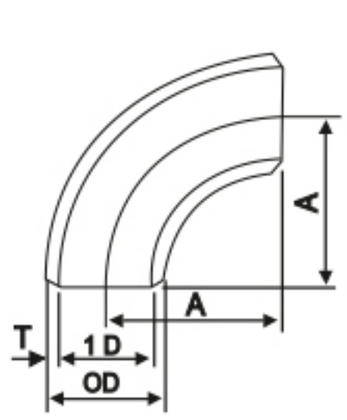
NOM BORE	PIPE O.D	WALL THICKNESS				RADIUS			R	B	C	E	G	L		H	D	h
		5S	10S	40S	80S	1D	1.5D	2D	3D					SHORT	LONG			
1/2"	21.34	1.65	2.11	2.77	3.73	12.7	19.05	25.4	38.1	15.9	25.4	25.4	34.9	50.8	76.2	38.1	45	8
3/4"	26.67	1.65	2.11	2.87	3.91	19.05	28.57	38.10	57.15	11.1	28.6	25.4	42.8	50.8	76.2	38.1	54	8
1"	33.40	1.65	2.77	3.38	4.55	25.4	38.1	50.8	76.2	22.2	38.1	38.1	50.8	50.8	101.6	50.8	64	10
1-1/4"	42.16	1.65	2.77	3.56	4.85	31.75	47.6	63.5	95.25	25.0	47.6	38.1	63.5	50.8	101.6	50.8	74	12
1-1/2"	48.26	1.65	2.77	3.68	5.08	38.1	57.15	76.2	114.3	28.6	57.2	38.1	73.0	50.8	101.6	63.5	84	12
2"	60.32	1.65	2.77	3.91	5.54	50.8	76.2	101.6	152.4	34.0	63.5	38.1	92.0	63.5	152.4	76.2	102	14
2-1/2"	73.02	2.11	3.05	5.16	7.01	63.5	95.25	127.0	190.5	44.0	76.2	38.1	104.8	63.5	152.4	88.9	122	16
3"	88.90	2.11	3.05	5.49	7.62	76.2	114.30	152.4	228.6	50.8	85.7	50.8	127.0	63.5	152.4	88.9	138	18
3-1/2"	101.60	2.11	3.05	5.74	8.08	88.9	113.35	177.8	266.7	57.2	95.3	63.5	139.7	76.2	152.4	101.6	148	18
4"	114.30	2.11	3.05	6.02	8.56	101.6	152.4	203.2	304.8	63.5	104.8	63.5	157.2	76.2	152.4	101.6	158	20
5"	141.30	2.77	3.4	6.55	9.52	127.0	190.5	254.0	381.0	79.4	123.8	76.2	185.7	76.2	203.2	127.0	188.0	25
6"	168.28	2.77	3.40	7.11	10.97	152.4	228.6	304.8	457.2	95.3	142.8	88.9	215.9	88.9	203.2	139.7	212	25
8"	219.08	2.77	3.76	8.18	12.7	203.2	304.8	406.4	609.6	127.0	177.8	101.6	270.0	101.6	203.2	152.4	270	30
10"	273.05	3.4	4.19	9.27	12.7	254.0	381.0	508.0	762.0	158.7	215.9	127.0	324.0	127.0	254.0	177.8	325	30
12"	323.85	3.96	4.57	9.52	12.7	304.8	457.2	609.6	914.4	190.5	254.0	152.4	381.0	152.4	254.0	203.2	380	35
14"	355.60	3.96	4.78	9.52	12.7	355.6	533.4	711.2	1066.8	222.2	280.0	165.1	412.8	152.4	305.0	330.2	415	40
16"	406.40	4.19	4.78	9.52	12.7	406.4	609.6	812.8	1219.2	254.0	304.8	177.8	470.0	152.4	305.0	355.6	470	40
18"	457.20	4.19	4.78	9.52	12.7	457.2	685.8	914.4	1371.6	385.7	343.0	203.2	533.4	152.4	305.0	381.0	535	40
20"	508.00	4.78	5.54	9.52	12.7	508.0	762.0	101.6	1524.0	317.6	381.0	288.6	584.2	152.4	305.0	508.0	585	40
22"	558.80	4.78	6.35	9.52	12.7	558.8	838.2	1117.6	1676.4	343	419.0	254	641.4	152.4	305	508	642	40
24"	609.60	5.54	6.35	9.52	12.7	609.6	914.4	1219.2	1828.8	381	432	266.7	692.2	152.4	305	508	693	40

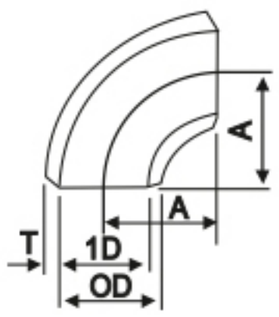
STANDARD : All dimensions are in mm and confirm ANSI B 16.9 and M.S.S.SP-43 where applicable dimensional tolerances are in accordance with ANSI B 16.9 and M.S.S.SP-43 where applicable.

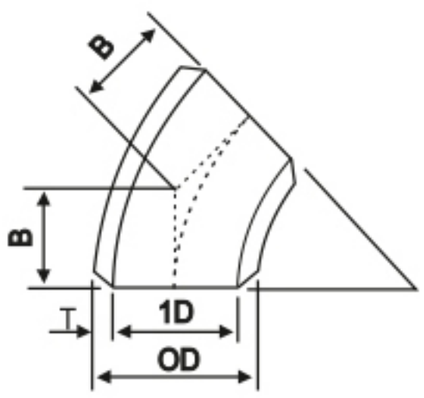
RADIUS : Radius of Short Elbows is 1 times nominal pipe diameter, Radius of Long Radius Elbows is 1.5 times nominal pipe diameter.

MATERIAL OF CONSTRUCTION: S.S.304/304L/316/316L/317/317L/321 Nickel Alloy.

LONG AND SHORT RADIUS ELBOWS



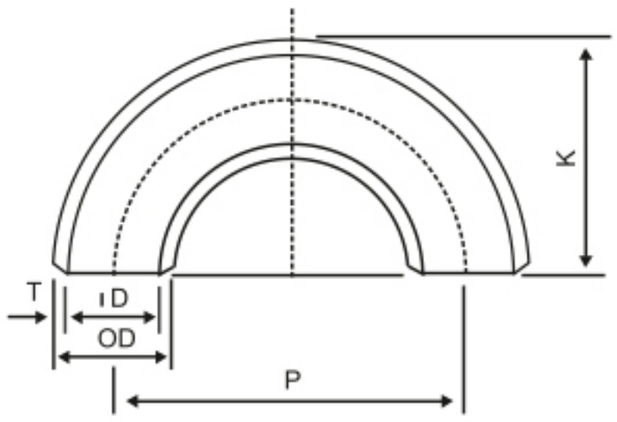


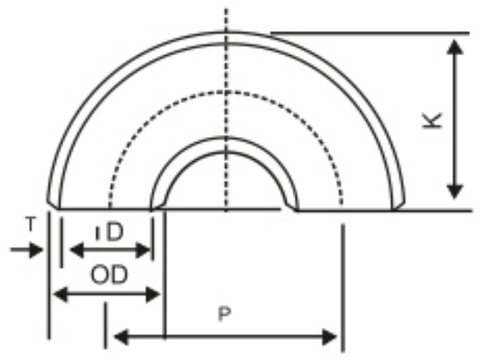


ASME B 16.9 B.16.28 in (mm)

Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD	Center-to-End			
		Long Radius Elbow		Short Radius Elbow	
		90 Deg A	45 Deg B	90 Deg A	45 Deg B
1/2”	21.3	38.1	15.7	-	-
3/4”	26.7	38.1	19	-	-
1”	33.4	38.1	22.4	25.4	-
1-1/4”	42.2	47.8	25.4	31.8	-
1-1/2”	48.3	57.2	28.4	38.1	-
2”	60.3	76.2	35	50.8	-
2-1/2”	73	95.2	44.4	63.5	-
3”	88.9	114.3	50.8	76.2	31.6
3-1/2”	101.6	113.4	57.2	88.9	36.8
4”	114.3	152.4	63.5	101.6	42.1
5”	141.3	190.5	79.2	127	52.6
6”	168.3	228.6	95.2	152.4	63.4
8”	219.1	304.8	127	203.2	84.2
10”	273.1	381	158.8	254	105.2
12”	323.9	457.2	190.5	304.8	126.3
14”	355.6	533.4	222.2	355.6	147.3
16”	406.4	609.6	254	406.4	168.3
18”	457.2	685.8	285.8	457.2	189.4
20”	508	762	317.5	508	210.1
22”	558.8	838.2	342.9	558.8	231.5
24”	609.6	914.4	381	609.6	252.5
26”	660.4	990.6	406.4	660.4	273.5
28”	711.2	1066.8	438.2	711.2	294.6
30”	762	1143	469.9	762	315.6
32”	812.8	1219.2	501.6	812.8	378.1
34”	863.6	1295.4	533.4	863.6	357.7
36”	914.4	1371.6	565.2	914.4	378.8
38”	965.2	1447.8	599.9	-	-
40”	1016	1524	632	1016	420.8
42”	1066.8	1600.2	660.4	1066.8	441.9
44”	1117.6	1676.4	695.4	1117.6	462.9
46”	1168.4	1752.6	726.9	-	-
48”	1219.2	1828.8	759	1219.2	505.0

LONG AND SHORT RADIUS RETURN BEND





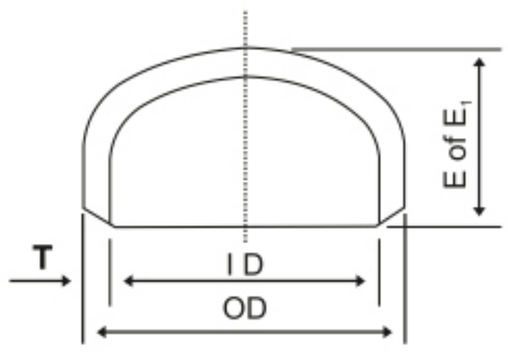
ASME B 16.9 B16.28 in (mm)

Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD	Long Radius		Short Radius	
		Center to Center D	Back to Face K	Center to Center O	Back to Face K
1/2”	21.3	76.2	47.8	-	-
3/4”	26.7	76.2	50.8	-	-
1”	33.4	76.2	55.8	50.8	41.1
1-1/4”	42.2	95.2	69.8	63.5	52.3
1-1/2”	48.3	114.3	82.6	76.2	62
2”	60.3	152.4	106.4	101.6	81
2-1/2”	73	109.5	131.8	127	100.1
3”	88.9	228.6	158.8	152.4	120.7
3-1/2”	101.6	266.7	184.2	177.8	139.7
4”	114.3	304.8	209.6	203.2	158.8
5”	141.3	381	261.9	254	196.9
6”	168.3	457.2	312.7	304.8	236.5
8”	219.1	609.6	414.3	406.4	312.7
10”	273.1	762.0	517.6	508	390.7

Caps

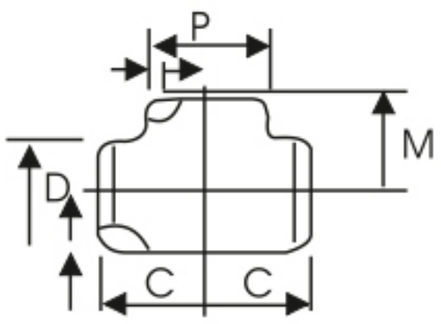
ASME B16.9 (mm)

Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD	Length[2] E	Limiting Wall Thickness for Length E	Length[3] E1
1/2”	21.3	25.4	4.5	25.4
3/4”	26.7	25.4	3.8	25.4
1”	33.4	38.1	4.5	38.1
1-1/4”	42.2	38.1	4.8	38.1
1-1/2”	48.3	38.1	5	38.1
2”	60.3	38.1	5.5	44.4
2-1/2”	73	38.1	7.1	50.8
3”	88.9	50.8	7.6	63.5
3-1/2”	101.6	63.5	8.1	76.2
4”	114.3	63.5	8.6	76.2
5”	141.3	76.2	9.6	88.9
6”	168.3	88.9	10.9	101.6
8”	219.1	101.6	12.7	127
10”	273.1	127	12.7	152.4
12”	323.9	152.4	12.7	177.8
14”	355.6	165.1	12.7	190.5
16”	406.4	177.8	12.7	203.2
18”	457.2	203.2	12.7	228.6
20”	508	228.6	12.7	254
22”	558.8	254	12.7	254
24”	609.6	266.7	12.7	304.8

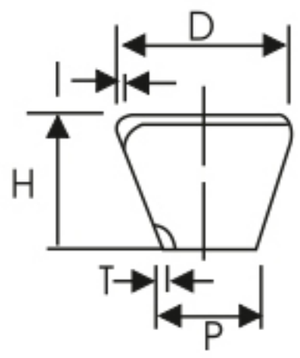


1. The Shape of these caps shall be Ellipsoidal and Shall conform to the Shape requirements as given in the ASME Boiler Pressure Vessel Code.
2. Length E applies for the thickness not exceeding that given in column “Limiting wall thickness for Length E”
3. Length E1 applies for the thickness greater than given in column “Limiting wall thickness”

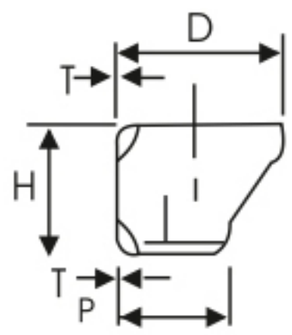
DIMENSION OF BUTT-WELD FITTINGS ANSI B-16.9 / B-16.28



REDUCING TEES



CONCENTRIC REDUCERS



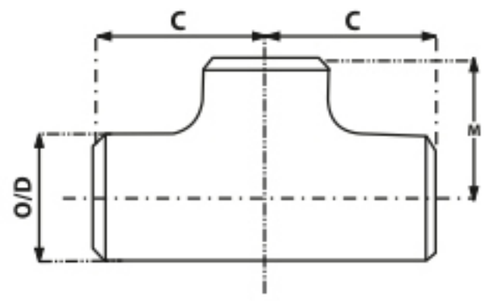
ECCENTRIC REDUCERS

Nominal Pipe Size		Outside Diameter		Center to End		Length
INCH	MM	D	P	C	M	H
1/2 x 3/8	15 x 10	21.3	17.1	25	25	-
1/2 x 1/4	15 x 8	21.3	13.7	25	25	-
3/4 x 1/2	20 x 15	26.7	21.3	29	29	38
3/4 x 3/8	20 x 10	26.7	17.1	29	29	38
1 x 3/4	25 x 20	33.4	26.7	38	38	51
1 x 1/2	25 x 15	33.4	21.3	38	38	51
11/4 x 1	32 x 25	42.2	33.4	48	48	51
11/4 x 3/4	32 x 20	42.2	26.7	48	48	51
11/4 x 1/2	32 x 15	42.2	21.3	48	48	51
11/2 x 11/4	40 x 32	48.3	42.2	57	57	64
11/2 x 1	40 x 25	48.3	33.4	57	57	64
11/2 x 3/4	40 x 20	48.3	26.7	57	57	64
11/2 x 1/2	40 x 15	48.3	21.3	57	57	64
2 x 11/2	50 x 40	60.3	48.3	64	60	76
2 x 11/4	50 x 32	60.3	42.2	64	57	76
2 x 1	50 x 25	60.3	33.4	64	51	76
2 x 3/4	50 x 20	60.3	26.7	64	44	76
21/2 x 2	65 x 50	73.0	60.3	76	70	89
21/2 x 11/2	65 x 40	73.0	48.3	76	67	89
21/2 x 11/4	65 x 32	73.0	42.2	76	64	89
21/2 x 1	65 x 25	73.0	33.4	76	57	89
3 x 21/2	80 x 65	88.9	73.0	86	83	89
3 x 2	80 x 50	88.9	60.3	86	76	89
3 x 11/2	80 x 40	88.9	48.3	86	73	89
3 x 11/4	80 x 32	88.9	42.2	86	70	89
4 x 31/2	100 x 90	114.3	101.6	105	102	102
4 x 3	100 x 80	114.3	88.9	105	98	102
4 x 21/2	100 x 65	114.3	73.0	105	95	102
4 x 2	100 x 50	114.3	60.3	105	89	102
4 x 11/2	100 x 40	114.3	48.3	105	86	102
5 x 4	125 x 100	141.3	114.3	124	117	127
5 x 31/2	125 x 90	141.3	101.6	124	114	127
5 x 3	125 x 80	141.3	88.9	124	111	127
5 x 21/2	125 x 65	141.3	73.0	124	108	127
5 x 2	125 x 50	141.3	60.3	124	105	127
6 x 5	150 x 125	168.3	141.3	143	137	140
6 x 4	150 x 100	168.3	114.3	143	130	140
6 x 31/2	150 x 90	168.3	101.6	143	127	140
6 x 3	150 x 80	168.3	88.9	143	124	140
6 x 21/2	150 x 65	168.3	73.0	143	121	140

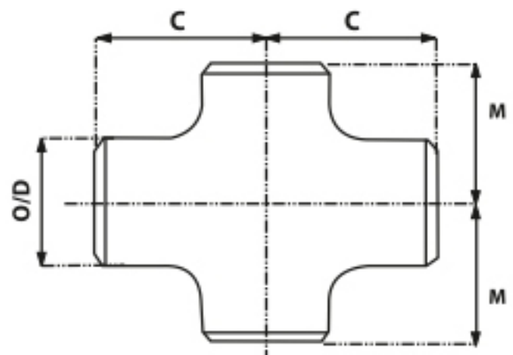
Nominal Pipe Size		Outside Diameter		Center to End		Length
INCH	MM	D	P	C	M	H
8 x 6	200x150	219.1	168.3	178	168	152
8 x 5	200 x 125	219.1	141.3	178	162	152
8 x 4	200 x 100	219.1	114.3	178	156	152
8 x 31/2	200 x 90	219.1	101.6	178	152	152
10 x 8	250 x 200	273.1	219.1	216	203	178
10 x 6	250 x 150	273.1	168.1	216	194	178
10 x 5	250 x 125	273.1	141.3	216	191	178
10 x 4	250 x 100	273.1	114.3	216	184	178
12 x 10	300 x 250	323.9	273.1	254	241	203
12 x 8	300 x 200	323.9	219.1	254	229	203
12 x 6	300 x 150	323.9	168.3	254	219	203
12 x 5	300 x 125	323.9	141.3	254	216	203
14 x 12	350 x 300	355.6	323.9	279	270	330
14 x 10	350 x 250	355.6	273.1	279	257	330
14 x 8	350 x 200	355.6	219.1	279	248	330
14 x 6	350 x 150	355.6	168.3	279	238	330
16 x 14	400 x 350	406.4	355.6	305	305	356
16 x 12	400 x 300	406.4	323.9	305	295	356
16 x 10	400 x 250	406.4	273.1	305	283	356
16 x 8	400 x 200	406.4	219.1	305	273	356
16 x 6	400 x 150	406.4	168.3	305	264	356
18 x 16	450 x 400	457.0	406.4	343	330	381
18 x 14	450 x 350	457.0	355.6	343	330	381
18 x 12	450 x 300	457.0	323.9	343	321	381
18 x 10	450 x 250	457.0	273.1	343	308	381
18 x 8	450 x 200	457.0	219.1	343	298	381
20 x 18	500 x 450	508.0	457.0	381	368	508
20 x 16	500 x 400	508.0	406.4	381	356	508
20 x 14	500 x 350	508.0	355.6	381	356	508
20 x 12	500 x 300	508.0	323.9	381	346	508
20 x 10	500 x 250	508.0	273.1	381	333	508
20 x 8	500 x 200	508.0	219.1	381	324	508
24 x 22	600 x 550	610.0	559.0	432	432	508
24 x 20	600 x 500	610.0	508.0	432	432	508
24 x 18	600 x 450	610.0	457.0	432	419	508
24 x 16	600 x 400	610.0	406.4	432	406	508
24 x 14	600 x 350	610.0	355.6	432	406	508
24 x 12	600 x 300	610.0	323.9	432	397	508
24 x 10	600 x 250	610.0	273.1	432	384	508

All Dimensions in Millimeters

EQUAL TEE, CROSS & CAPS



EQUAL TEE



CROSS

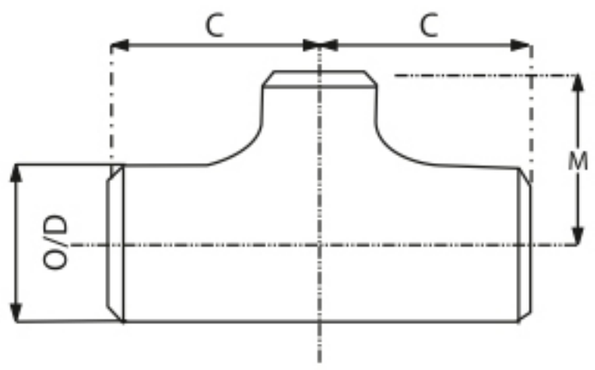
EQUAL TEE, CROSS

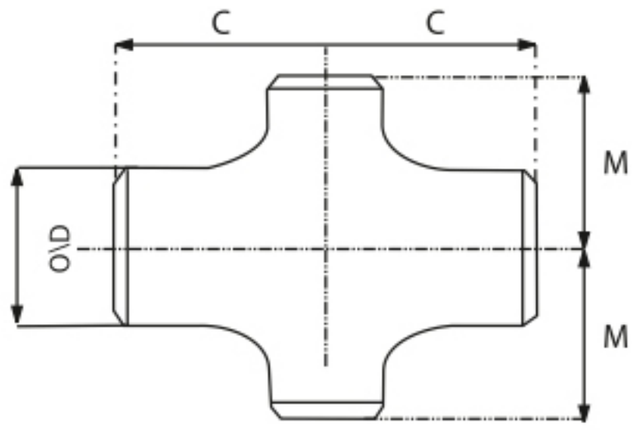
B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel (O/D)	Run 'C'	Outlet 'M'
1/2"	21.3	25	25
3/4"	26.7	29	29
1"	33.4	38	38
1.1/4"	42.2	48	48
1.1/2"	48.3	57	57
2"	60.3	64	64
2.1/2"	73.0	76	76
3"	88.9	86	86
3.1/2"	101.6	95	95
4"	114.3	105	105
5"	141.3	124	124
6"	168.3	143	143
8"	219.1	178	178
10"	273.0	216	216
12"	323.8	254	254
14"	355.6	279	279
16"	406.4	305	305
18"	457.0	343	343
20"	508.0	381	381
22"	559.0	419	419
24"	610.0	432	432
26"	660.0	495	495
28"	711.0	521	521
30"	762.0	559	559
32"	813.0	597	597
34"	864.0	635	635
36"	914.0	673	673

Note : All Dimensions are in millimeters (mm) Dimension for 38" and above on request.

UNEQUAL TEE & UNEQUAL CROSS





UNEQUAL TEE | **CROSS UNEQUAL** | **B16.9**

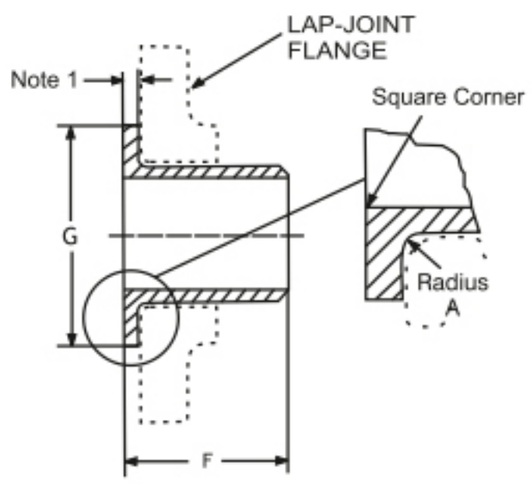
Nominal Pipe Size (NPS)	Outside Diameter at Bevel (O/D)		Center - to - Center	
	Run	Outlet	Run 'C'	Outlet 'M'
1/2" x 3/8"	21.3	17.3	25	25
1/2" x 1/4"	21.3	13.7	25	25
3/4" x 1/2"	26.7	21.3	29	29
3/4" x 3/8"	26.7	17.3	29	29
1" x3/4"	33.4	26.7	38	38
1" x 1/2"	33.4	21.3	38	38
1.1/4" x 1"	42.2	33.4	48	48
1.1/4" x 3/4"	42.2	26.7	48	48
1.1/4 x 1/2"	42.2	21.3	48	48
1.1/2" x 1.1/4"	48.3	42.2	57	57
1.1/2" x 1"	48.3	33.4	57	57
1.1/2" x 3/4	48.3	26.7	57	57
1.1/2" x 1/2"	48.3	21.3	57	57
2" x1.1/2"	60.3	48.3	64	60
2" x 1.1/4"	60.3	42.2	64	57
2" x 1"	60.3	33.4	64	51
2" x 3/4"	60.3	26.7	64	44
2.1/2" x 2"	73.0	60.3	76	70
2.1/2" x 1.1/2"	73.0	48.3	76	67
2.1/2" x 1.1/4"	73.0	42.2	76	64
2. 1/2" x 1"	73.0	33.4	76	57
3" x 2.1/2"	88.9	73.0	86	83
3" x 2"	88.9	60.3	86	76
3" x 1.1/2"	88.9	48.3	86	73
3" x 1.1/4"	88.9	42.2	86	70
3.1/2" x 3"	101.6	88.9	95	92
3.1/2" x 2.1/2"	101.6	73.0	95	89
3.1/2" x 2"	101.6	60.3	95	83
3.1/2" x 1.1/2"	101.6	48.3	95	79
4" x 3.1/2"	114.3	101.6	105	102
4" x 3"	114.3	88.9	105	98
4" x 2.1/2"	114.3	73.0	105	95
4" x 2"	114.3	60.3	105	89
4" x 1.1/2"	114.3	48.3	105	86
5" x 4"	141.3	114.3	124	117
5" x 3.1/2	141.3	101.6	124	114
5" x 3"	141.3	88.9	124	111
5" x 2.1/2"	141.3	73.0	124	108
5" x 2"	141.3	60.3	124	105
6" x 5"	168.3	141.3	143	137
6" x 4"	168.3	114.3	143	130
6" x 3.1/2"	168.3	101.6	143	127
6" x 3"	168.3	88.9	143	124
6" x 2.1/2"	168.3	73.0	143	121
8" x 6"	219.1	168.3	178	168
8" x 5"	219.1	141.3	178	162
8" x 4"	219.1	114.3	178	156
8" x 3.1/2"	219.1	101.6	178	152

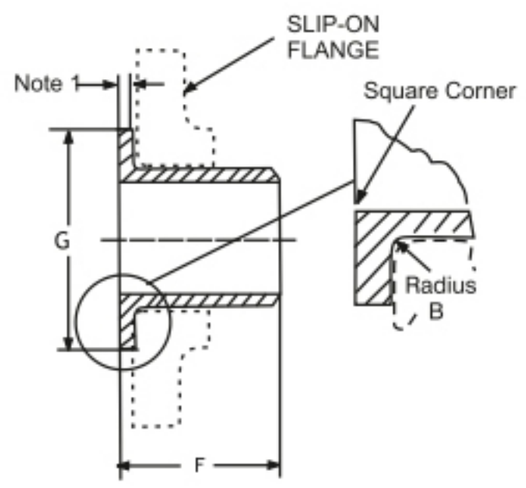
Nominal Pipe Size (NPS)	Outside Diameter at Bevel (O/D)		Center - to - Center	
	Run	Outlet	Run 'C'	Outlet 'M'
10" x 8"	273.0	219.1	216	203
10" x 6"	273.0	168.3	216	194
10" x 5"	273.0	141.3	216	191
10" x 4"	273.0	114.3	216	184
12" x 10"	323.8	273.0	254	241
12" x 8"	323.8	219.1	254	229
12" x 6"	323.8	168.3	254	219
12" x 5"	323.8	141.3	254	216
14" x 12"	355.6	323.8	279	270
14" x 10"	355.6	273.0	279	257
14" x 8"	355.6	219.1	279	248
14" x 6"	355.6	168.3	279	238
16" x 14"	406.4	355.6	305	305
16" x 12"	406.4	323.8	305	295
16" x 10"	406.4	273.0	305	283
16" x 8"	406.4	219.1	305	273
16" x 6"	406.4	168.3	305	264
18" x 16"	457.0	406.4	343	330
18" x 14"	457.0	355.6	343	330
18" x 12"	457.0	323.8	343	321
18" x 10"	457.0	273.0	343	308
18" x 8"	457.0	219.1	343	298
20" x 18"	508.0	457.0	381	368
20" x 16"	508.0	406.4	381	356
20" x 14"	508.0	355.6	381	356
20" x 12"	508.0	323.8	381	346
20" x 10"	508.0	273.0	381	333
20" x 8"	508.0	219.1	381	324
22" x 20"	559.0	508.0	419	406
22" x 18"	559.0	457.0	419	394
22" x 16"	559.0	406.4	419	381
22" x 14"	559.0	355.6	419	381
22" x 12"	559.0	323.8	419	371
22" x 10"	559.0	273.0	419	359
24" x 22"	610.0	559.0	432	432
24" x 20"	610.0	508.0	432	432
24" x 18"	610.0	457.0	432	419
24" x 16"	610.0	406.4	432	406
24" x 14"	610.0	355.6	432	406
24" x 12"	610.0	323.8	432	397
24" x 10"	610.0	273.0	432	384
26" x 24"	660.0	610.0	495	483
26" x 22"	660.0	559.0	495	470
26" x 20"	660.0	508.0	495	457
26" x 18"	660.0	457.0	495	444
26" x 16"	660.0	406.4	495	432
26" x 14"	660.0	355.6	495	432
26" x 12"	660.0	323.8	495	422
28" x 26"	711.0	660.0	521	521
28" x 24"	711.0	610.0	521	508
28" x 22"	711.0	559.0	521	495
28" x 20"	711.0	508.0	521	483

Note : All Dimensions are in millimeters (mm)
Dimension for 30" and above on request.

LAP-JOINT STUB ENDS MSS SP 43

TYPE A for LAP-JOINT FLANGE





TYPE B for SLIP - ON FLANGE

MSS SP 43

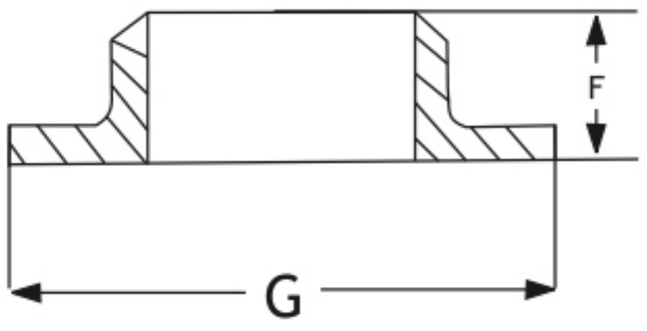
Nominal Pipe Size	Outside Diameter at Bevel	Out side Diameter of lap G	Stub Ends		
				Radius* of Fillet	
			Length F*	A - nominal and max	B (max)
1/2	0.84	1.38	2	0.12	0.03
3/4	1.05	1.69	2	0.12	0.03
1	1.32	2	2	0.12	0.03
1 1/4	1.66	2.5	2	0.19	0.03
1 1/2	1.9	2.88	2	0.25	0.03
2	2.38	3.63	2.5	0.31	0.03
2 1/2	2.88	4.13	2.5	0.31	0.03
3	3.5	5	2.5	0.38	0.03
3 1/2	4	5.5	3	0.38	0.03
4	4.5	6.19	3	0.44	0.03
5	5.56	7.31	3	0.44	0.06
6	6.63	8.5	3.5	0.5	0.06
8	8.63	10.62	4	0.5	0.06
10	10.75	12.75	4	0.5	0.06
12	12.75	15	6	0.5	0.06
14	14	16.25	6	0.5	0.06
16	16	18.5	6	0.5	0.06
18	18	21	6	0.5	0.06
20	20	23	6	0.5	0.06
24	24	27.25	6	0.5	0.06

All Dimension are in Inches

* These lengths and radii for use with Schedule 40S or thinner pipe.
Note 1. The minimum lap thickness shall not be less than nominal pipe wall thickness.
Note 2. Contact faces of stub ends shall have a modified spiral or concentric serration.

PRESSED STUBENDS / WELDING COLLARS

NOMINAL BORE (INCH)	OUTSIDE DIAMETER AT BEVEL	OUT SIDE DIAMETER OF LAP G	HEIGHT 'F'
1/2	0.84	1.38	0.31
3/4	1.05	1.69	0.31
1	1.32	2	0.39
1 1/4	1.66	2.5	0.47
1 1/2	1.9	2.88	0.47
2	2.38	3.63	0.62
2 1/2	2.88	4.13	0.62
3	3.5	5	0.70
3 1/2	4	5.5	0.78
4	4.5	6.19	0.78
5	5.56	7.31	0.98
6	6.63	8.5	0.98
8	8.63	10.62	1.18
10	10.75	12.75	1.37
12	12.75	15	1.57

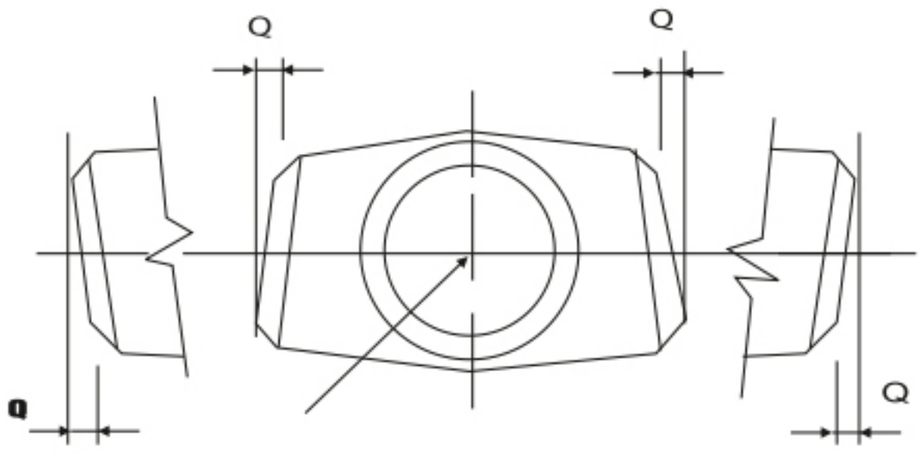


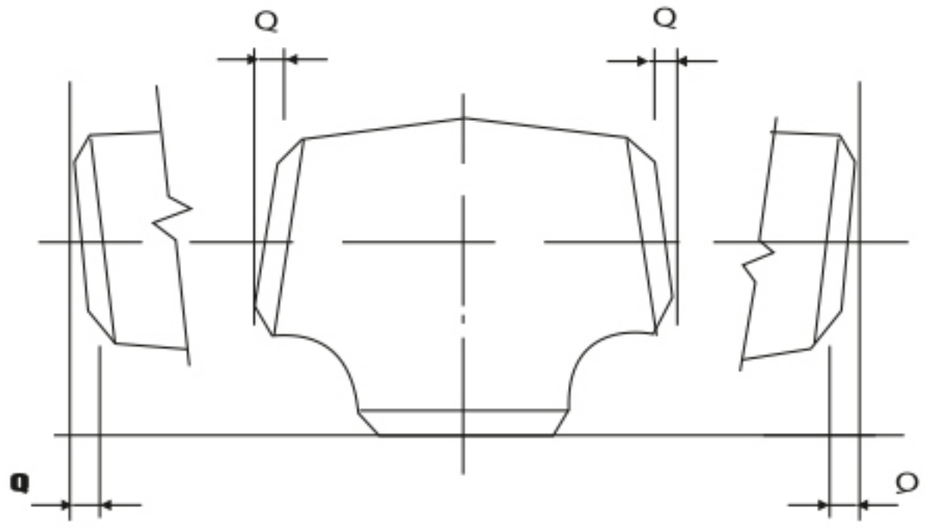
NOTE : 1) All Dimension are in Inches
2) Thk as per Sch10S/40S etc.
3) Also can be manufactured in DIN Standard or as per your drawings

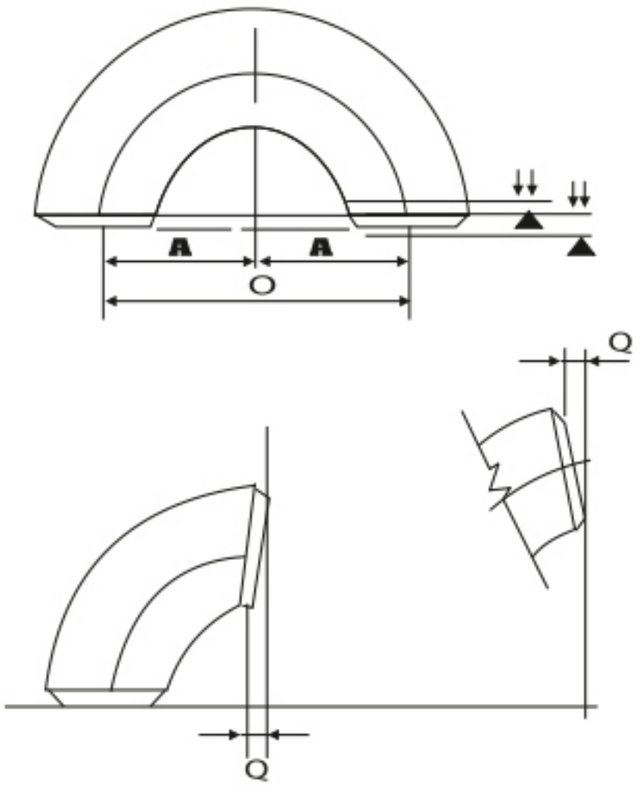
DIMENSION TOLERANCE OF BUTTWELD FITTINGS

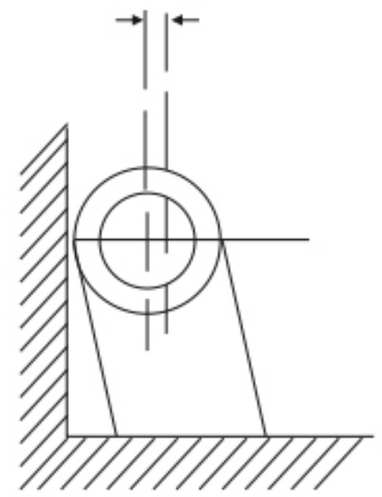
DIMENSION TOLERANCE ANSI B 16.9 / B16.8 / MSS SP - 43

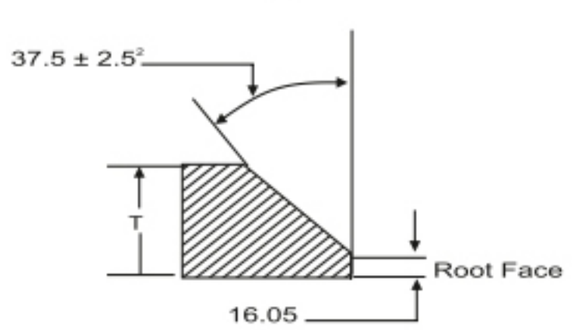
ALL FITTINGS				90°/60°/45° /30° ELBOWS & TEES		REDUCERS		180° RETURNS						CAPS		ANGULARITY TOLERANCE			
Nominal Pipe Size Inch/mm	Outside Diameter at Level		Inside Dia meter	Wall Thickness at End		Centre to End		Overall Length Dimensions		Centre to End		Back to Face Dimensions		Alignment of End Dimensions		Overall length		Nominal Pipe Size	Off Angle Inch/mm		Off Plane
	D			T		A,B,C,M		H		O		K		U		E			Q		P
	(1) B16.9	MSS SP43	(2) B16.9	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43	B16.9	MSS SP43		B16.9	MSS SP43	B16.9
1/2" - 2 1/2" 15 - 65	±1.6 - 0.8	±0.80	±0.8	Not Less Than 87.5% Nominal Thk.		FROM 1/2" TO 18" 15 TO 600	FROM 3/4"	FROM 1/2"-24" 15 - 600	FROM 1/2" - 8" 15 - 200	±6	±6.35	±6.0	±6.4	±1	±0.8	±3	±3.17	1/2" - 4" 15 -100	±1	16"- 24" 400 - 600 1.6	±2
3" - 3 1/2" 80 - 90	±1.6		±1.6			±2	±1.60	2	±1.60									5" - 8" 125 - 200	±2		±4
4" 100																		10" - 12" 250 - 300	±3		±5
5" - 6" 125 -150	+2.4 -1.6	+1.60 -0.80														±7	±6.35	14" -16" 350 - 400	±3		±7
8" 200																		18" - 24" 450 - 600	±3		±10
10" -18" 250 - 450	+4 -3.2	+2.38 -0.80	±3.2				±2.40		10"-24" +2.38 250 - 600	±10"	±10			±2.0"	±1.60			26" - 30" 650 - 750	±4	26" - 36" 650 - 900 2.4	±10
20" - 24" 500 - 600	+6.4 -4.8	3.17 0.79																32" - 42" 800 - 1050	±5		±13
26" - 30" 650 - 750	+6.4 -4.8	±4.8	±4.8			±3		FROM 26" - 48" 650NB - 701200 NB ±5								±10		44" - 48" 1100 - 1200	±5	38" - 48" 950 - 1200 3.2	±20
32" - 48" 800 - 1200	+6.4 -4.8					±5												42" - 48" 1050 - 1200	±5		±20

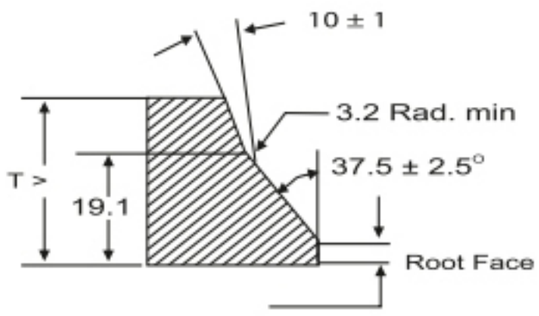












FLANGES

Stainless Steel : ASTM A182 F304/ 304L/ 304H/ 316/ 316L/ 317/ 317L/ 321/ 310/ 347/904L/ Etc.

Carbon Steel : ASTM A105/ A694 F42/ 46/ 52/ 56/ 60/ 65/ 70/ A350 LF3/ A350 LF2, Etc.

Alloy Steel : ASTM A 182 F1/ F5/ F9/ F11/ F22/ F91/ Etc.

Duplex Steel : 2205 (Duplex), 2507 (Super Duplex)
UNS - 31803, 32750, 32990

Others : Monel, Nickel, Inconel, Hastelloy, Copper, Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead, etc.

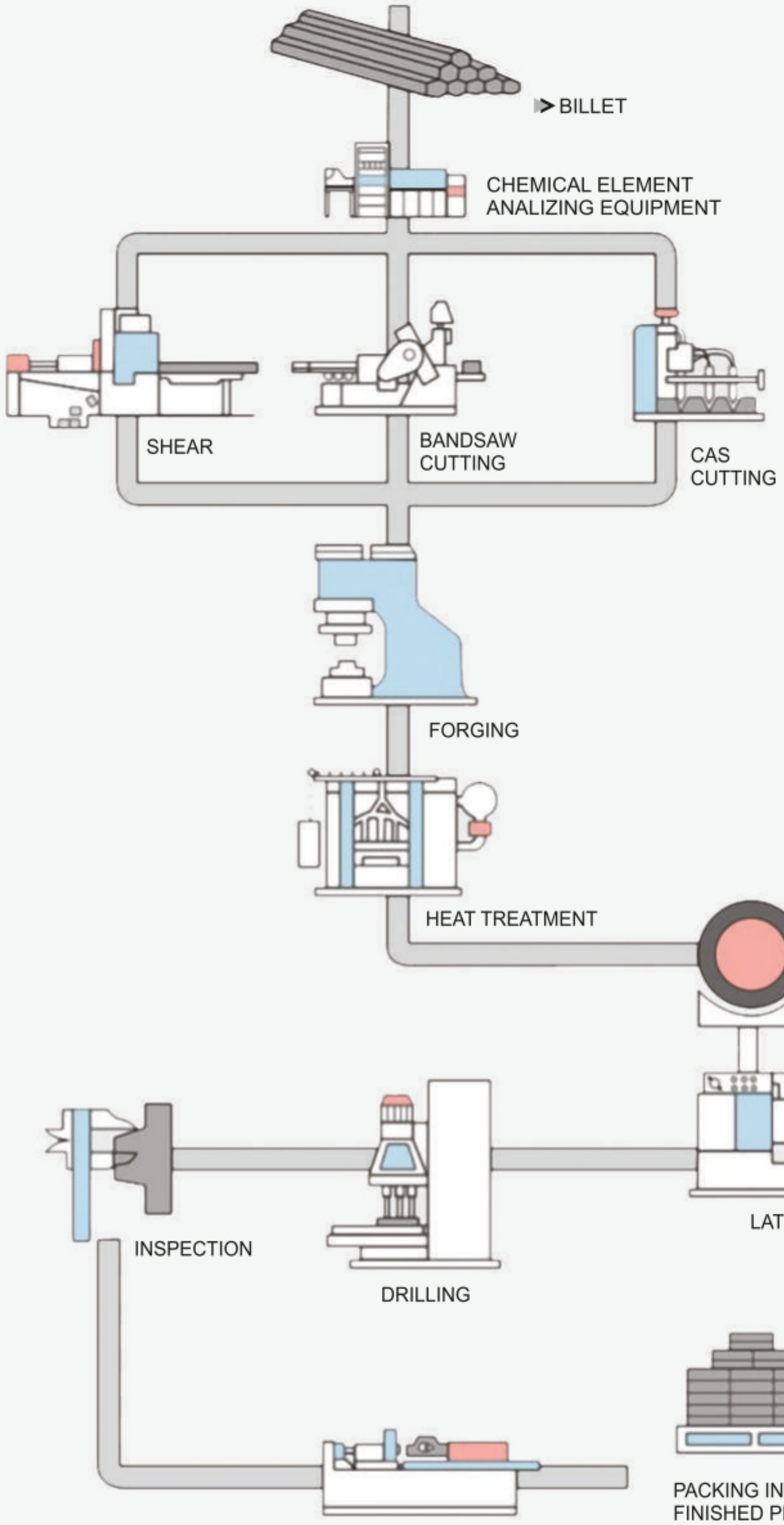
Types : Weldneck, Slipon, Blind, Socket Weld, Lap Joint, Spectacles, Ring Joint, Oriface, Long Weldneck, Deck Flange, Etc.

Size : 1/8" NB TO 48" NB

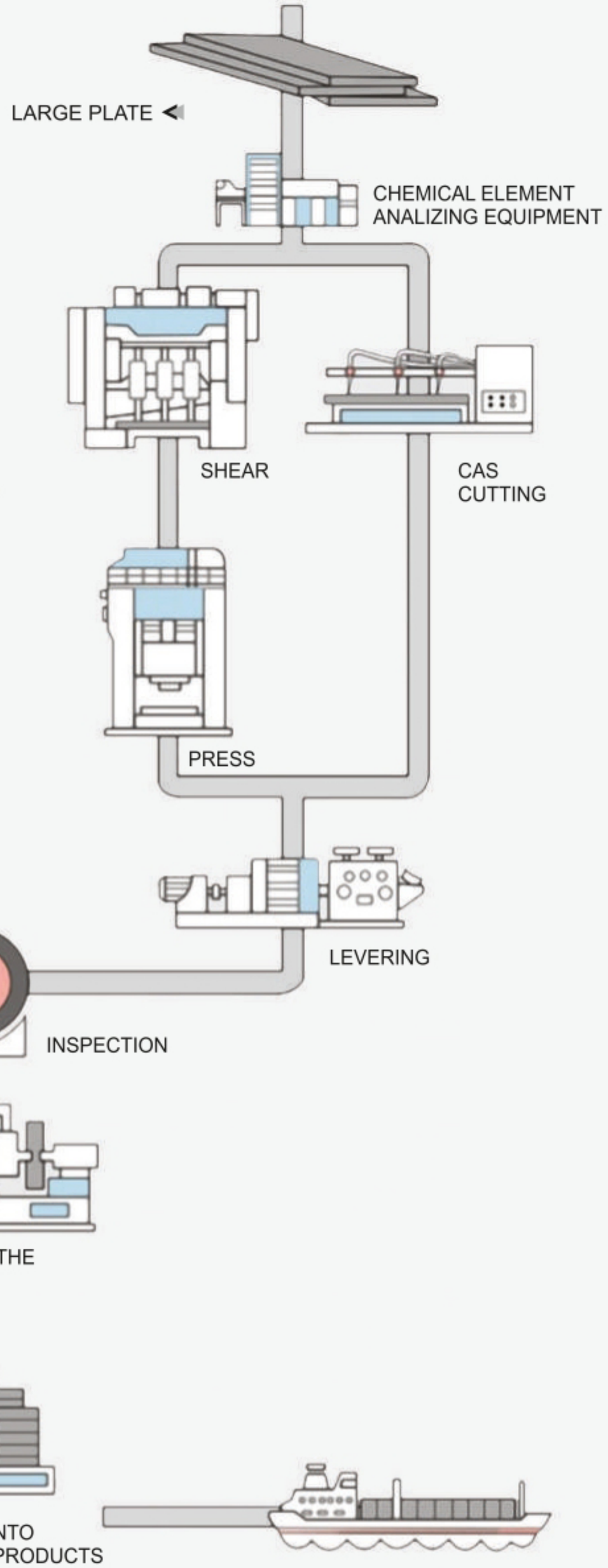
Class : 150#, 300#, 400#, 600#, 900#, 1500# & 2500#.
Also as per the National & International Standard.

PROCESS FLOW CHART

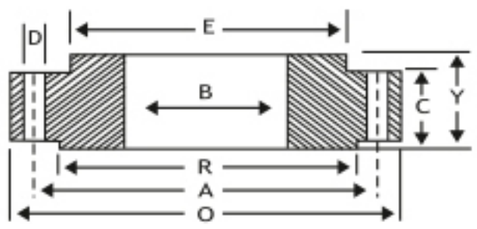
FORGED FLANGE



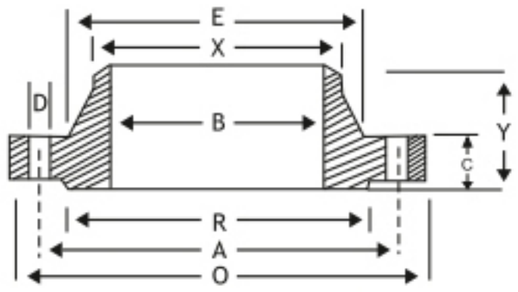
SHEET PLATE FLANGE



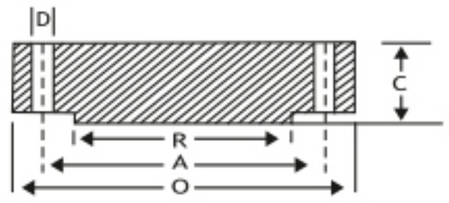
FLANGES CLASS 150 & 300



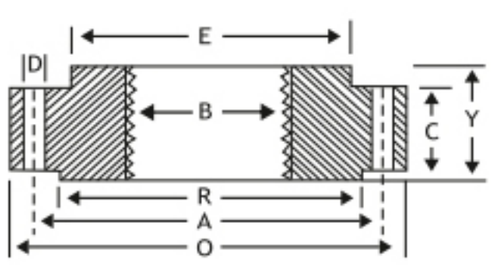
SLIP-ON FLANGE



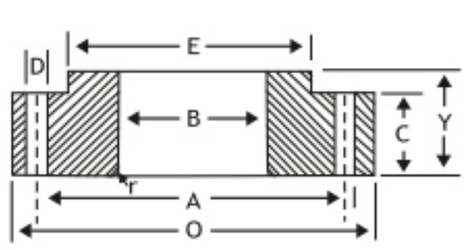
WELDING NECK FLANGE



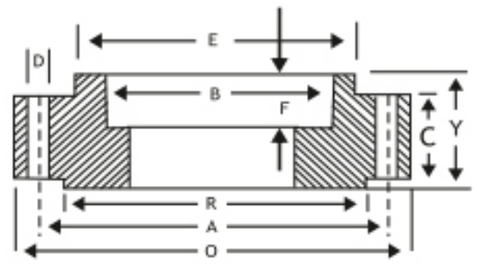
BLIND FLANGE



THREADED FLANGE



LAP JOINT FLANGE



SOCKET WELD FLANGE

DIMENSIONS OF CLASS 150 FLANGES AS PER B16.5

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

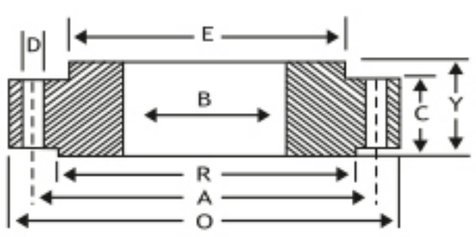
DIMENSIONS OF CLASS 300 FLANGES AS PER B16.5

Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	No. Of Bolt Holes D	No. Of Holes	Thk of Flange C	Dia of Hub E	Length through Hub S/O & S/W Y	Length through Hub W/N Y	Length through Hub L/J Y	Dia Bore S/O & S/W B	Dia Bore L/J B	Dia of R/F R	Depth of Socket F	Pipe Dia X
15	95.2	66.7	15.9	4	14.3	38.1	22.2	52.4	22.2	22.3	22.9	34.9	9.5	21.33
20	117.5	82.5	19.0	4	15.9	47.6	25.4	57.1	25.4	27.7	28.2	42.9	11.1	26.67
25	123.8	88.9	19.0	4	17.5	54.0	27.0	61.9	27.0	34.5	35.0	50.8	12.7	33.40
32	133.3	98.4	19.0	4	19.0	63.5	27.0	65.1	27.0	43.2	43.7	63.5	14.3	42.16
40	155.6	114.3	22.2	4	20.6	69.8	30.2	68.3	30.2	49.5	50.0	73.0	15.9	48.26
50	165.1	127.0	19.0	8	22.2	84.1	33.3	69.8	33.3	62.0	62.5	92.1	17.5	60.31
65	190.5	149.2	22.2	8	25.4	100.0	38.1	76.2	38.1	74.7	75.4	104.8	19.0	73.02
80	209.5	168.3	22.2	8	28.6	117.5	42.9	79.4	42.9	90.7	91.4	127.0	20.6	88.90
100	254.0	200.0	22.2	8	31.8	146.0	47.6	85.7	47.6	116.1	116.8	157.2	23.8	114.30
125	279.4	234.9	22.2	8	34.9	177.8	50.8	98.4	50.8	143.8	144.5	185.7	-	141.30
150	317.5	269.9	22.2	12	36.5	206.4	52.4	98.4	52.4	170.7	171.4	215.9	-	168.27
200	381.0	330.2	25.4	12	41.3	260.3	61.9	111.1	61.9	221.5	222.2	269.9	-	219.07
250	444.5	387.3	28.6	16	47.6	320.7	66.7	117.5	95.2	276.3	277.4	323.8	-	273.05
300	520.7	450.8	31.7	16	50.8	374.6	73.0	130.2	101.6	327.1	328.2	381.0	-	323.85
350	584.2	514.3	31.7	20	54.0	425.4	76.2	142.9	111.1	359.1	360.2	412.7	-	355.60
400	647.7	571.5	34.9	20	57.2	482.6	82.5	146.0	120.6	410.5	411.2	469.9	-	406.40
450	711.2	628.5	34.9	24	60.3	533.4	88.9	158.7	130.2	461.8	462.3	533.4	-	457.20
500	774.7	685.8	34.9	24	63.5	587.4	95.2	161.9	139.7	513.1	514.3	584.2	-	508.00
600	914.4	812.8	41.3	24	69.8	701.7	106.4	168.3	152.4	615.9	615.9	692.1	-	609.60

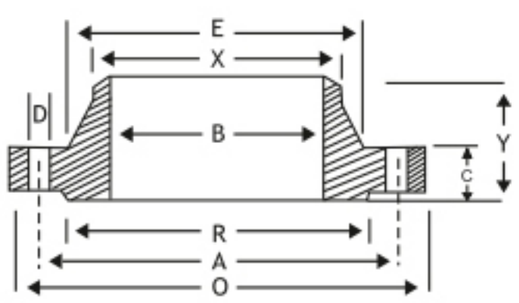
Metric values are direct conversion from Inches table of B16.5

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

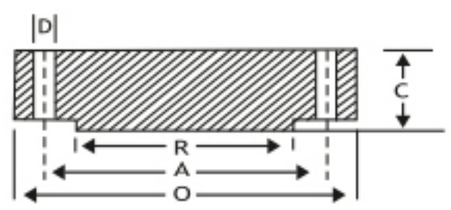
FLANGES CLASS 600 & 900



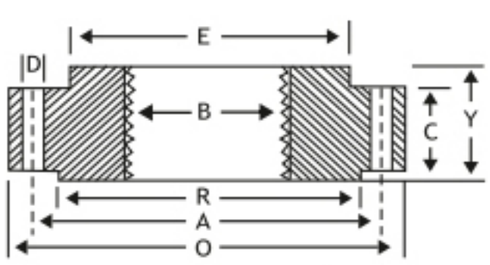
SLIP-ON FLANGE



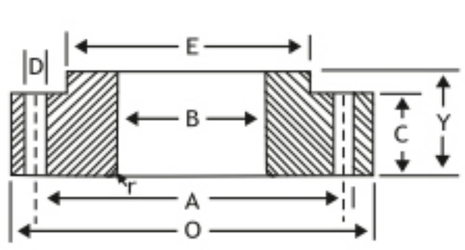
WELDING NECK FLANGE



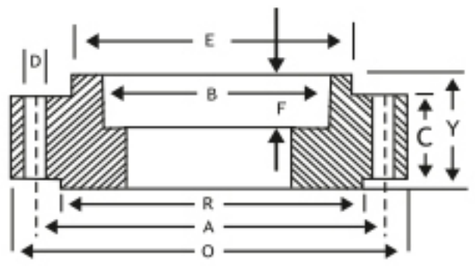
BLIND FLANGE



THREADED FLANGE



LAP JOINT FLANGE



SOCKET WELD FLANGE

DIMENSIONS OF CLASS 600 FLANGES AS PER B 16.5

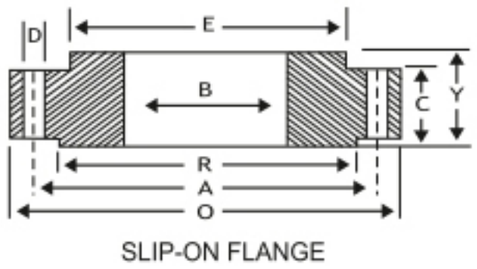
Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	No. of Bolt Holes D	No. of Holes	Thk of Flange C	Dia of Hub E	Length through Hub S/O & S/W Y	Length through Hub W/N Y	Length through Hub L/J Y	Dia Bore S/O & S/W B	Dia Bore L/J B	Dia of R/F R	Depth of Socket F	Pipe Dia X
15	95.2	66.7	15.9	4	14.3	38.1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

DIMENSIONS OF CLASS 900 FLANGES AS PER B 16.5

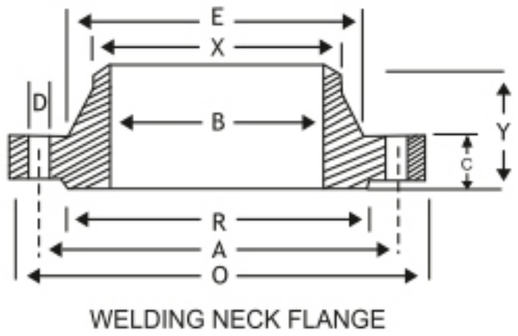
Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	Dai Of Bolt Holes D	No. Of Holes	Thk of Flange C	Dia of Hub E	Length through Hub S/O & S/W Y	Length through Hub W/N Y	Length through Hub L/J Y	Dia Bore S/O & S/W B	Dia Bore L/J B	Dia of R/F R	Depth of Socket F	Pipe Dia X
15	120.6	82.5	22.2	4	22.2	38.1	31.7	60.3	31.7	22.3	22.8	34.9	9.5	21.33
20	130.2	88.9	22.2	4	25.4	44.4	34.9	69.8	35.0	27.7	28.1	42.9	11.1	26.67
25	149.2	101.6	25.4	4	28.6	52.4	41.3	73.0	41.1	34.5	35.0	50.8	12.7	33.40
32	158.7	111.1	25.4	4	28.6	63.5	41.3	73.0	41.1	43.2	43.6	63.5	14.2	42.16
40	177.8	123.8	28.6	4	31.8	69.8	44.4	82.5	44.4	49.5	50.0	73.0	15.8	48.26
50	215.9	165.1	25.4	8	38.1	104.8	57.1	101.6	57.1	62.0	62.4	92.1	17.4	60.31
65	244.5	190.5	28.6	8	41.3	123.8	63.5	104.8	63.5	74.7	75.4	104.8	19.0	73.02
80	241.3	190.5	25.4	8	38.1	127.0	53.9	101.6	53.8	90.7	91.4	127.0	-	88.90
100	292.1	234.9	31.7	8	44.4	158.7	69.8	114.3	69.8	116.0	116.8	157.1	-	114.30
125	349.2	279.4	35.0	8	50.8	190.5	79.3	127.0	79.2	143.7	114.5	185.7	-	141.30
150	381.0	317.5	31.7	12	55.6	234.9	85.8	139.7	85.8	170.6	171.4	215.9	-	168.27
200	469.9	393.7	38.1	12	63.5	298.4	101.6	162.0	114.3	221.4	222.2	269.8	-	219.07
250	546.1	469.9	38.1	16	69.8	368.3	107.9	184.1	127.0	276.3	277.3	323.8	-	273.05
300	609.6	533.4	38.1	20	79.3	419.1	117.4	200.0	142.7	327.1	328.1	381.0	-	323.85

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

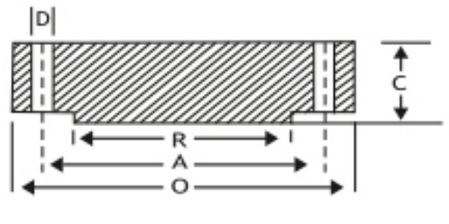
FLANGES CLASS 1500 & 2500



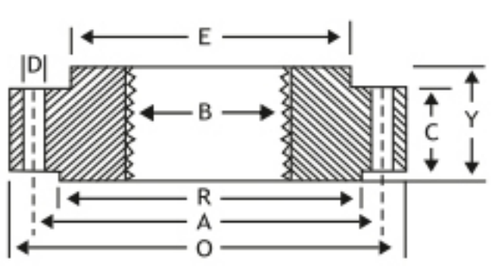
SLIP-ON FLANGE



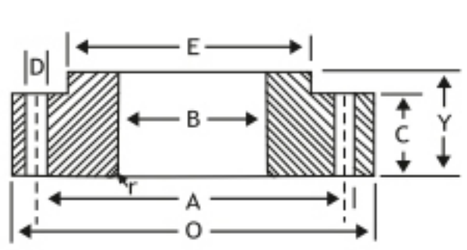
WELDING NECK FLANGE



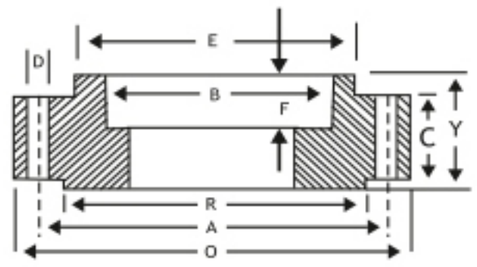
BLIND FLANGE



THREADED FLANGE



LAP JOINT FLANGE



SOCKET WELD FLANGE

DIMENSIONS OF CLASS 1500 FLANGES AS PER B16.5

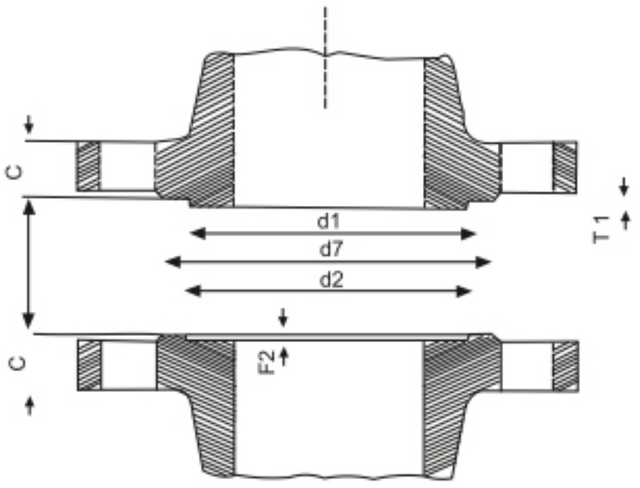
Nominal Pipe Size	Flange Dia	Dia of Bolt Circle	Dai Of Bolt Holes	No. Of Holes	Thk of Flange	Dia of Hub	Length through Hub			Dia Bore		Dia of R/F	Depth of Socket	Pipe Dia
							S / O & S / W	W/N	L/J	S/O & S/W	L/J			
	O	A	D		C	E	Y	Y	Y	B	B	R	F	X
15	120.6	82.5	22.2	4	22.2	38.1	31.7	60.3	31.7	22.3	22.8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

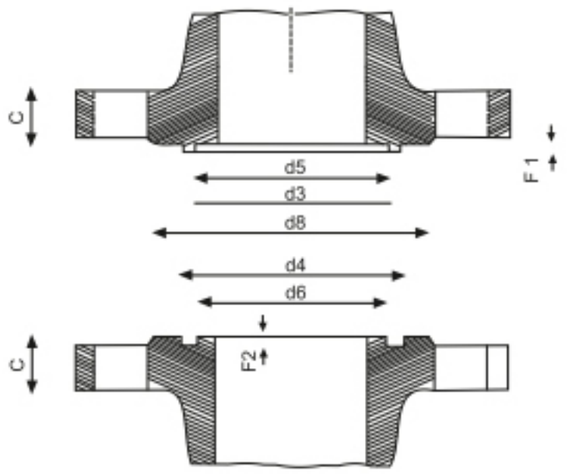
DIMENSIONS OF CLASS 2500 FLANGES AS PER B16.5

Nominal Pipe Size	Flange Dia	Dia of Bolt Circle	Dai Of Bolt Holes	No. Of Holes	Thk of Flange	Dia of Hub	Length through Hub			Dia Bore		Dia of R/F	Depth of Socket	Pipe Dia
							S / O & S / W	W/N	L/J	S/O & S/W	L/J			
	O	A	D		C	E	Y	Y	Y	B	B	R	F	X
15	133.3	88.9	22.2	4	30.2	42.9	39.7	73.0	39.7	22.3	22.3	34.9	-	21.33
20	139.7	95.2	22.2	4	31.7	50.8	42.9	79.4	42.9	27.7	27.7	42.9	-	26.67
25	158.7	107.9	25.4	4	34.9	57.1	47.7	88.9	47.7	34.5	34.5	50.8	-	33.40
32	184.1	130.2	28.6	4	38.1	73.0	52.4	95.2	52.4	43.2	43.2	63.5	-	42.16
40	203.2	146.0	31.7	4	44.4	79.4	60.3	111.1	60.3	49.5	49.5	73.0	-	48.26
50	234.9	171.4	28.6	8	50.8	95.2	69.8	127.0	69.8	62.4	62.0	92.1	-	60.31
65	266.7	196.8	31.7	8	57.1	114.3	79.4	142.9	79.4	74.7	74.7	104.8	-	73.02
80	304.8	228.6	34.9	8	66.7	133.3	92.1	168.3	92.1	90.7	90.7	127.0	-	88.90
100	355.6	273.0	41.3	8	76.2	165.1	107.9	190.5	107.9	116.1	116.1	157.2	-	114.30
125	419.1	323.8	47.6	8	92.1	203.2	130.0	228.6	130.0	143.8	143.8	185.7	-	141.30
150	482.6	368.3	54.0	8	107.9	234.9	152.4	273.0	152.4	170.7	170.7	215.9	-	168.27
200	552.4	438.1	54.0	12	127.0	304.8	177.8	317.5	177.8	221.5	221.5	269.9	-	219.07
250	673.1	539.7	66.7	12	165.1	374.6	228.6	419.1	228.6	276.3	276.3	323.8	-	273.05
300	762.0	619.1	73.0	12	184.1	441.3	254.0	463.5	254.0	327.1	327.1	381.0	-	323.85

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

DIMENSIONS OF LARGE MALE-FEMALE AND SMALL TONGUE AND GROOVE FLANGE FACING ANSI B 16.5 STANDARD





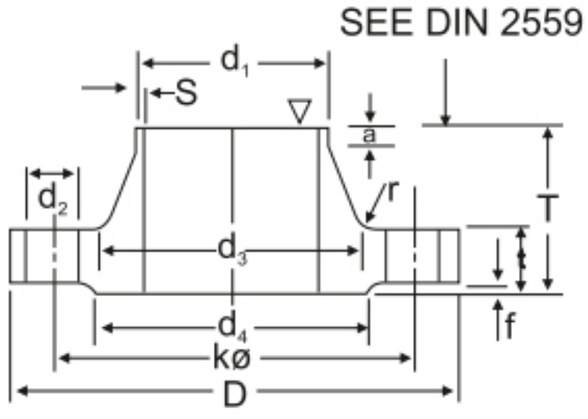
DN	d1	d2	d3	d4	d5	d6	d7	d8	f_1	f_2
1/2”	1,38 (35,1)	1,44 (36, 6)	1,38 (35,1)	1,44 (36, 6)	1,00 (25, 4)	0,94 (23, 9)	1,81 (46, 0)	1,75 (44, 5)	0,25 (6, 4)	0,19 (4, 8)
3/4”	1, 69 (42, 9)	1, 75 (44, 5)	1, 69 (42, 9)	1, 75 (44, 5)	1, 31 (33, 3)	1, 25 (31,8)	2, 12 (53, 8)	2, 06 (52, 3)	0, 25 (6, 4)	0, 19 (4, 8)
1”	2,00 (50, 8)	2, 06 (52,3)	1, 88 (47, 7)	1, 94 (49, 3)	1, 50 (38, 1)	1, 44 (36, 6)	2, 44 (62, 0)	2, 25 (57, 2)	0, 25 (6, 4)	0, 19 (4, 8)
1 1/4”	2, 50 (63, 5)	2, 56 (65, 0)	2,25 (57, 2)	2,31 (58, 7)	1, 88 (47, 8)	1, 81 (46, 0)	2, 94 (74, 7)	2, 62 (66, 6)	0, 25 (6, 4)	0, 19 (4, 8)
1 1/2”	2, 88 (73, 2)	2, 94 (74, 7)	2, 50 (63, 5)	2, 56 (65, 0)	2, 12 (53, 8)	2, 06 (52,3)	3, 31 (84, 1)	2, 88 (73, 2)	0, 25 (6, 4)	0, 19 (4, 8)
2”	3, 62 (92, 0)	3, 69 (93, 7)	3, 25 (82, 6)	3, 31 (84, 1)	2,88 (73, 0)	2, 81 (71, 4)	4, 06 (103, 1)	3, 62 (92, 0)	0, 25 (6, 4)	0, 19 (4, 8)
2 1/2”	4,12 (104,6)	4, 19 (106,4)	3, 75 (95,2)	3, 81 (96,8)	3, 38 (85,8)	3, 31 (84,1)	4, 56 (115,8)	4, 12 (104,6)	0, 25 (6,4)	0, 19 (4,8)
3”	5,00 (127,0)	5,06 (128,5)	4,62 (117,5)	4,69 (119,1)	4,25 (108,0)	4,19 (106,4)	5,44 (138,2)	5,00 (127,0)	0,25 (6,4)	0,19 (4,8)
4”	6,19 (157,2)	6,25 (158,8)	5,69 (144,5)	5,75 (146,1)	5,19 (131,8)	5,12 (130,0)	6,62 (168,1)	6,19 (157,2)	0,25 (6,4)	0,19 (4,8)
5”	7,31 (185,7)	7,38 (187,5)	6,81 (173,0)	6,88 (174,8)	6,31 (160,3)	6,25 (158,8)	7,75 (196,9)	7,31 (185,7)	0,25 (6,4)	0,19 (4,8)
6”	8,50 (215,9)	8,56 (217,5)	8,00 (203,2)	3,31 (84,1)	2,88 (73,0)	2,81 (71,4)	4,06 (103,1)	3,62 (92,0)	0,25 (6,4)	0,19 (4,8)
8”	10,62 (269,8)	10,69 (271,5)	10,00 (254,0)	10,06 (255,5)	9,38 (238,3)	9,31 (236,5)	11,06 (281,0)	10,62 (269,8)	0,25 (6,4)	0,19 (4,8)
10”	12,75 (323,5)	12,81 (325,4)	12,00 (304,8)	12,06 (306,3)	11,25 (285,8)	11,19 (284,2)	13,19 (335,0)	12,75 (323,5)	0,25 (6,4)	0,19 (4,8)
12”	15,00 (381,0)	15,06 (382,5)	14,25 (362,0)	14,31 (363,5)	13,50 (342,9)	13,44 (341,4)	15,44 (392,2)	15,00 (381,0)	0,25 (6,4)	0,19 (4,8)
14”	16,25 (412,8)	16,31 (414,3)	15,50 (393,7)	15,56 (395,2)	14,75 (374,7)	14,69 (373,1)	16,69 (423,9)	16,25 (412,8)	0,25 (6,4)	0,19 (4,8)
16”	18,50 (469,9)	18,56 (471,5)	17,62 (447,6)	17,69 (449,3)	16,75 (425,5)	16,69 (423,9)	18,94 (481,0)	18,50 (469,9)	0,25 (6,4)	0,19 (4,8)
18”	21,00 (533,4)	21,06 (535,0)	20,12 (511,0)	20,19 (512,8)	19,25 (489,0)	19,19 (487,4)	21,44 (544,6)	21,00 (533,4)	0,25 (6,4)	0,19 (4,8)
20”	23,00 (584,2)	23,06 (585,8)	22,00 (558,8)	22,06 (560,3)	21,00 (533,4)	20,94 (531,9)	23,44 (595,4)	23,00 (584,2)	0,25 (6,4)	0,19 (4,8)
24”	27,25 (692,2)	27,31 (693,7)	26,25 (666,9)	26,31 (668,3)	25,25 (641,4)	25,19 (639,8)	27,69 (703,3)	27,25 (692,2)	0,25 (6,4)	0,19 (4,8)

6 BAR

DIN 2573 SLIP - ON FLANGES

DIN 2527 BLIND FLANGES

DIN 2631 WELDING NECK FLANGES



WELDING NECK

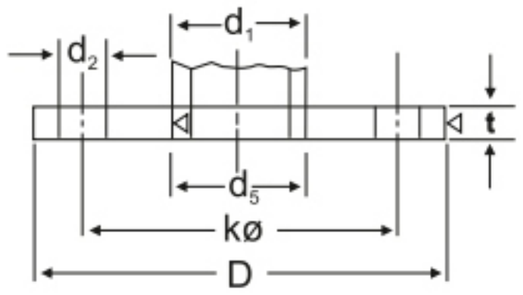
Unit : mm

Bore		Common Dimension						Hub				Raise Face		Drilling				Approx Weight (kg)	
Nominal Bore	d_1	D	t Welding neck	t slip-on	t Blind	K	T	d_3	s	r	a ≈	d_4	f	No. of Bolt	Dia. of Bolt		d_2	DIN 2573	DIN 2631
10	14 17.2*)	75	12	12	12	50	28	22 26	1.8	4	6	35	2	4	M10	-	11.5	0.036	0.335
15	20 21.3*)	80	12	12	12	55	30	28 30	2.0	4	6	40	2	4	M10	-	11.5	0.410	0.392
20	25 26.9*)	90	14	14	14	65	32	35 38	2.3	4	6	50	2	4	M10	-	11.5	0.600	0.592
25	30 33.7*)	100	14	14	14	75	35	40 42	2.6	4	6	60	2	4	M10	-	11.5	0.740	0.747
32	38 42.4*)	120	14	16	14	90	35	50 55	2.6	6	6	70	2	4	M12	(1/2")	14	1.19	1.05
40	44.5 48.3*)	130	14	16	14	100	38	58 62	2.6	6	7	80	3	4	M12	(1/2")	14	1.39	1.18
50	57 60.3*)	140	14	16	14	110	38	70 74	2.9	6	8	90	3	4	M12	(1/2")	14	1.53	1.34
65	76.1*)	160	14	16	14	130	38	88	2.9	6	9	110	3	4	M12	(1/2")	14	1.89	1.67
80	88.9*)	190	16	18	16	150	42	102	3.2	8	10	128	3	4	M16	(5/8")	18	2.98	2.71
100	108 114.3*)	210	16	18	16	170	45	122 130	3.6	8	10	148	3	4	M16	(5/8")	18	3.46	3.24
125	133 139.7*)	240	18	20	18	200	48	148 155	4.0	8	10	178	3	8	M16	(5/8")	18	4.60	4.49
150	159 168.3*)	265	18	20	18	225	48	172 184	4.5	10	12	202	3	8	M16	(5/8")	18	5.22	5.15
200	216 219.1*)	320	20	22	20	280	55	230 236	5.9	10	15	258	3	8	M16	(5/8")	18	7.15	7.78
250	267 273*)	375	22	24	22	335	60	282 290	6.2	12	15	312	3	12	M16	(5/8")	18	9.61	10.8
300	381 323.9*)	440	22	24	22	395	62	335 342	7.1	12	15	365	4	12	M20	(3/4")	23	12.6	14.0
350	355.6*) 368	490	22	26	22	445	62	385	7.1	12	15	415	4	12	M20	(3/4")	23	15.6	16.1
400	406.4*) 418	540	22	28	22	495	65	438	7.1	12	15	455	4	16	M20	(3/4")	23	18.4	18.3
500	508*) 521	645	24	30	24	600	68	538	7.1	12	15	570	4	20	M20	(3/4")	23	24.5	24.6
600	609.6*) 622	755	24			705	70	640	7.1	12	16	670	5	20	M24	(7/8")	27		
700	711.2*) 720	860	24			810	70	740	7.1	12	16	775	5	24	M24	(7/8")	27		
800	812.8*) 820	975	24			920	70	842	7.1	12	16	880	5	24	M27	(1")	30		
900	914.4*) 920	1075	26			1020	70	942	7.1	12	16	980	5	24	M27	(1")	30		
1000	1016*) 1020	1175	26			1120	70	1045	7.1	16	16	1080	5	28	M27	(1")	30		

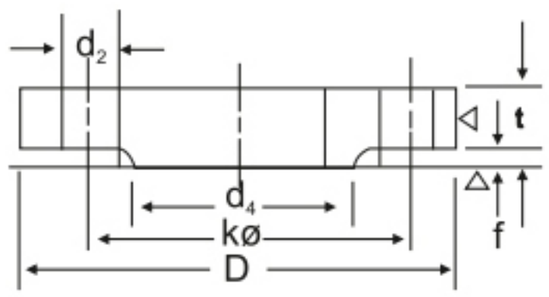
Out side diameter of pipe complies with ISO recommendation R64

10BAR

DIN 2576 SLIP - ON FLANGES
DIN 2527 BLIND FLANGES
DIN 2632 WELDING NECK FLANGES



SLIP-ON



BLIND

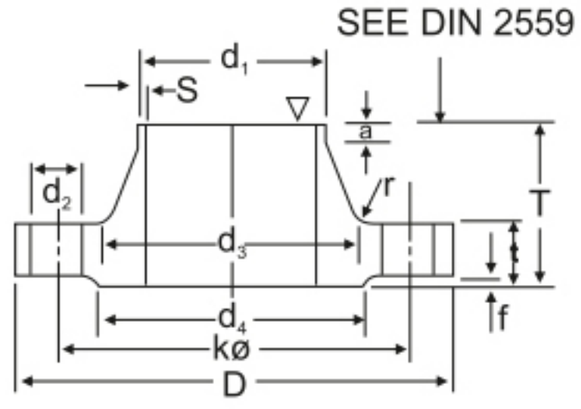
Unit : mm

Bore		Common Dimension						Hub				Raise Face		Drilling				Approx Weight (kg)	
Nominal Bore	d_1	D	t Weld-ing neck	t slip-on	t Blind	K	T	d_3	s	r	a ≈	d_4	f	No. of Bolt	Dia. of Bolt		d_2	DIN 2576	DIN 2632
10	14 17.2*)	90	14	14	14	60	35	25 28	1.8	4	6	40	2	4	M12	(1.2")	14	0.163	0.580
15	20 21.3*)	95	14	14	14	65	35	30 32	2.0	4	6	45	2	4	M12	(1.2")	14	0.675	0.648
20	25 26.9*)	105	16	16	16	75	38	38 40	2.3	4	6	58	2	4	M12	(1.2")	14	0.947	0.952
25	30 33.7*)	115	16	16	16	85	38	42 45	2.6	4	6	68	2	4	M12	(1.2")	14	1.14	1.14
32	38 42.4*)	140	16	16	16	100	40	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	1.66	1.69
40	44.5 48.3*)	150	16	16	18	110	42	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	1.89	1.86
50	57 60.3*)	165	18	18	18	125	45	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	2.51	2.53
65	76.1*)	185	18	18	18	145	45	90	2.9	6	10	122	3	4	M16	(5/8")	18	3.00	3.06
80	88.9*)	200	20	20	20	160	50	105	3.2	8	10	138	3	4	M16	(5/8")	18	3.79	3.70
100	108 114.3*)	220	20	20	20	180	52	125 131	3.6	8	12	158	3	8	M16	(5/8")	18	4.20	4.62
125	133 139.7*)	250	22	22	22	210	55	150 156	4.0	8	12	188	3	8	M16	(5/8")	18	5.71	6.30
150	159 168.3*)	285	22	22	22	240	55	175 184	4.5	10	12	212	3	8	M20	(3/4")	23	6.72	7.75
200	216 219.1*)	340	24	24	24	295	62	232 235	5.9	10	16	268	3	8	M20	(3/4")	23	9.50	11.3
250	267 273*)	395	26	26	26	350	68	285 292	6.3	12	16	320	3	12	M20	(3/4")	23	12.5	14.7
300	381 323.9*)	445	26	26	28	400	68	335 344	7.1	12	16	370	4	12	M20	(3/4")	23	14.4	17.6
350	355.6*) 368	505	26	28	30	460	68	385	7.1	12	16	430	4	16	M20	(3/4")	23	20.6	21.4
400	406.4*) 419	565	26	32	32	515	72	440	7.1	12	16	482	4	16	M24	(7/8")	27	27.9	26.1
500	508*) 521	670	28	38	34	620	75	542	7.1	12	16	585	4	20	M24	(7/8")	27	41.1	34.7
600	609.6*) 622	780	28			725	80	642	7.1	12	18	685	5	20	M27	(1")	30		
700	711.2*) 720	895	30			840	80	754	8.0	12	18	800	5	24	M27	(1")	30		
800	812.8*) 820	1015	32			950	90	850	8.0	12	18	905	5	24	M30	(1.1/8")	30		
900	914.4*) 920	1115	34			1050	95	950	10.0	12	20	1005	5	28	M30	(1.1/8")	33		
1000	1016*) 1020	1230	34			1160	95	1052	10.0	16	20	1110	5	28	M33	(1 1/4")	36		

Out side diameter of pipe complies with ISO recommendation R64

16BAR

DIN 2543 SLIP - ON FLANGES
DIN 2527 BLIND FLANGES
DIN 2633 WELDING NECK FLANGES



WELDING NECK

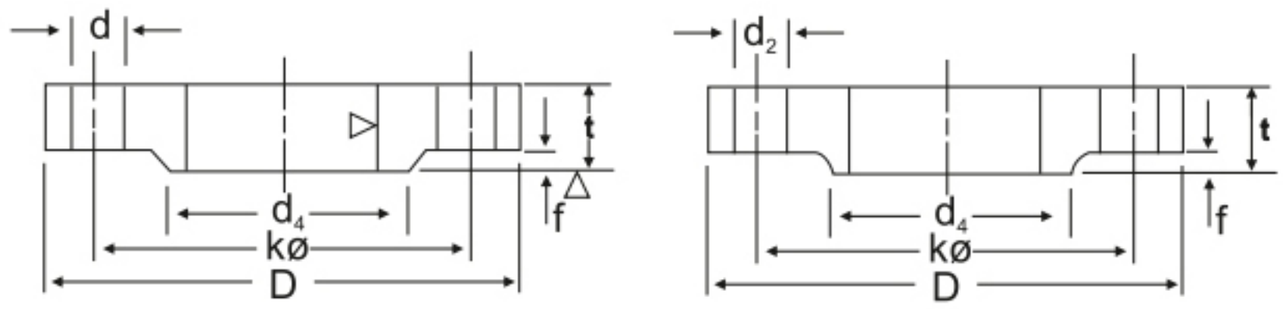
Unit : mm

Bore		Common Dimension						Hub				Raise Face		Drilling				Approx Weight (kg)	
Nominal Bore	d_1	D	t Welding neck	t slip-on (No-hub)	t Blind	K	T	d_3	s	r	a ≈	d_4	f	No. of Bolt	Dia. of Bolt		d_2	DIN 2543	DIN 2633
10	14 17.2*)	90	14	14	14	60	35	25 28	1.8	4	6	40	2	4	M12	(1.2")	14	0.63	0.580
15	20 21.3*)	95	14	14	14	65	35	30 32	2.0	4	6	45	2	4	M12	(1.2")	14	0.72	0.648
20	25 26.9*)	105	16	16	16	75	38	38 40	2.3	4	6	58	2	4	M12	(1.2")	14	1.01	0.952
25	30 33.7*)	115	16	16	16	85	38	42 45	2.6	4	6	68	2	4	M12	(1.2")	14	1.23	1.14
32	38 42.4*)	140	16	16	16	100	40	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	1.80	1.69
40	44.5 48.3*)	150	16	16	16	110	42	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	2.09	1.86
50	57 60.3*)	165	18	18	18	125	45	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	2.88	2.53
65	76.1*)	185	18	18	18	145	45	90	2.9	6	10	122	3	4	M16	(5/8")	18	3.66	3.06
80	88.9*)	200	20	20	20	160	50	105	3.2	8	10	138	3	8	M16	(5/8")	18	4.77	3.70
100	108 114.3*)	220	20	20	20	180	52	125 131	3.6	8	12	158	3	8	M16	(5/8")	18	5.65	4.62
125	133 139.7*)	250	22	22	22	210	55	150 156	4.0	8	12	188	3	8	M16	(5/8")	18	8.42	6.30
150	159 168.3*)	285	22	22	22	240	55	175 184	4.5	10	12	212	3	8	M20	(3/4")	23	10.4	7.75
200	216 219.1*)	340	24	24	24	295	62	232 235	5.9	10	16	268	3	12	M20	(3/4")	23	16.1	11.0
250	267 273*)	405	26	26	26	355	70	285 292	6.3	12	16	320	3	12	M24	(7/8")	27	24.9	15.6
300	381 323.9*)	460	28	28	28	410	78	338 344	7.1	12	16	378	4	12	M24	(7/8")	27	35.1	22.0
350	355.6*) 368	520	30	30	30	470	82	390	8.0	12	16	438	4	16	M24	(7/8")	27	47.8	28.7
400	406.4*) 419	580	32	32	32	525	85	445	8.8	12	16	490	4	16	M27	(1")	30	63.5	36.3
500	508*) 521	715	34	36	34	650	90	548	8.0	12	16	610	4	20	M30	(1 1/8")	33	102.0	59.3
600	609.6*) 622	840	36	40		770	95	652	8.8	12	18	725	5	20	M33	(1 1/4")	36		
700	711.2*) 720	910	36			840	100	755	8.8	12	18	795	5	24	M33	(1 1/4")	36		
800	812.8*) 820	1025	38			950	105	855	10.0	12	20	900	5	24	M36	(1 3/8")	39		
900	914.4*) 920	1125	40			1050	110	955	10.0	12	20	1000	5	28	M36	(1 3/8")	39		
1000	1016*) 1020	1255	42			1170	120	1058	10.0	16	20	1115	5	28	M39	(1 1/2")	42		

Out side diameter of pipe complies with ISO recommendation R64

25BAR

DIN 2544 SLIP - ON FLANGES
DIN 2527 BLIND FLANGES
DIN 2634 WELDING NECK FLANGES

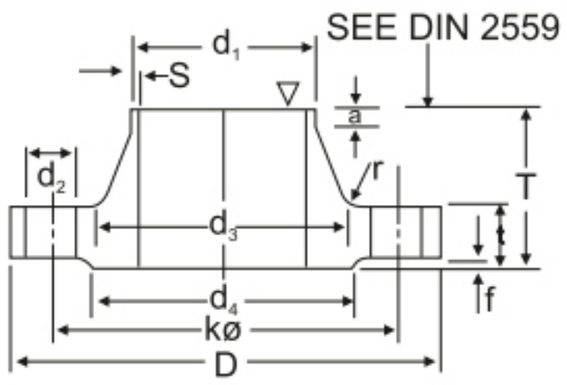


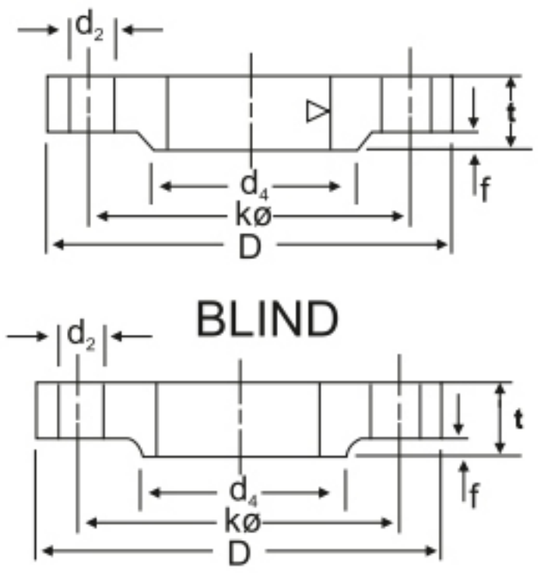
SLIP-ON BLIND

Unit : mm

Bore		Common Dimension						Hub				Raise Face		Drilling				Approx Weight (kg)	
Nominal Bore	d_1	D	t Welding neck	t slip-on (No-hub)	t Blind	K	T	d_3	s	r	a ≈	d_4	f	No. of Bolt	Dia. of Bolt		d_2	DIN 2544	DIN 2634
10	14 17.2*)	90	16	16	16	60	35	25 28	1.8	4	6	40	2	4	M12	(1.2")	14	0.72	0.661
15	20 21.3*)	95	16	16	16	65	35	30 32	2.0	4	6	45	2	4	M12	(1.2")	14	0.81	0.746
20	25 26.9*)	105	18	18	18	75	40	38 40	2.3	4	6	58	2	4	M12	(1.2")	14	1.24	1.06
25	30 33.7*)	115	18	18	18	85	40	42 46	2.6	4	6	68	2	4	M12	(1.2")	14	1.38	1.29
32	38 42.4*)	140	18	18	18	100	42	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	2.03	1.88
40	44.5 48.3*)	150	18	18	18	110	45	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	2.35	2.34
50	57 60.3*)	165	20	20	20	125	48	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	3.20	2.82
65	76.1*)	185	22	22	22	145	52	90	2.9	6	10	122	3	8	M16	(5/8")	18	4.29	3.74
80	88.9*)	200	24	24	24	160	58	105	3.2	8	12	138	3	8	M16	(5/8")	18	5.88	4.75
100	108 114.3*)	235	24	24	24	190	65	128 134	3.6	8	12	162	3	8	M20	(3/4")	23	7.54	6.52
125	133 139.7*)	270	26	26	26	220	68	155 162	4.0	8	12	188	3	8	M24	(7/8")	27	10.8	9.07
150	159 168.3*)	300	28	28	28	250	75	182 192	4.5	10	12	218	3	8	M24	(7/8")	27	14.5	11.8
200	216 219.1*)	360	30	30	30	310	80	240 244	6.3	10	16	278	3	12	M24	(7/8")	27	22.3	17.0
250	267 273*)	425	32	32	32	370	88	292 298	7.1	12	18	355	3	12	M27	(1")	30	33.5	24.4
300	381 323.9*)	485	34	34	34	430	92	345 352	8.0	12	18	395	4	16	M27	(1")	30	46.3	31.2
350	355.6*) 368	555	38	38	38	490	100	398	8.0	12	20	450	4	16	M30	(1 1/8")	33	68.0	45.0
400	406.4*)	620	40	40	40	550	110	452	8.8	12	20	505	4	16	M33	(1 1/4")	36	89.7	58.7
500	508*) 521	730	44	44	44	660	125	558	10.0	12	20	615	4	20	M33	(1 1/4")	36	138.0	86.1
600	609.6*) 622	845	46			770	125	660	11.0	12	20	720	5	20	M36	(1 3/8")	39		101.0
700	711.2*) 720	960	46			875	125	760	12.5	12	20	820	5	24	M39	(1 1/2")	42		134.0
800	812.8*) 820	1085	50			990	135	865	14.2	12	22	930	5	24	M45	(1 3/4")	48		183.0
900	914.4*) 920	1185	54			1090	145	968	16.0	12	24	1030	5	28	M45	(1 3/4")	48		232.0
1000	1016*) 1020	1320	58			1210	155	1070	17.5	16	24	1140	5	28	M52	(2")	56		302.0

Out side diameter of pipe complies with ISO recommendation R64





40BAR

DIN 2545 SLIP - ON FLANGES
DIN 2527 BLIND FLANGES
DIN 2635 WELDING NECK FLANGES

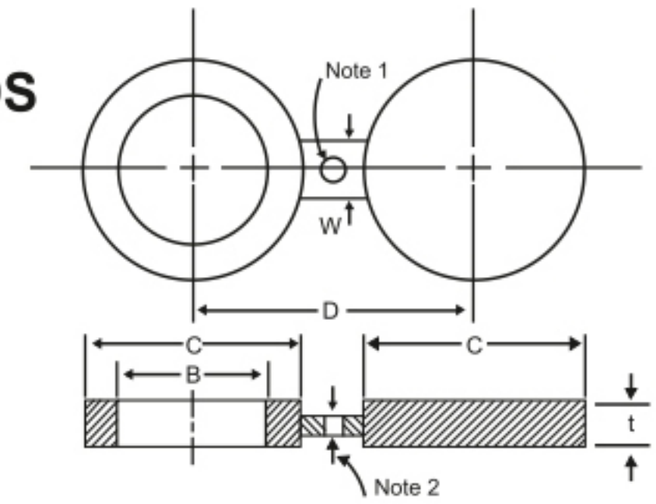
Unit : mm

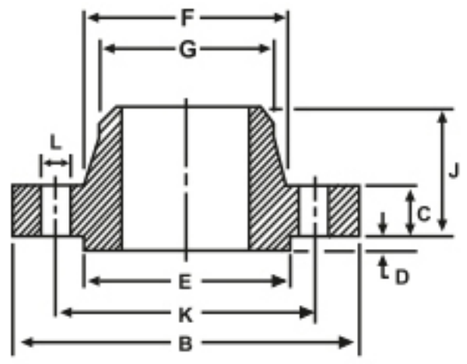
Bore		Common Dimension						Hub				Raise Face		Drilling				Approx Weight (kg)	
Nominal Bore	d_1	D	t Welding neck	t slip-on (No-hub)	t Blind	K	T	d_3	s	r	a ≈	d_4	f	No. of Bolt	Dia. of Bolt		d_2	DIN 2545	DIN 2635
10	14 17.2*)	90	16	16	16	60	35	25 28	1.8	4	6	40	2	4	M12	(1.2")	14	0.72	0.661
15	20 21.3*)	95	16	16	16	65	38	30 32	2.0	4	6	45	2	4	M12	(1.2")	14	0.81	0.746
20	25 26.9*)	105	18	18	18	75	40	38 40	2.3	4	6	58	2	4	M12	(1.2")	14	1.24	1.06
25	30 33.7*)	115	18	18	18	85	40	42 46	2.6	4	6	68	2	4	M12	(1.2")	14	1.38	1.29
32	38 42.4*)	140	18	18	18	100	42	52 56	2.6	6	6	78	2	4	M16	(5/8")	18	2.03	1.88
40	44.5 48.3*)	150	18	18	18	110	45	60 64	2.6	6	7	88	3	4	M16	(5/8")	18	2.35	2.33
50	57 60.3*)	165	20	20	20	125	48	72 75	2.9	6	8	102	3	4	M16	(5/8")	18	3.20	2.82
65	76.1*)	185	22	22	22	145	52	90	2.9	6	10	122	3	8	M16	(5/8")	18	4.29	3.74
80	88.9*)	200	24	24	24	160	58	105	3.2	8	12	138	3	8	M16	(5/8")	18	5.88	4.75
100	108 114.3*)	235	24	24	24	190	65	128 134	3.6	8	12	162	3	8	M20	(3/4")	23	7.54	6.52
125	133 139.7*)	270	26	26	26	220	68	155 162	4.0	8	12	188	3	8	M24	(7/8")	27	10.8	9.07
150	159 168.3*)	300	28	28	28	250	75	182 192	4.5	10	12	218	3	8	M24	(7/8")	27	14.5	11.80
(175)	(191) 193.7*)	350	32	30	32	295	82	251 218	5.6	10	15	260	3	12	M27	(1")	30	22.1	18.2
200	216 291.1*)	375	34	34	34	320	88	240 244	6.3	10	16	385	3	12	M27	(1")	30	27.2	21.5
250	267 273*)	450	38	38	38	385	105	298 306	7.1	12	18	345	3	12	M30	(1 1/8")	33	43.8	34.9
300	318 323.9*)	515	42	42	42	450	115	352 362	8.0	12	18	410	4	16	M30	(1 1/8")	33	63.3	49.7
350	355.6* 368	580	46	46	46	510	125	408	8.8	12	20	565	4	16	M33	(1 1/4")	36	89.5	68.1
400	406.4*) 419	660	50	50	50	585	135	462	11.0	12	20	535	4	16	M36	(1 1/8")	39	127.0	96.5
500	508*) 521	744	52	52	52	670	140	562	142	12	20	615	4	20	M39	(1 1/8")	42	172.0	117.0

Out side diameter of pipe complies with ISO recommendation R64

SPECTACLE BLINDS TO API 590 ANSI CLASS

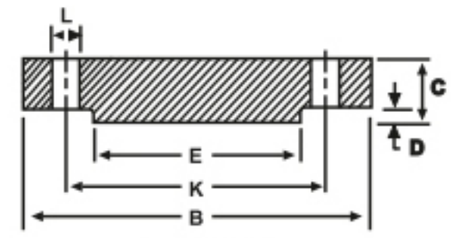
SPECTACLE BLINDS TO API 590 ANSI Class 150, 300 & 600





WELDING NECK

ASME B16.47 - 1996



BLANK

CLASS 150 CLASS 300 CLASS 600

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	INSIDE DIA-METER	OUTSIDE DIA-METER	CENTRE LINE SPACING	THICK-NESS	WEB WIDTH	INSIDE DIA-METER	OUTSIDE DIA-METER	CENTRE LINE SPACING	THICK-NESS	WEB WIDTH	INSIDE DIA-METER	OUTSIDE DIA-METER	CENTRE LINE SPACING	THICK-NESS	WEB WIDTH	NOMINAL PIPE SIZE	
mm	(in)	A	B	C	D	t	W	B	C	D	t	W	B	C	D	t	W	mm	(in)
15	(1/2)	21.3	16	44	60	3	38	16	51	67	6	38	16	51	67	6	38	15	((1/2)
20	(3/4)	26.7	21	54	70	3	38	21	64	83	6	38	21	64	83	6	38	20	(3/4)
25	(1)	33.4	27	64	79	3	38	27	70	89	6	38	27	70	89	6	57	25	(1)
32	(1 1/4)	42.2	42	73	89	6	38	42	79	99	6	38	37	79	99	10	57	32	(1 1/4)
40	(1 1/2)	48.3	48	83	99	6	38	48	92	114	6	51	43	92	114	10	67	40	(1 1/2)
50	(2)	60.3	60	102	121	6	51	60	108	127	10	51	55	108	127	10	57	50	(2)
65	(2 1/2)	73	73	121	140	6	51	73	127	149	10	64	67	127	149	13	67	65	(2 1/2)
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	54	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 6.4mm.
3. ALSO AVAILABLE IN LARGER SIZES & RING TYPE JOINT FACING.

Previously MSS SP44

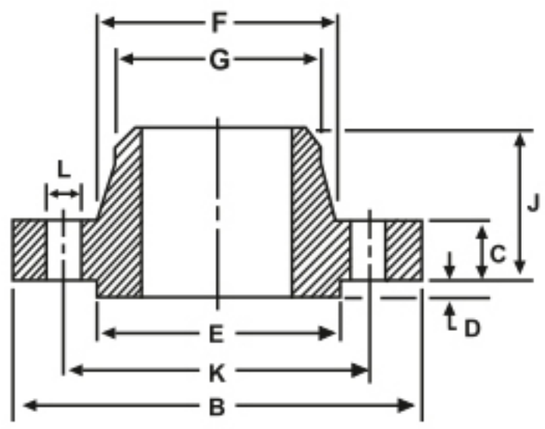
Series A CLASS 150

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN W NECK	THICKNESS OF FLANGE MIN BLIND	RAISED FACE THICK NESS	RAISED FACE DIA METER	HUB DIA METER	HUB DIA. START OF CHAMFER	LENGTH THROUGH HUB	DRILLING DATA: BOLT CIRCLE DIAMETER	DRILLING DATA: DIAMETER OF BOLT HOLES	DRILLING DATA: NUMBER OF BOLTS	NOMINAL PIPE SIZE	
mm	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	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)

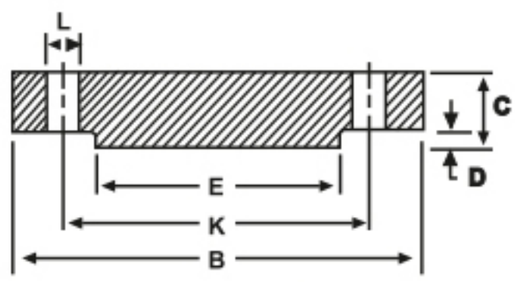
Notes : 1. Dimensions are in MM 2. Bore is to be specified by the customer to suit pipe. 3. Ring Type joint also available

Previously MSS SP44

ASME B16.47 - 1996 Series A
CLASS 300 & 600



WELDING NECK



BLANK

CLASS 300

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN W NECK	THICKNESS OF FLANGE MIN BLIND	RAISED FACE THICK NESS	RAISED FACE DIA METER	HUB DIA METER	HUB DIA. START OF CHAMFER	LENGTH THROUGH HUB	DRILLING DATA			NOMINAL PIPE SIZE	
mm	(in)	A	B	C	C1	D	E	F	G	J	BOLT CIRCLE DIAMETER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	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	600	(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	1068.8	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	(48)
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)

Previously MSS SP44

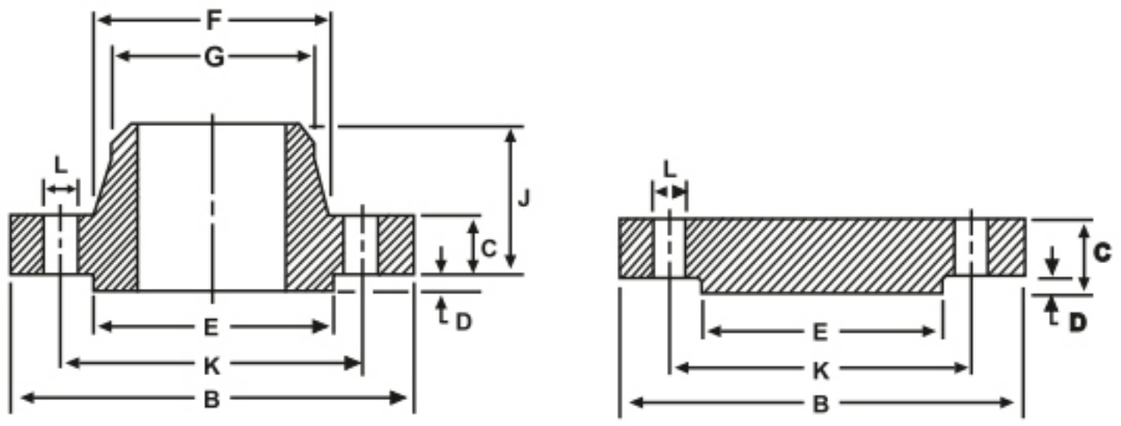
CLASS 600

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN W NECK	THICKNESS OF FLANGE MIN BLIND	RAISED FACE THICK NESS	RAISED FACE DIA METER	HUB DIA METER	HUB DIA. START OF CHAMFER	LENGTH THROUGH HUB	DRILLING DATA			NOMINAL PIPE SIZE	
mm	(in)	A	B	C	C1	D	E	F	G	J	BOLT CIRCLE DIAMETER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	mm	(in)
650	(26)	660.4	1016.0	108.0	125.5	6.4	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	6.4	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	6.4	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	6.4	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	6.4	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	6.4	1022.4	1031.7	914.4	282.4	1193.8	68.5	28	900	(36)
950	(38)	965.2	1270.0	152.4	155.4	6.4	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	6.4	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	6.4	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	6.4	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	6.4	1276.4	1234.9	1168.4	300.0	1390.7	66.5	32	1160	(46)
1200	(48)	1219.2	1593.9	189.0	195.3	6.4	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	6.4	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	6.4	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	6.4	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	6.4	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	6.4	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	6.4	1657.4	1609.9	1524.0	388.9	1822.5	91.9	28	1500	(60)

Previously MSS SP44

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
CLASS 150 & 300



WELDING NECK BLANK

CLASS 150

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN W NECK	THICKNESS OF FLANGE MIN BLIND	RAISED FACE THICK NESS	RAISED FACE DIA METER	HUB DIA METER	HUB DIA. START OF CHAMFER	LENGTH THROUGH HUB	DRILLING DATA			NOMINAL PIPE SIZE	
											BOLT CIRCLE DIAMETER	DIAMETER OF BOLT HOLES	NUMBER OF BOLTS		
mm	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	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	1.8	1600.2	1570.0	1527.0	179.3	1662.2	35.1	52	1500	(60)

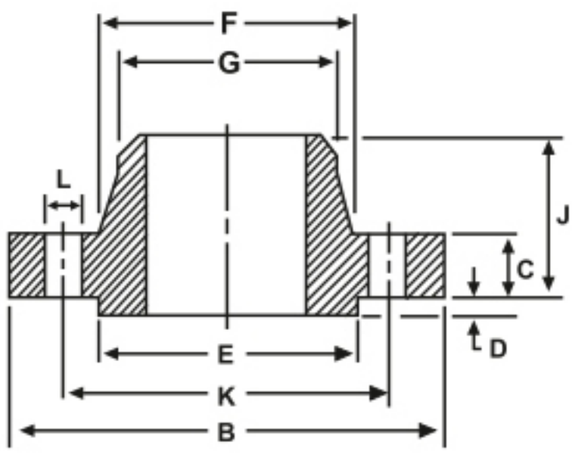
Previously API 605

CLASS 300

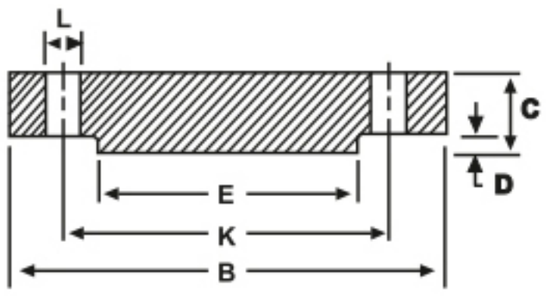
NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN W NECK	THICKNESS OF FLANGE MIN BLIND	RAISED FACE THICK NESS	RAISED FACE DIA METER	HUB DIA METER	HUB DIA. START OF CHAMFER	LENGTH THROUGH HUB	DRILLING DATA			NOMINAL PIPE SIZE	
											BOLT CIRCLE DIAMETER	DIAMETER OF BOLT HOLES	NUMBER OF BOLTS		
mm	(in)	A	B	C	C1	D	E	F	G	J	K	L	M	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	150.9	1.6	1651.0	1598.7	1531.9	271.5	1763.8	60.5	40	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 CLASS 600 & 900



WELDING NECK



BLANK

CLASS 600

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN W NECK	THICKNESS OF FLANGE MIN BLIND	RAISED FACE THICK NESS	RAISED FACE DIA METER	HUB DIA METER	HUB DIA. START OF CHAMFER	LENGTH THROUGH HUB	DRILLING DATA			NOMINAL PIPE SIZE	
mm	(in)	A	B	C	C1	D	E	F	G	J	BOLT CIRCLE DIAMETER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	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)

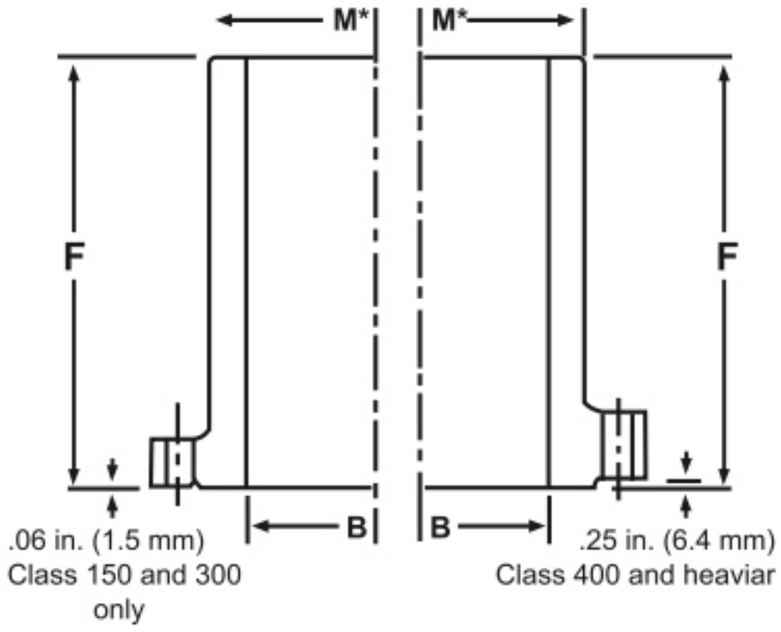
CLASS 900

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN W NECK	THICKNESS OF FLANGE MIN BLIND	RAISED FACE THICK NESS	RAISED FACE DIA METER	HUB DIA METER	HUB DIA. START OF CHAMFER	LENGTH THROUGH HUB	DRILLING DATA			NOMINAL PIPE SIZE	
mm	(in)	A	B	C	C1	D	E	F	G	J	BOLT CIRCLE DIAMETER K	DIAMETER OF BOLT HOLES L	NUMBER OF BOLTS M	mm	(in)
650	(26)	660.4	1022.4	134.9	153.9	6.4	762.0	743.0	660.4	258.8	901.7	66.5	20	650	(26)
700	(28)	711.2	1104.9	147.6	166.6	6.4	819.2	797.1	711.2	276.4	971.6	73.2	20	700	(28)
750	(30)	762.0	1181.1	155.4	176.0	6.4	876.3	850.9	762.0	289.1	1035.1	79.2	20	750	(30)
800	(32)	812.8	1238.3	160.3	185.7	6.4	927.1	908.1	812.8	303.3	1092.2	79.2	20	800	(32)
850	(34)	863.6	1314.5	171.5	195.1	6.4	990.6	962.2	863.6	319.0	1155.7	85.9	20	850	(34)
900	(36)	914.4	1346.2	173.0	201.7	6.4	1028.7	1016.0	914.4	325.4	1200.2	79.2	24	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

Previously API 605

LONG WELDING NECKS



LONG WELDING NECKS

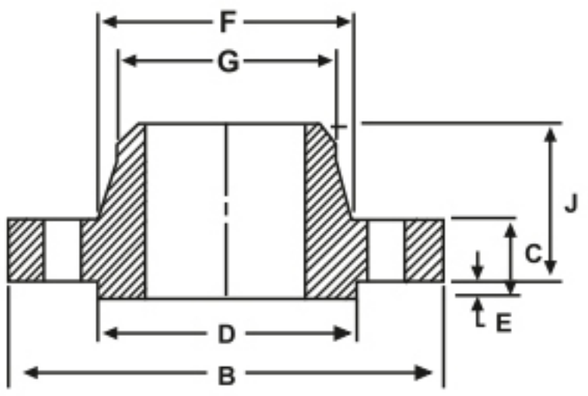
	LENGTH THRU HUB			WEIGHTS						
NOMINAL SIZE AND BORE	CLASS 150 THRU 600	CLASS 900 THRU 2500	HUB DIAMETER CLASS 150 PN 20	CLASS 150 PN 20	CLASS 300 PN 20	CLASS 400 PN 64	CLASS 600 PN 100	CLASS 900 PN 180	CLASS 1500 PN 250	CLASS 2500 PN 400
	PN 20 THRU 100	PN 160 THRU 400								
B	F	F	*M							
1.00 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	- -

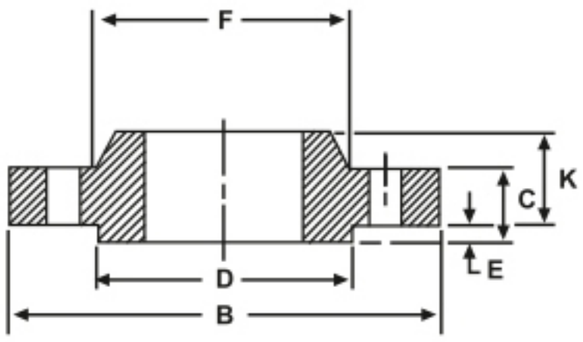
SPECIFICATIONS: Long Welding Necks conform to ASTM specification A-105. Except as shown above, Long Welding Necks conform dimensionally to ASME/ANSI Standard B16.5

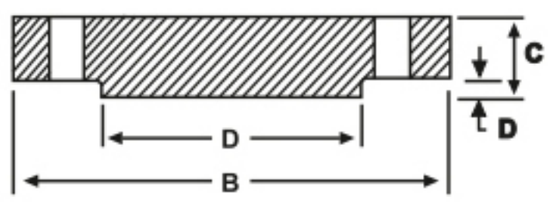
INCHES	POUNDS
MILLIMETERS	KILOGRAMS

*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 DIAMETER	THICKNESS OF FLANGE MIN	RAISED FACE DIAMETER	RAISED FACE THICKNESS	HUB DIAMETER	NECK DIAMETER	DRILLING DATA			LENGTH THROUGH HUB		NOMINAL PIPE SIZE	
					Note 4				BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED) Note 4		
mm.	(In)	A	B	C	D	E	F	G				J	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)

CLASS 300

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN	RAISED FACE DIAMETER	RAISED FACE THICKNESS	HUB DIAMETER	NECK DIAMETER	DRILLING DATA			LENGTH THROUGH HUB		NOMINAL PIPE SIZE	
					Note 4				BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED) Note 4		
mm.	(In)	A	B	C	D	E	F	G				J	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)
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	28	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	32	53.9	241.4	241.4	900	(36)

CLASS 600

NOMINAL PIPE SIZE		OUTSIDE DIAMETER OF PIPE	FLANGE OUTSIDE DIAMETER	THICKNESS OF FLANGE MIN	RAISED FACE DIAMETER	RAISED FACE THICKNESS	HUB DIAMETER	NECK DIAMETER	DRILLING DATA			LENGTH THROUGH HUB		NOMINAL PIPE SIZE	
					Note 4				BOLT CIRCLE DIAMETER	NUMBER OF HOLES	DIAMETER OF HOLES	OVERALL THICKNESS (W.NECK)	OVERALL THICKNESS (BOSSED) Note 4		
mm.	(In)	A	B	C	D	E	F	G				J	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	1079.5	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	1130.3	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	1193.8	28	66.6	282.8	282.8	900	(36)

NOTES :- 1. Dimension are in MM
2. Larger sizes available on request
3. Available with or with our raised face
4. Thickness dimensions include raised face when 1.6mm
Thickness dimension does not include raised face when it is 6.4 mm

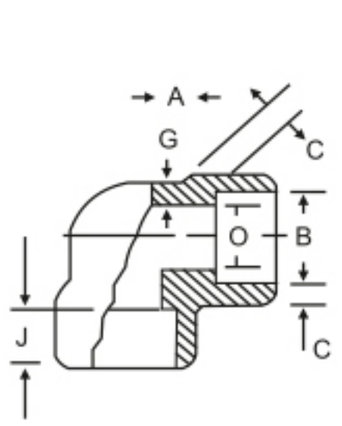
DIMENSIONAL TOLERANCES OF FORGED FLANGES ANSI B 16.5

Welding Neck				Threaded, Slipon, Lapjoint, Socket Welding & Blind			
Outside Diameter	O.D. is 600 or smaller 0. D over 600		±1.6 ± 3.1	Outside Diameter	O.D. is 50 or smaller 0. D over 600		±1.6 ± 3.1
Inside Diameter (bore)	250 and smaller 12 through 450 500 and larger	 ±3.1	± 0.7 ±1.6 -1.6	Inside Diameter slip lap joint:	threaded: to standard gauge limits socket-welding: 250 and larger 300 and larger	 +0.7 +1.6	(bore) -0.0 -0.0
Diameter of contact face	1.6 raise face 6.3 raised face: tongue & grooved male & female	±0.7 ±0.4		Diameter of counter bore	threaded 250 and smaller 300 and larger	 +0.7 +1.6	 -0.0 -0.0
Diameter of hub at base	When E is 600 or smaller When E is over 600	±1.6 ±3.1		Outside diameter hub	300 and smaller 350 and larger	+2.3	-1.6 ±3.1
Diameter hub at point of welding	125 and smaller 150 and larger	+0.7 +4.0	±0.7 ±0.0	Diameter of contact face	1.6 raised face 6.3 raised: tongue & grooved male & female		±0.7 ±0.4
Thickness	450 and smaller 500 and larger	+3.1 +4.7	±0.0 ±0.0	Thickness	450 and smaller 500 and larger	+3.1 +4.7	-0.0 -0.0
Length through hub	250 and smaller 300 and larger		±1.6 ±3.1	Length through hub	250 and smaller 300 and larger		±1.6 ±3.1
Drilling	bolt circle bolt hole spacing		±1.6 ±0.7	Drilling	bolt circle bolt hole spacing		±1.6 ±0.7
	essentriecity with respect to bore		0.7 max		essentriecity with respect to bore		0.7 max

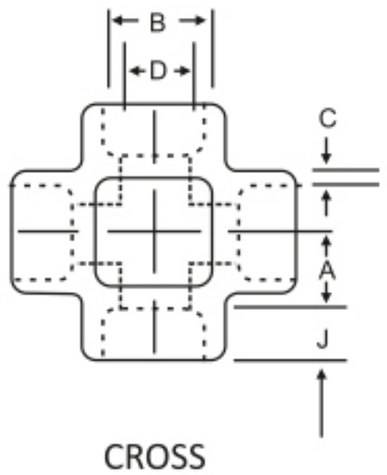
ANSI FLANGES WEIGHT (KGS)

Nom. Pipe Size	150#			300#			600#			900#			1500#			2500#		
	WN	S/O	B/K	WN	S/O	B/K	WN	S/O	B/K	WN	S/O	B/K	WN	S/O	B/K	WN	S/O	B/K
1/2"	0.7	0.4	0.5	0.8	0.7	0.8	0.9	0.8	0.8	2.1	1.8	1.9	2.1	1.8	1.9	3.2	3	3
3/4"	0.8	0.7	0.8	1.4	1.2	1.2	1.6	1.4	1.4	2.7	2.4	2.7	2.7	2.4	2.7	3.6	4	4.5
1"	1.1	0.8	0.9	1.7	1.4	1.5	1.9	1.7	1.7	3.9	3.6	3.7	3.9	3.6	3.7	5.4	5	5
1.1/4"	1.5	1.2	1.3	2.2	1.8	2	2.6	2.1	2.4	4.5	4.1	4.3	4.5	4.1	4.3	7.8	8	8
1.1/2"	1.8	1.4	1.6	3.2	2.7	2.9	3.6	3.1	3.4	6.2	5.4	5.9	6.2	5.4	5.9	11.5	11	11
2"	2.7	2.2	2.6	3.6	3.2	3.5	4.7	3.9	4.4	11.3	10.5	11.3	11.3	10.5	11.3	19	17	17
2.1/2"	4.4	3.5	4.1	5.4	4.5	5.3	4.8	5.4	6.8	16.3	15.8	16	16.3	15.8	16	24	25	25
3"	5.2	3.8	5.1	7.3	5.9	7.2	8.7	7.3	8.9	15	12.3	16.8	21	21.5	19.5	42.6	38	39
3.1/2"	6.4	5	6.5	8.9	7.5	9.2	11.6	9	12.7	-	-	-	-	-	-	-	-	-
4"	7.5	5.6	7.5	11.8	10	12.2	18.4	16.5	18.6	24	23.2	24.5	31.8	31	33	64	58	60
5"	9.2	6.5	9.2	16	12.5	16	31	28.5	30.8	38.5	37.5	39.5	59	58.8	60	111	95	101
6"	11.0	8.1	11.8	20.2	16.5	22	37	36.2	38	50	48.3	51.5	72	74	75	171	146	156
8"	18.4	13	20.4	31.2	25.5	36	54.5	51.5	62.2	85	75	89	124	112	125	261	220	242
10"	25.5	18.4	31	44.3	35	55	98.5	76.2	102	123	110	131	207	184	215	485	420	465
12"	37	28.5	47	63.5	52	82.5	105	89.5	132	168	146	187	306	264	316	698	590	665
14"	51	37.5	60	86	73	108	150	102	158	198	172	224	416	-	-	-	-	-
16"	61.5	44.5	61	112	88	139	177	150	225	225	192	259	567	-	-	-	-	-
18"	71.5	54	93	141	115	178	228	180	285	318	272	383	736	-	-	-	-	-
20"	85	72	127	173	139	228	285	231	365	376	330	482	929	-	-	-	-	-
24"	119	95	190	248	212	350	372	330	532	680	632	905	1504	-	-	-	-	-

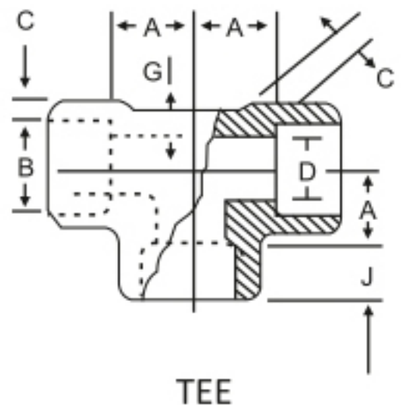
FORGED SOCKETWELD FITTINGS



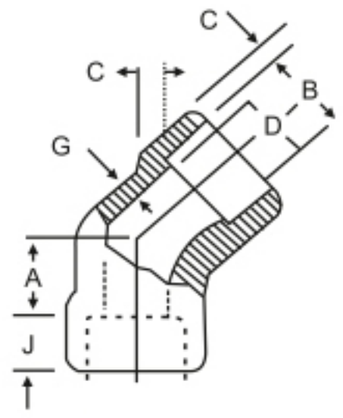
90° ELBOWS



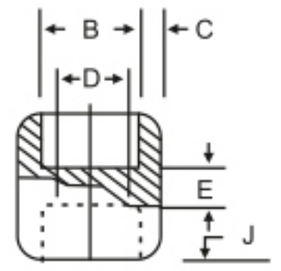
CROSS



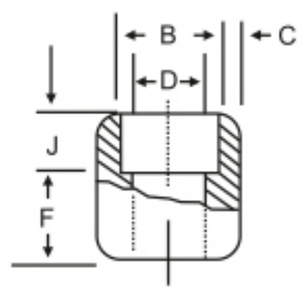
TEE



45° ELBOWS



COUPLING



HALF-COUPLING

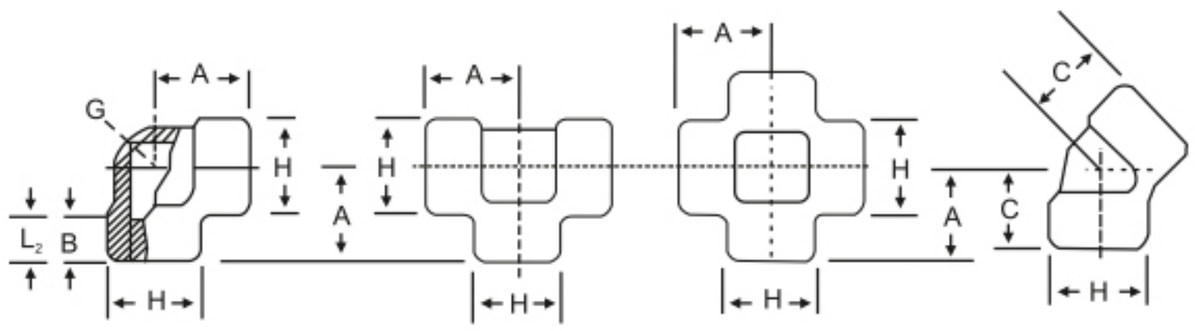
ANSI B16.11

Nom. Pipe Size	Socket Bore Dia. B	Bore Diameter of Fitting[2] D			Socket Wall Thickness - C[2]						Body Wall Thickness - G			Depth of Socket Min - J	Centre to Bottom of Socket - A						Laying Lenghts	
		Pressure Class Designation			3000		6000		9000		Pressure Class Designation				90° Elbows, Tees and Crosses			45° Elbows			Couplings E	Half Couplings E
		3000	6000	9000	Ave.	Min.	Ave.	Min.	Ave.	Min.	3000	6000	9000		Pressure Class Designation			Pressure Class Designation				
											Min.	Min.	Min.		3000	6000	9000	3000	6000	9000		
1/8”	10.90 10.65	7.6 6.1	4.8 3.2		3.20	3.20	3.95	3.45			2.40	3.15		10	12 10	12 10		9 7	9 7		8 5	17 15
1/4”	14.35 14.10	10.0 8.5	7.1 5.6		3.80	3.30	4.60	4.00		3.00	3.70			10	12 10	17 13		9 7	9 7		8 5	17 15
3/8”	17.80 17.55	13.3 11.8	9.9 8.4		4.00	3.50	5.05	4.35			3.20	4.00		10	15 12	17 14		9 6	13 10		9 3	19 16
1/2”	21.95 21.70	16.6 15.0	12.5 11.0	7.2 5.6	4.65	4.10	5.95	5.20	9.35	8.20	3.75	4.80	7.45	10	17 14	21 18	27 24	13 10	14 11	17 14	13 6	24 21
3/4”	27.30 27.05	21.7 20.2	16.3 14.8	11.8 10.3	4.90	4.25	6.95	6.05	9.80	8.55	3.90	5.55	7.80	13	21 18	24 21	30 27	14 11	16 13	21 17	13 6	25 22
1”	34.05 33.80	27.4 25.9	21.5 19.9	16.0 14.5	5.70	5.00	7.90	6.95	11.40	9.95	4.55	6.35	9.10	13	24 20	29 25	34 30	16 12	19 15	23 19	17 9	31 27
1-1/4”	42.80 42.55	35.8 34.3	30.2 28.7	23.5 22.0	6.05	5.30	7.90	6.95	12.15	10.60	4.85	6.35	9.70	13	29 25	34 30	37 33	19 15	23 19	24 20	17 9	32 28
1-1/2”	48.90 48.85	41.7 40.1	34.7 33.2	28.7 27.2	6.35	5.55	8.90	7.80	12.70	11.15	5.10	7.15	10.15	13	34 30	40 36	40 38	23 19	27 23	28 23	17 9	34 30
2”	61.35 61.10	53.5 51.7	43.6 42.1	38.9 37.4	6.95	6.05	10.90	9.50	13.85	12.15	5.55	8.75	11.05	16	40 36	43 39	56 52	27 23	31 27	31 26	23 15	43 39
2-1/2”	74.20 73.80	64.2 61.2			8.75	7.65					7.00			16	44 39			31 27		24 14		45 40
3”	90.15 89.80	79.5 46.4			9.50	8.30					7.60			16	60 55			34 29		24 14		47 42
4”	115.80 115.45	103.8 108.7			10.70	9.35					8.55			19	69 64			44 39		24 14		50 45

Dimensions are in millimeters.

1) Average of sockets wall thickness around periphery shall be no less than listed values. The minimum values are permitted in localized area.
2) Upper and lower values for each size are the respective maximum and minimum dimensions.

FORGED THREADED FITTINGS

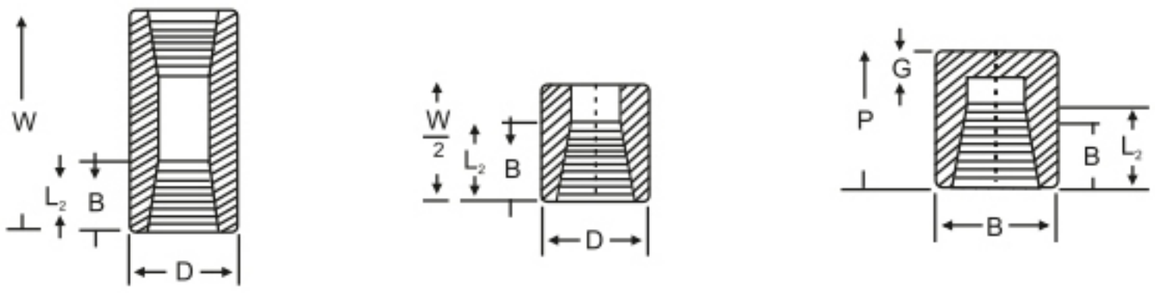


90° ELBOWS TEE CROSS 45° ELBOWS **ANSI B16.11**

Nominal Pipe Size	Center to End Elbows, Tees, Cross A			Center to End 45° Elbows C			Outside Diameter of Bank H			Minimum Wall Thickness G			Length of Thread Min. (1)	
	2000	3000	6000	2000	3000	6000	2000	3000	6000	2000	3000	6000	B	L_2
1/8"	21	21	25	17	17	19	22	22	25	3.0	3.0	6.5	6.5	6.5
1/4"	21	25	29	17	19	22	22	25	33	3.0	3.5	6.5	8.0	10.0
3/8"	25	29	33	19	22	25	25	33	38	3.0	3.5	7.0	9.0	10.5
1/2"	29	33	38	22	25	29	33	38	46	3.0	4.0	8.0	11.0	13.5
3/4"	33	38	44	25	29	33	38	46	56	3.0	4.5	8.5	12.5	14.0
1"	38	44	51	29	33	35	46	56	62	3.5	5.0	10.0	14.5	17.5
1-1/4"	44	51	60	33	35	43	56	62	75	4.0	5.5	10.5	17.0	18.0
1-1/2"	51	60	64	35	43	44	62	75	84	4.0	5.5	11.0	18.0	18.5
2"	60	64	83	43	45	52	75	82	102	4.5	7.0	12.0	19.0	19.0
2-1/2"	76	83	95	52	52	64	92	102	121	5.5	7.5	15.5	23.5	29.0
3"	86	95	106	64	64	79	110	121	146	6.0	9.0	16.5	26.0	30.5
4"	106	114	114	79	79	79	146	152	152	6.5	11.0	18.5	27.5	33.0

Dimensions are in millimeters.

1) Dimension B is minimum length of perfect thread. The length of useful thread (B plus threads with fully formed roots are flat crests) shall not be less than L2(effective length of external thread) required by American National Standard for Pipe Threads (ANSI B2.1). See Section 8.



COUPLING HALF-COUPLING CAP **ANSI B16.11**

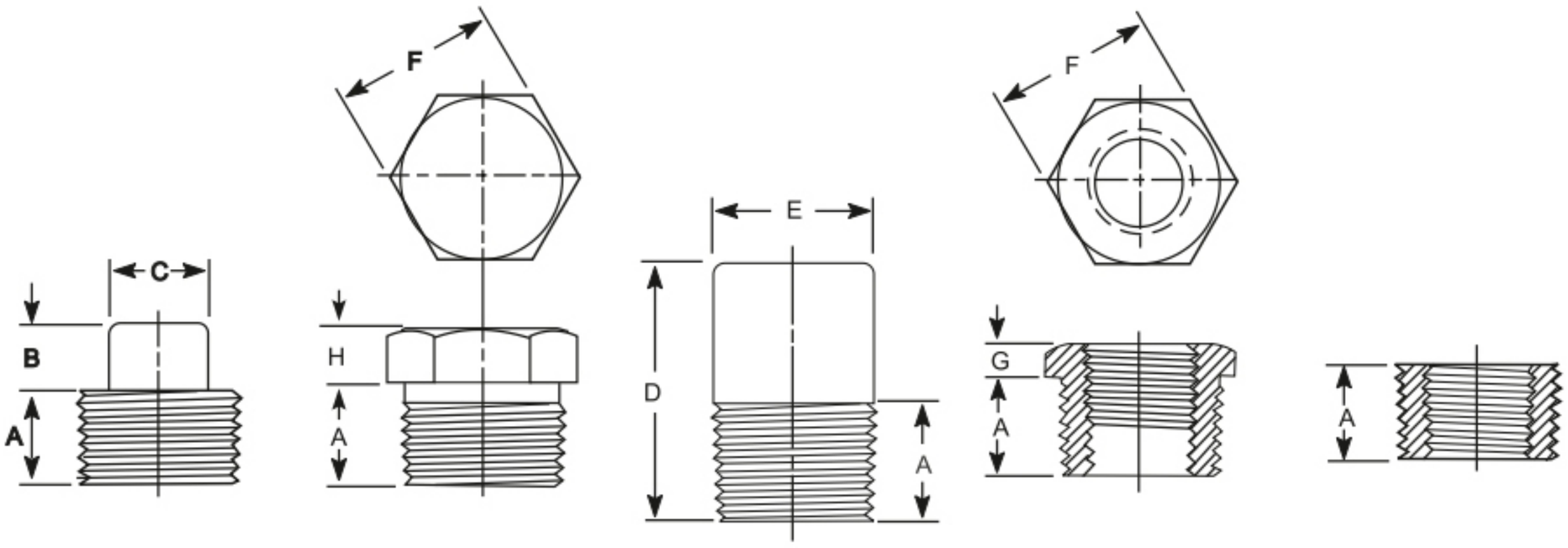
Nominal Pipe Size	End to End Coupling W	End to End Caps P		Outside Diameter D		End Wall Thickness G Min.		Length of Thread Min. (1)	
	3000 & 6000	3000	6000	3000	6000	3000	6000	B	L_2
1/8"	32	19		16	22	5.0		6.5	6.5
1/4"	35	25	27	19	25	5.0	6.5	8.0	10.0
3/8"	38	25	27	22	32	5.0	6.5	9.0	10.5
1/2"	48	32	33	29	38	6.5	8.0	11.0	13.5
3/4"	51	37	38	35	44	6.5	8.0	12.5	14.0
1"	60	41	43	44	57	9.5	11.0	14.5	17.5
1-1/4"	67	44	46	57	64	9.5	11.0	17.0	18.0
1-1/2"	79	44	48	64	76	11.0	12.5	18.0	18.5
2"	86	48	51	76	92	12.5	16.0	19.0	19.0
2-1/2"	92	60	64	92	108	16.0	19.0	23.5	29.0
3"	108	65	68	108	127	19.0	22.0	26.0	30.5
4"	121	68	75	140	159	22.0	28.5	27.5	33.0

Dimensions are in millimeters.

1) Dimension B is minimum length of perfect thread. The length of useful thread (B plus threads with fully formed roots are flat crests) shall not be less than L2(effective length of external thread) required by American National Standard for Pipe Threads (ANSI B2.1). See Section 8.

2) Class 2000 and NPS 1/8 Class 6000 couplings, half couplings and caps are not included in this standard.

FORGED PLUGS & BUSHINGS



SQUARE HEAD PLUG | HEX HEAD PLUG | ROUND HEAD PLUG | HEX HEAD BUSHING | FLUSH BUSHING

Nominal Pipe Size	Length (Minimum) A	Height of Square (Minimum) B	Width Flats (Minimum) C	Nominal Diameter of head E	Length (Minimum) D	Width Flats (Nominal) F	Hex Height (Min.)	
		Plugs Square Head		Plugs Round Head		Hex Plugs & Bushings		
							Bushing G	Plug H
1/8”	9.5	6	7.0	10	35	11.0		6
1/4”	11.0	6	9.5	13	41	16.0	3	6
3/8”	12.5	8	11.0	17	41	17.5	4	8
1/2”	14.5	10	14.5	21	44	22.0	5	8
3/4”	16.0	11	16.0	27	44	27.0	6	10
1”	19.0	13	20.5	33	51	35.0	6	10
1-1/4”	20.5	14	24.0	43	51	44.5	7	14
1-1/2”	20.5	16	28.5	48	51	51.0	8	16
2”	22.0	17	33.5	60	64	63.5	9	17
2-1/2”	27.0	19	38.0	73	70	76.0	10	19
3”	28.5	21	43.0	89	70	89.0	10	21
4”	32.0	25	63.5	114	76	117.5	13	25

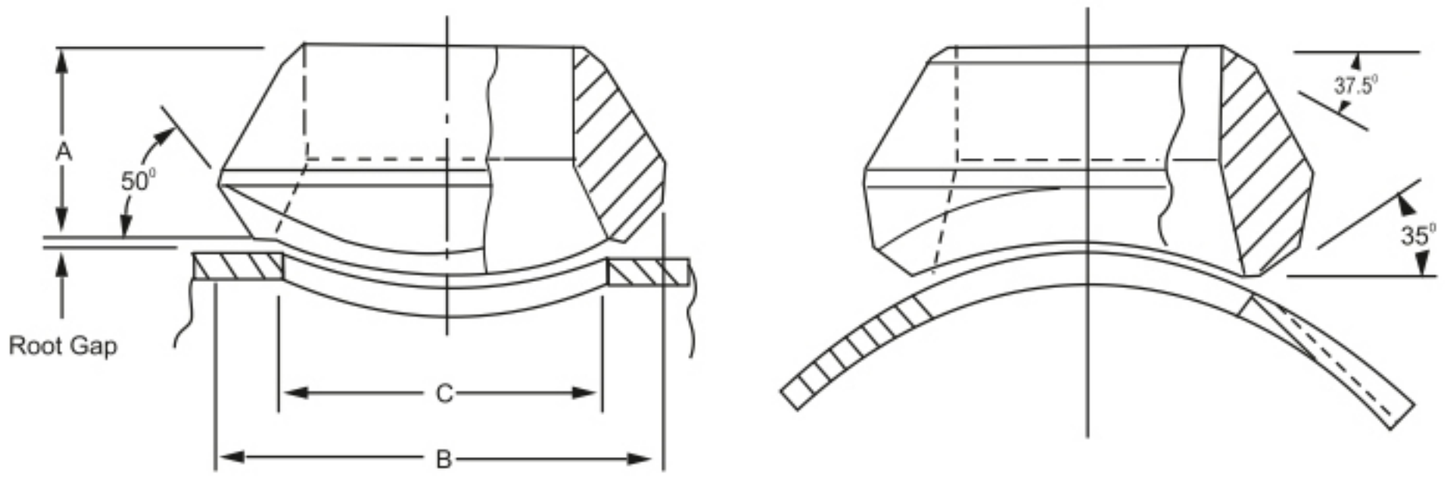
Dimensions are in millimeters.

1) CAUTIONARY NOTE REGARDING HEX HAD BUSHING. Hex had Bushing of 1 size reduction should not be used in services where in they might be subject to harmful loads and forces other than internal pressures.

FORGED STEEL OUTLET FITTINGS

Weldolets

STD(Sch40), XS(Sch 80)



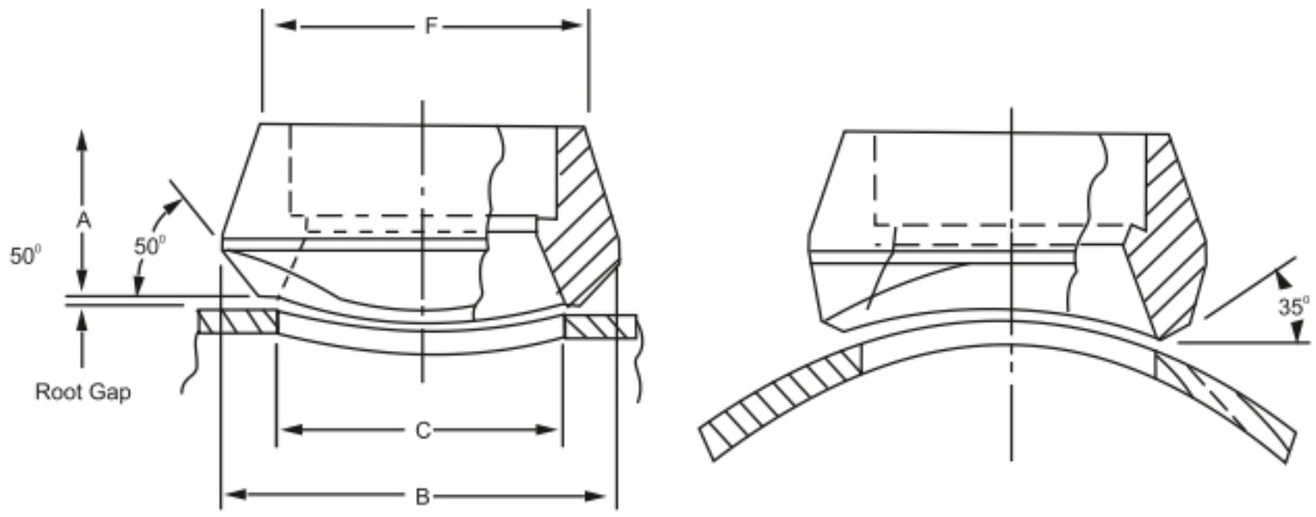
Outlet Size	A		B		C	
	STD	XS	STD	XS	STD	XS
1/2	19.1	19.1	34.9	34.9	23.8	23.8
3/4	22.2	22.2	44.5	44.5	30.2	30.2
1	27.0	27.0	54.0	54.0	36.5	36.5
1 1/4	31.8	31.8	65.1	65.1	44.5	44.5
1 1/2	33.3	33.3	73.0	73.0	50.8	50.8
2	38.1	38.1	88.9	88.9	65.1	65.1
2 1/2	41.3	41.3	103.2	103.2	76.2	76.2
3	44.5	44.5	122.2	122.2	93.7	93.7
4	50.8	50.8	152.4	152.4	120.7	120.7
5	57.2	57.2	179.4	179.4	141.3	141.3
6	60.3	77.8	215.9	225.4	169.9	169.9
8	69.9	98.5	263.5	292.1	220.7	220.7
10	77.8	93.7	322.3	323.9	274.7	265.1
12	85.7	103.2	377.8	379.4	325.4	317.5
14	88.9	100.0	409.6	431.8	357.2	350.8
16	93.7	106.4	463.6	466.7	408.0	403.2
18	96.8	111.1	520.7	523.9	458.8	455.6
20	101.6	119.1	571.5	582.6	508.0	509.6
24	115.9	139.7	689.0	708.0	614.4	638.2
26	119.1	146.1	738.2	765.2	666.8	692.2

Applicable Run Pipe Sizes are From out-Let to 36"
Standard Weight Fittings are the Same as Schedule 40 Fittings Until 10" and Extra Strong Fittings are the Same as Schedule 80 Until 8"
Pipe Schedule Numbers and Weight Designations are in Accordance With ANSI B36.10
When Ordering Weldolet, Include The Quantity, Size (Run and Out-Let) Description (Weldolets, Schedule Number) And Material

FORGED STEEL OUTLET FITTINGS

Sockolets

3000# 6000#

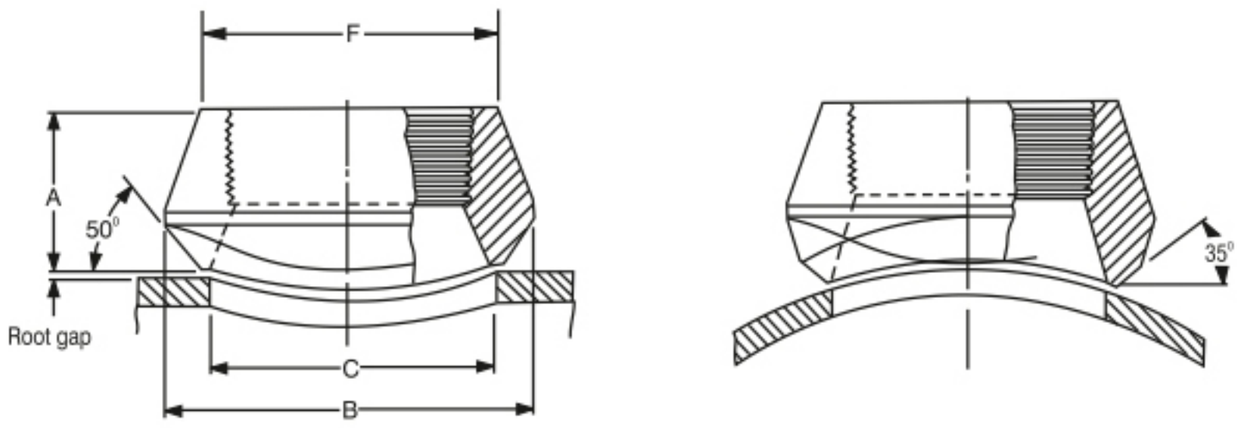


Outlet Size	A		B		C	
	3000#	6000#	3000#	6000#	3000#	6000#
1/2	25.4	31.8	34.9	44.5	23.8	19.1
3/4	27.0	36.5	44.5	50.8	30.2	25.4
1	33.3	39.7	54.0	61.9	36.5	33.3
11/4	33.3	41.3	65.1	69.9	44.5	38.1
11/2	34.9	42.9	73.0	82.6	50.8	49.2
2	38.1	58.7	88.9	103.2	65.1	58.7
21/2	46.0	-	103.2	-	76.2	-
3	50.8	-	122.2	-	93.7	-
4	57.2	-	152.4	-	120.7	-

FORGED STEEL OUTLET FITTINGS

Thredolets

3000# 6000#



Outlet Size	A		B		C	
	3000#	6000#	3000#	6000#	3000#	6000#
1/2	25.4	31.8	34.9	44.5	23.8	19.1
3/4	27.0	36.5	44.5	50.8	30.2	25.4
1	33.3	39.7	54.0	61.9	36.5	33.3
11/4	33.3	41.3	65.1	69.9	44.5	38.1
11/2	34.9	42.9	73.0	82.6	50.8	49.2
2	38.1	52.4	88.9	103.2	65.1	69.9
21/2	46.0	-	103.2	-	76.2	-
3	50.8	-	122.2	-	93.7	-
4	57.2	-	152.4	-	120.7	-

Applicable Run Pipe Sizes are From out-Let to 36"
For the 3000# and 6000# Sockolets and Thredolets, Inside Bore, Thread, Socket Bore and Socket depth Dimensions are According to ANSI B16.11
Pipe Schedule Numbers and Weight Designation are in Accordance With ANSI B36.10
When Ordering Sockolets and Thredolets, Include The Quantity, Run and Out-Let Size, Item And Rating(or Schedule Number)and Material

APPROXIMATE WEIGHT 3000# SCRD

NOMINAL PIPE SIZE	in	1/8	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2	3	4
	mm	3.2	6.4	9.5	12.7	19.0	25.4	31.7	38.1	50.8	63.5	76.2	101.6
90⁰ ELBOW	lbs.	0.25	0.37	0.62	1.31	1.37	2.25	2.75	3.50	5.43	10.68	14.43	30.37
	kgs.	0.11	0.16	0.28	0.60	0.62	1.02	1.24	1.6	2.46	4.84	6.54	13.77
45⁰ ELBOW	lbs.	0.25	0.25	0.50	0.75	1.18	1.87	2.12	3.00	4.25	7.37	10.50	19.06
	kgs.	0.11	0.11	0.22	0.34	0.53	0.84	0.96	1.36	1.92	3.34	4.76	8.64
TEE	lbs.	0.25	0.37	0.81	1.18	1.87	2.50	3.12	5.00	6.75	13.12	20.37	39.50
	kgs.	0.11	0.16	0.36	0.53	0.84	1.13	1.41	2.26	3.05	5.95	9.24	17.91
STREET ELBOW	lbs.	0.25	0.25	0.37	0.50	0.87	1.43	2.25	3.00	5.18	-	-	-
	kgs.	0.11	0.11	0.16	0.22	0.39	0.64	1.02	1.36	2.34	-	-	-
LATERAL	lbs.	--	0.62	1.31	1.75	2.75	4.62	5.50	10.81	-	-	-	-
	kgs.	--	0.28	0.59	0.79	1.24	2.10	2.50	4.90	-	-	-	-
CROSS	lbs.	0.43	0.37	1.00	1.50	2.50	3.56	4.12	6.50	8.12	16.75	19.75	32.00
	kgs.	0.19	0.16	0.45	0.68	1.13	1.61	1.87	2.94	3.68	7.60	8.95	14.51
UNION	lbs.	0.31	0.31	0.43	0.75	0.93	1.43	2.12	2.75	4.43	12.12	17.62	35.20
	kgs.	0.14	0.14	0.19	0.34	0.42	0.64	0.96	1.24	2.00	5.50	8.00	16.0

APPROXIMATE WEIGHT 6000# SCRD

NOMINAL PIPE SIZE	in	1/8	1/4	3/8	1/2	3/4	1	11/4	11/2	2	21/2	3	4
	mm	3.2	6.4	9.5	12.7	19.0	25.4	31.7	38.1	50.8	63.5	76.2	101.6
90⁰ ELBOW	lbs.	0.25	0.62	1.06	1.62	2.62	3.5	6.75	7.5	13.43	20.87	34.56	38
	kgs.	0.11	0.28	0.5	0.73	1.2	1.6	3.06	3.4	6.1	9.46	15.67	17.23
45⁰ ELBOW	lbs.	0.25	0.56	0.5	1.43	2.18	2.68	4.68	5.75	9.5	15	30.56	29
	kgs.	0.11	0.25	0.22	0.64	1	1.21	2.12	2.6	4.31	6.8	13.86	13.15
TEE	lbs.	0.5	1	1.37	2.12	3.62	4.52	7.62	9.62	18.87	28.06	45.62	50
	kgs.	0.22	0.45	0.62	0.96	1.64	2.1	3.45	4.36	8.56	12.72	20.7	22.68
STREET ELBOW	lbs.	--	0.37	0.43	1	1.62	2.5	3.68	6.43	--	--	--	--
	kgs.	--	0.16	0.19	0.45	0.73	1.13	1.67	3	--	--	--	--
LATERAL	lbs.	--	--	2.37	3.25	5.43	7.18	12.31	--	--	--	--	--
	kgs.	--	--	1.07	1.47	2.46	3.25	5.6	--	--	--	--	--
CROSS	lbs.	0.56	1.18	1.5	2.75	4.31	5.52	10.75	11.5	22.18	27.5	54	43.5
	kgs.	0.25	0.53	0.68	1.24	2	2.54	4.87	5.21	10.06	12.47	24.5	19.73

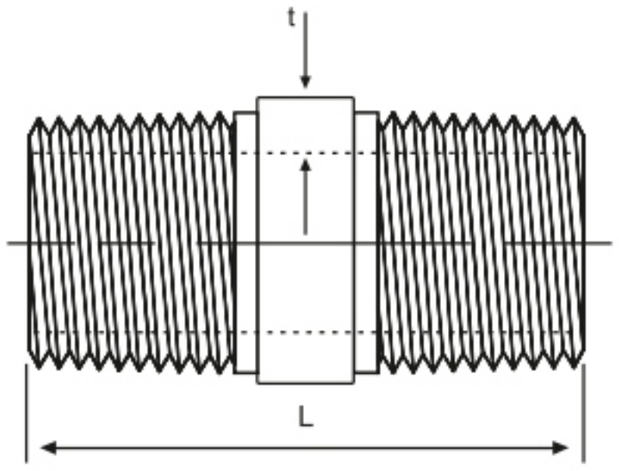
PIPE NIPPLES LENGTHS AND SIZES

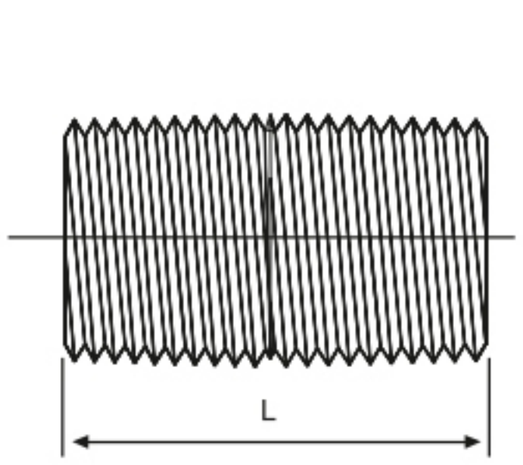
Nominal Pipe Size, in														
1/8	1/4	3/8	½	3/4	1	1 1/4	1 ½	2	2 ½	3	3 ½	4	5	6
Nominal Nipples Lengths, in														
3/4	7/8	1	1 1/8	1 3/8	1 ½	1 5/8	1 3/4	2	2 ½	2 5/8	2 3/4	2 7/8	3	3 1/8
1 ½	1 ½	1 ½	1 ½	1 ½										
2	2	2	2	2	2	2								
2 ½	2 ½	2 ½	2 ½	2 ½	2 ½	2 ½	2 ½	2 ½						
3	3	3	3	3	3	3	3	3	3	3				
3 ½	3 ½	3 ½	3 ½	3 ½	3 ½	3 ½	3 ½	3 ½	3 ½	3 ½				
4	4	4	4	4	4	4	4	4	4	4	4	4		
	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		8	8	8	8	8	8	8	8	8	8	8	8	8
			10	10	10	10	10	10	10	10	10	10	10	10
			12	12	12	12	12	12	12	12	12	12	12	12

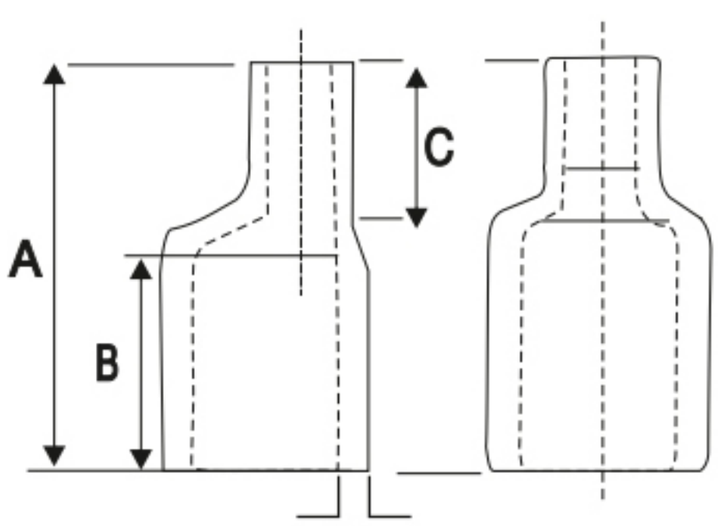
PIPE NIPPLES

BS 3799

SWAGES





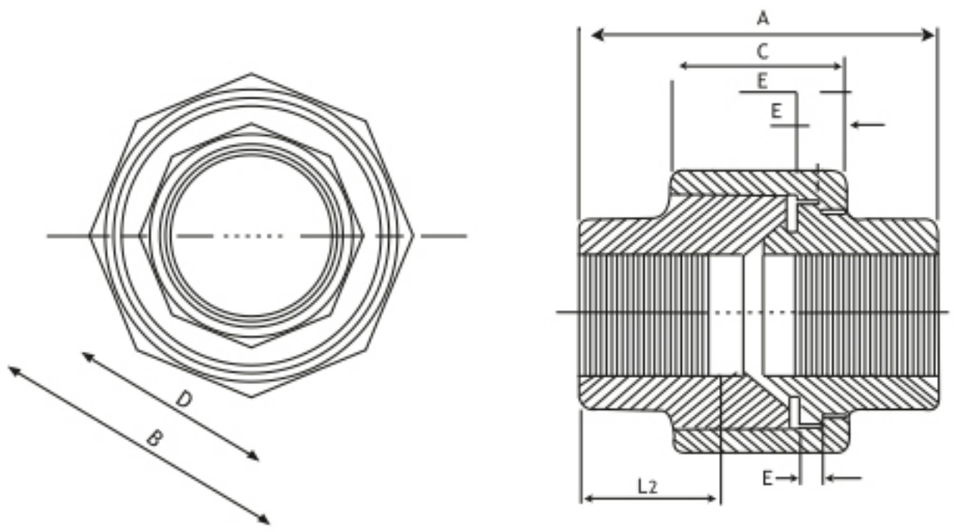


Nominal Size	Lengths in mm			Nominal Size	Lengths in mm		
mm	A	B	C	mm	A	B	C
10X8	76	48	16	50X15	165	108	29
15X8	89	56	19	50X20	165	108	29
15X10	89	56	19	50X25	165	108	23
20X10	95	57	22	50X32	165	108	29
20X15	95	57	22	50X40	165	108	29
25X15	102	64	22	65X40	178	114	32
25X20	102	64	22	65X50	178	114	32
32X15	102	64	22	80X40	203	133	41
32X20	102	64	22	80X50	203	133	41
32X25	102	64	22	80X65	203	133	41
40X15	114	70	25	100X40	229	140	48
40X20	114	70	25	100X50	229	140	48
40X25	114	70	25	100X65	229	140	48
40X32	114	70	25	100X50	229	140	48

Wall thickness "t" is as required by pressure rating/pipe schedule

SCREWED UNIONS & SOCKET WELD UNION

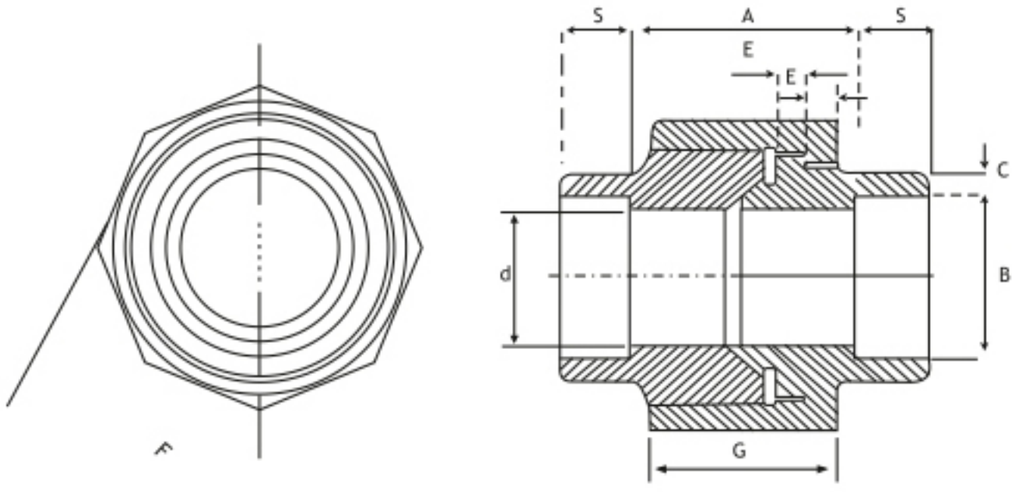
Screwed Unions
(Dimensions in Millimeters)



Pressure Class 3000

N,B	Dim,A (mm)	Dim.B (mm)	Dim.C (mm)	Dim.D (mm)	Dim.D (mm)
6	40	32	16	17	3.2
8	43	32	18	19	3.2
10	48	36	19	22	3.2
15	51	43	21	30	4.0
20	57	50	24	36	4.8
25	64	60	25	41	4.8
32	70	70	29	50	5.6
40	79	78	30	60	5.6
50	89	95	37	70	6.4
65	118	125	48	85	9.6
80	121	140	51	100	12.7

Socket Weld Unions
(Dimensions in Millimeters)



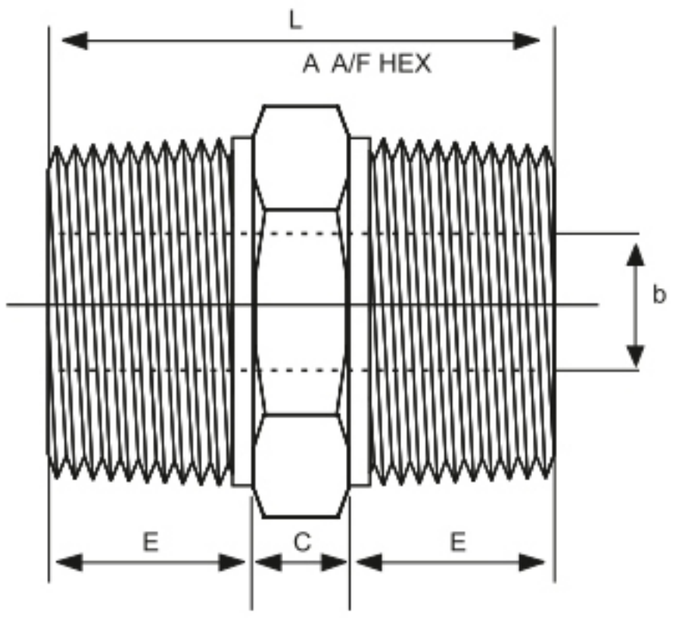
Pressure Class 3000

N.B	Dim.A (mm)	Dim.B (mm)	Dim,C (mm)	Dim.d (mm)	Dim.E (mm)	Dim.F (mm)	Dim.G (mm)	Dim.S (mm)
6	17	10.7	3.2	6.8	3.2	32	16	10
8	17	14.1	3.3	9.2	3.2	32	18	10
10	17	17.6	3.5	12.5	3.2	36	19	10
15	18	21.8	4.1	15.5	4.0	41	21	10
20	20	27.4	4.3	21.0	4.8	50	24	13
25	26	34.1	5.0	26.5	4.8	60	25	13
32	28	42.9	5.3	35.0	5.6	70	29	13
40	30	49.0	5.6	40.0	5.6	78	30	13
50	36	51.0	6.1	52.0	6.4	95	37	16
65	57	73.8	7.7	62.0	9.6	125	48	16
80	70	86.7	9.3	78.0	12.7	140	51	16

Screwed Pipe Fittings

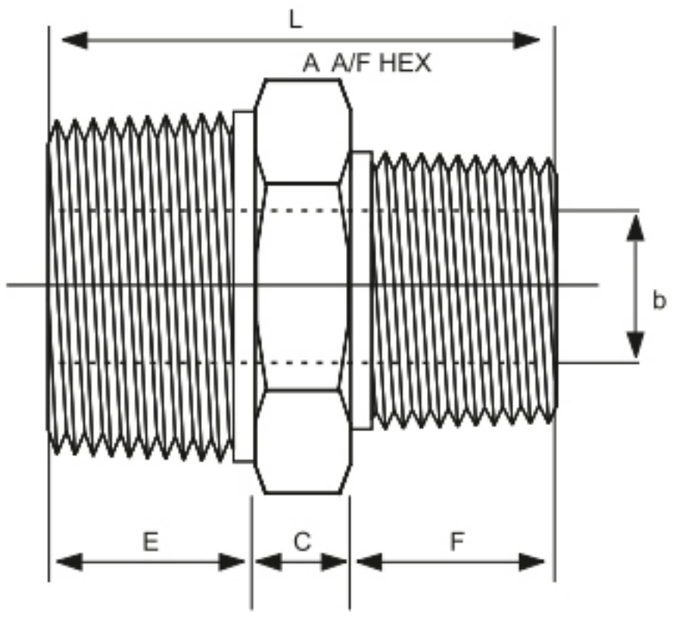
(Straight & Reducing Hexagon Nipples)
(Dimensions in Millimetres)

Pressure Class 3000



N.B	DIm.A (mm)	Dim.b (mm)	Dim.C (mm)	Dim.E (mm)	Dim.F (mm)	Dim.L (mm)
6	11	5	6	10	.	26
8	15	8	6	15	.	36
8x6	15	5	6	15	10	31
10	18	11	3	16	.	40
10x8	18	8	3	16	15	39
15	22	14	8	20	.	38
15x10	22	11	8	20	16	44
15x8	22	8	8	20	15	43
20	27	19	10	21	.	52
20x15	27	14	9	21	20	50
20x10	27	11	9	21	16	46
25	35	24	10	25	.	60
25x20	35	19	10	25	21	56
25x15	35	14	10	25	20	55
40	50	38	16	26	.	68
40x25	50	24	16	26	25	67
40x20	50	19	16	26	21	63
40x15	50	14	16	26	20	62
50	62	49	17	27	.	71
50x40	62	38	17	27	26	70
50x25	62	24	18	27	25	70
50x20	62	19	17	27	21	65
50x15	62	14	18	27	20	65

Pressure Class 6000



N.B	DIm.A (mm)	Dim.b (mm)	Dim.C (mm)	Dim.E (mm)	Dim.F (mm)	Dim.L (mm)
6	11	2	6	10	.	26
8	15	6	6	15	.	36
8x6	15	2	6	15	10	31
10	18	8	3	16	.	40
10x8	13	6	8	16	15	39
15	22	11	8	20	.	48
15x10	22	8	8	20	16	44
15x8	22	6	8	20	15	43
20	27	13	10	21	.	52
20x15	27	11	9	21	20	50
20x10	27	8	9	21	16	46
25	35	17	10	25	.	60
25x20	35	13	10	25	21	56
25x15	35	11	10	25	20	55
40	50	30	16	26	.	68
40x25	50	17	16	26	25	67
40x20	50	13	16	26	21	63
40x15	50	11	16	26	20	62
50	62	39	17	27	.	71
50x40	62	30	17	27	26	70
50x25	62	17	18	27	25	70
50x20	62	13	17	27	21	65
50x15	62	11	18	27	20	65

IAS ACCREDITED
Management Systems
Certification Body
MSCB-197

AN ISO 9001:2015,
ISO 14001:2015,
ISO 45001:2018,
& PED CERTIFIED CO.

PACKING & DISPATCH












MELTON ALLOYS INC

Manufacturers & Exporters of

High Nickel Alloys, Stainless Steel, Alloys Steel, Carbon Steel, Other Ferrous & Non-Ferrous Metals in Shape of: Sheet, Plate, Pipe, Pipe Fittings, Flanges, Fasteners, Round Bars, etc.

ADD = 1st FLOOR OFFICE NO.17
Building no 107/111.MATKAWALA
BULIDING 3RD KHUMBAHAWADA
MUMBAI 400004

Tel.: +91 9702041866
+91 9509040146

Email: sales@meltonalloys.com

Gala No, X7 Kasturi Industries
Ghoddev Panchal Rd, bhayandar east
dist, near hero Honda showroom
Thane, 401105

www.meltonalloys.com