



Manufacturers & Exporters of : BUTTWELD FITTINGS & FLANGES IN STAINLESS STEEL, CARBON STEEL & NICKEL ALLOYS



(Complete
STAINLESS STEEL
Solutions)



COMPANY PROFILE

Hi-Ji Metal, has earned an outstanding reputation as a Quality & cost efficient manufacturer for Butt-weld pipe Fittings, High pressure forged Socketweld & Threaded Fittings, Flanges & Branch Outlets, Today with our Strong fundamentals in manufacturing, marketing, customer care and backed by 20 years of hardcore experience & expertise, we are in position to cater to any demand in any part of the world.

OUR MISSION :

Our Mission is to Provide best quality products at most competitive prices & deliver it before the stipulated delivery time.

IN HOUSE FACILITIES :

Hi-Ji Metal has state of the art manufacturing facility at Ahmedabad in Gujarat State & have sophisticated equipments like , Hydraulic Presses, Bending, Pressing, Welding, Gauging, Handling, Hydraulic pressure testing, Heat treatment , CNC lathe, VMC drill, various conventional lathes and small equipments to produce products conforming to many National & International Standards like IS, ASTM, ASME, DIN, BS, ASA, MSS, JIS etc...

MANUFACTURING FACILITIES



Some Special Grades Material We Deal in :

Stainless Steel :

304/304L, 316/316L, 310S, 317L, 321, 347, 904L etc.

Carbon & Alloy Steel :

AISI 4130, WPL6, LF 2, WPHY-42-46-52-65-70 etc.

High Nickel alloys :

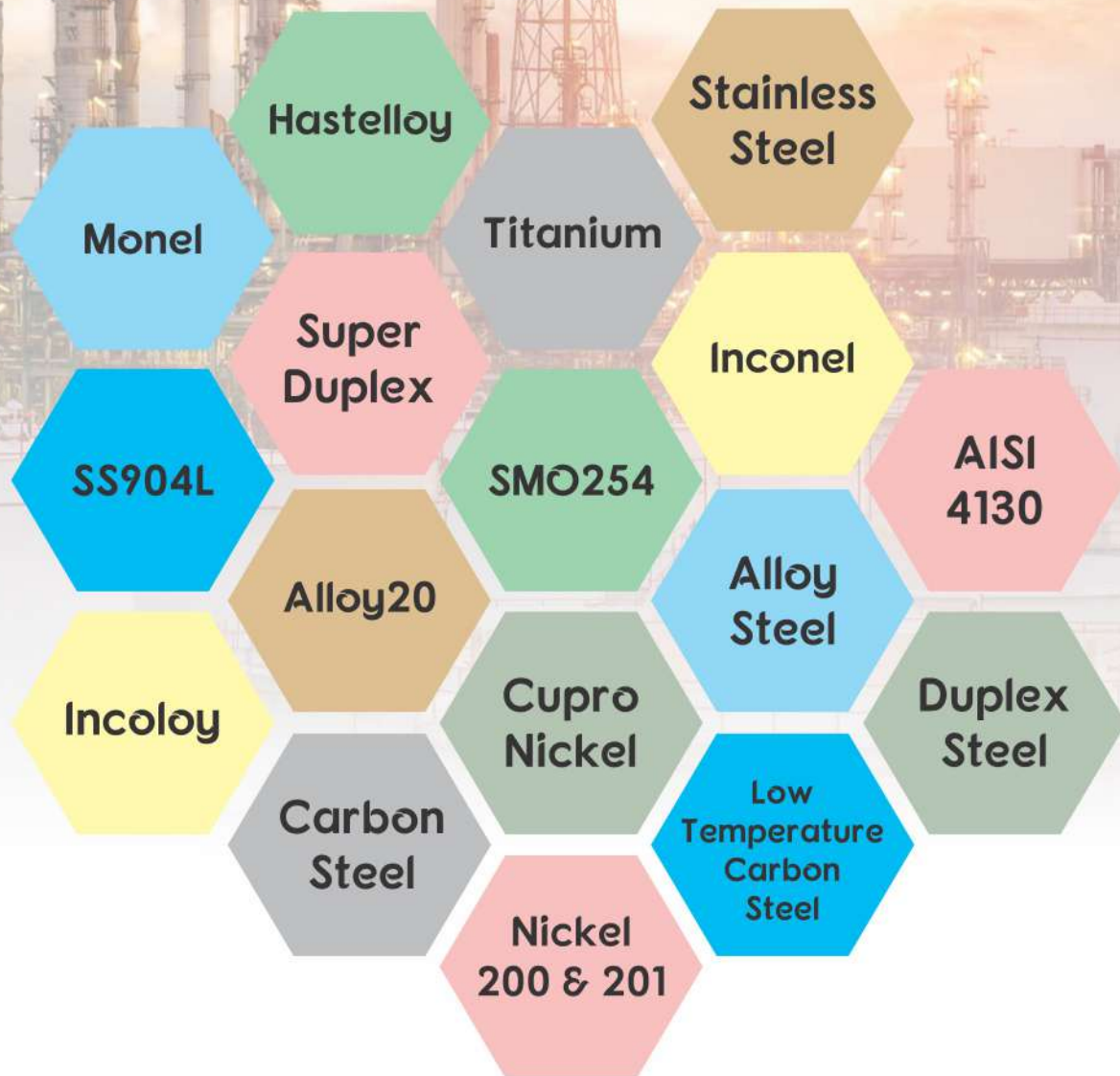
Duplex, Super Duplex, Monel, Inconel, Hastelloy, Titanium etc.

THIRD PARTY INSPECTION

We can supply materials with
Third Party Inspection Agencies like :



GRADES



Stainless Steel	: 304, 304L, 316, 316L, 316Ti, 321, 321H, 310, UNS S31254, 904L.
Carbon Steel	: A234 & A105.
LTCS	: LF2, LF3 , WPL3.
Alloy Steel	: P1, P5, P9, P11, P22, P91
Duplex & Super Duplex	: UNS S31803, UNS S32205, UNS S32750, UNS S32760.
Hastelloy Alloy	: Hastelloy B2, Hastelloy C276, Hastelloy C22.
Incoloy Alloys	: Alloy 800H/800HT, Alloy 825.
Inconel Alloys	: Alloy 600, Alloy 601, Alloy 625, Alloy 718, Alloy 725.
Monel Alloys	: Monel 400, Monel K500.
Titanium	: Grade 1, 2 & 5.
Copper / Cupro Nickel	: 90/10 (UNS C70600), 70/30 (UNS C71500).
Nickel	: Alloy 200 & Alloy 201.

PIPE DIMENSION & WEIGHT - KG. PER MTR.

STAINLESS STEEL WELDED & SEAMLESS (ANSI B36.19) / CARBON STEEL SEAMLESS (ANSI B 36.10)

DESIGNATION		O/D	NOMINAL WALL THICKNESS / WEIGHT KG / MTR										NOMINAL WALL THICKNESS / WEIGHT KG / MTR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
			SCH.5S	SCH.5	SCH.10S	SCH.10	SCH.20S	SCH.30	SCH.40S	SCH.40	SCH.60	SCH.80S	SCH.80	SCH.100	SCH.120	SCH.140	SCH.160	SCH.XX5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
(A) NB	(B) Inch	MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM	WALL THK MM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
6	1/8	10.3	1.0	0.23	-	-	1.20	0.27	-	1.5	0.33	-	1.73	0.37	-	2.4	0.47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

BUTTWELD FITTINGS



Elbow

Long Radius Bends

Tee (Equal & Unequal)

Reducer
(Concentric & Eccentric)

Stubends

Cap

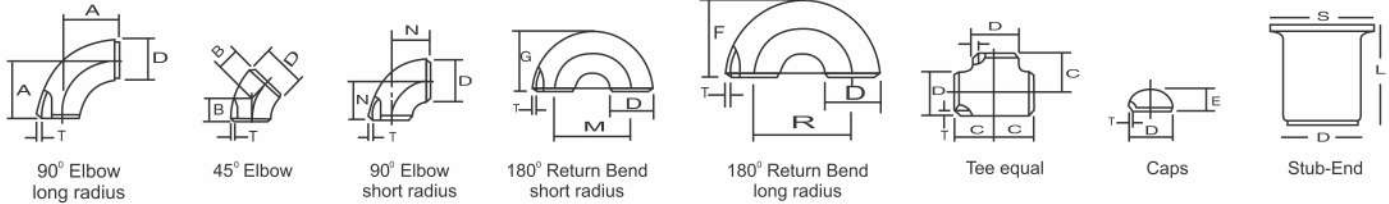
Collar

Cross

Return Bends



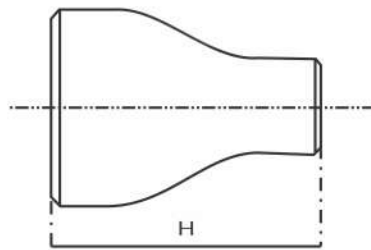
BUTT WELDING PIPE FITTING DIMENSIONAL STANDARD ANSI B-16.9, B-16.28 & MS SS P43



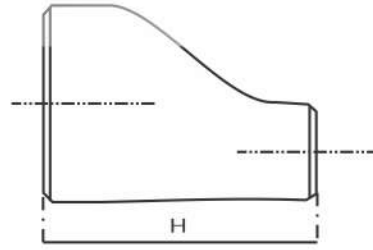
Nominal Pipe Size		Outside Diameter	Center to Face				Back to Face			Center to Center			Length 'L'	
Inch.	mm	D	A	B	C	N	E	F	G	R	M	S	MSS SP43	ANSI B 16.9
1/2	15	21.3	38	16	25	—	25	48	—	38	—	34.9	50.8	76.2
3/4	20	26.7	38	19	29	—	25	51	—	57	—	42.8	50.8	76.2
1	25	33.4	38	22	38	25	38	56	41	76	51	50.8	50.8	101.6
1 1/4	32	42.2	48	25	48	32	38	70	52	95	64	63.5	50.8	101.6
1 1/2	40	48.3	57	29	57	38	38	83	62	114	76	73	50.8	101.6
2	50	60.3	76	35	64	51	38	106	81	152	102	92	63.5	152.4
2 1/4	65	73.0	95	44	76	64	38	132	100	191	127	104.8	63.5	152.4
3	80	88.9	114	51	86	76	51	159	121	229	152	127	63.5	152.4
3 1/4	90	101.6	133	57	95	89	64	184	140	267	178	139.7	76.2	152.4
4	100	114.3	152	64	105	102	64	210	159	305	203	157.2	76.2	152.4
5	125	141.3	190	79	124	127	76	262	197	381	254	185.7	76.2	203.2
6	150	168.3	229	95	143	152	89	313	237	457	305	215.9	88.9	203.2
8	200	219.1	305	127	178	203	102	414	313	610	406	270	101.6	203.2
10	250	273.1	381	159	216	254	127	518	391	762	508	324	127.0	254.0
12	300	323.9	457	190	254	305	152	619	467	914	610	381	152.4	254.0
14	350	355.6	533	222	279	356	165	711	533	1067	711	412.8	152.4	305.0
16	400	406.4	610	254	305	406	178	813	610	1219	813	470	152.4	305.0
18	450	457.2	686	286	343	457	203	914	686	1372	914	533.4	152.4	305.0
20	500	508.0	762	318	381	508	229	1016	762	1524	1016	584.2	152.4	305.0
22	550	559.0	838	343	419	559	254	1118	838	1676	1118	614.4	152.4	305.0
24	600	610.0	914	381	432	610	267	1219	914	1829	1219	692.2	152.4	305.0
26	650	660.0	991	406	495	660	267	—	—	—	—	—	—	—
28	700	711.0	1067	438	521	711	267	—	—	—	—	—	—	—
30	750	762.0	1143	470	559	762	267	—	—	—	—	—	—	—
32	800	813.0	1219	502	597	813	267	—	—	—	—	—	—	—
34	850	864.0	1295	533	635	864	267	—	—	—	—	—	—	—
36	900	914.0	1372	565	673	914	267							
38	950	965.0	1448	600	711	965	305							
40	1000	1016.0	1524	632	749	1016	305							
42	1050	1067.0	1600	660	762	1067	305							
44	1100	1118.0	1676	695	813	1118	343							
46	1150	1168.0	1753	727	851	1168	343							
48	1200	1219.0	1829	759	889	1219	343							

All dimensions are in Millimeters. Dimensions and other specifications as per customers requirements are available on request

REDUCER : CONCENTRIC & ECCENTRIC



CONCENTRIC REDUCER



ECCENTRIC REDUCER

B16.9

Nominal Pipe Size (NPS)	Outside Diameter at Bevel (O/D)		End-to-End H	Nominal Pipe Size (NPS)	Outside Diameter at Bevel (O/D)		End-to-End H
	Run	Outlet			Run	Outlet	
3/4" x 1/2"	26.7	21.3	38	12" x 10"	323.8	273.0	203
3/4" x 3/8"	26.7	17.3	38	12" x 8"	323.8	219.1	203
1" x 3/4"	33.4	26.7	51	12" x 6"	323.8	168.3	203
1" x 1/2"	33.4	21.3	51	12" x 5"	323.8	141.3	203
1.1/4" x 1"	42.2	33.4	51	14" x 12"	355.6	323.8	330
1.1/4" x 3/4"	42.2	26.7	51	14" x 10"	355.6	273.0	330
1.1/4" x 1/2"	42.2	21.3	51	14" x 8"	355.6	219.1	330
1.1/2" x 1.1/4"	48.3	42.2	64	14" x 6"	355.6	168.3	330
1.1/2" x 1"	48.3	33.4	64	16" x 14"	406.4	355.6	356
1.1/2" x 3/4"	48.3	26.7	64	16" x 12"	406.4	323.8	356
1.1/2" x 1/2"	46.3	21.3	64	16" x 10"	406.4	273.0	356
2" x 1.1/2"	60.3	48.3	76	16" x 8"	406.4	219.1	356
2" x 1.1/4"	60.3	42.2	76	18" x 16"	457.0	406.4	381
2" x 1"	60.3	33.4	76	18" x 14"	457.0	356.6	381
2" x 3/4"	60.3	26.7	76	18" x 12"	457.0	323.8	381
2.1/2" x 2"	73.0	60.3	89	18" x 10"	457.0	273.0	381
2.1/2" x 1.1/2"	73.0	48.3	89	20" x 18"	508.0	457.0	508
2.1/2" x 1"	73.0	42.2	89	20" x 16"	508.0	406.4	508
2.1/2" x 1/2"	73.0	33.4	89	20" x 14"	508.0	355.6	508
3" x 2.1/2"	88.9	73.0	89	20" x 12"	508.0	323.8	508
3" x 2"	88.9	60.3	89	22" x 20"	559.0	508.0	508
3" x 1.1/2"	88.9	48.3	89	22" x 18"	559.0	457.0	508
3" x 1.1/4"	88.9	42.2	89	22" x 16"	559.0	406.4	508
3.1/2" x 3"	101.6	88.9	102	22" x 14"	559.0	355.6	508
3.1/2" x 2.1/2"	101.6	73.0	102	24" x 22"	610.0	559.0	508
3.1/2" x 2"	101.6	60.3	102	24" x 20"	610.0	508.0	508
3.1/2" x 1.1/2"	101.6	48.3	102	24" x 18"	610.0	457.0	508
4" x 3.1/2"	114.3	101.6	102	24" x 16"	610.0	406.4	508
4" x 3"	114.3	88.9	102	26" x 24"	660.0	610.0	610
4" x 2.1/2"	114.3	73.0	102	26" x 22"	660.0	559.0	610
4" x 2"	114.3	60.3	102	26" x 20"	660.0	508.0	610
4" x 1.1/2"	114.3	48.3	102	26" x 18"	660.0	457.0	610
5" x 4"	141.3	114.3	127	28" x 26"	711.0	660.0	610
5" x 3.1/2"	141.3	101.6	127	28" x 24"	711.0	610.0	610
5" x 3"	141.3	88.9	127	28" x 22"	711.0	559.0	610
5" x 2.1/2"	141.3	73.0	127	28" x 20"	711.0	508.0	610
5" x 2"	141.3	60.3	127	28" x 18"	711.0	457.0	610
6" x 5"	168.3	141.3	140	30" x 28"	762.0	711.0	610
6" x 4"	168.3	114.3	140	30" x 26"	762.0	660.0	610
6" x 3.1/2"	168.3	101.6	140	30" x 24"	762.0	610.0	610
6" x 3"	168.3	88.9	140	30" x 22"	762.0	559.0	610
6" x 2.1/2"	168.3	73.0	140	30" x 20"	762.0	508.0	610
8" x 6"	219.1	168.3	152	32" x 30"	813.0	762.0	610
8" x 5"	219.1	141.3	152	32" x 28"	813.0	711.0	610
8" x 4"	219.1	114.3	152	32" x 26"	813.0	660.0	610
8" x 3.1/2"	219.1	101.6	152	32" x 24"	813.0	610.0	610
10" x 8"	273.0	219.1	178	34" x 32"	864.0	813.0	610
10" x 6"	273.0	168.3	178	34" x 30"	864.0	762.0	610
10" x 5"	273.0	141.3	178	34" x 28"	864.0	711.0	610
10" x 4"	273.0	114.3	178	34" x 26"	864.0	660.0	610
				34" x 24"	864.0	610.0	610

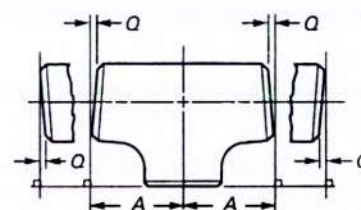
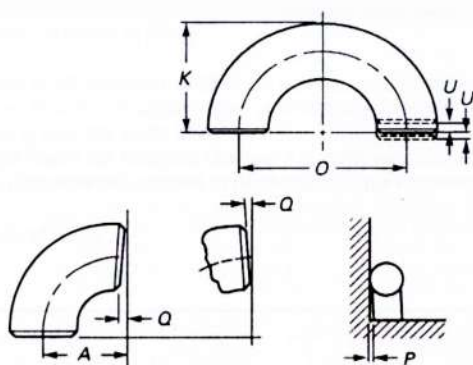
Note : All Dimensions are in millimeters (mm)
Dimension for 36" and above on request.



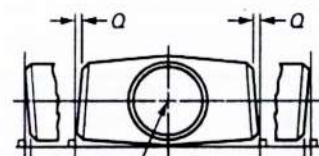
DIMENSIONAL TOLERANCE OF PIPE FITTING ANSI B16.9 / B16.28 / MSS SP-43

ALL FITTINGS					90°/60°/45° 30° ELBOWS & TEES		REDUCERS & STUBEND		180° RETURNS				CAPS		ANGULARITY TOLERANCE					
Nominal Pipe size INCH/MM	Outside Diameter at Bevel		Inside Dia Meter	Wall Thickness at End		Center to End		Overall Length Dimension		Center to End		Back to Face Dimension		Alignment of End Dimentions		Overall Length		Nominal Pipe Size	Off Angel Inch/mm	Off Plane
	D			T		A,B,C,M		H, F		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	B16.9
½" - 2½" 15 - 65	+1.6 - 0.8		+0.8	Not Less Than 87.5% Nominal Thk	Not Less Than 87.5% Nominal Thk	FROM ½" TO 18 15 TO 600	FROM ¾"	FROM 1/2" - 24" 15 - 600	FROM 1/2" - 8" 15 - 200							±3	±3.17	½" - 4" 15 - 100	±1	±2
3" - 3½" 80 - 90	±1.6	+0.80	±1.6			±2	±1.60	±2	±1.60	±6	±6.35	±6.0	±6.4	±1	±0.8	±6	±6.35	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	±3.2			±2.40	±2.38	±10	±10	±2.0"	±1.60	±10	±6	±6.35	14" - 16" 350 - 400	±3	±7			
8" 200	18" - 24" 450 - 600	±4													±10					
10" - 18" 250 - 450	+4 -3.2	+2.38 -0.80													26" - 30" 650 - 750	±5	±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	±5						±10		44" - 48" 1100 - 1200	±5	±20			
32" - 48" 800 - 1200	+6.4 -4.8					+5									42 - 48" 1050 - 1200	±5	±20			

Tolerances

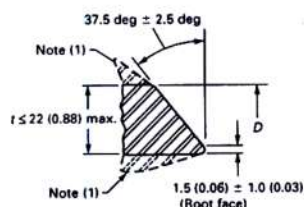


Tees

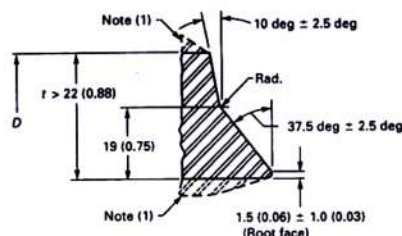


This end flush against square

Welding Bevels and Root Face



(a) Plain Bevel



(b) Compound Bevel

Nominal Wall Thickness

Less than x (Note (2)) x to 22 (0.88), inclusive
More than 22 (0.88)

End Preparation

Cut Square or Slightly Chamfer, at manufacturer's option (not illustrated) Plain as in illustration
(a) above Compound bevel as in illustration (b) above

FLANGES



Weldneck

Slipon (SORF)

Blind (BLRF)

Socket Weld

Lap Joint

Spectacle Blind

Ring Joint

Orifice

Long Weldneck

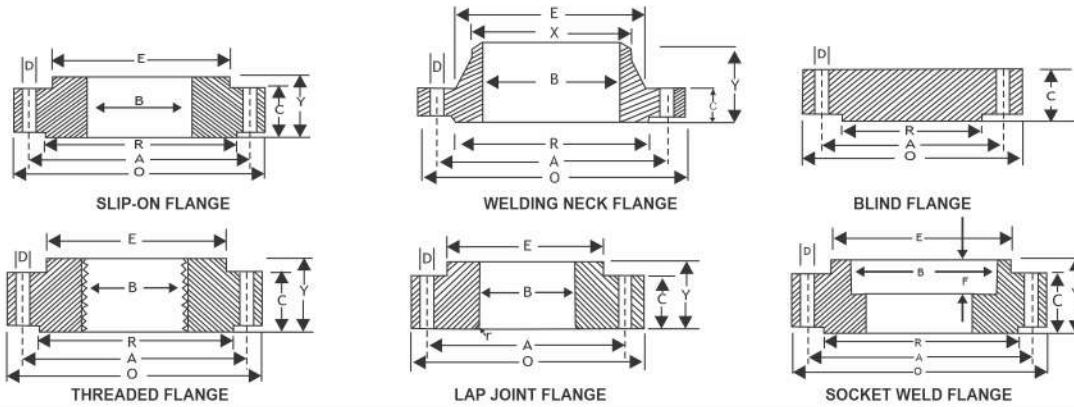
Flange

FLANGES TYPES & SPECIFICATIONS

ASME/ANSI B16.5	:	Welding Neck Flange, Slipon Flanges, Blind Flange, High Hub Blind Flange, Socket Weld Flange, Lap Joint Flange, Threaded Flange, Ring Type Joint Flange
Pressure Class	:	150#, 300#, 600#, 900#, 1500#, 2500#
ASME/ANSI B16.47	:	Welding Neck Flange, Blind Flange (Series A&B)
Pressure Class	:	150#, 300#, 600#, 900#
ASME/ANSI B16.36	:	(ORIFICE FLANGES) WELDING NECK FLANGE, SLIPON FLANGE, THREADED FLANGE)
Pressure Class	:	300#, 600#, 900#, 1500#, 2500#
BS 4504 SEC 3.1	:	Welding Flange (111/134), Hubbed Slipon Flange (112), Hubbed Threaded Flange (113), Lapped Pipe End Flange (133), Plate Flange (101), Loose Plate Flange (102), Loose Plate with Weld-neck Flange (104), Blank Flange (105)
Pressure Class	:	Pn 2.5 to Pn 100
Din Flanges	:	DIN2527, DIN2566, DIN2573, DIN2576, DIN2641, DIN2642, DIN2655, DIN2656, DIN2627, DIN2628, DIN2629, DIN2631, DIN2632, DIN2633, DIN2634, DIN2635, DIN2636, DIN2637, DIN2638, Dn2673
Pressure Class	:	PN 6 to PN 100
ANFOR NFE 29-230	:	Plate Flange (01), loose Plate Flange (02, 03, 04), Blind Flange (05) Welding Neck flange (11), Hubbed Slip on Flange (12), Screwed Flange (13), Hubbed Socket Welding Flange (14), Loose Hubbed Flange (15) Integral Flange (21)
Pressure Class	:	Iso-Pn 2.5 to Pn 40
Pr EN 1092-1 Flanges	:	Plate Flange (01), Loose Plate Flange (02, 04), Blind Flange (05) Welding Neck flange (11), Hubbed Slip on Flange (12), Screwed Flange (13), Integral Flange (21)
Pressure Class	:	Pn 2.5 to Pn 100
BS 10 TABLE FLANGES	:	Slipon & Blind
Type	:	D, E, F, H etc.

All the above Dimensions are Available on request.

FLANGES CLASS 150 & 300



DIMENSIONS OF CLASS150 FLANGES AS PER B16.5

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

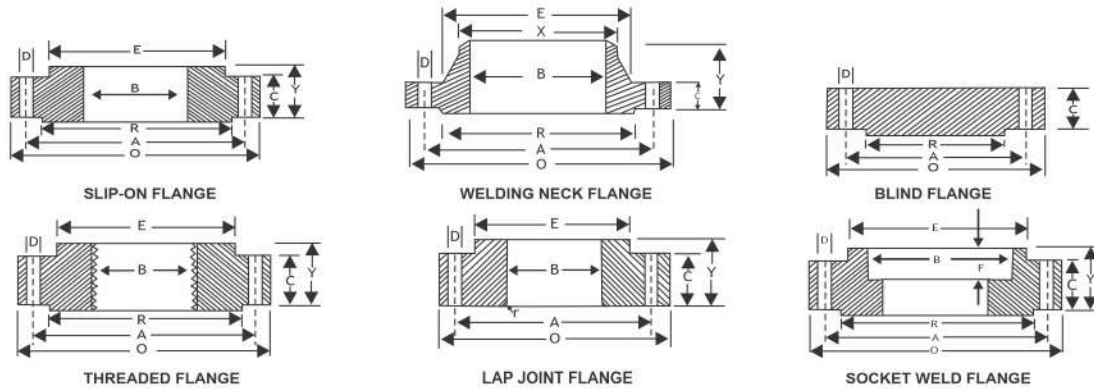
DIMENSIONS OF CLASS 300 FLANGES AS PER B16.5

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

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

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

FLANGES CLASS 600 & 900



DIMENSIONS OF CLASS 600 FLANGES AS PER B 16.5

Nominal Pipe Size	Flange Dia O	Dia of Bolt Circle A	No. of Bolt Holes D	No. of Holes	Thk of Flange C	Dia of Hub E	Length through Hub			Dia Bore		Dia of R/F R	Depth of Socket F	Pipe Dia X
							S/O & S/W Y	W/N Y	L/J Y	S/O & S/W B	L/J B			
15	95.2	66.7	15.9	4	14.3	38.1	22.2	52.4	22.3	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

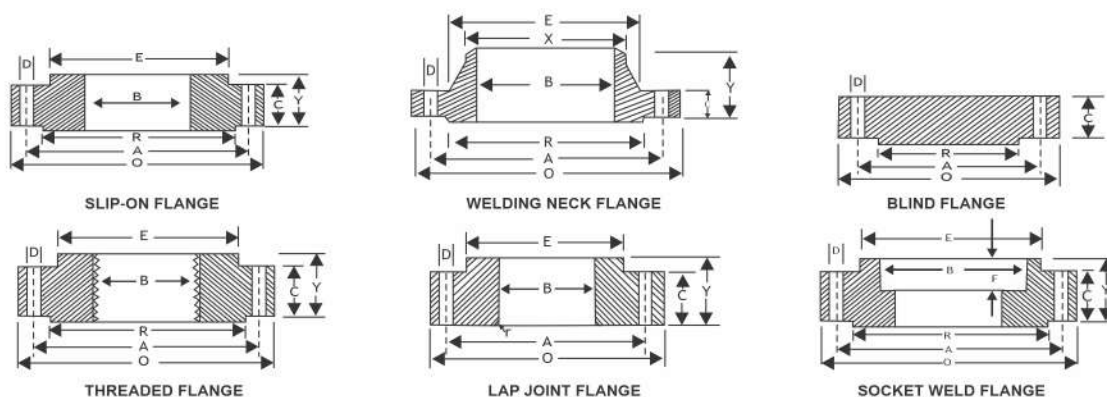
DIMENSIONS OF CLASS 900 FLANGES AS PER B 16.5

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

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

RF Thickness 6.3 mm Extra to be provided (Except Lap Joint Flange & FF Flanges).

FLANGES CLASS 1500 & 2500



DIMENSIONS OF CLASS 1500 FLANGES AS PER B16.5

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

DIMENSIONS OF CLASS 2500 FLANGES AS PER B16.5

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

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

RF Thickness 6.3 mm Extra to be provided (Except Lap Joint Flange & FF Flanges).

DIMENSION OF PIPE FLANGES AS PER TABLE BS-10

Table D: For Working Steam Pressure upto 50 lbs per sq. inch

Nominal Pipe size	O.D of Pipe	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	21.3	95.3	66.7	4	12.7	4.8
3/4"	26.7	101.6	73.0	4	12.7	4.8
1"	33.4	114.3	82.6	4	12.7	4.8
1 1/4"	42.2	120.7	87.6	4	12.7	6.4
1 1/2"	48.3	133.4	98.4	4	12.7	6.4
2"	60.3	152.4	114.3	4	15.9	7.9
2 1/2"	73.0	165.1	127.0	4	15.9	7.9
3"	88.9	184.2	146.1	4	15.9	9.5
3 1/2"	101.6	203.2	165.1	4	15.9	9.5
4"	114.3	215.9	177.8	4	15.9	9.5
5"	141.3	254.0	209.6	8	15.9	12.7
6"	168.3	279.4	228.6	8	15.9	12.7
7"	190.5	304.8	260.4	8	15.9	12.7
8"	219.1	336.6	292.1	8	15.9	12.7
9"	244.5	368.3	323.9	8	15.9	15.9
10"	273.0	406.4	355.6	8	19.1	15.9
12"	323.9	457.2	406.4	12	19.1	15.9
14"	355.6	527.1	469.9	12	22.2	19.1
16"	406.4	577.9	520.7	12	22.2	19.1
18"	457.2	641.4	584.2	12	22.2	22.2
20"	508.0	704.9	641.4	16	22.5	25.4
24"	609.6	825.5	755.7	16	25.4	28.6

Table E: For Working Steam Pressure 50 lbs upto 100 lbs per sq. inch

Nominal Pipe Size	Dia. of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	95.3	66.7	4	12.7	6.4
3/4"	101.6	73.0	4	12.7	6.4
1"	114.3	82.6	4	12.7	7.1
1 1/4"	120.7	87.3	4	12.7	7.9
1 1/2"	133.4	98.4	4	12.7	8.7
2"	152.4	114.3	4	15.9	9.5
2 1/2"	165.1	127.0	4	15.9	10.3
3"	184.2	146.1	4	15.9	11.1
3 1/2"	203.2	165.1	8	15.9	11.9
4"	215.9	177.8	8	15.9	12.7
5"	254.0	209.6	8	15.9	14.3
6"	279.4	228.6	8	19.1	17.5
7"	304.8	260.4	8	19.1	19.1
8"	336.6	292.1	8	19.1	19.1
9"	368.3	323.9	12	19.1	20.6
10"	406.4	355.6	12	19.1	22.2
12"	457.2	406.4	12	22.2	25.4
14"	527.2	469.9	12	22.2	25.4
16"	577.9	520.7	12	22.2	25.4
18"	641.4	584.2	16	22.2	28.6
20"	704.9	647.4	16	22.2	31.8
24"	825.5	755.7	16	25.4	38.1

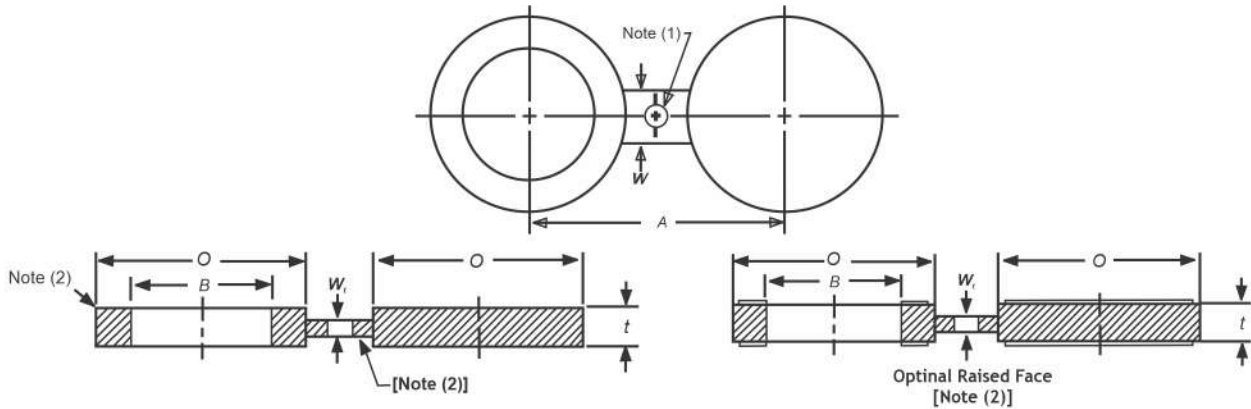
Table F: For Working Steam Pressure above 100 lbs and upto 150 lbs per sq. inch

Nominal Pipe Size	O.D of Pipe	Dia of Flange	Dia of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	21.3	95.3	66.7	4	12.7	9.5
3/4"	26.7	101.6	73.0	4	12.7	9.5
1"	33.4	120.7	87.3	4	15.9	9.5
1 1/4"	42.2	133.4	98.4	4	15.9	12.7
1 1/2"	48.3	139.7	104.8	4	15.9	12.7
2"	60.3	165.1	127.0	4	15.9	15.9
2 1/2"	73.0	184.2	146.1	8	15.9	15.9
3"	88.9	203.2	165.1	8	15.9	15.9
3 1/2"	101.6	215.9	177.8	8	15.9	19.1
4"	114.3	228.6	190.5	8	15.9	19.1
5"	141.3	279.4	235.0	8	19.1	22.2
6"	168.3	304.8	260.4	12	19.1	22.2
7"	190.3	336.6	292.1	12	19.1	22.2
8"	219.1	368.3	323.9	12	19.1	25.4
9"	244.5	406.4	355.6	12	22.2	25.4
10"	273.0	431.8	381.0	12	22.2	25.4
12"	323.0	489.0	438.2	16	22.2	28.6
14"	355.6	552.5	495.3	16	25.4	31.8
16"	406.4	609.6	552.5	20	25.4	31.8
18"	457.2	673.1	609.6	20	28.6	34.9
20"	508.0	736.6	673.1	24	28.6	38.1
24"	609.6	850.9	781.1	24	31.8	41.3

Table H: For Working Steam Pressure above 150 lbs and upto 250 lbs per sq. inch

Nominal Pipe size	Dia of Flange	Dia. of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	114.3	82.6	4	15.9	12.7
3/4"	114.3	82.6	4	15.9	12.7
1"	120.78	87.3	4	15.9	14.3
1 1/4"	133.4	98.4	4	15.9	17.5
1 1/2"	139.7	104.8	4	15.9	17.5
2"	165.1	127.0	4	15.9	19.1
2 1/2"	184.2	146.1	8	15.9	19.1
3"	203.2	165.1	8	15.9	22.2
3 1/2"	215.9	177.8	8	15.9	22.2
4"	228.6	190.5	8	15.9	25.4
5"	279.4	235.0	8	19.1	28.6
6"	304.8	260.4	12	19.1	28.6
7"	336.6	292.1	12	19.1	31.8
8"	368.3	323.9	12	19.1	31.8
9"	406.4	355.6	12	22.2	34.9
10"	431.8	381.0	12	22.2	34.9
12"	489.0	438.2	16	22.2	38.1
14"	552.5	495.3	16	25.4	41.3
16"	609.6	552.5	20	25.4	44.5
18"	673.1	609.6	20	28.6	47.6
20"	736.6	673.1	24	28.6	50.8
24"	850.9	781.1	24	31.8	57.2

SPECTACLE BLANKS / FIGURE 8 / SPACER & BLANKS (B16.48)



CLASS 150					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness t	Web Width W
1/2	0.62	1.75	2.38	0.12	1.50
3/4	0.82	2.12	2.75	0.12	1.50
1	1.05	2.50	3.12	0.12	1.50
1 1/4	1.66	2.88	3.50	0.25	1.50
1 1/2	1.90	3.25	3.88	0.25	1.50
2	2.38	4.00	4.75	0.25	2.00
2 1/2	2.88	4.75	5.50	0.25	2.00
3	3.50	5.25	6.00	0.25	2.50
3 1/2	4.00	6.25	7.00	0.38	2.50
4	4.50	6.75	7.50	0.38	2.50
5	5.56	7.62	8.50	0.38	3.00
6	6.62	8.62	9.50	0.50	3.00
8	8.62	10.88	11.75	0.50	3.00
10	10.75	13.25	14.25	0.62	4.00
12	12.75	16.00	17.00	0.75	4.00
14	14.00	17.62	18.75	0.75	4.25
16	16.00	20.12	21.25	0.88	4.25
18	18.00	21.50	22.75	1.00	4.50

CLASS 300					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness t	Web Width W
1/2	0.62	2.00	2.62	0.25	1.50
3/4	0.82	2.50	3.25	0.25	1.50
1	1.05	2.75	3.50	0.25	1.50
1 1/4	1.66	3.12	3.88	0.25	1.50
1 1/2	1.90	3.62	4.50	0.25	1.50
2	2.38	4.25	5.00	0.38	2.00
2 1/2	2.88	5.00	5.88	0.38	2.00
3	3.50	5.75	6.62	0.38	2.50
3 1/2	4.00	6.38	7.25	0.50	2.50
4	4.50	7.00	7.88	0.50	2.50
5	5.56	8.38	9.25	0.62	3.00
6	6.62	9.75	10.62	0.62	3.00
8	8.62	12.00	13.00	0.88	3.00
10	10.75	14.12	15.25	1.00	4.00
12	12.75	16.50	17.75	1.12	4.00
14	14.00	19.00	20.25	1.25	4.25
16	16.00	21.12	22.50	1.50	4.25
18	18.00	23.38	24.75	1.62	4.50

CLASS 600					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness t	Web Width W
1/2	0.62	2.00	2.62	0.25	1.50
3/4	0.82	2.50	3.25	0.25	1.50
1	1.05	2.75	3.50	0.25	2.25
1 1/4	1.44	3.12	3.88	0.38	2.25
1 1/2	1.68	3.62	4.50	0.38	2.62
2	2.16	4.25	5.00	0.38	2.25
2 1/2	2.64	5.00	5.88	0.50	2.62
3	3.26	5.75	6.62	0.50	2.62
3 1/2	3.76	6.25	7.25	0.62	3.00
4	4.26	7.50	8.50	0.62	3.00
5	5.30	9.38	10.50	0.75	3.38
6	6.36	10.38	11.50	0.88	3.38
8	8.33	12.50	13.75	1.12	3.75
10	10.42	15.62	17.00	1.38	4.12
12	12.39	17.88	19.25	1.62	4.12
14	13.62	19.25	20.75	1.75	4.50
16	15.62	22.12	23.75	2.00	4.88
18	17.62	24.00	25.75	2.12	5.25

CLASS 900					
NPS	Inside Diameter B	Outside Diameter O	Centerline Dimension A	Thickness t	Web Width W
1/2	0.62	2.38	3.25	0.25	1.50
3/4	0.82	2.62	3.50	0.25	1.62
1	1.05	3.00	4.00	0.25	2.25
1 1/4	1.44	3.38	4.38	0.38	2.25
1 1/2	1.68	3.75	4.88	0.38	2.62
2	2.16	5.50	6.50	0.50	2.25
2 1/2	2.64	6.38	7.50	0.50	2.62
3	3.26	6.50	7.50	0.62	2.62
4	4.26	8.00	9.25	0.75	3.00
5	5.30	9.62	11.00	0.88	3.38
6	6.36	11.25	12.50	1.00	3.38
8	8.33	14.00	15.50	1.38	3.75
10	10.42	17.00	18.50	1.62	4.12
12	12.39	19.50	21.00	1.88	4.12
14	13.62	20.38	22.00	2.12	4.50
16	15.62	22.50	24.25	2.38	4.88
18	17.62	25.00	27.00	2.62	5.25

NOTES: 1) All Dimensions are in inches

2) Hole size (where required due to bolt spacing) shall be the same as the flange bolt hole and located such that it will not interfere with bolting between two flanges.

3) Optional raised face to be mentioned by purchaser.

4) The handle or web (tie bar) may be integral or attached to the line blank or spacer.

5) The thickness of the web (or tie bar) dimension, Wt, shall be as determined as it shall be capable of supporting the weight of the blank or spacer in all orientations without permanent deformation of web.

Dimension of other Classes & RTJ Flanges on request

FORGED FITTINGS



Elbow

Tee

Union

Cross

Coupling

Plug

Swage Nipple

Hexagon Nipple

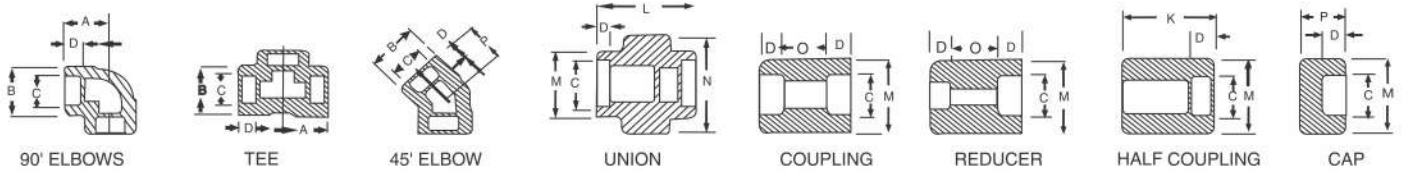
Sockolet

Weldolet

Threadolet



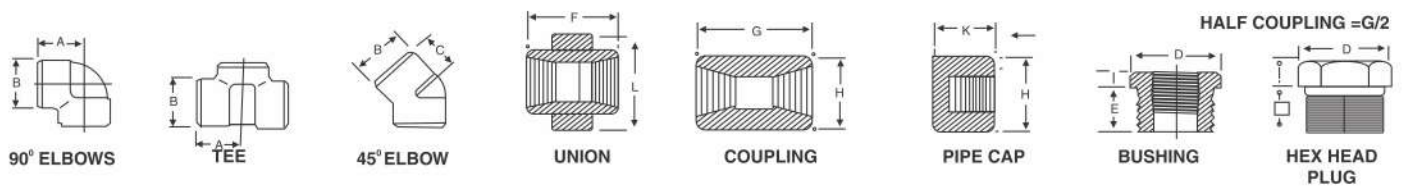
SOCKETWELD FITTINGS TO ANSI B-16.11



NOM BORE	PIPE O.D.	3000 L.B.S.						COMMON FACTORS						6000 L.B.S					
		A	B	K	J	L	M	N	P	Q	C	D	O	O	A	B	M	K	N
1/8"	10.3	22	18.5	26	16	40	17.3	32	17.5	10	10.7	10	5	8	22	22	20	25	46
1/4"	13.7	22	22	26	18	43	21.2	32	17.5	10	14.1	10	5	8	27	25	24	25	51
3/8"	17.2	25	25	26	19	48	25.4	36	19	10	17.6	10	3	9	27	28	28	26	60
1/2"	21.3	27	32	30	21	51	31	43	22	10	21.7	10	6	13	31	34	34	31	72
3/4"	26.7	34	38	36	24	57	37	50	25	13	27	13	6	13	37	42	41	35	80
1"	33.4	37	46	40	25	64	45.2	60	27	13	33.8	13	9	17	42	50	50	40	94
1 1/4"	42.2	42	56	40	29	70	55	70	30	13	42.6	13	9	17	47	59	58	41	100
1 1/2"	48.3	47	62	40	30	79	61.4	78	32	13	48.7	13	9	17	53	67	66	43	122
2"	60.3	56	75	52	37	89	75	95	38	13	61.2	16	15	23	59	84	83	55	
2 1/2"	73.02	60	92	52	48	114	91.3	125	38	16	73.8	16	14	24		102		56	
3"	89.00	76	110	52	51	127	108.8	140	44	16	89.8	16	14	24		121		58	
4"	114.50	88	137	58		150	136.9		48	19	115.5	19	14	24		152		64	

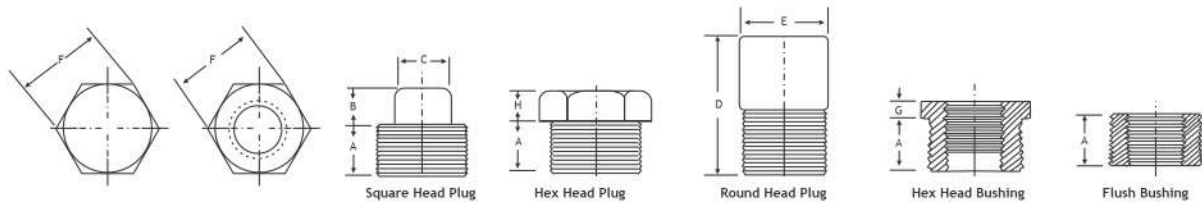
All dimensions are in Millimeters. Dimensions and other specifications as per customers requirements are available on request

FORGED SCREWED FITTINGS TO ANSI B-16.11. BS 3799 : 1974



NOM BORE	PIPE O.D.	3000 L.B.S.						COMMON FACTORS						6000 L.B.S					
		A	B	C	G	H	K	D	E	F	I	J	L	A	B	C	G	H	K
1/8"	10.3	21	22	17	32	16	19	11	10	40	-	6	-	25	25	19	32	22	-
1/4"	13.7	25	25	19	35	19	25	16	11	43	3	6	32	29	33	22	35	25	27
3/8"	17.2	29	33	22	38	22	25	17.5	13	48	4	8	38	33	38	25	38	32	27
1/2"	21.3	33	38	25	48	29	32	22	15	51	5	8	46	38	46	29	48	38	33
3/4"	26.7	38	46	29	51	35	37	27	16	57	6	10	51	44	56	33	51	44	38
1"	33.4	44	56	33	60	44	41	35	19	64	6	10	60	51	62	35	60	57	43
1 1/4"	42.2	51	62	35	67	57	44	44.5	21	70	7	14	72	60	75	43	67	64	46
1 1/2"	48.3	60	75	43	79	64	44	51	21	79	8	16	80	64	84	44	79	76	48
2"	60.3	64	84	45	86	76	48	63.5	22	88	9	17	94	83	102	52	86	92	51
2 1/2"	73.02	83	102	52	92	92	60	76	27	118	10	21	122	95	121	64	92	108	64
3"	89.0	95	121	64	108	108	65	89	29	121	10	25	140	106	146	79	108	127	68
4"	114.5	114	152	79	121	140	68	117.5	32	150	13	25	180	114	152	79	121	159	75

PLUGS & BUSHINGS



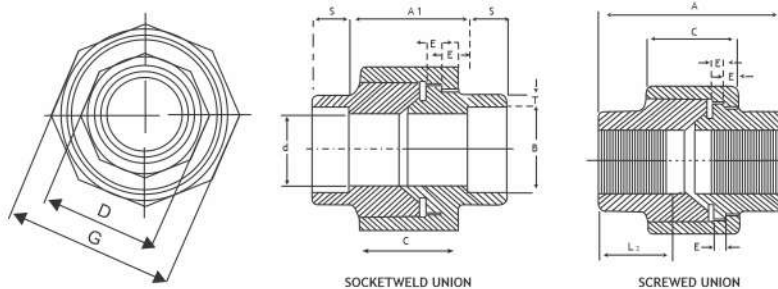
B16.11

Nominal Pipe Size	Length (Minimum) A	Plugs Square Head		Plugs Round Head		Hex Plugs & Bushings		
		Height of Square (Minimum) B	Width Flats (Minimum) C	Nominal Diameter of Head E	Length (Minimum) D	Width Flats (Nominal) F	Hex Height (Min.)	
							Bushing G	Plug H
1/8	0.38	0.25	0.28	0.41	1.38	0.44		0.25
1/4	0.44	0.25	0.38	0.53	1.62	0.62	0.12	0.25
3/8	0.50	0.31	0.44	0.69	1.62	0.69	0.16	0.31
1/2	0.56	0.38	0.56	0.84	1.75	0.88	0.19	0.31
3/4	0.62	0.44	0.62	1.06	1.75	1.06	0.22	0.38
1	0.75	0.50	0.81	1.31	2.00	1.38	0.25	0.38
1 1/4	0.81	0.56	0.94	1.69	2.00	1.75	0.28	0.56
1 1/2	0.81	0.62	1.12	1.91	2.00	2.00	0.31	0.62
2	0.88	0.69	1.31	2.38	2.50	2.50	0.34	0.69
2 1/2	1.06	0.75	1.50	2.88	2.75	3.00	0.38	0.75
3	1.12	0.81	1.69	3.50	2.75	3.50	0.41	0.81
4	1.25	1.00	2.50	4.50	3.00	4.62	0.50	1.00

General Note : Dimensions are in inches

Note : 1) Cautionary Note Regarding Hex Head Bushings. Hex Head Bushings of one-size reduction not be used in services wherein they might be subject to harmful loads and forces other than internal pressures.

SOCKETWELD & SCREWED UNION



BS 3799

Nominal Size		3000 lbs.									Depth of Socket (min) S	Socket wall thickness (min) T
		End to End A	Width Union nut (min.) G	Height of Union nut (min.) C	Width A/F of ends (min.) D	Thickness of shoulder (min.) E	Length of thread (min.) L ₂	Distance between bottoms of Socket (min) A1	Bore diameter of Sockets (Min) B	Bore diameter of Union d		
Inches	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1/8	(6)	40	32	16	17	3.2	6.70	17	10.7	6.8	10	3.2
1/4	(8)	43	32	18	19	3.2	10.21	17	14.1	9.2	10	3.3
3/8	(10)	48	36	19	22	3.2	10.36	17	17.6	12.5	10	3.5
1/2	(15)	51	43	21	30	4.0	13.56	18	21.8	15.5	10	4.1
3/4	(20)	57	50	24	36	4.8	13.86	20	27.4	21.0	13	4.3
1	(25)	64	60	25	41	4.8	17.34	26	34.1	26.5	13	5.0
1 1/4	(32)	70	70	29	50	5.6	17.93	28	42.9	35.0	13	5.3
1 1/2	(40)	79	78	30	60	5.6	18.38	30	49.0	40.5	13	5.6
2	(50)	89	95	37	70	6.4	19.22	36	61.0	52.0	16	6.1
2 1/2	(65)	118	125	48	85	9.6	28.89	57	73.8	62.0	16	7.7
3	(80)	121	140	51	100	12.7	30.48	70	89.7	78.0	16	8.3

All Dimensions are in millimeters (mm)

Note : Other external forms of nut & ends are permissible provided the minimum dimensions shown in this table are maintained.
Bore diameter of Sockets corresponds to schedule 40 pipe, subject to tolerance.

TECHNICAL INFORMATION

Formulae Of Calculating Weight

Weight of S.S. & C.S. Pipes & Tubes

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

Weight of S.S. Sheets & Plates :

Length (Mtrs) X Width (Mtrs) X Thick (MM) X 8 = Wt. Per PC
Length (fit) X Width (Mtrs) X Thick (mm) X $\frac{3}{4}$ = Wt. Per PC

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.

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.

Weight of S.S. Hexagonal Bar

Dia (mm) X Dia (mm) X 0.00680 = Wt. Per.Mtr
Width (mm) X Dia (mm) X 0.002072 = Wt. Per Feet

Weight of S.S. Flate Bar

Width (mm) X Thick (mm) X 0.00798 = Wt.Per Mtr.
Width (mm) X Thick (mm) X 0.00243 = Wt.Per Feet.

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 0.00000063 = Kg. Per PC.

Weight of Brass Pipe / Copper Pipe

O.D. (mm) - Thick (mm) X Thick (mm) X 0.0260 = Wt. Per Ft.
O.D. (mm) - Thick (mm) X Thick (mm) X 0.0079 = Wt. Per Ft.

Weight of Lead Pipes

OD(mm)-W.T. (mm) X W.T.(mm) x 0.0345=per Mtr.

Weight of Aluminium Pipe

O.D. (mm) - Thick (mm) X Thick (mm) X 0.0083 = Wt.Per. Mtr.

Weight of Alluminium Sheets

Lenght (Mtrs) X Width (Mtrs) X Thick (mm) X 2.69 = Wt. per PC

Formula for Making of Pipe from Sheet

O.D. (mm) - W.T. X Thick (mm) X 22/7 = Width of Sheet

Weight Conversion of Mtr. to Feet

Wt. of 1 mtr. / 3.2808 Wt. Per Feet

Weight of Carbon Steel Sheets & Plates

Length (mtr.) x Wdth(mtr.) x Thk(mm) x 7.85=Kg Per Sheet

Weight of Copper Pipes

OD (mm) - W.T. (mm) X W.T. (mm) X 0.0285 = KG / Sheet

Weight of Lead Sheets

Length (mtr.) X Width(mtr.) X Thk(mm) x 11.2=Kg Per Sheet

Sheet Width Req'd. for Rolled & Welded Pipes

O.D. (mm) - Thick (mm) X 3.14 = Sheet Width (mm)

Weight for Square / Rectangle Pipes

Length from 4 Angle (O.D.) 3.14 - Thk (mm) X Thk (mm) X 0.00758
= Kg / Per Sheet

Barlow's Formula for Calculating Bursting Pressure

$P = \frac{2ST}{D}$ or $t = \frac{DP}{2S}$ or $S = \frac{DP}{2t}$ or $D = \frac{2st}{p}$

P = Bursting Pressure P. si.

S = Tensile Strength of tube.

T = Well Thickness (In Inches)

D = Outside diameter (In Inches)

Formula a for Healthy Business

Honesty + Quality of Goods + Quick Service +

Reasonable Rate = Good Healthy Business



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