



- Pipes, Tubes
- Pipe Fittings
- Flanges, Fasteners
- Sheets, Plates, Coils
- Flats, Bars
- Angles, Channels, Beams
- Ferrous & Non-Ferrous Metals



The Reliable Steel Source
Inspiring Customer's Confidence.

Technical Guide
Version 9.0

COMPANY PROFILE

Ratnadeep Steel & Engg. Co. an ISO Certified Company is a leading **Manufacturer, Supplier and Stockist of Ferrous and Non Ferrous metals** in form of **Pipes, Tubes, Plates, Sheets, Fittings, Bars, Flanges, Structures & Fasteners**. With over 25 years of experience in the industry, Ratnadeep is known for its wide range of products, high quality standards, and competitive prices.

Ratnadeep's products are used in a wide range of industries, including oil & gas, power generation, petrochemicals, pharmaceuticals, food & beverage, textiles, and machinery etc. The company also offers custom cutting and fabrication services to meet the specific needs of its customers.

Ratnadeep is committed to providing its customers with the best possible service and support. Its team of experienced professionals is always available to answer questions and help customers find the right products for their needs.

In short, Ratnadeep Steel & Engg. Co. is a trusted **One-stop shop for all your Ferrous and Non Ferrous metal needs**.

The following items we deal are in wide range of Sizes and Grades and are readily available with us in bulk quantities...

PIPES & TUBES PLATES, SHEETS & COILS

STAINLESS STEEL
INCOLOY 800, 825
INCOLOY ALLOY 20
SMO 254 (UNS S31254)
COPPER

PIPE FITTINGS STRUCTURES

CARBON STEEL
NICKEL ALLOY 200
HASTELLOY C22, C276
PHOSPHORUS BRONZE
BRASS

FLANGES FASTENERS

ALLOY STEEL
TITANIUM GR 2
DUPLEX & SUPER DUPLEX
BOILER QUALITY
17-4PH & 15-5PH

BARS COPPER JUMPERS

MILD STEEL & HOT DIP GI
INCONEL 600, 601, 625
GUN METAL
MONEL 400, K500
ALUMINIUM

We are approved suppliers to various government department & Public sectors all over the country & regularly supplying to them for a long time. We have got ready stock of the above items in various sizes as per National / International Standards & Specification & the same shall be supplied as per your requirements at very reasonable rates.

We can arrange any **Third-Party inspection agency from LRIS, BVIS, IBR, TUV, DNV, MECON, MDL, PDIL, LLOYDS etc.**

Hope, that we will get an opportunity to work with your esteemed organization and prove our excellence to build a long-term relation for the future.

Request you to please enlist our name in your approved Suppliers/Vendors list and send us your valuable purchase enquiries to enable us to quote our most competitive rates and terms.

QUALITY POLICY

At Ratnadeep Steel & Engg. Co., we are committed to providing high-quality products and services to our customers. Our quality policy is guided by principles that support our unique working culture, which incorporates respect, self-management, open communication, and continuous improvement.



Our quality assurance system starts with understanding our customers' requirements and continues until the customer is completely satisfied with the delivery of our products and services. We exercise stringent quality control measures to ensure the accurate dimensions and mechanical properties of our products.

Our quality assurance system assures each product to pass through the following processes and quality systems:

- **Material Control System**
- **Process Control System**
- **Machining and Dimensional Control**
- **Certification and Supplementary Test**
- **Finishing, Marking & Packing**

Our quality policy is built for a result-oriented work culture to fulfill our customers' needs in terms of cost, quality, and delivery. We are aiming towards zero losses by enhancing the effectiveness of people and plant equipment safely.

PRODUCT RANGE

PIPES & TUBES



Stainless Steel	: ASTM A 312 GR. TP 304, 304L, 304H, 309S, 309H, 310S, 310H, 316, 316L, 316Ti, 316H, 316LN, 317, 317L, 321, 321H, 347, 347H, 904L.
Carbon Steel	: ASTM A 53 GR. A & B, ASTM A 106, GR. A, B & C, API 5L GR.B, API 5L X 42, X46, X52, X56, X60, X65 & X70, X80 (PSL1 & PSL2)
Alloy Steel	: ASTM A 335 GR P1, P5, P9, P11, P12, P22, P91, P92 etc.
High Nickel Alloys	: Monel, Nickel, Inconel, Hastelloy, Copper Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	: Round, Square, Rectangular (Seamless, Welded, ERW & EFW)
Size	: 1/4" NB to 32"NB (Seamless & Welded)
Wall Thickness	: Sch.5S to Sch. XXS & as specified.
Size	: 1/4"OD to 6"OD
Wall Thickness	: 22SWG TO 10SWG

BUTTWELD FITTINGS



Stainless Steel	: ASTM A 403 GR. WP 304, 304L, 304H, 309S, 309H, 310S, 310H, 316, 316L, 316Ti, 316H, 316LN, 317, 317L, 321, 321H, 347, 347H, 904L.
Carbon Steel	: ASTM A234 WPB/ A420 WPL3/A420 WPL6/ MSS-SP-75 WPHY 42/46/52/56/60/65/70
Alloy Steel	: ASTM A234 WP1/WP5/WP9/WP11/WP22/WP91/WP92 etc.
Duplex & Super Duplex Steel	: UNS S31803, UNS S32750, UNS S32760, 904L, Alloy 20, 254 SMO
High Nickel Alloys	: Monel, Nickel, Inconel, Hastelloy, Copper Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	: Elbow, Tee, Reducer, Return Bends, Stub-Ends, Cap, Collar, Cross, Insert etc.
Size	: 1/4" NB to 32"NB (Seamless & Welded)
Wall Thickness	: Sch.5S to Sch. XXS & as specified.

SCREWED & FORGED FITTINGS



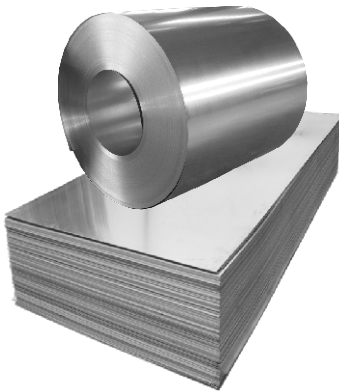
Stainless Steel	: ASTM A 182 F304, 304L, 304H, 309S, 309H, 310S, 310H, 316, 316L, 317, 317L, 321, 310, 347, 347H, 904L.
Carbon Steel	: ASTM A 105/A694 F42/46/52/56/60/65/70/A350 LF3/A350LF2
Alloy Steel	: ASTM A 182 F1/F5/F9/F11/F22/F91 etc.
Others	: Monel, Nickel, Inconel, Hastelloy, Copper Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	: Elbow, Tee, Union, Cross, Coupling, Plug, Swage Nipple, Welding Boss, Hexagon Nipple, Barrel Nipple, Hexagon Nut, Hose Nipple, Weldolet, Elbolet, Sockolet, Thredolet, Nipolet, Latrolet etc.
Size	: 1/4" NB to 4"NB (Socketweld & Threaded)
Class	: 3000#, 6000#, 9000#

PRODUCT RANGE

FLANGES



Stainless Steel	: ASTM A 182 F304, 304L, 304H, 316, 316L, 317, 317L, 321, 310, 347, 347H, 904L etc.
Carbon Steel	: ASTM A 105/A694 F42/46/52/56/60/65/70/A350LF3/A350LF2 etc.
Alloy Steel	: ASTM A 182 F1, F5, F11, F22, F91 etc.
Duplex Steel	: 2205 (Monel), 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.
Type	: Weldneck, Slipon, Blind, Socket Weld, Lap Joint, Spectacle, Ring Joint, Orifice, Long Weldneck, Deck Flange etc.
Size	: 1/2" NB to 48"NB
Class	: 150#, 300#, 400#, 600#, 900#, 1500# & 2500# also as per National & International Standards



SHEET, PLATE & COILS

Stainless Steel	: ASTM A 240 GR. TP 304, 304L, 304H, 309S, 309H, 310S, 310H, 316, 316L, 316Ti, 316H, 316LN, 317, 317L, 321, 321H, 347, 348, 348H, 409, 416, 420, 430 etc.
Alloy Steel	: ASTM A387 Gr. 2, 5, 9, 11, 12 & 22, 91 in class 1 & 2 ASTM A204 Gr. A & B, DIN 17175 Gr. 15Mo3 & 16Mo3 with IBR Test Certificate.
Carbon Steel / Boiler Quality	: IS 2062 Gr. A, B & C, IS 2002 Gr. 1 & 2 ASTM A516 Gr. 60 & 70, ASTM A516 Gr. 60 & 70, A572 Gr. 50 etc.



RODS / BARS & WIRES

Material Grade	: Stainless Steel, Nickel Alloys, Carbon Steel, Alloy Steel, IBR Non IBR.
High Nickel Alloy	: Monel, Nickel, Inconel, Hastelloy, Copper Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	: Rods, Hex, Square, Wires, Billets etc.



COPPER BRAIDED WIRES & JUMPERS

Copper Flexible Connectors
Silicon Carbide & Molybdenum Disilicide
Heating Element Accessories
Aluminium Wire & SS Wire Braided Products.
Special Earthing Materials, Sheet Metal Components.

PIPE FITTINGS

BUTTWELD & SOCKETWELD FITTING



BUTTWELD SPECIFICATION

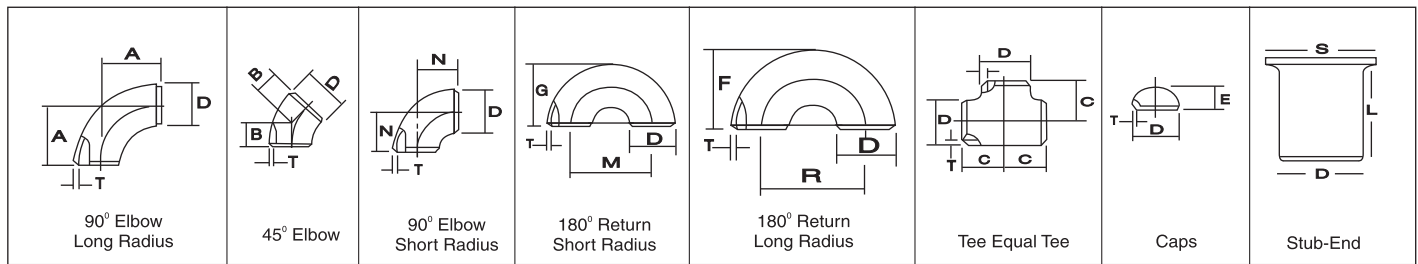
Stainless Steel	: ASTM A 403 WP 304, 304L, 304H, 310S, 310H, 316, 316L, 317, 317L, 321, 310, 347, 347H, 904L etc.
Carbon Steel	: ASTM A234 WPB/ A420 WPL3/A420 WPL6/ MSS-SP-75 WPHY 42/46/52/56/60/65/70/80
Alloy Steel	: ASTM A234 WP1/WP5/WP9/WP11/WP22/WP91/WP92 etc. API 6A Type, ASTM A519 GR. 4130 / Gr. 4140
Others	: Duplex, Super Duplex, Monel, Nickel, Inconel, Hastally, Copper Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	: Elbow, Tee, Reducer, Return Bends, Stub-Ends, Cap, Collar, Cross, Insert etc.
Size	: 1/4" NB to 32"NB (Seamless) 1/4" NB to 108"NB (Welded)
Wall Thickness	: Sch.5S to Sch. XXS



SOCKETWELDED OR SCREWED SPECIFICATION

Stainless Steel	: ASTM A 312 TP 304, 304L, 304H, 310, 316, 316L, 316H, 317, 317L, 317H, 321, 310, 347, 347H, 904L etc.
Carbon Steel	: ASTM A105 / A 350 LF2 etc.
Alloy Steel	: ASTM A182 F1/F5/F9/F11/F22/F91/F92 / AISI 4130 / AISI 4140
Others	: Duplex, Super Duplex, Monel, Nickel, Inconel, Hastally, Copper Brass, Bronze, Titanium, Tantalum, Bismuth, Aluminium, High Speed Steel, Zinc, Lead etc.
Type	: Elbow, Cushion, Tee, Union, Cross, Coupling, Plug, Swage, Welding Boss, Hexagon Nipple, Barrel Nipple, Hexagon Nut, Hose, Weldolet, Elbolet, Sockolet, Thredolet, Nipolet, Latrolet etc.
Size	: 1/4" NB to 6"NB (Socketweld & Threaded)
Class	: 3000#, 6000#, 9000#

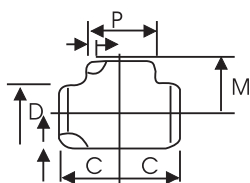
DIMENSION OF BUTT-WELDING FITTING ANSI B-16.9 / B - 16.29



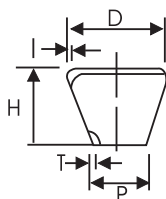
Nominal Pipe Size		Outside Diameter	Center to Face				Back to Face			Center to Center			Length 'L' MSS SP 43 B16.9	
INCH	MM	D	A R=1.5D	B	C	N R=1D	E	F	G	R	M	S	Short L	Long L
1/2	15	21.3	38.00	16.0	25.0	-	25.0	48.0	-	76.0		35.0	50.8	76.2
3/4	20	26.7	29.00	11.0	29.0	-	25.0	43.0	-	57.0		43.0	50.8	76.2
1	25	33.4	38.00	22.0	38.0	25.0	38.0	56.0	41.0	76.0	51.0	51.0	50.8	101.6
1.1/4	32	42.2	48.00	25.0	48.0	32.0	38.0	70.0	52.0	95.0	64.0	64.0	50.8	101.6
1.1/2	40	48.3	57.15	29.0	57.0	38.0	38.0	83.0	62.0	114.0	76.0	73.0	50.8	101.6
2	50	60.3	76.00	35.0	64.0	51.0	38.0	106.0	81.0	152.0	102.0	93.0	63.5	152.4
2.1/2	65	73.0	95.25	44.0	76.0	64.0	38.0	132.0	100.0	191.0	127.0	105.0	63.5	152.4
3	80	88.9	114.30	51.0	86.0	76.0	51.0	159.0	121.0	229.0	152.0	127.0	63.5	152.4
3.1/2	90	101.6	133.35	57.0	95.0	89.0	54.0	184.0	140.0	267.0	175.0	140.0	76.2	152.4
4	100	114.3	152.0	64.0	105.0	102.0	64.0	210.0	159.0	305.0	203.0	157.0	76.2	152.4
5	125	141.3	190.0	79.0	123.0	127.0	76.0	262.0	197.0	381.0	254.0	186.0	76.2	203.2
6	150	168.3	229.0	95.0	143.0	152.0	102.0	313.0	237.0	457.0	305.0	218.0	88.9	203.2
8	200	219.1	305.0	127.0	178.0	203.0	89.0	414.0	313.0	610.0	406.0	270.0	101.6	203.2
10	250	273.1	381.0	159.0	216.0	254.0	102.0	515.0	391.0	762.0	508.0	324.0	127.0	254.0
12	300	323.8	457.0	190.0	254.0	305.0	127.0	619.0	467.0	914.0	610.0	381.0	152.4	254.0
14	350	355.6	533.0	222.0	279.0	385.0	152.0	711.0	533.0	1067.0	711.0	413.0	152.4	305.0
16	400	406.4	610.0	254.0	305.0	406.0	165.0	813.0	610.0	1219.0	813.0	470.0	152.4	305.0
18	450	457.2	686.0	286.0	343.0	457.0	178.0	914.0	686.0	1372.0	914.0	533.0	152.4	305.0
20	500	508.0	762.0	318.0	381.0	508.0	203.0	1016.0	762.0	1524.0	1016.0	584.0	152.4	305.0
22	550	559.0	838.0	343.0	419.0	559.0	229.0	1118.0	838.0	1676.0	1118.0	614.4	152.4	305.0
24	600	610.0	914.0	381.0	432.0	610.0	254.0	1219.0	914.0	1629.0	1219.0	692.0	152.4	305.0
26	650	660.0	991.0	405.0	495.0	660.0	267.0							
28	700	711.0	1067.0	438.0	521.0	771.0	267.0							
30	750	762.0	1143.0	470.0	559.0	762.0	267.0							
32	800	813.0	1219.0	502.0	597.0	813.0	267.0							
34	850	864.0	1295.0	533.0	635.0	864.0	267.0							
36	900	914.4	1372.0	565.0	673.0	914.0	267.0							

All Dimensions in Millimeters

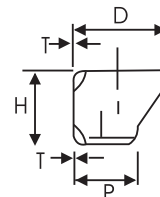
DIMENSION OF BUTT-WELDING FITTING ANSI B-16.9 / B - 16.28



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
1 1/4 x 1	32 x 25	42.2	33.4	48	48	51
1 1/4 x 3/4	32 x 20	42.2	26.7	48	48	51
1 1/4 x 1/2	32 x 15	42.2	21.3	48	48	51
1 1/2 x 1 1/4	40 x 32	48.3	42.2	57	57	64
1 1/2 x 1	40 x 25	48.3	33.4	57	57	64
1 1/2 x 3/4	40 x 20	48.3	26.7	57	57	64
1 1/2 x 1/2	40 x 15	48.3	21.3	57	57	64
2 x 1 1/2	50 x 40	60.3	48.3	64	60	76
2 x 1 1/4	50 x 32	60.3	42.2	64	57	76
2 x 1	50 x 25	60.3	33.4	64	51	76
2 x 3/4	50 x 20	60.3	26.7	64	44	76
2 1/2 x 2	65 x 50	73.0	60.3	76	70	89
2 1/2 x 1 1/2	65 x 40	73.0	48.3	76	67	89
2 1/2 x 1 1/4	65 x 32	73.0	42.2	76	64	89
2 1/2 x 1	65 x 25	73.0	33.4	76	57	89
3 x 2 1/2	80 x 65	88.9	73.0	86	83	89
3 x 2	80 x 50	88.9	60.3	86	76	89
3 x 1 1/2	80 x 40	88.9	48.3	86	73	89
3 x 1 1/4	80 x 32	88.9	42.2	86	70	89
4 x 3 1/2	100 x 90	114.3	101.6	105	102	102
4 x 3	100 x 80	114.3	88.9	105	98	102
4 x 2 1/2	100 x 65	114.3	73.0	105	95	102
4 x 2	100 x 50	114.3	60.3	105	89	102
4 x 1 1/2	100 x 40	114.3	48.3	105	86	102
5 x 4	125 x 100	141.3	114.3	124	117	127
5 x 3 1/2	125 x 90	141.3	101.6	124	114	127
5 x 3	125 x 80	141.3	88.9	124	111	127
5 x 2 1/2	125 x 65	141.3	73.0	124	108	127
5 x 2	125 x 50	141.3	60.3	124	105	127
6 x 5	150 x 125	168.3	141.3	143	137	140
6 x 4	150 x 100	168.3	114.3	143	130	140
6 x 3 1/2	150 x 90	168.3	101.6	143	127	140
6 x 3	150 x 80	168.3	88.9	143	124	140
6 x 2 1/2	150 x 65	168.3	73.0	143	121	140

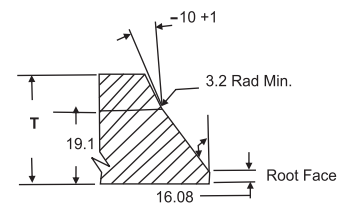
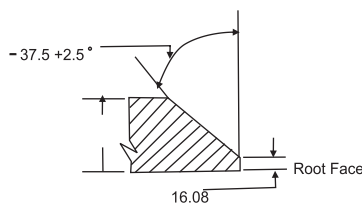
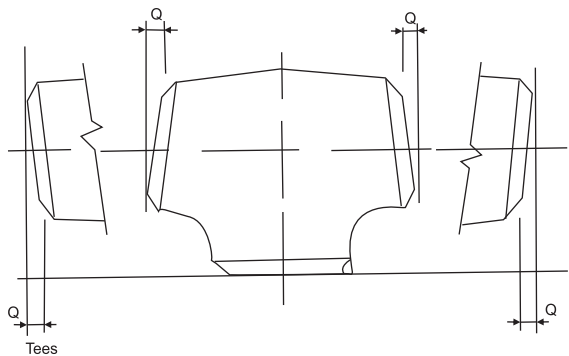
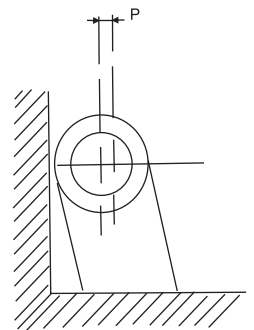
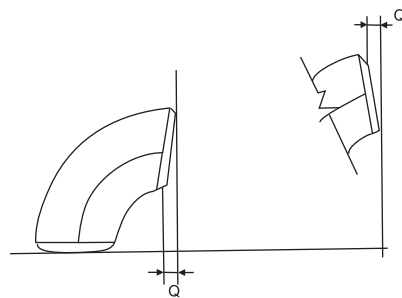
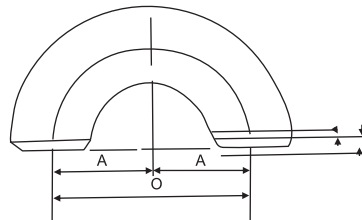
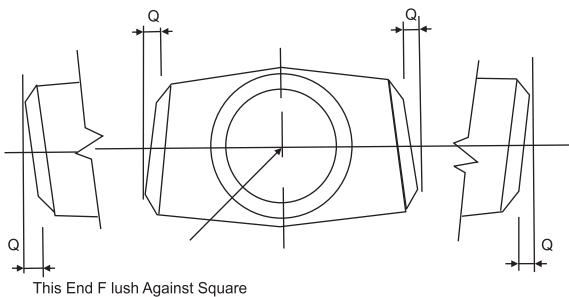
Nominal Pipe Size		Outside Diameter		Center to End		Length
INCH	MM	D	P	C	M	H
8 x 6	200 x 150	219.1	168.3	178	168	152
8 x 5	200 x 125	219.1	141.3	178	162	152
8 x 4	200 x 100	219.1	114.3	178	156	152
8 x 3 1/2	200 x 90	219.1	101.6	178	152	152
10 x 8	250 x 200	273.1	219.1	216	203	178
10 x 6	250 x 150	273.1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

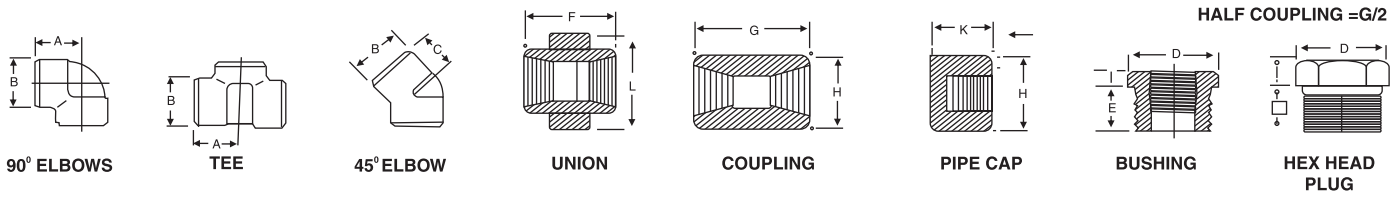
DIMENSIONAL TOLERANCE (ANSI B 16.9 / B 16.28 / MSS SP - 43)

ALL FITTINGS					90°/60°/45° 30° ELBOWS &TEES		REDUC- ERS		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		Alingment of End Dimentions		Overall Lengh		Nominal Pipe Size		Off Angel 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 SP75	B16.9				
½" - 2½" 15 - 65	±1.6 - 0.8	±0.80	±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 1½" - 24" 15 - 600	FROM 1½" - 8" 15 - 200	±6	±6.35	±6.0	±6.4	±1		±3	±3.17	½" - 4" 15 - 100	±1	400 - 600 1.6	±2				
3" - 3½" 80 - 90	±1.6		±1.6			±2	±1.60	±2	±1.60		±6	±6.35	±6.0			±6.4	±1	±3	±3.17		5" - 8" 125 - 200	±2	±4		
4" 100	±2.4					+1.60	±3.2	±2.40	10" - 24" +2.38 250 - 600		±10	±10	±2.0"			±1.60	±3	±3.17	10" - 12" 250 - 300		±3	±5			
5" - 6" 125 - 150		±6								±6.35				14" - 16" 350 - 400	±3		±7								
8" 200		±6	±6.35							18" - 24"				±4	±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		±6	±6.35	26" - 30" 650 - 750	±5	26" - 36" 650 -	±10	
20" - 24" 500 - 600	+6.4	3.17																		±6	±6.35	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		±6	±6.35	44" - 48" 1100 - 1200	±5		±20
32" - 48" 800 - 1200	+6.4 -4.8							±5														42 - 48" 1050 - 1200	±5		±20

All dimensions are in Millimeters.

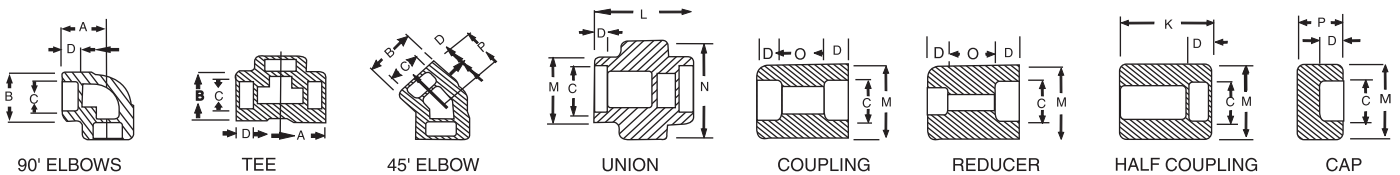


DIMENSIONS OF FORGED SCREWED FITTINGS AS PER ANSI B 16.11 THREADED TO ANSI B 2.1



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

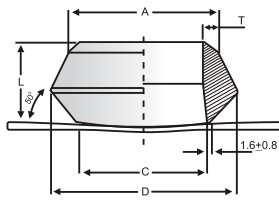
DIMENSIONS OF SOCKET WELD FITTINGS AS PER (ANSI B-16.11)



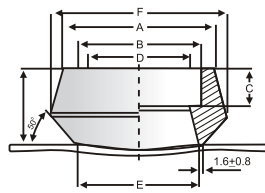
NOM BORE	PIPE O.D.	3000 L.B.S.						COMMON FACTORS						6000 L.B.S					
		A	B	K	J	L	M	N	P	Q	C	D	O	O	A	B	M	K	N
1/8"	10.3	22	18.5	26	16	40	17.3	32	17.5	10	10.7	10	5	8	22	22	20	25	46
1/4"	13.7	22	22	26	18	43	21.2	32	17.5	10	14.1	10	5	8	27	25	24	25	51
3/8"	17.2	25	25	26	19	48	25.4	36	19	10	17.6	10	3	9	27	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

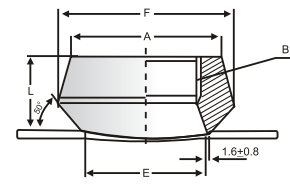
WELDOLETS / SOCKOLETS / THREADED OUTLETS



WELDOLET



SOCKOLET



THREDOLET

(In mm)

WELDOLET

OUTLET NOMINAL SIZE	A	C			L			D			Weight Kg		
		S40 STD	S80 XS	XXS S160	S40 STD	S80 XS	XXS S160	S40 STD	S80 XS	XXS S160	S40 STD	S80 XS	XXS S160
1/2	21.3	23.8	23.8	14.3	19.1	19.1	28.6	34.9	34.7	34.9	0.08	0.09	0.11
3/4	26.7	30.2	30.2	19.1	22.2	22.2	31.8	44.5	44.5	44.5	0.11	0.14	0.32
1	33.5	36.5	36.5	25.4	27.0	27.0	38.1	54.0	54.0	50.8	0.23	0.21	0.38
1 1/4	42.2	44.5	44.5	33.3	31.8	31.8	44.5	65.1	65.1	61.9	0.36	0.41	0.57
1 1/2	48.3	50.8	50.8	38.1	33.3	33.3	50.8	73.0	73.0	69.9	0.45	0.50	0.79
2	60.5	65.1	65.1	42.9	38.1	38.1	55.6	88.9	88.9	81.0	0.79	0.79	0.97
2 1/2	73.2	76.2	76.2	54.0	41.3	41.3	61.9	103.2	103.2	96.8	1.13	1.18	1.53
3	88.9	93.7	93.7	73.0	44.5	44.5	73.0	122.2	122.2	120.7	1.81	1.86	2.87
3 1/2	101.6	101.6	101.6		47.0	47.6		142.9	136.5		2.49	2.54	
4	114.3	120.7	120.7	98.4	50.8	50.8	84.1	152.4	152.4	152.4	2.86	2.90	4.76
5	141.2	141.3	141.3	122.2	57.2	57.2	93.7	179.4	179.4	187.3	4.65	4.72	6.46
6	168.3	169.9	169.9	146.1	60.3	77.8	104.8	215.9	225.4	220.7	5.44	10.43	12.70

SOCKOLET

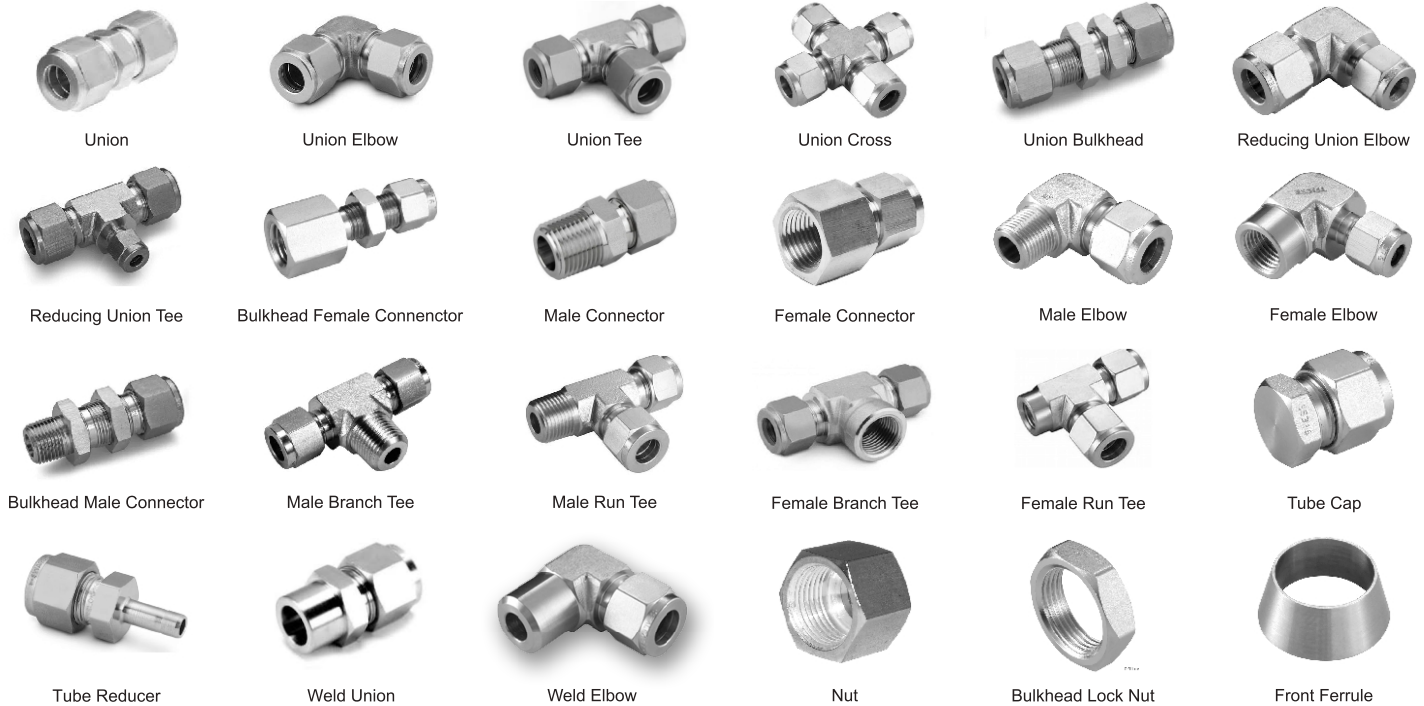
			Class 3000 #						Class 6000 #					
OUTLET SIZE	A	B	C	D	E	F	L	(kg) W.T.	C	D	E	F	L	(kg) W.T.
1/2"	33	21.7-22	21.1±0.5	15.0-16.6	23.8	34.9	25.4	0.14	13.5±0.5	11.0-12.6	10.1	44.5	31.8	0.23
3/4	39	27.1-27.3	13.5±0.5	20.2-21.7	30.2	44.5	27	0.15	15.5±0.5	14.8-16.3	25.4	50.8	36.5	0.36
1"	47.3	33.8-34	15.2±0.8	25.9-27.4	34.5	54	33.3	0.27	17.0±0.8	19.9-21.5	33.3	61.9	39.7	0.39
1 1/4"	57	42.5-42.8	17.4±0.8	34.3-35.8	44.5	65.1	33.3	0.39	19.0±0.8	28.7-30.2	38.1	69.9	41.3	0.73
1 1/2"	63.4	48.6-48.9	18.8±0.8	40.1-41.7	60.8	73	34.9	0.47	21.0±0.8	33.2-24.7	49.2	82.6	42.9	0.91
2"	77	61.1-51.4	21.8±0.8	51.7-53.3	65.1	88.9	38.1	0.73	23.0±0.8	42.1-43.6	69.9	103.2	52.4	2.33
2 1/2"	96.6	73.8-74.2	25.8±1.5	61.2-64.2	76.2	103.2	39.7	1.25						
3"	114	89.8-90.2	29.1±1.5	76.4-79.5	93.7	122.2	44.5	1.72						
3 1/2"	127	102.6-103.0	29.1±1.5	88.7-91.7	101.6	133.4	54	1.95						
4"	138.9	115.4-115.8	35.4±1.5	100.7-103.7	120.7	152.4	47.6	3.29						

THREDOLET

			Class 3000 #				Class 6000 #					
OUTLET SIZE	A	B	E	F	L	(kg) Weight	A	B	E	F	L	(kg) Weight
1/2"	33	NPT 1/2"	23.8	34.9	25.4	0.11	43	NPT 1/2"	19.1	44.5	31.8	0.2
3/4"	39	NPT 3/4"	30.2	44.5	27	0.16	49	NPT 3/4"	25.4	50.8	36.5	0.34
1"	47.3	NPT 1"	36.5	54	33.3	0.28	59	NPT 1"	33.3	61.9	39.7	0.56
1 1/4"	57	NPT 1 1/4"	44.5	65.1	33.3	0.41	69	NPT 1 1/4"	38.1	69.9	41.3	0.71
1 1/2"	63.4	NPT 1 1/2"	50.8	73	34.9	0.45	77	NPT 1 1/2"	49.2	82.6	42.9	0.89
2"	77	NPT 2"	65.1	88.9	38.1	0.79	91	NPT 2"	69.9	103.2	52.4	2.3
2 1/2"	96.6	NPT 2 1/2"	76.2	103.2	46	1.36	-	-	-	-	-	-
3"	114	NPT 3"	93.7	122.2	50.8	1.97	-	-	-	-	-	-
3 1/2"	122.2	NPT 3 1/2"	101.6	133.4	54	2.61	-	-	-	-	-	-
4"	138.9	NPT 4"	120.7	152.4	57.2	3.22	-	-	-	-	-	-

TUBE FITTINGS

DOUBLE FERRULE TUBE FITTINGS



HYDRAULIC FITTINGS



SIZE : 4 MM OD To 38 MM OD / 1/8" OD To 1 1/2" OD

PRESSURE : 100 Psi To 6000 Psi

DESIGN : Forged Body or Bar Stock Body

OTHER NON STANDARD SIZES WE OFFER

1/4" NB, 3/8" NB, 1/2" NB, 3/4" NB, 1" NB, 1 1/4" NB, 1 1/2" NB & 2" NB.

MATERIAL :

Stainless Steel, Stainless Steel 304, Stainless Steel 304L, Stainless Steel 316, Stainless Steel 316L, Stainless Steel 316Ti, Stainless Steel 310, Brass, Copper, Duplex, Super Duplex, Inconel, Monel, Hastelloy, 254 SMO, 904L, Titanium, Cupro Nickel, PTFE

END CONNECTION : BSP, BSPT, NPT, UNF, Metric

COATING & SURFACE TREATMENT : Stainless Steel Bright Finish, Electro Plating and any other Custom plating as per customers requirement. Nut will be Silver Plated

BRAND : "KE"

EQUIVALENT TO : SWAGELOK & PARKER

SPECIAL PRODUCTS

C TYPE/FLANGE COPPER EARTHING JUMPERS

Material : Copper **Bending Degree :** 90 Deg
Size : 2-inch to 14 inch **Surface Finish :** Natural
Design : Customized



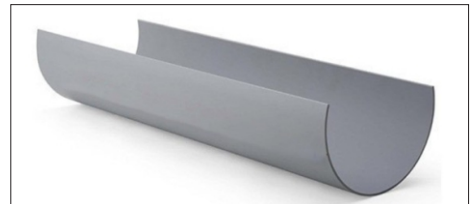
COPPER WIRE BRAIDED STRIPS & BRAIDED ROPES



WIRE MESH / BARBED WIRE / CHAIN LINK



HALF ROUND PIPE AS PER CUSTOMER REQUIREMENT



PHOSPHORUS BRONZE BAR GUN METAL BAR, BRASS BAR COPPER BAR



COPPER NICKEL PIPE & PIPE FITTINGS



BOILER TUBES AIR PRE HEATER TUBES



ALUMINUM PIPES, PLATES & BARS



APPLICATION INDUSTRIES



THIRD PARTY INSPECTION AGENCY & CONSULTANTS



FORMULAE OF CALCULATING WEIGHT

- WEIGHT OF STAINLESS STEEL / CARBON STEEL PIPES & TUBES
 $OD\ (mm) - W.T.\ (mm) \times W.T.\ (mm) \times 0.02466 = KG/MTR$
- WEIGHT OF COPPER PIPES & TUBES
 $O.D.\ (mm) - W.T.\ (mm) \times W.T.\ (mm) \times 0.0285 = KG/MTR$
- WEIGHT OF ALUMINIUM PIPES & TUBES
 $O.D.\ (mm) - W.T.\ (mm) \times W.T.\ (mm) \times 0.0082 = KG/MTR$
- WEIGHT OF LEAD PIPES & TUBES
 $O.D.\ (mm) - W.T.\ (mm) \times W.T.\ (mm) \times 0.0345 = KG/MTR$
- SHEET WIDTH REQD FOR ROLLED & WELDED PIPES
 $O.D.\ (mm) - Thk.\ (mm) \times 3.14 = SHEET\ WIDTH\ (mm)$
- WEIGHT FOR SQUARE / RECTANGLE PIPES
 $Length\ From\ 4\ Angle\ (OD)/3.14 - Thk.\ (mm) \times Thk.\ (mm) \times 0.00756 = KG/PER\ FEET$
- WEIGHT OF STAINLESS STEEL CIRCLE & BLANKS
 $O.D.\ (mm) \times O.D.\ (mm) \times Thk.\ (mm) / 160 / 1000 = KG/PCS.$
- WEIGHT OF STAINLESS STEEL SHEETS & PLATES
 $Length\ (mtr) \times Width\ (mtr) \times Thk.\ (mm) \times 8 = KG/SHEET$
- WEIGHT OF CARBON STEEL SHEETS & PLATES
 $Length\ (mtr) \times Width\ (mtr) \times Thk.\ (mm) \times 7.85 = KG/SHEET$
- WEIGHT OF ALUMINIUM SHEETS & PLATES
 $Length\ (mtr) \times Width\ (mtr) \times Thk.\ (mm) \times 2.66 = KG/SHEET$
- WEIGHT OF LEAD SHEETS & PLATES
 $Length\ (mtr) \times Width\ (mtr) \times Thk.\ (mm) \times 11.2 = KG/SHEET$
- WEIGHT OF STAINLESS STEEL ROUNDS / ROUND BAR
 $Dia.\ (mm) \times Dia.\ (mm) \times 0.00623 = KG/MTR$
- WEIGHT OF STAINLESS STEEL HEXAGONAL RODS
 $Dia.\ (mm) \times Dia.\ (mm) \times 0.00679 = KG/MTR$
- WEIGHT OF STAINLESS STEEL SQUARE RODS
 $Dia.\ (mm) \times Dia.\ (mm) \times 0.00787 = KG/MTR$



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