



MSME
सूक्ष्म, लघु एवं मध्यम उद्यम
MICRO, SMALL & MEDIUM ENTERPRISES
UDYAM-MH-19-0085169



RATNADEEP
STEEL & ENGG. CO.

- 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



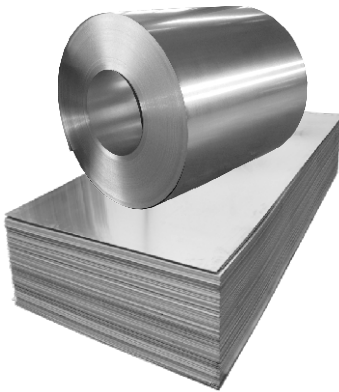
Stainless Steel	: ASTM A 182 F304, 304L, 304H, 309S, 309H, 310S, 310H, 316, 316L, 317, 317L, 321, 310, 347, 347H, 904L.
Carbon Steel	: ASTM A 105/A694 F42/46/52/56/60/65/70/A350 LF3/A350LF2
Alloy Steel	: ASTM A 182 F1/F5/F9/F11/F22/F91 etc.
Others	: Monel, Nickel, Inconel, Hastelloy, Copper Brass, Bronze, 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.

FLANGES



Stainless Steel	: ASTM A 182 F304 / 304L / 304H / 316 / 316L / 317 / 317L / 321 / 310 / 347 / 904L
Carbon Steel	: ASTM A105 / A694 F42 / 46 / 52 / 56 / 60 / 65 / 70 / A350 Lf3 / A350 LF2 ETC.
Alloy Steel	: ASTM A182 F1 / F5 / F9 / F11 / F22 / F91 / F92 ETC. ASTM A519 Gr. 4130 / gR. 4140, API 6A Type - 10000 / 15000 / 25000 PSI
Duplex Steel	: 2205 (Duplex), 2507 (Super Duplex) UNS - 31803, 32750, 32760, 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.

BRITISH STANDARD-10

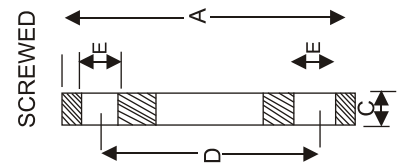
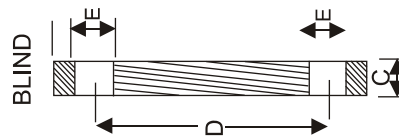
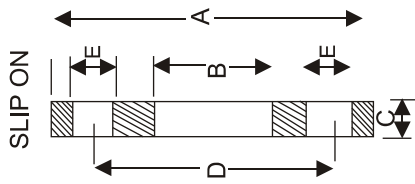


Table D : For working steam pressure upto 50 lbs per sq. inch.

Nominal pipe size	O.D. of Pipe	Dia. of Flange	Dia. Of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	27/32"	3.34"	2.5/8"	4	1/2"	3/16"
3/4"	1.1/16"	4"	2.7/8"	4	1/2"	3/16"
1"	1.11/32"	4.1/2"	3.1/4"	4	1/2"	3/16"
1.1/4"	1.11/16"	4.3/4"	3.7/16"	4	1/2"	1/4"
1.1/2"	1.28/32"	5.1/4"	3.7/8"	4	1/2"	1/4"
2"	2.3/8"	6"	4.1/2"	4	5/8"	5/16"
2.1/2"	3"	6.1/2"	5"	4	5/8"	5/16"
3"	3.1/2"	7.1/4"	5.3/4"	4	5/8"	3/8"
3.1/2"	4"	8"	6.1/2"	4	5/8"	3/8"
4"	4.1/2"	8.1/2"	7"	4	5/8"	3/8"
5"	5.1/2"	10"	8.1/4"	8	5/8"	1/2"
6"	6.12"	11"	9.1/4"	8	5/8"	1/2"
7"	7.1/2"	12"	10.1/4"	8	5/8"	1/2"
8"	8.5/8"	13.1/4"	11.1/2"	8	5/8"	1.1/2"
9"	9.5/8"	14.1/2"	12.3/4"	8	5/8"	5/8"
10"	10.3/4"	16"	14"	8	3/4"	5/8"
12"	12.3/4"	18"	16"	8	3/4"	5/8"
14"	14"	20.3/4"	18.1/2"	12	7/8"	3/4"
16"	16"	22.3/4"	20.1/2"	12	7/8"	3/4"
18"	18"	25.1/4"	23"	12	7/8"	7/8"
20"	20"	27.3/4"	25.1/4"	16	7/8"	1"
24"	24"	32.1/2"	29.3/4"	16	1"	1.1/8"

Table E : For working steam pressure upto 50 lbs and upto 100per sq. inch.

Nominal pipe size	Dia. of Flange	Dia. Of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	3.34"	2.5/8"	4	1/2"	1/4"
3/4"	4"	2.7/8"	4	1/2"	1/4"
1"	4.1/2"	3.1/4"	4	1/2"	9/32"
1.1/4"	4.3/4"	3.7/16"	4	1/2"	5/16"
1.1/2"	5.1/4"	3.7/8"	4	1/2"	11/32"
2"	6"	4.1/2"	4	5/8"	3/8"
2.1/2"	6.1/2"	5"	4	5/8"	13/32"
3"	7.1/4"	5.3/4"	4	5/8"	7/16"
3.1/2"	8"	6.1/2"	8	5/8"	15/32"
4"	8.1/2"	7"	8	5/8"	1/2"
5"	10"	8.1/4"	8	5/8"	9/16"
6"	11"	9.1/4"	8	3/4"	11/16"
7"	12"	10.1/4"	8	3/4"	3/4"
8"	13.1/4"	11.1/2"	8	3/4"	3/4"
9"	14.1/2"	12.3/4"	12	3/4"	13/16"
10"	16"	14"	12	3/4"	7/8"
12"	18"	16"	12	7/8"	1"
14"	20.3/4"	18.1/2"	12	7/8"	1"
16"	22.3/4"	20.1/2"	12	7/8"	1"
18"	25.1/4"	23"	16	7/8"	1.1/8"
20"	27.3/4"	25.1/4"	16	7/8"	1.1/4"
24"	32.1/2"	29.3/4"	16	1.1/8"	1.1/2"

Table F : For working steam pressure upto 100 lbs and upto 150per sq. inch.

Nominal pipe size	Dia. of Flange	Dia. Of Bolt Circle	No. of Bolt	Dia. of Bolt	Thickness
1/2"	3.34"	2.5/8"	4	1/2"	3/8"
3/4"	4"	2.7/8"	4	1/2"	3/8"
1"	4.3/4"	3.7/16"	4	5/8"	3/8"
1.1/4"	5.1/4"	3.7/8"	4	5/8"	1/2"
1.1/2"	5.1/2"	4.1/8"	4	5/8"	1/2"
2"	6.1/2"	5"	4	5/8"	5/8"
2.1/2"	7.1/4"	5.3/4"	8	5/8"	5/8"
3"	8"	6.1/2"	8	5/8"	5/8"
3.1/2"	8.1/2"	7"	8	5/8"	3/4"
4"	9"	7.1/2"	8	5/8"	3/4"
5"	11"	9.1/4"	8	3/4"	7/8"
6"	12"	10.1/4"	12	3/4"	7/8"
7"	13.1/4"	11.1/2"	12	3/4"	7/8"
8"	14.1/2"	12.3/4"	12	3/4"	1"
9"	16"	14"	12	7/8"	1"
10"	17"	15"	12	7/8"	1"
12"	19.1/4"	17.1/4"	16	7/8"	1.1/8"
14"	21.3/4"	19.1/2"	16	1"	1.1/4"
16"	24"	21.3/4"	20	1"	1.1/4"
18"	26.1/2"	24"	20	1.1/8"	1.3/8"
20"	29"	26.1/2"	24	1.1/8"	1.1/2"
24"	33.1/2"	30.3/4"	24	1.1/8"	1.5/8"

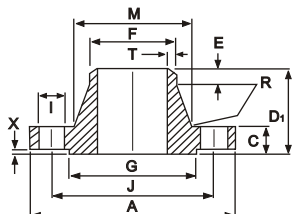
Table H : For working steam pressure upto 150 lbs and upto 250per sq. inch.

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

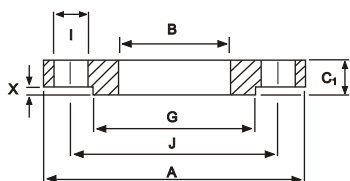
BS4504 PN10 FLANGES

Dimensions in mm

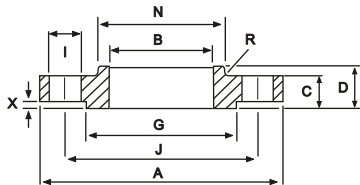
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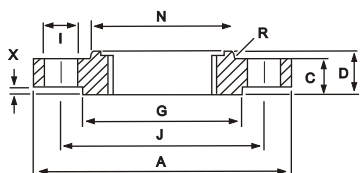
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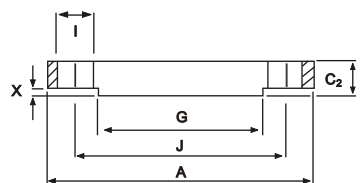
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Nom. Size NB	Flange						Raised Face		Boss	Drilling			Bolting	Neck					Bore Diameter
	A	C	C1	C2	D	D1	G	X		N	No.	I		J	M	F	E	R	
10	90	14	14	14	20	35	40	2	30	4	14	60	M12	28	17.2	6	3	1.8	18.0
15	95	14	14	14	20	35	45	2	35	4	14	65	M12	32	21.3	6	3	2.0	22.0
20	105	16	16	16	24	38	58	2	45	4	14	75	M12	39	26.9	6	4	2.3	27.5
25	115	16	16	16	24	38	68	2	52	4	14	85	M12	46	33.4	6	4	2.6	34.5
32	140	16	18	16	26	40	78	2	60	4	18	100	M16	56	42.2	6	5	2.6	43.0
40	150	16	18	16	26	42	88	3	70	4	18	110	M16	64	48.3	7	5	2.6	49.5
50	165	18	20	18	28	45	102	3	84	4	18	125	M16	74	60.3	8	5	2.9	61.5
65	185	18	20	18	32	45	122	3	104	4/8	18	145	M16	92	73.0	10	6	2.9	74.0
80	200	20	20	20	34	50	138	3	118	8	18	160	M16	110	88.9	10	6	3.2	90.5
100	220	20	22	20	40	52	162	3	140	8	18	180	M16	130	114.3	12	6	3.6	116.0
125*	250	22	22	22	44	55	188	3	168	8	18	210	M16	158	141.3	12	6	4.0	142.5
150	285	22	24	22	44	55	212	3	195	8	22	240	M20	184	168.3	12	8	4.5	170.5
200	340	24	24	24	44	62	268	3	246	8	22	295	M20	234	219.1	16	8	5.6	221.5
250	395	26	26	26	46	68	320	3	298	12	22	350	M20	288	273.0	16	10	6.3	276.5
300	445	26	28	26	46	68	370	4	350	12	22	400	M20	342	323.9	16	10	7.1	327.6
350	505	26	28	26	53	68	430	4	400	16	22	460	M20	390	355.6	16	10	7.1	359.0
400	565	26	32	26	57	72	482	4	459	16	26	515	M24	440	406.4	16	10	7.1	411.0
450	615	28	36	28	63	72	532	4	502	20	26	565	M24	488	457.0	16	12	7.1	462.0
500	670	28	38	28	67	75	585	4	559	20	26	620	M24	540	508.0	16	12	7.1	513.5
600	780	28	42	34	75	80	685	5	658	20	30	725	M27	640	610.0	18	12	7.1	616.5
700	895	30	-	38	-	80	800	5	-	24	30	840	M27	746	711.0	18	12	8.0	-
800	1015	32	-	42	-	90	905	5	-	24	33	950	M30	848	813.0	18	12	8.0	-
900	1115	34	-	46	-	95	1005	5	-	28	33	1050	M30	948	914.0	20	12	10.0	-
1000	1230	34	-	52	-	95	1110	5	-	28	36	1160	M33	1050	1016.0	20	12	10.0	-
1200	1455	38	-	60	-	115	1330	5	-	32	39	1380	M36	1256	1220.0	25	12	11.0	-
1400	1675	42	-	-	-	120	1535	5	-	36	42	1590	M39	1460	1420.0	25	12	12.0	-
1600	1915	46	-	-	-	130	1760	5	-	40	48	1820	M45	1666	1620.0	25	12	14.0	-
1800	2115	50	-	-	-	140	1960	5	-	44	48	2020	M45	1866	1820.0	30	15	15.0	-
2000	2325	54	-	-	-	150	2170	5	-	48	48	2230	M45	2070	2020.0	30	15	16.0	-
2200	2550	58	-	-	-	160	2370	6	-	52	56	2440	M52	2275	2220.0	35	15	-	-
2400	2760	62	-	-	-	170	2570	6	-	56	56	2650	M52	2478	2420.0	35	15	-	-
2600	2960	65	-	-	-	180	2780	6	-	60	56	2850	M52	2680	2620.0	40	18	-	-
2800	3180	70	-	-	-	190	3000	6	-	64	56	3070	M52	2882	2820.0	40	18	-	-
3000	3405	75	-	-	-	200	3210	6	-	68	62	3290	M56	3085	3020.0	40	18	-	-

* Care should be taken with these sizes as the pipe o.d. does not relate to normal stainless steel dimensions.

1. Weldnecks (Code 111) are bored to suit schedule of pipework used.

2. Code 105 flanges are supplied flat faced unless otherwise requested by the purchaser.

3. For information sizes NB 10 to DN150 use PN16 dimensions.

Bs4504 PN16 FLANGES

Dimensions in mm

Nom. Size NB	Flange						Raised Face		Boss	Drilling				Bolting	Neck					Bore Diameter
	A	C	C1	C2	D	D1	G	X		N	No.	I	J		M	F	E	R	T	
10	90	14	14	14	20	35	40	2	30	4	14	60	M12	28	17.2	6	3	1.8	18.0	
15	95	14	14	14	20	35	45	2	35	4	14	65	M12	32	21.3	6	3	2.0	22.0	
20	105	16	16	16	24	38	58	2	45	4	14	75	M12	39	26.9	6	4	2.3	27.5	
25	115	16	16	16	24	38	68	2	52	4	14	85	M12	46	33.4	6	4	2.6	34.5	
32	140	16	18	16	26	40	78	2	60	4	18	100	M16	56	42.2	6	5	2.6	43.0	
40	150	16	18	16	26	42	88	3	70	4	18	110	M16	64	48.3	7	5	2.6	49.5	
50	165	18	20	18	28	45	102	3	84	4	18	125	M16	74	60.3	8	5	2.9	61.5	
65	185	18	20	18	32	45	122	3	104	4/8	18	145	M16	92	73.0	10	6	2.9	74.0	
80	200	20	20	20	34	50	138	3	118	8	18	160	M16	110	88.9	10	6	3.2	90.5	
100	220	20	22	20	40	52	162	3	140	8	18	180	M16	130	114.3	12	6	3.6	116.0	
125*	250	22	22	22	44	55	188	3	168	8	18	210	M16	158	141.3	12	6	4.0	142.5	
150	285	22	24	22	44	55	212	3	195	8	22	240	M20	184	168.3	12	8	4.5	170.5	
200	340	24	26	24	44	62	268	3	246	12	22	295	M20	234	219.1	16	8	5.6	221.5	
250	405	26	29	26	46	70	320	3	298	12	26	355	M24	288	273.0	16	10	6.3	276.5	
300	460	28	32	28	46	78	378	4	350	12	26	410	M24	342	323.9	16	10	7.1	327.6	
350	520	30	35	30	57	82	438	4	400	16	26	470	M24	390	355.6	16	10	8.0	359.0	
400	580	32	38	32	63	85	490	4	456	16	30	525	M27	444	406.4	16	10	8.0	411.0	
450	640	34	42	36	63	87	550	4	502	20	30	585	M27	490	457.0	16	12	8.0	462.0	
500	715	34	46	36	73	90	610	4	559	20	33	650	M30	546	508.0	16	12	8.0	513.5	
600	840	36	52	44	83	95	725	5	658	20	36	770	M33	650	610.0	18	12	8.8	616.5	
700	910	36	60	48	83	100	795	5	760	24	36	840	M33	750	711.0	18	12	8.6	-	
800	1025	38	68	52	90	105	900	5	864	24	39	950	M36	848	813.0	20	12	10.0	-	
900	1125	40	76	58	94	110	1000	5	968	28	39	1050	M39	948	914.0	20	12	10.0	-	
1000	1255	42	84	64	100	120	1115	5	1072	28	42	1170	M39	1056	1016.0	22	12	10.0	-	
1200	1485	48	98	76	-	130	1330	5	-	32	48	1390	M45	1260	1220.0	30	12	12.5	-	
1400	1685	52	-	-	-	145	1530	5	-	36	48	1590	M45	1465	1420.0	30	12	14.2	-	
1600	1930	58	-	-	-	160	1750	5	-	40	56	1820	M52	1668	1620.0	35	12	16.0	-	
1800	2130	62	-	-	-	170	1950	5	-	44	56	2020	M52	1870	1820.0	35	15	17.5	-	
2000	2435	66	-	-	-	190	2150	5	-	48	62	2230	M56	2072	2020.0	40	15	20.0	-	

* Care should be taken with these sizes as the pipe o.d. does not relate to normal stainless steel dimensions.

1. Weldnecks (Code 111) are bored to suit schedule of pipework used.

2. Code 105 flanges are supplied flat faced unless otherwise requested by the purchaser.

Bs4504 PN25 FLANGES

Dimensions in mm

Nom. Size NB	Flange						Raised Face		Boss	Drilling			Bolting	Neck					Bore Diameter
	A	C	C1	C2	D	D1	G	X	N	No.	I	J		M	F	E	R	T	B
10	90	16	14	16	22	35	40	2	30	4	14	60	M12	28	17.2	6	3	1.8	18.0
15	95	16	14	16	22	38	45	2	35	4	14	65	M12	32	21.3	6	3	2.0	22.0
20	105	18	16	18	26	40	58	2	45	4	14	75	M12	40	26.9	6	4	2.3	27.5
25	115	18	16	18	28	40	68	2	52	4	14	85	M12	46	33.4	6	4	2.6	34.5
32	140	18	18	18	30	42	78	2	60	4	18	100	M16	56	42.2	7	5	2.6	43.0
40	150	18	18	18	32	45	88	3	70	4	18	110	M16	64	48.3	7	5	2.9	49.5
50	165	20	20	20	34	48	102	3	84	4	18	125	M16	74	60.3	8	5	2.9	61.5
65	185	22	22	22	38	52	122	3	104	8	18	145	M16	92	73.0	10	6	2.9	74.0
80	200	24	24	24	40	58	138	3	118	8	18	160	M16	110	88.9	12	6	3.2	90.5
100	235	24	26	24	44	65	162	3	145	8	22	190	M20	134	114.3	12	6	3.6	116.0
125*	270	26	28	26	48	68	188	3	170	8	26	220	M24	162	141.3	12	6	4.0	142.5
150	300	28	30	28	52	75	218	3	200	8	26	250	M24	190	168.3	12	8	4.5	170.5
200	360	30	32	30	52	80	278	3	256	12	26	310	M24	244	219.1	16	8	6.3	221.5
250	425	32	35	32	60	88	335	3	310	12	30	370	M27	296	273.0	18	10	7.1	276.5
300	485	34	38	34	67	92	395	4	364	16	30	430	M27	350	323.9	18	10	8.0	327.5
350	555	38	42	38	72	100	450	4	418	16	33	490	M30	398	355.6	20	10	8.0	359.5
400	620	40	46	40	78	110	505	4	472	16	36	550	M33	452	406.4	20	10	8.8	411.0
450	670	42	50	44	84	110	555	4	520	20	36	600	M33	500	457.0	20	12	8.8	462.0
500	730	44	56	45	90	125	615	4	580	20	36	660	M33	558	508.0	20	12	10.0	513.5
600	845	46	68	54	100	125	720	5	684	20	39	770	M36	660	610.0	20	12	11.0	616.5
700	960	46	-	-	-	125	820	5	-	24	42	875	M39	760	711.0	20	12	12.5	-
800	1085	50	-	-	-	135	930	5	-	24	48	990	M45	864	813.0	22	12	14.2	-
900	1185	54	-	-	-	145	1030	5	-	28	48	1090	M45	968	914.0	24	12	16.0	-
1000	1320	58	-	-	-	155	1140	5	-	28	56	1210	M52	1070	1016.0	24	12	17.5	-
1200	1530	-	-	-	-	-	1350	5	-	32	56	1420	M52	-	1220.0	-	12	12.5	-
1400	1755	-	-	-	-	-	1560	5	-	36	62	1640	M56	-	1420.0	-	12	14.2	-
1600	1975	-	-	-	-	-	1780	5	-	40	62	1860	M56	-	1620.0	-	15	16.0	-
1800	2185	-	-	-	-	-	1985	5	-	44	70	2070	M64	-	1820.0	-	15	17.5	-
2000	2425	-	-	-	-	-	2210	5	-	48	70	2300	M64	-	2020.0	-	15	20.0	-

* Care should be taken with these sizes as the pipe o.d. does not relate to normal stainless steel dimensions.

1. Weldnecks (Code 111) are bored to suit schedule of pipework used.

2. Code 105 flanges are supplied flat faced unless otherwise requested by the purchaser.

3. For information sizes NB10 to NB150 use PN40 dimensions.

Bs4504 PN40 FLANGES

Dimensions in mm

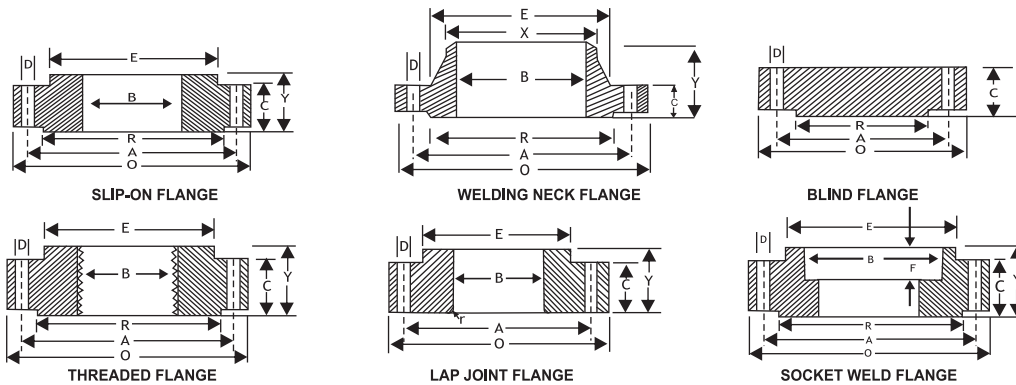
Nom. Size NB	Flange						Raised Face		Boss	Drilling			Bolting	Neck					Bore Diameter
	A	C	C1	C2	D	D1	G	X	N	No.	I	J		M	F	E	R	T	B
10	90	16	14	16	22	35	40	2	30	4	14	60	M12	28	17.2	6	3	1.8	18.0
15	95	16	14	16	22	38	45	2	35	4	14	65	M12	32	21.3	6	3	2.0	22.0
20	105	18	16	18	26	40	58	2	45	4	14	75	M12	40	26.9	6	4	2.3	27.5
25	115	18	16	18	28	40	68	2	52	4	14	85	M12	46	33.4	6	4	2.6	34.5
32	140	18	18	18	30	42	78	2	60	4	18	100	M16	56	42.2	6	5	2.6	43.5
40	150	18	18	18	32	45	88	3	70	4	18	110	M16	64	48.3	7	5	2.6	49.5
50	165	20	20	20	34	48	102	3	84	4	18	125	M16	74	60.3	8	5	2.9	61.5
65	185	22	22	22	38	52	122	3	104	8	18	145	M16	92	76.1	10	6	2.9	77.5
80	200	24	24	24	40	58	138	3	118	8	18	160	M16	110	88.9	12	6	3.2	90.5
100	235	24	26	24	44	65	162	3	145	8	22	190	M20	134	114.3	12	6	3.6	116.0
125*	270	26	28	26	48	68	188	3	170	8	26	220	M24	162	141.3	12	6	4.0	142.5
150	300	28	30	28	52	75	218	3	200	8	26	250	M24	190	168.3	12	8	4.5	170.5
200	375	34	36	36	52	88	285	3	260	12	30	320	M27	244	219.1	16	8	6.3	221.5
250	450	38	42	38	60	105	345	3	312	12	33	385	M30	306	273.0	18	10	7.1	276.5
300	515	42	48	42	67	115	410	4	380	16	33	450	M30	362	323.9	18	10	8.0	327.5
350	580	46	54	46	72	125	465	4	424	16	36	510	M33	408	355.6	20	10	8.8	359.5
400	660	50	60	50	78	135	535	4	478	16	33	585	M36	462	406.4	20	10	11.0	411.0
450	685	50	66	54	84	135	560	4	522	20	39	610	M36	500	457.0	20	12	12.5	462.0
500	755	52	72	56	90	140	615	4	576	20	42	670	M39	562	508.0	20	12	14.2	513.5
600	890	60	84	70	100	150	735	5	686	20	48	795	M45	666	610.0	20	12	16.0	616.5

* Care should be taken with these sizes as the pipe o.d. does not relate to normal stainless steel dimensions.

1. Weldnecks (Code 111) are bored to suit schedule of pipework used.

2. Code 105 flanges are supplied flat faced unless otherwise requested by the purchaser.

FLANGES CLASS -150 / 300 / 600



DIMENSIONS OF CLASS 150 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	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	170.1	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	415	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	457.00
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 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	22.2	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	20.3	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	38.5	206.4	52.4	98.4	62.4	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	-	457.00
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

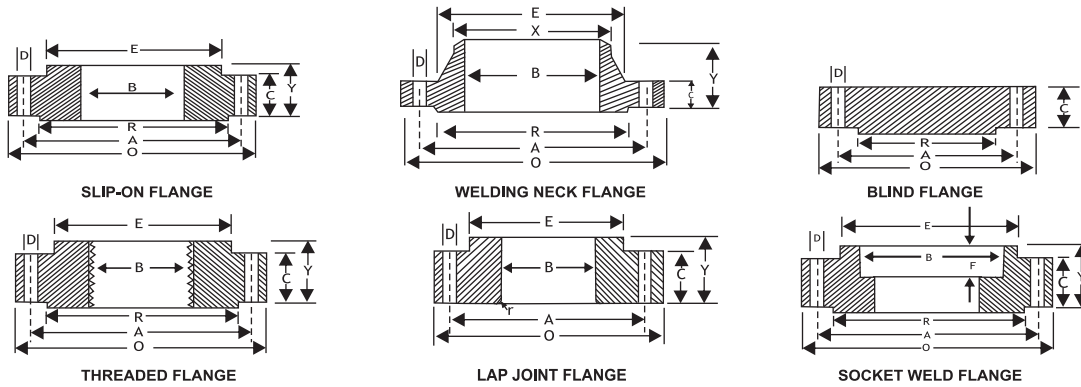
DIMENSIONS OF CLASS 600 FLANGES AS PER B 16.5

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	-	457.00
500	812.8	729.9	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

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 - 900 / 1500 / 2500



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	104.9	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	2241.3	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	85.5	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

DIMENSIONS OF CLASS 1500 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	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	91.7	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	282.6	218.9	327.1	328.1	381.0	-	323.85

DIMENSIONS OF CLASS 2500 FLANGES 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	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	416.1	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	215.1	-	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	254.9	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).

FASTENERS



- HEX BOLTS & HEX SCREWS & HEAVY HEX BOLTS
- HEXAGONAL NUT & HEAVY HEX NUT
- PLAIN WASHERS
- SPRING WASHERS
- THREADED RODS :
- DIN 975 & DIN 976 & ASTM A 193
- SOCKET HEAD ALLEN CAP SCREWS
- EYE-BOLTS
- DOUBLE END STUD BOLTS
- HEXAGON SOCKET SET SCREWS WITH FLAT POINT
- T-HEAD BOLTS
- U BOLTS STANDARD

Material Grade

Stainless Steels : 304, 304L, A2-80, A2-70, A4-80, A4-70, 316, 316L, B8M, 310, 317L, 321, 347, 17-4 PH, 410, 904L
Diameter : M3 to M100 up to 1000 MM in Length

Duplex & Super Duplex : UNS 31803, S32205, S32760, S32750
Diameter : M3 to M100 up to 1000 MM in length

Hastelloy : Hastelloy C-276, Hastelloy C-22
Diameter : M3 to M56 up to 500 MM in length

Exotics : 904L, A-286, Alloy 20, Alloy 50, Nitronic50, Nitronic 60, Titanium, Cupro-Nickel 90-10, Cupro-Nickel 70-30
Diameter : M3 to M56 up to 500 MM in Length

Nickel Alloys : Inconel 600, 601, 625, 718, 750, 800/800H, 825, 925, Monel 400, K-500 & Nickel 200
Diameter : M3 to M56 to 500 MM in Length

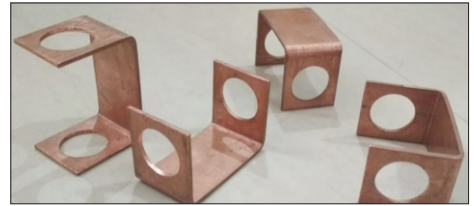
Size Bolt : M3 to M100
Nut : 1/4" to 4"
M3 to M100

Washer : M2 to M100

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



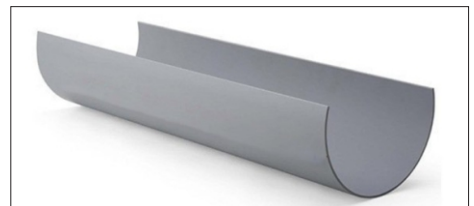
COPPER WIRE BRAIDED STRIPS & BRAIDED ROPES



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



STRUCTURAL STEEL

We Can Offer You Wide Variety Of Structural Steel For Your Regular Needs For Maintenance, Construction As Well As Development Of New Projects. With Tie Ups With Majority Of Manufacturers We Can Offer Steel From Prime manufacturers Like Sail/ Vizag/ Jindal/ Tisco As Well As From Secondary Rolling & Re Rolling Manufacturers. We Offer Following Product In Our Range Of Structural steel : Mild Steel Structural.

MS ANGLES

Grade : IS 2062

Product Range : The following are the sizes available.

25 X 25 X3/5, 35 X 35 X 5, 40 X 40 X 5/6, 45 X 45 X 4/5/6,
50 X 50 X 5/6, 60 X 60 X 6/8/10, 65 X 65, 75 X 75 X 6/8/10, 80 X 80 X 6/8,
90 X 90 X 6/8/10, 100 X 6/8/10/12, 110 X 110 X 8/10/12, 130 X 130 X
10/12, 150 X 150 X 10/12, 150 X 150 X 16/20, 200 X 200 X 16/20

All the above mentioned sizes are in mm.



MS CHANNEL

Grade : IS 2062

Product Range : The following are the sizes available.

75 X 40, 100 X 50, 125 X 75, 150 X 75, 175 X 75, 200 X 75,
250 X 80, 300 X 90, 350 X 100, 400 X 100.

All the above mentioned sizes are in mm



MS BEAM

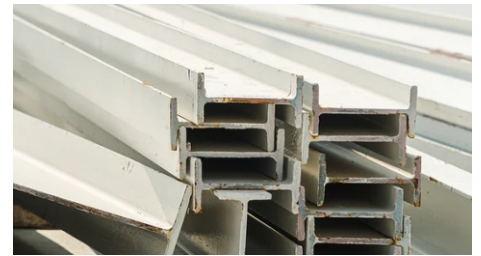
Light, Medium, standard

Grade : IS 2062

Product Range : The following are the sizes available.

100 X 50, 125 X 70, 150 X 75, 175 X 85, 200 X 100, 250 X 125, 300 X 140, 350 X
140, 400 X 150, 450 X 150, 500 X 180, 600 X 210.

All the above mentioned sizes are in mm



MS ROUNDS BARS

Product Name : Wire Rods

Grade : Low Carbon - 5WR-14 / IS:2062 Gr.A

Product Range : Diameters available (unit mm), 5mm to 250mm

All the above mentioned sizes are in mm

These are available in straight in straight lengths (as mutually agreed).



TMT BARS

We have a wide range of TMT Re Bars which are available in various types & from Various Primary & secondary Manufacturers.

Above Material can be offered in Grades Like Fe 415 / FE 500 With Manufacturing Test certificate.



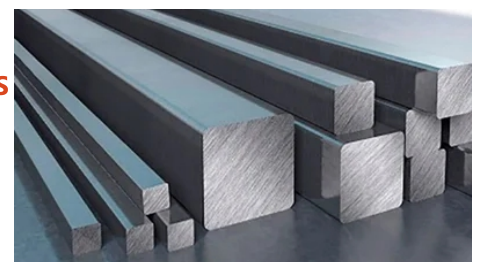
MS FLATS

Available in size
21 x 6mm to
300 x 16mm



MS SQUARE BARS

Available in size
10 x 10 mm to
63 x 63 mm



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
 $Dia.\ (mm) \times Dia.\ (mm) \times 0.00787 = KG/MTR$



Head / Corporate Office

Office No. 111, 1st Floor, Aman Griha,
1st Carpenter Street, CP Tank,
Mumbai-400004, Maharashtra, India.
Tel.: +91-022-23871616 / 6636 2580

Our Works

Plot No.14, Dhruv Logistic Park,
Village Koyanavale, Near M.I.D.C. Talaja,
Navi Mumbai-410206
Maharashtra, India.

Bhawar Jain

+91 98210 25704

Jigar Jain

+91 99300 91290

Email : info@ratnadeepsteel.com / rsecsteel@gmail.com

www.ratnadeepsteel.com

