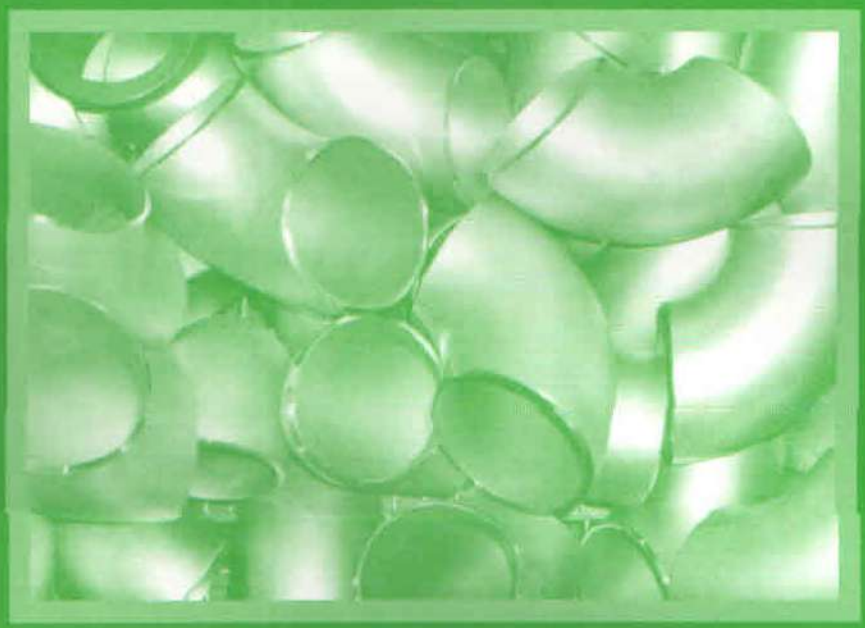
MASIL INDUSTRIAL CORPORATION

Manafacturer / Stockist of : IBR & Non IBR, Forged B/W, S/W, Scrd, Pipe Fittings, Flanges in Carbon, Stainless Steel & ERW Fittings









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B.S. 10 Table D&E

Nom Pipe Size	Approx. OD of Pipe	OD of Flanges	P.C.D. of Flanges	No & Dia of Bolt		Thickness of Flanges	
		Table D-E	Table D-E	Table D	Table E	Table D	Table E
½	27/32	3¾	2⅜	4-½	4-½	3/16	¼
¾	1.1/16	4	2⅞	4-½	4-½	3/16	¼
1	1.11/32	4½	3¼	4-½	4-½	3/16	9/32
1¼	1.11/16	4¾	37/16	4-½	4-½	¼	5/16
1½	1.26/32	5¼	3⅞	4-½	4-½	¼	11/32
2	2⅜	6	4½	4-⅝	4-⅝	5/16	⅜
2½	3	6½	5	4-⅝	4-⅝	5/16	13/32
3	3½	7¼	5¾	4-⅝	4-⅝	⅜	7/16
4	4½	8½	7	4-⅝	8-⅝	⅜	½
5	5½	10	8¼	8-⅝	8-⅝	½	9/16
6	6½ 6⅝	11	9¼	8-¾	8-¾	½	11/16
8	8⅝	13¼	11½	8-⅞	8-¾	½	3/4
10	10¾	16	14	8-¾	12-¾	⅝	⅞
12	12¾	18	16	12-¾	12-⅞	⅝	1
14	-	20¾	18½	12-⅞	12-⅞	¾	1
16	-	20¾	20½	12-⅞	12-⅞	¾	1
18	-	25¼	23	12-⅞	16-⅞	⅞	1⅛
20	-	25¾	25½	16-⅞	16-⅞	1	1¼
24	-	32½	29¾	16-1	16-1	1⅛	1½

Table 'D' for steam working pressure upto 50 lbs.
Table 'E' for steam working pressure above 50 lbs & upto 100 lbs.

B.S. 10 Table F&H

Nom Pipe Size	Approx. OD of Pipe	OD of Flanges	P.C.D. of Flanges	No & Dia of Bolt		Thickness of Flanges	
		Table F&H	Table F&H	Table F	Table H	Table F	Table H
½	27/32	3¾	2⅜	4-½	-	⅜	-
¾	1.1/16	4	2.7/8	-	-	⅜	-
½	27/32	4½	3¼	-	4-⅝	-	½
¾	1.1/16	4½	3¾	-	-	-	½
1	1.11/32	4¾	3.7/16	4-⅝	4-⅝	⅜	9/16
1¼	1.11/16	5¼	3⅞	4-⅝	4-⅝	½	11/16
1½	1.29/32	5½	5½	4-⅝	4-⅝	½	11/16
2	2⅜	6½	5	4-⅝	4-⅝	⅝	¾
2½	3	7¼	5¾	8-⅝	8-⅝	⅝	¾
3	3½	8	6½	8-⅝	8-⅝	⅝	⅞
4	4½	9	7½	8-⅝	8-⅝	¾	-
5	5½	11	9¼	8-¾	8-¾	⅞	1⅛
6	6½ 6⅝	12	10¼	12-¾	12-¾	⅞	1⅛
8	8⅝	14½	12¾	12-¾	12-¾	1	1¼
10	10¾	17	15	12-⅞	12-⅞	1	1⅜
12	12¾	19¼	17¼	16-⅞	16-⅞	1⅛	1½
14	-	21¾	19½	16-1	16-1	1¼	1⅜
16	-	24	21¾	20-1	20-1	1¼	1¾
18	-	26½	24	20-1⅛	20-1⅛	1⅜	1⅞
20	-	29	26½	24-1⅛	24-1⅛	1½	2
24	-	33½	30¾	24-1⅛	24-1¼	1⅝	2¼

Table 'F' for steam working pressure above 100 lbs & up to 150 lbs.
Table 'H' for steam working pressure above 150 lbs & up to 250 lbs.

B.S. 10 Table J&K

Nom Pipe Size	Approx. OD of Pipe	OD of Flanges	OD of Flanges	No & Dia of Bolt		Thickness of Flanges		Dia of Bolt Circle	
		Table J	Table K	Table J	Table K	Table J	Table K	Table J	Table K
½	27/32	4½	4½	4-⅝	4-⅝	⅝	¾	3¼	3¼
¾	1.1/16	4½	4½	4-⅝	4-⅝	⅝	¾	3¼	3¼
1	1.11/32	4¾	5	4-⅝	4-⅝	¾	⅞	3.7/16	3¾
1¼	1.11/32	5¼	5¼	4-⅝	4-⅝	¾	⅞	3⅞	3⅞
1½	1.29/32	5½	6	4-¾	4-¾	⅞	1	4⅛	4½
2	2⅜	6½	6½	4-⅝	8-⅝	1	1	5	5
2½	3	7¼	7¼	8-¾	8-¾	1		5¾	5¾
3	3½	8	8	8-¾	8-¾	1¼	1¼	6½	6¾
4	4½	9	9½	8-⅞	8-⅞	1⅜	7⅜	7½	7¾
5	5½	11	11	8-⅞	12-⅞	1½	1⅜	9¼	9¼
6	6½ 6⅝	12	12	12-⅞	12-⅞	1½	1⅜	10¼	10¼
8	8⅝	14½	14½	12-⅞	12-1	1⅜	1⅞	12¼	12½
10	10¾	17	17	12-1	16-1	1⅞	2	15	15
12	12¾	19¼	19¼	16-1	16-1½	2	2¼	17¼	17

NOTE Flange Bore :
Internal Dia of Flanges should be 1/16" larger than outer Dia of Pipe
Flange Drilling : For ½" & ¾" bolt the dia of holes should be 1/16" larger than the dia bolts for bigger size of bolts hole dia should be ⅛" large than the dia of bolts.
Table 'J' for steam working pressure above 250 & up 350 lbs.
Table 'K' for steam working pressure above 350 lbs & upto 450 lbs.

STANDARD DIN - ND 10

Nom Pipe Size mm.	Out Side Dia of Flanges	Flange Thick-ness	Dia of Raised face & Thickness	No & Size of Holes	Bolt Circle Dia	Bores
15	95	14	45x2	4-14	65	23
20	105	16	58x2	4-14	75	28.5
25	115	16	68x2	4-14	85	28.6
32	140	18	78x2	4-18	100	43
40	150	18	88x3	4-18	110	50
50	165	20	102x3	4-18	125	62
65	185	20	122x3	4-18	145	78
80	200	22	138x3	4-18	160	91
100	220	22	158x3	8-18	180	116
125	250	24	188x3	8-18	210	143
150	285	24	212x3	8-23	240	170
200	340	26	268x3	8-23	295	221
250	395	28	320x3	12-23	350	276
300	445	28	370x4	12-23	400	326
350	505	30	430x4	16-23	460	357
400	565	32	482x4	16-27	515	410
450	615	32	532x4	20-27	565	457
500	670	34	585x4	20-27	620	510
600	780	36	685x5	20-30	725	611

STANDARD DIN - ND 16

Nom Pipe Size mm.	Out Side Dia of Flanges	Flanges Thick-ness	Dia of Raised Face & Thickness	No & Size of Holes	Bolt Circle Dia	Bore
15	95	14	45x2	4-14	65	23
20	105	16	58x2	4-14	75	28
25	115	16	68x2	4-14	85	36
32	140	18	78x2	4-18	100	43
40	150	18	88x3	4-18	110	50
50	165	20	102x3	4-18	125	62
65	185	20	122x3	4-18	145	78
80	200	22	138x3	8-18	160	91
100	220	24	158x3	8-18	180	116
125	250	26	188x3	8-18	210	143
150	285	26	212x3	8-23	240	170
200	340	30	268x3	12-23	295	221
250	405	32	318x3	12-27	355	276
300	460	32	378x4	12-27	410	326
350	520	36	438x4	16-27	470	357
400	580	38	490x4	16-30	525	410
450	640	40	550x4	20-30	585	457
500	715	42	610x4	20-33	650	510
600	840	48	725x5	20-36	770	611

Dimensions in MM

STANDARD DIN - ND 40

Nom Pipe Size mm.	Out Side Dia of Flanges	Flanges Thick-ness	Dia of Raised Face & Thickness	No & Size of Holes	Drilling Bolt Circle Dia	Bores Slip-on
15	95	16	45x2	4-14	65	23
20	105	18	58x2	4-14	75	28
25	115	18	68x2	4-14	85	36
32	140	18	78x2	4-18	100	43
40	150	18	88x3	4-18	110	50
50	165	20	102x3	4-18	125	62
65	185	22	122x3	8-18	145	78
80	200	24	138x3	8-18	160	91
100	235	24	162x3	8-23	190	116
125	270	26	188x3	8-27	220	143
150	300	28	218x3	8-27	250	170
200	375	34	285x3	12-30	320	221
250	450	38	345x4	12-33	385	276
300	515	40	410x4	16-33	450	326
350	580	46	460x4	16-36	510	357
400	660	50	520x4	16-39	585	410
500	755	52	640x4	20-42	670	510
600	890	60	750x5	20-48	795	611

Dimensions in MM

Table 5 Nominal Pressure - 1.6 N/mm² ISS : 6392-1971

Nom Pipe Size	Out Dia m.m.	Thickness m.m.	Bolt Circle Dia	No. of Bolts	Dia of Holes
10	75	12	50	4	11
15	80	12	55	4	11
20	90	14	65	4	11
25	100	14	75	4	11
32	120	16	90	4	14
40	130	16	100	4	14
50	140	16	110	4	14
65	160	16	130	4	14
80	190	18	150	4	18
100	210	18	170	4	18
125	240	20	200	8	18
150	265	20	225	8	18
200	320	22	280	8	18
250	375	24	335	12	18
300	440	24	395	12	22
350	493	26	445	12	22
400	540	28	495	16	22
500	645	30	600	20	22

Dimensions in MM

Table 17 Nominal Pressure - 1.6 N/mm² ISS : 6392-1971

Nom Pipe Size	Out Dia m.m.	Thickness m.m.	Bolt Circle Dia	No. of Bolts	Dia of Holes
10	90	14	60	4	14
15	95	14	65	4	14
20	105	16	75	4	14
25	115	16	85	4	14
32	140	16	100	4	18
40	150	16	110	4	18
50	165	18	125	4	18
65	185	18	145	4	18
80	200	20	160	8	18
100	220	20	180	8	18
125	250	22	210	8	18
150	285	22	240	8	22
200	340	24	295	12	22
250	405	26	355	12	26
300	460	28	410	12	26
350	520	32	470	16	26
400	580	36	525	16	30
500	715	44	650	20	33

Dimensions in MM

CLASS - B (86 psi)

Nominal Pipe Size inch	OD of Flange A mm	ID of Flange B mm	Number of Bolts n	Diameter of Bolt Circle C mm	Diameter of Bolt Hole D mm	Thickness of Flange T mm
4	228.6	116.1	8	190.5	19.1	15.9
5	254.0	143.8	8	215.9	19.1	15.9
6	279.4	170.7	8	241.3	19.1	17.5
8	342.9	221.5	8	298.4	19.1	17.5
10	406.4	276.3	12	361.9	19.1	17.5
12	482.6	327.2	12	431.8	19.1	17.5
14	533.4	359.2	12	476.2	22.2	17.5
16	596.9	410.5	16	539.7	22.2	17.5
18	635.0	461.8	16	577.8	22.2	17.5
20	698.5	512.8	20	635.0	22.2	17.5
22	749.3	563.6	20	692.1	22.2	19.1
24	812.8	614.4	20	749.3	22.2	19.1
26	869.9	665.2	24	806.4	22.2	20.6
28	927.1	716.0	28	863.6	22.2	22.2
30	984.2	766.8	28	914.4	25.4	22.2
32	1060.4	817.6	28	977.9	25.4	23.8
34	1111.2	868.4	32	1028.7	25.4	23.8
36	1168.4	919.2	32	1085.8	25.4	25.4
38	1238.2	970.0	32	1149.3	25.4	25.4
40	1289.0	1020.8	36	1200.1	25.4	25.4
42	1346.2	1071.6	36	1257.3	28.6	28.6
44	1403.3	1122.4	40	1314.4	28.6	28.6
46	1454.1	1173.2	40	1365.2	28.6	28.6
48	1511.3	1224.0	44	1422.4	28.6	31.8
50	1568.4	1274.8	44	1479.6	31.8	31.8
52	1625.6	1325.6	44	1536.7	31.8	31.8
54	1682.7	1376.4	44	1593.8	34.9	34.9
60	1854.2	1528.8	52	1758.9	34.9	38.1
66	2032.0	1681.2	52	1930.4	34.9	41.3
72	2197.1	1833.6	60	2095.5	34.9	44.4
78	2362.2	1986.0	64	2260.6	41.3	50.8
84	2533.6	2138.4	64	2425.7	41.3	50.8
90	2705.1	2290.8	68	2590.8	47.6	57.1
96	2876.6	2443.2	68	2755.9	47.6	57.1

NOTE : Pressure rating at atmospheric temperature is 86 psi
The purchaser should specify the ID of the flange for nominal pipe sizes 26 inch & larger.

CLASS - D (175 - 150 psi)

Nominal Pipe Size inch	OD of Flange A mm	ID of Flange B mm	Number of Bolts n	Diameter of Bolt Circle C mm	Diameter of Bolt Hole D mm	Thickness of Flange T mm
4	228.6	116.1	8	190.5	22.2	15.9
5	254.0	143.8	8	215.9	25.4	15.9
6	279.4	170.7	8	241.3	25.4	17.5
10	342.9	221.5	8	298.4	28.6	17.5
12	406.4	276.3	12	361.9	28.6	17.5
14	482.6	327.2	12	431.8	31.8	20.6
16	533.4	359.2	12	476.2	31.8	23.8
18	596.9	410.5	16	539.7	34.9	25.4
20	635.0	461.8	16	577.8	34.9	27.0
22	698.5	512.8	20	635.0	22.2	28.6
24	749.3	563.6	20	692.1	22.2	30.2
26	812.8	615.9	20	749.3	19.1	31.8
28	869.9	666.7	24	806.4	34.9	33.3
30	927.1	717.5	28	863.6	34.9	33.3
32	984.2	768.3	28	914.4	34.9	34.9
34	1060.4	819.1	28	977.9	41.3	38.1
36	1111.2	869.9	32	1028.7	41.3	38.1
38	1168.4	920.7	32	1085.8	41.3	41.3
40	1238.2	971.5	32	1149.3	41.3	41.3
42	1289.0	1022.3	36	1200.1	41.3	44.4
44	1346.2	1073.1	36	1257.3	41.3	44.4
46	1403.3	1123.9	40	1314.4	41.3	44.4
48	1454.1	1174.7	40	1365.2	41.3	44.4
50	1511.3	1225.6	44	1422.4	41.3	47.6
52	1568.4	1276.3	44	1479.6	47.6	50.8
54	1625.6	1327.1	44	1536.7	47.6	50.8
60	1682.7	1377.9	44	1593.8	47.6	54.0
66	1854.2	1530.3	52	1758.9	47.6	57.1
72	2032.0	1682.7	52	1930.4	47.6	63.5
78	2197.1	1835.1	60	2095.5	47.6	66.7
84	2362.2	1987.6	64	2260.6	54.0	69.9
90	2533.6	2139.9	64	2425.7	54.0	73.0
96	2705.1	2292.3	68	2590.8	60.3	76.2
	2876.6	2444.7	68	2755.9	60.3	82.6

NOTE : Pressure rating at atmospheric temperature : for sizes 4 - 12 inch inclusive - 175 psi ; for sizes larger than 12 inch - 150 psi
In sizes 24 inch & smaller, they also match ANSI B 16.5 - 150 psi standard for steel flanges.
The purchaser should specify the ID of the flange for nominal pipe sizes 26 inch & larger.

FLANGE DATA Dimensions to ANSI B. 16.5

Fir.	Weld-Neck N.B.	Inches	MM	Lap Joint N.B.	Inches	MM	Slip on N.B.	Inches	MM
Inside Diameter	0.5" to 10"	+ 0.031	0.8	0.5" to 10'	± 0.031	0.8	0.5" to 10"	+ 0.031	0.8
	12" to 18"	+ 0.062	1.6		- 0.000	0.0		-0.000	0.0
	20" & Over	+ 0.125	3.2	12' & Over	+ 0.062	1.6	12" & Over	+0.062	1.6
		- 0.062	1.6		- 0.000	0.0		-0.000	0.0
Length Through Hub	0.5" to 10"	+ 0.062	1.6	0.5" to 18"	+ 0.125	3.2	0.5 to 18"	+0.125	3.2
	12" & Over	+ 0.125	3.2		- 0.031	0.8		-0.031	0.8
				20" & Over	+ 0.187	4.8	20" & Over	+0.187	4.8
					-0.062	1.6		-0.062	1.6
Flange Thickness	0.5" to 18'	+ 0.125	3.2	0.5' to 18"	+0.125	3.2	0.5" to 18"	+0.125	3.2
		- 0.000	0.0		-0.000	0.0		-0.031	0.8
	20" & Over	+ 0.187	4.8	20" & Over	+0.187	4.8	20" & Over	+0.187	4.8
		- 0.000	0.0		-0.000	0.0		-0.000	0.0
Diameter of bore	0.5" to 10	+ 0.031	0.8	0.5" to 10	+0.031	0.8	0.5" to 10	+0.031	0.8'
	12" to 18"	+ 0.062	1.6		-0.000	0.0		-0.000	0.0
	20" to 42"	+ 0.125	3.2	12" & Over	+0.062	1.6	12" & Over	+0.062	1.6
		- 0.062	1.6		-0.000	0.0		-0.000	0.0
Welding Point Outside	0.5" to 5"	+ 0.094	2.4	0.5" to 12"	+0.094	2.4*	0.5" to 12"	+0.094	2.4*
		- 0.031	0.8		0.062	1.6*		0.000	0.0*
	6" & Over	+ 0.156	4.0	14" to 42"	+0.125	3.2*	14" to 42"	+0.125	3.2
Diameter		- 0.031	0.8						

Parallelism of back of face back of flange, spot or back facing, shall be parallel to the flange face within 1 degree. Thickness of regardless of tolerances permitted for inside diameter and diameter of hud of welding points of thickness of the hub shall never be less than 87 1/2% of the nominal thickness of which flange is to be attached. *These tolerances not covered in ANSI B 16.5 Tolerance applicable to raised face flanges

CLASS - E (275 psi)

Nominal Pipe Size Inch	OD of Flange A - mm	ID of Flange B - mm	Number of Bolts n	Diameter of Bolt Circle C - mm	Diameter of Bolt Hole D - mm	Thickness of Flange T - mm
4	228.6	116.1	8	190.5	19.1	28.6
5	254.0	143.8	8	215.5	22.2	30.2
6	279.4	170.7	8	241.3	22.2	33.3
8	342.9	221.5	8	298.4	22.2	38.1
10	406.4	276.3	12	361.9	25.4	39.7
12	482.6	327.2	12	431.8	25.4	44.4
14	533.4	359.2	12	476.2	28.6	47.6
16	596.9	410.5	16	539.8	28.6	50.8
18	635.0	461.8	16	577.8	31.8	54.0
20	698.5	512.8	20	635.0	31.8	60.3
22	749.3	563.6	20	692.1	34.9	63.5
24	812.8	614.4	20	749.3	34.9	66.7
26	869.9	665.2	24	806.4	34.9	69.8
28	927.1	716.0	28	863.6	34.9	69.8
30	984.2	766.8	28	914.4	34.9	73.0
32	1060.4	817.6	28	977.9	41.3	76.2
34	1111.2	868.4	32	1028.7	41.3	76.2
36	1168.4	919.2	32	1085.8	41.3	79.4
38	1238.2	970.0	32	1149.3	41.3	79.4
40	1289.0	1020.8	36	1200.1	41.3	82.6
42	1346.2	1071.6	36	1257.3	41.3	85.7
44	1403.3	1122.4	40	1314.4	41.3	85.7
46	1454.1	1173.2	40	1365.2	41.3	87.3
48	1511.3	1224.0	44	1422.4	41.3	88.9
50	1568.4	1274.8	44	1479.6	47.6	88.9
52	1625.6	1325.6	44	1536.7	47.6	92.1
54	1682.7	1376.4	44	1593.8	47.6	95.2
60	1854.2	1528.8	52	1759.0	47.6	98.4
66	2032.0	1681.2	52	1930.4	47.6	107.9
72	2197.1	1833.6	60	2095.5	47.6	111.1

NOTE : Pressure rating at atmospheric temperature is 275 psi.
The purchaser should specify the ID of the flange for nominal pipe sizes 26 inch & larger.

CLASS - F (300 psi)

Nominal Pipe Size Inch	OD of Flange A - mm	ID of Flange B - mm	Number of Bolts n	Diameter of Bolt Circle C - mm	Diameter of Bolt Hole D - mm	Thickness of Flange T - mm
4	254.0	116.1	8	200.1	22.2	28.6
5	279.4	143.8	8	234.9	22.2	30.2
6	317.5	170.7	12	269.7	22.2	34.9
8	381.0	221.5	12	330.2	25.4	39.7
10	444.5	276.3	16	387.3	28.6	41.3
12	520.7	327.2	16	450.8	31.8	46.3
14	584.2	359.2	20	514.3	31.8	49.2
16	647.7	410.5	20	571.5	34.9	52.4
18	711.2	461.8	24	628.6	34.9	55.6
20	774.7	512.8	24	685.8	34.9	61.9
24	914.4	614.4	24	812.8	41.3	68.3
30	1092.2	766.8	28	996.9	47.6	74.6
36	1270.0	919.2	32	1168.4	54.0	81.0
42	1447.8	1071.6	36	1339.8	54.0	87.3
48	1651.0	1224.0	40	1543.0	54.0	90.5

NOTE : Pressure rating at atmospheric temperature is 300 psi.
The purchaser should specify the ID of the flange for nominal pipe sizes 26 inch & larger.

All dimensions in mm. **IS:1538**

Nominal Diameter	Diameter D	Thickness T	Bolt Circle Dia. (P)	No. of Bolt-Holes	Dia of Bolt-Holes (B)
80	200	21	160	4	19
100	220	22	180	8	19
125	250	22.5	210	8	19
150	285	23.0	240	8	23
200	340	24.5	295	8	23
250	395	26	350	12	23
300	445	27.5	400	12	23
350	505	29	460	16	23
400	565	30	515	16	28
450	615	31.5	565	20	28
500	670	33	620	20	28
600	780	36	725	20	31
700	895	38.5	840	24	31
750	960	40	900	24	31
800	1015	41.5	950	24	34
90	1115	44	1050	28	34
1000	1230	47	1160	28	37
1100	1340	50	1270	32	37
1200	1455	53	1380	32	40



TABLE - 11 (Clauses 4.1 and 5.1)
Nominal pressure 1 N/mm2, All dimensions in millimeters

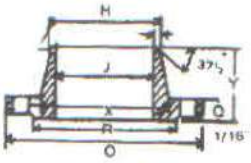
Nominal Size	Pipe O.D.	Flange		RAISED FACE		BOLTING	DRILLING OF HOLES		
		D	T	Dia.(R)	Thick.(F)		Nos.	Dia.(B)	P.C.D.(P)
200	219.1	340	24	268	3	M20	8	22	295
250	273	395	26	320	3	M20	12	22	350
300	323.9	445	26	370	4	M20	12	22	400
350	355.8	505	28	430	4	M20	16	22	460
400	406.4	565	32	482	4	M24	16	26	515
500	508	670	38	585	4	M24	20	26	620
600	609.6	780	42	685	5	M27	20	30	725
700	711.2	895	46	800	5	M27	24	30	840
800	812.8	1015	52	905	5	M30	24	33	950
900	914.4	1115	56	1005	5	M30	28	33	1050
1000	1016	1230	62	1110	5	M33	28	36	1160
1200	1220	1455	74	1330	5	M36	32	39	1380

NOTE : FOR NOMINAL SIZES 10 TO 175 mm, USE TABLE - 17.

AMERICAN STANDARD PIPE FLANGES

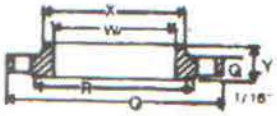
WELDING NECK [1]





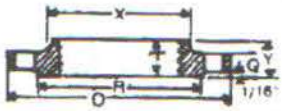
SLIP-ON [1]





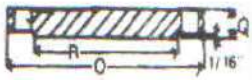
THREADED [1]





LAP JOINT [1]





150 L.B. FLANGES

Nominal Pipe Size	Outside dia. of Flanges	Minimum thickness of flange	Overall Length			Bolt Circle	No. and Size of Holes	O.D. of raised face
			Welding neck	Slip-on & socket welding	Lapped Joint			
	O	Q	Y			Diam	No. Dia	R
1/2	89	11.2	47.6	15.9	15.9	60.5	4 16	35
3/4	98	12.7	52.4	15.9	15.9	70.0	4 16	43
1	108	14.3	55.6	17.5	17.5	79.5	4 16	51
1-1/4	117	15.9	57.2	20	20.6	89.0	4 16	64
1-1/2	127	17.5	61.9	22.2	22.2	98.5	4 16	73
2	152	19.1	63.5	25.4	25.4	120.5	4 19	92
2-1/2	178	22.3	69.8	28.6	28.6	139.5	4 19	105
3	190	23.9	69.8	30.2	30.2	152.5	4 19	127
4	229	23.9	76.2	33.3	33.3	190.5	8 19	157
5	254	23.9	88.9	36.5	36.5	216.0	8 22	186
6	279	25.4	88.9	39.7	39.7	241.5	8 22	216
8	343	28.6	101.6	44.4	44.4	298.5	8 22	270
10	406	30.2	101.6	49.2	49.2	362.0	12 25	324
12	483	31.8	114.3	55.6	55.6	432.0	12 25	381
14	533	35.0	127.0	57.2	79.4	476.0	12 29	413
16	597	36.6	127.0	63.5	87.3	539.5	16 29	470
18	635	39.7	139.7	68.3	96.8	578.0	16 32	533
20	698	42.9	144.5	73.0	103.2	635.0	20 32	584
24	813	47.7	152.4	82.6	111.1	749.5	20 35	692

300 L.B. FLANGES

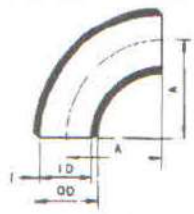
Nominal Pipe Size	Outside dia. of Flanges	Minimum thickness of flange	Overall Length			Bolt Circle	No. and Size of Holes	O.D. of raised face
			Welding neck	Slip-on & socket welding	Lapped Joint			
	O	Q	Y			Diam	No. Dia	R
1/2	95	14.3	52.4	22.2	22.2	66.5	4 15	35
3/4	117	15.9	57.2	25.4	25.4	82.5	4 19	43
1	124	17.5	61.9	27.0	27.0	89.0	4 19	51
1-1/4	133	19.0	65.1	27.0	27.0	98.5	4 19	64
1-1/2	156	20.7	68.3	30.2	30.2	114.5	4 22	73
2	165	22.3	69.8	33.3	33.3	127.0	8 19	92
2-1/2	190	25.4	76.2	38.1	38.1	149.0	8 22	105
3	210	28.6	79.4	42.9	42.9	168.0	8 22	127
4	254	31.8	85.7	47.6	47.6	200.0	8 22	157
5	279	35.0	98.4	50.8	50.8	235.0	8 22	186
6	317	36.6	98.4	52.4	52.4	270.0	12 22	216
8	381	41.3	111.1	61.9	61.9	330.0	12 25	270
10	444	47.7	117.5	66.7	95.3	387.5	16 29	324
12	521	50.8	130.2	73.0	101.6	451.0	16 32	381
14	584	54.0	142.9	76.2	111.1	514 5	20 32	413
16	648	57.2	146.0	82.6	120.7	571.5	20 35	470
18	711	60.4	158.8	88.9	130.2	628.5	24 35	533
20	775	63.5	161.9	95.2	139.7	686.0	24 35	584
24	914	69.9	168.3	106.4	152.4	812.8	24 41	692

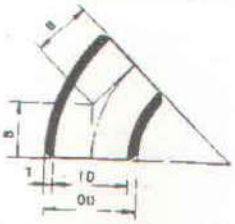
600 L.B. FLANGES

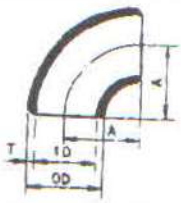
Nominal Pipe Size	Outside dia. of Flanges	Minimum thickness of flange	Overall Length			Bolt Circle	No. and Size of Holes	O.D. of raised face
			Welding neck	Slip-on & socket welding	Lapped Joint			
	O	Q	Y			Diam	No. Dia	R
1/2	95	14.3	52.4	22.2	22.2	66.5	4 15	35
3/4	117	15.9	57.2	25.4	25.4	82.5	4 19	43
1	124	17.5	61.9	27.0	27.0	89.0	4 19	51
1-1/4	133	20.7	66.7	28.6	28.6	98.5	4 19	64
1-1/2	156	22.3	69.8	31.8	31.8	114.5	4 22	73
2	165	25.4	73.0	36.5	36.5	127.0	8 19	92
2-1/2	190	28.6	79.4	41.3	41.3	149.0	8 22	105
3	210	31.8	82.6	46.0	46.0	168.0	8 22	127
4	273	38.1	101.6	54.0	54.0	216.0	8 25	157
5	330	44.5	114.3	60.3	60.3	266.5	8 29	186
6	356	47.7	117.5	66.7	66.7	292.0	12 29	216
8	419	55.6	133.4	76.2	76.2	349.0	12 32	270
10	508	63.5	152.4	85.7	111.2	432.0	16 35	324
12	559	66.7	155.6	92.1	117.3	489.0	20 35	381
14	603	69.9	165.1	93.7	127.0	527.0	20 38	413
16	686	76.2	177.8	106.4	139.7	603.0	20 41	470
18	743	82.6	184.2	117.6	152.4	654.0	20 45	533
20	813	88.9	190.5	127.0	165.1	724.0	24 45	584
24	940	101.6	203.2	139.7	184.2	838.0	24 51	692

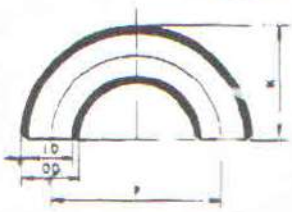
900 L.B. FLANGES

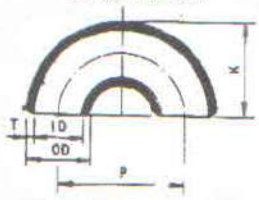
Nominal Pipe Size	Outside dia. of Flanges	Minimum thickness of flange	Overall Length			Bolt Circle	No. and Size of Holes	O.D. of raised face
			Welding neck	Slip-on & socket welding	Lapped Joint			
	O	Q	Y			Diam	No. Dia	R
1/2	121	22.3	60.3	31.8	31.8	82.5	4 22	35
3/4	130	25.4	69.8	34.9	34.9	89.0	4 22	43
1	149	28.6	73.0	41.3	41.3	101.5	4 25	51
1-1/4	159	28.6	73.0	41.3	41.3	111.0	4 25	64
1-1/2	178	31.8	82.6	44.4	44.4	124.0	4 29	73
2	216	38.1	101.6	57.2	57.2	165.0	8 25	92
2-1/2	244	41.3	104.8	63.5	63.5	190.5	8 29	105
3	241	38.1	101.6	54.0	54.0	190.5	8 25	127
4	292	44.5	114.3	69.8	69.8	235.0	8 32	157
5	349	50.8	127.0	79.4	79.4	279.5	8 35	186
6	381	55.6	139.7	85.7	85.7	317.5	12 32	216
8	470	63.5	161.9	101.8	114.3	393.5	12 38	270
10	546	69.9	184.2	108.0	127.0	470.0	16 38	324
12	610	79.4	200.0	117.5	142.9	533.5	20 38	381
14	641	85.8	212.7	130.2	155.6	559.0	20 41	413
16	705	88.9	215.8	133.4	165.1	616.0	20 45	470
18	787	101.6	228.6	152.4	190.5	686.0	20 51	533
20	857	108.0	247.6	158.8	209.6	749.5	20 54	584
24	1041	139.7	292.1	203.2	266.7	901.5	20 67	692

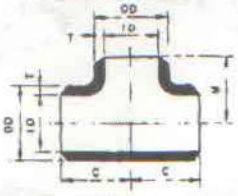

LR 90° ELBOW

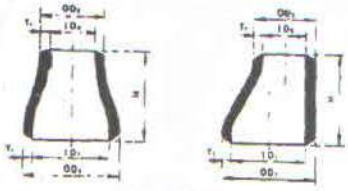

LR 45° ELBOW

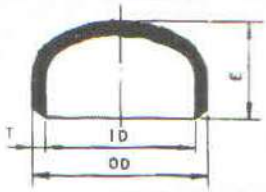

SR 90° ELBOW


LR 180° 'U' BEND


SR 180° 'U' BEND


TEE


REDUCER


CAP

Nomina Pipe Bore			Centre to face 'A' & 'B'			Centre to centre 'O' & Back to face 'K'				Run / Outlet C/M		Length	End to face
Inches NB	Metric NB	O.D. At Bevel	LR 90° A	LR 45° B	SR 90° A	LR 180° "U" BEND O	LR 180° "U" BEND K	SR 180° "U" BEND O	SR 180° "U" BEND K	EQUAL C	TEE M	REDUCER H	CAPS E
1/2"	15	21.34	38.10	15.88	**	76.20	47.63	***	***	25.40	25.40	****	25.40
3/4"	20	26.67	25.58	14.29	**	57.15	42.86	***	***	28.58	28.58	38.10	25.40
1"	25	33.40	38.10	22.23	25.40	76.20	55.56	50.80	41.28	38.10	38.10	50.80	38.10
11/4"	32	42.16	47.63	25.40	31.75	95.25	69.85	63.50	52.39	47.63	47.63	50.80	38.10
11/2"	40	48.26	57.15	28.58	38.1	114.3	82.55	76.2	61.91	57.15	57.15	63.5	38.1
2"	50	60.33	76.20	34.93	50.80	152.40	106.36	101.60	80.96	63.50	63.50	76.20	38.10
21/2"	65	73.03	95.25	44.45	63.50	190.50	131.76	127.00	100.01	76.20	76.20	88.90	38.10
3"	80	88.90	114.30	50.80	76.20	228.60	158.74	152.40	120.65	85.73	85.73	88.90	50.80
4"	100	114.30	152.40	63.50	101.60	304.80	209.55	203.20	158.75	104.78	104.78	101.60	63.50
5"	125	141.30	190.50	79.27	127.00	381.00	261.94	254.00	196.85	123.83	123.83	127.06	76.20
6"	150	168.28	228.60	95.25	152.40	457.20	312.74	304.80	236.54	142.88	142.88	139.70	88.90
8"	200	219.08	304.80	127.00	203.20	609.60	414.34	406.40	312.74	177.80	177.80	152.40	101.60
10"	250	273.05	381.00	158.70	254.00	762.00	514.53	508.00	390.53	215.90	215.90	177.80	127.00
12"	300	323.85	457.20	190.50	304.80	914.40	619.13	609.60	466.73	254.00	254.00	203.20	152.40
14"	350	355.60	533.40	222.25	355.60	1066.80	711.20	711.20	533.40	279.40	279.40	330.20	165.10
16"	400	406.40	609.60	254.00	406.40	1219.20	812.80	812.80	609.60	304.80	304.80	355.60	177.80
18"	450	457.20	685.80	285.75	457.20	1371.60	914.40	914.40	685.80	342.90	342.90	381.00	203.20
20"	500	508.00	762.00	317.50	508.00	1524.00	1016.00	1016.00	762.00	381.00	381.00	508.00	228.60
22'	550	558.50	838.00	342.90	558.80	1676.40	1117.60	1117.60	838.00	419.10	419.10	508.00	254.00
24"	600	609.60	914.00	381.00	609.60	1828.80	1219.20	194.40	914.40	431.80	431.80	508.00	266.70
26"	650	660.40	990.60	406.40						495.30	495.30	609.60	266.70
28"	700	711.20	1066.80	438.15						520.70	520.70	609.60	266.70
30"	750	762.00	1143.00	469.90						558.80	558.80	609.60	266.70
32"	800	812.80	1219.20	501.65						596.90	596.90	609.60	266.70
36"	900	914.40	1371.60	565.15						673.10	673.10	609.60	266.70
38"	950	965.20	1447.80	600.08						711.20	711.20	609.60	304.80
40"	1000	1016.00	1524.00	631.83						749.30	749.30	609.60	304.80
42"	1050	1066.80	1600.20	660.40						762.00	711.20	609.60	304.80
44"	1100	1117.60	1676.40	695.00						812.80	762.00	609.60	342.90
46"	1150	1168.40	1752.60	727.08						850.90	800.10	711.20	342.90
48"	1200	1219.20	1828.80	758.83						889.00	838.20	711.20	342.90

Dimensions Illustrated Above Confirms to :-

AMERICAN STANDARD

AS PER ANSI B 16.9
ANSI B 16.28
BRITISH STANDARD BSS 1640
INDIAN STANDARD IS 4370

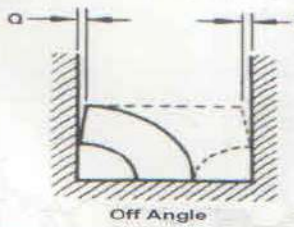
All Fittings				Angularity Tolerances		90° & 45° Elbows & Tees	Reducers	180° Returns			Caps
Nominal Pipe Size	O.D.AT Bevel	I.D. At End	Wall Thickness	'Q' Off Angle	'P' Off Plane	Centre To End	Overall Length	Centre To Centre	Back To Face	Alignment of Ends	Overall Length
15 to 65	+1.6 -0.8	+0.8		0.8	1.6	±1.6	±1.6	±6.4	±6.4	±0.8	±3.2
80 to 90	±1.6	±1.6		0.8	1.6	±1.6	±1.6	±6.4	±6.4	±0.8	±3.2
100	±1.6	±1.6	Not	0.8	1.6	±1.6	±1.6	±6.4	±6.4	±0.8	±3.2
125 to 200	+2.4 -1.6	±1.6	Less	1.6	3.2	±1.6	±1.6	±6.4	±6.4	±0.8	±6.4
250 to 300	+4.0 -3.2	±3.2	Than	2.4	4.8	±2.4	±2.4	±9.6	±6.4	±1.6	±6.4
350 to 400	+4.0 -3.2	±3.2	87.5% of	2.4	6.4	±2.4	±2.4	±9.6	±6.4	±1.6	±6.4
450	+4.0 -3.2	±3.2	Nominal	3.2	6.4	±2.4	±2.4	±9.6	±6.4	±1.6	±6.4
500 to 600	+6.4 -4.8	±4.8	Wall	3.2	9.6	±2.4	±2.4	±9.6	±6.4	±1.6	±1.6
750	+6.4 -4.8	±4.8	Thickness			±3.2	±4.8				±9.6
900	+6.4 -4.8	±4.8				±4.8	±4.8				±9.6

DETAIL OF WELD PREPARATION

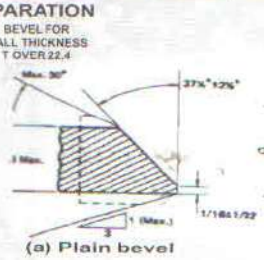
(in Inches)



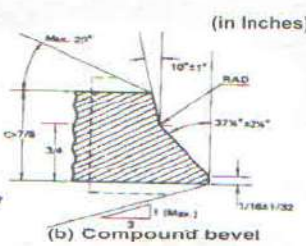
Off Plane



Off Angle

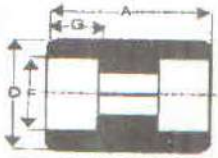


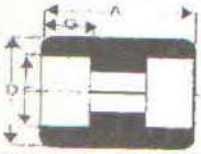
(a) Plain bevel

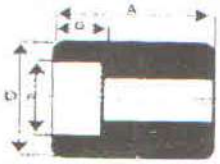


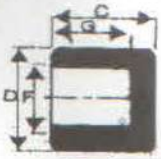
(b) Compound bevel

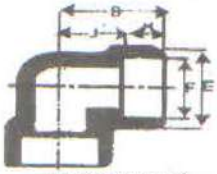
DIMENSION OF SOCKETWELD


COUPLING


REDUCING COUPLING

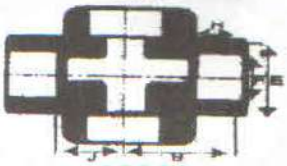

HALF COUPLING


CAP


ELBOW-90⁰


ELBOW-45⁰

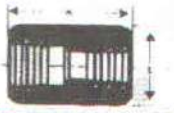

TEE

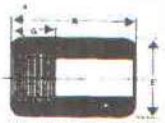

CROSS

Nominal Pipe Size		in	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 2/1	3	4
		mm	3.2	6.4	9.5	12.7	19.0	25.4	31.7	38.1	50.8	63.5	76.2	101.6
Length	A	mm	25.4	25.4	28.6	35.0	38.1	44.4	47.6	50.8	63.5	63.5	69.9	76.2
Centre to Face	B	mm	20.6	20.6	28.6	28.6	33.3	38.1	44.4	50.8	60.3	76.2	85.7	106.3
Cap Length	C	mm	17.46	17.46	19.05	22.23	25.4	26.99	30.16	31.75	38.10	38.10	44.45	47.63
Out Side	D	mm	19.0	22.2	25.4	31.7	38.1	44.5	57.2	63.5	76.2	92.1	108.0	139.7
Diameter	E	mm	22.2	22.2	25.4	33.3	38.1	46.0	55.5	62.0	75.4	92.0	109.5	16.0
Socket Bore	F	mm	10.7	14.1	17.5	21.7	27.0	33.8	42.5	48.6	61.1	74.0	89.8	115.4
Depth of Socket	G/H M/N	mm	9.5	9.5	9.5	9.5	12.7	12.7	12.7	12.7	15.9	15.9	15.9	19.0
	G MAX	mm	9.5	9.5	11.1	12.7	14.3	15.9	17.5	19.0	22.2	22.2	25.4	28.6
	H MAX	mm	9.5	9.5	11.1	12.7	14.3	15.4	17.5	19.0	22.2	28.6	35.0	39.7
Centre to Socket	J	mm	11.1	11.1	13.5	15.8	19.0	22.2	27.0	31.7	38.1	41.2	57.1	66.6
Back face	K	mm	8.0	8.0	8.0	11.1	12.7	14.3	17.4	20.6	25.4	28.6	31.7	41.2
Centre to face	L	mm	17.46	19.0	19.0	22.2	25.4	28.6	33.3	35.0	42.8	52.4	63.5	79.3
Wall Thk minimum		mm	3.18	3.30	3.51	4.09	4.27	4.98	5.28	5.54	6.05	7.65	8.31	9.35
Bore		mm	6.45	8.86	12.14	15.42	20.55	26.26	34.67	40.51	52.12	61.95	77.17	101.50

DIMENSION OF THREADED


COUPLING

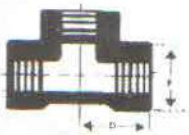

REDUCING COUPLING


HALF COUPLING


CAP


ELBOW-90⁰


ELBOW-45⁰


TEE


CROSS

Nominal Pipe Size		in	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 2/1	3	4
		mm	3.2	6.4	9.5	12.7	19.0	25.4	31.7	38.1	50.8	63.5	76.2	101.6
Face to Face Length	A	mm	31.7	35.0	38.1	47.6	50.8	60.3	66.7	79.4	85.7	92.1	108.0	120.7
	B	mm	15.9	17.5	19.0	23.8	25.4	30.2	33.3	39.7	42.9	46.0	54.0	60.3
	C	mm	19.0	25.4	25.4	31.7	36.5	41.3	44.5	44.5	47.6	60.3	65.1	68.3
Face to Cetre Length	D	mm	20.6	24.6	28.6	33.3	38.1	.44.4	50.6	60.3	63.5	82.5	95.2	114.3
Outside Diameter	E	mm	15.9	19.0	22.2	28.6	35.0	44.5	57.2	63.5	76.2	92.1	108.0	139.7
	F	mm	22.2	25.4	33.3	38.1	46.0	55.5	62.0	75.4	84.1	101.6	120.6	152.4
Length of Thread	G	mm	6.35	8.13	9.14	10.92	12.70	14.73	17.02	17.78	19.05	23.67	25.81	27.79
45 Elbow Face to Centre	H	mm	17.5	19.0	22.2	25.4	28.6	33.3	35.0	42.8	43.6	52.4	63.5	79.3

M.S. SQUARE / ROUNDS & RIBBED TOR STEEL
Weight per Metre (kg)

Size in mm	Square	Rounds	Rib/Tor
6	0.28	0.22	0.23
8	0.50	0.39	0.39
10	0.78	0.62	0.62
12	1.13	0.89	0.90
14	1.54	1.21	1.21
16	2.01	1.58	1.60
18	2.54	2.00	2.00
20	3.14	2.47	2.50
22	3.80	3.00	3.00
25	4.9	3.80	3.85
28	6.2	4.80	4.83
32	8.1	6.30	6.31
36	10.2	8.00	8.00
40	12.6	9.90	9.90
45	15.9	12.49	
50	19.6	15.41	
56	24.6	19.35	
63	31.1	24.47	
80	50.24	39.46	
90	63.58	49.94	
100	78.5	61.66	
110	94.91	74.60	
125	122.6	96.34	
140	153.86	120.14	
160	200.96	157.84	
180	254.34	199.76	
200	314.00	244.62	

M.S. PLATES

Size in mm	Weight kg / M	Size in mm	Weight kg / M
5	39.2	4.00	31.40
6	47.1	3.55	27.90
8	62.8	3.15	24.75
10	78.5	2.80	22.00
12	94.2	2.50	19.00
14	110.0	2.24	17.60
16	125.0	2.00	15.70
18	140.0	1.80	14.15
20	157.0	1.60	12.55
22	172.7	1.40	11.00
25	196.2	1.25	9.80
28	220.0	1.12	8.80
32	251.0	1.00	7.85
36	282.60	0.90	7.05
40	314.00	0.80	6.30
45	353.20	0.60	4.95
50	392.50	0.50	3.90
56	439.60	0.40	3.15
63	494.50		

BLACK SHEETS

SWG	Weight kg / M
8G	31.40
9G	27.90
10G	24.75
11G	22.00
12G	19.00
13G	17.60
14G	15.70
15G	14.15
16G	12.55
17G	11.00
18G	9.80
19G	8.80
20G	7.85
21G	7.05
22G	6.30
24G	4.95
26G	3.90
28G	3.15

M.S. CHANNELS

Size in mm Weight (Mtr / Kg)		Size in mm Weight (Mtr / Kg)	
75x40	7.1	100x50	8.34
100x50	9.6	110x100	23.0
125x65	13.1	125x70	13.2
150x75	16.8	150x75	15.0
175x75	19.6	175x85	19.5
200x75	22.3	200x100	25.4
225x80	26.1	225x110	31.2
250x80	30.6	250x125	37.3
300x90	36.3	300x140	44.2
350x100	42.7	350x140	52.4
400x100	50.1	400x140	61.6

R.S. BEAMS

M.S. RALIS		450x150	72.4
Size	Weight kg. / Yard	500x180	86.9
		600x210	122.6
24 lb	11.90	TEE SECTION	
30 lb	14.88	20x20x3	0.9
60 lb	29.76	25x25x3	1.2
90 lb	44.61	40x40x6	3.5
105 lb	51.89	50x50x6	4.5



M.S. FLATS

Size in mm	Weight (Mtr / Kg)	Size in mm	Weight (Mtr / Kg)
20x3	0.6	65x10	
20x5	0.8	65x12	5.1
20x6	0.9	75x6	6.1
25x3	0.8	75x8	3.5
25x6	1.2	75x10	4.7
25x10	2.0	75x12	5.9
25x12	2.4	75x16	7.1
32x3	1.1	75x20	9.4
32x6	1.5	75x25	11.8
32x10	2.4	100x6	14.7
40x3	1.4	100x8	4.7
40x6	1.9	100x10	6.3
40x10	3.1	100x12	7.8
40x12	3.8	100x16	9.4
50x3	1.7	100x20	12.6
50x6	2.4	100x25	15.7
50x8	3.1		19.6
50x10	3.9	CHEQUARD PLATES	
50x12	4.7	5	42.4
50x16	6.3	6	56.1
53x16	6.6	8	65.9
65x6	3.1	10	80.6
65x8	4.1	12	100.3

M.S. EQUAL ANGLES

Size in mm	Weight (Mtr / Kg)	Size in mm	Weight (Mtr / Kg)
25x25x3	1.1	90x90x10	13.4
25x25x6	2.2	90x90x12	15.8
32x32x3	1.6	100x100x6	9.2
35x35x5	2.6	100x100x8	12.1
35x35x6	3.0	100x100x10	14.9
40x40x3	1.8	100x100x12	17.7
40x40x5	3.0	110x110x8	13.4
40x40x6	3.5	110x110x10	16.5
45x45x5	3.4	110x110x12	19.6
45x45x6	4.0	130x130x10	19.7
50x50x6	4.5	130x130x12	23.4
65x65x6	5.8	130x130x15	28.9
65x65x8	7.7	150x150x10	22.8
65x65x10	9.4	150x150x12	27.2
75x75x6	6.8	150x150x16	35.8
75x75x8	8.9	150x150x20	44.1
75x75x10	11.0	WINDOW SECTION	
80x80x6	7.3	Z - 1.58	
90x90x6	8.2	J - 2.16	
90x90x8	10.8		

Seamless pipes specifications chart

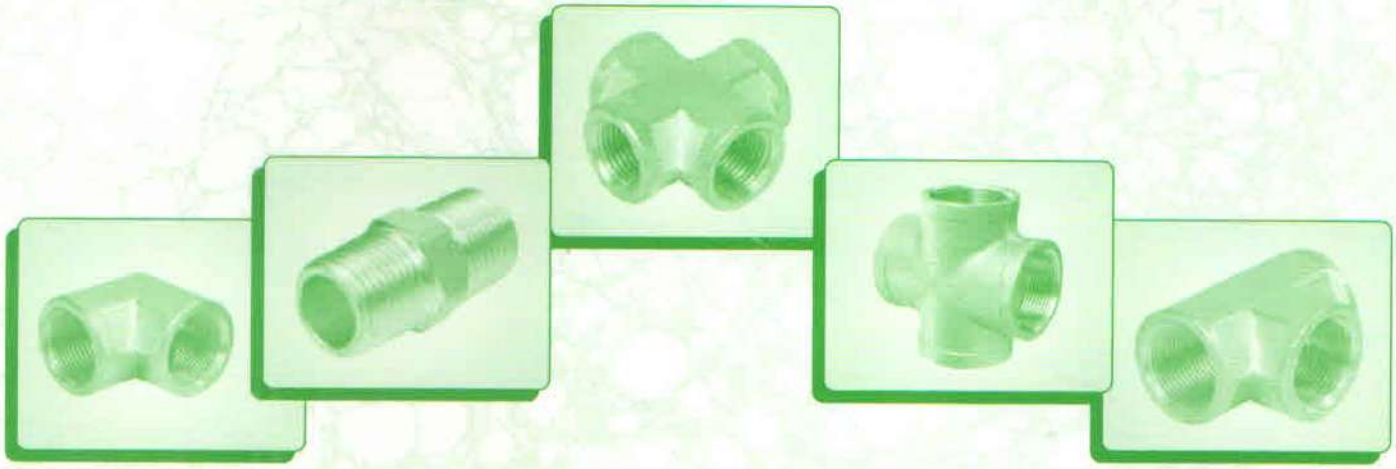
Seamless pipes - Dimension & Weight													
Nominal pipe size		OD											
Inches	mm	mm	Sch 20	Sch 30	Std. Weight	Sch 40	Extra Strong (XS)	Sch 60	Sch 80	Sch 100	Sch 120	Sch 140	Sch 160	Double Extra Strong (XXS)
⅛	6	10.30	-	1.45	1.73	1.73	2.41	-	2.42	-	-	-	-	-
			-	0.32	0.37	0.37	0.47	-	0.47	-	-	-	-	-
¼	8	13.70	-	1.85	2.24	2.24	3.02	-	3.02	-	-	-	-	-
			-	0.54	0.63	0.63	0.80	-	0.80	-	-	-	-	-
⅜	10	17.10	-	1.85	2.31		3.20	-	3.20	-	-	-	-	-
			-	0.70	0.84	0.84	1.10	-	1.10	-	-	-	-	-
½	15	21.30	-	2.41	2.77	2.77	3.73	-	3.73	-	-	-	4.78	7.47
			-	1.12	1.27	1.27	1.62	-	1.62	-	-	-	1.95	2.55
¾	20	26.70	-	2.41	2.87	2.87	3.91	-	3.91	-	-	-	5.56	7.82
			-	1.44	1.69	1.69	2.20	-	2.20	-	-	-	2.90	3.64
1	25	33.40	-	2.90	3.38	3.38	4.55	-	4.55	-	-	-	6.35	9.09
			-	2.18	2.50	2.50	3.24	-	3.24	-	-	-	4.24	5.45
11/4	32	42.20	-	2.97	3.56	3.56	4.85	-	4.85	-	-	-	6.35	9.70
			-	2.87	3.39	3.39	4.47	-	4.47	-	-	-	5.61	7.77
11/2	40	48.30	-	3.18	3.68	3.68	5.08	-	5.08	-	-	-	7.14	10.15
			-	3.53	4.05	4.05	5.41	-	5.41	-	-	-	7.25	9.55
2	50	60.30	-	3.18	3.91	3.91	5.54	-	5.54	-	-	-	8.74	11.07
			-	4.48	5.44	5.44	7.48	-	7.48	-	-	-	11.11	13.44
21/2	65	73.00	-	4.78	5.16	5.16	7.01	-	7.01	-	-	-	9.53	14.02
			-	8.04	8.63	8.63	11.41	-	11.41	-	-	-	14.92	20.39
3	80	80.90	-	4.78	5.49	5.49	7.62	-	7.62	-	-	-	11.13	15.24
			-	9.92	11.29	11.29	15.27	-	15.27	-	-	-	21.35	27.68
31/2	90	101.60	-	4.78	5.74	5.74	8.08	-	8.08	-	-	-	-	-
			-	11.41	13.57	13.57	18.64	-	18.64	-	-	-	-	-
4	100	114.30	-	4.78	6.02	6.02	8.56	-	8.56	-	11.13	-	13.49	17.12
			-	12.91	16.08	16.08	22.32	-	22.32	-	28.32	-	33.54	41.03
5	125	141.30	-	-	6.55	6.55	9.53	-	9.53	-	12.70	-	15.88	19.05
			-	-	21.77	21.77	30.97	-	30.97	-	40.28	-	49.12	57.43
6	150	168.30	-	-	7.11	7.11	10.97	-	10.97	-	14.27	-	18.26	21.95
			-	-	28.26	28.26	42.56	-	42.56	-	54.21	-	67.57	79.22
8	200	219.10	6.35	7.04	8.18	8.18	12.70	10.31	12.70	15.09	18.26	20.62	23.01	22.23
			33.32	36.82	42.55	42.55	64.64		64.64	75.92	90.44	100.93	111.27	107.93
10	250	273.00	6.35	7.80	9.27	9.27	12.70	12.70	15.09	18.26	21.44	25.40	28.58	25.40
			41.76	51.01	60.29	60.29	81.53	81.53	95.98	114.71	133.01	155.10	172.27	155.10
12	300	323.80	6.35	8.38	9.53	10.31	12.70	14.27	17.48	21.44	25.40	28.58	33.32	25.40
			49.72	65.19	73.86	79.71	97.44	108.93	132.05	159.87	186.92	208.08	238.69	186.92
14	350	355.60	7.92	9.53	9.53	11.13	12.70	15.09	19.05	23.83	27.79	31.75	35.71	-
			67.94	81.33	81.33	94.55	107.40	126.72	158.11	194.98	224.66	253.58	281.72	-
16	400	406.40	7.92	9.53	9.53	12.70	12.70	16.66	21.44	26.19	30.96	36.53	40.49	-
			77.86	93.27	93.27	123.31	123.31	160.12	203.54	245.50	286.62	333.11	365.30	-
18	450	457.00	7.92	11.13	9.53	14.27	12.70	19.05	23.83	29.36	34.93	39.67	45.24	-
			87.79	122.38	105.17	155.81	139.16	205.75	254.57	309.76	363.65	408.45	459.51	-
20	500	508.00	9.53	12.70	9.53	15.09	12.70	20.62	26.19	-	-	-	-	-
			117.15	155.13	117.15	183.43	155.13	247.84	311.19	-	-	-	-	-

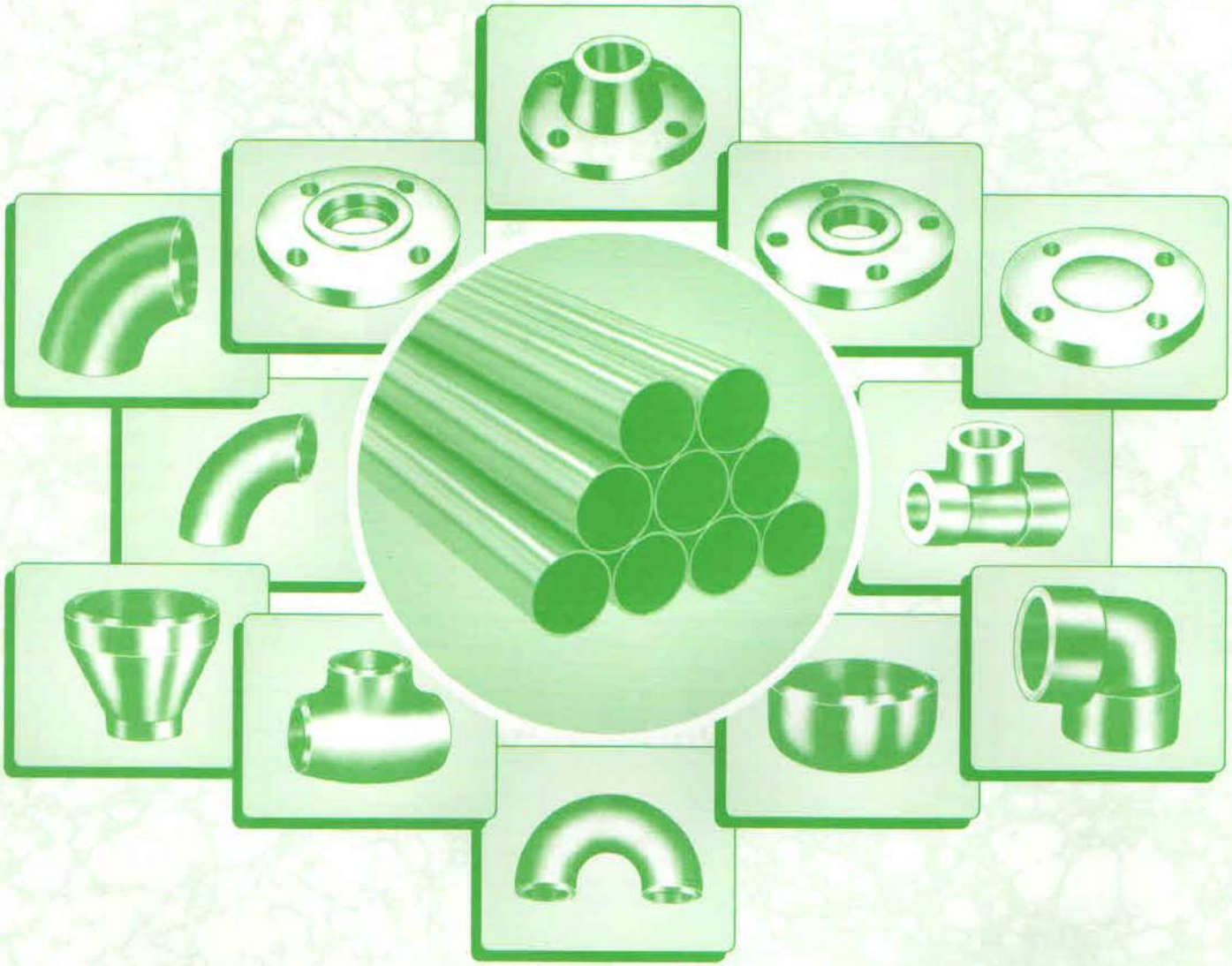
Tolerances	
Wall Thickness	Specifications conforming to
- 12.50%	ASTM : A-106 (Grade B), ASTM : A-53 (Grade B) & API 5L (Grade B)

Applications & Specifications

Applications	Specifications	Applications	Specifications
Oil and Gas Sector	API : 51, 5CT, 5DP	Mechanical, Structural & General Engineering	ASTM : A-500, A-501, A-519 DIN : 1629, 1630, 2391, 17100, 17200 BS : EN 10210-1, EN 10210-2, EN 10297 IS : 1161, 3601
Hydrocarbon & Process Industry	ASTM : A-53, A-333, A-334, A-335 BS : 3602 (Pt-1), 3603 IS : 6286		
Automotive Industry	ASTM : A-519 SAE : 1010, 1012, 1020, 1040, 1518, 4130 DIN : 2391, 1629 IS : 3601, 3074	Railways	IS : 1239 (Pt-I), 1161 RDSO : ETI/OHE/11
		Water Well	IS : 4270 ASTM : A-589
Boiler, Heater Exchanger, Superheater, Air Heater & Condenser	ASTM : A-106, A-178, A-179, A-192, A-209, A-210, A-213, A-214 BS : 3059 (Pt-1 & Pt-II), EN 10216 (Pt-1 & Pt-II), 3602 (Pt-1) IS : 11714 DIN : 17175	Hydraulic Cylinder	SAE : 1026, 1518 IS : 6631 DIN : 1629
Water & Sewage	IS : 1239 (Pt-I), 3589, IS 4270 BS : 1387 DIN : 2440, 2441	Bearing Industry	SAE 52100 DIN : 100 Cr6

MASIL INDUSTRIAL CORPORATION





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Branch Off : 5/79A, Sembudoss Street, Chennai - 600 001.
Sales Off : No. 17, Katchalaeeswarar Agraharam Street, (Facing at No. 30, Sembudoss Street), Chennai - 600 001.
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