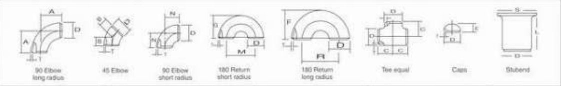
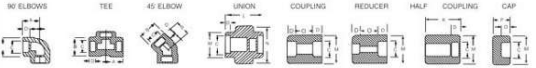
BUTTWELD FITTINGS DIMENSIONAL STANDARD ANSI B-16.9, B-16.28, MS SS P43



Nominal Pipe Size		Outside Diameter	Center to Face				Back to Face			Center to Center			Length 'L' MS SS P43	
Inch.	mm	D	A	B	C	N	E	F	G	R	M	S	L	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	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	64.0	184.0	140.0	267.0	178.0	140.0	76.2	152.4
4	100	114.3	152.0	63.0	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	89.0	313.0	237.0	457.0	305.0	216.0	88.9	203.2
8	200	219.1	305.0	127.0	178.0	203.0	102.0	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	127.0	515.0	391.0	762.0	508.0	324.0	127	254
12	300	323.9	457.0	190.0	254.0	303.0	152.0	619.0	467.0	914.0	610.0	381.0	152.4	254
14	350	355.6	533.0	222.0	279.0	356.0	165.0	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	178.0	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	203.0	914.0	686.0	1372.0	914.0	533.0	152.4	305.0
20	500	508	762.0	318.0	381.0	508.0	229.0	1016.0	762.0	1524.0	1016.0	584.0	152.4	305.0
22	550	559	838.0	343.0	419.0	559.0	254.0	1118.0	838.0	1676.0	1118.0	614.4	152.4	305.0
24	600	610	914.0	381.0	432.0	610.0	267.0	1219.0	914.0	1829.0	1219.0	692.0	152.4	305.0
26	650	660	991.0	406.0	495.0	660.0	267.0							
28	700	711	1067.0	438.0	521.0	771.0	267.0							
30	750	762	1143.0	470.0	589.0	762.0	267.0							
32	800	813	1219.0	502.0	597.0	813.0	267.0							
34	850	864	1295.0	533.0	635.0	864.0	267.0							
36	900	914	1372.0	565.0	673.0	914.0	267.0							

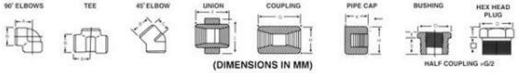
SOCKETWELD FITTINGS

SOCKET WELD FITTING TO ANSI B-16.11



NOM BORE	PIPE O.D.	3000 LBS.									COMMON FACTORS				6000 LBS.				
		A max.	B max.	K	J	L	M	N	P	Q	C min.	D min.	O min.	O max.	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	

FORGED SCREWED FITTING TO ANSI B-16.11 3000/6000 LBS.
THREADED TO ASA B 2.1



(DIMENSIONS IN MM)

NOM	PIPE	3000 L.B.S.						COMMON FACTORS						6000 L.B.S					
BORE	O.D.	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	65	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 AND OTHERS SPECIFICATIONS AS PER CUSTOMERS REQUIREMENTS ARE AVAILABLE ON REQUEST

ELBOW

Welding Fittings

ANSI B 16.9

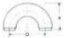
90° Long Radius Elbow

90° Reducing Long Radius Elbow

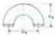
Cap

90° Short Radius Elbow

45° Long Radius Elbow

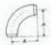


180° Extra Long Radius Return

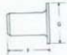


180° Short Radius Return

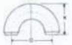
Nom. Pipe Size mm Dia. Nom.	A	B	D	E	O	K	Os	Ks
15	38	16	-	25	76	48	-	-
20	28	11	-	25	57	43	-	-
25	38	22	25	38	76	56	51	41
32	48	25	32	38	95	70	64	52
40	57	28	38	38	114	83	76	62
50	76	35	51	38	152	106	102	81
65	95	44	64	38	190	132	127	100
80	114	51	76	51	229	159	152	121
90	133	57	89	64	267	184	178	140
100	152	64	102	64	305	210	203	159
125	190	79	127	76	381	262	254	197
150	229	95	152	89	457	313	305	236
200	305	127	203	102	610	414	406	313
250	381	159	254	127	762	518	508	391
300	457	190	305	152	914	619	610	467
350	533	222	356	165	1067	711	711	533
400	610	254	406	178	1219	813	813	610
450	686	286	457	203	1372	914	914	686
500	762	318	508	229	1524	1016	1016	762
550	838	343	-	254	1676	1118	-	-
600	914	381	610	267	1829	1219	1219	914
650	991	06	-	267	1981	1321	-	-
700	1067	438	-	267	-	-	-	-
750	1143	470	762	267	2286	1524	1524	1143
800	1219	502	-	267	-	-	-	-
850	1295	533	-	267	-	-	-	-
900	1372	565	914	267	-	-	1829	1372
1100	1600	660	-	305	-	-	-	-
1200	1829	759	1219	343	-	-	-	-



90° Extra Long Radius Elbow

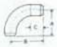


Lap Joint Stub End



180° Long Radius Return

45° Extra Long Radius Elbow



90° Long Radius Elbow with Long Tangent one End

Nom. Pipe Size mm Dia. Nom.	A	B	Nom. Pipe Size Dia. Nom.	F	G	Nom. Pipe Size Dia. Nom.	C	A	B	Nom. Pipe Size Dia. Nom.	O	K
50	152	64	15	76	35	40	25	57	83	25	102	67
80	229	95	20	76	43	50	32	76	108	32	127	84

100	305	127	25	102	51	65	32	95	127	40	152	100
150	457	190	32	102	64	80	32	114	146	50	203	132
200	610	254	40	102	73	90	38	133	171	65	254	164
250	762	318	50	152	92	100	38	152	190	-	-	-
300	914	381	65	152	105	125	38	190	229	-	-	-
350	1067	444	80	152	127	150	44	229	273	-	-	-
400	1219	505	90	152	140	200	44	305	349	-	-	-
450	1372	568	100	152	157	250	51	381	432	-	-	-
500	1524	632	125	203	186	300	64	457	521	-	-	-
550	1676	694	150	203	216	-	-	-	-	-	-	-
600	1829	757	200	203	270	-	-	-	-	-	-	-
650	1981	821	250	254	324	-	-	-	-	-	-	-
750	2286	946	300	254	381	-	-	-	-	-	-	-
850	2591	1073	350	305	413	-	-	-	-	-	-	-
900	2743	1137	400	305	470	-	-	-	-	-	-	-
1100	3200	1326	450	305	533	-	-	-	-	-	-	-
1200	3658	1516	500	305	584	-	-	-	-	-	-	-
-	-	-	550	305	641	-	-	-	-	-	-	-
-	-	-	600	305	692	-	-	-	-	-	-	-

Welding Fittings **ANSI B 16.9**

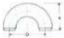
90° Long Radius Elbow

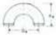
90° Reducing Long Radius Elbow

Cap

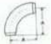
90° Short Radius Elbow

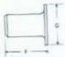
45° Long Radius Elbow

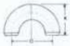

180° Extra Long Radius Return


180° Short Radius Return

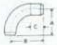
Nom. Pipe Size mm Dia. Nom.	A	B	D	E	O	K	Os	Ks
15	38	16	-	25	76	48	-	-
20	28	11	-	25	57	43	-	-
25	38	22	25	38	76	56	51	41
32	48	25	32	38	95	70	64	52
40	57	28	38	38	114	83	76	62
50	76	35	51	38	152	106	102	81
65	95	44	64	38	190	132	127	100
80	114	51	76	51	229	159	152	121
90	133	57	89	64	267	184	178	140
100	152	64	102	64	305	210	203	159
125	190	79	127	76	381	262	254	197
150	229	95	152	89	457	313	305	236
200	305	127	203	102	610	414	406	313
250	381	159	254	127	762	518	508	391
300	457	190	305	152	914	619	610	467
350	533	222	356	165	1067	711	711	533
400	610	254	406	178	1219	813	813	610
450	686	286	457	203	1372	914	914	686
500	762	318	508	229	1524	1016	1016	762
550	838	343	-	254	1676	1118	-	-
600	914	381	610	267	1829	1219	1219	914
650	991	06	-	267	1981	1321	-	-
700	1067	438	-	267	-	-	-	-
750	1143	470	762	267	2286	1524	1524	1143
800	1219	502	-	267	-	-	-	-
850	1295	533	-	267	-	-	-	-
900	1372	565	914	267	-	-	1829	1372
1100	1600	660	-	305	-	-	-	-
1200	1829	759	1219	343	-	-	-	-


90° Extra Long Radius Elbow


Lap Joint Stub End


180° Long Radius Return

45° Extra Long Radius Elbow


90° Long Radius Elbow with Long Tangent one End

Nom. Pipe Size mm Dia. Nom.	A	B	Nom. Pipe Size Dia. Nom.	F	G	Nom. Pipe Size Dia. Nom.	C	A	B	Nom. Pipe Size Dia. Nom.	O	K
50	152	64	15	76	35	40	25	57	83	25	102	67

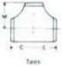
80	229	95	20	76	43	50	32	76	108	32	127	84
100	305	127	25	102	51	65	32	95	127	40	152	100
150	457	190	32	102	64	80	32	114	146	50	203	132
200	610	254	40	102	73	90	38	133	171	65	254	164
250	762	318	50	152	92	100	38	152	190	-	-	-
300	914	381	65	152	105	125	38	190	229	-	-	-
350	1067	444	80	152	127	150	44	229	273	-	-	-
400	1219	505	90	152	140	200	44	305	349	-	-	-
450	1372	568	100	152	157	250	51	381	432	-	-	-
500	1524	632	125	203	186	300	64	457	521	-	-	-
550	1676	694	150	203	216	-	-	-	-	-	-	-
600	1829	757	200	203	270	-	-	-	-	-	-	-
650	1981	821	250	254	324	-	-	-	-	-	-	-
750	2286	946	300	254	381	-	-	-	-	-	-	-
850	2591	1073	350	305	413	-	-	-	-	-	-	-
900	2743	1137	400	305	470	-	-	-	-	-	-	-
1100	3200	1326	450	305	533	-	-	-	-	-	-	-
1200	3658	1516	500	305	584	-	-	-	-	-	-	-
-	-	-	550	305	641	-	-	-	-	-	-	-
-	-	-	600	305	692	-	-	-	-	-	-	-

TEE

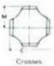
Conversion Table
Inch/Millimeter

ANSI B 16.9

Straight and
Reducing Outlet
Tees
Crosses



Tees



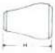
Crosses

Non. Pipe Size mm. Dia. Normal		Center to End of Run	Center to End of Branch	Nom. Pipe Size Nominal		Center to End of Run	Center to End of Branch
Run	Branch	C	M	Run	Branch	C	M
15	6	25	25	80	25	86	67
	10	25	25		32	86	70
	15	25	25		40	86	73
20	10	28	28		50	86	76
	15	28	28		65	86	83
	20	28	28		80	86	86
25	10	34	34	90	40	95	79
	15	34	34		50	95	83
	20	34	34		65	95	89
	25	34	34		80	95	92
32	15	48	48		90	95	95
	20	48	48	100	40	105	86
	25	48	48		50	105	89
	32	48	48		65	105	95
40	15	57	57		80	105	99
	20	57	57		90	105	12
	25	57	57		100	105	105
	32	57	57	125	50	124	105
	40	57	57		65	124	108
50	20	64	44		60	124	111
	25	64	51		90	124	114
	32	64	57		100	124	117
	40	64	60		125	124	124
	50	64	64	150	65	143	121
65	25	76	57		80	143	124
	32	76	64		90	143	127
	40	76	67		100	143	130
	50	76	70		125	143	137
	65	76	76		150	143	143

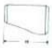
REDUCER

CONCENTRIC

ECCENTRIC



Concentric

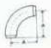


Eccentric

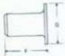
Nom. Pipe Size mm Dia. Nominal		H	Nom. Pipe Size Dia. Nominal		H	Nom. Pipe Size Dia. Nominal		H
Lg. End	sm. End		Lg. End	sm. End		Lg. End	sm. End	
20	10	38	90	32	102	250	100	178
	15	38		40	102		125	178
25	10	51		50	102		150	178
	15	51		65	102		200	178
	20	51		80	102	300	125	203
32	15	51	100	40	102		150	203
	20	51		50	102		200	203
	25	51		65	102		250	203
40	15	64		80	102	350	150	330
	20	64		90	102		200	330
	25	64	125	50	127		250	330
	32	64		65	127		300	330
50	20	76		80	127	400	200	356
	25	76		90	127		250	356
	32	76		100	127		300	356
	40	76	150	65	140		350	356
65	25	89		80	140	450	250	381
	32	89		90	140		300	381
	40	89		100	140		350	381
	50	89		125	140		400	381
80	32	89	200	90	152	500	300	508
	40	89		100	152		350	508
	50	89		125	152		400	508
	65	89		150	152		450	508

STUB END

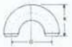
Stud Bend



90° Extra Long Radius Elbow

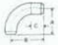


Lap Joint Stub End



180° Long Radius Return

45° Extra Long Radius Elbow



90° Long Radius Elbow with Long Tangent one End

Nom. Pipe Size mm Dia. Nom.	A	B	Nom. Pipe Size Dia. Nom.	F	G	Nom. Pipe Size Dia. Nom.	C	A	B	Nom. Pipe Size Dia. Nom.	O	K
50	152	64	15	76	35	40	25	57	83	25	102	67
80	229	95	20	76	43	50	32	76	108	32	127	84
100	305	127	25	102	51	65	32	95	127	40	152	100
150	457	190	32	102	64	80	32	114	146	50	203	132
200	610	254	40	102	73	90	38	133	171	65	254	164
250	762	318	50	152	92	100	38	152	190	-	-	-
300	914	381	65	152	105	125	38	190	229	-		