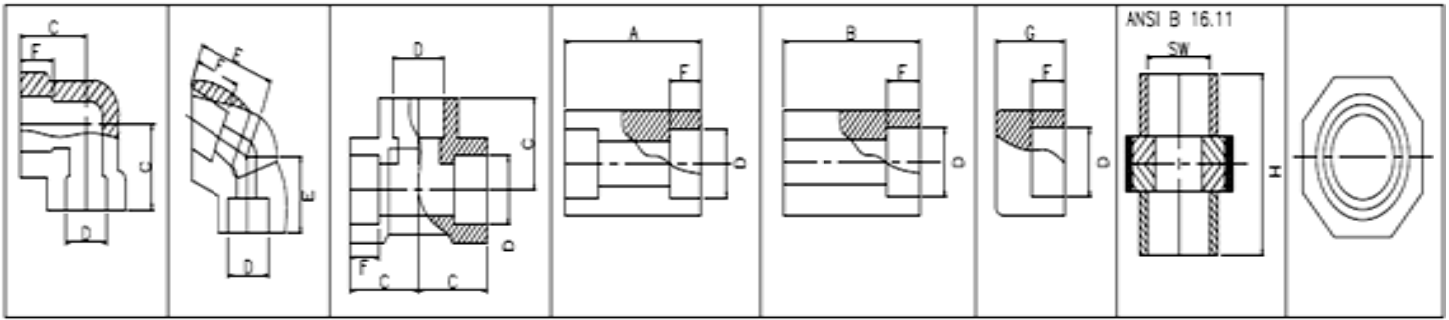


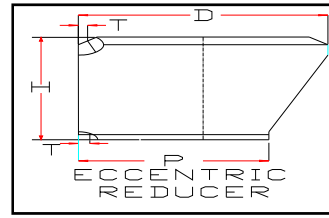
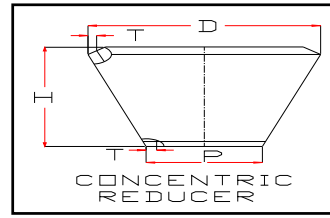
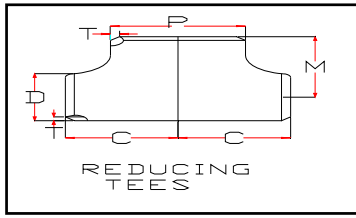
FORGED FLANGES																		
DIMENSIONAL STANDARD ANSI B 16.5																		
Nominal Pipe Size		Length Through Hub			Out side Dia of Flange	Flange Thk.	CLASS 150 lbs.					CLASS 300 lbs.						
							Length Through Hub			Drilling		Out side Dia of Flange	Flange Thk.	Length Through Hub			Drilling	
		Slip on Socket welding	Lapped	Welding Neck			Thrd. Slip-on & Socket Welding	Lapped	Welding Neck	Nos. & Dia of Bolt Holes	Bolt circle Dia			Thrd. Slip-on & Socket Welding	Lapped	Welding Neck	Nos. & Dia of Bolt Holes	Bolt Circle Dia
Inch	mm	B	D	E	A	C	F	G	H	P	A	C	F	G	H	P		
1/2	15	22.2	22.9	15.8	89	11.5	16	16	47.6	4-16	60.3	95	14.5	22	22	52.4	4-16	66.7
3/4	20	27.8	28.2	20.8	98	13.0	16	16	52.4	4-16	69.0	117	16.0	25	25	57.1	4-20	82.5
1	25	34.5	34.9	26.6	108	14.5	17	17	55.6	4-16	79.4	124	17.5	27	27	61.9	4-20	88.9
1.1/4	32	43.3	43.7	35.1	117	16.0	21	21	57.1	4-16	88.9	133	19.5	27	27	65.1	4-20	98.4
1.1/2	40	49.5	50.0	40.9	127	17.5	22	22	61.9	4-16	98.4	156	21.0	30	30	68.3	4-23	114.3
2	50	61.9	62.5	52.6	152	19.5	25	25	63.5	4-20	120.6	165	22.5	33	33	69.8	8-20	127.0
2.1/2	65	74.6	75.4	62.7	178	22.5	29	29	69.8	4-20	139.7	191	25.5	38	38	76.2	8-23	149.2
3	80	90.7	91.4	77.9	191	24.0	30	30	69.8	4-20	152.4	210	29.0	43	43	79.4	8-23	168.3
3.1/2	90	103.4	104.1	90.1	216	24.0	32	32	71.4	8-20	177.8	229	30.5	44	44	81.0	8-23	184.1
4	100	116.1	116.8	102.3	229	24.0	33	33	76.2	8-20	190.5	254	32.0	48	48	85.7	8-23	200.0
5	125	143.7	144.5	128.2	254	24.0	36	36	88.9	8-23	215.9	279	35.0	51	51	98.4	8-23	234.9
6	150	170.7	171.4	154.1	279	25.5	40	40	88.9	8-23	241.3	318	37.0	52	52	98.4	12-23	269.9
8	200	221.5	222.2	202.7	343	29.0	44	44	101.6	8-23	298.4	381	41.5	62	62	111.1	12-26	330.2
10	250	276.2	277.4	254.5	406	30.5	49	49	101.6	12-26	361.9	445	48.0	67	95	117.5	16-29	387.3
12	300	327.0	328.2	304.8	483	32.0	56	56	114.3	12-26	431.8	520	51.0	73	102	130.2	16-32	450.8
14	350	359.2	360.2		535	35.0	57	79	127.0	12-29	476.2	585	54.0	76	111	142.9	20-32	514.3
16	400	410.4	411.2		595	37.0	64	87	127.0	16-29	539.7	650	57.5	83	121	146.0	20-35	571.5
18	450	461.8	462.3		635	40.0	68	97	139.7	16-32	577.8	710	60.5	89	130	158.7	24-35	628.6
20	500	513.1	514.3		700	43.0	73	103	144.5	20-32	635.0	775	63.5	95	140	161.9	24-35	685.8
24	600	615.9	615.3		815	48.0	83	111	152.4	20-35	749.3	915	70.0	106	152	168.3	24-42	812.8

To be specified by purchase



ELBOW 90°	ELBOW 45°	EQUAL TEE	COUPLING	HALF COUPLING	CAP	UNION
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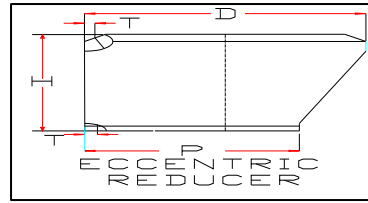
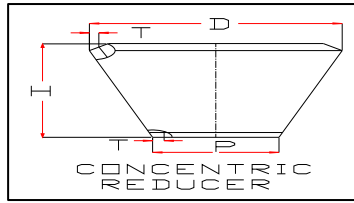
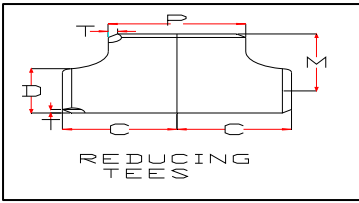
SOCKET-WELDING PIPE FITTINGS									
DIMENSIONAL STANDARD ANSI B 16.11									
Nominal Size		Socket Bore	Depth of Socket	Dimension		Centre to Face of Socket 3000 lbs		End to End 3000 lbs	
Inch	mm	D	F	A	B	C	E	G	H
1/8	6	10.8	9.7	25.7	25.4	20.8	17.5	14.5	-
1/4	8	14.2	9.7	25.7	25.4	20.8	17.5	14.5	35.0
3/8	10	17.7	9.7	25.7	27.2	23.1	17.5	14.5	41.0
1/2	15	21.8	9.7	28.9	32.0	25.4	20.8	16.0	54.0
3/4	20	27.2	12.7	35.1	36.6	31.8	25.4	19.1	60.0
1	25	33.9	12.7	38.1	41.2	35.1	26.9	22.4	70.0
1.1/4	32	42.7	12.7	38.1	42.9	39.6	30.3	22.4	80.0
1.1/2	40	48.8	12.7	38.1	44.5	44.5	33.3	23.9	88.0
2	50	61.2	15.7	50.5	56.9	53.8	41.1	28.4	91.0
2.1/2	65	74.0	15.7	50.5	58.7	56.9	44.2	31.5	-
3	80	90.0	15.7	50.5	60.2	72.9	47.5	34.8	-
4	100	115.6	15.7	57.2	66.8	85.6	60.2	41.4	-



**BUTT - WELDING PIPE FITTINGS
DIMENSIONAL STANDARD ANSI B 16.9**

Nominal Pipe Size		Outside Diameter		Centre to end		Length
Inch	mm	D	P	C	M	H
1/2X3/8	15X10	21.3	17.1	25	25	-
1/2X1/4	15X8	21.3	13.7	25	25	-
3/4X1/2	20X15	26.7	21.3	29	29	38
3/4X3/8	20X10	26.7	17.1	29	29	38
1X3/4	25X20	33.4	26.7	38	38	51
1X1/2	25X15	33.4	21.3	38	38	51
1 1/4X1	32X25	42.2	33.4	48	48	51
1 1/4X3/4	32X20	42.2	26.7	48	48	51
1 1/4X1/2	32X15	42.2	21.3	48	48	51
1 1/2X1 1/2	40X32	48.3	42.2	57	57	64
1 1/2X1	40X25	48.3	33.4	57	57	64
1 1/2X3/4	40X20	48.3	26.7	57	57	64
1 1/2X1/2	40X15	48.3	21.3	57	57	64
2X1 1/2	50X40	60.3	48.2	64	60	76
2X1 1/4	50X32	60.3	42.2	64	57	76
2X1	50X25	60.3	33.4	64	51	76
2X3/4	50X20	60.3	26.7	64	44	76
2 1/2X2	65X50	73	60.3	76	70	89
2 1/2X1 1/2	65X40	73	48.3	76	67	89
2 1/2X1 1/4	65X32	73	42.2	76	64	89
2 1/2X1	65X25	73	33.4	76	57	89
3X2 1/2	80X65	88.9	73	86	83	89
3X2	80X50	88.9	60.3	86	76	89
3X1 1/2	80X40	88.9	48.3	86	73	89
3X1 1/4	80X32	88.9	42.2	86	70	89
3 1/2X3	90X80	101.6	88.9	95	92	102
3 1/2X2 1/2	90X65	101.6	73	95	89	102
3 1/2X2	90X50	101.6	60.3	95	83	102
3 1/2X1 1/2	90X40	101.6	48.3	95	79	102
3 1/2X1 1/4	90X32	101.6	42.2	-	-	102
4X3 1/2	100X90	114.3	101.6	105	102	102
4X3	100X80	114.3	88.9	105	98	102
4X2 1/2	100X65	114.3	73	105	95	102
4X2	100X50	114.3	60.3	105	89	102
4X1 1/2	100X40	114.3	48.3	105	86	102
5X4	125X100	141.3	114.3	124	117	127
5X3 1/2	125X90	141.3	101.6	124	114	127
5X3	125X80	141.3	88.9	124	111	127
5X2 1/2	125X65	141.3	73	124	108	127
5X2	125X50	141.3	60.3	124	105	127
6x5	150x125	168.3	141.3	143	137	140
6x4	150x100	168.3	114.3	143	130	140
6 x3 1/2	150x90	168.3	101.6	143	127	140
6x3	150x80	168.3	88.9	143	124	140
6x2 1/2	150x65	168.3	73	143	121	140

Nominal Pipe Size		Outside Diameter		Centre to end		Length
Inch	mm	D	P	C	M	H
8x6	200x150	219.1	168.3	178	168	152
8x5	200x125	219.1	141.3	178	162	152
8x4	200x100	219.1	114.3	178	156	152
8x3 1/2	200x90	219.1	101.6	178	152	152
10x8	250x200	273.1	219.1	216	203	178
10x6	250x150	273.1	168.1	216	194	178
10x5	250x125	273.1	141.3	216	191	178
10x4	250x100	273.1	114.3	216	184	178
12x10	300x250	323.9	273.1	254	241	203
12x8	300x200	323.9	219.1	254	229	203
12x6	300x150	323.9	168.3	254	219	203
12x5	300x125	323.9	141.3	254	216	203
14x12	350x300	355.6	323.9	279	270	330
14x10	350x250	355.6	273.1	279	257	330
14x8	350x200	355.6	219.1	279	248	330
14x6	350x150	355.6	168.3	279	238	330
16x14	400x350	406.4	355.6	305	305	356
16x12	400x300	406.4	323.9	305	295	356
16x10	400x250	406.4	273.1	305	283	356
16x8	400x200	406.4	219.1	305	273	356
16x6	400x150	406.4	168.3	305	264	-
18x16	450x400	457	406.4	343	330	381
18x14	450x350	457	355.6	343	330	381
18x12	450x300	457	323.9	343	321	381
18x10	450x250	457	273.1	343	308	381
18x8	450x200	457	219.1	343	298	-
20x18	500x450	508	457	381	368	508
20x16	500x400	508	406.4	381	356	508
20x14	500x350	508	355.6	381	356	508
20x12	500x300	508	323.9	381	346	508
20x10	500x250	508	273.1	381	333	-
20x8	500x200	508	219.1	381	324	-
22x20	550x500	559	508	419	406	508
22x18	550x450	559	457	419	394	508
22x16	550x400	559	406	419	381	508
22x14	550x350	559	355.6	419	381	508
22x12	550x300	559	323.9	419	371	-
22x10	550x250	559	273.1	419	359	-
24x22	600x550	610	559	432	432	508
24x20	600x500	610	508	432	432	508
24x18	600x450	610	457	432	419	508
24x16	600x400	610	406.4	432	406	508
24x14	600x350	610	355.6	432	406	-
24x12	600x300	610	323.9	432	397	-
24x10	600x250	610	273.1	432	384	-

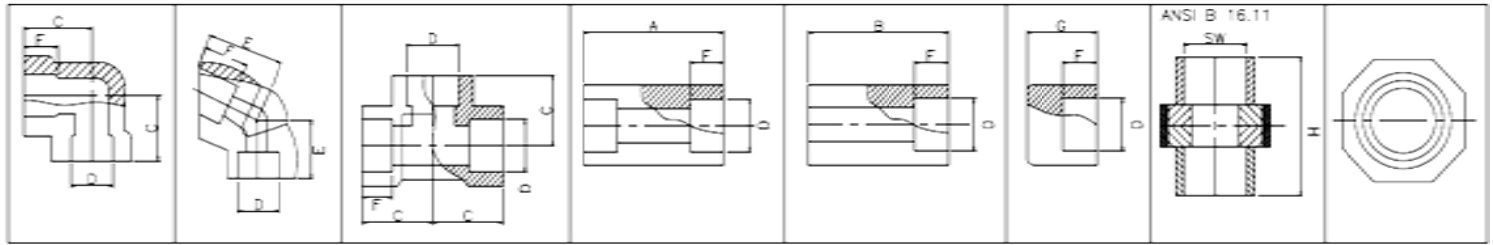


BUTT - WELDING PIPE FITTINGS

DIMENSIONAL STANDARD ANSI B 16.9

Nominal Pipe Size		Outside Diameter		Centre to end		Length
Inch	mm	D	P	C	M	H
1/2X3/8	15X10	21.3	17.1	25	25	-
1/2X1/4	15X8	21.3	13.7	25	25	-
3/4X1/2	20X15	26.7	21.3	29	29	38
3/4X3/8	20X10	26.7	17.1	29	29	38
1X3/4	25X20	33.4	26.7	38	38	51
1X1/2	25X15	33.4	21.3	38	38	51
1 1/4X1	32X25	42.2	33.4	48	48	51
1 1/4X3/4	32X20	42.2	26.7	48	48	51
1 1/4X1/2	32X15	42.2	21.3	48	48	51
1 1/2X1 1/2	40X32	48.3	42.2	57	57	64
1 1/2X1	40X25	48.3	33.4	57	57	64
1 1/2X3/4	40X20	48.3	26.7	57	57	64
1 1/2X1/2	40X15	48.3	21.3	57	57	64
2X1 1/2	50X40	60.3	48.2	64	60	76
2X1 1/4	50X32	60.3	42.2	64	57	76
2X1	50X25	60.3	33.4	64	51	76
2X3/4	50X20	60.3	26.7	64	44	76
2 1/2X2	65X50	73	60.3	76	70	89
2 1/2X1 1/2	65X40	73	48.3	76	67	89
2 1/2X1 1/4	65X32	73	42.2	76	64	89
2 1/2X1	65X25	73	33.4	76	57	89
3X2 1/2	80X65	88.9	73	86	83	89
3X2	80X50	88.9	60.3	86	76	89
3X1 1/2	80X40	88.9	48.3	86	73	89
3X1 1/4	80X32	88.9	42.2	86	70	89
3 1/2X3	90X80	101.6	88.9	95	92	102
3 1/2X2 1/2	90X65	101.6	73	95	89	102
3 1/2X2	90X50	101.6	60.3	95	83	102
3 1/2X1 1/2	90X40	101.6	48.3	95	79	102
3 1/2X1 1/4	90X32	101.6	42.2	-	-	102
4X3 1/2	100X90	114.3	101.6	105	102	102
4X3	100X80	114.3	88.9	105	98	102
4X2 1/2	100X65	114.3	73	105	95	102
4X2	100X50	114.3	60.3	105	89	102
4X1 1/2	100X40	114.3	48.3	105	86	102
5X4	125X100	141.3	114.3	124	117	127
5X3 1/2	125X90	141.3	101.6	124	114	127
5X3	125X80	141.3	88.9	124	111	127
5X2 1/2	125X65	141.3	73	124	108	127
5X2	125X50	141.3	60.3	124	105	127
6x5	150x125	168.3	141.3	143	137	140
6x4	150x100	168.3	114.3	143	130	140
6 x3 1/2	150x90	168.3	101.6	143	127	140
6x3	150x80	168.3	88.9	143	124	140
6x2 1/2	150x65	168.3	73	143	121	140

Nominal Pipe Size		Outside Diameter		Centre to end		Length
Inch	mm	D	P	C	M	H
8x6	200x150	219.1	168.3	178	168	152
8x5	200x125	219.1	141.3	178	162	152
8x4	200x100	219.1	114.3	178	156	152
8x3 1/2	200x90	219.1	101.6	178	152	152
10x8	250x200	273.1	219.1	216	203	178
10x6	250x150	273.1	168.1	216	194	178
10x5	250x125	273.1	141.3	216	191	178
10x4	250x100	273.1	114.3	216	184	178
12x10	300x250	323.9	273.1	254	241	203
12x8	300x200	323.9	219.1	254	229	203
12x6	300x150	323.9	168.3	254	219	203
12x5	300x125	323.9	141.3	254	216	203
14x12	350x300	355.6	323.9	279	270	330
14x10	350x250	355.6	273.1	279	257	330
14x8	350x200	355.6	219.1	279	248	330
14x6	350x150	355.6	168.3	279	238	330
16x14	400x350	406.4	355.6	305	305	356
16x12	400x300	406.4	323.9	305	295	356
16x10	400x250	406.4	273.1	305	283	356
16x8	400x200	406.4	219.1	305	273	356
16x6	400x150	406.4	168.3	305	264	-
18x16	450x400	457	406.4	343	330	381
18x14	450x350	457	355.6	343	330	381
18x12	450x300	457	323.9	343	321	381
18x10	450x250	457	273.1	343	308	381
18x8	450x200	457	219.1	343	298	-
20x18	500x450	508	457	381	368	508
20x16	500x400	508	406.4	381	356	508
20x14	500x350	508	355.6	381	356	508
20x12	500x300	508	323.9	381	346	508
20x10	500x250	508	273.1	381	333	-
20x8	500x200	508	219.1	381	324	-
22x20	550x500	559	508	419	406	508
22x18	550x450	559	457	419	394	508
22x16	550x400	559	406	419	381	508
22x14	550x350	559	355.6	419	381	508
22x12	550x300	559	323.9	419	371	-
22x10	550x250	559	273.1	419	359	-
24x22	600x550	610	559	432	432	508
24x20	600x500	610	508	432	432	508
24x18	600x450	610	457	432	419	508
24x16	600x400	610	406.4	432	406	508
24x14	600x350	610	355.6	432	406	-
24x12	600x300	610	323.9	432	397	-
24x10	600x250	610	273.1	432	384	-



SOCKET-WELDING PIPE FITTINGS

DIMENSIONAL STANDARD ANSI B 16.11

Nominal Size	Socket Bore	Depth of Socket	Dimension	Centre to Face of Socket 3000 lbs	End to End 3000 lbs
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Inch	mm	D	F	A	B	C	E	G	H
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1/8	6	10.8	9.7	25.7	25.4	20.8	17.5	14.5	-
1/4	8	14.2	9.7	25.7	25.4	20.8	17.5	14.5	35.0
3/8	10	17.7	9.7	25.7	27.2	23.1	17.5	14.5	41.0
1/2	15	21.8	9.7	28.9	32.0	25.4	20.8	16.0	54.0
3/4	20	27.2	12.7	35.1	36.6	31.8	25.4	19.1	60.0
1	25	33.9	12.7	38.1	41.2	35.1	26.9	22.4	70.0
1.1/4	32	42.7	12.7	38.1	42.9	39.6	30.3	22.4	80.0
1.1/2	40	48.8	12.7	38.1	44.5	44.5	33.3	23.9	88.0
2	50	61.2	15.7	50.5	56.9	53.8	41.1	28.4	91.0
2.1/2	65	74.0	15.7	50.5	58.7	56.9	44.2	31.5	-
3	80	90.0	15.7	50.5	60.2	72.9	47.5	34.8	-
4	100	115.6	15.7	57.2	66.8	85.6	60.2	41.4	-