

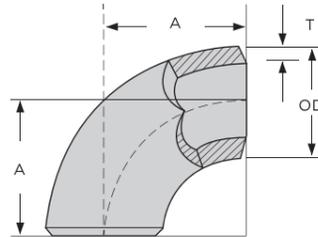


BRAND STEEL BUTTWELDING FITTING

* DIMENSIONAL TOLERANCES ANSI B16.9

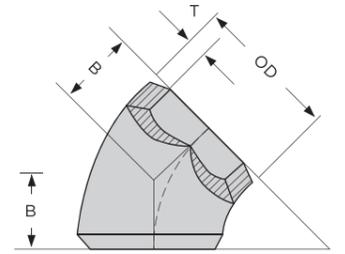
All Fitting				90 Deg Elbows and Tees	45 Deg Elbows and Tees	Reducers	Caps	90 Deg Elbows and Tees	
Nominal Pipe Size (inch)	Outside Diameter at Bevel D (mm)	Inside Diameter at End (mm)	Well Thickness t	Center to End Dimension ABCM (mm)	Overall Length FH (mm)	Overall Length E (mm)	Nominal Pipe Size (inch)	Augularity To off Angle Q	off Plane P
1/2 to 2 1/2	+1.524 -0.762	±0.762	Not less than 87.5% of nominal thickness	±1.524	±1.524	±3.048	1/2 to 4	0.762	1.524
3 to 4	±1.524	±1.524		±1.524	±1.524	±3.048	5 to 8	1.524	3.048
5 to 8	+2.286	±1.524		±1.524	±1.524	±6.350	10 to 12	2.286	4.826
10 to 18	-1.524 +4.064 -3.048	±3.048		±2.286	32.286	±6.350	14 to 16	2.286	9.652

90° ELBOWS LONG



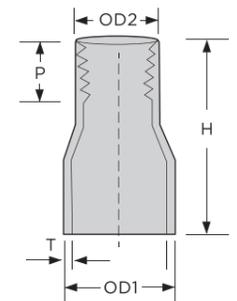
NOMINAL PIPE SIZE (inch)	OUTSIDE DIAMETER (mm)	WALL THICKNESS (mm)		APPROX WEIGHT (kg)
	OD	T	A	
1/2	21.33	2.77	38.10	0.08
3/4	26.67	2.87	38.10	0.11
1	33.40	3.38	38.10	0.15
1 1/4	42.16	3.56	47.62	0.26
1 1/2	48.26	3.68	57.15	0.37
2	60.33	3.91	76.20	0.65
2 1/2	73.03	5.16	95.25	1.36
3	88.90	5.49	114.30	2.02
3 1/2	101.60	5.74	133.35	2.82
4	114.30	6.02	152.40	3.82
5	141.30	6.55	190.50	6.48
6	168.30	7.11	228.60	9.94
8	219.10	8.18	304.80	20.20
10	273.10	9.30	381.00	35.40
12	323.90	10.30	457.20	56.20
14	355.60	11.10	533.40	78.50
16	406.40	12.70	609.60	117
18	457.20	14.30	685.80	168
20	508.00	15.10	762.00	214
24	609.60	17.10	914.40	365

90° ELBOWS LONG



NOMINAL PIPE SIZE (inch)	OUTSIDE DIAMETER (mm)	WALL THICKNESS (mm)		APPROX WEIGHT (kg)
	OD	T	B	
1/2	21.33	2.77	15.87	0.04
3/4	26.67	2.87	11.11	0.05
1	33.40	3.38	22.22	0.08
1 1/4	42.16	3.56	25.40	0.13
1 1/2	48.26	3.68	28.57	0.18
2	60.33	3.91	34.92	0.33
2 1/2	73.03	5.16	44.45	0.68
3	88.90	5.49	50.80	1.01
3 1/2	101.60	5.74	57.15	1.41
4	114.30	6.02	63.50	1.91
5	141.30	6.55	79.37	3.25
6	168.30	7.11	95.25	4.97
8	219.10	8.18	127.00	10.10
10	273.10	9.30	158.75	17.70
12	323.90	10.30	190.50	28.00
14	355.60	11.10	222.20	39.20
16	406.40	12.70	254.00	58.80
18	457.20	14.30	285.70	84.20
20	508.00	15.10	317.50	110.00
24	609.60	17.10	381.00	181.00

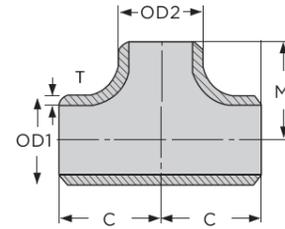
BRAND STEEL BUTTELDING FITTINGS



SPEC ANSI B 16.9

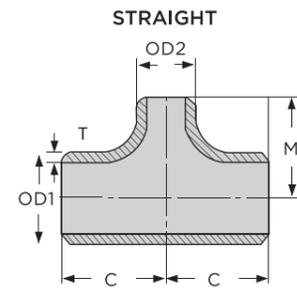
NOMINAL PIPE SIZE (inch)	REDUCERS (mm)						PIPE TAP	APPROX WEIGHT (kg)
	OD1	OD2	H	T	P			
1 x 1/2	33.40	26.00	50.80	3.50	18.00	1/2PT B'=14	0.10	
1 x 3/4	33.40	31.00	50.80	3.50	20.00	3/4PT B'=15	0.09	

TEES



NOMINAL PIPE SIZE (inch)	REDUCERS TEE (mm)					APPROX WEIGHT (kg)
	OD	ID	T	C	M	
1/2	21.33	15.79	2.77	25.40	25.40	0.08
3/4	26.67	20.93	2.87	28.57	28.57	0.13
1	33.40	26.64	3.38	38.10	38.10	0.23
1 1/4	42.16	35.04	3.58	47.62	47.62	0.39
1 1/2	48.26	40.90	3.68	57.15	57.15	0.56
2	60.33	52.51	3.91	63.50	60.32	0.81
2 1/2	73.03	62.71	5.16	73.03	69.85	1.59
3	88.90	77.92	5.49	85.72	82.55	2.20
3 1/2	101.60	90.12	5.74	95.25	92.07	2.88
4	114.30	102.26	6.02	104.77	98.42	3.74
5	141.30	128.20	6.55	123.82	117.48	5.86
6	168.30	154.08	7.11	142.87	136.52	8.58
8	219.10	202.74	8.18	177.80	168.27	15.90
10	273.10	254.50	9.30	215.90	215.90	26.80
12	323.90	303.30	10.30	254.00	254.00	41.50
14	355.60	333.40	11.10	279.40	279.40	54.60
16	406.40	381.00	12.70	304.80	304.80	76.10
18	457.20	428.60	14.30	342.90	342.90	109
20	508.00	477.80	15.10	381.00	381.00	142
24	609.60	575.40	17.10	431.80	431.80	185

TEES



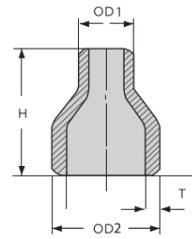
NOMINAL PIPE SIZE (inch)	REDUCERS TEES (mm)					APPROX WEIGHT (kg)
	OD1	OD2	T	C	M	
1/2 x 1/2 x 3/8	21.33	17.14	2.77	25.40	25.40	0.09
3/4 x 3/4 x 1/2	26.67	21.33	2.87	28.57	28.57	0.11
1 x 1 x 3/4	33.40	26.67	3.38	38.10	38.10	0.22
1 x 1 x 1/2	33.40	21.33	3.58	38.10	38.10	0.21
1 1/4 x 1 1/4 x 1	42.16	33.40	3.68	47.62	47.62	0.38
1 1/4 x 1 1/4 x 3/4	42.16	26.67	3.56	47.62	47.62	0.37
1 1/4 x 1 1/4 x 1/2	42.16	21.33	3.56	47.62	47.62	0.36
1 1/2 x 1 1/2 x 1 1/4	48.26	42.16	3.68	57.15	57.15	0.56
1 1/2 x 1 1/2 x 1	48.26	33.40	3.68	57.15	57.15	0.54
1 1/2 x 1 1/2 x 3/4	48.26	26.67	3.68	57.15	57.15	0.52

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TEES (Cont'd)

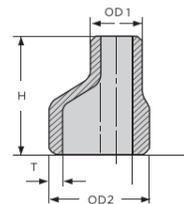
NOMINAL PIPE SIZE (inch)	REDUCERS TEES (mm)					APPROX WEIGHT (kg)
	OD1	OD2	T	C	M	
1 1/2 x 1 1/2 x 1/2	48.26	21.33	3.68	57.15	57.15	0.51
2 x 2 x 1 1/2	60.33	48.26	3.91	63.50	60.32	0.77
2 x 2 x 1 1/4	60.33	42.16	3.91	63.50	57.15	0.75
2 x 2 x 1	60.33	33.40	3.91	63.50	50.80	0.73
2 x 2 x 3/4	60.33	26.67	3.91	63.50	44.50	0.71
2 1/2 x 2 1/2 x 2	73.03	60.33	5.16	73.03	69.85	1.50
2 1/2 x 2 1/2 x 1 1/2	73.03	48.26	5.16	73.03	66.67	1.46
2 1/2 x 2 1/2 x 1 1/2	73.03	42.16	5.16	73.03	63.60	1.45
2 1/2 x 2 1/2 x 1	73.03	33.40	5.16	73.03	57.15	1.42
3 x 3 x 2 1/2	88.90	73.03	5.49	85.72	82.55	2.15
3 x 3 x 2	88.90	60.33	5.49	85.72	76.20	2.05
3 x 3 x 1 1/2	88.90	48.26	5.49	85.72	73.02	2.02
3 x 3 x 1 1/4	88.90	42.16	5.49	85.72	69.85	2.00
3 1/2 x 3 1/2 x 3	101.60	88.90	5.74	95.25	92.07	2.83
3 1/2 x 3 1/2 x 2 1/2	101.60	73.03	5.74	95.25	88.90	2.78
3 1/2 x 3 1/2 x 2	101.60	60.33	5.74	95.25	82.55	2.68
3 1/2 x 3 1/2 x 1 1/2	101.60	48.26	5.74	95.25	79.38	2.65
4 x 4 x 3	114.30	88.90	6.02	104.77	98.42	3.61
4 x 4 x 2 1/2	114.30	73.03	6.02	104.77	95.25	3.56
4 x 4 x 2	114.30	60.33	6.02	104.77	88.90	3.46
4 x 4 x 1 1/2	114.30	48.26	6.02	104.77	85.73	3.43
5 x 5 x 4	141.30	114.30	6.55	123.82	117.48	5.76
5 x 5 x 3 1/2	141.30	101.60	6.55	123.82	114.30	5.70
5 x 5 x 3	141.30	88.90	6.55	123.82	111.12	5.64
5 x 5 x 2 1/2	141.30	73.03	6.55	123.82	107.95	5.59
5 x 5 x 2	141.30	60.33	6.55	123.82	104.77	5.50
6 x 6 x 5	168.30	141.30	7.11	142.87	136.52	8.43
6 x 6 x 4	168.30	114.30	7.11	142.87	130.17	8.28
6 x 6 x 3 1/2	168.30	101.60	7.11	142.87	127.00	8.22
6 x 6 x 3	168.30	88.90	7.11	142.87	123.82	8.16
6 x 6 x 2 1/2	168.30	73.03	7.11	142.87	120.65	8.11
8 x 8 x 6	219.10	168.30	8.18	177.80	168.27	15.70
8 x 8 x 5	219.10	141.30	8.18	177.80	161.93	15.50
8 x 8 x 4	219.10	114.30	8.18	177.80	155.58	15.40
8 x 8 x 3 1/2	219.10	101.60	8.18	177.80	152.40	15.30
8 x 8 x 3	219.10	88.90	8.18	177.80	152.40	15.10
10 x 10 x 8	273.10	219.10	9.30	215.90	203.20	26.40
10 x 10 x 6	273.10	168.30	9.30	215.90	193.68	26.20
10 x 10 x 5	273.10	141.30	9.30	215.90	190.50	26.10
10 x 10 x 4	273.10	114.30	9.30	215.90	184.15	25.90
12 x 12 x 10	323.90	237.10	10.30	254.00	241.30	41.10
12 x 12 x 8	323.90	219.10	10.30	254.00	228.60	40.70
12 x 12 x 6	323.90	168.30	10.30	254.00	219.08	40.50
12 x 12 x 5	323.90	141.30	10.30	254.00	215.90	40.40
14 x 14 x 12	355.60	323.90	11.10	279.40	269.90	53.80
14 x 14 x 10	355.60	273.10	11.10	279.40	257.20	53.20
14 x 14 x 8	355.60	219.10	11.10	279.40	247.70	52.90
16 x 16 x 14	406.40	355.60	12.70	304.80	304.80	76.00
16 x 16 x 12	406.40	323.90	12.70	304.80	295.30	75.30
16 x 16 x 10	406.40	273.10	12.70	304.80	282.60	75.00
18 x 18 x 16	457.20	406.40	14.30	342.90	330.20	107
18 x 18 x 14	457.20	355.60	14.30	342.90	330.20	106
18 x 18 x 12	457.20	323.90	14.30	342.90	320.70	105
20 x 20 x 18	508.00	457.20	15.10	381.00	368.30	141
20 x 20 x 16	508.00	406.40	15.10	381.00	355.60	139
20 x 20 x 14	508.00	355.60	15.10	381.00	355.60	138
20 x 20 x 12	508.00	323.90	15.10	381.00	346.10	137
24 x 24 x 20	508.00	508.00	17.10	431.80	431.80	181
24 x 24 x 18	508.00	457.20	17.10	431.80	431.00	177

REDUCER CONCENTRIC



NOMINAL PIPE (inch)	REDUCERS (mm)				APPROX WEIGHT (kg)
	OD1	OD2	T	H	
1/2 x 3/8	21.33	17.14	2.77	38.10	0.05
3/4 x 1/2	26.67	21.33	2.87	38.10	0.60
1 x 3/8	33.40	17.14	3.38	50.80	0.09
1 x 1/2	33.40	21.33	3.38	50.80	0.11
1 x 3/4	33.40	26.67	3.38	50.80	0.10
1 1/4 x 3/4	42.16	26.67	3.56	50.80	0.15
1 1/4 x 1	42.16	33.40	3.56	50.80	0.16
1 1/2 x 3/4	48.26	26.67	3.68	63.50	0.18
1 1/2 x 1	48.26	33.40	3.68	63.50	0.21
1 1/2 x 1 1/4	48.26	42.16	3.68	63.50	0.24
2 x 1	60.33	33.40	3.91	73.03	0.30
2 x 1 1/4	60.33	42.16	3.91	73.03	0.34
2 x 1 1/2	60.33	48.26	3.91	73.03	0.36
2 1/2 x 1 1/4	73.03	42.16	5.16	88.90	0.53
2 1/2 x 1 1/2	73.03	48.26	5.16	88.90	0.57
2 1/2 x 2	73.03	60.33	5.16	88.90	0.64
3 x 1 1/4	88.90	42.16	5.49	88.90	0.63
3 x 1 1/2	88.90	48.26	5.49	88.90	0.65
3 x 2	88.90	60.33	5.49	88.90	0.72
3 x 2 1/2	88.90	73.03	5.49	88.90	0.91
3 1/2 x 1 1/2	101.60	48.26	5.74	101.60	1.08
3 1/2 x 2	101.60	60.33	5.74	101.60	1.10
3 1/2 x 2 1/2	101.60	73.03	5.74	101.60	1.14
3 1/2 x 3	101.60	88.90	5.74	101.60	1.26
4 x 2	114.30	60.33	6.02	101.60	1.02
4 x 2 1/2	114.30	73.03	6.02	101.60	1.26
4 x 3	114.30	88.90	6.02	101.60	1.36
4 x 3 1/2	114.30	101.60	6.02	101.60	1.49
5 x 2	141.30	60.33	6.55	127.00	1.80
5 x 2 1/2	141.30	73.03	6.55	127.00	1.89
5 x 3	141.30	88.90	6.55	127.00	2.05
5 x 4	141.30	114.30	6.55	127.00	2.38
6 x 2 1/2	168.30	73.03	7.11	139.70	2.58
6 x 3	168.30	88.90	7.11	139.70	2.62
6 x 4	168.30	114.30	7.11	139.70	3.00
6 x 5	168.30	141.30	7.11	139.70	3.43
8 x 4	219.10	114.30	8.18	152.40	4.22
8 x 5	219.10	141.30	8.18	152.40	4.91
8 x 6	219.10	168.30	8.18	152.40	5.26
10 x 5	273.10	141.30	9.30	177.80	6.39
10 x 6	273.10	168.30	9.30	177.80	7.48
10 x 8	273.10	219.10	9.30	177.80	8.94
12 x 6	323.90	168.30	10.30	203.20	10.20
12 x 8	323.90	219.10	10.30	203.20	12.00
12 x 10	323.90	273.10	10.30	203.20	13.90
14 x 8	355.60	219.10	11.10	330.20	21.70
14 x 10	355.60	273.10	11.10	330.20	25.00
14 x 12	355.60	323.90	11.10	330.20	28.30
16 x 10	406.40	273.10	12.70	355.60	31.40
16 x 12	406.40	323.90	12.70	355.60	35.50
18 x 12	457.20	323.90	14.30	381.00	43.40
18 x 14	457.20	355.60	14.30	381.00	46.90
18 x 16	457.20	406.40	14.30	381.00	53.00
20 x 12	508.00	355.60	15.10	508.00	69.00
20 x 16	508.00	406.40	15.10	508.00	77.00
20 x 18	508.00	457.20	15.10	508.00	86.20

ECCENTRIC



NOMINAL PIPE (inch)	REDUCERS (mm)				APPROX WEIGHT (kg)
	OD1	OD2	T	H	
1/2 x 3/8	21.33	17.14	2.77	2.77	0.05
3/4 x 1/2	26.67	21.33	2.87	2.87	0.60
1 x 3/8	33.40	17.14	3.38	3.38	0.09
1 x 1/2	33.40	21.33	3.38	3.38	0.11

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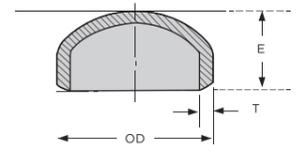
ECCENTRIC (Cont'd)

NOMINAL PIPE (inch)	REDUCERS (mm)				APPROX WEIGHT (kg)
	OD1	OD2	T	H	
1 x 3/4	33.40	26.67	3.38	50.80	0.10
1 1/4 x 3/4	42.16	26.67	3.56	50.80	0.15
1 1/4 x 1	42.16	33.40	3.56	50.80	0.16
1 1/2 x 3/4	48.26	26.67	3.68	63.50	0.18
1 1/2 x 1	48.26	33.40	3.68	63.50	0.21
1 1/2 x 1 1/4	48.26	42.16	3.68	63.50	0.24
2 x 1	60.33	33.40	3.91	73.03	0.30
2 x 1 1/4	60.33	42.16	3.91	73.03	0.34
2 x 1 1/2	60.33	48.26	3.91	73.03	0.36
2 1/2 x 1 1/4	73.03	42.16	5.16	88.90	0.53
2 1/2 x 1 1/2	73.03	48.26	5.16	88.90	0.57
2 1/2 x 2	73.03	60.33	5.16	88.90	0.64
3 x 1 1/4	88.90	42.16	5.49	88.90	0.63
3 x 1 1/2	88.90	48.26	5.49	88.90	0.65
3 x 2	88.90	60.33	5.49	88.90	0.72
3 x 2 1/2	88.90	73.03	5.49	88.90	0.91
3 1/2 x 1 1/2	101.60	48.26	5.74	101.60	1.08
3 1/2 x 2	101.60	60.33	5.74	101.60	1.10
3 1/2 x 2 1/2	101.60	73.03	5.74	101.60	1.14
3 1/2 x 3	101.60	88.90	5.74	101.60	1.26
4 x 2	114.30	60.33	6.02	101.60	1.02
4 x 2 1/2	114.30	73.03	6.02	101.60	1.26
4 x 3	114.30	88.90	6.02	101.60	1.36
4 x 3 1/2	114.30	101.60	6.02	101.60	1.49
5 x 2	141.30	60.33	6.55	127.00	1.80
5 x 2 1/2	141.30	73.03	6.55	127.00	1.89
5 x 3	141.30	88.90	6.55	127.00	2.05
5 x 4	141.30	114.30	6.55	127.00	2.38
6 x 2 1/2	168.30	73.03	7.11	139.70	2.58
6 x 3	168.30	88.90	7.11	139.70	2.62
6 x 4	168.30	114.30	7.11	139.70	3.00
6 x 5	168.30	141.30	7.11	139.70	3.43
8 x 4	219.10	114.30	8.18	152.40	4.22
8 x 5	219.10	141.30	8.18	152.40	4.91
8 x 6	219.10	168.30	8.18	152.40	5.26
10 x 5	273.10	141.30	9.30	177.80	6.39
10 x 6	273.10	168.30	9.30	177.80	7.48
10 x 8	273.10	219.10	9.30	177.80	8.94
12 x 6	323.90	168.30	10.30	203.20	10.20
12 x 8	323.90	219.10	10.30	203.20	12.00
12 x 10	323.90	273.10	10.30	203.20	13.90
14 x 8	355.60	219.10	11.10	330.20	21.70
14 x 10	355.60	273.10	11.10	330.20	25.00
14 x 12	355.60	323.90	11.10	330.20	28.30
16 x 10	406.40	273.10	12.70	355.60	31.40
16 x 12	406.40	323.90	12.70	355.60	35.50
18 x 12	457.20	323.90	14.30	381.00	43.40
18 x 14	457.20	355.60	14.30	381.00	46.90
18 x 16	457.20	406.40	14.30	381.00	53.00
20 x 12	508.00	355.60	15.10	508.00	69.00
20 x 16	508.00	406.40	15.10	508.00	77.00
20 x 18	508.00	457.20	15.10	508.00	86.20

CAPS



CAP แบบเชื่อมประสาน (เหล็กกล้าคาร์บอน)



SPEC : JIS B 2034 , 5-1977

NOMINAL PIPE (inch)	CAPS (mm)			SCH 40	
	OD	D	E	T	W
1/2	21.33	21.33	38.0	3.2	0.18
3/4	26.67	26.67	38.0	3.2	0.20
1	33.40	33.40	38.1	3.4	0.25
1 1/4	42.16	42.16	38.1	3.6	0.32
1 1/2	48.26	48.26	38.1	3.7	0.36
2	60.33	60.33	38.1	3.9	0.46
2 1/2	73.03	73.03	38.1	5.2	0.70
3	88.90	88.90	50.8	5.5	0.89
3 1/2	101.60	101.60	63.5	5.7	1.15
4	114.30	114.30	63.5	6.0	1.40
5	141.30	141.30	76.2	6.6	1.91
6	168.30	168.30	88.9	7.1	4.50
8	219.10	219.10	101.6	8.2	7.70
10	273.10	273.10	127.0	9.3	12.20
12	323.90	323.90	152.4	10.3	19.00
14	355.60	355.60	165.1	11.1	22.30
16	406.40	406.40	177.8	12.7	26.70
18	457.20	457.20	203.2	14.3	39.00
20	508.00	508.00	228.6	15.1	63.50
24	609.60	609.60	266.7	17.4	83.20