

PT CT Advance Technology

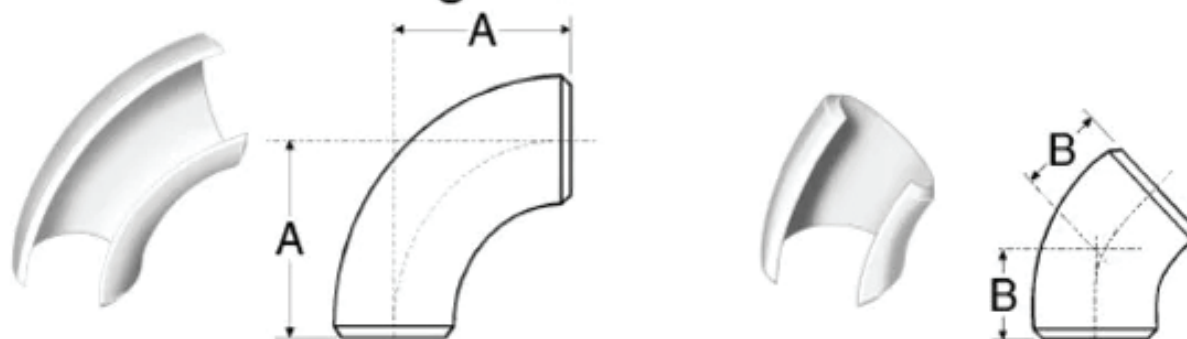
Seamless Line Pipe & Buttweld Fittings
Manufacture



CT ELBOW



90° and 45° Long Radius Elbows - ANSI B16.9



Dimensions (based on ASME/ANSI B16.9) and example weights for long radius elbows

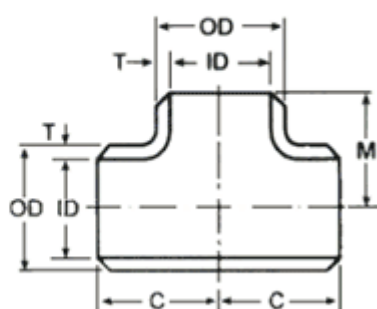
Nominal Pipe Size	Common		90° Elbow			45° Elbow		
	OD at Bevel 		Dimension A 		40S/STD ¹ 	Dimension B 		40S/STD ¹ 
	in	mm	in	mm	kg/piece	in	mm	kg/piece
1/2	0.84	21	1.50	38	0.08	0.62	16	0.04
3/4	1.05	27	1.50	38	0.10	0.75	19	0.05
1	1.32	33	1.50	38	0.15	0.88	22	0.07
1 1/4	1.66	42	1.88	48	0.25	1.00	25	0.12
1 1/2	1.90	48	2.25	57	0.36	1.12	29	0.18
2	2.38	60	3.00	76	0.65	1.38	35	0.32
2 1/2	2.88	73	3.75	95	1.29	1.75	44	0.64
3	3.50	89	4.50	114	2.02	2.00	51	1.01
3 1/2	4.00	102	5.25	133	2.83	2.25	57	1.41
4	4.50	114	6.00	152	3.84	2.50	64	1.92
5	5.56	141	7.50	190	6.51	3.12	79	3.25
6	6.62	168	9.00	229	10.1	3.75	95	5.05
8	8.62	219	12.00	305	20.3	5.00	127	10.15
10	10.75	273	15.00	381	36.0	6.25	159	18.0
12	12.75	324	18.00	457	53.0	7.50	190	26.5
14	14.00	356	21.00	533	68.0	8.75	222	34.0
16	16.00	406	24.00	610	89.2	10.00	254	44.6
18	18.00	457	27.00	686	113.0	11.25	286	56.5
20	20.00	508	30.00	762	140.0	12.50	318	70.0
22	22.00	559	33.00	838	170.0	13.50	343	85.0
24	24.00	610	36.00	914	202.0	15.00	381	101.0
26	26.00	660	39.00	991	241.4	16.00	406	120.5
28	28.00	711	42.00	1067	279.9	17.25	438	140.0
30	30.00	762	45.00	1143	321.3	18.50	470	160.5
32	32.00	813	48.00	1219	365.6	19.75	502	183.0
34	34.00	864	51.00	1295	-	21.00	533	-
36	36.00	914	54.00	1372	462.7	22.25	565	231.0
38	38.00	965	57.00	1448	-	23.62	600	-
40	40.00	1016	60.00	1524	571.3	24.88	632	285.5
42	42.00	1067	63.00	1600	629.8	26.00	660	315.0
44	44.00	1118	66.00	1676	-	27.38	695	-
46	46.00	1168	69.00	1753	-	28.62	727	-
48	48.00	1219	72.00	1829	-	29.88	759	-

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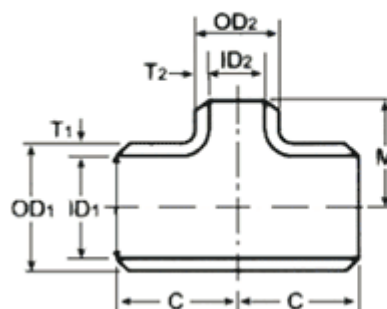
Seamless Line Pipe & Buttweld Fittings
Manufacture



CT TEE & REDUCER TEE



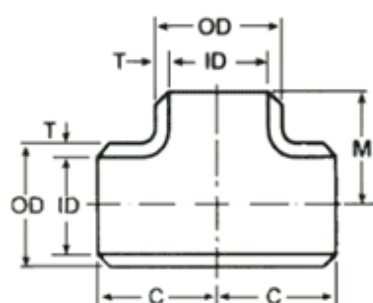
MSS SP-75 ANSI B16.9 (in mm)



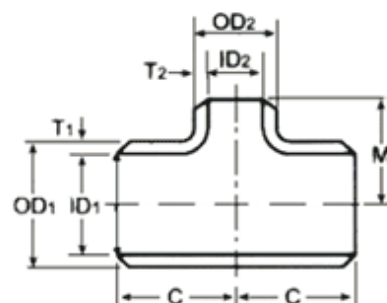
OI TEE

OI REDUCER TEE

Nominal Pipe Size (NPS)	Outside Diameter At Bevel D		Center to End		Nominal Pipe Size (NPS)	Outside Diameter At Bevel D		Center to End	
	Run	Outlet	Run C	Outlet (1) M		Run	Outlet	Run C	Outlet (1) M
1/2 x 1/2	21.3	21.3	25.4	25.4	4 x 4	114.3	114.3	104.6	104.6
1/2 x 3/8		17.1		25.4	4 x 3-1/2		101.6		101.6
1/2 x 1/4		13.7		25.4	4 x 3		88.9		98.6
3/4 x 3/4	26.7	26.7	28.4	28.4	4 x 2-1/2		73.0		95.2
3/4 x 1/2		21.3		28.4	4 x 2		60.3		88.9
3/4 x 3/8		17.1		28.4	4 x 1-1/2		48.3		85.9
1 x 1	33.4	33.4	38.1	38.1	4 x 1-1/4		42.2		
1 x 3/4		26.7		38.1	4 x 1*		33.5		
1 x 1/2		21.3		38.1	5 x 5	141.3	141.3	124.0	124.0
1-1/4 x 1-1/4	42.2	42.2	47.8	47.8	5 x 4		114.3		117.3
1-1/4 x 1		33.4		47.8	5 x 3-1/2		101.6		114.3
1-1/4 x 3/4		26.7		47.8	5 x 3		88.9		111.3
1-1/4 x 1/2		21.3		47.8	5 x 2-1/2		73.0		108.0
1-1/2 x 1-1/2	48.3	48.3	57.2	57.2	5 x 2		60.3		104.6
1-1/2 x 1-1/4		42.2		57.2	5 x 1-1/2*		48.3		
1-1/2 x 1		33.4		57.2	6 x 6	168.3	168.3	142.7	142.7
1-1/2 x 3/4		26.7		57.2	6 x 5		141.3		136.7
1-1/2 x 1/2		21.3		57.2	6 x 4		114.3		130.0
2 x 2	60.3	60.3	63.5	63.5	6 x 3-1/2		101.6		127.0
2 x 1-1/2		48.3		60.5	6 x 3		88.9		124.0
2 x 1-1/4		42.2		57.2	6 x 2-1/2		73.0		120.6
2 x 1		33.4		50.8	6 x 2*		60.3		
2 x 3/4		26.7		44.4	8 x 8	219.1	219.1	177.8	177.8
2 x 1/2*		21.3			8 x 6		168.3		168.1
2-1/2 x 2-1/2	73.0	73.0	76.2	76.2	8 x 5		141.3		162.1
2-1/2 x 2		60.3		69.8	8 x 4		114.3		155.4
2-1/2 x 1-1/2		48.3		66.5	8 x 3-1/2		101.6		152.4
2-1/2 x 1-1/4		42.2		63.5	8 x 3*		88.9		
2-1/2 x 1		33.4		57.2	10 x 10	273.1	273.1	215.9	215.9
3 x 3	88.9	88.9	85.9	85.9	10 x 8		219.1		203.2
3 x 2-1/2		73.0		82.6	10 x 6		168.3		193.5
3 x 2		60.3		76.2	10 x 5		141.3		190.5
3 x 1-1/2		48.3		73.2	10 x 4		114.3		184.2
3 x 1-1/4		42.2		69.8	12 x 12	323.9	323.9	254.0	254.0
3 x 1*		33.4			12 x 10		273.1		241.3
3-1/2 x 3-1/2	101.6	101.6	95.2	95.2	12 x 8		219.1		228.6
3-1/2 x 3		88.9		91.9	12 x 6		168.3		218.9
3-1/2 x 2-1/2		73.0		88.9	12 x 5		141.3		215.9
3-1/2 x 2		60.3		82.6					
3-1/2 x 1-1/2		48.3		79.2					



MSS SP-75 ANSI B16.9 (in mm)

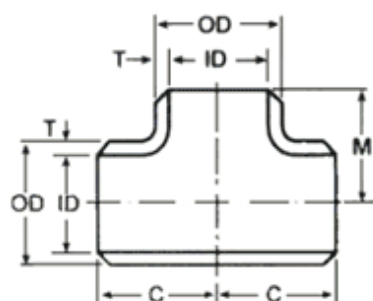


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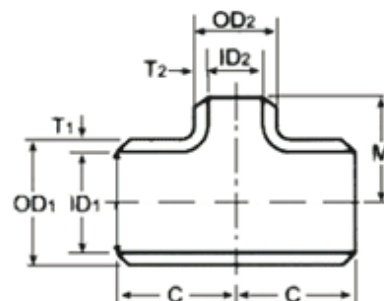
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Nominal Pipe Size (NPS)			Outside Diameter At Bevel D		Center to End	
			Run	Outlet	Run C	Outlet (1) M
14	x	14	355.6	355.6	279.4	279.4
14	x	12		323.9		269.7
14	x	10		273.1		257.0
14	x	8		219.1		247.6
14	x	6		168.3		238.3
16	x	16	406.4	406.4	304.8	304.8
16	x	14		355.6		304.8
16	x	12		323.9		295.1
16	x	10		273.1		282.4
16	x	8		219.1		373.0
16	x	6		168.3		263.7
18	x	18	457.2	457.2	342.9	342.9
18	x	16		406.4		330.2
18	x	14		355.6		330.2
18	x	12		323.9		320.5
18	x	10		273.1		307.8
18	x	8		219.1		298.4
20	x	20	508.0	508.0	381.0	381.0
20	x	18		457.2		369.3
20	x	16		406.4		355.6
20	x	14		355.6		355.6
20	x	12		323.9		345.9
20	x	10		273.1		333.2
20	x	8		219.1		323.8
22	x	22	558.8	558.8	419.1	419.1
22	x	20		508.0		406.4
22	x	18		457.2		393.7
22	x	16		406.4		381.0
22	x	14		355.6		381.0
22	x	12		323.9		371.3
22	x	10		273.1		358.6
24	x	24	609.6	609.6	431.8	431.8
24	x	22		558.8		431.8
24	x	20		508.0		431.8
24	x	18		457.2		419.1
24	x	16		406.4		406.4
24	x	14		355.6		406.4
24	x	12		323.9		396.7
24	x	10		273.1		384.0
26	x	26	660.4	660.4	495.3	495.3
26	x	24		609.6		482.6

Nominal Pipe Size (NPS)			Outside Diameter At Bevel D		Center to End	
			Run	Outlet	Run C	Outlet (1) M
26	x	22		558.8		469.9
26	x	20		508.0		457.2
26	x	18		457.2		444.5
26	x	16		406.4		431.8
26	x	14		355.6		431.8
26	x	12		323.1		422.1
28	x	28	711.2	711.2	520.7	520.7
28	x	26		660.4		520.7
28	x	24		609.6		508.0
28	x	22		558.8		495.3
28	x	20		508.0		482.6
28	x	18		457.2		469.9
28	x	16		406.4		457.2
28	x	14		355.6		457.2
28	x	12		323.1		447.5
30	x	30	762.0	762.0	558.8	558.8
30	x	28		711.2		546.1
30	x	26		660.4		546.1
30	x	24		609.6		533.4
30	x	22		558.8		520.7
30	x	20		508.0		508.0
30	x	18		457.2		495.3
30	x	16		406.4		482.6
30	x	14		355.6		482.6
30	x	12		323.9		472.6
30	x	10		273.1		460.2
32	x	32	812.8	812.8	596.9	596.9
32	x	30		762.0		584.2
32	x	28		711.2		571.5
32	x	26		660.4		571.5
32	x	24		609.6		558.8
32	x	22		558.8		546.1
32	x	20		508.0		533.4
32	x	18		457.2		520.7
32	x	16		406.4		508.0
32	x	14		355.6		508.0
34	x	34	863.6	863.6	635.0	635.0
34	x	32		812.8		622.3
34	x	30		762.0		609.6
34	x	28		711.2		596.9
34	x	26		660.4		596.9



MSS SP-75 ANSI B16.9 (in mm)

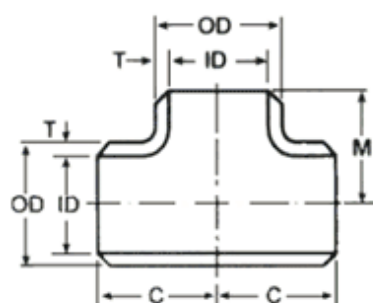


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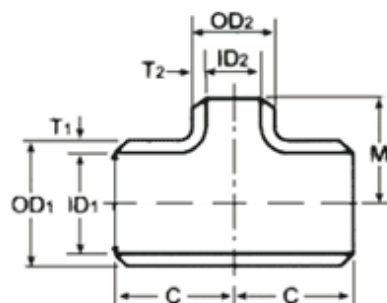
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Nominal Pipe Size (NPS)	Outside Diameter At Bevel D		Center to End	
	Run	Outlet	Run C	Outlet (1) M
34 x 24		609.6		584.2
34 x 22		558.8		571.5
34 x 20		508.0		558.8
34 x 18		457.2		546.1
34 x 16		406.4		533.4
36 x 36	914.4	914.4	673.1	673.1
36 x 34		863.6		660.4
36 x 32		812.8		647.7
36 x 30		762.0		635.0
36 x 28		711.2		622.3
36 x 26		660.4		622.3
36 x 24		609.6		609.6
36 x 22		558.8		596.9
36 x 20		508.0		584.2
36 x 18		457.2		571.5
36 x 16		406.4		558.8
38 x 38	965.2	965.2	711.2	711.2
38 x 36		914.4		711.2
38 x 34		863.6		698.5
38 x 32		812.8		685.8
38 x 30		762.0		673.1
38 x 28		711.2		647.7
38 x 26		660.4		647.7
38 x 24		609.6		635.0
38 x 22		558.8		622.3
38 x 20		508.0		609.6
38 x 18		457.2		596.9
40 x 40	1016.0	1016.0	749.3	749.3
40 x 38		965.2		749.3
40 x 36		914.4		736.6
40 x 34		863.6		723.9
40 x 32		812.8		711.2
40 x 30		762.0		698.5
40 x 28		711.2		673.1
40 x 26		660.4		673.1
40 x 24		609.6		660.4
40 x 22		558.8		647.7
40 x 20		508.0		635.0
40 x 18		457.2		622.3
42 x 42	1066.8	1066.8	762.0	711.2
42 x 40		1016.0		711.2

Nominal Pipe Size (NPS)	Outside Diameter At Bevel D		Center to End	
	Run	Outlet	Run C	Outlet (1) M
42 x 38		965.2		711.2
42 x 36		914.4		711.2
42 x 34		863.6		711.2
42 x 32		812.8		711.2
42 x 30		762.0		711.2
42 x 28	1066.8	711.2	762.0	698.5
42 x 26		660.4		698.5
42 x 24		609.6		660.4
42 x 22		558.8		660.4
42 x 20		508.0		660.4
42 x 18		457.2		647.7
42 x 16		406.4		635.0
44 x 44	1117.6	1117.6	812.8	762.0
44 x 42		1066.8		762.0
44 x 40		1016.0		749.3
44 x 38		965.2		736.6
44 x 36		914.4		723.9
44 x 34		863.6		723.9
44 x 32		812.8		711.2
44 x 30		762.0		711.2
44 x 28		711.2		698.5
44 x 26		660.4		698.5
44 x 24		609.6		698.5
44 x 22		558.8		685.8
44 x 20		508.0		685.8
46 x 46	1168.4	1168.4	850.9	800.1
46 x 44		1117.6		800.1
46 x 42		1066.8		787.4
46 x 40		1016.0		774.7
46 x 38		965.2		762.0
46 x 36		914.4		762.0
46 x 34		863.6		749.3
46 x 32		812.8		749.3
46 x 30		762.0		736.6
46 x 28		711.2		736.6
46 x 26		660.4		736.6
46 x 24		609.6		723.9
46 x 20*		508.0		723.9
48 x 48	1219.2	1219.2	889.0	838.2
48 x 46		1168.4		838.2
48 x 44		1117.6		838.2



MSS SP-75 ANSI B16.9 (in mm)



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Nominal Pipe Size (NPS)	Outside Diameter At Bevel D		Center to End		Nominal Pipe Size (NPS)	Outside Diameter At Bevel D		Center to End	
	Run	Outlet	Run C	Outlet (1) M		Run	Outlet	Run C	Outlet (1) M
48 x 42		1066.8		812.8	60 x 40*		1016.0		863.6
48 x 40		1016.0		812.8	60 x 28*		711.2		863.6
48 x 38		965.2		812.8	60 x 20*		508.0		863.6
48 x 36		914.4		787.4	64 x 64*	1626.0	1626.0	1194.0	1092.0
48 x 34		863.6		787.4	64 x 60*		1524.0		1067.0
48 x 32	1219.2	812.8	889.0	787.4	64 x 56*		1422.0		1016.0
48 x 44		1117.6		838.2	64 x 52*		1321.0		965.0
48 x 42		1066.8		812.8	64 x 48*		1219.0		914
48 x 40		1016.0		812.8	66 x 66*	1676.4	1676.4	1219.2	1066.8
48 x 38		965.2		812.8	68 x 68*	1727.0	1727.0	1270.0	1168.0
48 x 36		914.4		787.4	68 x 64*		1626.0		1143.0
48 x 34		863.6		787.4	68 x 60*		1524.0		1118.0
48 x 32		812.8		787.4	68 x 56*		1422.0		1067.0
48 x 30		762.0		762.0	68 x 52*		1321.0		1016.0
48 x 28		711.2		762.0	68 x 48*		1219.0		965.0
48 x 26		660.4		762.0	72 x 72*	1829.0	1829.0	1320.0	1245.0
48 x 24		609.6		736.6	72 x 68*		1727.0		1219.0
48 x 22		558.8		736.6	72 x 64*		1626.0		1194.0
52 x 52*	1320.8	1320.8	965.2	914.4	72 x 60*		1524.0		1168.0
52 x 48*		1219.2		863.6	72 x 56*	1829.0	1422.0	1320.0	1118.0
52 x 44*		1117.6		812.8	72 x 52*		1321.0		1067.0
52 x 40*		1016.0		762.0	72 x 48*		1219.0		1016.0
54 x 54*	1371.6	1371.6	1003.3	952.5	76 x 76*	1930.0	1930.0	1422.0	1320.0
54 x 52*		1320.8		914.4	76 x 72*		1829.0		1295.0
54 x 48*		1219.2		863.6	76 x 68*		1727.0		1270.0
54 x 44*		1117.6		863.6	76 x 64*		1626.0		1245.0
54 x 40*		1016.0		812.8	76 x 60*		1524.0		1219.0
54 x 28*		711.2		787.4	76 x 56*		1422.0		1168.0
54 x 20*		508.0		787.4	76 x 52*		1321.0		1118.0
56 x 56*	1422.4	1422.4	1041.4	965.2	76 x 48*		1219.0		1067.0
56 x 52*		1320.8		914.4	80 x 80*	2032.0	2032.0	1499.0	1397.0
56 x 48*		1219.2		863.6	80 x 76*		1930.0		1372.0
56 x 44*		1117.6		812.8	80 x 72*		1829.0		1346.0
56 x 40*		1016.0		812.8	80 x 68*		1727.0		1321.0
56 x 28*		711.2		812.8	80 x 64*		1626.0		1295.0
56 x 20*		508.0		812.8	80 x 60*		1524.0		1270.0
60 x 60*	1524.0	1524.0	1117.6	1016.0	80 x 56*		1422.0		1219.0
60 x 56*		1422.4		965.2	80 x 52*		1321.0		1168.0
60 x 52*		1320.8		914.4	80 x 48*		1219.0		1118.0
60 x 48*		1219.2		863.6					

(1) Outlet dimension "M" for run sizes 14 and larger is recommended but not mandatory.

PT CT Advance Technology

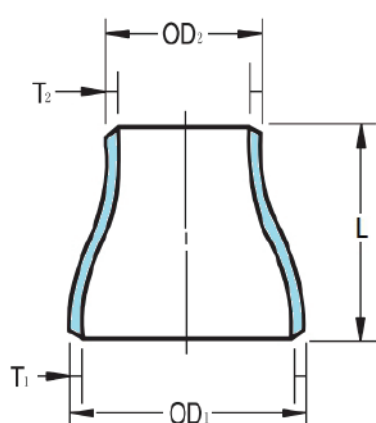
Seamless Line Pipe & Buttweld Fittings
Manufacture



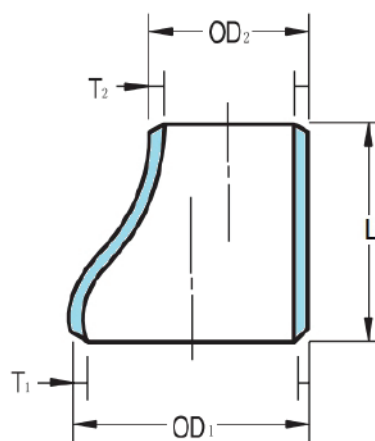
**CT CONCENTRIC
REDUCER**



**CT ECCENTRIC
REDUCER**



Concentric



Eccentric

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		End to End
	D1	D2	L
20 x 15	26.7	21.3	38.0
25 x 20	33.4	26.7	51.0
25 x 15	33.4	21.3	51.0
32 x 25	42.2	33.4	51.0
32 x 20	42.2	26.7	51.0
32 x 15	42.2	21.3	51.0
40 x 32	48.3	42.2	64.0
40 x 25	48.3	33.4	64.0
40 x 20	48.3	26.7	64.0
40 x 15	48.3	21.3	64.0
50 x 40	60.3	48.3	76.0
50 x 32	60.3	42.2	76.0
50 x 25	60.3	33.4	76.0
50 x 20	60.3	26.7	76.0
65 x 50	73.0	60.3	89.0
65 x 40	73.0	48.3	89.0
65 x 32	73.0	42.2	89.0
65 x 25	73.0	33.4	89.0
80 x 65	88.9	73.0	89.0
80 x 50	88.9	60.3	89.0
80 x 40	88.9	48.3	89.0
80 x 32	88.9	42.2	89.0
90 x 80	101.6	88.9	102.0
90 x 65	101.6	73.0	102.0
90 x 50	101.6	60.3	102.0
90 x 40	101.6	48.3	102.0
90 x 32	101.6	42.2	102.0
100 x 90	114.3	101.6	102.0
100 x 80	114.3	88.9	102.0
100 x 65	114.3	73.0	102.0
100 x 50	114.3	60.3	102.0
100 x 40	114.3	48.3	102.0
125 x 100	141.3	114.3	127.0
125 x 90	141.3	101.6	127.0
125 x 80	141.3	88.9	127.0

Nominal Pipe Size (NPS)	Outside Diameter at Bevel		End to End
	D1	D2	L
125 x 65	141.3	73.0	127.0
125 x 50	141.3	60.3	127.0
150 x 125	168.3	141.3	140.0
150 x 100	168.3	114.3	140.0
150 x 90	168.3	101.6	140.0
150 x 80	168.3	88.9	140.0
150 x 65	168.3	73.0	140.0
200 x 150	219.1	168.3	152.0
200 x 125	219.1	141.3	152.0
200 x 100	219.1	114.3	152.0
200 x 90	219.1	101.6	152.0
250 x 200	273.0	219.1	178.0
250 x 150	273.0	168.3	178.0
250 x 125	273.0	141.3	178.0
250 x 100	273.0	114.3	178.0
300 x 250	323.8	273.0	203.0
300 x 200	323.8	219.1	203.0
300 x 150	323.8	168.3	203.0
300 x 125	323.8	141.3	203.0
350 x 300	355.6	323.8	330.0
350 x 250	355.6	273.0	330.0
350 x 200	355.6	219.1	330.0
350 x 150	355.6	168.3	330.0
400 x 350	406.4	355.6	356.0
400 x 300	406.4	323.8	356.0
400 x 250	406.4	273.0	356.0
400 x 200	406.4	219.1	356.0
450 x 400	457.0	406.4	381.0
450 x 350	457.0	355.6	381.0
450 x 300	457.0	323.8	381.0
450 x 250	457.0	273.0	381.0
500 x 450	508.0	457.0	508.0
500 x 400	508.0	406.4	508.0
500 x 350	508.0	355.6	508.0
500 x 300	508.0	323.8	508.0



550 x 500	559.0	508.0	508.0
550 x 450	559.0	457.0	508.0
550 x 400	559.0	406.0	508.0
550 x 350	559.0	356.0	508.0
600 x 550	610.0	559.0	508.0
600 x 500	610.0	508.0	508.0
600 x 450	610.0	457.0	508.0
600 x 400	610.0	406.0	508.0
650 x 600	660.0	610.0	610.0
650 x 550	660.0	559.0	610.0
650 x 500	660.0	508.0	610.0
650 x 450	660.0	457.0	610.0
700 x 650	711.0	660.0	610.0
700 x 600	711.0	610.0	610.0
700 x 550	711.0	559.0	610.0
700 x 500	711.0	508.0	610.0
750 x 700	762.0	711.0	610.0
750 x 650	762.0	660.0	610.0
750 x 600	762.0	610.0	610.0
750 x 550	762.0	559.0	610.0
800 x 750	813.0	762.0	610.0
800 x 700	813.0	711.0	610.0
800 x 650	813.0	660.0	610.0
800 x 600	813.0	610.0	610.0
850 x 800	864.0	813.0	610.0
850 x 750	864.0	762.0	610.0
850 x 700	864.0	711.0	610.0
850 x 650	864.0	660.0	610.0

900 x 850	914	864.0	610.0
900 x 800	914	813.0	610.0
900 x 750	914	762.0	610.0
900 x 700	914	711.0	610.0
950 x 900	965.0	914.0	610.0
950 x 850	965.0	864.0	610.0
950 x 800	965.0	813.0	610.0
950 x 750	965.0	762.0	610.0
1000 x 950	1016.0	965.0	610.0
1000 x 900	1016.0	914.0	610.0
1000 x 850	1016.0	864.0	610.0
1000 x 800	1016.0	813.0	610.0
1050 x 1000	1067.0	1016.0	610.0
1050 x 950	1067.0	965.0	610.0
1050 x 900	1067.0	914.0	610.0
1050 x 850	1067.0	864.0	610.0
1100 x 1050	1118.0	1067.0	610.0
1100 x 1000	1118.0	1016.0	610.0
1100 x 950	1118.0	965.0	610.0
1100 x 900	1118.0	914.0	610.0
1150 x 1100	1168.0	1118.0	711.0
1150 x 1050	1168.0	1067.0	711.0
1150 x 1000	1168.0	1016.0	711.0
1150 x 950	1168.0	965.0	711.0
1200 x 1150	1220.0	1168.0	711.0
1200 x 1100	1220.0	1118.0	711.0
1200 x 1050	1220.0	1067.0	711.0
1200 x 1000	1220.0	1016.0	711.0