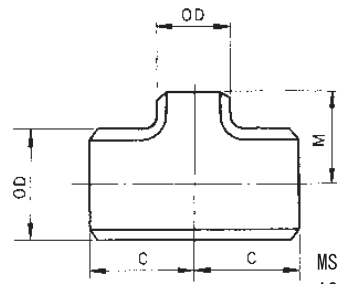
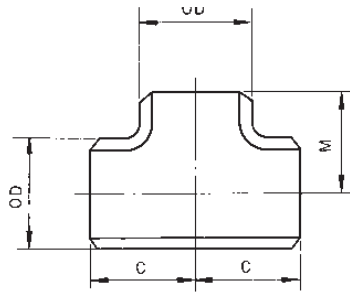

MSS SP-75
ASME B16.9

*Standard (mm)

Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD		Center-to-End		Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD		Center-to-End	
	Run	Outlet	Run C	Outlet(1) (2) M		Run	Outlet	Run C	Outlet(1) (2) M
1/2 x 1/2	21.3	21.3	25.4	25.4	5 x 5	141.3	141.3	124.0	124.0
3/8		17.3		25.4	4		114.3		117.3
1/4		13.7		25.4	3-1/2		101.6		114.3
3/4 x 3/4	26.7	26.7	28.4	28.4	3		88.9		111.3
1/2		21.3		28.4	2-1/2		73.0		108.0
3/8		17.3		28.4	2		60.3		104.6
1 x 1	33.4	33.4	38.1	38.1	1-1/2*		48.3		
3/4		26.7		38.1	6 x 6	168.3	168.3	142.7	142.7
1/2		21.3		38.1	5		141.3		136.7
1-1/4 x 1-1/4	42.2	42.2	47.8	47.8	4		114.3		130.0
1		33.4		47.8	3-1/2		101.6		127.0
3/4		26.7		47.8	3		88.9		124.0
1/2		21.3		47.8	2-1/2		73.0		120.6
1-1/2 x 1-1/2	48.3	48.3	57.2	57.2	2*		60.3		
1-1/4		42.2		57.2	8 x 8	219.1	219.1	177.8	177.8
1		33.4		57.2	6		168.3		168.1
3/4		26.7		57.2	5		141.3		162.1
1/2		21.3		57.2	4		114.3		155.4
2 x 2	60.3	60.3	63.5	63.5	3-1/2		101.6		152.4
1-1/2		48.3		60.5	3*		88.9		
1-1/4		42.2		57.2	10 x 10	273.1	273.1	215.9	215.9
1		33.4		50.8	8		219.1		203.2
3/4		26.7		44.4	6		168.3		193.5
1/2*		21.3			5		141.3		190.5
2-1/2 x 2-1/2	73.0	73.0	76.2	76.2	4		114.3		184.2
2		60.3		69.8	12 x 12	323.9	323.9	254.0	254.0
1-1/2		48.3		66.5	10		273.1		241.3
1-1/4		42.2		63.5	8		219.1		228.6
1		33.4		57.2	6		168.3		218.9
3 x 3	88.9	88.9	85.8	85.8	5		141.3		215.9
2-1/2		73.0		82.6	14 x 14	355.6	355.6	279.4	279.4
2		60.3		76.2	12		323.9		269.7
1-1/2		48.3		73.2	10		273.1		257.0
1-1/4		42.2		69.8	8		219.1		247.6
1*		33.4			6		168.3		238.3
3-1/2 x 3-1/2	101.6	101.6	95.2	95.2	16 x 16	406.4	406.4	304.8	304.8
3		88.9		91.9	14		355.6		304.8
2-1/2		73.0		88.9	12		323.9		295.1
2		60.3		82.6	10		273.1		282.4
1-1/2		48.3		79.2	8		219.1		373.0
4 x 4	114.3	114.3	104.6	104.6	6		168.3		263.7
3-1/2		101.6		101.6	18 x 18	457.2	457.2	342.9	342.9
3		88.9		98.6	16		406.4		330.2
2-1/2		73.0		95.2	14		355.6		330.2
2		60.3		88.9	12		323.9		320.5
1-1/2		48.3		85.8	10		273.1		307.8
1-1/4*		42.2			8		219.1		298.4
1*		33.5							

Note (1) Outlet dimension "M" for NPS 26 and larger is recommended but not required.



MSS SP-75
ASME B16.9

*Standard (mm)

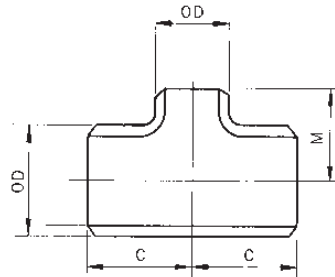
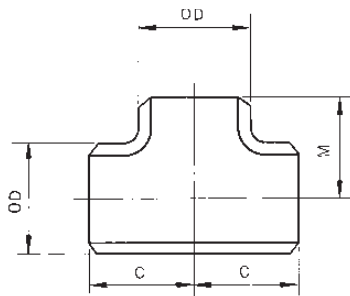
Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD		Center-to-End		Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD		Center-to-End	
	Run	Outlet	Run C	Outlet(1) (2) M		Run	Outlet	Run C	Outlet(1) (2) M
20 x 20	508.0	508.0	381.0	381.0	30 x 12	762.0	323.9	558.8	472.6
18		457.2		368.3	10		273.1		460.2
16		406.4		355.6	32 x 32	812.8	812.8	596.9	596.9
14		355.6		355.6	30		762.0		584.2
12		323.9		345.9	28		711.2		571.5
10		273.1		333.2	26		660.4		571.5
8		219.1		323.8	24		609.6		558.8
22 x 22	558.8	558.8	419.1	419.1	22		558.8		546.1
20		508.0		406.4	20		508.0		533.4
18		457.2		393.7	18		457.2		520.7
16		406.4		381.0	16		406.4		508.0
14		355.6		381.0	14		355.6		508.0
12		323.9		371.3	34 x 34	863.6	863.6	635.0	635.0
10		273.1		358.6	32		812.8		622.3
24 x 24	609.6	609.6	431.8	431.8	30		762.0		609.6
22		558.8		431.8	28		711.2		596.9
20		508.0		431.8	26		660.4		596.9
18		457.2		419.1	24		609.6		584.2
16		406.4		406.4	22		558.8		571.5
14		355.6		406.4	20		508.0		558.8
12		323.9		396.7	18		457.2		546.1
10		273.1		384.0	16		406.4		533.4
26 x 26	660.4	660.4	495.3	495.3	36 x 36	914.4	914.4	673.1	673.1
24		609.6		482.6	34		863.6		660.4
22		558.8		469.9	32		812.8		647.7
20		508.0		457.2	30		762.0		635.0
18		457.2		444.5	28		711.2		622.3
16		406.4		431.8	26		660.4		622.3
14		355.6		431.8	24		609.6		609.6
12		323.9		422.1	22		558.8		596.9
28 x 28	711.2	711.2	520.7	520.7	20		508.0		584.2
26		660.4		520.7	18		457.2		571.5
24		609.6		508.0	16		406.4		558.8
22		558.8		495.3	38 x 38	965.2	965.2	711.2	711.2
20		508.0		482.6	36		914.4		711.2
18		457.2		469.9	34		863.6		698.5
16		406.4		457.2	32		812.8		685.8
14		355.6		457.2	30		762.0		673.1
12		323.9		447.5	28		711.2		647.7
30 x 30	762.0	762.0	558.8	558.8	26		660.4		647.7
28		711.2		546.1	24		609.6		635.0
26		660.4		546.1	22		558.8		622.3
24		609.6		533.4	20		508.0		609.6
22		558.8		520.7	18		457.2		
20		508.0		508.0					
18		457.2		495.3					
16		406.4		482.6					
14		355.6		482.6					



BENKAN

Straight and Reducing Tees

BENKAN Butt-Welding Pipe Fittings Specification



MSS SP-75
ASME B16.9

*Standard (mm)

Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD		Center-to-End		Nominal Pipe Size (NPS)	Outside Diameter at Bevel OD		Center-to-End	
	Run	Outlet	Run C	Outlet(1) (2) M		Run	Outlet	Run C	Outlet(1) (2) M
40 x 40	1016.0	1016.0	749.3	749.3	46 x 26	1168.4	660.4	850.9	736.6
38		965.2		749.3	24		609.6		723.9
36		914.4		736.6	22		558.8		723.9
34		863.6		723.9	20*		508.0		723.9
32		812.8		711.2	48 x 48	1219.2	1219.2	889.0	838.2
30		762.0		698.5	46		1168.4		838.2
28		711.2		673.1	44		1117.6		838.2
26		660.4		673.1	42		1066.8		812.8
24		609.6		660.4	40		1016.0		812.8
22		558.8		647.7	38		965.2		812.8
20		508.0		635.0	36		914.4		787.4
18		457.2		622.3	34		863.6		787.4
42 x 42	1066.8	1066.8	762.0	711.2	32		812.8		787.4
40		1016.0		711.2	30		762.0		762.0
38		965.2		711.2	28		711.2		762.0
36		914.4		711.2	26		660.4		762.0
34		863.6		711.2	24		609.6		736.6
32		812.8		711.2	22		558.8		736.6
30		762.0		711.2	52 x 52*	1320.8	1320.8	965.2	914.4
28		711.2		698.5	48*		1219.2		863.6
26		660.4		698.5	44*		1117.6		812.8
24		609.6		660.4	40*		1016.0		762.0
22		558.8		660.4	54 x 54*	1371.6	1371.6	1003.3	952.5
20		508.0		660.4	52*		1320.8		914.4
18		457.2		647.7	48*		1219.2		863.6
16		406.4		635.0	44*		1117.6		863.6
44 x 44	1117.6	1117.6	812.8	762.0	40*		1016.0		812.8
42		1066.8		762.0	28*		711.2		787.4
40		1016.0		749.3	20*		508.0		787.4
38		965.2		736.6	56 x 56*	1422.4	1422.4	1041.4	965.2
36		914.4		723.9	52*		1320.8		914.4
34		863.6		723.9	48*		1219.2		863.6
32		812.8		711.2	44*		1117.6		812.8
30		762.0		711.2	40*		1016.0		812.8
28		711.2		698.5	28*		711.2		812.8
26		660.4		698.5	20*		508.0		812.8
24		609.6		698.5	60 x 60*	1524.0	1524.0	1117.6	1016.0
22		558.8		685.8	56*		1422.4		965.2
20		508.0		685.8	52*		1320.8		914.4
46 x 46	1168.4	1168.4	850.9	800.1	48*		1219.2		863.6
44		1117.6		800.1	40*		1016.0		863.6
42		1066.8		787.4	28*		711.2		863.6
40		1016.0		774.7	20*		508.0		863.6
38		965.2		762.0	66 x 66*	1676.4	1676.4	1219.2	1066.8
36		914.4		762.0					
34		863.6		749.3					
32		812.8		749.3					
30		762.0		736.6					
28		711.2		736.6					