



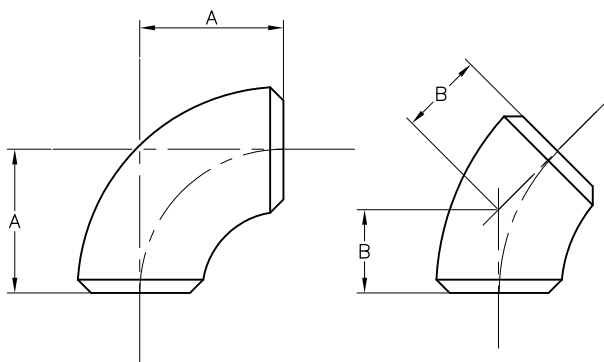
GROUP

PIPES, FITTINGS & FLANGES.
OUR TALENT

ASME B16.9

ASME B16.9

Dimensions of long radius elbows

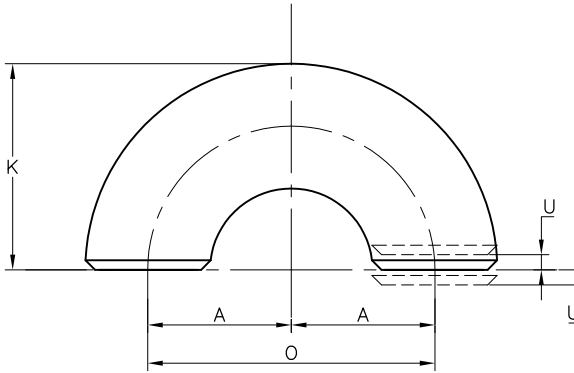


Nominal pipe size (NPS)	Outside diameter at bevel	Center-to-end	
		90-Deg elbows, A	45-Deg elbows, B
1/2	21,3	38	16
3/4	26,7	38	19
1	33,4	38	22
1 1/4	42,2	48	25
1 1/2	48,3	57	29
2	60,3	76	35
2 1/2	73,0	95	44
3	88,9	114	51
3 1/2	101,6	133	57
4	114,3	152	64
5	141,3	190	79
6	168,3	229	95
8	219,1	305	127
10	273,0	381	159
12	323,8	457	190
14	355,6	533	222
16	406,4	610	254
18	457,0	686	286
20	508,0	762	318
22	559,0	838	343
24	610,0	914	381
26	660,0	991	406
28	711,0	1067	438
30	762,0	1143	470
32	813,0	1219	502
34	864,0	1295	533
36	914,0	1372	565
38	965,0	1448	600
40	1016,0	1524	632
42	1067,0	1600	660
44	1118,0	1676	695
46	1168,0	1753	727
48	1219,0	1829	759

The values, unless otherwise indicated, are to be considered in millimeters

ASME B16.9

Dimensions of long radius elbows 180



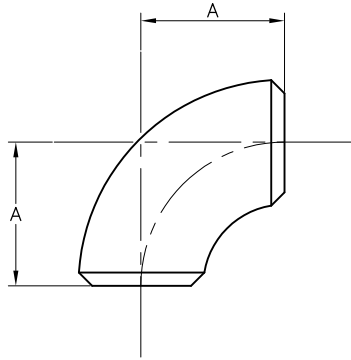
Nominal pipe size (NPS)	Outside diameter at bevel	Center-to-center, O	Back-to-face, K
1/2	21,3	76	48
3/4	26,7	76	51
1	33,4	76	56
1 1/4	42,2	95	70
1 1/2	48,3	114	83
2	60,3	152	106
2 1/2	73,0	190	132
3	88,9	229	159
3 1/2	101,6	267	184
4	114,3	305	210
5	141,3	381	262
6	168,3	457	313
8	219,1	610	414
10	273,0	762	518
12	323,8	914	619
14	355,6	1067	711
16	406,4	1219	813
18	457,0	1372	914
20	508,0	1524	1016
22	559,0	1676	1118
24	610,0	1829	1219
26	660,0	991	406
28	711,0	1067	438
30	762,0	1143	470
32	813,0	1219	502
34	864,0	1295	533
36	914,0	1372	565
38	965,0	1448	600
40	1016,0	1524	632
42	1067,0	1600	660
44	1118,0	1676	695
46	1168,0	1753	727
48	1219,0	1829	759

Note 1: See Table 13 of the standard for tolerance for alignment of ends U.

Note 2: Dimension A is equal to one-half of dimension O.

ASME B16.9

Dimensions of short radius elbows

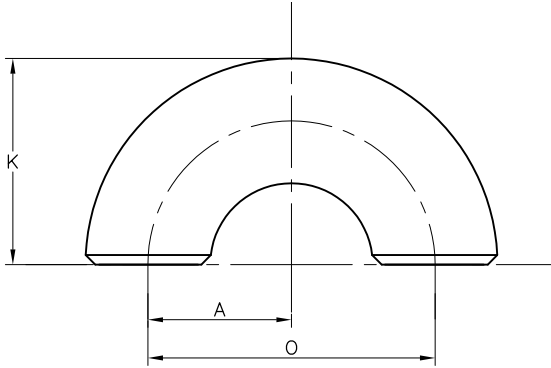


Nominal pipe size (NPS)	Outside diameter at bevel	Center-to-end, A
1	33,4	25
1 1/4	42,2	32
1 1/2	48,3	38
2	60,3	51
2 1/2	73,0	64
3	88,9	76
3 1/2	101,6	89
4	114,3	102
5	141,3	127
6	168,3	152
8	219,1	203
10	273,0	254
12	323,8	305
14	355,6	356
16	406,4	406
18	457,0	457
20	508,0	508
22	559,0	559
24	610,0	610

The values, unless otherwise indicated, are to be considered in millimeters

ASME B16.9

Dimensions of short radius elbows 180

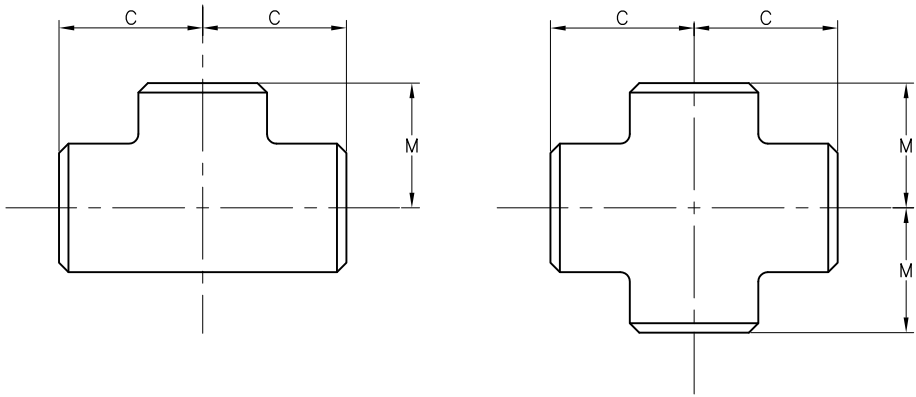


Nominal pipe size (NPS)	Outside diameter at bevel	Center-to-center, O	Back-to-face, K
1	33,4	51	41
1 1/4	42,2	64	52
1 1/2	48,3	76	62
2	60,3	102	81
2 1/2	73,0	127	100
3	88,9	152	121
3 1/2	101,6	178	140
4	114,3	203	159
5	141,3	254	197
6	168,3	305	237
8	219,1	406	313
10	273,0	508	391
12	323,8	610	467
14	355,6	711	533
16	406,4	813	610
18	457,0	914	686
20	508,0	1016	762
22	559,0	1118	838
24	610,0	1219	914

The values, unless otherwise indicated, are to be considered in millimeters

ASME B16.9

Dimensions of straight tees (tn)

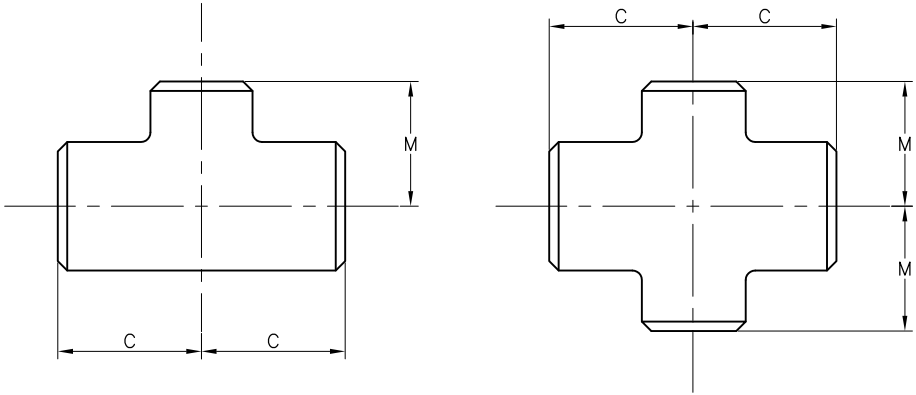


Nominal pipe size (NPS)	Outside diameter at bevel	Center-to-end	
		Run, C	Outlet, M (see note 1)
1/2	21,3	25	25
3/4	26,7	29	29
1	33,4	38	38
1 1/4	42,2	48	48
1 1/2	48,3	57	57
2	60,3	64	64
2 1/2	73,0	76	76
3	88,9	86	86
3 1/2	101,6	95	95
4	114,3	105	105
5	141,3	124	124
6	168,3	143	143
8	219,1	178	178
10	273,0	216	216
12	323,8	254	254
14	355,6	279	279
16	406,4	305	305
18	457,0	343	343
20	508,0	381	381
22	559,0	419	419
24	610,0	432	432
26	660,0	495	495
28	711,0	521	521
30	762,0	559	559
32	813,0	597	597
34	864,0	635	635
36	914,0	673	673
38	965,0	711	711
40	1016,0	749	749
42	1067,0	762	711
44	1118,0	813	862
46	1168,0	851	800
48	1219,0	889	838

Note 1: Outlet dimension M for NPS 26 and larger is recommended but not required

ASME B16.9

Dimensions of reducing outlet tees (tr)



Nominal pipe size (NPS)	Outside diameter at bevel		Center-to-end	
	Run	Outlet	Run, C	Outlet, M (see note 1)
1/2 x 3/8	21,3	17,3	25	25
1/2 x 1/4	21,3	13,7	25	25
3/4 x 1/2	26,7	21,3	29	29
3/4 x 3/8	26,7	17,3	29	29
1 x 3/4	33,4	26,7	38	38
1 x 1/2	33,4	21,3	38	38
1/4 x 1	42,2	33,4	48	48
1/4 x 3/4	42,2	26,7	48	48
1/4 x 1/2	42,2	21,3	48	48
1 1/2 x 1 1/4	48,3	42,2	57	57
1 1/2 x 1	48,3	33,4	57	57
1 1/2 x 3/4	48,3	26,7	57	57
1 1/2 x 1/2	48,3	21,3	57	57
2 x 1 1/2	60,3	48,3	64	60
2 x 1 1/4	60,3	42,2	64	57
2 x 1	60,3	33,4	64	51
2 x 3/4	60,3	26,7	64	44
2 1/2 x 2	73,0	60,3	76	70
2 1/2 x 1 1/2	73,0	48,3	76	67
2 1/2 x 1 1/4	73,0	42,2	76	64
2 1/2 x 1	73,0	33,4	76	57
3 x 2 1/2	88,9	73,0	86	83
3 x 2	88,9	60,3	86	76
3 x 1 1/2	88,9	48,3	86	73
3 x 1 1/4	88,9	42,2	86	70
3 1/2 x 3	101,6	88,9	95	92
3 1/2 x 2 1/2	101,6	73,0	95	89
3 1/2 x 2	101,6	60,3	95	83
3 1/2 x 1 1/2	101,6	48,3	95	79
4 x 3 1/2	114,3	101,6	105	102
4 x 3	114,3	88,9	105	98
4 x 2 1/2	114,3	73,0	105	95
4 x 2	114,3	60,3	105	89

The values, unless otherwise indicated, are to be considered in millimeters

ASME B16.9

Dimensions of reducing outlet tees (tr)

Nominal pipe size (NPS)	Outside diameter at bevel		Center- to-end	
	Run	Outlet	Run, C	Outlet, M (see note 1)
4 x 1 1/2	114,3	48,3	105	86
5 x 4	141,3	114,3	124	117
5 x 3 1/2	141,3	101,6	124	114
5 x 3	141,3	88,9	124	111
5 x 2 1/2	141,3	73,0	124	108
5 x 2	141,3	60,3	124	105
6 x 5	168,3	141,3	143	137
6 x 4	168,3	114,3	143	130
6 x 3 1/2	168,3	101,6	143	127
6 x 3	168,3	88,9	143	124
6 x 2 1/2	168,3	73,0	143	121
8 x 6	219,1	168,3	178	168
8 x 5	219,1	141,3	178	162
8 x 4	219,1	114,3	178	156
8 x 3 1/2	219,1	101,6	178	152
10 x 8	273,0	219,1	216	203
10 X 6	273,0	168,3	216	194
10 X 5	273,0	141,3	216	191
10 X 4	273,0	114,3	216	184
12 X 10	323,8	273,0	254	241
12 X 8	323,8	219,1	254	229
12 X 6	323,8	168,3	254	219
12 X 5	323,8	141,3	254	216
14 X 12	355,6	323,8	279	270
14 X 10	355,6	273,0	279	257
14 X 8	355,6	219,1	279	248
14 X 6	355,6	168,3	279	238
16 X 14	406,4	355,6	305	305
16 X 12	406,4	323,8	305	295
16 X 10	406,4	273,0	305	283
16 X 8	406,4	219,1	305	273
16 X 6	406,4	168,3	305	264
18 X 16	457,0	406,4	343	330
18 X 14	457,0	355,6	343	330
18 X 12	457,0	323,8	343	321
18 X 10	457,0	273,0	343	308
18 X 8	457,0	219,1	343	298
20 X 18	508,0	457,0	381	368
20 X 16	508,0	406,4	381	356
20 X 14	508,0	355,6	381	356
20 X 12	508,0	323,8	381	346
20 X 10	508,0	273,0	381	333
20 X 8	508,0	219,1	381	324
22 X 20	559,0	508,0	419	406
22 X 18	559,0	457,0	419	394
22 X 16	559,0	406,4	419	381
22 X 14	559,0	355,6	419	381
22 X 12	559,0	323,8	419	371

ASME B16.9

Dimensions of reducing outlet tees (tr)

Nominal pipe size (NPS)	Outside diameter at bevel		Center- to-end	
	Run	Outlet	Run, C	Outlet, M (see note 1)
22 X 10	559,0	273,0	419	359
24 X 22	610,0	559,0	432	432
24 X 20	610,0	508,0	432	432
24 X 18	610,0	457,0	432	419
24 X 16	610,0	406,4	432	406
24 X 14	610,0	355,6	432	406
24 X 12	610,0	323,8	432	397
24 X 10	610,0	273,0	432	384
26 X 24	660,0	610,0	495	483
26 X 22	660,0	559,0	495	470
26 X 20	660,0	508,0	495	457
26 X 18	660,0	457,0	495	444
26 X 16	660,0	406,4	495	432
26 X 14	660,0	355,6	495	432
26 X 12	660,0	323,8	495	422
28 X 26	711,0	660,0	521	521
28 X 24	711,0	610,0	521	508
28 X 22	711,0	559,0	521	495
28 X 20	711,0	508,0	521	483
28 X 18	711,0	457,0	521	470
28 X 16	711,0	406,4	521	457
28 X 14	711,0	355,6	521	457
28 X 12	711,0	323,8	521	448
30 X 28	762,0	711,0	559	546
30 X 26	762,0	660,0	559	546
30 X 24	762,0	610,0	559	533
30 X 22	762,0	559,0	559	521
30 X 20	762,0	508,0	559	508
30 X 18	762,0	457,0	559	495
30 X 16	762,0	406,4	559	483
30 X 14	762,0	355,6	559	483
30 X 12	762,0	323,8	559	473
30 X 10	762,0	273,0	559	460
32 X 30	813,0	762,0	597	584
32 X 28	813,0	711,0	597	572
32 X 26	813,0	660,0	597	572
32 X 24	813,0	610,0	597	559
32 X 22	813,0	559,0	597	546
32 X 20	813,0	508,0	597	533
32 X 18	813,0	457,0	597	521
32 X 16	813,0	406,4	597	508
32 X 14	813,0	355,6	597	508
34 X 32	864,0	813,0	635	622
34 X 30	864,0	762,0	635	610
34 X 28	864,0	711,0	635	597
34 X 26	864,0	660,0	635	597
34 X 24	864,0	610,0	635	584
34 X 22	864,0	559,0	635	572

ASME B16.9

Dimensions of reducing outlet tees (tr)

Nominal pipe size (NPS)	Outside diameter at bevel		Center- to-end	
	Run	Outlet	Run, C	Outlet, M (see note 1)
34 X 20	864,0	508,0	635	559
34 X 18	864,0	457,0	635	546
34 X 16	864,0	406,4	635	533
36 X 34	914,0	864,0	673	660
36 X 32	914,0	813,0	673	648
36 X 30	914,0	762,0	673	635
36 X 28	914,0	711,0	673	622
36 X 26	914,0	660,0	673	622
36 X 24	914,0	610,0	673	610
36 X 22	914,0	559,0	673	597
36 X 20	914,0	508,0	673	584
36 X 18	914,0	457,0	673	572
36 X 16	914,0	406,4	673	559
38 X 36	965,0	914,0	711	711
38 X 34	965,0	864,0	711	698
38 X 32	965,0	813,0	711	686
38 X 30	965,0	762,0	711	673
38 X 28	965,0	711,0	711	648
38 X 26	965,0	660,0	711	648
38 X 24	965,0	610,0	711	635
38 X 22	965,0	559,0	711	622
38 X 20	965,0	508,0	711	610
38 X 18	965,0	457,0	711	597
40 X 38	1016,0	965,0	749	749
40 X 36	1016,0	914,0	749	737
40 X 34	1016,0	864,0	749	724
40 X 32	1016,0	813,0	749	711
40 X 30	1016,0	762,0	749	698
40 X 28	1016,0	711,0	749	673
40 X 26	1016,0	660,0	749	673
40 X 24	1016,0	610,0	749	660
40 X 22	1016,0	559,0	749	648
40 X 20	1016,0	508,0	749	635
40 X 18	1016,0	457,0	762	622
42 X 40	1067,0	1016,0	762	711
42 X 38	1067,0	968,0	762	711
42 X 36	1067,0	914,0	762	711
42 X 34	1067,0	864,0	762	711
42 X 32	1067,0	813,0	762	711
42 X 30	1067,0	762,0	762	711
42 X 28	1067,0	711,0	762	698
42 X 26	1067,0	660,0	762	698
42 X 24	1067,0	610,0	762	660
42 X 22	1067,0	559,0	762	660
42 X 20	1067,0	508,0	762	660
42 X 18	1067,0	457,0	762	648
42 X 16	1067,0	406,4	762	635
44 X 42	1118,0	1067,0	813	762

ASME B16.9

Dimensions of reducing outlet tees (tr)

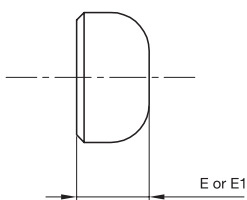
Nominal pipe size (NPS)	Outside diameter at bevel		Center- to-end	
	Run	Outlet	Run, C	Outlet, M (see note 1)
44 X 40	1118,0	1016,0	813	749
44 X 38	1118,0	965,0	813	737
44 X 36	1118,0	914,0	813	724
44 X 34	1118,0	864,0	813	724
44 X 32	1118,0	813,0	813	711
44 X 30	1118,0	762,0	813	711
44 X 28	1118,0	711,0	813	698
44 X 26	1118,0	660,0	813	698
44 X 24	1118,0	610,0	813	698
44 X 22	1118,0	559,0	813	686
44 X 20	1118,0	508,0	813	686
46 X 44	1168,0	1118,0	851	800
46 X 42	1168,0	1067,0	851	787
46 X 40	1168,0	1016,0	851	775
46 X 38	1168,0	965,0	851	762
46 X 36	1168,0	914,0	851	762
46 X 34	1168,0	864,0	851	749
46 X 32	1168,0	813,0	851	749
46 X 30	1168,0	762,0	851	737
46 X 28	1168,0	711,0	851	737
46 X 26	1168,0	660,0	851	737
46 X 24	1168,0	610,0	851	724
46 X 22	1168,0	559,0	851	724
48 X 46	1219,0	1168,0	889	838
48 X 44	1219,0	1118,0	889	838
48 X 42	1219,0	1067,0	889	813
48 X 40	1219,0	1016,0	889	813
48 X 38	1219,0	965,0	889	813
48 X 36	1219,0	914,0	889	787
48 X 34	1219,0	864,0	889	787
48 X 32	1219,0	813,0	889	787
48 X 30	1219,0	762,0	889	762
48 X 28	1219,0	711,0	889	762
48 X 26	1219,0	660,0	889	762
48 X 24	1219,0	610,0	889	737
48 X 22	1219,0	559,0	889	737

The values, unless otherwise indicated, are to be considered in millimeters

Note 1: Outlet dimension M for run sizes NPS 14 and larger is recommended but not required

ASME B16.9

Dimensions of caps



Nominal pipe size (NPS)	Outside diameter at bevel	Length, E (see note 1)	Limiting wall thickness for length, E	Length, E1 (see note 2)
1/2	21,3	25	4,57	25
3/4	26,7	25	3,81	25
1	33,4	38	4,57	38
1 1/4	42,2	38	4,83	38
1 1/2	48,3	38	5,08	38
2	60,3	38	5,59	44
2 1/2	73,0	38	7,11	51
3	88,9	51	7,62	64
3 1/2	101,6	64	8,13	76
4	114,3	64	8,64	76
5	141,3	76	9,65	89
6	168,3	89	10,92	102
8	219,1	102	12,7	127
10	273,0	127	12,7	152
12	323,8	152	12,7	178
14	355,6	165	12,7	191
16	406,4	178	12,7	203
18	457,0	203	12,7	229
20	508,0	229	12,7	254
22	559,0	254	12,7	254
24	610,0	267	12,7	305
26	660,0	267	---	---
28	711,0	267	---	---
30	762,0	267	---	---
32	813,0	267	---	---
34	864,0	267	---	---
36	914,0	267	---	---
38	965,0	305	---	---
40	1016,0	305	---	---
42	1067,0	305	---	---
44	1118,0	343	---	---
46	1168	343	---	---
48	1219	343	---	---

The values, unless otherwise indicated, are to be considered in millimeters

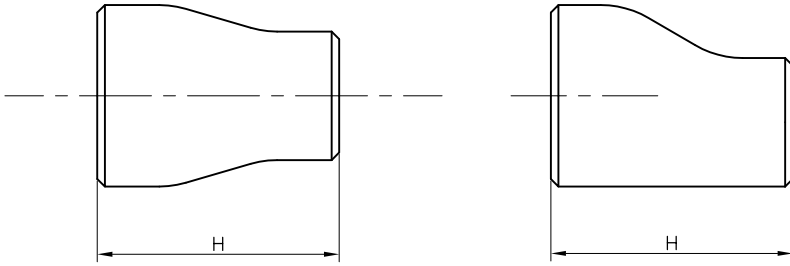
Note 1: length E applies for thickness not exceeding that given in column " limiting wall thickness for length, E"

Note 2: length E1 applies for thickness greater than that given in column " limiting wall thickness" for nps 24 and smaller.

For nps 26 and larger, length E1 shall be by agreement between the manufacturer and the purchaser

ASME B16.9

Dimensions of reducers



Nominal pipe size (NPS)	Outside diameter at bevel		End-to-end, H
	Large end	Small end	
3/4 x 1/2	26,7	21,3	38
3/4 x 3/8	26,7	17,3	38
1 x 3/4	33,4	26,7	51
1 x 1/2	33,4	21,3	51
1 1/4 x 1	42,2	33,4	51
1 1/4 x 3/4	42,2	26,7	51
1 1/4 x 1/2	42,2	21,3	51
1 1/2 x 1 1/4	48,3	42,2	64
1 1/2 x 1	48,3	33,4	64
1 1/2 x 3/4	48,3	26,7	64
1 1/2 x 1/2	48,3	21,3	64
2 x 1 1/2	60,3	48,3	76
2 x 1 1/4	60,3	42,2	76
2 x 1	60,3	33,4	76
2 x 3/4	60,3	26,7	76
2 1/2 x 2	73,0	60,3	89
2 1/2 x 1 1/2	73,0	48,3	89
2 1/2 x 1 1/4	73,0	42,2	89
2 1/2 x 1	73,0	33,4	89
3 x 2 1/2	88,9	73,0	89
3 x 2	88,9	60,3	89
3 x 1 1/2	88,9	48,3	89
3 x 1 1/4	88,9	42,2	89
3 1/2 x 3	101,6	88,9	102
3 1/2 x 2 1/2	101,6	73,0	102
3 1/2 x 2	101,6	60,3	102
3 1/2 x 1 1/2	101,6	48,3	102
3 1/2 x 1 1/4	101,6	42,2	102
4 x 3 1/2	114,3	101,6	102
4 x 3	114,3	88,9	102
4 x 2 1/2	114,3	73,0	102
4 x 2	114,3	60,3	102
4 x 1 1/2	114,3	48,3	102
5 x 4	141,3	114,3	127
5 x 3 1/2	141,3	101,6	127
5 x 3	141,3	88,9	127
5 x 2 1/2	141,3	73,0	127
5 x 2	141,3	60,3	127

ASME B16.9

Dimensions of reducers

Nominal pipe size (NPS)	Outside diameter at bevel		End-to-end, H
	Large end	Small end	
6 x 5	168,3	141,3	140
6 x 4	168,3	114,3	140
6 x 3 1/2	168,3	101,6	140
6 x 3	168,3	88,9	140
6 x 2 1/2	168,3	73,0	140
8 x 6	219,1	168,3	152
8 x 5	219,1	141,3	152
8 x 4	219,1	114,3	152
8 x 3 1/2	219,1	101,6	152
10 x 8	273,0	219,1	178
10 x 6	273,0	168,3	178
10 x 5	273,0	141,3	178
10 x 4	273,0	114,3	178
12 x 10	323,8	273,0	203
12 x 8	323,8	219,1	203
12 x 6	323,8	168,3	203
12 x 5	323,8	141,3	203
14 x 12	355,6	323,8	330
14 x 10	355,6	273,0	330
14 x 8	355,6	219,1	330
14 x 6	355,6	168,3	330
16 x 14	406,4	355,6	356
16 x 12	406,4	323,8	356
16 x 10	406,4	273,0	356
16 x 8	406,4	219,1	356
18 x 16	457,0	406,4	381
18 x 14	457,0	355,6	381
18 x 12	457,0	323,8	381
18 x 10	457,0	273,0	381
20 x 18	508,0	457,0	508
20 x 16	508,0	406,4	508
20 x 14	508,0	355,6	508
20 x 12	508,0	323,8	508
22 x 20	559,0	508,0	508
22 x 18	559,0	457,0	508
22 x 16	559,0	406,4	508
22 x 14	559,0	355,4	508
24 x 22	610,0	559,0	508
24 x 20	610,0	508,0	508
24 x 18	610,0	457,0	508
24 x 16	610,0	406,4	508
26 x 24	660,0	610,0	610
26 x 22	660,0	559,0	610
26 x 20	660,0	508,0	610
26 x 18	660,0	457,0	610
28 x 26	711,0	660,0	610
28 x 24	711,0	610,0	610
28 x 20	711,0	508,0	610

ASME B16.9

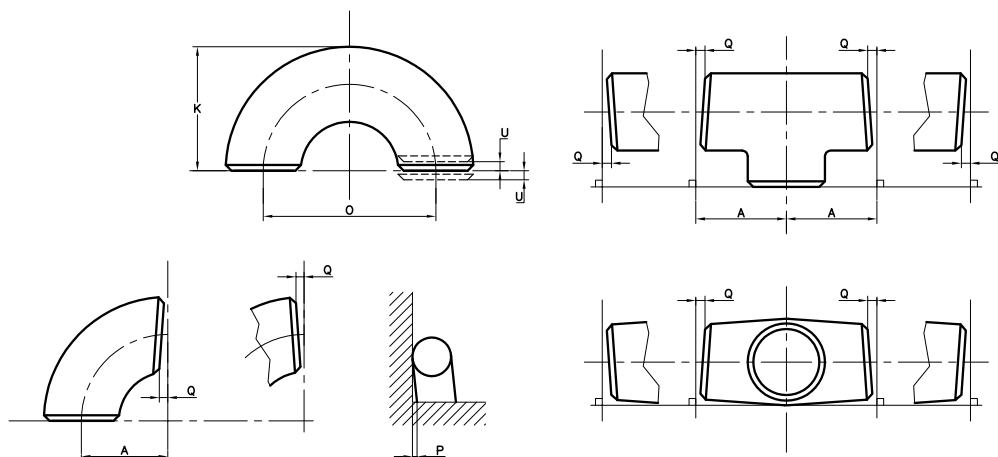
Dimensions of reducers

Nominal pipe size (NPS)	Outside diameter at bevel		End-to-end, H
	Large end	Small end	
28 x 18	711,0	457,0	610
30 x 28	762,0	711,0	610
30 x 26	762,0	660,0	610
30 x 24	762,0	610,0	610
30 x 20	762,0	508,0	610
32 x 30	813,0	762,0	610
32 x 28	813,0	711,0	610
32 x 26	813,0	660,0	610
32 x 24	813,0	610,0	610
34 x 32	864,0	813,0	610
34 x 30	864,0	762,0	610
34 x 26	864,0	660,0	610
34 x 24	864,0	610,0	610
36 x 34	914,0	864,0	610
36 x 32	914,0	813,0	610
36 x 30	914,0	762,0	610
36 x 26	914,0	660,0	610
36 x 24	914,0	610,0	610
38 x 36	965,0	914,0	610
38 x 34	965,0	864,0	610
38 x 32	965,0	813,0	610
38 x 30	965,0	762,0	610
38 x 28	965,0	711,0	610
38 x 26	965,0	660,0	610
40 x 38	1016,0	965,0	610
40 x 36	1016,0	914,0	610
40 x 34	1016,0	864,0	610
40 x 32	1016,0	813,0	610
40 x 30	1016,0	762,0	610
42 x 40	1067,0	1016,0	610
42 x 38	1067,0	965,0	610
42 x 36	1067,0	914,0	610
42 x 34	1067,0	864,0	610
42 x 32	1067,0	813,0	610
42 x 30	1067,0	762,0	610
44 x 42	1118,0	1067,0	610
44 x 40	1118,0	1016,0	610
44 x 38	1118,0	965,0	610
44 x 36	1118,0	914,0	610
46 x 44	1168,0	1117,0	711
46 x 42	1168,0	1067,0	711
46 x 40	1168,0	1016,0	711
46 x 38	1168,0	965,0	711
48 x 46	1219,0	1168,0	711
48 x 44	1219,0	1118,0	711
48 x 42	1219,0	1067,0	711
48 x 40	1219,0	1016,0	711

* The upper tolerance is not applicable if the actual mass of a bundle does not exceed the Kg/m theoretical

ASME B16.9

Tolerances

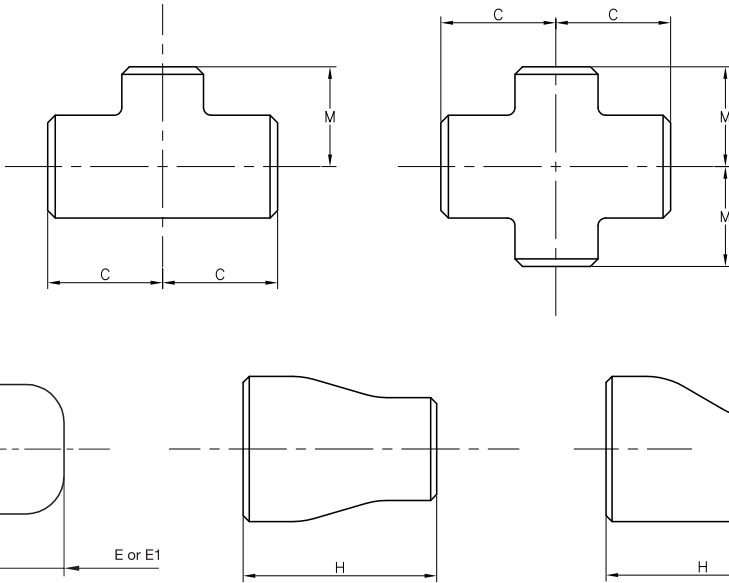


All fittings (see notes 1 and 2)				Center-to-end dimensions	
Nominal pipe size (NPS)	DN	Outside diameter at bevel (see notes 3 & 4)	Inside diameter at end (see notes 3 & 5)	90-Deg and 45-deg long and short radius elbows and tees, A, C, M	Overall length of reducers and lap joint stub ends, H
1/2 to 2 1/2	15-65	1,6/-0,8	0,8	2	2
3 to 3 1/2	80-90	1,6	1,6	2	2
4	100	1,6	1,6	2	2
5 to 8	125-200	+2,4/-1,6	1,6	2	2
10 to 18	250-450	+4/-3,2	3,2	2	2
20 to 24	500-600	+6,4/-4,8	4,8	2	2
26 to 30	650-750	+6,4/-4,8	4,8	3	5
32 to 48	800-1200	+6,4/-4,8	4,8	5	5

		Angularity tolerances	
Nominal pipe size (NPS)	DN	Off angle, Q	Off plane, P
1/2 to 4	15-100	1	2
5 to 8	125-200	2	4
10 to 12	250-300	3	5
14 to 16	350-400	3	6
18 to 24	450-600	4	10
26 to 30	650-750	5	10
32 to 42	800-1050	5	13
44 to 48	1100-1200	5	19

ASME B16.9

Tolerances



Overall length of caps, E	180-Deg returns		
	Center-to-center dimensions, O	Back-to-face dimension, K	Alignment of ends, U
3	6	6	1
3	6	6	1
3	6	6	1
6	6	6	1
6	10	6	2
6	10	6	2
10	---	---	---
10	---	---	---

The values, unless otherwise indicated, are to be considered in millimeters

Note 1: the inside diameter and the nominal wall thicknesses at ends are to be specified by the purchaser;

Note 2: a minimum wall thickness of 87,5% applies unless the purchaser specifies a different w.t. tolerance;

Note 3: out-of-round is the sum of absolute values of plus and minus tolerances;

Note 4: this tolerance may not apply in localized areas of formed fittings where increased w.t. is required to meet design requirements of para 2.2;

Note 5: unless otherwise specified by the purchaser, these tolerances apply to the nominal inside diameter, which equals the difference between the nominal outside diameter and twice the nominal w.t.

The data reported in this catalogue are for reference purpose only
T.A.L. Group reserves the right to modify without notice the information here contained
The technical department is at your disposal for any further technical and regulatory clarification.