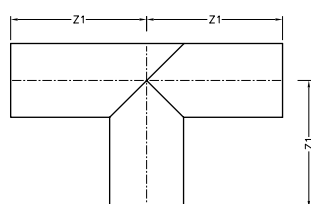


## Fabricated Fittings

### EQUAL TEE

As per IS8360.

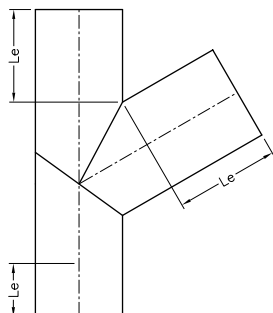


Size	Outer Diameter		Z1
	min	max	
20	20.1	20.3	50
25	25.1	25.3	62
32	32.1	32.3	80
40	40.1	40.4	80
50	50.1	50.5	90
63	63.1	63.6	95
75	75.1	75.7	113
90	90.1	90.9	135
110	110.1	111.0	165
125	125.1	126.2	182
140	140.1	141.3	210
160	160.1	161.5	240
180	180.1	181.7	270
200	200.1	201.8	300
225	225.1	227.1	338
250	250.1	252.3	375
280	280.1	282.6	420

Size	Outer Diameter		Z1
	min	max	
315	315.1	317.9	473
355	355.1	358.2	533
400	400.1	403.6	600
450	450.1	454.1	675
500	500.1	504.5	750
560	560.1	565.0	840
630	630.1	635.7	945
710	710.1	716.4	1065
800	800.1	807.2	1200
900	900.1	908.1	1350
1000	1000.1	1009.0	1500
1200	1200.1	1210.8	1800
1400	1400.1	1412.2	2100
1600	1600.1	1614.4	2400
2000	2000.1	2018.0	3000
2500	2500.1	2525.0	3750

### Y-TEE

As per IS8360.



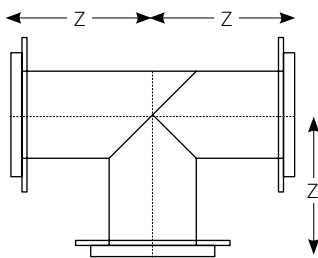
Size	Le Min.
50	100
63	100
75	100
90	150
110	150
125	150
140	150
160	150
180	150
200	150
225	150
250	200
280	200
315	300

Size	Le Min.
355	300
400	300
450	300
500	400
560	400
630	400
710	500
800	500
900	500
1000	800
1200	1000
1400	1000
1600	1000

Note: Fitting sizes 2250 & 2500 are available on demand.

## Fabricated Fittings

### EQUAL FLANGED TEE

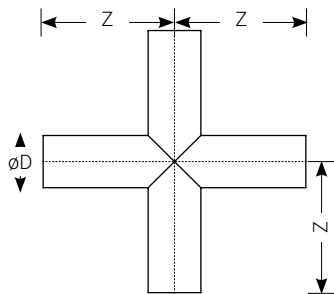


Size	Outer Diameter		Z
	min	max	
63	63.1	63.6	145
75	75.1	75.7	193
90	90.1	90.9	215
110	110.1	111.0	245
125	125.1	126.2	262
140	140.1	141.3	290
160	160.1	161.5	320
180	180.1	181.7	350
200	200.1	201.8	400
225	225.1	227.1	438
250	250.1	252.3	475
280	280.1	282.6	520
315	315.1	317.9	573

Size	Outer Diameter		Z
	min	max	
355	355.1	358.2	653
400	400.1	403.6	720
450	450.1	454.1	795
500	500.1	504.5	870
560	560.1	565.0	960
630	630.1	635.7	1065
710	710.1	716.4	1185
800	800.1	807.2	1320
900	900.1	908.1	1470
1000	1000.1	1009.0	1640
1200	1200.1	1210.8	1975
1400	1400.1	1412.2	2320
1600	1600.1	1614.4	2600

### EQUAL CROSS

As per IS8360.

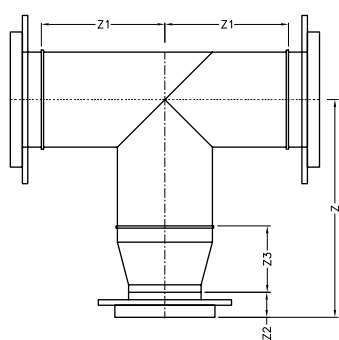


Size	Min	Max	Z
20	20.1	20.3	50
25	25.1	25.3	62
32	32.1	32.3	80
40	40.1	40.4	80
50	50.1	50.5	90
63	63.1	63.6	95
75	75.1	75.7	113
90	90.1	90.9	135
110	110.1	111.0	165
125	125.1	126.2	182
140	140.1	141.3	210
160	160.1	161.5	240
180	180.1	181.7	270
200	200.1	201.8	300
225	225.1	227.1	338
250	250.1	252.3	375

Size	Min	Max	Z
280	280.1	282.6	420
315	315.1	317.9	473
355	355.1	358.2	533
400	400.1	403.6	600
450	450.1	454.1	675
500	500.1	504.5	750
560	560.1	565.0	840
630	630.1	635.7	945
710	710.1	716.4	1065
800	800.1	807.2	1200
900	900.1	908.1	1350
1000	1000.1	1009.0	1500
1200	1200.1	1210.8	1800
1400	1400.1	1412.2	2100
1600	1600.1	1614.4	2400

## Fabricated Fittings

### FLANGE REDUCED TEE

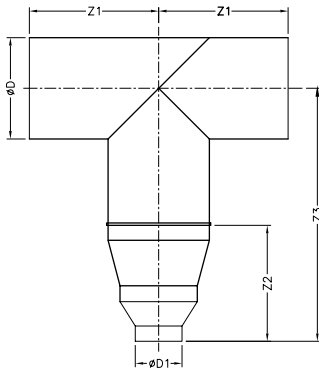


Size	Tee (Z1)	P.End (Z2)	Reducer (Z3)	TOTAL (Z)	Size	Tee (Z1)	P.End (Z2)	Reducer (Z3)	TOTAL (Z)
63 X 50	95	50	70	215	355 X 280	533	120	255	908
75 X 50	113	80	70	263	400 X 280	600	120	170	890
75 X 63	113	80	70	263	400 X 315	600	120	170	890
90 X 63	135	80	80	295	400 X 355	600	120	170	890
90 X 75	135	80	80	295	450 X 315	675	120	250	1045
110 X 75	165	80	95	340	450 X 355	675	120	250	1045
110 X 90	165	80	95	340	450 X 400	675	120	250	1045
125 X 90	182	80	105	367	500 X 355	750	120	250	1120
125 X 110	182	80	105	367	500 X 400	750	120	250	1120
140 X 110	210	80	115	405	500 X 450	750	120	250	1120
140 X 125	210	80	115	405	560 X 400	840	120	255	1215
160 X 125	240	80	125	445	560 X 450	840	120	255	1215
160 X 140	240	80	125	445	560 X 500	840	120	255	1215
180 X 140	270	80	135	485	630 X 450	945	120	255	1320
180 X 160	270	80	135	485	630 X 500	945	120	255	1320
200 X 140	300	100	140	540	630 X 560	945	120	255	1320
200 X 160	300	100	140	540	710 X 500	1065	120	255	1440
200 X 180	300	100	140	540	710 X 560	1065	120	255	1440
225 X 160	338	100	165	603	710 X 630	1065	120	255	1440
225 X 180	338	100	165	603	800 X 560	1200	120	255	1575
225 X 200	338	100	165	603	800 X 630	1200	120	255	1575
250 X 180	375	100	180	655	800 X 710	1200	120	255	1575
250 X 200	375	100	180	655	900 X 630	1350	120	255	1725
250 X 225	375	100	180	655	900 X 710	1350	120	255	1725
280 X 200	420	100	205	725	900 X 800	1350	120	255	1725
280 X 225	420	100	205	725	1000 X 710	1500	140	255	1895
280 X 250	420	100	205	725	1000 X 800	1500	140	255	1895
315 X 225	473	100	230	803	1000 X 900	1500	140	255	1895
315 X 250	473	100	230	803	1200 X 800	1800	175	300	2275
315 X 280	473	100	230	803	1200 X 1000	1800	175	320	2295
355 X 250	533	120	255	908	1600 X 1200	2400	200	350	2950

Note : Fabricated Fittings are available in pressure rating PN2.5 up to 25. Reducing Tee can be made as per Customer's Specified size

## Fabricated Fittings

### REDUCED / UNEQUAL TEE



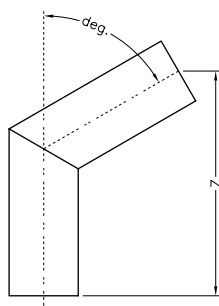
Size	TEE (Z1)	REDY (Z2)	Total (Z3)	Size	TEE (Z1)	REDY (Z2)	Total (Z3)
63 X 50	95	70	165	355 X 280	533	255	788
75 X 50	113	70	183	400 X 280	600	170	770
75 X 63	113	70	183	400 X 315	600	170	770
90 X 63	135	80	215	400 X 355	600	170	770
90 X 75	135	80	215	450 X 315	675	250	925
110 X 75	165	95	260	450 X 355	675	250	925
110 X 90	165	95	260	450 X 400	675	250	925
125 X 90	182	105	287	500 X 355	750	250	1000
125 X 110	182	105	287	500 X 400	750	250	1000
140 X 110	210	115	325	500 X 450	750	250	1000
140 X 125	210	115	325	560 X 400	840	255	1095
160 X 125	240	125	365	560 X 450	840	255	1095
160 X 140	240	125	365	560 X 500	840	255	1095
180 X 140	270	135	405	630 X 450	945	255	1200
180 X 160	270	135	405	630 X 500	945	255	1200
200 X 140	300	140	440	630 X 560	945	255	1200
200 X 160	300	140	440	710 X 500	1065	255	1320
200 X 180	300	140	440	710 X 560	1065	255	1320
225 X 160	338	165	503	710 X 630	1065	255	1320
225 X 180	338	165	503	800 X 560	1200	255	1455
225 X 200	338	165	503	800 X 630	1200	255	1455
250 X 180	375	180	555	800 X 710	1200	255	1455
250 X 200	375	180	555	900 X 630	1350	255	1605
250 X 225	375	180	555	900 X 710	1350	255	1605
280 X 200	420	205	625	900 X 800	1350	255	1605
280 X 225	420	205	625	1000 X 710	1500	255	1755
280 X 250	420	205	625	1000 X 800	1500	255	1755
315 X 225	473	230	703	1000 X 900	1500	255	1755
315 X 250	473	230	703	1200 X 800	1800	300	2100
315 X 280	473	230	703	1200 x 1000	1800	320	2120
355 X 250	533	255	788	1600 x 1200	2400	350	2750

## Fabricated Fittings

### BEND

As per IS8360.

deg= 11.25°, 22.5°, 30°, 45°, 60°

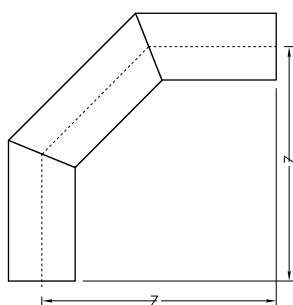


Size	Min	Max	Z
20	20.1	20.3	100
25	25.1	25.3	100
32	32.1	32.3	100
40	40.1	40.4	100
50	50.1	50.5	100
63	63.1	63.6	108
75	75.1	75.7	128
90	90.1	90.9	154
110	110.1	111.0	188
125	125.1	126.2	213
140	140.1	141.3	239
160	160.1	161.5	273
180	180.1	181.7	307
200	200.1	201.8	341
225	225.1	227.1	384
250	250.1	252.3	427
280	280.1	282.6	478

Size	Min	Max	Z
315	315.1	317.9	538
355	355.1	358.2	606
400	400.1	403.6	683
450	450.1	454.1	769
500	500.1	504.5	855
560	560.1	565.0	958
630	630.1	635.7	1077
710	710.1	716.4	1214
800	800.1	807.2	1368
900	900.1	908.1	1539
1000	1000.1	1009.0	1710
1200	1200.1	1210.8	2052
1400	1400.1	1412.2	2394
1600	1600.1	1614.4	2736
2000	2000.1	2018.0	3420
2500	2500.1	2525.0	4250

### BEND 90°

As per IS8360



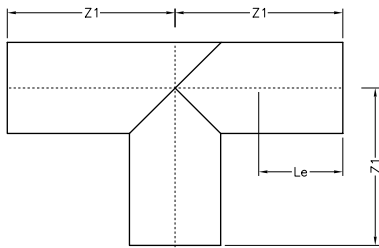
Size	Min	Max	Z
20	20.1	20.3	100
25	25.1	25.3	100
32	32.1	32.3	100
40	40.1	40.4	100
50	50.1	50.5	100
63	63.1	63.6	108
75	75.1	75.7	128
90	90.1	90.9	154
110	110.1	111.0	188
125	125.1	126.2	213
140	140.1	141.3	239
160	160.1	161.5	273
180	180.1	181.7	307
200	200.1	201.8	341
225	225.1	227.1	384
250	250.1	252.3	427
280	280.1	282.6	478

Size	Min	Max	Z
315	315.1	317.9	538
355	355.1	358.2	606
400	400.1	403.6	683
450	450.1	454.1	769
500	500.1	504.5	855
560	560.1	565.0	958
630	630.1	635.7	1077
710	710.1	716.4	1214
800	800.1	807.2	1368
900	900.1	908.1	1539
1000	1000.1	1009.0	1710
1200	1200.1	1210.8	2052
1400	1400.1	1412.2	2394
1600	1600.1	1614.4	2736
2000	2000.1	2018.0	3420
2500	2500.1	2525.0	4250

## Fabricated Fittings

### EQUAL TEE

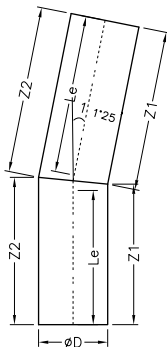
As per ISO 4427



Size	Le Min	Z1
90	150	195
110	150	205
125	150	213
140	150	220
160	150	240
180	150	270
200	150	300
225	150	338
250	250	375
280	250	420
315	300	473
355	300	533
400	300	600
450	300	675
500	350	750
560	350	840
630	350	945
710	350	1065
800	350	1200
900	400	1350
1000	400	1500
1200	400	1800
1400	400	2100
1600	400	2400
2000	600	3000
2500	600	3750

### BEND 11.25°

As per ISO 4427



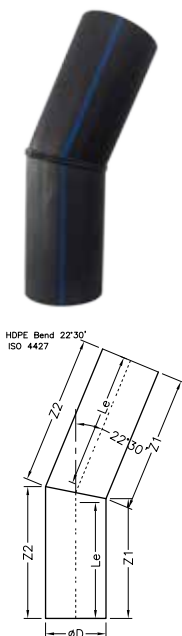
Size Ø D	Le Min.	Z1	Z2
90	150	159	168
110	150	161	172
125	150	162	175
140	150	164	178
160	150	166	182
180	150	168	185
200	150	170	189
225	150	172	194
250	250	275	299
280	250	278	305
315	300	331	362
355	300	335	370
400	300	339	379
450	300	344	389
500	350	399	448
560	350	405	460
630	350	412	474
710	350	420	490
800	350	429	508
900	400	489	577
1000	400	498	597
1200	400	518	636
1400	400	538	676
1600	400	558	715
2000	600	797	994
2500	600	846	1092

Tolerance For Angle is  $\pm 2^\circ$

## Fabricated Fittings

### BEND 22.5°

As per ISO 4427

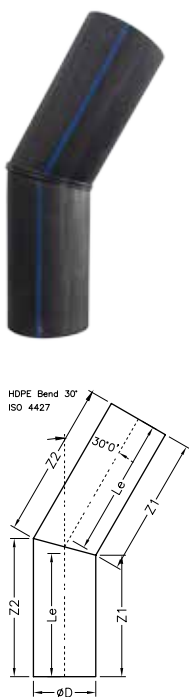


Size Ø D	Le Min	Z1	Z2
90	150	168	186
110	150	172	194
125	150	175	200
140	150	178	206
160	150	182	214
180	150	186	222
200	150	190	230
225	150	195	240
250	250	300	349
280	250	306	361
315	300	363	425
355	300	371	441
400	300	380	459
450	300	390	479
500	350	449	549
560	350	461	573
630	350	475	601
710	350	491	633
800	350	509	668
900	400	579	758
1000	400	599	798
1200	400	639	878
1400	400	679	957
1600	400	718	1037
2000	600	998	1396
2500	600	1097	1595

Tolerance For Angle is  $\pm 2^\circ$

### BEND 30°

As per ISO 4427



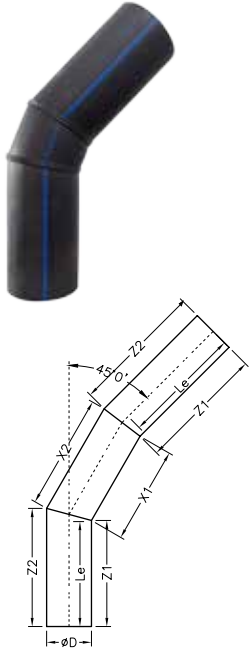
Size Ø D	Le Min	Z1	Z2
90	150	174	198
110	150	179	209
125	150	183	217
140	150	187	225
160	150	193	236
180	150	198	246
200	150	203	257
225	150	210	270
250	250	317	384
280	250	325	400
315	300	384	468
355	300	395	490
400	300	407	514
450	300	420	541
500	350	484	617
560	350	500	649
630	350	518	687
710	350	540	730
800	350	564	778
900	400	641	881
1000	400	667	935
1200	400	721	1042
1400	400	774	1149
1600	400	828	1256
2000	600	1135	1669
2500	600	1268	1937

Tolerance For Angle is  $\pm 2^\circ$

## Fabricated Fittings

### BEND 45°

As per ISO 4427

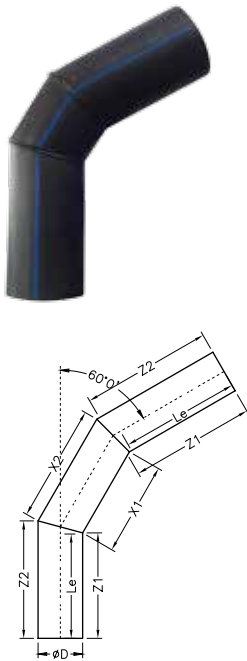


Size Ø D	Le Min	Z1	Z2	X1	X2
90	150	168	186	36	72
110	150	172	194	44	88
125	150	175	200	50	99
140	150	178	206	56	111
160	150	182	214	64	127
180	150	186	222	72	143
200	150	190	230	80	159
225	150	195	240	90	179
250	250	300	349	99	199
280	250	306	361	111	223
315	300	363	425	125	251
355	300	371	441	141	283
400	300	380	459	159	318
450	300	390	479	179	358
500	350	449	549	199	398
560	350	461	573	223	446
630	350	475	601	251	501
710	350	491	633	283	565
800	350	509	668	318	637
900	400	579	758	358	716
1000	400	599	798	398	796
1200	400	639	878	478	955
1400	400	679	957	557	1114
1600	400	718	1037	637	1273
2000	600	998	1396	796	1592
2500	600	1097	1595	995	1990

Tolerance For Angle is  $\pm 2^\circ$

### BEND 60°

As per ISO 4427



Size Ø D	Le Min	Z1	Z2	X1	X2
90	150	174	198	48	96
110	150	179	209	59	118
125	150	183	217	67	134
140	150	187	225	75	150
160	150	193	236	86	171
180	150	198	246	96	192
200	150	203	257	107	214
225	150	210	270	120	241
250	250	317	384	134	267
280	250	325	400	150	299
315	300	384	468	168	337
355	300	395	490	190	380
400	300	407	514	214	428
450	300	420	541	241	481
500	350	484	617	267	535
560	350	500	649	299	599
630	350	518	687	337	674
710	350	540	730	380	759
800	350	564	778	428	856
900	400	641	881	481	962
1000	400	667	935	535	1069
1200	400	721	1042	642	1283
1400	400	774	1149	749	1497
1600	400	828	1256	856	1711
2000	600	1135	1669	1069	2139
2500	600	1268	1937	1337	2674

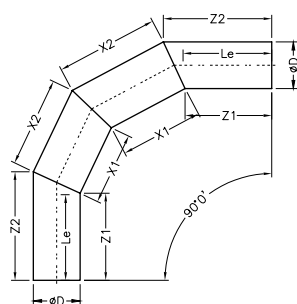
Tolerance For Angle is  $\pm 2^\circ$



## Fabricated Fittings

### BEND 90°

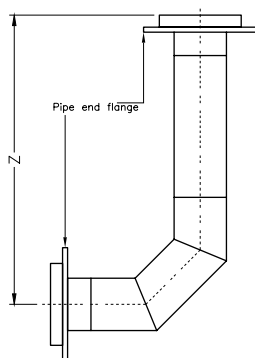
As per ISO 4427



Size Ø D	Le Min	Z1	Z2	X1	X2
90	150	174	198	48	96
110	150	179	209	59	118
125	150	183	217	67	134
140	150	187	225	75	150
160	150	193	236	86	171
180	150	198	246	96	192
200	150	203	257	107	214
225	150	210	270	120	241
250	250	317	384	134	267
280	250	325	400	150	299
315	300	384	468	168	337
355	300	395	490	190	380
400	300	407	514	214	428
450	300	420	541	241	481
500	350	484	617	267	535
560	350	500	649	299	599
630	350	518	687	337	674
710	350	540	730	380	759
800	350	564	778	428	856
900	400	641	881	481	962
1000	400	667	935	535	1069
1200	400	721	1042	642	1283
1400	400	774	1149	749	1497
1600	400	828	1256	856	1711
2000	600	1135	1669	1069	2139
2500	600	1268	1937	1337	2674

Tolerance For Angle is  $\pm 2^\circ$

### DUCK FOOT BEND



Size	Min	Max	Z
63	63.1	63.6	347
75	75.1	75.7	433
90	90.1	90.9	504
110	110.1	111.0	598
125	125.1	126.2	668
140	140.1	141.3	739
160	160.1	161.5	833
180	180.1	181.7	927
200	200.1	201.8	1041
225	225.1	227.1	1159
250	250.1	252.3	1277
280	280.1	282.6	1418
315	315.1	317.9	1583
355	355.1	358.2	1791
400	400.1	403.6	2003
450	450.1	454.1	2239
500	500.1	504.5	2475
560	560.1	565.0	2758

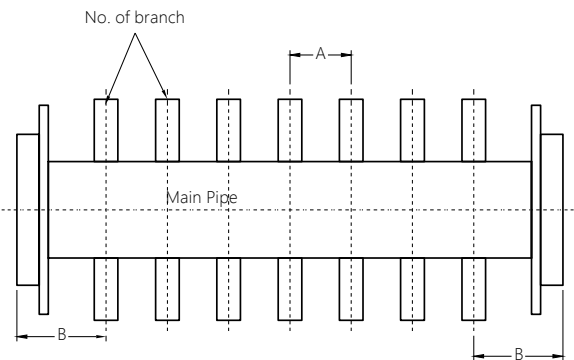
## Fabricated Fittings

### HEADER / MANIFOLD



Main Pipe (Size, mm)	Branch Pipe (Size, mm)
90	63
110	63, 75
125	63, 75, 90
140	63, 75, 90, 110
160	63, 75, 90, 110, 125
180	63, 75, 90, 110, 125, 140
200	63, 75, 90, 110, 125, 140, 160
225	63, 75, 90, 110, 125, 140, 160, 180
250	63, 75, 90, 110, 125, 140, 160, 180, 200
280	63, 75, 90, 110, 125, 140, 160, 180, 200, 225
315	63, 75, 90, 110, 125, 140, 160, 180, 200, 225, 250
355	63, 75, 90, 110, 125, 140, 160
400	63, 75, 90, 110, 125, 140, 160, 180, 200
450	63, 75, 90, 110, 125, 140, 160, 180, 200, 225
500	160, 180, 200, 225
560	160, 180, 200, 225, 250
630	200, 225, 250, 315

*Note: Header and chamber are available up to 2500mm as per customer requirement*



*Note: All specification as per requirement/ customise*