

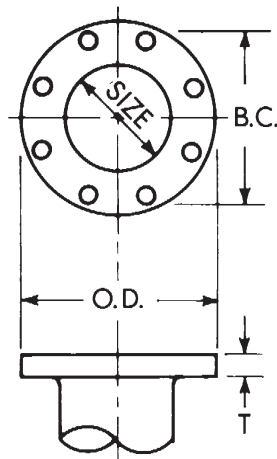


DUCTILE IRON C110 FLANGED FITTINGS

Sizes 3" thru 12" UL Listed for Fire Main Equipment

SAMPLE SPECIFICATION (Current ANSI/AWWA revisions apply)

Flanged fittings, 2" through 48" shall be manufactured of ductile Iron in accordance with all applicable terms and provisions of standards ANSI/AWWA C110/A21.10. Flange surfaces shall be faced and drilled in accordance with ANSI Class 125, B16.1. All ductile iron flanged fittings shall be rated for water pressure of 250 PSI. Flanged ductile-iron fittings in 24-in. (610 mm) and smaller sizes may be rated for 350 psi (2,413 kPa) with the use of special gaskets. NOTE: Fittings are cement lined and seal coated in accordance with ANSI/AWWA C104/A21.4. Fittings are also available prime coated, bare or epoxy coated. All coated fittings meet requirements of NSF-61, NSF-372, and Annex G. Interiors of fittings shall be lined and seal coated in accordance with ANSI/AWWA C104/A21.4. Cement mortar lining for ductile iron pipe and fittings for potable water unless otherwise specified. Installation of fittings shall be per AWWA C110.



NOTE: No flange joint material furnished.

FLANGE DETAILS

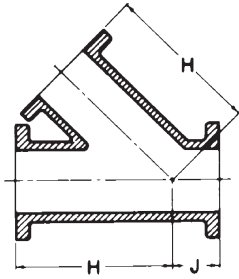
Nominal Pipe Size Inch	Flange O.D.	Dia. of Bolt Circle	Flange Thickness T	Bolt Hole Diameter	Number of Bolts	Bolt Dia. and Lengths
2	6	4.75	.62	.75	4	5/8 x 2 1/4
3	7.5	6	.75	.75	4	5/8 x 2 1/2
4	9	7.5	.94	.75	8	5/8 x 3
6	11	9.5	1.00	.875	8	3/4 x 3 1/2
8	13.5	11.75	1.12	.875	8	3/4 x 3 1/2
10	16	14.25	1.19	1.00	12	7/8 x 4
12	19	17	1.25	1.00	12	7/8 x 4
14	21	18.75	1.38	1.125	12	1 x 4 1/2
16	23.5	21.25	1.44	1.125	16	1 x 4 1/2
18	25	22.75	1.56	1.25	16	1 1/8 x 5
20	27.5	25	1.69	1.25	20	1 1/8 x 5
24	32	29.5	1.88	1.375	20	1 1/4 x 5 1/2
30	38.75	36	2.12	1.375	28	1 1/4 x 6 1/2
36	46	42.75	2.38	1.675	32	1 1/2 x 7
42	53	49.50	2.62	1.625	36	1 1/2 x 7 1/2
48	59.50	56.00	2.75	1.625	44	1 1/2 x 8

NOTE: Drilling templates are in multiples of four, so that fittings may be made to face in any quarter. Bolt holes shall straddle the center line.



DUCTILE IRON C110 FLANGED FITTINGS

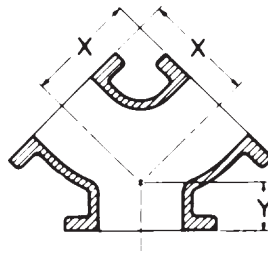
* WYES/LATERALS



***45° Wye**

Size	Run	Branch	Dimensions	Weight
			H J	
3	3	3	10 3	49
4	3	3	12 3	68
4	4	3	12 3	76
6	4	3	14.5 3.5	106
6	6	3	14.5 3.5	131
8	4	3	17.5 4.5	153
8	6	3	17.5 4.5	188
8	8	3	17.5 4.5	201
10	4	3	20.5 5	232
10	6	3	20.5 5	288
10	8	3	20.5 5	333
10	10	3	20.5 5	300
12	4	3	24.5 5.5	355
12	6	3	24.5 5.5	370
12	8	3	24.5 5.5	395
12	10	3	24.5 5.5	420
12	12	3	24.5 5.5	460
14	6	3	27 6	500
14	8	3	27 6	525
14	10	3	27 6	555
14	12	3	27 6	600
14	14	3	27 6	640
16	6	3	30 6.5	655
16	8	3	30 6.5	680
16	10	3	30 6.5	715
16	12	3	30 6.5	755
16	14	3	30 6.5	800
16	16	3	30 6.5	850
18	8	3	32 7	820
18	10	3	32 7	855
18	12	3	32 7	1003
18	14	3	32 7	940
18	16	3	32 7	990
18	18	3	32 7	1035
20	10	3	35 8	1095
20	12	3	35 8	1130
20	14	3	35 8	1170
20	16	3	35 8	1220
20	20	3	35 8	1345
24	24	3	40.5 9	2020
36	36	3	60 19.5	5740

* Not included in AWWA C110

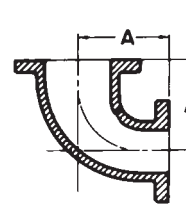


***True Wye**

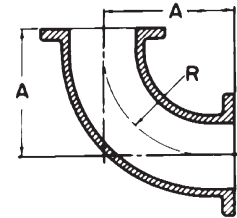
Size	Stem	Branch	Dimensions	Weight
			X Y	
4	4	4	6.5 3.0	49
6	4	4	8.0 3.5	75
6	6	4	8.0 3.5	84
8	6	4	9.0 4.5	134
8	8	4	9.0 4.5	125
10	6	4	8.0 5.0	140
10	8	4	9.0 5.0	155
10	10	4	11.0 5.0	220
12	8	4	9.0 5.5	210
12	10	4	11.0 5.5	240
12	12	4	12.0 5.5	315
16	16	4	15.0 6.5	520

* Not included in AWWA C110

* BENDS



***90° Reducing Bend (1/4)**

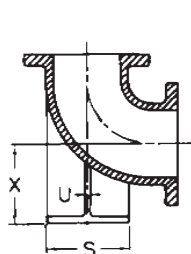


***90° Long Radius Bend (1/4)**

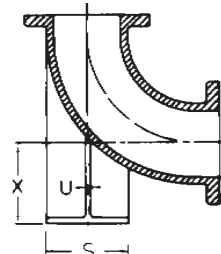
Size	Dimensions	Weight	Size	Dimensions	Weight
	A			R A	
4x3	6.5	35	3	6.25 7.75	32
6x4	8.0	65	4	7 9	46
8x4	9.0	88	6	9.5 11.5	83
8x6	9.0	96	8	14 14	140
10x6	11.0	126	10	16.5 16.5	252
10x8	10.0	151	12	17 19	310
12x6	12.0	172	14	19 21.5	475
12x8	12.0	191	16	21.5 24	630
12x10	12.0	218	18	 26.5	840
14x6	14.0	230	20	 29	1080
14x8	14.0	240	24	 34	1640

* Not included in AWWA C110

* BASE BENDS

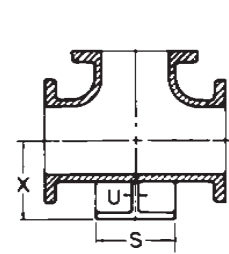


90° Base Bend (1/4)



***90° Long Radius Base Bend (1/4)**

BASE TEES



Base Tees

Size	Dimensions	Support	90°	Weight	Tee
	X S U	Pipe Size		90°LR	
3	4.88 5 .50	1.5	38	41	47
4	5.50 6 .50	2.0	50	60	76
6	7.00 7 .62	2.5	83	100	115
8	8.38 9 .88	4.0	142	180	195
10	9.75 9 .88	4.0	210	315	315
12	11.25 11 1.00	6.0	300	427	450
14	12.50 11 1.00	6.0	400	580	570
16	13.75 11 1.00	6.0	505	740	710
18	15.00 13.5 1.12	8.0	645	...	900
20	16.00 13.5 1.12	8.0	805	...	1125
24	18.50 13.5 1.12	8.0	1215	...	1927
30	23.00 16 1.15	10.0	1945	...	...
36	26.00 19 1.15	10.0	2395	2895	...

* Not included in AWWA C110

Base Bends are made to order only, not returnable. Bases are furnished faced and drilled.