



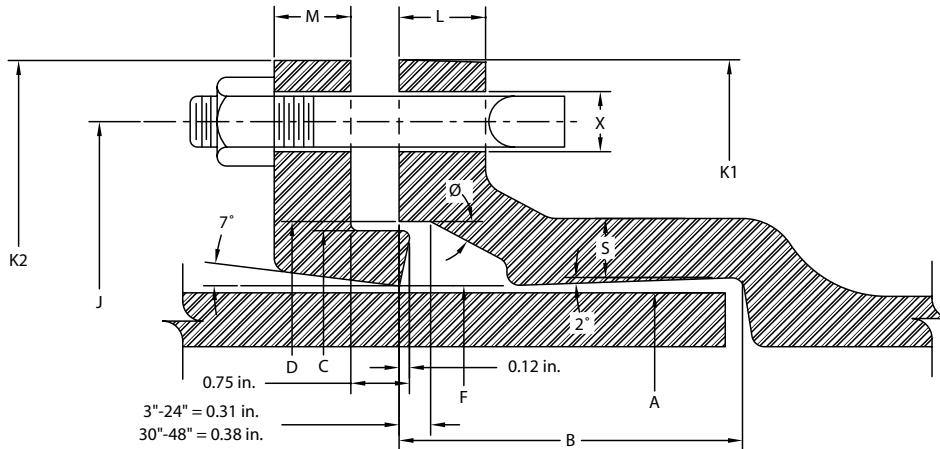
Full Body MJ Fittings

ANSI/AWWA C110/A21.10

2" - 54" DUCTILE IRON MECHANICAL JOINT FULL BODY FITTINGS

GENERAL SPECIFICATIONS

- MATERIAL:** Ductile iron per ASTM A536
- PRESSURE:** 350 PSI rating for 2" - 24" sizes, 250 PSI rating for 30" - 48" and 150 PSI for 54" or as noted
- TESTING:** In accordance with ANSI/AWWA C110/A21.10
- LAYING LENGTH:** In accordance with ANSI/AWWA C110/A21.10 (fittings not listed in ANSI/AWWA have dimensions per Star design as noted in the catalog)
- WEIGHTS:** Are in pounds, unless noted otherwise and do not include accessories, cement lining and coating
- FLANGES:** Flanged ends on fittings match ANSI/AWW C110/A21.10 and ANSI B16.1 class 125 flanges
- CEMENT LINING:** In accordance with ANSI/AWWA C104/A21.4 -- sizes 2" - 3" single thickness and sizes 4" - 54" double thickness
- COATING:** Asphaltic seal coat inside and out in accordance with ANSI/AWWA C104/A21.4
- GASKETS:** SBR in accordance with ANSI/AWWA C111/A21.11 (see pg. 17)
- T-BOLTS/NUTS:** Low alloy steel in accordance with ANSI/AWWA C11/A21.11 (see pg. 16)
- APPROVALS:** Sizes 3" and greater are UL/NSF-61
- DIMENSIONS:** All dimensions are in inches unless noted otherwise



STAR[®] PIPE PRODUCTS

MECHANICAL JOINT DIMENSIONS

NOM. SIZE	A DIA.	B	C DIA.	D DIA.	F DIA.	J DIA.	K1 DIA.	K2 DIA.	L	M	S	Ø	X DIA.	BOLTS	
														SIZE	NO.
★ 2	2.50	2.50	3.39	3.50	2.61	4.75	6.25	6.25	0.75	0.62	0.44	28°	¾	¾ x 3	2
3	3.96	2.50	4.84	4.94	4.06	6.19	7.69	7.69	0.94	0.62	0.52	28°	¾	¾ x 3	4
4	4.80	2.50	5.92	6.02	4.90	7.50	9.12	9.12	1.00	0.75	0.65	28°	7/8	¾ x 3 ½	4
6	6.90	2.50	8.02	8.12	7.00	9.50	11.12	11.12	1.06	0.88	0.70	28°	7/8	¾ x 3 ½	6
8	9.05	2.50	10.17	10.27	9.15	11.75	13.37	13.37	1.12	1.00	0.75	28°	7/8	¾ x 3 ½	6
10	11.10	2.50	12.22	12.34	11.20	14.00	15.69	15.62	1.19	1.00	0.80	28°	7/8	¾ x 4	8
12	13.20	2.50	14.32	14.44	13.30	16.25	17.94	17.88	1.25	1.00	0.85	28°	7/8	¾ x 4	8
14	15.30	3.50	16.40	16.54	15.44	18.75	20.31	20.25	1.31	1.25	0.89	28°	7/8	¾ x 4 ½	10
16	17.40	3.50	18.50	18.64	17.54	21.00	22.56	22.50	1.38	1.31	0.97	28°	7/8	¾ x 4 ½	12
18	19.50	3.50	20.60	20.74	19.64	23.25	24.83	24.75	1.44	1.38	1.05	28°	7/8	¾ x 4 ½	12
20	21.60	3.50	22.70	22.84	21.74	25.50	27.08	27.00	1.50	1.44	1.12	28°	7/8	¾ x 4 ½	14
24	25.80	3.50	26.90	27.04	25.94	30.00	31.58	31.50	1.62	1.56	1.22	28°	7/8	¾ x 5	16
30	32.00	4.00	33.29	33.46	32.17	36.88	39.12	39.12	1.81	2.00	1.50	20°	1 1/8	1 x 6	20
36	38.30	4.00	39.59	39.76	38.47	43.75	46.00	46.00	2.00	2.00	1.80	20°	1 1/8	1 x 6	24
42	44.50	4.00	45.79	45.96	44.67	50.62	53.12	53.12	2.00	2.00	1.95	20°	1 3/8	1 ¼ x 6 ½	28
48	50.80	4.00	52.09	52.26	50.97	57.50	60.00	60.00	2.00	2.00	2.20	20°	1 3/8	1 ¼ x 6 ½	32
★ 54	{ Dimensions Available On Request }														



★Not Included in AWWA C110

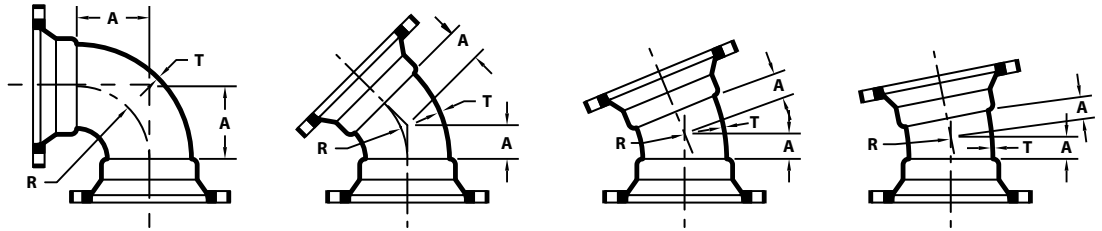
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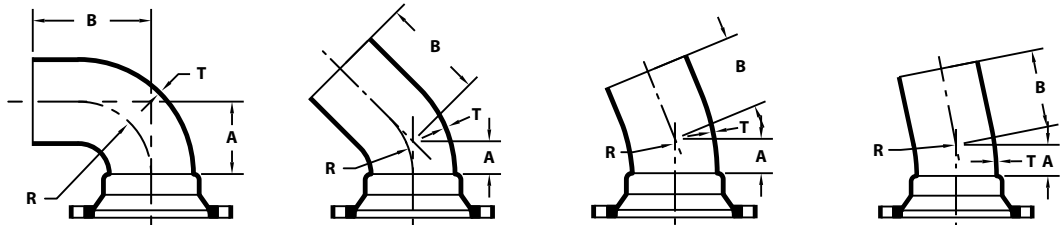


Full Body MJ Fittings

ANSI/AWWA C110/A21.10



MJ x MJ BENDS		90° MJ x MJ BENDS (1/4)			45° MJ x MJ BENDS (1/8)			22 1/2° MJ x MJ BENDS (1/8)			11 1/4° MJ x MJ BENDS (1/32)		
NOM. SIZE	T	A	R	WT (LBS.)	A	R	WT (LBS.)	A	R	WT (LBS.)	A	R	WT (LBS.)
2	0.39	3.25	2.25	14	1.80	1.96	13	1.80	4.02	13	1.80	8.12	13
3	0.48	5.50	4.00	35	3.00	3.62	30	3.00	7.56	30	3.00	15.25	30
4	0.52	6.50	4.50	55	4.00	4.81	50	4.00	10.06	50	4.00	20.31	50
6	0.55	8.00	6.00	85	5.00	7.25	75	5.00	15.06	75	5.00	30.50	75
8	0.60	9.00	7.00	125	5.50	8.44	110	5.50	17.62	110	5.50	35.50	110
10	0.68	11.00	9.00	190	6.50	10.88	155	6.50	22.62	160	6.50	45.69	160
12	0.75	12.00	10.00	255	7.50	13.25	215	7.50	27.62	220	7.50	55.81	220
14	0.66	14.00	11.50	340	7.50	12.06	270	7.50	25.12	275	7.50	50.75	260
16	0.70	15.00	12.50	430	8.00	13.25	340	8.00	27.62	345	8.00	55.81	345
18	0.75	16.50	14.00	545	8.50	14.50	420	8.50	30.19	430	8.50	60.94	430
20	0.80	18.00	15.50	680	9.50	16.88	530	9.50	35.19	535	9.50	71.06	540
24	0.89	22.00	18.50	1025	11.00	18.12	755	11.00	37.69	765	11.00	76.12	770
30	1.03	25.00	21.50	1690	15.00	27.75	1380	15.00	57.81	1400	15.00	116.75	1410
36	1.15	28.00	24.50	2475	18.00	35.00	2095	18.00	72.88	2135	18.00	147.25	2145
42	1.28	31.00	27.50	3410	21.00	42.25	2955	21.00	88.00	3020	21.00	177.69	3740
48	1.42	34.00	30.50	4595	24.00	49.50	4080	24.00	103.06	4170	24.00	208.12	4190



MJ x PE BENDS		90° MJ x PE BENDS (1/4)				45° MJ x PE BENDS (1/8)				22 1/2° MJ x PE BENDS (1/8)				22 1/4° MJ x PE BENDS (1/32)			
NOM. SIZE	T	A	B	R	WT (LBS.)	A	B	R	WT (LBS.)	A	B	R	WT (LBS.)	A	B	R	WT (LBS.)
3	0.48	5.50	13.50	4.00	35	3.00	11.00	3.62	30	3.00	11.00	7.56	30	3.00	11.00	15.25	30
4	0.52	6.50	14.50	4.50	50	4.00	12.00	4.81	45	4.00	12.00	10.06	45	4.00	12.00	20.31	45
6	0.55	8.00	16.00	6.00	80	5.00	13.00	7.25	70	5.00	13.00	15.06	70	5.00	13.00	30.50	70
8	0.60	9.00	17.00	7.00	120	5.50	13.50	8.44	105	5.50	13.50	17.62	105	5.50	13.50	35.50	105
10	0.68	11.00	19.00	9.00	190	6.50	14.50	10.88	155	6.50	14.50	22.62	160	6.50	14.50	45.69	160
12	0.75	12.00	20.00	10.00	255	7.50	15.50	13.25	215	7.50	15.50	27.62	220	7.50	15.50	55.81	220
14	0.66	14.00	22.00	11.50	325	7.50	15.50	12.06	255	7.50	15.50	25.12	260	7.50	15.50	50.75	260
16	0.70	15.00	23.00	12.50	410	8.00	16.00	13.25	320	8.00	16.00	27.62	325	8.00	16.00	55.81	325
24	0.89	22.00	30.00	18.50	985	11.00	19.00	18.12	715	11.00	19.00	37.69	725	11.00	19.00	76.12	730
30	1.03	25.00	33.00	21.50	1585	15.00	23.00	27.75	1275	15.00	23.00	57.81	1295	15.00	23.00	116.75	1305
36	1.15	28.00	36.00	24.50	2310	18.00	26.00	35.00	1930	18.00	26.00	72.88	1970	18.00	26.00	147.25	1980
42	1.28	31.00	39.00	27.50	3200	21.00	29.00	42.25	2745	21.00	29.00	88.00	2810	21.00	29.00	177.69	2825

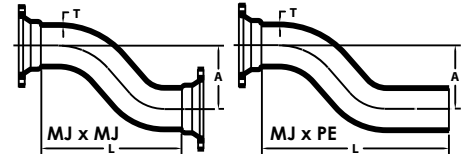
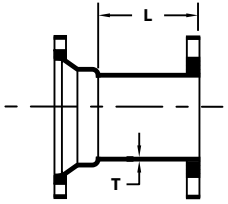


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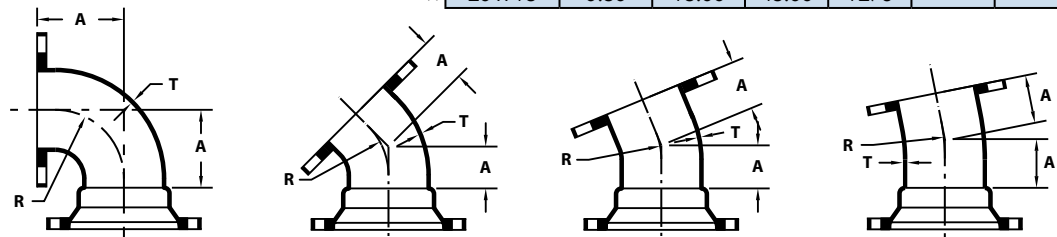
Full Body MJ Fittings

ANSI/AWWA C110/A21.10



★ MJ x FLANGE ADAPTER			
NOM. SIZE	T	L	WT (LBS.)
3	0.48	8.00	30
4	0.52	8.00	40
6	0.55	8.00	60
8	0.60	8.00	85
10	0.68	8.00	115
12	0.75	8.00	155
16	0.70	8.00	260
18	0.75	8.00	305
20	0.80	8.00	365
24	0.89	8.00	495

MJ OFFSETS			MJ x MJ		MJ x PE	
NOM. SIZE	T	A	L	WT (LBS.)	L	WT (LBS.)
4 x 6	0.52	6.00	19.00	75	27.00	70
4 x 12	0.52	12.00	22.00	85	30.00	80
4 x 18	0.52	18.00	30.00	105	38.00	120
★ 4 x 24	0.52	24.00	30.00	125	38.00	115
6 x 6	0.55	6.00	20.00	110	28.00	105
6 x 12	0.55	12.00	26.00	135	34.00	130
6 x 18	0.55	18.00	33.00	165	41.00	160
★ 6 x 24	0.55	24.00	33.00	195	41.00	195
8 x 6	0.60	6.00	21.00	160	29.00	155
8 x 12	0.60	12.00	28.00	200	36.00	195
8 x 18	0.60	18.00	35.00	245	43.00	240
★ 8 x 24	0.60	24.00	36.00	280	44.00	275
10 x 12	0.68	12.00	30.00	280	38.00	280
10 x 18	0.68	18.00	38.00	340	46.00	340
★ 10 x 24	0.68	24.00	38.00	420	---	---
12 x 12	0.75	12.00	37.00	420	45.00	420
12 x 18	0.75	18.00	48.00	520	56.00	520
★ 12 x 24	0.75	24.00	48.00	640	56.00	630
16 x 12	0.70	12.00	40.00	600	---	---
16 x 18	0.70	18.00	50.00	710	58.00	690
★ 20 x 12	0.80	12.00	40.00	1025	---	---
★ 20 x 18	0.80	18.00	48.00	1275	---	---



★ MJ x FE BENDS		90° MJ x FE BENDS (1/4)			45° MJ x FE BENDS (1/8)			22 1/2° MJ x FE BENDS (1/16)			11 1/4° MJ x FE BENDS (1/32)		
NOM. SIZE	T	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)
4	0.52	6.50	4.50	38	4.00	4.81	45	4.00	10.06	45	4.00	20.31	45
6	0.55	8.00	6.00	75	5.00	7.25	69	5.00	15.06	69	5.00	30.50	69
8	0.60	9.00	7.00	115	5.50	8.44	105	5.50	17.62	105	5.50	35.50	105
10	0.68	11.00	9.00	177	6.50	10.88	155	6.50	22.62	155	6.50	45.69	155
12	0.75	12.00	10.00	246	7.50	13.25	215	7.50	27.62	215	7.50	55.81	215
16	0.70	15.00	12.50	465	8.00	13.25	360	8.00	27.62	360	8.00	55.81	360
18	0.75	16.50	14.00	577	8.50	14.50	422	8.50	30.19	422	8.50	60.94	422
20	0.80	18.00	15.50	745	9.50	16.88	543	9.50	35.19	575	9.50	71.06	575
24	0.89	22.00	18.50	1150	11.00	18.12	800	11.00	37.69	800	11.00	76.12	800

STAR[®] PIPE PRODUCTS



★ Not Included in AWWA C110

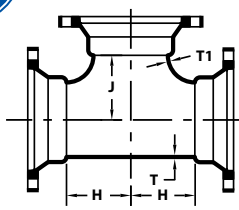
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Full Body MJ Fittings

ANSI/AWWA C110/A21.10



STAR® PIPE PRODUCTS

MJ x MJ TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
★ 2 x 2	0.39	0.39	3.25	3.25	20
★ 3 x 2	0.48	0.39	3.50	3.50	43
3 x 3	0.48	0.48	5.50	5.50	55
★ 4 x 2	0.52	0.39	4.00	4.00	57
4 x 3	0.52	0.48	6.50	6.50	75
4 x 4	0.52	0.52	6.50	6.50	80
★ 4 x 4 x 6	0.52	0.55	8.00	8.00	115
★ 6 x 2	0.55	0.39	8.00	8.00	78
6 x 3	0.55	0.48	8.00	8.00	110
6 x 4	0.55	0.52	8.00	8.00	115
6 x 6	0.55	0.55	8.00	8.00	125
★ 6 x 6 x 8	0.55	0.60	9.00	9.00	185
★ 8 x 2	0.60	0.39	9.00	9.00	125
★ 8 x 3	0.60	0.48	9.00	9.00	155
8 x 4	0.60	0.52	9.00	9.00	165
8 x 6	0.60	0.55	9.00	9.00	175
8 x 8	0.60	0.60	9.00	9.00	185
10 x 4	0.68	0.52	11.00	11.00	235
10 x 6	0.68	0.55	11.00	11.00	250
10 x 8	0.68	0.60	11.00	11.00	260
10 x 10	0.80	0.80	11.00	11.00	310
12 x 4	0.75	0.52	12.00	12.00	315
12 x 6	0.75	0.55	12.00	12.00	325
12 x 8	0.75	0.60	12.00	12.00	340
12 x 10	0.87	0.80	12.00	12.00	390
12 x 12	0.87	0.87	12.00	12.00	410
★ 16 x 4	0.70	0.52	15.00	15.00	525
16 x 6	0.70	0.55	15.00	15.00	540
16 x 8	0.70	0.60	15.00	15.00	550
16 x 10	0.70	0.68	15.00	15.00	570
16 x 12	0.70	0.75	15.00	15.00	590
16 x 16	0.70	0.70	15.00	15.00	650
18 x 6	0.75	0.55	13.00	15.50	590
18 x 8	0.75	0.60	13.00	15.50	605
18 x 12	0.75	0.75	13.00	15.50	640
18 x 18	0.75	0.75	16.50	16.50	820
20 x 6	0.80	0.55	14.00	17.00	725
20 x 8	0.80	0.60	14.00	17.00	735
20 x 12	0.80	0.75	14.00	17.00	775
20 x 16	0.80	0.70	18.00	18.00	945
20 x 20	0.80	0.80	18.00	18.00	1020
24 x 6	0.89	0.55	15.00	19.00	985
24 x 8	0.89	0.60	15.00	19.00	1000
24 x 12	0.89	0.75	15.00	19.00	1030

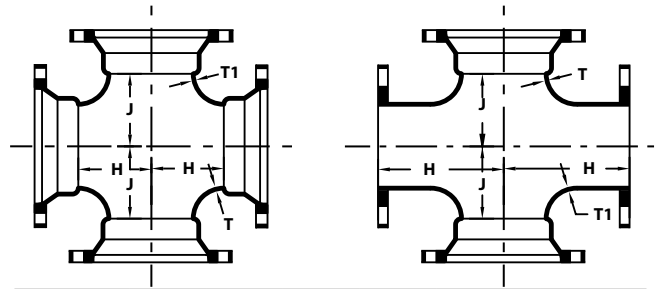
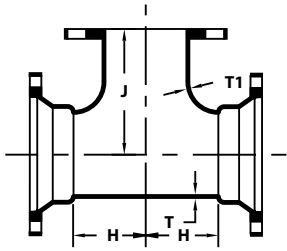
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MJ x MJ TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
24 x 14	0.89	0.66	15.00	19.00	1055
24 x 16	0.89	0.70	15.00	19.00	1075
24 x 18	0.89	0.75	22.00	22.00	1400
24 x 20	0.89	0.80	22.00	22.00	1450
24 x 24	0.89	0.89	22.00	22.00	1535
30 x 6	1.03	0.55	18.00	23.00	1730
30 x 8	1.03	0.60	18.00	23.00	1745
30 x 10	1.03	0.68	18.00	23.00	1760
30 x 12	1.03	0.75	18.00	23.00	1780
30 x 16	1.03	0.70	18.00	23.00	1820
30 x 18	1.03	0.75	18.00	23.00	1845
30 x 20	1.03	0.80	18.00	23.00	1875
30 x 24	1.03	0.89	25.00	25.00	2400
30 x 30	1.03	1.03	25.00	25.00	2595
★ 36 x 6	1.15	0.55	20.00	26.00	2500
36 x 8	1.15	0.60	20.00	26.00	2520
36 x 10	1.15	0.68	20.00	26.00	2535
36 x 12	1.15	0.75	20.00	26.00	2550
36 x 14	1.15	0.66	20.00	26.00	2570
36 x 16	1.15	0.70	20.00	26.00	2585
36 x 18	1.15	0.75	20.00	26.00	2610
36 x 20	1.15	0.80	20.00	26.00	2635
36 x 24	1.15	0.89	20.00	26.00	2690
36 x 30	1.15	1.03	28.00	28.00	3545
36 x 36	1.15	1.15	28.00	28.00	3745
42 x 12	1.28	0.75	23.00	30.00	3555
42 x 14	1.28	0.66	23.00	30.00	3575
42 x 16	1.28	0.70	23.00	30.00	3595
42 x 18	1.28	0.75	23.00	30.00	3615
42 x 20	1.28	0.80	23.00	30.00	3640
42 x 24	1.28	0.89	23.00	30.00	3690
42 x 30	1.28	1.03	31.00	31.00	4650
42 x 36	1.78	1.58	31.00	31.00	6075
42 x 42	1.78	1.78	31.00	31.00	6320
48 x 12	1.42	0.75	26.00	34.00	4870
48 x 14	1.42	0.66	26.00	34.00	4885
48 x 16	1.42	0.70	26.00	34.00	4905
48 x 18	1.42	0.75	26.00	34.00	4925
48 x 20	1.42	0.80	26.00	34.00	4950
48 x 24	1.42	0.89	26.00	34.00	4995
48 x 30	1.42	1.03	26.00	34.00	5140
48 x 36	1.42	1.15	34.00	34.00	6280
48 x 42	1.96	1.78	34.00	34.00	8130
48 x 48	1.96	1.96	34.00	34.00	8420
★ 48 x 36 x 48	1.42	1.15	34.00	34.00	6275



Full Body MJ Fittings

ANSI/AWWA C110/A21.10



★ MJ x FE TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
4 x 4	0.52	0.52	6.50	6.50	74
6 x 4	0.55	0.52	8.00	8.00	109
6 x 6	0.55	0.55	8.00	8.00	115
8 x 4	0.60	0.52	9.00	9.00	159
8 x 6	0.60	0.55	9.00	9.00	165
8 x 8	0.60	0.60	9.00	9.00	175
10 x 4	0.68	0.52	11.00	11.00	231
10 x 6	0.68	0.55	11.00	11.00	237
10 x 8	0.68	0.60	11.00	11.00	249
12 x 4	0.75	0.52	12.00	12.00	309
12 x 6	0.75	0.55	12.00	12.00	315
12 x 8	0.75	0.60	12.00	12.00	330
12 x 12	0.87	0.87	12.00	12.00	401
14 x 6	0.66	0.55	14.00	14.00	485
16 x 4	0.70	0.52	15.00	15.00	575
16 x 6	0.70	0.55	15.00	15.00	605
16 x 8	0.70	0.60	15.00	15.00	615
16 x 12	0.70	0.75	15.00	15.00	651
16 x 16	0.70	0.70	15.00	15.00	730
18 x 6	0.75	0.55	13.00	15.50	665
18 x 8	0.75	0.60	13.00	15.50	675
18 x 12	0.75	0.75	13.00	15.50	705
18 x 18	0.75	0.75	16.50	16.50	915
20 x 8	0.80	0.60	14.00	17.00	835
20 x 20	0.80	0.80	18.00	18.00	1165
24 x 6	0.89	0.55	15.00	19.00	1125
24 x 8	0.89	0.60	15.00	19.00	1140
24 x 12	0.89	0.75	15.00	19.00	1165
24 x 24	0.89	0.89	22.00	22.00	1795
30 x 30	1.03	1.03	25.00	25.00	3080
36 x 6	1.15	0.55	20.00	26.00	2430
36 x 12	1.15	0.75	20.00	26.00	2550
36 x 16	1.15	0.70	20.00	26.00	2450
36 x 24	1.15	0.89	20.00	26.00	2660
48 x 24	1.42	0.89	26.00	34.00	4965

MJ x MJ / MJ x FE CROSSES							
NOM. SIZE	T	T1	H	J	WT (LBS.)		
					MJ X MJ	★MJ X FE	
6 x 6	0.55	0.55	8.00	8.00	160	140	
8 x 4	0.60	0.52	9.00	9.00	185	176	
8 x 6	0.60	0.55	9.00	9.00	205	185	
8 x 8	0.60	0.60	9.00	9.00	235	215	
10 x 6	0.68	0.55	11.00	11.00	285	---	
10 x 8	0.68	0.60	11.00	11.00	310	---	
10 x 10	0.80	0.80	11.00	11.00	380	354	
12 x 6	0.75	0.55	12.00	12.00	360	340	
12 x 8	0.75	0.60	12.00	12.00	385	365	
12 x 12	0.87	0.87	12.00	12.00	495	487	
14 x 8	0.66	0.60	14.00	14.00	500	---	
14 x 14	0.66	0.66	14.00	14.00	635	---	
16 x 6	0.70	0.55	15.00	15.00	575	---	
16 x 8	0.70	0.60	15.00	15.00	605	585	
16 x 16	0.70	0.70	15.00	15.00	790	770	
18 x 8	0.75	0.60	13.00	15.50	655	---	
18 x 10	0.75	0.68	13.00	15.50	685	---	
18 x 12	0.75	0.75	13.00	15.50	725	---	
18 x 18	0.75	0.75	16.50	16.50	995	---	
20 x 8	0.80	0.60	14.00	17.00	790	---	
20 x 12	0.80	0.75	14.00	17.00	860	---	
20 x 16	0.80	0.70	18.00	18.00	1085	---	
20 x 20	0.80	0.80	18.00	18.00	1230	---	
★ 24 x 8	0.89	0.60	15.00	19.00	1045	---	
24 x 12	0.89	0.75	15.00	19.00	1110	---	
24 x 16	0.89	0.70	15.00	19.00	1200	---	
24 x 20	0.89	0.80	22.00	22.00	1675	---	
24 x 24	0.89	0.89	22.00	22.00	1835	---	
30 x 6	1.03	0.55	18.00	23.00	1770	---	
30 x 12	1.03	0.75	18.00	23.00	1865	---	
30 x 24	1.03	0.89	25.00	25.00	2675	---	
30 x 30	1.03	1.03	25.00	25.00	3075	---	
36 x 24	1.15	0.89	20.00	26.00	2980	---	
36 x 36	1.15	1.15	28.00	28.00	4370	---	
42 x 42	1.78	1.78	31.00	31.00	7145	---	

STAR[®] PIPE PRODUCTS



★Not Included in AWWA C110

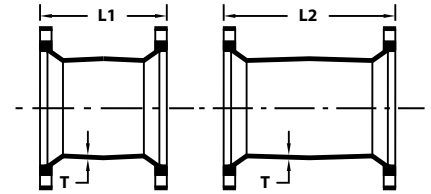
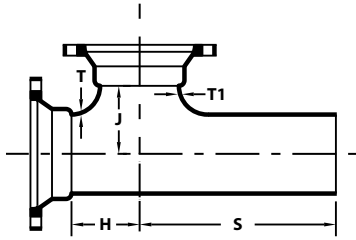
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Full Body MJ Fittings

ANSI/AWWA C110/A21.10

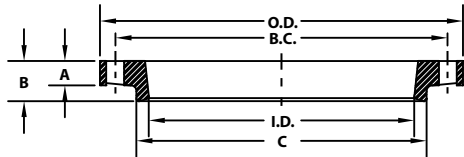


★ MJ x PE x MJ TEES

NOM. SIZE	T	T1	H	J	S	WT (LBS.)
4 x 4	0.52	0.52	6.50	6.50	14.50	75
6 x 6	0.55	0.55	8.00	8.00	16.00	120
8 x 6	0.60	0.55	9.00	9.00	17.00	170
8 x 8	0.60	0.60	9.00	9.00	17.00	180
10 x 10	0.80	0.80	11.00	11.00	19.00	310
12 x 4	0.75	0.52	12.00	12.00	20.00	315
12 x 6	0.75	0.55	12.00	12.00	20.00	325
12 x 8	0.75	0.60	12.00	12.00	20.00	340
12 x 10	0.87	0.80	12.00	12.00	20.00	390
12 x 12	0.87	0.87	12.00	12.00	20.00	410

MJ SOLID SLEEVES

NOM. SIZE	T	SHORT SLEEVES		LONG SLEEVES	
		L1	WT (LBS.)	L2	WT (LBS.)
★ 2	0.39	7.50	12	12.00	18
3	0.48	7.50	25	12.00	30
4	0.52	7.50	35	12.00	45
6	0.55	7.50	45	12.00	65
8	0.60	7.50	65	12.00	85
10	0.68	7.50	85	12.00	115
12	0.75	7.50	110	12.00	145
14	0.66	9.50	150	15.00	195
16	0.70	9.50	180	15.00	235
18	0.75	9.50	215	15.00	285
20	0.80	9.50	240	15.00	325
24	0.89	9.50	320	15.00	425
30	1.03	15.00	635	24.00	885
36	1.15	15.00	855	24.00	1190
42	1.28	15.00	1115	24.00	1550
48	1.42	15.00	1385	24.00	1940



MJ FULLBODY GLANDS

NOM. SIZE	O.D.	A	B	C	I.D.	B.C.	BOLT HOLE	BOLT QTY	WT (LBS.)
2	6.12	0.62	1.12	3.40	2.61	4.75	Ø0.75	2	1
3	7.69	0.62	1.37	4.84	4.06	6.19	Ø0.75	4	5
4	9.12	0.75	1.50	5.92	4.90	7.50	Ø0.88	4	6
6	11.12	0.88	1.63	8.02	7.00	9.50	Ø0.88	6	10
8	13.37	1.00	1.75	10.17	9.15	11.75	Ø0.88	6	14
10	15.62	1.00	1.75	12.22	11.20	14.00	Ø0.88	8	20
12	17.88	1.00	1.75	14.32	13.30	16.25	Ø0.88	8	24
14	20.25	1.25	2.00	16.40	15.44	18.75	Ø0.88	10	45
16	22.50	1.31	2.06	18.50	17.54	21.00	Ø0.88	12	55
18	24.75	1.38	2.13	20.60	19.64	23.25	Ø0.88	12	55
20	27.00	1.44	2.19	22.70	21.74	25.50	Ø0.88	14	66
24	31.50	1.56	2.31	26.90	25.94	30.00	Ø0.88	16	90
30	39.12	2.00	2.75	33.29	32.17	36.88	Ø1.13	20	220
36	46.00	2.00	2.75	39.59	38.47	43.75	Ø1.13	24	286
42	53.12	2.00	2.75	45.79	44.67	50.62	Ø1.38	28	288
48	60.00	2.00	2.75	52.09	50.97	57.50	Ø1.38	32	400
54	{ Dimensions Available On Request }								

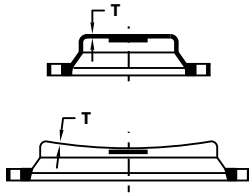


STAR® PIPE PRODUCTS

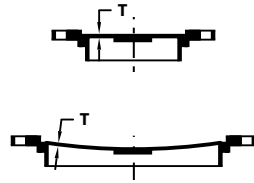


Full Body MJ Fittings

ANSI/AWWA C110/A21.10



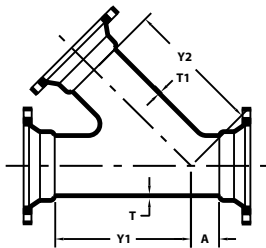
**30"-48"
CAPS**



**30"-48"
PLUGS**

MJ CAPS & PLUGS (SOLID OR TAPPED)				
NOM. SIZE	T	MAX. TAP	WT (LBS.)	
			CAPS	PLUGS
2	0.39	1 1/2	5	5
3	0.50	2	12	10
4	0.60	3	15	15
6	0.65	4	25	25
8	0.70	4	45	45
10	0.75	4	60	65
12	0.75	4	80	85
14	0.82	5	120	115
16	0.89	6	155	145
18	0.96	6	195	185
20	1.03	6	240	225
24	1.16	6	345	335
30	1.03	6	590	575
36	1.15	6	850	815
42	1.28	6	1180	1110
48	1.42	6	1595	1455

Threads in Accordance with ANSI/ASME B1.20.1



★ 45° MJ LATERALS						
NOM. SIZE	T	T1	A	Y1	Y2	WT (LBS.)
3 x 3	0.48	0.48	3.00	10.00	10.00	60
4 x 4	0.52	0.52	3.00	12.00	12.00	90
6 x 4	0.55	0.52	3.50	14.50	14.50	130
6 x 6	0.55	0.55	3.50	14.50	14.50	145
8 x 4	0.60	0.52	4.50	17.50	17.50	190
8 x 6	0.60	0.55	4.50	17.50	17.50	205
8 x 8	0.60	0.60	4.50	17.50	17.50	230
10 x 6	0.68	0.55	5.00	20.50	20.50	285
10 x 8	0.68	0.60	5.00	20.50	20.50	310
10 x 10	0.68	0.68	5.00	20.50	20.50	340
12 x 8	0.75	0.60	5.50	24.50	24.50	425
12 x 12	0.75	0.75	5.50	24.50	24.50	490

(Con't)➔

★ 45° MJ LATERALS (Con't)						
NOM. SIZE	T	T1	A	Y1	Y2	WT (LBS.)
14 x 6	0.66	0.55	6.00	27.00	27.00	570
14 x 14	0.66	0.66	6.00	27.00	27.00	645
16 x 10	0.70	0.68	6.50	30.00	30.00	641
16 x 12	0.70	0.75	6.50	30.00	30.00	665
16 x 16	0.70	0.70	6.50	30.00	30.00	960
18 x 8	0.75	0.60	7.00	32.00	32.00	940
18 x 10	0.75	0.68	7.00	32.00	32.00	975
18 x 12	0.75	0.75	7.00	32.00	32.00	1015
18 x 16	0.75	0.70	7.00	32.00	32.00	1135
18 x 18	0.75	0.75	7.00	32.00	32.00	1200
20 x 10	0.80	0.68	8.00	35.00	35.00	1215
20 x 12	0.80	0.75	8.00	35.00	35.00	1260
20 x 14	0.80	0.66	8.00	35.00	35.00	1320
20 x 16	0.80	0.70	8.00	35.00	35.00	1168
20 x 20	0.80	0.80	8.00	35.00	35.00	1525
24 x 12	0.89	0.75	9.00	40.50	40.50	1800
24 x 16	0.89	0.70	9.00	40.50	40.50	1815
24 x 18	0.89	0.75	9.00	40.50	40.50	2060
24 x 24	0.89	0.89	9.00	40.50	40.50	2245
30 x 20	1.37	1.03	10.00	49.00	49.00	2575
30 x 24	1.37	1.16	10.00	49.00	49.00	3280
30 x 30	1.37	1.37	10.00	49.00	49.00	3670
36 x 8	1.58	0.60	15.25	54.00	54.00	4055
36 x 16	1.58	0.89	15.25	54.00	54.00	4930
36 x 20	1.58	1.03	15.25	54.00	54.00	5080
36 x 24	1.58	1.16	15.25	54.00	54.00	5245
36 x 30	1.58	1.37	15.25	56.00	56.00	5630
36 x 36	1.58	1.58	19.50	60.00	60.00	6975
42 x 20	1.78	1.03	12.00	60.00	60.00	6650
42 x 24	1.78	1.16	12.00	60.00	60.00	6810
42 x 30	1.78	1.37	12.00	63.00	63.00	7280
42 x 36	1.78	1.58	12.00	66.00	66.00	8355
42 x 42	1.78	1.78	15.00	71.00	71.00	9900
48 x 18	1.96	0.96	---	52.00	62.00	6010
48 x 20	1.96	1.03	---	52.00	62.00	6420
48 x 24	1.96	1.16	5.00	58.00	64.00	7610
48 x 30	1.96	1.37	4.00	59.00	64.00	7945
48 x 48	1.96	1.96	16.00	77.00	77.00	13150
54 x 36	{ Dimensions Available On Request }					

* 150 PSI pressure rating

STAR[®] PIPE PRODUCTS



★Not Included in AWWA C110

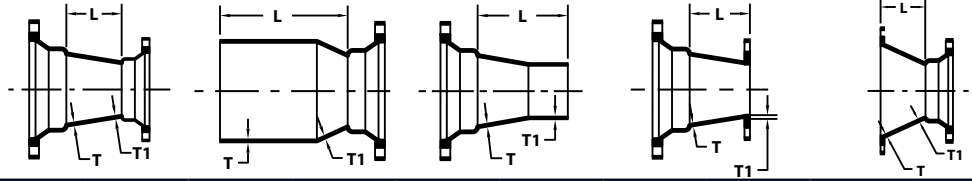
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Full Body MJ Fittings

ANSI/AWWA C110/A21.10



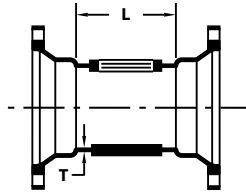
REDUCERS			MJ x MJ		SEB		LEB		MJ x FE		FE x MJ	
NOM. SIZE	T	T1	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
★ 3 x 2	0.48	0.39	6.00	25	14.00	14	14.00	20	6.00	20	---	---
★ 4 x 2	0.52	0.39	7.00	30	15.00	18	15.00	30	7.00	25	---	---
4 x 3	0.52	0.48	7.00	40	15.00	35	15.00	40	7.00	35	7.00	34
★ 6 x 2	0.55	0.39	9.00	45	17.00	45	17.00	45	9.00	40	---	---
6 x 3	0.55	0.48	9.00	55	17.00	50	17.00	55	9.00	49	---	---
6 x 4	0.55	0.52	9.00	60	17.00	60	17.00	60	9.00	54	9.00	60
★ 8 x 3	0.60	0.48	11.00	75	19.00	70	19.00	70	---	---	---	---
8 x 4	0.60	0.52	11.00	80	19.00	80	19.00	80	11.00	75	11.00	80
8 x 6	0.60	0.55	11.00	95	19.00	90	19.00	90	11.00	80	11.00	89
10 x 4	0.68	0.52	12.00	105	20.00	100	20.00	100	---	---	---	---
10 x 6	0.68	0.55	12.00	115	20.00	115	20.00	115	12.00	105	12.00	114
10 x 8	0.68	0.60	12.00	135	20.00	130	20.00	130	12.00	130	12.00	130
12 x 4	0.75	0.52	14.00	135	22.00	130	22.00	135	---	---	---	---
12 x 6	0.75	0.55	14.00	150	22.00	150	22.00	145	14.00	145	14.00	151
12 x 8	0.75	0.60	14.00	165	22.00	165	22.00	165	14.00	175	14.00	183
12 x 10	0.75	0.68	14.00	190	22.00	190	22.00	185	14.00	185	14.00	190
14 x 6	0.66	0.55	16.00	190	24.00	175	24.00	185	16.00	195	---	---
14 x 8	0.66	0.60	16.00	210	24.00	190	24.00	205	16.00	215	---	---
14 x 12	0.66	0.75	16.00	230	24.00	240	24.00	255	16.00	270	---	---
16 x 6	0.70	0.55	18.00	230	26.00	210	26.00	230	---	---	---	---
16 x 8	0.70	0.60	18.00	250	26.00	230	26.00	250	---	---	---	---
16 x 10	0.70	0.68	18.00	280	26.00	255	26.00	275	---	---	---	---
16 x 12	0.70	0.75	18.00	305	26.00	285	26.00	305	18.00	325	18.00	305
16 x 14	0.70	0.66	18.00	335	26.00	310	26.00	315	---	---	---	---
18 x 8	0.75	0.60	19.00	295	26.00	306	27.00	295	19.00	300	---	---
18 x 10	0.75	0.68	19.00	325	27.00	300	27.00	320	19.00	340	---	---
18 x 12	0.75	0.75	19.00	350	27.00	325	27.00	350	19.00	360	---	---
18 x 14	0.75	0.66	19.00	380	27.00	355	27.00	365	---	---	---	---
18 x 16	0.75	0.70	19.00	415	27.00	390	27.00	395	---	---	---	---
20 x 8	0.80	0.60	20.00	345	28.00	345	---	---	---	---	---	---
20 x 10	0.80	0.68	20.00	375	28.00	345	28.00	375	---	---	---	---
20 x 12	0.80	0.75	20.00	405	28.00	375	28.00	405	---	---	---	---
20 x 16	0.80	0.70	20.00	470	28.00	435	28.00	445	20.00	510	---	---
20 x 18	0.80	0.75	20.00	510	28.00	475	28.00	485	---	---	---	---
24 x 12	0.89	0.75	24.00	550	32.00	510	32.00	550	24.00	455	---	---
24 x 16	0.89	0.70	24.00	615	32.00	575	32.00	595	---	---	---	---
24 x 18	0.89	0.75	24.00	660	32.00	620	32.00	635	---	---	---	---
24 x 20	0.89	0.80	24.00	705	32.00	665	32.00	675	---	---	---	---
★ 30 x 12	1.03	0.75	30.00	920	---	---	---	---	---	---	---	---
★ 30 x 16	1.03	0.70	30.00	945	38.00	830	---	---	---	---	---	---
30 x 18	1.03	0.75	30.00	990	38.00	885	38.00	965	---	---	---	---
30 x 20	1.03	0.80	30.00	1050	38.00	945	38.00	1020	---	---	---	---
30 x 24	1.03	0.89	30.00	1165	38.00	1060	38.00	1125	---	---	---	---
36 x 20	1.15	0.80	36.00	1450	44.00	1285	44.00	1420	---	---	---	---
36 x 24	1.15	0.89	36.00	1580	44.00	1410	44.00	1535	---	---	---	---
36 x 30	1.15	1.03	36.00	1855	44.00	1690	44.00	1750	---	---	---	---
42 x 24	1.28	0.89	42.00	2060	50.00	1855	50.00	2020	---	---	---	---
42 x 30	1.28	1.03	42.00	2370	50.00	2165	50.00	2265	---	---	---	---
48 x 30	1.42	1.03	48.00	3005	56.00	2740	56.00	2900	---	---	---	---
48 x 36	1.42	1.15	48.00	3370	56.00	3100	56.00	3205	---	---	---	---



Full Body MJ Fittings

ANSI/AWWA C110/A21.10

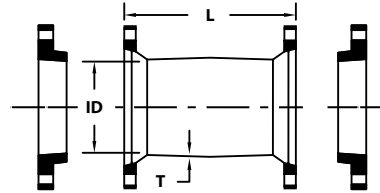
STAR[®] PIPE PRODUCTS



★ **MJ TAPPED TEE**

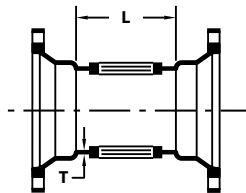
NOM. SIZE	T	L	MAX TAP	WT (LBS.)
4 x 4	0.52	8.00	3	45
6 x 6	0.55	8.00	3	70
8 x 8	0.60	8.00	3	95
10 x 10	0.68	8.00	3	130
12 x 12	0.75	8.00	3	165

Threads in Accordance with ANSI/ASME B1.20.1



★ **MJ DUAL PURPOSE SLEEVES W/ OVERSIZE GLANDS**

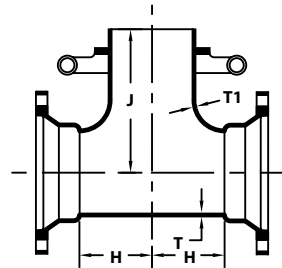
NOM. SIZE	PIPE SIZE	T	L	(I.D.)	WT (LBS.)
4	4.80 - 5.00	0.52	7.50	5.10	35
6	6.90 - 7.10	0.55	7.50	7.20	45
8	9.05 - 9.30	0.60	7.50	9.40	65
10	11.10 - 11.40	0.68	7.50	11.50	85
12	13.20 - 13.50	0.75	7.50	13.60	110



★ **MJ TAPPED CROSS**

NOM. SIZE	T	L	MAX TAP	WT (LBS.)
4 x 4	0.52	8.00	3	45
6 x 6	0.55	8.00	3	70
8 x 8	0.60	8.00	3	95
10 x 10	0.68	8.00	3	130
12 x 12	0.75	8.00	3	165

Threads in Accordance with ANSI/ASME B1.20.1



★ **MJ x SWIVEL HYDRANT TEES W/ SWIVEL GLAND**

NOM. SIZE	T	T1	H	J	WT (LBS.)
6 x 6	0.55	0.55	8.00	10.50	150
8 x 6	0.60	0.55	9.00	11.50	200
8 x 8	0.60	0.60	9.00	11.50	210
10 x 6	0.68	0.55	11.00	13.50	266
12 x 6	0.75	0.55	12.00	14.50	341
16 x 6	0.70	0.55	15.00	17.50	619
16 x 8	0.70	0.60	15.00	17.50	649
30 x 6	1.03	0.55	18.00	24.50	2070



★Not Included in AWWA C110

REV.07
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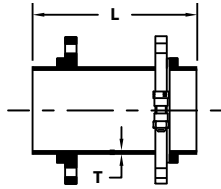
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HOUSTON CORPORATE | TOLL FREE 1-800-999-3009 | FAX 281-558-9000
www.starpipeproducts.com



Full Body MJ Fittings

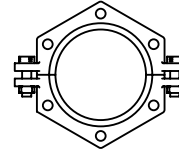
ANSI/AWWA C110/A21.10

STAR® PIPE PRODUCTS



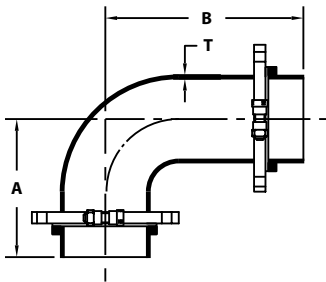
★ SWIVEL x SOLID HYDRANT ADAPTER

NOM. SIZE	T	L	WT (LBS.)
4 x 13	0.52	13.00	28
6 x 13	0.55	13.00	54
6 x 18	0.55	18.00	68
6 x 24	0.55	24.00	81
6 x 36	0.55	36.00	110
6 x 48	0.55	48.00	139
8 x 13	0.60	13.00	68
8 x 18	0.60	18.00	88
8 x 24	0.60	24.00	112
8 x 48	0.60	48.00	208
12 x 13	0.75	13.00	123



★ SWIVEL GLANDS

NOM. SIZE	WT (LBS.)
4	8
6	12
8	10
12	24



★ SWIVEL x SWIVEL HYDRANT ELL W/ 2 SWIVEL GLANDS

NOM. SIZE	T	A	B	WT (LBS.)
6	0.55	10.50	15.50	100
8	0.66	11.50	16.50	140