



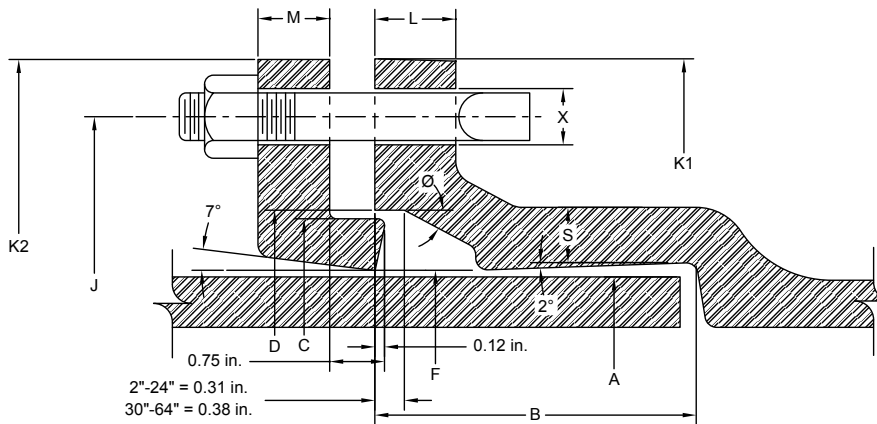
# Compact MJ Fittings

ANSI/AWWA C153/A21.53

## 2" - 64" DUCTILE IRON MECHANICAL JOINT COMPACT FITTINGS

### GENERAL SPECIFICATIONS

- MATERIAL:** Ductile Iron per ASTM A536
- PRESSURE:** 350 PSI rating for 2" - 24" sizes, 250 PSI rating for 30" - 48" sizes and 150 PSI rating for 54" - 64" sizes
- TESTING:** In accordance with ANSI/AWWA C153/A21.53 and UL requirements
- LAYING LENGTH:** In accordance with ANSI/AWWA C153/A21.53 (fittings not listed in ANSI/AWWA have dimensions per Star design as noted in the catalog)
- DEFLECTION:** 2"- 4"=8° | 6"-7"=7° | 8"-12"=5° | 14"-16"=3 1/2° | 18"-24"=3° | 30"-48"=2°
- WEIGHTS:** Are in pounds, unless noted otherwise and do not include accessories, cement lining and coating
- FLANGES:** Flanged ends on fittings match ANSI/AWWA C115/A21.15 and ANSI B16.1 class 125 flanges
- CEMENT LINING:** In accordance with ANSI/AWWA C104/A21.4 -- size 2" - 3" single thickness and sizes 4" - 64" double thickness
- COATING:** Asphaltic seal coat inside and out in accordance with ANSI/AWWA C104/A21.4 and referenced in ANSI/AWWA C153/A21.53
- GASKETS:** SBR in accordance with ANSI/AWWA C111/A21.11 (see pg. 16)
- T-BOLTS/NUTS:** Low alloy steel in accordance with ANSI/AWWA C111/A21.11 (see pg. 18)
- APPROVALS:** 3" - 12" UL/ULC Listed | 3" and greater are UL/NSF-61 | 3" - 16" FM APPROVED. Please consult factory for detail listing and approvals.
- DIMENSIONS:** All dimensions are in inches unless noted otherwise.



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	6.19	6.25	0.58	0.62	0.36	28°	3/4	5/8 x 3	2
3	3.96	2.50	4.84	4.94	4.06	6.19	7.62	7.69	0.58	0.62	0.39	28°	3/4	5/8 x 3	4
4	4.80	2.50	5.92	6.02	4.90	7.50	9.06	9.12	0.60	0.75	0.39	28°	7/8	3/4 x 3 1/2	4
6	6.90	2.50	8.02	8.12	7.00	9.50	11.06	11.12	0.63	0.88	0.43	28°	7/8	3/4 x 3 1/2	6
8	9.05	2.50	10.17	10.27	9.15	11.75	13.31	13.37	0.66	1.00	0.45	28°	7/8	3/4 x 3 1/2	6
10	11.10	2.50	12.22	12.34	11.20	14.00	15.62	15.62	0.70	1.00	0.47	28°	7/8	3/4 x 3 1/2	8
12	13.20	2.50	14.32	14.44	13.30	16.25	17.88	17.88	0.73	1.00	0.49	28°	7/8	3/4 x 3 1/2	8
14	15.30	3.50	16.40	16.54	15.44	18.75	20.25	20.25	0.79	1.25	0.55	28°	7/8	3/4 x 4	10
16	17.40	3.50	18.50	18.64	17.54	21.00	22.50	22.50	0.85	1.31	0.58	28°	7/8	3/4 x 4	12
18	19.50	3.50	20.60	20.74	19.64	23.25	24.83	24.75	1.00	1.38	0.68	28°	7/8	3/4 x 4	12
20	21.60	3.50	22.70	22.84	21.74	25.50	27.08	27.00	1.02	1.44	0.69	28°	7/8	3/4 x 4	14
24	25.80	3.50	26.90	27.04	25.94	30.00	31.58	31.50	1.02	1.56	0.75	28°	7/8	3/4 x 4 1/2	16
30	32.00	4.00	33.29	33.46	32.17	36.88	39.12	39.12	1.31	2.00	0.82	20°	1 1/8	1 x 5 1/2	20
36	38.30	4.00	39.59	39.76	38.47	43.75	46.00	46.00	1.45	2.00	1.00	20°	1 1/8	1 x 5 1/2	24
42	44.50	4.00	45.79	45.96	44.67	50.62	53.12	53.12	1.45	2.00	1.25	20°	1 3/8	1 1/4 x 6	28
48	50.80	4.00	52.09	52.26	50.97	57.50	60.00	60.00	1.45	2.00	1.35	20°	1 3/8	1 1/4 x 6	32
54	{Fittings & Dimensions Available On Request }														
60															
64															

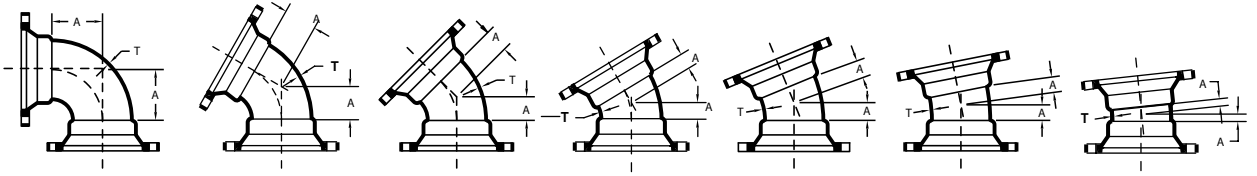
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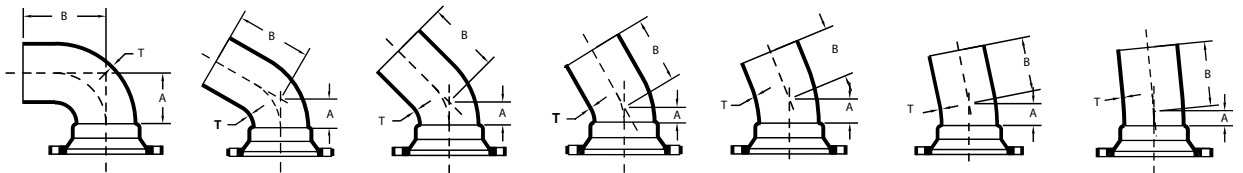


# Compact MJ Fittings

ANSI/AWWA C153/A21.53



MJ x MJ BENDS		90° MJ x MJ BENDS (1/4)		60° MJ x MJ BENDS (1/6)		45° MJ x MJ BENDS (1/8)		30° MJ x MJ BENDS (1/12)		22 1/2° MJ x MJ BENDS (1/16)		11 1/4° MJ x MJ BENDS (1/32)		5 3/8° MJ x MJ BENDS (1/64)	
NOM. SIZE	T	A	WT (LBS.)	A	WT (LBS.)	A	WT (LBS.)	A	WT (LBS.)	A	WT (LBS.)	A	WT (LBS.)	A	WT (LBS.)
2	0.30	3.25	14	-	-	1.80	13	-	-	1.00	9	1.00	8	-	-
3	0.33	3.50	23	-	-	1.50	21	-	-	1.00	16	1.00	14	-	-
4	0.34	4.00	27	-	-	2.00	23	-	-	1.50	18	1.25	16	-	-
6	0.36	5.00	39	-	-	3.00	32	-	-	2.00	32	1.50	30	-	-
8	0.38	6.50	57	-	-	3.50	46	-	-	2.50	46	1.75	42	-	-
10	0.40	7.50	89	-	-	4.50	70	-	-	3.00	64	2.00	58	-	-
12	0.42	9.00	108	-	-	5.50	86	-	-	3.50	84	2.25	74	-	-
14	0.47	11.50	180	-	-	5.00	145	-	-	3.75	140	2.50	128	-	-
16	0.50	12.50	264	-	-	5.50	202	-	-	3.75	178	2.50	148	-	-
18	0.54	14.00	335	-	-	6.00	250	-	-	4.50	255	3.00	205	-	-
20	0.57	15.00	400	-	-	7.00	305	-	-	4.50	262	3.00	245	-	-
24	0.61	17.00	565	-	-	7.50	405	-	-	4.50	412	3.00	315	-	-
30	0.66	21.50	1005	13.50	843	11.50	798	9.75	692	6.75	665	4.75	568	-	-
36	0.74	24.50	1562	17.00	1350	11.50	1164	11.00	1080	7.75	960	5.00	840	5.00	825
42	0.82	29.25	2506	19.00	2150	14.00	1792	12.00	1465	9.00	1350	6.00	1319	6.00	1125
48	0.90	33.25	3045	21.00	2650	15.00	2390	13.25	2075	10.00	1886	6.50	1700	6.50	1600



MJ x PE BENDS		90° MJ x PE BENDS (1/4)			60° MJ x PE BENDS (1/6)			45° MJ x PE BENDS (1/8)			30° MJ x PE BENDS (1/12)			22 1/2° MJ x PE BENDS (1/16)			11 1/4° MJ x PE BENDS (1/32)			5 3/8° MJ x PE BENDS (1/64)		
NOM. SIZE	T	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)
3	0.33	3.50	8.50	16	-	-	-	1.50	7.00	13	-	-	-	1.00	6.50	12	1.00	6.50	12	-	-	-
4	0.34	4.00	9.50	22	-	-	-	2.00	7.50	19	-	-	-	1.50	7.00	18	1.25	6.25	17	-	-	-
6	0.36	5.00	12.00	40	-	-	-	3.00	8.50	31	-	-	-	2.00	7.50	29	1.50	7.00	27	-	-	-
8	0.38	6.50	12.50	61	-	-	-	3.50	9.00	46	-	-	-	2.50	8.00	43	1.75	7.25	39	-	-	-
10	0.40	7.50	13.00	83	-	-	-	4.50	10.00	68	-	-	-	3.00	8.50	61	2.00	7.50	52	-	-	-
12	0.42	9.00	14.50	114	-	-	-	5.50	11.00	95	-	-	-	3.50	9.00	81	2.25	7.75	70	-	-	-
14	0.47	11.50	19.50	197	-	-	-	5.00	13.00	148	-	-	-	3.75	11.25	133	2.50	10.50	122	-	-	-
16	0.50	12.50	20.50	248	-	-	-	5.50	13.50	184	-	-	-	3.75	11.75	166	2.50	10.50	148	-	-	-
18	0.54	14.00	21.00	325	-	-	-	6.00	13.00	235	-	-	-	6.00	13.00	235	6.00	13.00	235	-	-	-
20	0.57	15.00	22.50	390	-	-	-	7.00	14.00	300	-	-	-	7.00	14.00	300	7.00	14.00	300	-	-	-
24	0.61	17.00	25.00	575	-	-	-	7.50	14.50	390	-	-	-	7.50	14.50	395	7.50	14.50	400	-	-	-
30	0.66	22.75	31.75	865	13.50	22.50	846	10.50	19.50	715	9.75	18.75	762	6.75	15.75	600	4.75	13.75	535	4.75	13.75	505
36	0.74	24.50	33.50	1355	-	-	-	12.00	21.00	1040	-	-	-	7.75	16.75	865	5.00	14.00	725	-	-	-
42	0.82	29.25	38.25	2055	-	-	-	14.00	23.00	1460	-	-	-	9.00	18.00	1200	6.00	15.00	1030	-	-	-
48	0.90	33.25	42.25	2805	-	-	-	15.00	24.00	1905	-	-	-	10.00	19.00	1575	6.50	15.50	1290	-	-	-

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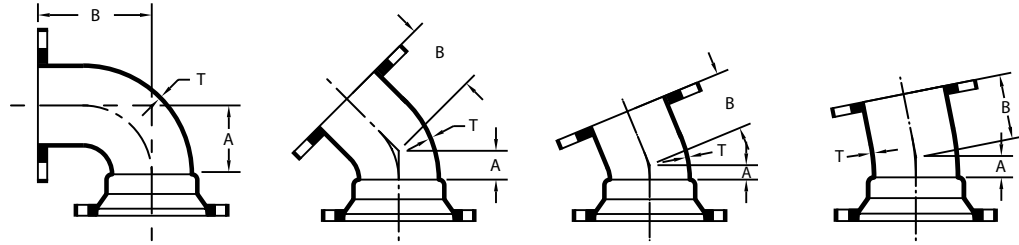


STAR<sup>®</sup> PIPE PRODUCTS

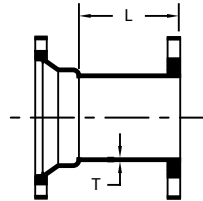


# Compact MJ Fittings

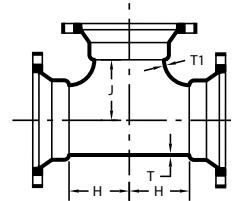
ANSI/AWWA C153/A21.53



MJ x FE BENDS		90° MJ x FE BENDS (¼)			45° MJ x FE BENDS (⅛)			22 ½° MJ x FE BENDS (⅙)			11 ¼° MJ x FE BENDS (½)		
NOM. SIZE	T	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)	A	B	WT (LBS.)
3	0.33	3.50	5.50	20	1.50	3.00	17	1.00	3.00	17	1.00	3.00	15
4	0.34	4.00	6.50	26	2.00	4.00	24	1.50	4.00	26	1.25	4.00	19
6	0.36	5.00	8.00	47	3.50	5.00	40	2.00	5.00	36	1.50	5.00	30
8	0.38	6.50	9.00	68	3.50	5.50	57	2.50	5.50	53	1.75	5.50	50
10	0.40	7.50	11.00	102	4.50	6.50	83	3.00	6.50	102	2.00	6.50	75
12	0.42	9.00	12.00	134	5.50	7.50	110	3.50	7.50	134	2.25	7.50	88
14	0.47	11.50	14.00	227	5.00	7.50	207	---	---	---	---	---	---
16	0.50	12.50	15.00	306	5.50	8.00	239	3.75	8.00	228	---	---	---
30	0.66	21.50	25.00	1070	10.50	15.00	858	---	---	---	---	---	---
36	0.74	24.50	28.00	---	---	---	---	---	---	---	---	---	---



MJ x FLANGE ADAPTER			
NOM. SIZE	T	L	WT (LBS.)
3	0.33	3.50	13
4	0.34	3.50	22
6	0.36	3.50	32
8	0.38	3.50	54
10	0.40	4.00	67
12	0.42	4.00	91
14	0.47	5.00	141
16	0.50	5.00	170
18	0.54	5.00	221
20	0.57	5.00	252
24	0.61	5.00	324
30	0.66	7.00	558
36	0.74	8.50	796
42	0.82	12.00	1190
48	0.90	12.00	1653



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	0.33	0.33	3.00	3.00	28
4 x 2	.034	0.30	3.00	4.00	29
4 x 3	0.34	0.33	3.50	4.00	30
4 x 4	0.34	0.34	4.00	4.00	32
6 x 3	0.36	0.33	3.50	5.00	42
6 x 4	0.36	0.34	4.00	5.00	46
6 x 4 x 6	0.36	0.36	5.00	5.00	45
6 x 6	0.36	0.36	5.00	5.00	56
6 x 6 x 8	0.36	0.38	6.50	6.50	62
8 x 3	0.38	0.33	4.00	6.50	52
8 x 4	0.38	0.34	4.00	6.50	60
8 x 6	0.38	0.36	5.00	6.50	72
8 x 6 x 6	0.38	0.38	5.00	6.50	62
8 x 6 x 8	0.38	0.38	6.00	6.50	85
8 x 8	0.38	0.38	6.50	6.50	86
10 x 3	0.40	0.33	4.00	7.50	75
10 x 4	0.40	0.34	4.00	7.50	78
10 x 6	0.40	0.36	5.00	7.50	90
10 x 8	0.40	0.38	6.50	7.50	105
10 x 10	0.40	0.40	7.50	7.50	120
12 x 3	0.42	0.33	4.00	8.75	90
12 x 4	0.42	0.34	4.00	8.75	94

(Con't)

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\* REGISTERED TRADEMARK OF STAR PIPE PRODUCTS



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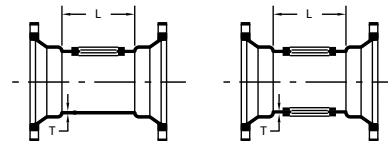


# Compact MJ Fittings

ANSI/AWWA C153/A21.53

MJ x MJ TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
12 x 6	0.42	0.36	5.00	8.75	110
12 x 8	0.42	0.38	6.50	8.75	125
12 x 10	0.42	0.40	7.50	8.75	140
12 x 12	0.42	0.42	8.75	8.75	160
14 x 6	0.47	0.36	6.50	10.50	182
14 x 8	0.47	0.38	7.50	10.50	190
14 x 10	0.47	0.40	8.50	10.50	206
14 x 12	0.47	0.42	9.50	10.50	221
14 x 14	0.47	0.47	10.50	10.50	251
16 x 6	0.50	0.36	6.50	11.50	218
16 x 8	0.50	0.38	7.50	11.50	223
16 x 10	0.50	0.40	8.50	11.50	264
16 x 12	0.50	0.42	9.50	11.50	280
16 x 14	0.50	0.47	10.50	11.50	316
16 x 16	0.50	0.50	11.50	11.50	322
18 x 6	0.54	0.36	6.50	12.50	275
18 x 8	0.54	0.38	7.50	12.50	295
18 x 10	0.54	0.40	8.50	12.50	315
18 x 12	0.54	0.42	9.50	12.50	335
18 x 14	0.54	0.47	10.50	12.50	380
18 x 16	0.54	0.50	11.50	12.50	405
18 x 18	0.54	0.54	12.50	12.50	435
20 x 6	0.57	0.36	6.50	14.00	315
20 x 8	0.57	0.38	8.00	14.00	345
20 x 10	0.57	0.40	9.00	14.00	370
20 x 12	0.57	0.42	10.00	14.00	395
20 x 14	0.57	0.47	11.00	14.00	440
20 x 16	0.57	0.50	12.00	14.00	465
20 x 18	0.57	0.54	13.00	14.00	505
20 x 20	0.57	0.57	14.00	14.00	535
24 x 6	0.61	0.36	7.00	16.00	415
24 x 8	0.61	0.38	8.00	16.00	445
24 x 10	0.61	0.40	9.00	16.00	470
24 x 12	0.61	0.42	10.00	16.00	500
24 x 14	0.61	0.47	11.00	16.00	550
24 x 16	0.61	0.50	12.00	16.00	580
24 x 18	0.61	0.54	13.00	16.00	625
24 x 20	0.61	0.57	14.00	16.00	660
24 x 24	0.61	0.61	16.00	16.00	720
30 x 6	0.66	0.36	8.00	20.00	970
30 x 8	0.66	0.38	8.50	20.00	739
30 x 12	0.66	0.42	10.00	20.00	830
30 x 14	0.66	0.47	11.00	20.00	880
30 x 16	0.66	0.50	12.50	20.00	878
30 x 18	0.66	0.54	14.00	20.00	1039
30 x 20	0.66	0.57	15.00	20.00	1000
30 x 24	0.66	0.61	21.00	22.00	1389
30 x 30	0.66	0.66	20.00	20.00	1323
36 x 4	0.74	0.34	7.00	23.50	924
36 x 6	0.74	0.36	8.00	23.50	1045
36 x 8	0.74	0.38	9.00	23.50	1095
36 x 10	0.74	0.40	9.00	23.50	1024
36 x 12	0.74	0.42	10.00	23.50	1072

MJ x MJ TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
36 x 14	0.74	0.47	11.00	23.50	1135
36 x 16	0.74	0.50	12.50	23.50	1385
36 x 18	0.74	0.54	13.00	23.50	1455
36 x 20	0.74	0.57	15.00	23.50	1631
36 x 24	0.74	0.61	16.00	23.50	1550
36 x 30	0.74	0.66	20.00	23.50	1986
36 x 36	0.74	0.74	23.50	23.50	2072
42 x 6	0.82	0.36	9.00	27.50	1534
42 x 12	0.82	0.42	14.00	27.50	1885
42 x 16	0.82	0.50	13.00	27.50	1929
42 x 18	0.82	0.54	16.00	27.50	2072
42 x 20	0.82	0.57	18.00	27.50	1947
42 x 24	0.82	0.61	20.00	27.50	2270
42 x 30	0.82	0.66	22.00	29.50	2608
42 x 36	0.82	0.74	30.00	30.00	3000
42 x 42	0.82	0.82	30.00	30.00	3175
48 x 6	0.90	0.36	10.00	32.00	1949
48 x 12	0.90	0.42	14.00	32.00	2535
48 x 16	0.90	0.50	13.00	32.00	2657
48 x 18	0.90	0.54	16.00	32.00	2293
48 x 24	0.90	0.61	23.00	32.00	2870
48 x 30	0.90	0.66	23.00	32.00	3050
48 x 36	0.90	0.74	33.50	32.25	3900
48 x 42	0.90	0.82	33.50	33.50	4100
48 x 48	0.90	0.90	33.50	33.50	4250
54 x 20	{ Dimensions Available On Request... }				
54 x 24					
54 x 30					
54 x 54					
60 x 30					
64 x 64					



MJ x MJ TAPPED TEES / CROSSES (2" TAP)				
NOM. SIZE	T	L	MAX TAP	WT (LBS.)
3	0.33	6.00	2 1/2	18
4	0.34	6.00	3	25
6	0.36	6.00	3	42
8	0.38	6.00	3	55
10	0.40	6.00	3	70
12	0.42	6.00	3	85
16	0.50	6.00	3	164
24	0.61	8.00	3	325

Threads in Accordance with ANSI/ASME B1.20.1

(Con't)▶

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 \* REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

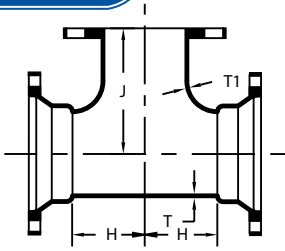


STAR<sup>®</sup> PIPE PRODUCTS



# Compact MJ Fittings

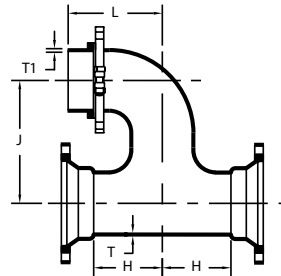
ANSI/AWWA C153/A21.53



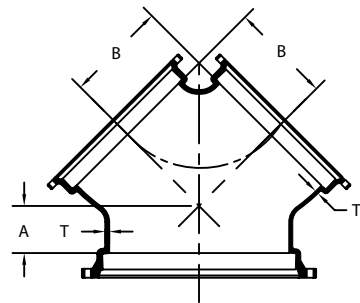
MJ x FE TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
3 x 3	0.33	0.33	3.00	5.50	30
4 x 2	0.52	0.39	4.80	4.80	53
4 x 3	0.34	0.33	3.50	6.50	34
4 x 4	0.34	0.34	4.00	6.50	40
6 x 3	0.36	0.33	3.50	8.00	50
6 x 4	0.36	0.34	4.00	8.00	65
6 x 6	0.36	0.36	5.00	8.00	62
8 x 4	0.38	0.34	4.00	9.00	75
8 x 6	0.38	0.36	5.00	9.00	78
8 x 8	0.38	0.38	6.50	9.00	88
10 x 4	0.40	0.34	4.00	11.00	90
10 x 6	0.40	0.36	5.00	11.00	106
10 x 8	0.40	0.38	6.50	11.00	114
10 x 10	0.40	0.40	7.50	11.00	126
12 x 4	0.42	0.34	4.00	12.00	118
12 x 6	0.42	0.36	5.00	12.00	133
12 x 8	0.42	0.38	6.50	12.00	134
12 x 10	0.42	0.40	7.50	12.00	145
12 x 12	0.42	0.42	8.75	12.00	170
14 x 6	0.47	0.36	6.50	14.00	185
14 x 8	0.47	0.38	7.50	14.00	206
14 x 10	0.47	0.40	8.50	14.00	244
14 x 12	0.47	0.42	9.50	14.00	284
14 x 14	0.47	0.47	10.50	14.00	305
16 x 6	0.50	0.36	6.50	15.00	207
16 x 8	0.50	0.38	7.50	15.00	260
16 x 10	0.50	0.40	8.50	15.00	287
16 x 12	0.50	0.42	9.50	15.00	312
16 x 14	0.50	0.47	10.50	15.00	348
16 x 16	0.50	0.50	11.50	15.00	374
18 x 6	0.54	0.36	6.50	15.00	325
18 x 8	0.54	0.38	7.50	15.00	351
18 x 12	0.54	0.42	9.50	15.00	358
18 x 18	0.54	0.54	12.50	16.50	445
20 x 6	0.57	0.36	6.50	17.00	360
20 x 8	0.57	0.38	8.00	17.00	339
20 x 10	0.57	0.40	9.00	17.00	370
24 x 6	0.61	0.36	7.00	19.00	406
24 x 8	0.61	0.38	8.00	19.00	472
24 x 12	0.61	0.42	10.00	19.00	580
24 x 16	0.61	0.50	12.00	19.00	744
24 x 24	0.61	0.61	16.00	22.00	950
30 x 6	0.66	0.36	8.00	23.00	675
30 x 8	0.66	0.38	8.50	23.00	695
30 x 12	0.66	0.42	10.00	23.00	715
30 x 16	0.66	0.50	12.50	23.00	1125

(Con't)➡

MJ x FE TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
30 x 24	0.66	0.61	16.00	25.00	1290
30 x 30	0.66	0.66	20.00	25.00	1355
36 x 6	0.74	0.36	8.00	26.00	980
36 x 14	0.74	0.47	11.10	26.00	1160
36 x 16	0.74	0.50	12.50	26.00	1475
42 x 6	0.82	0.36	9.00	30.00	1384
42 x 42	0.82	0.82	30.00	31.00	3878



MJ x SWIVEL PARALLEL TEE						
NOM. SIZE	T	T1	H	J	L	WT (LBS.)
6 x 6	0.36	0.36	8.00	12.50	10.00	83
8 x 6	0.38	0.36	9.00	13.50	11.00	105
10 x 6	0.40	0.36	11.00	14.00	13.00	125
12 x 6	0.42	0.36	12.00	16.00	14.00	235



MJ x MJ TRUE WYES					
NOM. SIZE	T	T1	A	B	WT (LBS.)
20 x 20 x 20	0.57	0.57	7.50	15.00	550
24 x 14 x 14	0.61	0.47	9.00	11.50	395
30 x 24 x 24	0.66	0.61	8.00	17.00	815
30 x 30 x 30	0.66	0.66	10.00	21.50	1380

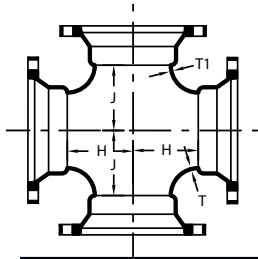
STAR<sup>®</sup> PIPE PRODUCTS





# Compact MJ Fittings

ANSI/AWWA C153/A21.53

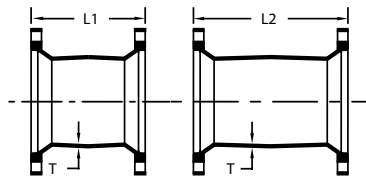


MJ CROSSES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
3 x 3	0.33	0.33	3.00	3.00	35
4 x 3	0.34	0.33	3.50	4.00	38
4 x 4	0.34	0.34	4.00	4.00	40
6 x 4	0.36	0.34	4.00	5.00	57
6 x 6	0.36	0.36	5.00	5.00	80
8 x 4	0.38	0.34	4.00	6.00	68
8 x 6	0.38	0.36	5.00	6.00	74
8 x 8	0.38	0.38	6.00	6.00	105
10 x 4	0.40	0.34	4.00	7.00	112
10 x 6	0.40	0.36	5.00	7.00	119
10 x 8	0.40	0.38	6.50	7.00	124
10 x 10	0.40	0.40	7.00	7.00	145
12 x 4	0.42	0.34	4.00	8.50	119
12 x 6	0.42	0.36	5.00	8.50	126
12 x 8	0.42	0.38	6.00	8.50	149
12 x 10	0.42	0.40	7.50	8.50	179
12 x 12	0.42	0.42	8.50	8.50	200
14 x 6	0.47	0.36	6.50	10.50	200
14 x 8	0.47	0.38	7.50	10.50	228
14 x 10	0.47	0.40	8.50	10.50	255
14 x 12	0.47	0.42	9.50	10.50	269
14 x 14	0.47	0.47	10.50	10.50	335
16 x 6	0.50	0.36	6.50	11.50	240
16 x 8	0.50	0.38	7.50	11.50	260
16 x 10	0.50	0.40	8.50	11.50	317
16 x 12	0.50	0.42	9.50	11.50	320
16 x 16	0.50	0.50	11.50	11.50	385
18 x 12	0.54	0.42	9.50	12.50	348
18 x 18	0.54	0.54	12.50	12.50	478
20 x 8	0.57	0.38	8.00	14.00	379
20 x 12	0.57	0.42	10.00	14.00	413
20 x 18	0.57	0.54	13.00	14.00	554
20 x 20	0.57	0.57	14.00	14.00	590
24 x 6	0.61	0.36	7.00	16.00	481
24 x 8	0.61	0.38	8.00	16.00	500
24 x 12	0.61	0.42	10.00	16.00	529
24 x 16	0.61	0.50	12.00	16.00	576
24 x 18	0.61	0.54	13.00	16.00	868
24 x 20	0.61	0.57	14.00	16.00	757
24 x 24	0.61	0.61	16.00	16.00	881
30 x 12	0.66	0.42	10.00	20.00	882
30 x 24	0.66	0.61	16.00	20.00	1246
30 x 30	0.66	0.66	22.00	22.00	1691
36 x 24	0.74	0.61	16.00	23.50	1785

(Con't)➔

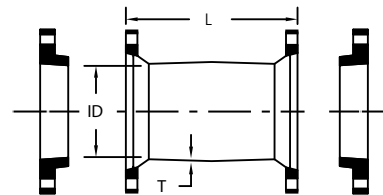
## MJ CROSSES (Con't)

NOM. SIZE	T	T1	H	J	WT (LBS.)
36 x 36	0.74	0.74	26.00	26.00	2811
42 x 24	0.82	0.61	20.00	27.50	2668
42 x 30	0.82	0.66	22.00	29.50	2950
42 x 36	0.82	0.74	30.00	30.00	3607
42 x 42	0.82	0.82	30.00	30.00	3725
48 x 24	0.90	0.61	23.00	32.00	3670
48 x 30	0.90	0.66	23.00	32.00	4505
48 x 36	0.90	0.74	33.50	32.25	4700
48 x 48	0.90	0.90	33.50	33.50	5827



## MJ SLEEVES

NOM. SIZE	T	SHORT SLEEVES		LONG SLEEVES	
		L1	WT (LBS.)	L2	WT (LBS.)
2	0.30	7.50	8	12.00	13
3	0.33	7.50	12	12.00	17
4	0.34	7.50	15	12.00	22
6	0.36	7.50	23	12.00	29
8	0.38	7.50	31	12.00	45
10	0.40	7.50	45	12.00	61
12	0.42	7.50	57	12.00	79
14	0.47	9.50	94	15.00	128
16	0.50	9.50	118	15.00	159
18	0.54	9.00	145	15.00	200
20	0.57	9.00	173	15.00	236
24	0.61	9.00	226	15.00	306
30	0.66	15.00	472	24.00	634
36	0.74	15.00	673	24.00	889
42	0.82	15.00	887	24.00	1120
48	0.90	15.00	1067	24.00	1414



## MJ DUAL PURPOSE SLEEVES W/ OVERSIZE GLANDS

NOM. SIZE	PIPE SIZE	T	L	(I.D.)	WT (LBS.)
4	4.80 - 5.00	0.34	12.00	5.10	20
6	6.90 - 7.10	0.36	12.00	7.20	36
8	9.05 - 9.30	0.38	12.00	9.40	46
10	11.10 - 11.40	0.40	12.00	11.50	62
12	13.20 - 13.50	0.42	12.00	13.60	76
16	17.40 - 17.80	0.50	15.00	17.94	172

STAR<sup>®</sup> PIPE PRODUCTS

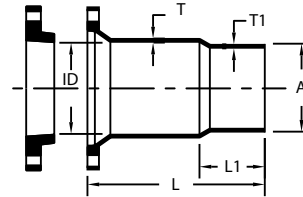
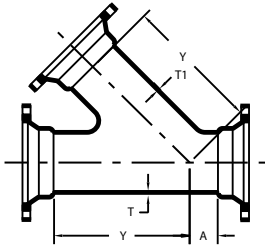
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 \* REGISTERED TRADEMARK OF STAR PIPE PRODUCTS





# Compact MJ Fittings

ANSI/AWWA C153/A21.53

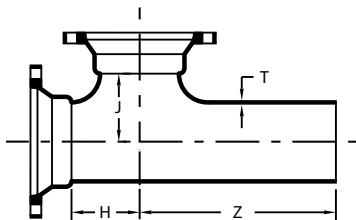
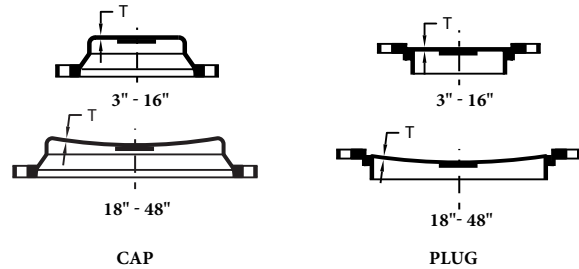


### 45° MJ LATERALS

NOM. SIZE	T	T1	A	Y	WT (LBS.)
3 x 3	0.33	0.33	2.50	8.50	36
4 x 3	0.34	0.33	2.50	8.50	40
4 x 4	0.34	0.34	2.50	8.50	41
6 x 4	0.36	0.34	1.50	11.00	53
6 x 6	0.36	0.36	3.00	12.50	85
8 x 4	0.38	0.34	0.50	13.00	73
8 x 6	0.38	0.36	2.00	14.50	90
8 x 8	0.38	0.38	3.50	16.00	102
10 x 4	0.40	0.34	0.00	15.00	150
10 x 6	0.40	0.36	1.00	16.00	158
10 x 8	0.40	0.38	2.50	17.00	172
10 x 10	0.40	0.40	3.50	19.00	210
12 x 4	0.42	0.34	0.00	16.50	150
12 x 6	0.42	0.36	1.50	18.50	186
12 x 8	0.42	0.38	1.50	18.50	188
12 x 10	0.42	0.40	3.00	20.00	250
12 x 12	0.42	0.42	4.50	22.50	272
14 x 6	0.47	0.36	0	19.50	245
14 x 8	0.47	0.38	1.50	21.00	279
14 x 10	0.47	0.40	3.00	22.50	316
14 x 14	0.47	0.47	6.00	25.00	474
16 x 6	0.50	0.36	0.00	21.00	300
16 x 8	0.50	0.38	0.50	22.50	349
16 x 10	0.50	0.40	2.00	24.00	370
16 x 12	0.50	0.42	3.50	25.00	453
16 x 14	0.50	0.47	5.00	26.50	500
16 x 16	0.50	0.50	6.50	28.00	575

### MJ x PE CUTTING IN SLEEVE W/ OVER SIZE GLAND

NOM. SIZE	ID	T	T1	A	L	L1	WT (LBS.)
4	5.10	0.36	0.34	4.80	20.00	9.00	50
6	7.20	0.38	0.36	6.90	20.00	9.00	62
8	9.40	0.40	0.38	9.05	20.00	9.00	70
10	11.50	0.42	0.40	11.10	20.00	9.00	105
12	13.60	0.47	0.42	13.20	20.00	9.00	128
16	17.94	0.54	0.50	17.40	20.00	9.00	275



### MJ x PE x MJ TEES

NOM. SIZE	T	H	J	Z	WT (LBS.)
6 x 6	0.36	5.00	5.00	12.00	57
8 x 6	0.38	5.50	6.50	11.50	69
8 x 8	0.38	6.50	6.50	12.50	77
10 x 10	0.40	7.50	7.50	13.00	120

### MJ CAPS & PLUGS (SOLID OR TAPPED)

NOM. SIZE	T	MAX. TAP	WT (LBS.)	
			PLUGS	CAPS
3	0.48	2	9	8
4	0.34	2	12	9
6	0.42	2	21	15
8	0.44	2	32	22
10	0.46	2	40	32
12	0.48	2	54	42
14	0.55	2 1/2	77	86
16	0.56	2 1/2	101	79
18	0.54	2 1/2	136	120
20	0.57	2 1/2	161	140
24	0.61	3	236	199
30	0.70	4	388	357
36	1.03	4	691	633
42	1.13	4	969	893
48	1.13	4	1296	1114

Threads in Accordance with ANSI/ASME B1.20.1

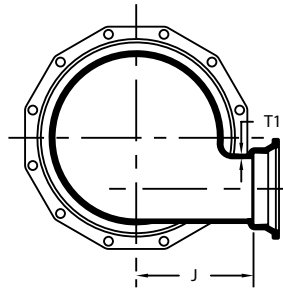
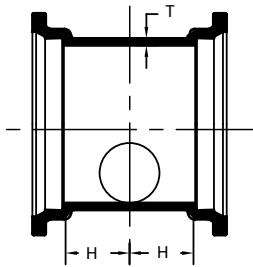
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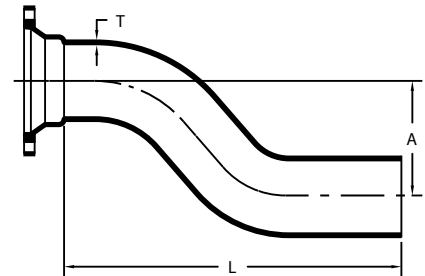
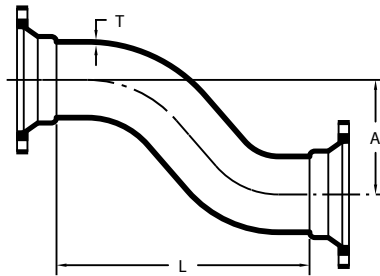


# Compact MJ Fittings

ANSI/AWWA C153/A21.53



MJ x MJ TANGENTIAL TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
16 x 6	0.50	0.38	6.50	11.50	225
16 x 12	0.50	0.42	9.50	11.50	300
18 x 6	0.54	0.36	6.50	12.50	285
24 x 6	0.61	0.36	7.00	16.00	455
24 x 12	0.61	0.42	10.00	16.00	540



MJ OFFSETS			MJ x MJ		MJ x PE	
NOM. SIZE	T	A	L	WT (LBS.)	L	WT (LBS.)
3 x 6	0.33	6.00	9.00	20	---	---
3 x 12	0.33	12.00	15.00	40	---	---
3 x 18	0.33	18.00	21.00	49	---	---
3 x 24	0.33	24.00	27.00	55	---	---
4 x 6	0.34	6.00	10.00	35	15.50	33
4 x 12	0.34	12.00	18.00	55	23.50	50
4 x 18	0.34	18.00	22.00	65	27.50	61
4 x 24	0.34	24.00	28.00	79	33.50	68
6 x 6	0.36	6.00	12.00	48	17.50	55
6 x 12	0.36	12.00	18.00	69	23.50	66
6 x 18	0.36	18.00	24.00	87	29.50	103
6 x 24	0.36	24.00	30.00	110	35.50	122
8 x 6	0.38	6.00	13.00	74	18.50	85
8 x 12	0.38	12.00	19.00	94	24.50	97
8 x 18	0.38	18.00	25.00	118	30.50	133
8 x 24	0.38	24.00	30.00	147	35.50	149
10 x 6	0.40	6.00	15.00	110	20.50	127
10 x 12	0.40	12.00	21.00	144	26.50	174
10 x 18	0.40	18.00	27.00	192	32.50	202
10 x 24	0.40	24.00	33.00	244	38.50	245
12 x 6	0.42	6.00	17.00	150	22.50	132
12 x 12	0.42	12.00	23.00	192	28.50	198
12 x 18	0.42	18.00	27.00	226	32.50	273
12 x 24	0.42	24.00	35.00	272	40.50	347
16 x 12	0.50	12.00	26.00	206	---	---
16 x 18	0.50	18.00	36.00	250	---	---
16 x 24	0.50	24.00	36.00	440	---	---
20 x 12	0.57	12.00	28.00	437	---	---
20 x 18	0.57	18.00	38.00	581	---	---

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 \* REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

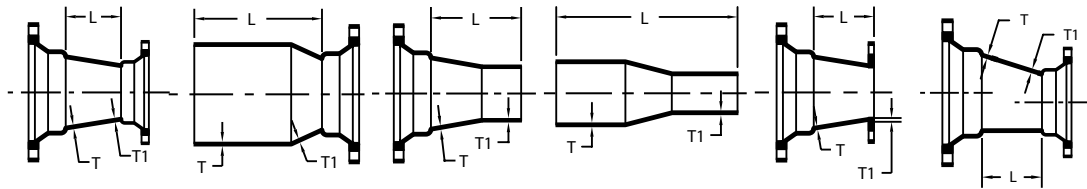


STAR® PIPE PRODUCTS



# Compact MJ Fittings

ANSI/AWWA C153/A21.53



REDUCERS			MJ x MJ		SEB		LEB		PE x PE		MJ x FE		ECCENTRIC	
NOM. SIZE	T	T1	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
4 x 3	0.34	0.33	3.00	16	8.50	17	8.50	16	14.00	14	5.00	19.00	---	---
6 x 3	0.36	0.33	5.00	22	10.62	24	10.50	19	16.00	19	---	---	---	---
6 x 4	0.36	0.34	4.00	24	9.50	23	9.50	23	15.00	22	5.00	30.00	---	---
8 x 4	0.38	0.34	5.00	32	10.50	30	10.50	34	16.00	30	---	---	---	---
8 x 6	0.38	0.36	4.00	36	9.50	35	9.50	32	15.00	33	6.00	41.00	---	---
10 x 4	0.40	0.34	7.00	46	12.50	44	12.50	43	---	---	---	---	---	---
10 x 6	0.40	0.36	5.00	47	10.50	46	10.50	46	16.00	46	---	---	---	---
10 x 8	0.40	0.38	4.00	50	9.50	49	9.50	50	15.00	47	---	---	4.00	50
12 x 4	0.42	0.34	9.00	58	14.50	60	14.50	57	20.00	58	---	---	---	---
12 x 6	0.42	0.36	7.00	60	12.50	53	12.50	57	18.00	57	---	---	---	---
12 x 8	0.42	0.38	5.00	60	10.50	61	10.50	59	16.00	54	7.00	82	---	---
12 x 10	0.42	0.40	4.00	64	9.50	53	9.50	58	15.00	54	7.00	85	---	---
14 x 6	0.47	0.36	9.00	110	16.90	100	14.50	105	---	---	---	---	---	---
14 x 8	0.47	0.38	7.00	122	14.90	99	12.40	98	---	---	---	---	---	---
14 x 10	0.47	0.40	5.00	120	12.90	96	10.40	92	---	---	8.00	112	---	---
14 x 12	0.47	0.42	4.00	132	11.90	90	9.40	92	17.30	88	---	---	---	---
16 x 6	0.50	0.36	11.00	148	21.00	125	16.50	144	24.30	93	---	---	---	---
16 x 8	0.50	0.38	9.00	155	18.00	124	14.50	136	22.30	119	---	---	---	---
16 x 10	0.50	0.40	7.00	160	15.00	124	12.50	125	20.50	119	---	---	---	---
16 x 12	0.50	0.42	5.00	161	12.90	122	10.50	116	18.30	99	---	---	5.00	115
16 x 14	0.50	0.47	4.00	131	12.00	133	12.00	135	19.70	129	---	---	---	---
18 x 8	0.54	0.38	13.00	201	20.00	170	19.50	195	---	---	16.00	190	---	---
18 x 10	0.54	0.40	10.00	196	18.00	165	17.40	185	25.50	160	---	---	---	---
18 x 12	0.54	0.42	7.00	180	15.50	150	14.00	150	19.50	150	12.00	198	---	---
18 x 14	0.54	0.47	6.00	200	15.00	175	15.00	200	---	---	---	---	---	---
18 x 16	0.54	0.50	5.00	196	12.50	170	12.50	192	---	---	---	---	---	---
20 x 8	0.57	0.38	16.00	227	---	---	---	---	---	---	---	---	---	---
20 x 10	0.57	0.40	16.00	220	22.12	200	19.00	210	---	---	---	---	---	---
20 x 12	0.57	0.42	12.00	227	17.50	170	16.00	205	---	---	---	---	---	---
20 x 14	0.57	0.47	10.00	200	18.00	190	17.90	205	---	---	---	---	---	---
20 x 16	0.57	0.50	7.00	231	13.50	185	13.50	200	---	---	---	---	---	---
20 x 18	0.57	0.54	4.00	225	12.00	200	12.00	215	---	---	---	---	8.00	235
24 x 8	0.61	0.38	20.00	263	---	---	---	---	---	---	---	---	---	---
24 x 10	0.61	0.40	18.00	286	---	---	---	---	---	---	---	---	---	---
24 x 12	0.61	0.42	16.00	263	21.50	275	21.00	290	---	---	18.00	318	---	---
24 x 14	0.61	0.47	14.00	310	22.00	310	21.90	315	---	---	---	---	---	---
24 x 16	0.61	0.50	13.00	279	21.00	285	17.50	285	---	---	---	---	12.00	320
24 x 18	0.61	0.54	10.00	284	18.00	300	18.00	310	---	---	---	---	---	---
24 x 20	0.61	0.57	7.00	328	15.00	276	13.50	275	---	---	---	---	7.00	370
30 x 12	0.66	0.42	30.00	702	---	---	---	---	---	---	---	---	---	---
30 x 16	0.66	0.50	30.00	633	39.00	565	39.00	623	48.00	690	---	---	---	---
30 x 18	0.66	0.54	28.00	658	37.00	654	37.00	635	---	---	---	---	28.00	800
30 x 20	0.66	0.57	24.00	628	33.00	590	33.00	603	---	---	---	---	24.00	630
30 x 24	0.66	0.61	10.00	478	24.50	536	24.50	526	---	---	---	---	10.00	570

(Con't)➔

STAR<sup>®</sup> PIPE PRODUCTS



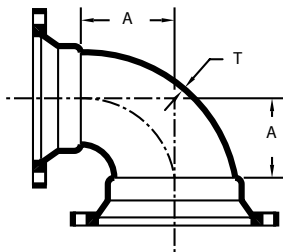


# Compact MJ Fittings

ANSI/AWWA C153/A21.53

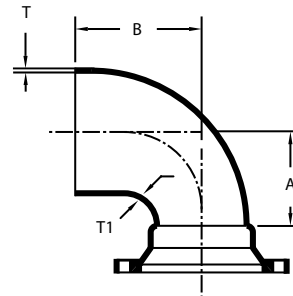
STAR<sup>®</sup> PIPE PRODUCTS

REDUCERS (Con't)			MJ x MJ		SEB		LEB		PE x PE		MJ x FE		★ ECCENTRIC	
NOM. SIZE	T	T1	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
36 x 4	0.74	0.34	36.00	712										
36 x 6	0.74	0.36	36.00	731	---	---	---	---	---	---	---	---	---	---
36 x 8	0.74	0.38	36.00	750	---	---	---	---	---	---	---	---	---	---
36 x 10	0.74	0.40	36.00	775	---	---	---	---	---	---	---	---	---	---
36 x 12	0.74	0.42	36.00	1058	---	---	---	---	---	---	---	---	---	---
36 x 16	0.74	0.50	40.00	1016	27.00	595	---	---	---	---	---	---	---	---
36 x 18	0.74	0.54	38.00	983	37.00	800	---	---	---	---	---	---	---	---
36 x 20	0.74	0.57	36.00	1165	45.00	850	45.00	950	---	---	---	---	---	---
36 x 24	0.74	0.61	19.00	822	33.12	746	33.00	810	---	---	---	---	19.00	820
36 x 30	0.74	0.66	15.50	811	24.62	788	24.50	758	---	---	---	---	15.50	650
42 x 24	0.82	0.61	40.00	1356	49.00	1204	49.00	1320	---	---	---	---	40.00	1782
42 x 30	0.82	0.66	20.00	1083	29.12	1150	29.00	1015	---	---	---	---	20.00	1435
42 x 36	0.82	0.74	15.50	1114	24.62	962	24.50	1013	---	---	---	---	15.50	1114
48 x 20	0.90	0.57	40.00	1580	49.00	1320	---	---	---	---	---	---	---	---
48 x 24	0.90	0.61	40.00	1761	---	---	---	---	---	---	---	---	40.00	1800
48 x 30	0.90	0.66	40.00	1779	49.00	1594	49.00	1711	---	---	---	---	40.00	1960
48 x 36	0.90	0.74	28.00	1641	37.00	1456	37.00	1540	---	---	---	---	28.00	2000
48 x 42	0.90	0.82	15.50	1426	24.50	1241	24.50	1275	---	---	---	---	15.50	1470



MJ x MJ RED 90°

Nom. SIZE	T	TI	A	WT (LBS.)
48 x 36	0.90	0.74	33.25	2500



PE x MJ RED 90°

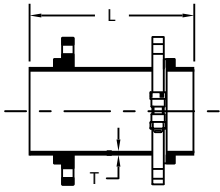
Nom. SIZE	T	TI	A	B	WT (LBS.)
48 x 36	0.90	0.74	33.25	42.25	2643



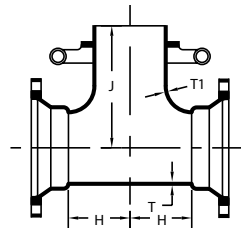


# Compact MJ Fittings

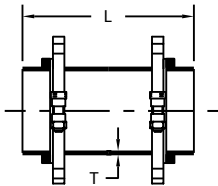
ANSI/AWWA C153/A21.53



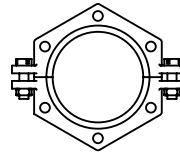
SWIVEL x SOLID HYDRANT ADAPTERS W/ SWIVEL GLAND			
NOM. SIZE	T	L	WT (LBS.)
4 x 13	0.34	13.00	29
6 x 13	0.36	11.50	47
6 x 18	0.36	18.00	56
6 x 24	0.36	24.00	60
6 x 36	0.36	36.00	75
6 x 48	0.36	48.00	94
8 x 13	0.38	13.00	54
8 x 18	0.38	18.00	67
8 x 24	0.38	24.00	82
8 x 48	0.38	48.00	143
12 x 13	0.42	13.00	120



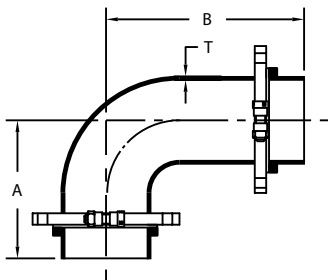
MJ x SWIVEL HYDRANT TEES W/ SWIVEL GLAND					
NOM. SIZE	T	T1	H	J	WT (LBS.)
6 x 6	0.36	0.36	5.00	10.25	65
8 x 6	0.38	0.36	5.00	11.25	85
8 x 8	0.38	0.38	6.50	11.50	100
10 x 6	0.40	0.36	5.00	12.75	105
10 x 8	0.40	0.38	6.50	12.75	118
12 x 6	0.42	0.36	5.00	13.75	126
12 x 8	0.42	0.38	6.50	13.75	128
14 x 6	0.47	0.36	6.50	15.00	211
16 x 6	0.50	0.36	6.50	16.00	279
18 x 6	0.54	0.36	6.50	18.00	278
20 x 6	0.57	0.36	6.50	18.50	358
24 x 6	0.61	0.36	7.00	19.00	460
42 X 6	0.82	0.36	9.00	30.00	1371



SWIVEL x SWIVEL HYDRANT ADAPTERS W/ 2 SWIVEL GLANDS			
NOM. SIZE	T	L	WT (LBS.)
6 x 12	0.36	12.00	50
6 x 18	0.36	18.00	62
6 x 24	0.36	24.00	74



SWIVEL GLANDS		
NOM. SIZE	WT (LBS.)	T-HEAD BOLTS
4	8	(2) 3/4" x 3 1/2"
6	12	(2) 3/4" x 3 1/2"
8	10	(2) 3/4" x 3 1/2"
12	24	(2) 3/4" x 4"



SWIVEL x SWIVEL HYDRANT ELL W/ 2 SWIVEL GLANDS				
NOM. SIZE	T	A	B	WT (LBS.)
6	0.36	10.50	16.00	50

STAR<sup>®</sup> PIPE PRODUCTS

