



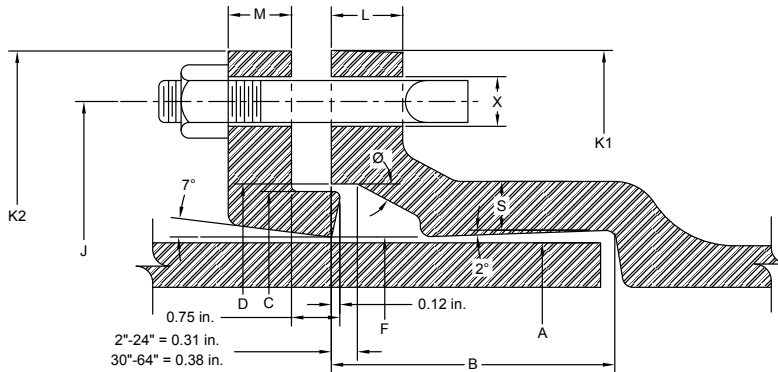
Compact MJ Fittings

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, ANSI/AWWA C111/A21.11, UL and FM 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° | 8" - 12"=5° | 14" - 16"=3 1/2° | 18" - 24"=3° | 30" - 64"=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. [Click here for a pressure jetting discussion](#) or visit http://www.starpipeproducts.com/pressure_cleaning_guidelines.asp.
- 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. 20)
- T-BOLTS/NUTS:** Low alloy steel in accordance with ANSI/AWWA C111/A21.11 (see pg. 22)
- APPROVALS:** 3" - 12" UL/ULC Listed | 2" and greater are UL/ANSI/NSF Standards 61 and 372 | 3" - 16" FM APPROVED. Please consult factory for detail listing and approvals.
- DIMENSIONS:** All dimensions are in inches unless noted otherwise. ([Click here for a short commentary on non-pressure sewer applications](#) or visit http://www.starpipeproducts.com/non-pressure_sewer_applications.asp. Review commentary before ordering or installing fittings for this application.)
- INSTALLATION:** Per ANSI/AWWA C600 and C111 using DIP conforming to C150/C151 and PVC pipe conforming to C900/C905



MECHANICALJOINT 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	57.56	4.00	58.82	59.02	57.73	63.20	65.70	65.70	1.88	2.00	1.50	20°	1 3/8	1 1/4 x 6 1/2	36
60	61.61	4.00	62.87	63.07	61.78	67.72	70.22	70.22	1.88	2.00	1.55	20°	1 3/8	1 1/4 x 6 1/2	36
64	65.67	4.00	66.96	67.13	65.84	71.86	74.36	74.36	1.88	2.00	1.62	20°	1 3/8	1 1/4 x 6 1/2	38

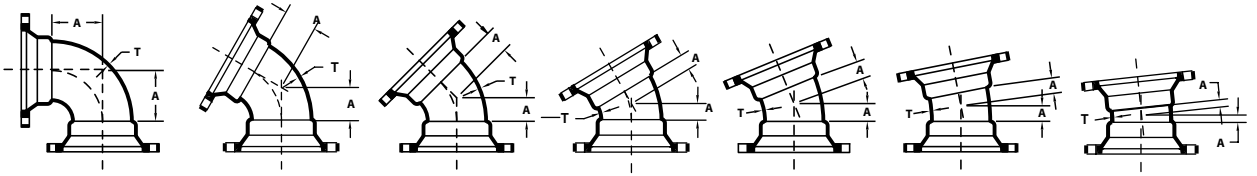
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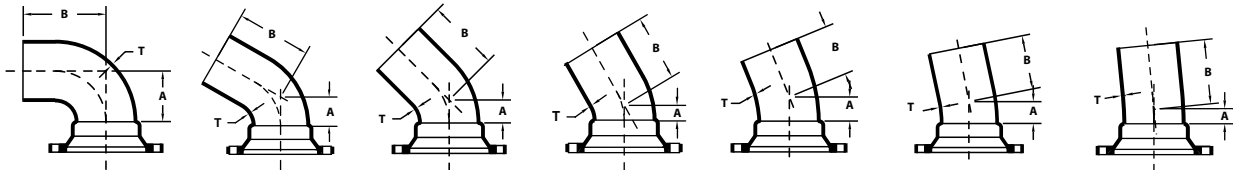


Compact MJ Fittings

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 5/8° 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	1.00	13
4	0.34	4.00	27	3.00	21	2.00	23	-	-	1.50	18	1.25	16	1.25	16
6	0.36	5.00	39	4.00	35	3.00	32	-	-	2.00	32	1.50	30	1.50	27
8	0.38	6.50	57	4.50	50	3.50	46	3.00	44	2.50	46	1.75	42	1.75	38
10	0.40	7.50	89	-	-	4.50	70	-	-	3.00	64	2.00	58	2.00	56
12	0.42	9.00	108	6.50	104	5.50	98	4.00	87	3.50	84	2.25	74	2.25	73
14	0.47	11.50	180	-	-	5.00	145	-	-	3.75	140	2.50	128	2.50	121
16	0.50	12.50	264	7.50	210	5.50	202	4.50	177	3.75	178	2.50	148	2.50	150
18	0.54	14.00	335	-	-	6.00	250	-	-	4.50	255	3.00	205	3.00	204
20	0.57	15.00	400	10.50	365	7.00	305	-	-	4.50	262	3.00	245	3.00	239
24	0.61	17.00	565	10.50	479	7.50	405	6.00	385	4.50	412	3.00	315	3.00	317
30	0.66	21.50	1005	13.50	843	11.50	798	9.75	692	6.75	665	4.75	568	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
54	1.05	37.00	4023	-	-	20.25	3062	-	-	10.25	2198	5.00	1711	-	-
60	1.10	39.50	4714	24.00	3673	21.25	3487	19.00	3307	10.75	2434	7.00	2033	-	-
64	1.16	42.00	5508	-	-	22.25	4000	18.50	3620	11.00	2727	7.00	2245	7.00	2247



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 5/8° 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	-	-	-

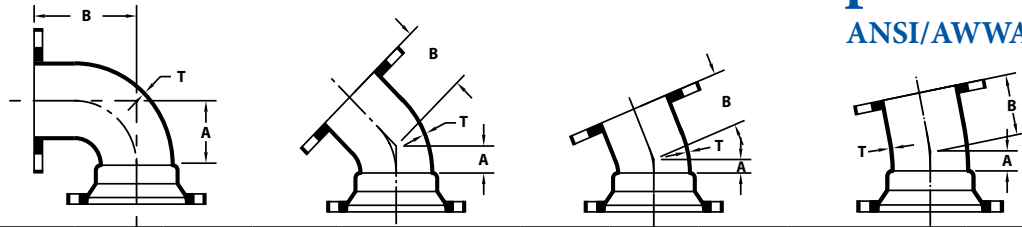
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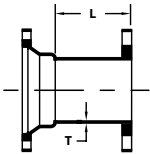


Compact MJ Fittings

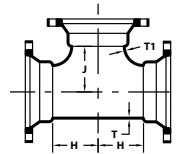
ANSI/AWWA C153/A21.53



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.)
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	3.75	7.50	166	---	---	---
16	0.50	12.50	15.00	306	5.50	8.00	239	3.75	8.00	228	2.50	8.00	201
18	0.54	14.00	16.50	357	6.00	8.50	268	4.50	8.50	259	3.00	8.50	247
20	0.57	15.00	18.00	445	7.00	9.50	339	4.50	9.50	321	3.00	9.50	307
24	0.61	17.00	22.00	650	7.50	11.00	474	4.50	11.00	444	3.00	11.00	427
30	0.66	21.50	25.00	1070	10.50	15.00	858	6.75	15.00	764	4.75	15.00	733
36	0.74	24.50	28.00	1554	11.50	18.00	1240	7.75	18.00	1176	5.00	18.00	1118
42	0.82	29.25	31.00	2190	14.00	21.00	1820	---	---	---	6.00	21.00	1627
48	0.90	33.25	34.00	3015	15.00	24.00	2421	---	---	---	---	---	---



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	47
10	0.40	4.00	66
12	0.42	4.00	91
14	0.47	5.00	141
16	0.50	5.00	170
18	0.54	5.00	176
20	0.57	5.00	252
24	0.61	5.00	320
30	0.66	7.00	558
36	0.74	8.50	796
42	0.82	12.00	1180
48	0.90	12.00	1499
54	1.05	13.00	1889
60	1.10	13.00	2148



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	50
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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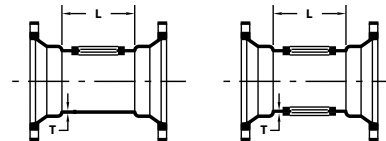
Compact MJ Fittings

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 4	0.57	0.34	5.50	14.00	295
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 4	0.61	0.34	6.00	16.00	398
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	685
30 x 8	0.66	0.38	8.50	20.00	739
30 x 10	0.66	0.40	10.00	20.00	760
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

(Con't)➔

MJ x MJ TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
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
36 x 14	0.74	0.47	11.00	23.50	1135
36 x 16	0.74	0.50	12.50	23.50	1210
36 x 18	0.74	0.54	13.00	23.50	1251
36 x 20	0.74	0.57	15.00	23.50	1350
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	1366
42 x 8	0.82	0.38	9.00	27.50	1369
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	1.05	0.57	23.00	37.00	3486
54 x 24	1.05	0.61	23.00	37.00	3505
54 x 30	1.05	0.66	29.30	37.00	4162
54 x 36	1.05	0.77	29.30	37.00	4257
54 x 42	1.05	0.88	31.00	39.00	4610
60 x 30	1.10	0.66	29.50	39.00	4648
64 x 64	1.16	1.16	43.30	43.30	7454



MJ x MJ TAPPED TEES / CROSSES (2" TAP)				
NOM. SIZE	T	L	MAX TAP	WT (LBS.)
3	0.33	6.00	2 ½	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

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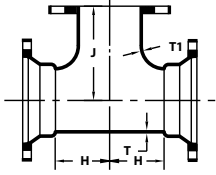
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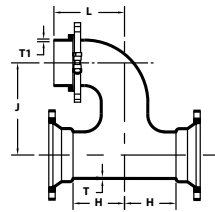
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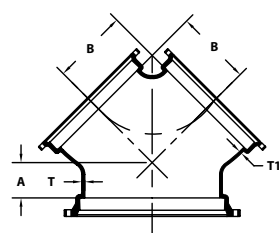


MJ x FE TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
3 x 3	0.33	0.33	3.00	5.50	30
4 x 2	0.52	0.39	4.80	4.80	53
4 x 3	0.34	0.33	3.50	6.50	34
4 x 4	0.34	0.34	4.00	6.50	40
6 x 3	0.36	0.33	3.50	8.00	50
6 x 4	0.36	0.34	4.00	8.00	65
6 x 6	0.36	0.36	5.00	8.00	62
8 x 4	0.38	0.34	4.00	9.00	65
8 x 6	0.38	0.36	5.00	9.00	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	15.50	325
18 x 8	0.54	0.38	7.50	15.50	351
18 x 12	0.54	0.42	9.50	15.50	358
18 x 18	0.54	0.54	12.50	16.50	445
20 x 4	0.57	0.34	6.50	17.00	321
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	432
24 x 8	0.61	0.38	8.00	19.00	472
24 x 12	0.61	0.42	10.00	19.00	542
24 x 16	0.61	0.50	12.00	19.00	622
24 x 18	0.61	0.54	13.00	22.00	680
24 x 24	0.61	0.61	16.00	22.00	950
30 x 6	0.66	0.36	8.00	23.00	692
30 x 8	0.66	0.38	8.50	23.00	719
30 x 10	0.66	0.40	9.50	23.00	764
30 x 12	0.66	0.42	10.00	23.00	796

MJ x FE TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
30 x 16	0.66	0.50	12.50	23.00	909
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	1241
36 x 20	0.74	0.57	15.00	26.00	1381
42 x 6	0.82	0.36	9.00	30.00	1384
42 x 24	0.82	0.61	20.00	30.00	2130
42 x 42	0.82	0.82	30.00	31.00	3878
48 x 20	0.90	0.57	22.00	34.00	2706
48 x 30	0.90	0.66	23.00	34.00	2872
48 x 48	0.90	0.90	33.50	34.00	4038
54 x 30	1.05	0.66	29.30	37.00	4179



MJ x SWIVEL PARALLEL TEE W/ SWIVEL GLAND						
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

(Con't)➔

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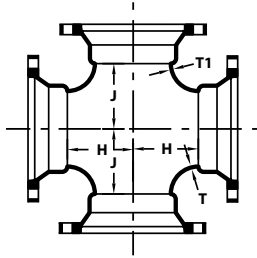
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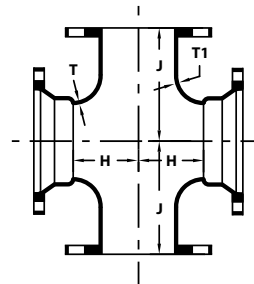


MJ CROSSES

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 3	0.36	0.33	3.50	5.00	48
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 10	0.57	0.40	9.00	14.00	395
20 x 12	0.57	0.42	10.00	14.00	413
20 x 16	0.57	0.50	12.00	14.00	527
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 10	0.61	0.40	9.00	16.00	499
24 x 12	0.61	0.42	10.00	16.00	529
24 x 16	0.61	0.50	12.00	16.00	641
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

MJ CROSSES (Con't)

NOM. SIZE	T	T1	H	J	WT (LBS.)
30 x 12	0.66	0.42	10.00	20.00	882
30 x 20	0.66	0.57	15.00	20.00	1074
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 16	0.74	0.50	12.50	23.50	1262
36 x 24	0.74	0.61	16.00	23.50	1785
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 20	0.90	0.57	20.00	32.00	2636
48 x 24	0.90	0.61	23.00	32.00	2921
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
54 x 54	1.05	1.05	35.80	35.80	5844



MJ x FLANGE CROSS

NOM. SIZE	T	T1	H	J	WT (LBS.)
6 x 6	0.36	0.36	5.00	8.00	84
8 x 6	0.38	0.36	5.00	9.00	100
8 x 8	0.38	0.38	6.50	9.00	130
10 x 10	0.40	0.40	7.50	11.00	185
12 x 6	0.42	0.36	5.00	12.00	140
12 x 8	0.42	0.38	6.50	12.00	175
12 x 10	0.42	0.40	7.50	12.00	206
12 x 12	0.42	0.42	8.75	12.00	256
16 x 12	0.50	0.42	9.50	15.00	371

(Con't)➔

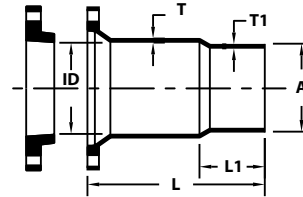
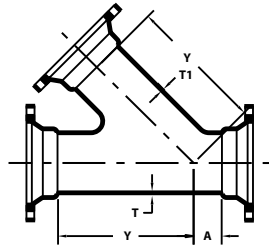
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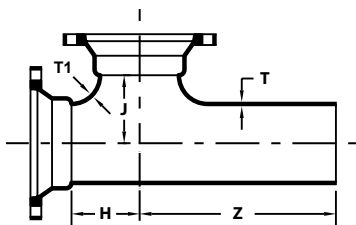
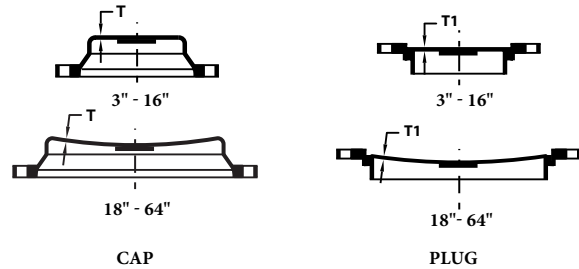
Compact MJ Fittings

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 3	0.38	0.33	0.50	13.00	74
8 x 4	0.38	0.34	0.50	13.00	77
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	0.00	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 4	0.50	0.34	0.00	21.00	272
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	T1	H	J	Z	WT (LBS.)
6 x 4	0.36	0.34	4.00	5.00	12.00	49
6 x 6	0.36	0.36	5.00	5.00	12.00	57
8 x 6	0.38	0.36	5.50	6.50	11.50	74
8 x 8	0.38	0.38	6.50	6.50	15.00	91
10 x 10	0.40	0.40	7.50	7.50	13.00	115
12 x 12	0.42	0.42	8.75	8.75	14.50	155
16 x 16	0.50	0.50	11.50	11.50	20.63	337

MJ CAPS & PLUGS (SOLID OR TAPPED)					
NOM. SIZE	T	T1	MAX. TAP	WT (LBS.)	
				PLUGS	CAPS
3	0.46	0.50	2	9	8
4	0.34	0.40	2	13	9
6	0.42	0.42	2	20	15
8	0.44	0.44	2	30	23
10	0.46	0.46	2	39	33
12	0.48	0.48	2	52	44
14	0.55	0.55	2 1/2	93	64
16	0.56	0.56	2 1/2	116	79
18	0.54	0.54	2 1/2	135	121
20	0.57	0.57	2 1/2	161	140
24	0.61	0.65	3	239	199
30	0.70	0.66	4	387	361
36	1.03	1.00	4	689	635
42	1.13	1.13	4	965	896
48	1.43	1.25	4	1291	1329
54	2.16	2.19	6	2050	2167
60	2.25	2.38	6	2446	2571
64	2.38	2.56	6	2850	3018

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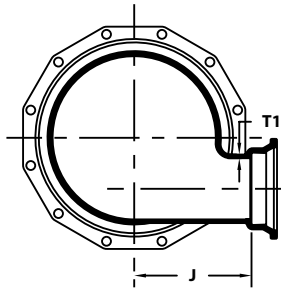
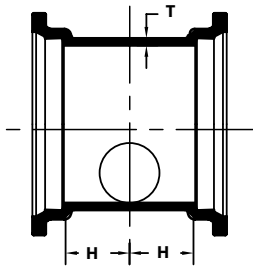
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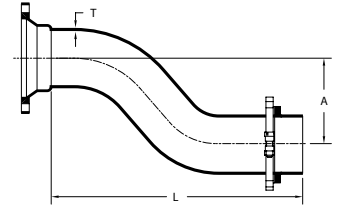
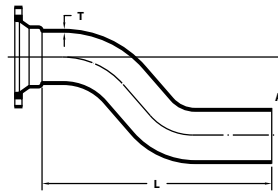
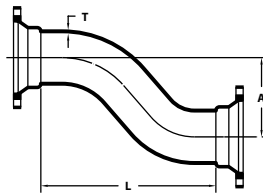


Compact MJ Fittings

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
20 x 6	0.57	0.36	6.50	14.00	321
24 x 6	0.61	0.36	7.00	16.00	455
24 x 8	0.61	0.38	8.00	16.00	456
24 x 12	0.61	0.42	10.00	16.00	540
36 x 8	0.74	0.38	9.00	23.50	1027
48 x 8	0.90	0.38	10.00	30.00	1820
48 x 12	0.90	0.42	14.00	30.00	2116



MJ OFFSETS			MJ x MJ		MJ x PE		MJ x SWIVEL W/ SWIVEL GLAND	
NOM. SIZE	T	A	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
3 x 6	0.33	6.00	9.00	22	---	---	---	---
3 x 12	0.33	12.00	15.00	30	---	---	---	---
3 x 18	0.33	18.00	21.00	39	---	---	---	---
3 x 24	0.33	24.00	27.00	47	---	---	---	---
4 x 6	0.34	6.00	10.00	29	15.50	29	---	---
4 x 12	0.34	12.00	18.00	42	23.50	43	---	---
4 x 18	0.34	18.00	22.00	51	27.50	52	---	---
4 x 24	0.34	24.00	28.00	63	33.50	64	---	---
6 x 6	0.36	6.00	12.00	48	17.50	49	18.00	62
6 x 12	0.36	12.00	18.00	65	23.50	66	30.00	88
6 x 18	0.36	18.00	24.00	83	29.50	84	---	---
6 x 24	0.36	24.00	30.00	100	35.50	102	41.00	121
8 x 6	0.38	6.00	13.00	68	18.50	69	---	---
8 x 12	0.38	12.00	19.00	92	24.50	94	---	---
8 x 18	0.38	18.00	25.00	116	30.50	119	---	---
8 x 24	0.38	24.00	30.00	139	35.50	142	---	---
10 x 6	0.40	6.00	15.00	100	20.50	99	---	---
10 x 12	0.40	12.00	21.00	131	26.50	131	---	---
10 x 18	0.40	18.00	27.00	163	32.50	164	---	---
10 x 24	0.40	24.00	33.00	194	38.50	196	---	---
12 x 6	0.42	6.00	17.00	133	22.50	132	---	---
12 x 12	0.42	12.00	23.00	171	28.50	171	---	---
12 x 18	0.42	18.00	27.00	204	32.50	205	---	---
12 x 24	0.42	24.00	35.00	250	40.50	252	---	---
16 x 12	0.50	12.00	26.00	320	---	---	---	---
16 x 18	0.50	18.00	36.00	402	---	---	---	---
16 x 24	0.50	24.00	36.00	433	---	---	---	---
20 x 12	0.57	12.00	28.00	486	---	---	---	---
20 x 18	0.57	18.00	38.00	603	---	---	---	---

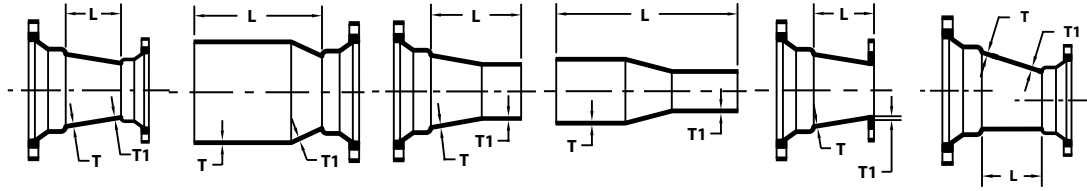
UCAT19.01
 * REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

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	3.00	15
6 x 2	0.36	0.30	---	---	---	---	---	---	---	---	7.00	23	---	---
6 x 3	0.36	0.33	5.00	22	10.62	24	10.50	19	16.00	19	6.00	25	---	---
6 x 4	0.36	0.34	4.00	24	9.50	23	9.50	23	15.00	22	5.00	30	4.00	24
8 x 4	0.38	0.34	5.00	32	10.50	30	10.50	34	16.00	30	7.00	38	5.00	31
8 x 6	0.38	0.36	4.00	36	9.50	35	9.50	32	15.00	33	6.00	41	---	---
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	7.00	54	5.00	46
10 x 8	0.40	0.38	4.00	50	9.50	49	9.50	50	15.00	47	6.00	62	4.00	48
12 x 4	0.42	0.34	9.00	58	14.50	60	14.50	57	20.00	58	11.00	66	---	---
12 x 6	0.42	0.36	7.00	60	12.50	53	12.50	57	18.00	57	9.00	69	7.00	60
12 x 8	0.42	0.38	5.00	60	10.50	61	10.50	59	16.00	54	7.00	82	5.00	59
12 x 10	0.42	0.40	4.00	64	9.50	53	9.50	58	15.00	54	7.00	85	4.00	61
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	20.30	91	---	---	---	---
14 x 10	0.47	0.40	5.00	120	12.90	96	10.40	92	18.30	88	8.00	112	---	---
14 x 12	0.47	0.42	4.00	132	11.90	90	9.40	92	17.30	89	---	---	4.00	94
16 x 6	0.50	0.36	11.00	120	21.00	125	16.50	144	24.30	93	13.00	128	---	---
16 x 8	0.50	0.38	9.00	118	18.00	124	14.50	136	22.30	119	11.00	133	9.00	119
16 x 10	0.50	0.40	7.00	118	15.00	124	12.50	125	20.50	119	9.00	136	9.00	129
16 x 12	0.50	0.42	5.00	115	12.90	122	10.50	116	18.30	99	7.00	145	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	13.00	165
18 x 10	0.54	0.40	10.00	196	18.00	165	17.40	185	25.50	160	12.00	179	---	---
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	---	---	---	---	6.00	168
18 x 16	0.54	0.50	5.00	196	12.50	170	12.50	192	---	---	---	---	5.00	174
20 x 6	0.57	0.36	---	---	24.00	182	---	---	---	---	18.00	203	---	---
20 x 8	0.57	0.38	16.00	227	24.00	191	---	---	---	---	---	---	---	---
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	21.50	164	14.00	234	8.00	183
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	---	---	9.00	237	8.00	217
20 x 18	0.57	0.54	4.00	225	12.00	200	12.00	215	---	---	---	---	8.00	235
24 x 6	0.61	0.36	22.00	279	---	---	---	---	---	---	22.00	284	---	---
24 x 8	0.61	0.38	20.00	263	---	---	---	---	22.50	201	---	---	20.00	287
24 x 10	0.61	0.40	18.00	286	21.50	235	---	---	---	---	20.00	306	18.00	287
24 x 12	0.61	0.42	16.00	263	21.50	275	21.00	290	22.50	213	18.00	318	16.00	285
24 x 14	0.61	0.47	14.00	310	22.00	310	21.90	315	25.00	238	16.00	323	14.00	298
24 x 16	0.61	0.50	13.00	279	21.00	285	17.50	285	23.10	323	---	---	12.00	299
24 x 18	0.61	0.54	10.00	284	18.00	300	18.00	310	21.00	228	---	---	---	---
24 x 20	0.61	0.57	7.00	328	15.00	276	13.50	275	24.00	271	---	---	7.00	370
30 x 12	0.66	0.42	30.00	530	---	---	39.00	565	---	---	---	---	---	---
30 x 14	0.66	0.47	30.00	585	---	---	39.00	598	---	---	---	---	30.00	583
30 x 16	0.66	0.50	30.00	633	39.00	565	39.00	623	48.00	690	---	---	30.00	613
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
36 x 4	0.74	0.34	36.00	712	---	---	---	---	---	---	---	---	---	---

STAR[®] PIPE PRODUCTS

(Cont)➔

UCAT:19.01

* REGISTERED TRADEMARK OF STAR PIPE PRODUCTS



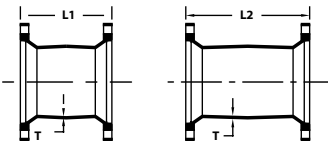


Compact MJ Fittings

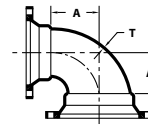
ANSI/AWWA C153/A21.53

STAR® PIPE PRODUCTS

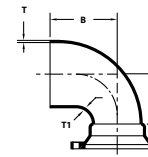
REDUCERS (Con't)			MJ x MJ		SEB		LEB		PE x PE		MJ x FE		★ ECCENTRIC	
NOM. SIZE	T	TI	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
36 x 6	0.74	0.36	36.00	731	---	---	---	---	---	---	---	---	---	---
36 x 8	0.74	0.38	36.00	750	---	---	---	---	---	---	---	---	36.00	7.52
36 x 10	0.74	0.40	36.00	775	---	---	---	---	---	---	---	---	---	---
36 x 12	0.74	0.42	36.00	1058	---	---	---	---	---	---	---	---	36.00	797
36 x 16	0.74	0.50	40.00	1016	27.00	595	45.00	901	---	---	---	---	---	---
36 x 18	0.74	0.54	38.00	983	37.00	800	---	---	---	---	---	---	38.00	963
36 x 20	0.74	0.57	36.00	1165	45.00	850	45.00	950	54.00	876	---	---	---	---
36 x 24	0.74	0.61	19.00	822	33.12	746	33.00	810	42.00	747	21.00	807	19.00	765
36 x 30	0.74	0.66	15.50	811	24.62	788	24.50	758	33.50	667	17.50	846	15.50	811
42 x 24	0.82	0.61	40.00	1356	49.00	1204	49.00	1320	58.00	1210	42.00	1410	40.00	1782
42 x 30	0.82	0.66	20.00	1083	29.12	1150	29.00	1015	38.00	889	---	---	20.00	1435
42 x 36	0.82	0.74	15.50	1114	24.62	962	24.50	1013	33.50	875	---	---	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	58.00	1554	---	---	40.00	1960
48 x 36	0.90	0.74	28.00	1641	37.00	1456	37.00	1540	46.00	1375	---	---	28.00	1668
48 x 42	0.90	0.82	15.50	1426	24.50	1241	24.50	1275	33.50	1112	---	---	15.50	1470
54 x 36	1.05	0.74	27.50	1916	37.25	1754	---	---	---	---	---	---	---	---
54 x 42	1.05	0.82	19.25	1817	29.25	1669	---	---	---	---	---	---	---	---
60 x 48	1.10	0.90	18.00	2038	29.50	1974	---	---	---	---	---	---	---	---



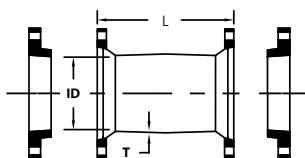
MJ SLEEVES					
NOM. SIZE	T	SHORT SLEEVES		LONG SLEEVES	
		L1	WT (LBS.)	L2	WT (LBS.)
2	0.30	7.50	10	12.00	11
3	0.33	7.50	12	12.00	17
4	0.34	7.50	15	12.00	22
6	0.36	7.50	23	12.00	33
8	0.38	7.50	31	12.00	45
10	0.40	7.50	45	12.00	63
12	0.42	7.50	57	12.00	79
14	0.47	9.50	94	15.00	128
16	0.50	9.50	118	15.00	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	1114
48	0.90	15.00	1059	24.00	1406
54	1.05	21.00	1534	24.00	1687
60	1.10	21.00	1758	24.00	1930
64	1.16	21.00	1974	24.00	2167



MJ x MJ RED 90°				
Nom. SIZE	T	TI	A	WT (LBS.)
20 x 16	0.57	0.50	15.00	348
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



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

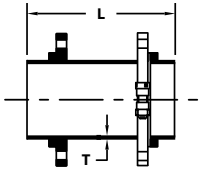
UCAT:19.01
* REGISTERED TRADEMARK OF STAR PIPE PRODUCTS



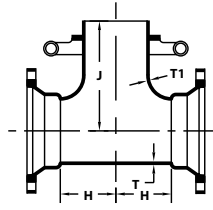


Compact MJ Fittings

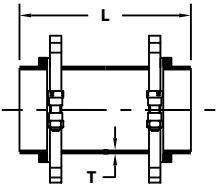
ANSI/AWWA C153/A21.53



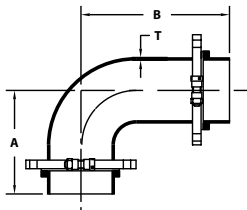
SWIVEL x SOLID HYDRANT ADAPTERS W/ SWIVEL GLAND			
NOM. SIZE	T	L	WT (LBS.)
4 x 13	0.34	13.00	32
6 x 13	0.36	11.50	47
6 x 18	0.36	18.00	60
6 x 24	0.36	24.00	71
6 x 36	0.36	36.00	94
6 x 48	0.36	48.00	122
8 x 13	0.38	13.00	54
8 x 18	0.38	18.00	80
8 x 24	0.38	24.00	97
8 x 48	0.38	48.00	161
12 x 13	0.42	13.00	113



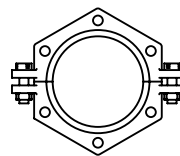
MJ x SWIVEL HYDRANT TEES W/ SWIVEL GLAND					
NOM. SIZE	T	T1	H	J	WT (LBS.)
6 x 4	0.36	0.34	4.00	10.00	54
6 x 6	0.36	0.36	5.00	10.25	65
8 x 4	0.38	0.34	4.00	11.00	69
8 x 6	0.38	0.36	5.00	11.25	85
8 x 8	0.38	0.38	6.50	11.50	100
10 x 4	0.40	0.34	4.00	12.50	86
10 x 6	0.40	0.36	5.00	12.75	105
10 x 8	0.40	0.38	6.50	12.75	118
12 x 4	0.42	0.34	4.00	13.50	104
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 4	0.50	0.34	5.50	16.00	207
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
20 x 8	0.57	0.38	8.00	18.50	362
24 x 6	0.61	0.36	7.00	19.00	430
24 x 8	0.61	0.38	8.00	19.00	459
36 x 6	0.74	0.36	8.00	22.50	980
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 x SWIVEL HYDRANT ELL W/ 2 SWIVEL GLANDS				
NOM. SIZE	T	A	B	WT (LBS.)
6	0.36	10.50	16.00	71



SWIVEL GLANDS		
NOM. SIZE	WT (LBS.)	T-HEAD BOLTS
4	8	(2) 3/4" x 3 1/2"
6	11	(2) 3/4" x 3 1/2"
8	13	(2) 3/4" x 3 1/2"
12	25	(2) 3/4" x 4"

STAR[®] PIPE PRODUCTS