



UTILITY PIPE FITTINGS AND ACCESSORIES



Star® Pipe Products
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GENERAL	These terms and conditions shall control with respect to any purchase order or sale of Seller's products. No waiver, alteration or modification of these terms and conditions whether on Buyer's purchase order or otherwise shall be valid unless the waiver, alteration or modification is specifically accepted in writing and signed by an authorized representative of Seller.
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WARRANTY	Seller warrants for one year from the date of shipment Seller's manufactured products to the extent that Seller will replace those having defects in material or workmanship when used for the purpose and in the manner which Seller recommends. If Seller's examination shall disclose to its satisfaction that the product is defective, and an adjustment is required, the amount of such adjustment shall not exceed the net sales price of the defective products only and no allowance will be made for labor or expense of repairing or replacing defective product or workmanship or damage resulting from the same. No adjustment shall be implemented unless product in question is returned to seller in its originally installed condition, still connected to other components of the joint. Buyer must contact Seller as quickly as possible so Seller can assess product in its installed condition. No claims will be honored unless claim is made within forty five (45) days of the defect being found. Where engineering design or fabrication work is supplied, Buyer's acceptance of Seller's design or of delivery of work shall relieve Seller of all further obligation, other than expressed in Seller's product warranty. THIS IS SELLER'S SOLE WARRANTY. SELLER MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED SELLER'S AFORE STATED OBLIGATION ARE HEREBY DISCLAIMED BY SELLER AND EXCLUDED FROM THIS WARRANTY. Seller neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of its engineering designs or product. This warranty shall not apply to any products or parts of products which (a) have been repaired or altered outside of Seller's factory, in any manner; (b) have been subjected to misuse, negligence or accidents; (c) have been used in a manner contrary to Seller's instructions or recommendations. Seller shall not be responsible for design errors due to inaccurate or incomplete information supplied by Buyer or its representatives. This warranty is non-transferable.
LIABILITY	Seller will not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether based upon warranty (except for the obligation accepted by Seller under "Warranty" above), contract or negligence, arising in connection with the design, manufacture, sale, use or repair of the products or of the engineering designs supplied to Buyer.
RETURNS	Seller cannot accept return of any products unless its written permission has been first obtained, in which case same will be credited subject to the following: (a) All material returned must, on its arrival at Seller's plant, be found to be in first-class condition; if not, cost of putting in saleable condition will be deducted from credit memoranda; (b) A handling charge deduction of twenty-five percent (25%) will be made from all credit memoranda issued for material returned; (c) Transportation charges, if not prepaid will be deducted from credit memoranda.
SHIPMENTS	All products sent out will be carefully examined, counted and packed. The cost of any special packing or special handling caused by Buyer's requirements or requests shall be added to the amount of the order. No claim for shortages will be allowed unless made in writing within ten (10) days of receipt of a shipment. Claims for products damaged or lost in transit should be made on the carrier, as Seller's responsibility ceases, and title passes, on delivery to the carrier.
PRODUCTS	Orders covering special or non-standard products are not subject to cancellation except on such terms as Seller may specify on application.
PRICES	Prices and designs are subject to change without notice. All prices are F.O.B. Point of Shipment, unless otherwise stated.
TAXES	The amount of any sales, excise or other taxes, if any, applicable to the products covered by this order, shall be added to the purchase price and shall be paid by Buyer unless Buyer provides Seller with an exemption certificate acceptable to the taxing authorities.

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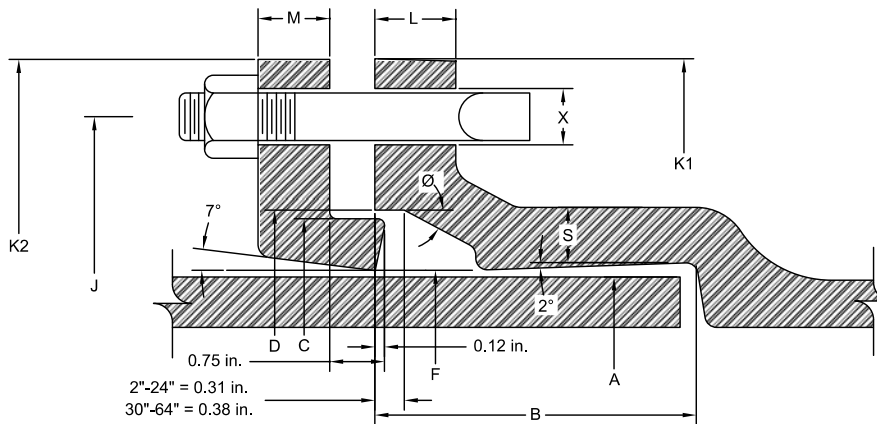
Compact MJ Fittings

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° | 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.



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	{Fittings & Dimensions Available On Request }														
60															
64															

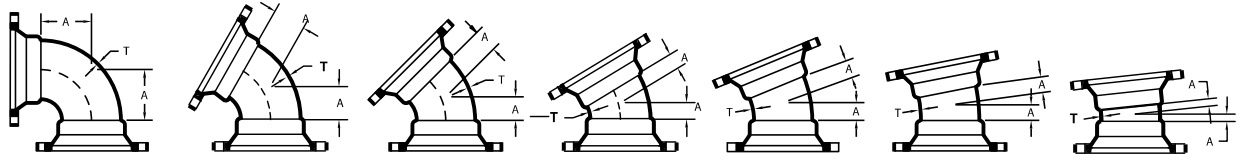
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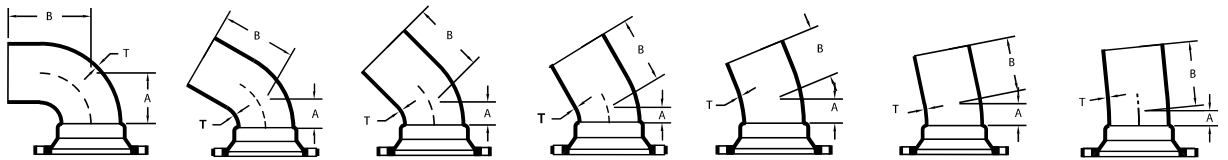


Compact MJ Fittings

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 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	-	-
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 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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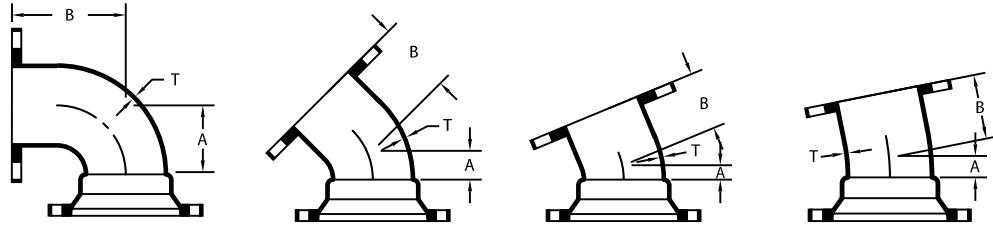


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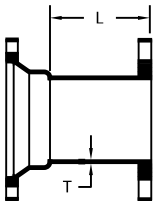


Compact MJ Fittings

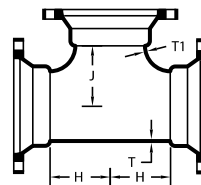
ANSI/AWWA C153/A21.53



MJ x FE BENDS		90° MJ x FE BENDS (¼)			45° MJ x FE BENDS (½)			22 ½° MJ x FE BENDS (¼)			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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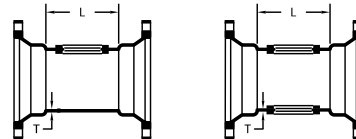
Compact MJ Fittings

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

(Con't)▶

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

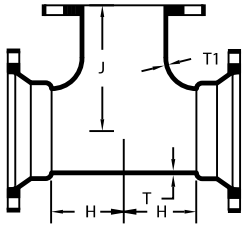
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Compact MJ Fittings

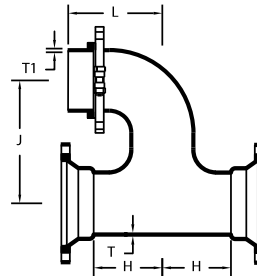
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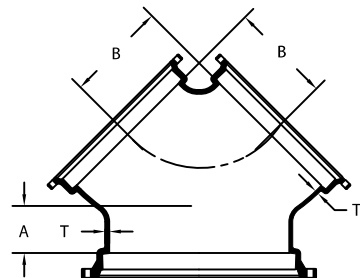
MJ x FE TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
3 x 3	0.33	0.33	3.00	5.50	30
4 x 2	0.52	0.39	4.80	4.80	53
4 x 3	0.34	0.33	3.50	6.50	34
4 x 4	0.34	0.34	4.00	6.50	40
6 x 3	0.36	0.33	3.50	8.00	50
6 x 4	0.36	0.34	4.00	8.00	65
6 x 6	0.36	0.36	5.00	8.00	62
8 x 4	0.38	0.34	4.00	9.00	75
8 x 6	0.38	0.36	5.00	9.00	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	15.50	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 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

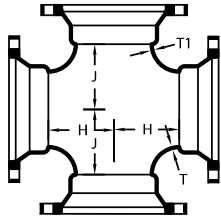
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Compact MJ Fittings

ANSI/AWWA C153/A21.53

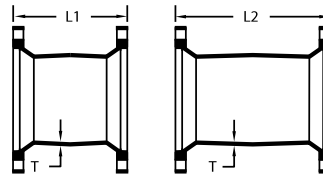


MJ CROSSES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
3 x 3	0.33	0.33	3.00	3.00	35
4 x 3	0.34	0.33	3.50	4.00	38
4 x 4	0.34	0.34	4.00	4.00	40
6 x 4	0.36	0.34	4.00	5.00	57
6 x 6	0.36	0.36	5.00	5.00	80
8 x 4	0.38	0.34	4.00	6.00	68
8 x 6	0.38	0.36	5.00	6.00	74
8 x 8	0.38	0.38	6.00	6.00	105
10 x 4	0.40	0.34	4.00	7.00	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) ▶

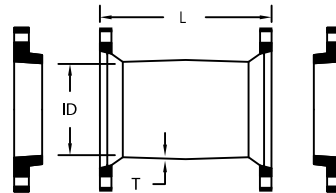
MJ CROSSES (Con't)

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[®] PIPE PRODUCTS

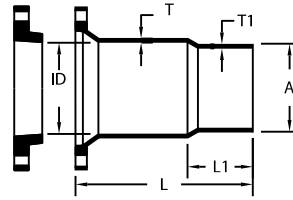
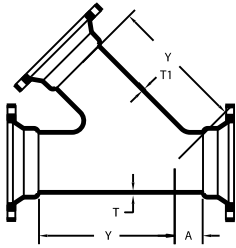
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Compact MJ Fittings

ANSI/AWWA C153/A21.53

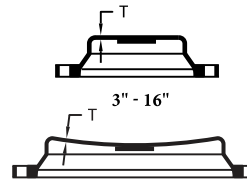


45° MJ LATERALS

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 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

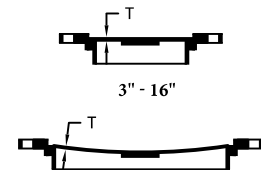
MJ x PE CUTTING IN SLEEVE W/ OVER SIZE GLAND

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



18" - 48"

CAP



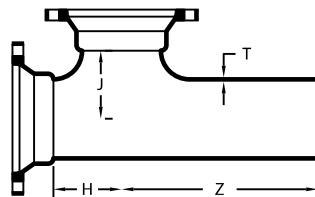
18" - 48"

PLUG

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



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

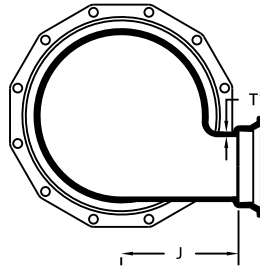
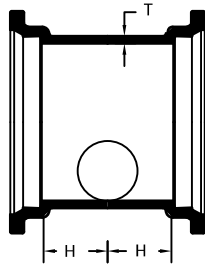
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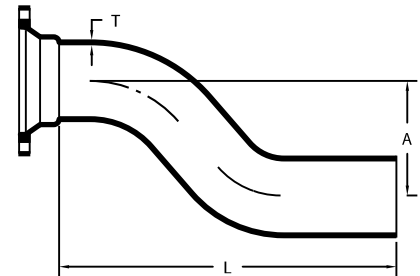
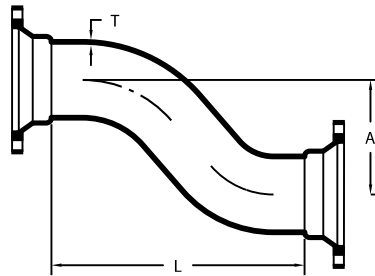


Compact MJ Fittings

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	---	---

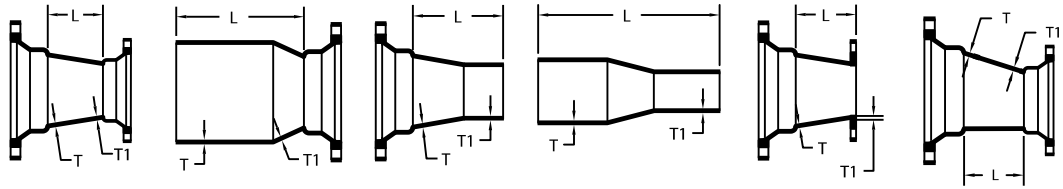
UCAT.12.01
 *REGISTERED TRADEMARK OF STAR PIPE PRODUCTS





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[®] PIPE PRODUCTS



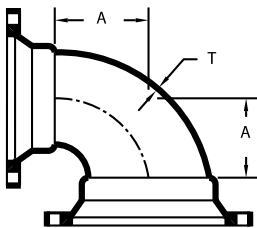


Compact MJ Fittings

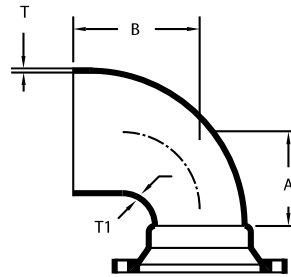
ANSI/AWWA C153/A21.53

STAR® PIPE PRODUCTS

REDUCERS (Con't)			MJ x MJ		SEB		LEB		PE x PE		MJ x FE		★ ECCENTRIC	
NOM. SIZE	T	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

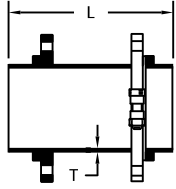
UCAT.12.01
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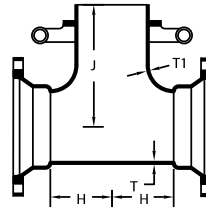


Compact MJ Fittings

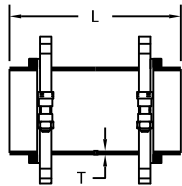
ANSI/AWWA C153/A21.53



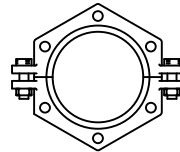
SWIVEL x SOLID HYDRANT ADAPTERS W/ SWIVEL GLAND			
NOM. SIZE	T	L	WT (LBS.)
4 x 13	0.34	13.00	29
6 x 13	0.36	11.50	47
6 x 18	0.36	18.00	56
6 x 24	0.36	24.00	60
6 x 36	0.36	36.00	75
6 x 48	0.36	48.00	94
8 x 13	0.38	13.00	54
8 x 18	0.38	18.00	67
8 x 24	0.38	24.00	82
8 x 48	0.38	48.00	143
12 x 13	0.42	13.00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



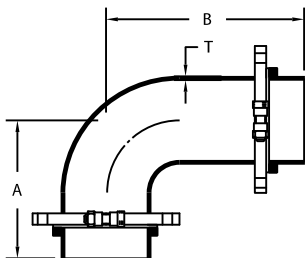
MJ x SWIVEL HYDRANT TEES W/ SWIVEL GLAND					
NOM. SIZE	T	T1	H	J	WT (LBS.)
6 x 6	0.36	0.36	5.00	10.25	65
8 x 6	0.38	0.36	5.00	11.25	85
8 x 8	0.38	0.38	6.50	11.50	100
10 x 6	0.40	0.36	5.00	12.75	105
10 x 8	0.40	0.38	6.50	12.75	118
12 x 6	0.42	0.36	5.00	13.75	126
12 x 8	0.42	0.38	6.50	13.75	128
14 x 6	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[®] PIPE PRODUCTS

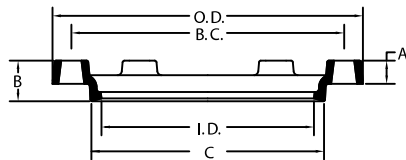




GLANDS, GASKETS, BOLTS & NUTS

GENERAL SPECIFICATION

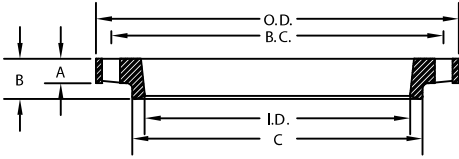
- MATERIAL:** Ductile Iron per ASTM A536
- PRESSURE:** 350 PSI rating for 3" - 24" sizes, 250 PSI rating for 30" - 48" sizes and 150 PSI rating for 54" - 64" sizes
- TESTING:** In accordance with ANSI/AWWA C111/A21.11 and UL requirements
- DIMENSIONS:** Are in accordance with ANSI/AWWA C111/A21.11, UL and FM requirements and are in inches unless noted otherwise
- WEIGHTS:** Are in pounds, unless noted otherwise and do not include accessories
- COATING:** Asphaltic seal coat is in accordance with ANSI/AWWA C104/A21.4 unless otherwise specified.
- APPROVALS:** Compact Glands 3" - 12" Underwrites Laboratories & ULC Listed. Factory Mutual approved 3"-16".



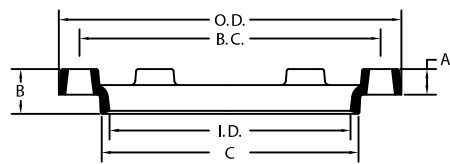
MJ COMPACT GLANDS									
NOM. SIZE	O.D.	A	B	C	I.D.	B.C.	BOLT HOLE	BOLT QTY	WT (LBS.)
2	6.12	0.62	1.18	3.40	2.61	4.75	Ø0.75	2	1
3	7.69	0.62	1.37	4.84	4.06	6.19	Ø0.75	4	2
4	9.12	0.75	1.50	5.92	4.90	7.50	Ø0.88	4	3
6	11.12	0.88	1.63	8.02	7.00	9.50	Ø0.88	6	4
8	13.37	1.00	1.75	10.17	9.15	11.75	Ø0.88	6	5
10	15.62	1.00	1.75	12.22	11.20	14.00	Ø0.88	8	7
12	17.88	1.00	1.75	14.32	13.30	16.25	Ø0.88	8	8
14	20.25	1.25	2.00	16.40	15.44	18.75	Ø0.88	10	11
16	22.50	1.31	2.06	18.50	17.54	21.00	Ø0.88	12	14
18	24.75	1.38	2.13	20.60	19.64	23.25	Ø0.88	12	19
20	27.00	1.44	2.19	22.70	21.74	25.50	Ø0.88	14	27
24	31.50	1.56	2.31	26.90	25.94	30.00	Ø0.88	16	36
30	39.12	2.00	2.75	33.29	32.17	36.88	Ø1.13	20	90
36	46.00	2.00	2.75	39.59	38.47	43.75	Ø1.13	24	118
42	53.12	2.00	2.75	45.79	44.67	50.62	Ø1.38	28	151
48	60.00	2.00	2.75	52.09	50.97	57.50	Ø1.38	32	187

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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	1.18	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



MJ OVERSIZE GLANDS									
NOM. SIZE	O.D.	A	B	C	I.D.	B.C.	BOLT HOLE	BOLT QTY	WT (LBS.)
4	9.12	0.75	1.50	5.92	5.10	7.50	Ø0.88	4	3
6	11.12	0.88	1.63	8.02	7.20	9.50	Ø0.88	6	5
8	13.37	1.00	1.75	10.17	9.40	11.75	Ø0.88	6	6
10	15.62	1.00	1.75	12.22	11.50	14.00	Ø0.88	8	8
12	17.88	1.00	1.75	14.32	13.60	16.25	Ø0.88	8	9
16	22.50	1.31	2.06	18.50	17.94	21.00	Ø0.88	12	17

STAR[®] PIPE PRODUCTS





Standard Mechanical Joint Gaskets

(SBR, NBR, EPDM, Neoprene, FKM)

ANSI/AWWA C111/A21.11

GASKET GENERAL SPECIFICATIONS

Star Pipe Products Mechanical Joint (MJ) Gasket dimensions conform to the drawings set forth in ANSI/AWWA C111/A21.11. Gasket markings include size, Manufacturer's mark, Country of origin and product identification. No markings are positioned on sealing surfaces per the ANSI/AWWA C111/A21.11 standard. MJ transition gaskets follow the requirements of ANSI/AWWA C111/A21.11 where applicable.

Standard gasket material is vulcanized styrene butadiene rubber (SBR). Special application elastomers (EPDM, Nitrile, Neoprene & FKM) are available and shall be identified on all documentation and corresponding gaskets.

Star Pipe gaskets are manufactured under quality control standards and procedures that are maintained by the gasket supplier. Appropriate documentation is maintained by the manufacturer and available for review upon request.

Star Pipe gasket suppliers maintain a quality assurance program and manual that is reviewed and updated on an ongoing basis to ensure product quality. Star Pipe gasket suppliers perform in house testing and submit to random testing by Underwriters Laboratories, Inc. Star Pipe gasket providers are recognized under the component program (UL 194/ UL 157) of Underwriters Laboratories, Inc.

Star Pipe provides that our Mechanical Joint gaskets for potable or wastewater projects will perform as designed, based on the published chemical and environmental resistance data for "generic" rubber compounds. Star Pipe should be consulted for specific recommendations or for unusual applications.

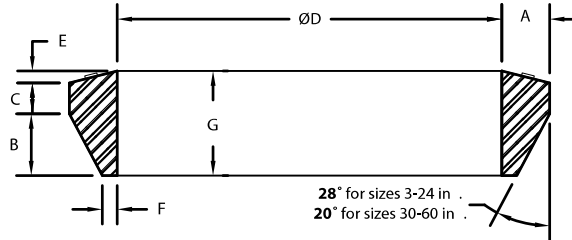
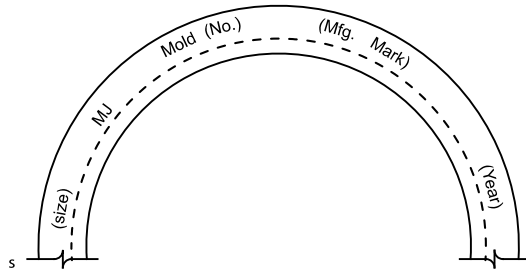
GASKET PROPERTIES		
PROPERTY	ASTM TEST METHOD	PO REQUIREMENT
Hardness, Shore "A"	D2240	75 ± 5
Minimum Tensile	D412	1500 psi
Minimum Elongation	D412	150%
Minimum Aging	D572	60%
Maximum Compression Set	D395, Method B	20%
Resistance to Surface Ozone Cracking	D1149	No Cracking

GASKET TYPE	MAXIMUM CONTINUOUS TEMP	MAXIMUM EXPOSURE TEMP	STANDARD USAGE
SBR (Styrene Butadiene Rubber/ Buna-S)	160 F	180 F	Drinking water, Salt Water, Sanitary Sewage, Reclaimed Water, Raw Water, Storm Water. Not Recommended for Hydrocarbon Service
EPDM (Ethylene Propylene)	250 F	300 F	Alcohols, Dilute Acids, Dilute Alkalis, Ketones (MEK/Acetone), Strong Oxidizing Chemicals; Drinking Water, Salt Water, Sanitary Sewage, Reclaimed Water, Raw Water, Storm Water. Not Recommended for Hydrocarbon Service
Neoprene (Polychlorprene / CR)	225 F	300 F	Hydrocarbons, Unrefined Petroleum Products, Greasy Waste; Salt Water, Sanitary Sewage, Reclaimed Water, Raw Water, Storm Water.
Nitrile (NBR / Buna-N)	160 F	180 F	Refined Oils and Fluids, Fats, Greases and Waste; Drinking Water, Sanitary Sewage, Reclaimed Water, Raw Water, Storm Water.
FKM (Flouoroelastomer / Viton [®])	400 F	500 F	Aromatic Hydrocarbons, Chlorinated Hydrocarbons, Vegetable Oils, Most Chemicals; Drinking Water, Reclaimed Water, Raw Water, Storm Water.

UCAT.12.01
 * REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

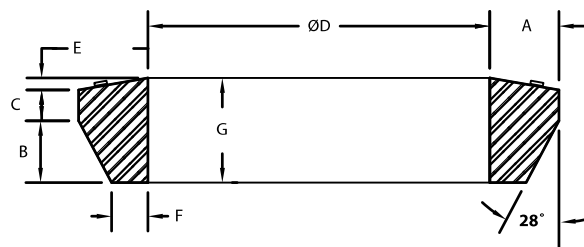
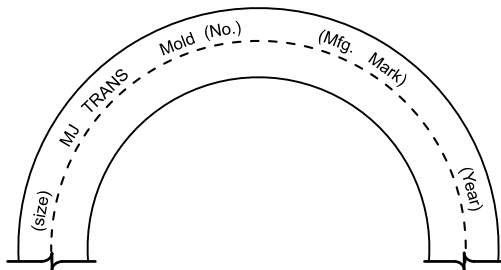


STAR[®] PIPE PRODUCTS



28° for sizes 3-24 in .
20° for sizes 30-60 in .

MECHANICAL-JOINT GASKET								
NOM. SIZE	PIPE O.D.	A	B	C	ØD ±1 %	E	F	G
2	2.50	0.48	0.62	0.31	2.48	0.12	0.15	1.05
3	3.96	0.48	0.62	0.31	3.86	0.12	0.15	1.05
4	4.80	0.62	0.75	0.31	4.68	0.16	0.22	1.22
6	6.90	0.62	0.75	0.31	6.73	0.16	0.22	1.22
8	9.05	0.62	0.75	0.31	8.85	0.16	0.22	1.22
10	11.10	0.62	0.75	0.31	10.87	0.16	0.22	1.22
12	13.20	0.62	0.75	0.31	12.95	0.16	0.22	1.22
14	15.30	0.62	0.75	0.31	14.99	0.16	0.22	1.22
16	17.40	0.62	0.75	0.31	17.07	0.16	0.22	1.22
18	19.50	0.62	0.75	0.31	19.13	0.16	0.22	1.22
20	21.60	0.62	0.75	0.31	21.20	0.16	0.22	1.22
24	25.80	0.62	0.75	0.31	25.34	0.16	0.22	1.22
30	32.00	0.73	1.00	0.38	31.47	0.16	0.37	1.54
36	38.30	0.73	1.00	0.38	37.67	0.16	0.37	1.54
42	44.50	0.73	1.00	0.38	43.78	0.16	0.37	1.54
48	50.80	0.73	1.00	0.38	49.98	0.16	0.37	1.54



TRANSITION MECHANICAL-JOINT GASKET								
NOM. SIZE	PIPE O.D.	A	B	C (REF.)	ØD ±1 %	E	F	G
2	2.375	0.56	0.66	0.31	2.32	0.12	0.21	1.10
3	3.500	0.72	0.64	0.34	3.43	0.12	0.38	1.10
4	4.500	0.76	0.73	0.33	4.43	0.20	0.37	1.26
6	6.625	0.75	0.73	0.32	6.53	0.20	0.36	1.25
8	8.625	0.82	0.73	0.34	8.50	0.20	0.43	1.27
10	10.750	0.79	0.75	0.31	10.59	0.20	0.39	1.26
12	12.750	0.84	0.75	0.33	12.56	0.20	0.44	1.28

STAR[®] PIPE PRODUCTS





T-Bolts, Double Ended Rods & Nuts

H S L A S T E E L

SPECIFICATIONS:

- Bolts & Nuts are manufactured in accordance with ANSI / AWWA C111 / A21.11.
- Material is High Strength Low Alloy Steel per ANSI/AWWA C111/A21.11.
- Threads per ASME B1.1 unified standard coarse (Class 2A & 2B)

MECHANICAL PROPERTIES

- Yield Strength 45000 PSI (min)
- Elongation in 2in. 20% (min)

CHEMICAL PROPERTIES

Carbon	0.20% Max
Manganese	1.25% Max
Sulfur	0.05% Max
Nickel	0.25% Min
Copper	0.20% Min
Combined	1.25% Min (Ni, Cu, Cr)

OPTIONAL COATING

T-Bolts & Nuts have fluropolymer coating material which is VOC-compliant, resin-bonded, thermally cured and dry lubricant.

COATING PHYSICAL PROPERTIES

Film Thickness:	0.3 to 0.4 mil per coat
Number of Coats:	3 to 4 coats
Adhesion:	1 mm cross hatch test + 5 Pulls. Good knife resistance
Cure Test:	50+Rubs with MEK. No substrate exposure
Pencil Hardness:	Pencil Hardness: 4-6H
Volatile Organic Compounds	2.74lbs/gal

Stainless Steel T-Bolts & Nuts

ALLOYS SS 304 & SS 316 PER ASTM F593

SPECIFICATIONS:

- T-bolt dimensions are manufactured in accordance with ANSI / AWWA C111 / A21.11.
- T-bolt alloys SS 304 and SS 316 per ASTM F593
- Heavy Hex Nut Alloys SS 304 & SS 316 per ASTM F594.

MECHANICAL PROPERTIES

- Tensile Strength: 85,000 PSI to 140,000 PSI
- Yield Strength: 45,000 PSI (min)

COATING SPECIFICATION

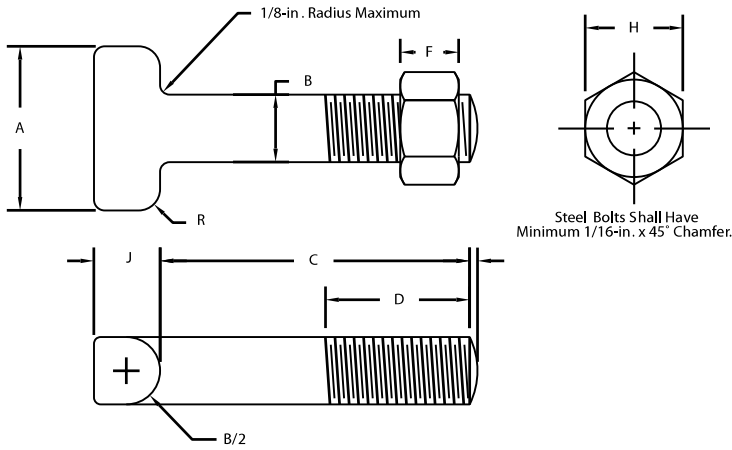
Nuts have fluropolymer coating material which is VOC-Compliant, resin-bonded, thermally cured and dry lubricant.

COATING PHYSICAL PROPERTIES

- | | |
|---|---|
| • Film Thickness: 0.3 to 0.4 mil per coat | • Pencil Hardness: 4-6H |
| • Number of Coats: 3 to 4 coats | • Volatile Organic Compounds 2.74 lbs/gal |
| • Adhesion: 1mm cross hatch test + 5 Tape Pulls. | • Continuous use temperature - 356°F |
| • Cure Test: 50+ Rubs with MEK, no substrate exposure | • Color: SS 304 is green, SS 316 is red |

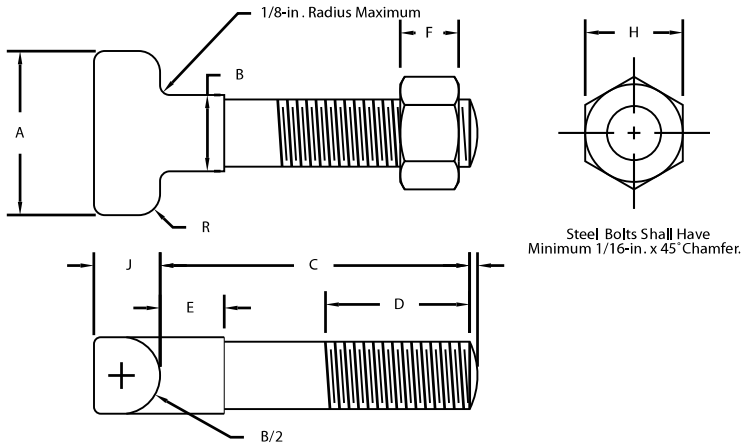


STAR® PIPE PRODUCTS



T-HEAD (LOW ALLOY STEEL) BOLT & NUT

NOM. SIZE	A	B	C	D	THREADS PER IN.	F	H	J	R
5/8 x 3	1.50	0.625	3.00	2.00	11	0.625	1.062	0.625	0.312
5/8 x 3 1/2	1.50	0.625	3.50	2.70	11	0.625	1.062	0.625	0.312
3/4 x 3 1/2	1.75	0.750	3.50	2.50	10	0.750	1.250	0.750	0.375
3/4 x 4	1.75	0.750	4.00	3.00	10	0.750	1.250	0.750	0.375
3/4 x 4 1/2	1.75	0.750	4.50	3.00	10	0.750	1.250	0.750	0.375
3/4 x 5	1.75	0.750	5.00	3.00	10	0.750	1.250	0.750	0.375
3/4 x 5 1/2	1.75	0.750	5.50	3.70	10	0.750	1.250	0.750	0.375
1 x 6	2.25	1.000	6.00	3.00	8	1.000	1.625	1.000	0.500
1 1/4 x 6 1/2	2.50	1.250	6.50	3.50	7	1.250	2.000	1.250	0.625
1 1/4 x 8 1/2	2.50	1.250	8.50	3.50	7	1.250	2.000	1.250	0.625



★ ANTI-ROTATION T-HEAD (LOW ALLOY STEEL) BOLT & NUT

NOM. SIZE	A	B	C	D	E	THREADS PER IN.	F	H	J	R
5/8 x 3	1.50	0.625	3.00	2.00	0.63	11	0.625	1.062	0.625	0.312
5/8 x 3 1/2	1.50	0.625	3.50	2.50	0.63	11	0.625	1.062	0.625	0.312
3/4 x 3 1/2	1.75	0.750	3.50	2.50	0.63	10	0.750	1.250	0.750	0.375
3/4 x 4	1.75	0.750	4.00	3.00	0.63	10	0.750	1.250	0.750	0.375
3/4 x 4 1/2	1.75	0.750	4.50	3.00	0.63	10	0.750	1.250	0.750	0.375
3/4 x 5	1.75	0.750	5.00	3.00	0.63	10	0.750	1.250	0.750	0.375



STAR[®] PIPE PRODUCTS



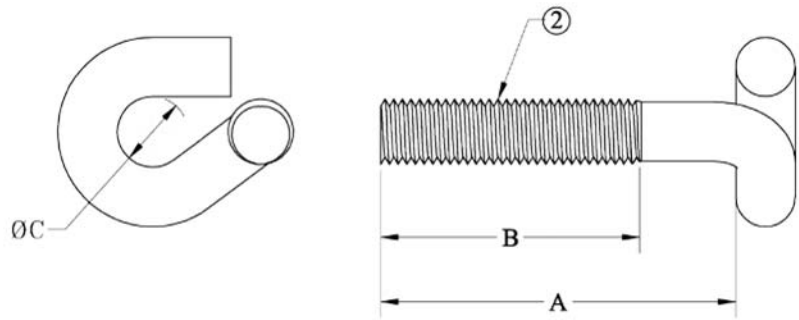
MJ Eyebolt(Pigtail) & Starlug

ANSI/AWWA C115/A21.15

MJ Eyebolt (Pigtail)

GENERAL SPECIFICATIONS

- High Strength Low alloy steel per ANSI/AWWA C111/121.11
- UNC 2A Threads per ASME B1.1
- Eye bolts can be used in place of T-Head bolts
- Used on sizes 4" through 24"
- Max. Load (per bolt): 7,500 lbs



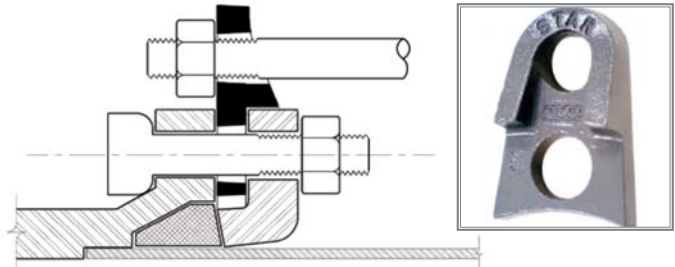
SIZE	A	B	ØC
¾ x 3 ½	3.50	2.50	0.81
¾ x 4	4.00	3.00	0.81
¾ x 4 ½	4.50	3.50	0.81
¾ x 5	5.00	4.00	0.81
¾ x 5 ½	5.50	4.50	0.81

All dimensions in inches.

Starlug

GENERAL SPECIFICATIONS

- Designed to assist in restraining of mechanical joint fittings, valves, hydrants and pipes by threaded rods. Manufactured with high strength ductile iron per ASTM A 536, Grade 65-45-12
- Designed for use on sizes 4" through 16"
- Installed between MJ Bell and MJ Gland



Please refer to the chart below for determining the number of Starlugs to be used depending on the pipe size and pipe line working pressure.

Packaging: Boxes of 50 each

NOM. PIPE SIZE	MINIMUM NUMBER OF STARLUGS REQUIRED FOR EACH MJ BELL								
	WORKING PRESSURE (PSI)*								
	100	125	150	200	225	250	300	325	350
4"	2	2	2	2	2	2	2	2	2
6"	2	2	2	2	3	3	3	4	4
8"	2	2	3	4	4	4	6	6	6
10"	4	4	4	6	6	8	8	8	NR
12"	4	4	6	8	8	8	NR	NR	NR
14"	5	6	8	10	NR	NR	NR	NR	NR
16"	6	8	10	12	NR	NR	NR	NR	NR

*Pressure ratings include a nominal 2:1 safety factor.

NR - Not Recommended





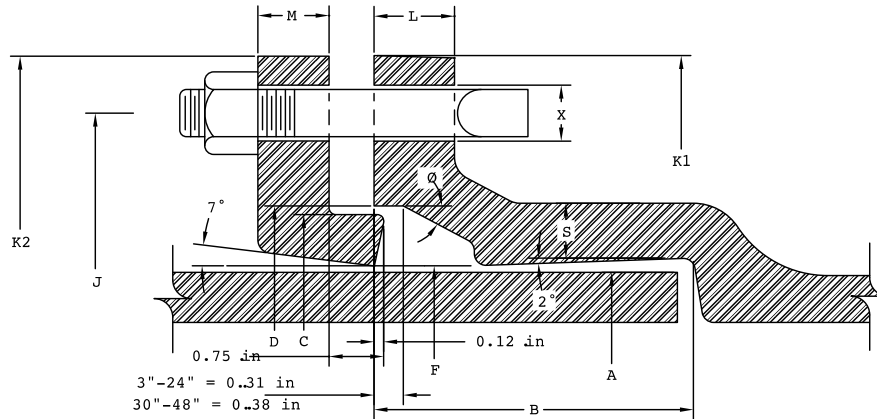
Full Body MJ Fittings

ANSI/AWWA C110/A21.10

2" - 64" 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"-64" 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 and referenced in ANSI/AWWA C110/A21.10
- GASKETS:** SBR in accordance with ANSI/AWWA C111/A21.11 (see pg. 16)
- T-BOLTS/NUTS:** Low alloy steel in accordance with ANSI/AWWA C11/A21.11 (see pg. 18)
- 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	⅝ 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	⅝ 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°	⅞	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°	⅞	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°	⅞	¾ x 4	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°	⅞	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°	⅞	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°	⅞	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°	⅞	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°	⅞	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°	⅞	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°	⅞	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 ½	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 ½	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 ¾	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 ¾	1 ¼ x 6 ½	32
54	{ Fittings & Dimensions Available On Request }														
60															
64															

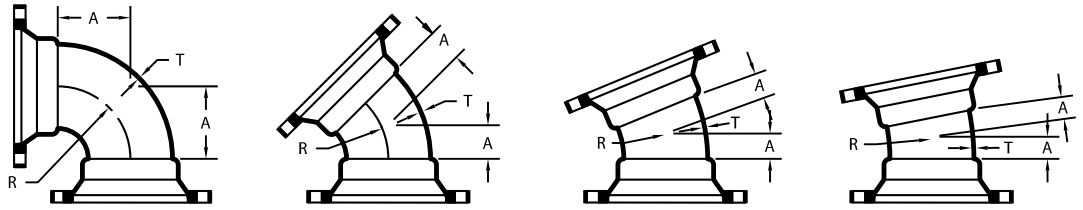


* REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

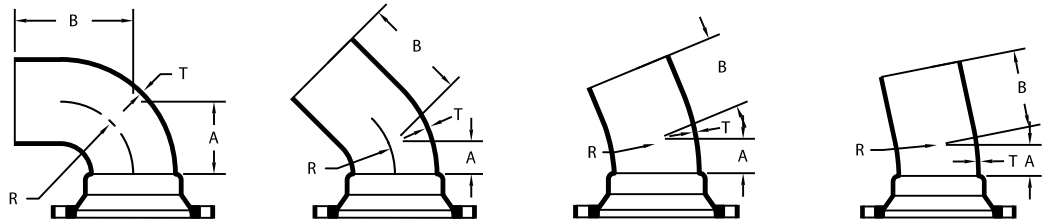


Full Body MJ Fittings

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 (1/16)			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 (1/16)				11 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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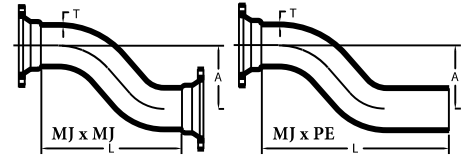
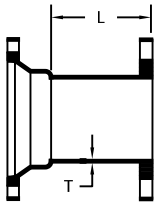


STAR[®] PIPE PRODUCTS



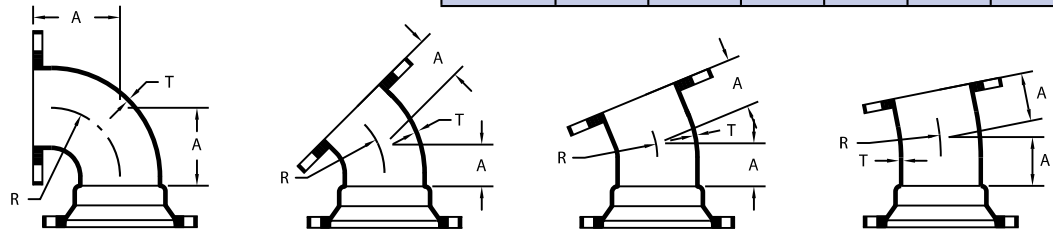
Full Body MJ Fittings

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
14	0.66	8.00	195
16	0.70	8.00	260
18	0.75	8.00	305
20	0.80	8.00	365
24	0.89	8.00	495
30	1.03	10.00	729
36	1.15	10.00	1052

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	46.00	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	48.00	590
16 x 18	0.70	18.00	50.00	710	58.00	690
20 x 12	0.80	12.00	40.00	1025	48.00	1015
20 x 18	0.80	18.00	48.00	1275	60.00	1265



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	R	WT (LBS.)	A	R	WT (LBS.)	A	R	WT (LBS.)	A	R	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

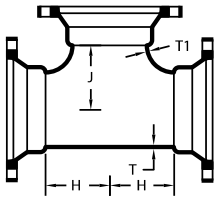
STAR[®] PIPE PRODUCTS





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
8 x 8 x 12	0.60	0.75	12.00	12.00	280
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
14 x 6	0.66	0.55	14.00	14.00	435
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 10	0.80	0.68	14.00	17.00	755
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

(Con't)

MJ x MJ TEES (Con't)					
NOM. SIZE	T	T1	H	J	WT (LBS.)
24 x 12	0.89	0.75	15.00	19.00	1030
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

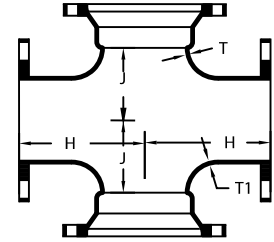
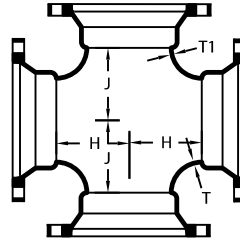
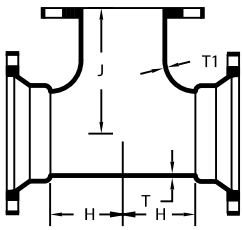
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 *REGISTERED TRADEMARK OF STAR PIPE PRODUCTS





Full Body MJ Fittings

ANSI/AWWA C110/A21.10



STAR[®] PIPE PRODUCTS

MJ x FE TEES					
NOM. SIZE	T	T1	H	J	WT (LBS.)
4 x 4	0.52	0.52	6.50	6.50	74
4 x 4 x 6	0.52	0.55	8.00	8.00	103
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 10	0.87	0.68	12.00	12.00	360
12 x 12	0.87	0.87	12.00	12.00	401
14 x 6	0.66	0.55	14.00	14.00	485
14 x 14	0.66	0.66	14.00	14.00	465
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 12	1.03	0.75	18.00	23.00	1626
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 10	1.15	0.68	20.00	26.00	2500
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

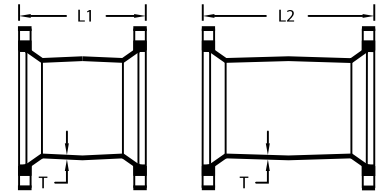
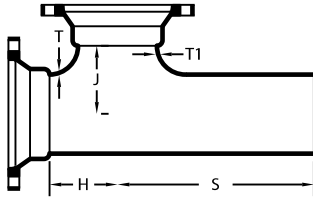
MJ x MJ / MJ x FE CROSSES							
NOM. SIZE	T	T1	H	J	WT (LBS.)		
					MJ X MJ	MJ X FE	
6 x 4	0.55	0.52	8.00	8.00	140	---	
6 x 6	0.55	0.55	8.00	8.00	160	140	
8 x 4	0.60	0.52	9.00	9.00	185	176	
8 x 6	0.60	0.55	9.00	9.00	205	185	
8 x 8	0.60	0.60	9.00	9.00	235	215	
10 x 6	0.68	0.55	11.00	11.00	285	---	
10 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 4	0.75	0.52	12.00	12.00	340	---	
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 6	0.89	0.55	15.00	19.00	1025	---	
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	---	





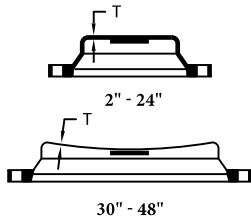
Full Body MJ Fittings

ANSI/AWWA C110/A21.10



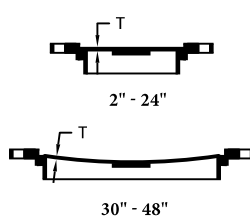
MJ x PE x MJ TEES						
NOM. SIZE	T	T1	H	J	S	WT (LBS.)
4 x 4	0.52	0.52	6.50	6.50	14.50	75
6 x 6	0.55	0.55	8.00	8.00	16.00	120
8 x 6	0.60	0.55	9.00	9.00	17.00	170
8 x 8	0.60	0.60	9.00	9.00	17.00	180
10 x 10	0.80	0.80	11.00	11.00	19.00	310
12 x 4	0.75	0.52	12.00	12.00	20.00	315
12 x 6	0.75	0.55	12.00	12.00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



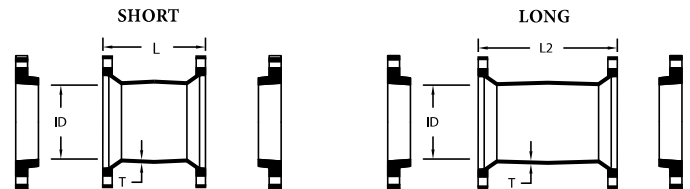
30" - 48"

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

MJ DUAL PURPOSE SLEEVES W/ OVERSIZE GLANDS							
NOM. SIZE	PIPE SIZE	(I.D.)	T	SHORT		LONG	
				L1	WT (LBS.)	L2	WT (LBS.)
4	4.80 - 5.00	5.10	0.52	7.50	35	12.00	35
6	6.90 - 7.10	7.20	0.55	7.50	45	12.00	65
8	9.05 - 9.30	9.40	0.60	7.50	65	12.00	86
10	11.10 - 11.40	11.50	0.68	7.50	85	12.00	115
12	13.20 - 13.50	13.60	0.75	7.50	110	12.00	145
16	17.40 - 17.80	17.94	0.70	---	---	15.00	236

*Threads in Accordance with ANSI/ASME B1.20.1

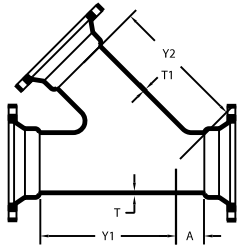


STAR[®] PIPE PRODUCTS



Full Body MJ Fittings

ANSI/AWWA C110/A21.10



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
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	852
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	960
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	1380
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	5196

(Con't)➔

45° MJ LATERALS (Con't)

NOM. SIZE	T	T1	A	Y1	Y2	WT (LBS.)
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 36	1.96	1.58	6.00	64.00	68.00	8354
★ 48 x 48	1.96	1.96	16.00	77.00	77.00	13150

★ 150 PSI pressure rating

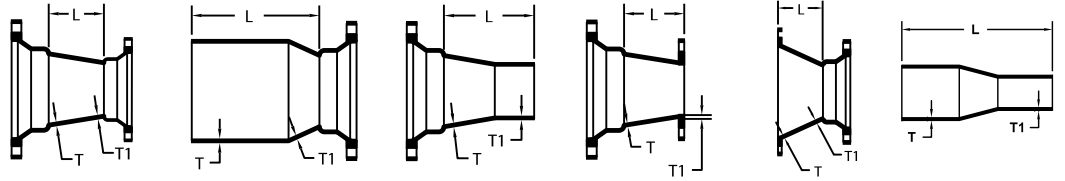
STAR[®] PIPE PRODUCTS





Full Body MJ Fittings

ANSI/AWWA C110/A21.10



REDUCERS			MJ x MJ		SEB		LEB		MJ x FE		FE x MJ		PE x PE	
NOM. SIZE	T	T1	L	WT (LBS.)	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	27.00	85
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	30.00	165
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	---	---	32.00	170
14 x 8	0.66	0.60	16.00	210	24.00	190	24.00	205	16.00	215	---	---	---	---
14 x 10	0.66	0.68	16.00	230	---	---	---	---	---	---	---	---	---	---
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	27.00	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	19.00	405	---	---	---	---
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 14	0.80	0.66	20.00	430	---	---	---	---	---	---	---	---	---	---
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	---	---	---	---	---	---

(Con't)➔

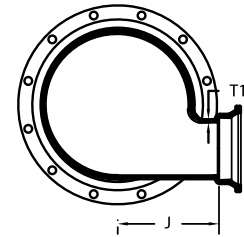
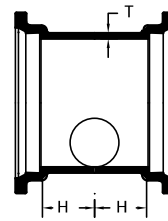
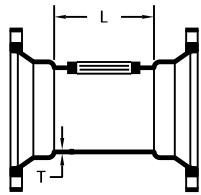




Full Body MJ Fittings

ANSI/AWWA C110/A21.10

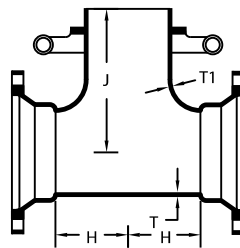
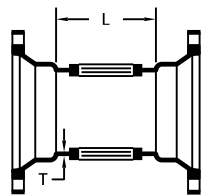
REDUCERS			MJ x MJ		SEB		LEB		MJ x FE		FE x MJ		PE x PE	
NOM. SIZE	T	T1	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)	L	WT (LBS.)
36 x 30	1.15	1.03	36.00	1855	44.00	1690	44.00	1750	---	---	---	---	---	---
42 x 24	1.28	0.89	42.00	2060	50.00	1855	50.00	2020	---	---	---	---	---	---
42 x 30	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	---	---	---	---	---	---



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

TANGENTIAL TEE					
NOM. SIZE	T	T1	H	J	WT (LBS.)
20 x 4	0.80	0.52	14.00	17.00	820
20 x 8	0.80	0.60	14.00	17.00	846
24 x 4	0.89	0.52	15.00	19.00	1120
24 x 8	0.89	0.60	15.00	19.00	1148

Threads in Accordance with ANSI/ASME B1.20.1



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

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
20 x 6	0.80	0.55	14.00	19.50	829
30 x 6	1.03	0.55	18.00	24.50	2070

Threads in Accordance with ANSI/ASME B1.20.1

STAR[®] PIPE PRODUCTS



UCAT.12.01
*REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

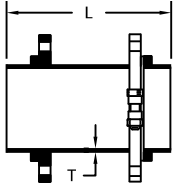
STAR PIPE PRODUCTS
HOUSTON CORPORATE TOLL FREE 1-800-999-3009 FAX 281-558-9000
www.starpipeproducts.com



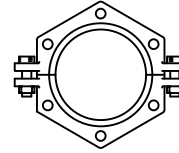
Full Body MJ Fittings

ANSI/AWWA C110/A21.10

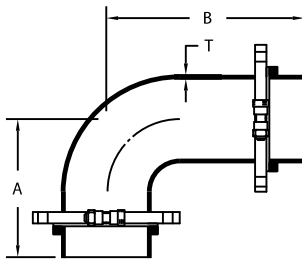
STAR[®] PIPE PRODUCTS



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.)	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	0.55	10.50	15.50	100
8	0.60	11.50	16.50	140

UCAT.12.01
 *REGISTERED TRADEMARK OF STAR PIPE PRODUCTS

