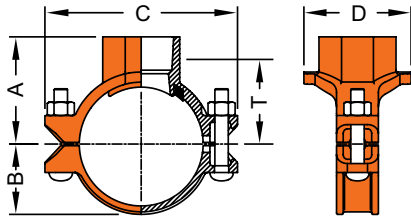


7721

Mechanical Tee | Female Threaded Outlet



Job Name:	
Job Location:	
Engineer:	
Contractor:	
Tag:	
PO#:	
Rep:	
Wholesale Dist.:	



The Model 7721 Mechanical Tee when mounted on hole cut pipe provides a fast and easy mid-pipe threaded branch outlet. By utilizing the Model 7721 you eliminate the need for welding or the use of multiple fittings. The Mechanical Tee is comprised of upper and lower ductile iron housing segments, a grade "E" EPDM rubber molded gasket and plated track bolts and nuts. Mechanical tees are supplied with our standard painted finishes, i.e. orange or RAL3000 red. Optional finishes such as hot dipped zinc galvanized and custom epoxy coatings are also available.

Shurjoint mechanical tees: Model 7721, 7722, M21 & M22 can also be used on applicable IPS size HDPE pipe. When used in conjunction with HDPE pipe the pressure rating would be the lower of the fitting or pipe rating. Please note Shurjoint mechanical tees are not recommended for use on PVC plastic pipe.

Important Note: Model 7721 housing segments are not compatible and should not be used with other Shurjoint mechanical tee housing segments such as Model M21 & M22 mechanical tees.

For Fire Protection pressure rating, listing, and approval information, refer to Data Sheet B-42 or visit www.shurjoint.com for details or contact Shurjoint.

DIMENSIONS

NOMINAL SIZE RUN X BRANCH	MAX. WORKING PRESSURE (CWP)*	DIMENSIONS					BOLT SIZE	WEIGHT
		T†	A	B	C	D		
in	PSI	in	in	in	in	in	in	lb
mm	Bar	mm	mm	mm	mm	mm	mm	kg
2 x 1/2	300	1.97	2.50	1.57	5.04	2.87	3/8 x 2-1/8	2.4
50 x 15	20	50	64	40	128	73	M10 x 55	1.1
2 x 3/4	300	1.97	2.50	1.57	5.04	2.87	3/8 x 2-1/8	2.4
50 x 20	20	50	64	40	128	73	M10 x 55	1.1
2 x 1	300	2.00	2.68	1.57	5.04	2.87	3/8 x 2-1/8	2.6
50 x 25	20	51	68	40	128	73	M10 x 55	1.2
2 x 1-1/4	300	2.08	2.80	1.57	5.04	3.22	3/8 x 2-1/8	2.9
50 x 32	20	53	71	40	128	82	M10 x 55	1.3
2 x 1-1/2	300	2.08	2.80	1.57	5.04	3.22	3/8 x 2-1/8	2.9
50 x 40	20	53	71	40	128	82	M10 x 55	1.3
2-1/2 x 1/2	300	2.25	2.80	1.89	5.75	2.87	1/2 x 3	3.1
65 x 15	20	57	71	48	146	73	M12 x 75	1.4
2-1/2 x 3/4	300	2.32	2.88	1.89	5.75	2.87	1/2 x 3	3.1
65 x 20	20	59	73	48	146	73	M12 x 75	1.4
2-1/2 x 1	300	2.28	2.95	1.89	5.75	2.87	1/2 x 3	3.3
65 x 25	20	58	75	48	146	73	M12 x 75	1.5
2-1/2 x 1-1/4	300	2.40	3.11	1.89	5.75	3.22	1/2 x 3	3.5
65 x 32	20	61	79	48	146	82	M12 x 75	1.6
2-1/2 x 1-1/2	300	2.40	3.11	1.89	5.75	3.22	1/2 x 3	3.5
65 x 40	20	61	79	48	146	82	M12 x 75	1.6
3 x 1/2	300	2.47	3.19	2.20	6.39	2.63	1/2 x 3	3.5
80 x 15	20	63	81	56	160	67	M12 x 75	1.6
3 x 3/4	300	2.44	3.19	2.20	6.39	2.63	1/2 x 3	3.5
80 x 20	20	62	81	56	160	67	M12 x 75	1.6
3 x 1	300	2.50	3.19	2.20	6.39	2.63	1/2 x 3	3.7
80 x 25	20	64	81	56	160	67	M12 x 75	1.7
3 x 1-1/4	300	2.80	3.50	2.20	6.39	3.46	1/2 x 3	4.2
80 x 32	20	71	89	56	160	88	M12 x 75	1.9
3 x 1-1/2	300	2.80	3.50	2.20	6.39	3.46	1/2 x 3	4.4
80 x 40	20	71	89	56	160	88	M12 x 75	2.0
3 x 2	300	2.83	3.58	2.20	6.39	3.98	1/2 x 3	5.1
80 x 50	20	72	91	56	160	101	M12 x 75	2.3
4 x 1/2	300	3.00	3.70	2.83	7.48	2.63	1/2 x 3	4.2
100 x 15	20	76	94	72	190	67	M12 x 75	1.9
4 x 3/4	300	2.95	3.70	2.83	7.48	2.63	1/2 x 3	4.2
100 x 20	20	75	94	72	190	67	M12 x 75	1.9
4 x 1	300	3.03	3.70	2.83	7.48	2.63	1/2 x 3	4.4
100 x 25	20	77	94	72	190	67	M12 x 75	2.0
4 x 1-1/4	300	3.19	3.89	2.83	7.48	3.35	1/2 x 3	4.8
100 x 32	20	81	99	72	190	85	M12 x 75	2.2
4 x 1-1/2	300	3.19	3.89	2.83	7.48	3.35	1/2 x 3	5.1
100 x 40	20	81	99	72	190	85	M12 x 75	2.3
4 x 2	300	3.38	4.13	2.83	7.48	3.98	1/2 x 3	5.9
100 x 50	20	86	105	72	190	101	M12 x 75	2.7

Continued from previous page.

NOMINAL SIZE RUN X BRANCH	MAX. WORKING PRESSURE (CWP)*	DIMENSIONS					BOLT SIZE	WEIGHT
		T†	A	B	C	D		
in	PSI	in	in	in	in	in	in	lb
mm	Bar	mm	mm	mm	mm	mm	mm	kg
4 x 2-1/2	300	3.23	4.37	2.83	7.48	4.40	1/2 x 3	7.3
100 x 65	20	82	111	72	190	112	M12 x 75	3.3
4 x 3	300	3.23	4.40	2.83	7.48	5.35	5/8 x 3-1/2	12.3
100 x 80	20	82	112	72	190	136	M16 x 90	5.6
5 x 2	300	4.13	4.88	3.39	9.29	4.00	5/8 x 3-1/2	9.2
125 x 50	20	105	124	86	236	102	M16 x 90	4.2
5 x 2-1/2	300	3.89	5.00	3.39	9.29	4.65	5/8 x 3-1/2	9.9
125 x 65	20	99	127	86	236	118	M16 x 90	4.5
6 x 1/2	300	4.48	5.03	3.86	10.07	3.50	5/8 x 55/16	9.7
150 x 15	20	114	128	98	256	89	M16 x 135	4.4
6 x 1	300	4.33	5.00	3.86	10.07	3.50	5/8 x 55/16	9.7
150 x 25	20	110	127	98	256	89	M16 x 135	4.4
6 x 1-1/4	300	4.29	5.00	3.86	10.07	3.66	5/8 x 55/16	9.7
150 x 32	20	109	127	98	256	93	M16 x 135	4.4
6 x 1-1/2	300	4.29	5.00	3.86	10.07	3.66	5/8 x 55/16	9.7
150 x 40	20	109	127	98	256	93	M16 x 135	4.4
6 x 2	300	4.45	5.29	3.86	10.07	3.98	5/8 x 55/16	10.6
150 x 50	20	113	132	98	256	101	M16 x 135	4.8
6 x 2-1/2	300	4.37	5.50	3.86	10.07	4.65	5/8 x 55/16	11.9
150 x 65	20	111	140	98	256	118	M16 x 135	5.4
6 x 3	300	4.33	5.50	3.86	10.07	5.39	5/8 x 55/16	13.2
150 x 80	20	110	140	98	256	137	M16 x 135	6.0
6 x 4	300	4.21	5.50	3.86	10.07	6.46	5/8 x 55/16	14.5
150 x 100	20	107	140	98	256	164	M16 x 135	6.6
8 x 1/2	300	5.31	5.82	4.72	12.87	4.40	3/4 x 4-3/4	12.5
200 x 15	20	135	148	120	327	112	M20 x 120	5.7
8 x 1	300	5.31	5.98	4.72	12.87	4.40	3/4 x 4-3/4	12.5
200 x 25	20	135	152	120	327	112	M20 x 120	5.7
8 x 1-1/4	300	5.31	5.98	4.72	12.87	3.98	3/4 x 4-3/4	12.5
200 x 32	20	135	152	120	327	101	M20 x 120	5.7
8 x 1-1/2	300	5.31	5.98	4.72	12.87	3.98	3/4 x 4-3/4	12.5
200 x 40	20	135	152	120	327	101	M20 x 120	5.7
8 x 2	300	5.31	6.54	4.72	12.87	3.98	3/4 x 4-3/4	13.6
200 x 50	20	135	166	120	327	101	M20 x 120	6.2
8 x 2-1/2	300	5.39	6.54	4.72	12.87	4.09	3/4 x 4-3/4	13.9
200 x 65	20	137	166	120	327	104	M20 x 120	6.3
8 x 3	300	5.35	6.54	4.72	12.87	5.04	3/4 x 4-3/4	15.6
200 x 80	20	136	166	120	327	128	M20 x 120	7.1
8 x 4	300	5.24	6.54	4.72	12.87	6.46	3/4 x 4-3/4	17.6
200 x 100	20	133	166	120	327	164	M20 x 120	8.0

† T: Take-Out (Center of run to end of pipe to be engaged.)
*Working pressure is based on standard wall carbon steel pipe.

HOLE SIZES

MECHANICAL TEES RUN X BRANCH	HOLE DIMENSIONS		A. SURFACE PREPARATION
	HOLE SAW SIZE	MAX DIA. ALLOWED	
in	in	in	in
mm	mm	mm	mm
2 x 1/2	1-1/2	1-5/8	3-1/2
50 x 15	38	41	89
2 x 3/4	1-1/2	1-5/8	3-1/2
50 x 20	38	41	89
2 x 1	1-1/2	1-5/8	3-1/2
50 x 25	38	41	89
2 x 1-1/4	13/4*	1-7/8*	4
50 x 32	45	47	102
2 x 1-1/2	1-3/4*	1-7/8*	4
50 x 40	45	47	102
2-1/2 x 1/2	1-1/2	1-5/8	3-1/2
65 x 15	38	41	89
2-1/2 x 3/4	11/2	1-5/8	3-1/2
65 x 20	38	41	89
2-1/2 x 1	1-1/2	1-5/8	3-1/2
65 x 25	38	41	89
2-1/2 x 1-1/4	2	2-1/8	4
65 x 32	51	54	102
2-1/2 x 1-1/2	2	2-1/8	4
65 x 40	51	54	102
3 x 1/2	1-1/2	1-5/8	3-1/2
80 x 15	38	41	89
3 x 3/4	1-1/2	1-5/8	3-1/2
80 x 20	38	41	89
3 x 1	1-1/2	1-5/8	3-1/2
80 x 25	38	41	89

MECHANICAL TEES RUN X BRANCH	HOLE DIMENSIONS		A. SURFACE PREPARATION
	HOLE SAW SIZE	MAX DIA. ALLOWED	
in	in	in	in
mm	mm	mm	mm
3 x 1-1/4	2	2-1/8	4
80 x 32	51	54	102
3 x 1-1/2	2	2-1/8	4
80 x 40	51	54	102
3 x 2	2-1/2	2-5/8	4 1/2
80 x 50	64	67	114
4 x 1/2	1-1/2	1-5/8	3 1/2
100 x 15	38	41	89
4 x 3/4	1-1/2	1-5/8	3-1/2
100 x 20	38	41	89
4 x 1	1-1/2	1-5/8	3-1/2
100 x 25	38	41	89
4 x 1-1/4	2	2-1/8	4
100 x 32	51	54	102
4 x 1-1/2	2	2-1/8	4
100 x 40	51	54	102
4 x 2	2-1/2	2-5/8	4-1/2
100 x 50	64	67	114
4 x 2-1/2	2-3/4	2-7/8	4-3/4
100 x 65	70	73	121
4 x 3	3-1/2	3-5/8	5-1/2
100 x 80	89	92	140
5 x 2	2-1/2	2-5/8	4-1/2
125 x 50	64	67	114
5 x 2-1/2	2-3/4	2-7/8	4-3/4
125 x 65	70	73	121

MECHANICAL TEES RUN X BRANCH	HOLE DIMENSIONS		A. SURFACE PREPARATION
	HOLE SAW SIZE	MAX DIA. ALLOWED	
in	in	in	in
mm	mm	mm	mm
6 x 1-1/4	2	2-1/8	4
150 x 32	51	54	102
6 x 1-1/2	2	2-1/8	4
150 x 40	51	54	102
6 x 2	2-1/2	2-5/8	4-1/2
150 x 50	64	67	114
6 x 2-1/2	2-3/4	2-7/8	4-3/4
150 x 65	70	73	121
6 x 3	3-1/2	3-5/8	5-1/2
150 x 80	89	92	140
6 x 4	4-1/2	4-5/8	6-1/2
150 x 100	114	118	165
8 x 2	2-3/4*	2-7/8*	4-3/4
200 x 50	70	73	121
8 x 2-1/2	2-3/4	2-7/8	4-3/4
200 x 65	70	73	121
8 x 3	3-1/2	3-5/8	5-1/2
200 x 80	89	92	140
8 x 4	4-1/2	4-5/8	6-1/2
200 x 100	114	118	165

*Important: Make special note of the hole saw size and maximum diameter allowed on these sizes, deviation could lead to joint failure.

LISTINGS/APPROVALS

The information provided below is based on the latest listing and approval data at the time of publication. Listings/Approvals are subject to change and/or additions by the approvals agencies. Contact Shurjoint for the performance on other pipes and the latest listings and approvals

UL / CUL			
NOM. SIZE	SCH 40	SCH 10	BS13 87(M)
in	psi	psi	psi
mm	Bar	Bar	Bar
2 x 1/2	300	300	300
50 x 15	20	20	20
2 x 3/4	300	300	300
50 x 20	20	20	20
2 x 1	300	300	300
50 x 25	20	20	20
2 x 1-1/4	300	300	300
50 x 32	20	20	20
2 x 1-1/2	300	300	300
50 x 40	20	20	20
2-1/2 x 1-1/2	300	300	300
65 x 15	20	20	20
2-1/2 x 3/4	300	300	300
65 x 20	20	20	20
2-1/2 x 1	300	300	300
65 x 25	20	20	20
2-1/2 x 1-1/4	300	300	300
65 x 32	20	20	20
2-1/2 x 1-1/2	300	300	300
65 x 40	20	20	20
3 x 1/2	NA	NA	NA
80 x 15			
3 x 3/4	NA	NA	NA
80 x 20			
3 x 1	300	300	300
80 x 25	20	20	20
3 x 1-1/4	300	300	300
80 x 32	20	20	20
3 x 1-1/2	300	300	300
80 x 40	20	20	20
3 x 2	300	300	300
80 x 50	20	20	20
4 x 1/2	NA	NA	NA
100 x 15			
4 x 3/4	NA	NA	NA
100 x 20			
4 x 1	300	300	300
100 x 25	20	20	20
4 x 1-1/4	300	300	300
100 x 32	20	20	20
4 x 1-1/2	300	300	300
100 x 40	20	20	20
4 x 2	300	300	300
100 x 50	20	20	20
4 x 2-1/2	300	300	300
100 x 65	20	20	20
4 x 3	300	300	300
100 x 80	20	20	20
5 x 2	NA	NA	NA
125 x 50			
5 x 2-1/2	NA	NA	NA
125 x 65			
6 x 1/2	NA	NA	NA
150 x 15			
6 x 1	NA	NA	NA
150 x 25			
6 x 1-1/4	300	300	300
150 x 32	20	20	20
6 x 1-1/2	300	300	300
150 x 40	20	20	20
6 x 2	300	300	300
150 x 50	20	20	20
6 x 2-1/2	300	300	300
150 x 65	20	20	20
6 x 3	300	300	300
150 x 80	20	20	20
6 x 4	300	300	300
150 x 100	20	20	20
8 x 1/2	NA	NA	NA
200 x 15			
8 x 1	NA	NA	NA
200 x 25			
8 x 1-1/4	NA	NA	NA
200 x 32			
8 x 1-1/2	NA	NA	NA
200 x 40			
8 x 2	300	300	300
200 x 50	20	20	20
8 x 2-1/2	300	300	300
200 x 65	20	20	20
8 x 3	300	300	300
200 x 80	20	20	20
8 x 4	300	300	300
200 x 100	20	20	20

FM		
NOM. SIZE	SCH 40	SCH 10
in	psi	psi
mm	Bar	Bar
2 x 1/2	300	300
50 x 15	20	20
2 x 3/4	300	300
50 x 20	20	20
2 x 1	300	300
50 x 25	20	20
2 x 1-1/4	300	300
50 x 32	20	20
2 x 1-1/2	300	300
50 x 40	20	20
2-1/2 x 1-1/2	300	300
65 x 15	20	20
2-1/2 x 3/4	300	300
65 x 20	20	20
2-1/2 x 1	300	300
65 x 25	20	20
2-1/2 x 1-1/4	300	300
65 x 32	20	20
2-1/2 x 1-1/2	300	300
65 x 40	20	20
3 x 1/2	NA	NA
80 x 15		
3 x 3/4	NA	NA
80 x 20		
3 x 1	300	300
80 x 25	20	20
3 x 1-1/4	300	300
80 x 32	20	20
3 x 1-1/2	300	300
80 x 40	20	20
3 x 2	300	300
80 x 50	20	20
4 x 1/2	NA	NA
100 x 15		
4 x 3/4	NA	NA
100 x 20		
4 x 1	300	300
100 x 25	20	20
4 x 1-1/4	300	300
100 x 32	20	20
4 x 1-1/2	300	300
100 x 40	20	20
4 x 2	300	300
100 x 50	20	20
4 x 2-1/2	300	300
100 x 65	20	20
4 x 3	300	300
100 x 80	20	20
5 x 2	300	300
125 x 50	20	20
5 x 2-1/2	300	300
125 x 65	20	20
6 x 1/2	NA	NA
150 x 15		
6 x 1	NA	NA
150 x 25		
6 x 1-1/4	300	300
150 x 32	20	20
6 x 1-1/2	300	300
150 x 40	20	20
6 x 2	300	300
150 x 50	20	20
6 x 2-1/2	300	300
150 x 65	20	20
6 x 3	300	300
150 x 80	20	20
6 x 4	300	300
150 x 100	20	20
8 x 1/2	NA	NA
200 x 15		
8 x 1	NA	NA
200 x 25		
8 x 1-1/4	NA	NA
200 x 32		
8 x 1-1/2	NA	NA
200 x 40		
8 x 2	300	300
200 x 50	20	20
8 x 2-1/2	300	300
200 x 65	20	20
8 x 3	300	300
200 x 80	20	20
8 x 4	300	300
200 x 100	20	20

LPCB	
NOM. SIZE	PRESSURE
in	psi
mm	Bar
76.1 mm x 1-1/4	300
65 x 32	20
76.1 mm x 1-1/2	300
65 x 40	20
3 x 1-1/4	300
80 x 32	20
3 x 1-1/2	300
80 x 40	20
3 x 2	300
80 x 50	20
4 x 1-1/4	300
100 x 32	20
4 x 1-1/2	300
100 x 40	20
4 x 2	300
100 x 50	20
4 x 76.1 mm	300
100 x 65	20
4 x 3	300
100 x 80	20
165.1 mm x 1-1/4	300
150 x 32	20
165.1 mm x 1-1/2	300
150 x 40	20
165.1 mm x 2	300
150 x 50	20
165.1 mm x 76.1 mm	300
150 x 65	20
165.1 mm x 3	300
150 x 80	20
165.1 mm x 4	300
150 x 100	20

FLOW DATA

Values for flow of water at +60°F (+16°C).

$$Cv = \frac{Q}{\sqrt{\Delta P}}$$

Where:

Cv = Flow coefficient

Q = Flow (GPM)

ΔP = Pressure drop (psi)

Cv VALUES

NOMINAL SIZE	CV VALUES
in	
mm	
1/2	15
15	15
3/4	20
20	20
1	25
25	25
1-1/4	45
32	45
1-1/2	60
40	60
2	100
50	100
2-1/2	125
65	125
3	200
80	200
4	350
100	350

FLOW CHARACTERISTICS

NOMINAL SIZE	EQUIVALENT LENGTH
in	feet
mm	m
1/2	2.0
15	0.6
3/4	4.0
20	1.2
1	5.0
25	1.5
1-1/4	6.0
32	1.8
1-1/2	8.0
40	2.4
2	10.0
50	3.2
2-1/2	20.0
65	6.0
3	27.0
80	8.1
4	35.0
100	10.5

MATERIAL SPECIFICATIONS

HOUSING:

- Ductile Iron to ASTM A536, Gr. 65-45-12 and or ASTM A395 Gr.65-45-15, min. tensile strength 65,000 psi (448 MPa).

SURFACE FINISH:

- Standard painted finishes in orange or RAL3000 red.
- Hot dip zinc galvanized (optional)
- Epoxy coatings in RAL3000 red or other colors (optional)

RUBBER GASKET:

Grade "E" EPDM (Color code: Green stripe)

- Good for cold & hot water up to +230°F (+110°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals.
- Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.**
- Maximum Temperature Range: -30°F (-34°C) to +230°F (+110°C).
- *EPDM gaskets for water services are not recommended for steam

services.

(Option) Grade "T" Nitrile (Color code: Orange stripe)

- Recommended for petroleum products, air with oil vapors, vegetable and mineral oils.
- Hot dip zinc galvanized (Optional). Temperature range: -20°F to +180°F (-29°C to +82°C)
- Do not use for HOT WATER above +150°F (+66°C) or HOT DRY AIR above +140°F (+60°C).**

OTHER OPTIONS

Grade "O" - Fluoroelastomer

Grade "L" - Silicone

- For dry systems we recommend the use of the Shurjoint GapSeal gasket.
- For additional details contact Shurjoint.

BOLTS & NUTS:

- Heat treated carbon manganese steel track bolts to ASTM A449-83a (or A183 Gr. 2), minimum tensile strength 110,000 psi (758 MPa), Zinc electroplated, with heavy-duty hexagonal nuts to ASTM A563.

GENERAL NOTES

- Maximum Working Pressure (CWP) listed is the maximum cold water pressure for general piping services tested to ASTM F1476 and or AWWA C606 methods. Figures listed are based on roll- or cut-grooved standard wall carbon steel pipe. For other pipe schedules or pipe materials, contact Shurjoint for additional information.
- Max. End Load is calculated based on the maximum working pressure (CWP).
- Listed and or Approved Pressures are pressure ratings for fire protection systems, tested and approved by various approval bodies. Please always refer to the latest approval data posted on the Shurjoint website.
- Field Joint Test: For one time only the system may be tested hydrostatically at 1.5 times the maximum working pressure listed (AWWA C606 5.2.3).
- Warning: Piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- The 10 Year Limited Warranty applies to manufacturing defects only and does not cover severe service/temperature applications or wear parts.
- Shurjoint reserves the right to change specifications, designs and or standard without notice and without incurring any obligations.