

Grooved Mechanical Branch Tee
Fig. MT-2 & MT-2A



Material Specifications

Housing

Ductile Iron conforming to ASTM A-536, Grade 65-45-12

Bolts

SAE J429, Grade 5, Zinc Electroplated
ISO 898-1, Class 8.8, Zinc Electroplated followed by a Yellow Chromate Dip.

Heavy Hex Nuts

ASTM A563, Grade A, Zinc Electroplated
ISO 898-2, Class 8.8, Zinc Electroplated followed by a Yellow Chromate Dip.

Coatings

Rust inhibiting paint Color: ORANGE (standard)
Hot Dipped Zinc Galvanized (optional)

Lubrication

Standard Gruvlok
Gruvlok Xtreme required for dry pipe systems and freezer applications.

Gasket Materials

Properties as designated in accordance with ASTM D-2000.

Grade "E" EPDM (Green color code)

-40° F to 230° F (Service Temperature Range)
(-40° C to 110° C)

Recommended for water service, diluted acids, alkalis solutions, oil-free air and many chemical services. NOT FOR USE IN PETROLEUM APPLICATIONS.



For Listings/Approval Details and Limitations, visit our website at www.asc-es.com or contact an ASC Engineered Solutions® Sales Representative.

LPS 1219: Issue 3.1
Cert/LPCB ref. 519a/09

Mechanical branch connections for reducing branch outlets in fire protection systems without welding. The MT-2 & MT-2A are bolted saddle type fittings with grooved outlets. Design assures superior sealing, full pipe support, excellent stability and easy installation.

For the latest UL / ULC listed, LPCB, VdS and FM Approved pressure ratings versus pipe schedule, visit our website at www.asc-es.com or contact an ASC Engineered Solutions® Sales Representative.



PROJECT INFORMATION	APPROVAL STAMP
Project:	Approved
Address:	Approved as noted
Contractor:	Not approved
Engineer:	Remarks:
Submittal Date:	
Notes 1:	
Notes 2:	

Grooved Mechanical Branch Tee Fig. MT-2 & MT-2A

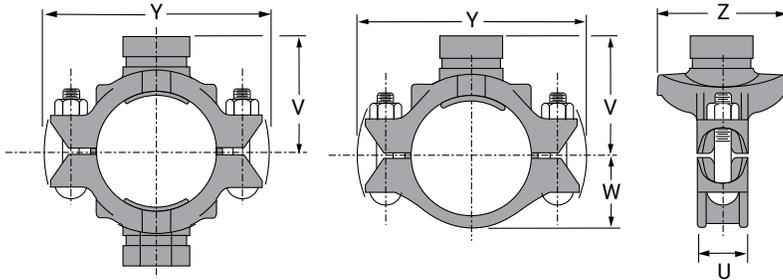


Fig. No.	Nominal Size	O.D.	Hole Dimensions		Max. Working Pressures▲	Frictional Resistance (Equivalent Straight Pipe)	Dimensions					Bolt Size	Approx. Wt. Ea.
			Min. Diameter	Max. Diameter			U	V	W	Y	Z		
			In./mm	In./mm			In./mm	In./mm	In./mm	In./mm	In./mm		
MT-2A	2 x 1¼ 50 x 32	2.375 x 1.660 60.3 x 42.4	1¼ 32	1⅜ 35	300 20.7	4.9	--	2¾ 69.5	1⅞ 39	4⅞ 116	3 76	⅜ x 2¼ M10 x 57	1.7 0.8
MT-2A	2 x 1½ 50 x 40	2.375 x 1.900 60.3 x 48.3	1¼ 32	1⅜ 35	300 20.7	7.4	--	2¾ 69.5	1⅞ 39	4⅞ 116	3 76	⅜ x 2¼ M10 x 57	1.7 0.8
MT-2A	2½ x 1¼ 65 x 32	2.875 x 1.660 73.0 x 42.4	2 51	2⅞ 54	300 20.7	4.9	--	3⅞ 78	2⅞ 49	4⅞ 137	3⅞ 84.5	½ x 2¾ M12 x 70	3.6 1.6
MT-2A	2½ x 1½ 65 x 40	2.875 x 1.900 73.0 x 48.3	2 51	2⅞ 54	300 20.7	7.4	--	3⅞ 78	2⅞ 49	4⅞ 137	3⅞ 84.5	½ x 2¾ M12 x 70	3.6 1.6
MT-2	3 O.D. x 1¼ 76.1 x 32	2.996 x 1.660 76.1 x 42.4	2 51	2⅞ 54	300 20.7	3.4	2 51	3⅞ 81	1⅞ 48	5⅞ 145	3⅞ 86	½ x 2¾ M12 x 70	3.6 1.6
MT-2	3 O.D. x 1½ 76.1 x 40	2.996 x 1.900 76.1 x 48.3	2 51	2⅞ 54	300 20.7	4.3	2 51	3⅞ 81	1⅞ 48	5⅞ 145	3⅞ 86	½ x 2¾ M12 x 70	3.6 1.6
MT-2A	3 x 1 80 x 25	3.500 x 1.315 88.9 x 33.7	1⅞ 36	1⅞ 40	300 20.7	3	--	3⅞ 84.5	2¼ 56.5	6 152	2⅞ 72.5	½ x 3 M12 x 76	3.8 1.7
MT-2	3 x 1½ 80 x 40	3.500 x 1.900 88.9 x 48.3	2 51	2⅞ 54	300 20.7	4.3	2 51	3⅞ 87	2⅞ 55	6¼ 159	3⅞ 99	½ x 2¾ M12 x 70	3.8 1.7
MT-2	3 x 2 80 x 50	3.500 x 2.375 88.9 x 60.3	2½ 64	2⅞ 67	300 20.7	6.5	2 51	3⅞ 87	2⅞ 55	6¼ 159	3⅞ 99	½ x 2¾ M12 x 70	4.4 2.0
MT-2A	4 x 1 100 x 25	4.500 x 1.315 114.3 x 33.7	1⅞ 36	1⅞ 40	300 20.7	3	--	4 102	2¾ 70	7⅞ 188	3⅞ 78.4	½ x 3 M12 x 76	4.6 2.1
MT-2	4 x 1½ 100 x 40	4.500 x 1.900 114.3 x 48.3	2 51	2⅞ 54	300 20.7	4.3	2 51	4 102	2⅞ 67	7¼ 184	3⅞ 97	½ x 2¾ M12 x 70	4.6 2.1
MT-2	4 x 2 100 x 50	4.500 x 2.375 114.3 x 60.3	2½ 64	2⅞ 67	300 20.7	6.5	2 51	4 102	2⅞ 67	7¼ 184	4½ 115	½ x 2¾ M12 x 70	4.8 2.2
MT-2	4 x 2½ 100 x 65	4.500 x 2.875 114.3 x 73.0	2¾ 70	2⅞ 73	300 20.7	9.5	2 51	4 102	2⅞ 67	7¼ 184	4½ 115	½ x 2¾ M12 x 70	5.4 2.4
MT-2	4 x 3 O.D. 100 x 76.1	4.500 x 2.996 114.3 x 76.1	2¾ 70	2⅞ 73	300 20.7	12.7	2 51	4 102	2⅞ 67	7¼ 184	4½ 115	½ x 2¾ M12 x 70	7.6 3.4
MT-2	4 x 3 100 x 80	4.500 x 3.500 114.3 x 88.9	3½ 89	3⅞ 92	300 20.7	12.7	2 51	4⅞ 105	2⅞ 67	7¼ 184	5⅞ 130	½ x 2¾ M12 x 70	7.6 3.4
MT-2	5 x 2 125 x 50	5.563 x 2.375 141.3 x 60.3	2½ 64	2⅞ 67	300 20.7	6.5	2¼ 57	4¾ 121	3⅞ 81	8⅞ 211	4½ 115	⅝ x 4 M16 x 108	7.9 3.6
MT-2	5 x 2½ 125 x 65	5.563 x 2.875 141.3 x 73.0	2¾ 70	2⅞ 73	300 20.7	7.2	2¼ 57	4¾ 121	3⅞ 81	8⅞ 211	4½ 115	⅝ x 4 M16 x 108	7.9 3.6
MT-2	5 x 3 125 x 80	5.563 x 3.500 141.3 x 88.9	3½ 89	3⅞ 92	300 20.7	9.6	2¼ 57	5 127	3⅞ 81	8⅞ 211	5⅞ 130	⅝ x 4 M16 x 108	7.9 3.6

Note:
All sizes may be used as mechanical crosses. Outlet branch is machined per standard cut groove specification.

▲ - Working Pressure Ratings are for reference only and based on Sch. 10 and Sch. 40 pipe. For the latest UL/ULC, FM, VdS and LPCB pressure ratings versus pipe schedule, please visit www.asc-es.com or contact your local ASC Engineered Solutions® Representative.

Warning: For dry pipe systems and freezer applications lubrication of the gasket is required, Gruvlok Xtreme™ Lubricant is required.



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Grooved Mechanical Branch Tee Fig. MT-2 & MT-2A

Fig. No.	Nominal Size	O.D.	Hole Dimensions		Max. Working Pressures▲	Frictional Resistance (Equivalent Straight Pipe)	Dimensions					Bolt Size	Approx. Wt. Ea.
			Min. Diameter	Max. Diameter			U	V	W	Y	Z		
			In./DN(mm)	In./mm			In./mm	In./mm	In./mm	In./mm	In./mm		
MT-2	5½ O.D. x 2 139.7 x 50	5.500 x 2.375 139.7 x 60.3	2½ 64	2⅝ 67	300 20.7	6.5	2¼ 57	4⅝ 117	3⅞ 81	8⅝ 211	4½ 115	⅝ x 4 M16 x 108	7.9 3.6
MT-2	5½ O.D. x 3 O.D. 139.7 x 76.1	5.500 x 2.996 139.7 x 76.1	2¾ 70	2⅞ 73	300 20.7	12.7	2½ 57	4⅝ 117	3⅞ 81	8⅝ 211	4½ 115	⅝ x 4 M16 x 108	7.9 3.6
MT-2	5½ O.D. x 3 139.7 x 88.9	5.500 x 3.500 139.7 x 88.9	3½ 89	3⅝ 92	300 20.7	12.7	2¼ 57	4⅞ 124	3⅞ 81	8⅝ 211	5⅞ 130	⅝ x 4 M16 x 108	7.9 3.6
MT-2	6 x 1¼ 150 x 32	6.625 x 1.660 168.3 x 42.2	2 51	2⅞ 54	300 20.7	3.4	2¼ 57	5 127	3⅞ 81	9⅞ 238	3⅞ 98	⅝ x 4 M16 x 108	8.0 3.6
MT-2	6 x 1½ 150 x 40	6.625 x 1.900 168.3 x 48.3	2 51	2⅞ 54	300 20.7	3.6	2¼ 57	5⅞ 130	3⅞ 94	9⅞ 238	3⅞ 98	⅝ x 4 M16 x 108	8.0 3.6
MT-2	6 x 2 150 x 50	6.625 x 2.375 168.3 x 60.3	2½ 64	2⅝ 67	300 20.7	4.5	2¼ 57	5⅞ 130	3⅞ 94	9⅞ 238	4⅞ 112	⅝ x 4 M16 x 108	8.0 3.6
MT-2	6 x 2½ 150 x 65	6.625 x 2.875 168.3 x 73.0	2¾ 70	2⅞ 73	300 20.7	5.3	2¼ 57	5⅞ 130	3⅞ 94	9⅞ 238	4⅞ 112	⅝ x 4 M16 x 108	8.0 3.6
MT-2	6 x 3 O.D. 150 x 76.1	6.625 x 2.996 168.3 x 76.1	2¾ 70	2⅞ 73	300 20.7	12.7	2¼ 57	5⅞ 130	3⅞ 94	9⅞ 238	4⅞ 112	⅝ x 4 M16 x 108	9.7 4.4
MT-2	6 x 3 150 x 80	6.625 x 3.500 168.3 x 88.9	3½ 89	3⅝ 92	300 20.7	8.9	2¼ 57	5⅞ 133	3⅞ 94	9⅞ 238	5⅞ 143	⅝ x 4 M16 x 108	9.7 4.4
MT-2	6 x 4 150 x 100	6.625 x 4.500 168.3 x 114.3	4½ 114	4⅝ 117	300 20.7	12.6	2¼ 57	5⅞ 137	3⅞ 94	9⅞ 238	6½ 165	⅝ x 4 M16 x 108	3.6 1.6
MT-2	6½ O.D. x 1¼ 165.1 x 32	6.500 x 1.660 165.1 x 42.2	2 51	2⅞ 54	300 20.7	3.4	2¼ 57	5 127	3⅝ 93	9¼ 235	3⅞ 98	⅝ x 4 M16 x 108	3.2 1.5
MT-2	6½ O.D. x 1½ 165.1 x 40	6.500 x 1.900 165.1 x 48.3	2 51	2⅞ 54	300 20.7	4.3	2¼ 57	5⅞ 130	3⅝ 93	9¼ 235	3⅞ 98	⅝ x 4 M16 x 108	7.5 3.4
MT-2	6½ O.D. x 2 165.1 x 50	6.500 x 2.375 165.1 x 60.3	2½ 64	2⅝ 67	300 20.7	6.5	2¼ 57	5⅞ 130	3⅝ 93	9¼ 235	4⅞ 112	⅝ x 4 M16 x 108	8.0 3.6
MT-2	6½ O.D. x 3 O.D. 165.1 x 76.1	6.500 x 2.996 165.1 x 76.1	2¾ 70	2⅞ 73	300 20.7	12.7	2¼ 57	5⅞ 130	3⅝ 93	9¼ 235	4⅞ 112	⅝ x 4 M16 x 108	8.0 3.6
MT-2	6½ O.D. x 3 165.1 x 80	6.500 x 3.500 165.1 x 88.9	3½ 89	3⅝ 92	300 20.7	12.7	2¼ 57	5¼ 133	3⅝ 93	9¼ 235	5⅞ 143	⅝ x 4 M16 x 108	9.7 4.4
MT-2	6½ O.D. x 4 165.1 x 100	6.500 x 4.500 165.1 x 114.3	4½ 114	4⅝ 117	300 20.7	12.6	2¼ 57	5⅞ 137	3⅝ 93	9⅞ 238	6½ 165	⅝ x 4 M16 x 108	13.6 6.2

Note:
All sizes may be used as mechanical crosses. Outlet branch is machined per standard cut groove specification.

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Fig. MT-2 & MT-2A Grooved Mechanical Branch Tee

ALWAYS USE A GRUVLOK® SPF / ANVIL® LUBRICANT FOR PROPER COUPLING ASSEMBLY.

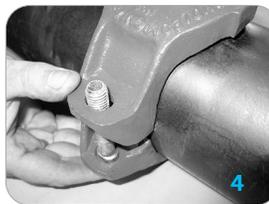
Thorough lubrication of the gasket is essential to assist the gasket into the proper sealing position.

1 Pipe preparation

Cut the appropriate size hole in the pipe and remove any burrs. Be sure to remove the slug from inside the pipe. Clean the gasket sealing surface within $\frac{5}{8}$ " (16mm) of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket.

Note: Flow Data is expressed as Feet/Meters of Schedule 40 steel outlet pipe with a Hazen-Williams coefficient of friction value of 120".

Branch Size	Hole Saw Size
Inches (mm)	Inches $+\frac{1}{8}, -0$ (mm $+3, -0$)
1 $\frac{1}{4}$, 1 $\frac{1}{2}$ 32, 40	2 51
2 50	2 $\frac{1}{2}$ 64
2 $\frac{1}{2}$ 65	2 $\frac{3}{4}$ 70
3 OD 76.1	2 $\frac{3}{4}$ 70
3 80	3 $\frac{1}{2}$ 89
4 100	4 $\frac{1}{2}$ 114



2 Check and lubricate gasket

Check the gasket to be sure it is compatible for the intended service. Apply a thin layer of Gruvlok SPF/Anvil lubricant to the back surface of the gasket. Be careful that foreign particles do not adhere to the lubricated surfaces. Insert the gasket back into the outlet housing making sure the tabs in the gasket line up with the tab recesses in the housing.

3 Gasket installation

Lubricate the exposed surface of the gasket. Align the outlet housing over the pipe hole making sure that the locating collar is in the pipe hole.

4 Alignment

Align the strap around the pipe, insert the bolts and tighten the nuts finger tight.

5 Tighten nuts

Alternately and evenly tighten the nuts to the specified bolt torque.

6 Assembly is complete

Specified Bolt Torque

Specified bolt torque is for the oval neck track bolts used on SPF grooved mechanical branches. The nuts must be tightened alternately and evenly until fully tightened.

Caution: Proper torquing of mechanical branch bolts is required to obtain specified performance. **Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation.** Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

ANSI Specified Bolt Torque

Bolt Size	Wrench Size	Specified Bolt Torque*
In.	In.	Ft.-Lbs
$\frac{1}{2}$	$\frac{7}{8}$	80-100
$\frac{5}{8}$	1 $\frac{1}{16}$	100-130
$\frac{3}{4}$	1 $\frac{1}{4}$	130-180

* Non-lubricated bolt torque.

Metric Specified Bolt Torque

Bolt Size	Wrench Size	Specified Bolt Torque*
mm	mm	N-M
M12	22	110-150
M16	24	135-175
M20	30	175-245

* Non-lubricated bolt torque.



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