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

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.

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, alkalies solutions, oil-free air and many chemical services. NOT FOR USE IN PETROLEUM APPLICATIONS.

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

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

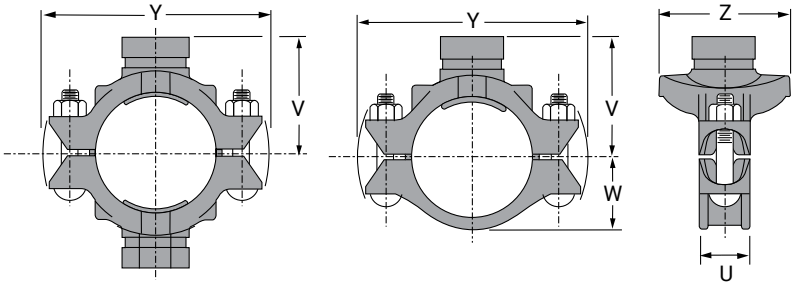

Fig. No.	Nominal Size	O.D.	Hole Dimensions		Max. Working Pressures▲	Dimensions					Bolt Size	Approx. Wt. Ea.
			Min. Diameter	Max. Diameter		U	V	W	Y	Z		
	In./DN(mm)	In./mm	In./mm	In./mm	PSI/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
MT-2A	2 x 1¼ 50 x 32	2.375 x 1.660 60.3 x 42.4	1¼ 32	1⅜ 35	300 20.7	--	2¾ 69.5	1⁹⁄₁₆ 39	4⁹⁄₁₆ 116	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	--	2¾ 69.5	1⁹⁄₁₆ 39	4⁹⁄₁₆ 116	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	2⅛ 54	300 20.7	--	3¹⁄₁₆ 78	2¹⁵⁄₁₆ 49	4⅜ 137	3⁵⁄₁₆ 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	2⅛ 54	300 20.7	--	3¹⁄₁₆ 78	2¹⁵⁄₁₆ 49	4⅜ 137	3⁵⁄₁₆ 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	2⅛ 54	300 20.7	2 51	3³⁄₁₆ 81	1⅞ 48	5¹¹⁄₁₆ 145	3⅜ 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	2⅛ 54	300 20.7	2 51	3³⁄₁₆ 81	1⅞ 48	5¹¹⁄₁₆ 145	3⅜ 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	1⁷⁄₁₆ 36	1⁹⁄₁₆ 40	300 20.7	--	3⁵⁄₁₆ 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	2⅛ 54	300 20.7	2 51	3⁷⁄₁₆ 87	2⅛ ...'55	6¼ 159	3¹⁵⁄₁₆ 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	2⅝ 67	300 20.7	2 51	3⁷⁄₁₆ 87	2⅛ 55	6¼ 159	3¹⁵⁄₁₆ 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	1⁷⁄₁₆ 36	1⁹⁄₁₆ 40	300 20.7	--	4 102	2¾ 70	7⅜ 188	3¹⁄₁₆ 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	2⅛ 54	300 20.7	2 51	4 102	2⅝ 67	7¼ 184	3¹³⁄₁₆ 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	2⅝ 67	300 20.7	2 51	4 102	2⅝ 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	2 51	4 102	2⅝ 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	2 51	4 102	2⅝ 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	3⅝ 92	300 20.7	2 51	4⅛ 105	2⅝ 67	7¼ 184	5⅛ 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	2⅝ 67	300 20.7	2¼ 57	4¾ 121	3³⁄₁₆ 81	8⁵⁄₁₆ 211	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	2¼ 57	4¾ 121	3³⁄₁₆ 81	8⁵⁄₁₆ 211	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	3⅝ 92	300 20.7	2¼ 57	5 127	3³⁄₁₆ 81	8⁵⁄₁₆ 211	5⅛ 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 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▲	Dimensions					Bolt Size	Approx. Wt. Ea.
			Min. Diameter	Max. Diameter		U	V	W	Y	Z		
	In./DN(mm)	In./mm	In./mm	In./mm	PSI/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
MT-2	5½O.D. x 2 139.7 x 50	5.500 x 2.375 139.7 x 60.3	2½ 64	2⅝ 67	300 20.7	2¼ 57	4⅝ 117	3 3/16 81	8 5/16 211	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	2½ 57	4⅝ 117	3 3/16 81	8 5/16 211	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	2¼ 57	4⅞ 124	3 3/16 81	8 5/16 211	5⅛ 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	2⅛ 54	300 20.7	2¼ 57	5 127	3 3/16 81	9⅜ 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	2⅛ 54	300 20.7	2¼ 57	5⅛ 130	3 11/16 94	9⅜ 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	2¼ 57	5⅛ 130	3 11/16 94	9⅜ 238	4 7/16 112	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	2¼ 57	5⅛ 130	3 11/16 94	9⅜ 238	4 7/16 112	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	2¼ 57	5⅛ 130	3 11/16 94	9⅜ 238	4 7/16 112	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	2¼ 57	5¼ 133	3 11/16 94	9⅜ 238	5⅜ 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	2¼ 57	5⅜ 137	3 11/16 94	9⅜ 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	2⅛ 54	300 20.7	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	2⅛ 54	300 20.7	2¼ 57	5⅛ 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	2¼ 57	5⅛ 130	3⅝ 93	9¼ 235	4 7/16 112	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	2¼ 57	5⅛ 130	3⅝ 93	9¼ 235	4 7/16 112	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	2¼ 57	5¼ 133	3⅝ 93	9¼ 235	5⅝ 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	2¼ 57	5⅜ 137	3⅝ 93	9⅜ 238	6½ 165	⅝ x 4 M16 x 108	13.6 6.2
MT-2	8 x 2 200 x 50	8.625 x 2.375 219.1 x 60.3	2¾ 70	2⅞ 73	300 20.7	2½ 64	6⅛ 156	4⅞ 124	12⅜ 314	4⅜ 111	¾ x 4¼	10.2 4.6
MT-2	8 x 2½ 200 x 65	8.625 x 2.875 219.1 x 73.0	2¾ 70	2⅞ 73	300 20.7	2½ 64	6⅛ 156	4⅞ 124	12⅜ 314	4⅜ 111	¾ x 4¼	10.4 4.7
MT-2	8 x 3 O.D. 200 x 76.1	8.625 x 2.996 219.1 x 76.1	2¾ 70	2⅞ 73	300 20.7	2½ 64	6⅛ 156	4⅞ 124	12⅜ 314	5¾ 146	¾ x 4¼	10.6 4.8
MT-2	8 x 3 200 x 80	8.625 x 3.500 219.1 x 88.9	3½ 89	3⅝ 92	300 20.7	2½ 64	6⅜ 162	4⅞ 124	12⅜ 314	5¾ 146	¾ x 4¼	11.1 5.0
MT-2	8 x 4 200 x 100	8.625 x 4.500 219.1 x 114.3	4½ 114	4⅝ 117	300 20.7	2½ 64	6¼ 159	4⅞ 124	12⅜ 314	6⅝ 168	¾ x 4¼	15.5 7.0

Note:

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

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

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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

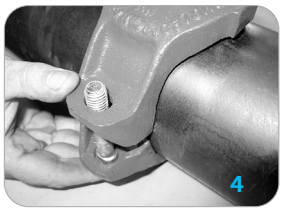
Cut the appropriate size hole in the pipe and remove any burrs. Be sure to remove the slug from inside the pipe. Clean the gasket sealing surface within ⅝" (16mm) of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket.

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	Flow Data
Inches (mm)	Inches +1/8, -0 (mm +3, -0)	(See Note)
1¼, 1½ 32, 40	2 51	4 1.22
2 50	2½ 64	9 2.74
2½ 65	2¾ 70	10 3.05
3 OD 76.1	2¾ 70	7 2.13
3 80	3½ 89	13 3.96
4 100	4½ 114	13 3.96

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
½	⅞	80-100
⅝	1 1/16	100-130
¾	1 ¼	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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