



National Fire Equipment Ltd.

FIG. MT-1 Threaded Mechanical Branch Tee

Mechanical branch connections are used for reducing branch outlets without welding. The MT-1 is a bolted saddle type fitting with NPT female threaded 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, see www.anvilintl.com or contact your local Anvil Representative.



For Listings/Approval Details and Limitations, visit our website at www.anvilintl.com or contact an Anvil® 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 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)
 - Other available options: Example: RAL3000 or RAL9000 Series
- For other coating requirements contact an Anvil Representative.

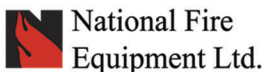
LUBRICATION:

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

GASKETS: 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.



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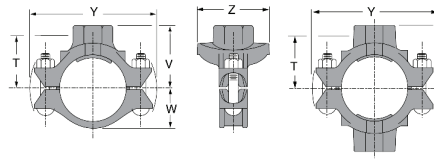
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FIG. MT-1 Threaded Mechanical Branch Tee



MT-1 THREADED MECHANICAL BRANCH TEE

Nominal Size	O.D.	Hole Dimensions		Max. Working Pressures	Dimensions					Bolt Size	Approx. Wt. Ea.
		Min. Diameter	Max. Diameter		U	V Threaded	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
4 x 1/2 100 x 15	4.500 x 0.840 114.3 x 21.3	1 1/2 38	1 5/8 41	300 20.7	3 1/16 78	3 11/16 93.7	2 7/8 70.6	7 1/4 181.1	3 1/16 78	1/2 x 3	4.6 2.1
4 x 3/4 100 x 20	4.500 x 1.050 114.3 x 26.7	1 1/2 38	1 5/8 41	300 20.7	3 1/16 78	3 11/16 93.7	2 7/8 70.6	7 1/4 181.1	3 1/16 78	1/2 x 3	4.6 2.1
4 x 1 100 x 25	4.500 x 1.315 114.3 x 33.7	1 1/2 38	1 5/8 41	300 20.7	3 5/16 85	4 102	2 5/8 67	7 1/4 184	3 13/16 97	1/2 x 2 3/4	4.6 2.1
4 x 1 1/4 100 x 32	4.500 x 1.660 114.3 x 42.4	2 51	2 1/8 54	300 20.7	3 5/16 84	4 102	2 5/8 67	7 1/4 184	3 13/16 97	1/2 x 2 3/4	4.6 2.1
4 x 1 1/2 100 x 40	4.500 x 1.900 114.3 x 48.3	2 51	2 1/8 54	300 20.7	3 5/16 84	4 102	2 5/8 67	7 1/4 184	3 13/16 97	1/2 x 2 3/4	4.6 2.1
4 x 2 100 x 50	4.500 x 2.375 114.3 x 60.3	2 1/2 64	2 5/8 67	300 20.7	3 5/16 84	4 102	2 5/8 67	7 1/4 184	4 1/2 115	1/2 x 2 3/4	4.8 2.2
4 x 2 1/2 100 x 65	4.500 x 2.875 114.3 x 73.0	2 3/4 70	2 7/8 73	300 20.7	3 1/16 78	4 102	2 5/8 67	7 1/4 184	4 1/2 115	1/2 x 2 3/4	5.4 2.4
4 x 3 100 x 80	4.500 x 3.500 114.3 x 88.9	3 1/2 89	3 5/8 92	300 20.7	3 76	4 1/8 105	2 5/8 67	7 1/4 184	5 1/8 130	1/2 x 2 3/4	5.4 2.4
5 x 1 1/2 125 x 40	5.563 x 1.900 114.3 x 48.3	2 51	2 1/8 54	300 20.7	4 1/16 103	4 3/4 121	3 3/16 81	8 5/16 211	3 13/16 97	5/8 x 4	7.4 3.4
5 x 2 125 x 50	5.563 x 2.375 114.3 x 60.3	2 1/2 64	2 5/8 67	300 20.7	4 1/16 103	4 3/4 121	3 3/16 81	8 5/16 211	3 13/16 97	5/8 x 4	7.9 3.6
5 x 2 1/2 125 x 65	5.563 x 2.875 114.3 x 73.0	2 3/4 70	2 7/8 73	300 20.7	3 13/16 97	4 3/4 121	3 3/16 81	8 5/16 211	3 13/16 97	5/8 x 4	7.9 3.6
6 x 1 1/4 150 x 32	6.625 x 1.660 168.3 x 42.2	2 51	2 1/8 54	300 20.7	3 13/16 97	4 15/16 126	3 11/16 94	9 3/8 238	3 7/8 98	5/8 x 4	8.0 3.6
6 x 1 1/2 150 x 40	6.625 x 1.900 168.3 x 48.3	2 51	2 1/8 54	300 20.7	4 7/16 113	5 1/8 130	3 11/16 94	9 3/8 238	3 7/8 98	5/8 x 4	7.5 3.4
6 x 2 150 x 50	6.625 x 2.375 168.3 x 60.3	2 1/2 64	2 5/8 67	300 20.7	4 7/16 112	5 1/8 130	3 11/16 94	9 3/8 238	4 7/16 112	5/8 x 4	8.0 3.6
6 x 2 1/2 150 x 65	6.625 x 2.875 168.3 x 73.0	2 3/4 70	2 7/8 73	300 20.7	4 3/16 106	5 1/8 130	3 11/16 94	9 3/8 238	4 7/16 112	5/8 x 4	8.0 3.6
6 x 3 150 x 80	6.625 x 3.500 168.3 x 88.9	3 1/2 89	3 5/8 92	300 20.7	4 1/8 105	5 1/4 133	3 11/16 94	9 3/8 238	5 5/8 143	5/8 x 4	9.7 4.4
6 x 4 150 x 100	6.625 x 4.500 168.3 x 114.3	4 1/2 114.3	4 5/8 117.5	300 20.7	4 9/16 115.8	5 3/8 136.7	3 7/8 99.1	9 1/4 235	6 1/8 155.7	5/8 x 4 3/4	9.7 4.4
8 x 2 200 x 50	8.625 x 2.375 219.1 x 60.3	2 1/2 64	2 5/8 67	300 20.7	5 7/16 138	6 1/4 159	4 7/8 123	10 5/16 313	4 7/16 112	3/4 x 4 1/4	10.2 4.6

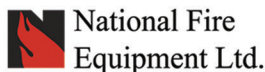
All sizes may be used as mechanical crosses.

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/UCLC, FM, VdS and LPCB pressure ratings versus pipe schedule, please visit anvilintl.com or contact your local Anvil Representative.

WARNING

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



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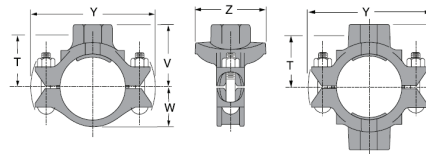
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FIG. MT-1 Threaded Mechanical Branch Tee



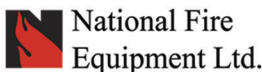
MT-1 THREADED MECHANICAL BRANCH TEE											
Nominal Size	O.D.	Hole Dimensions		Max. Working Pressures	Dimensions					Bolt Size	Approx. Wt. Ea.
		Min. Diameter	Max. Diameter		U	V Threaded	W	Y	Z		
In./DN(mm)	In./mm	In./mm	In./mm	PSI/bar	In./mm	In./mm	In./mm	In./mm	In./mm	In./mm	Lbs./Kg
1 1/4 x 1/2 32 x 15	1.660 x 0.840 42.4 x 21.3	1 3/16 30	1 1/4 32	300 20.7	-	1 1/4 32	1 1/8 29	3 3/4 95.5	2 1/4 57	3/8 x 1 3/8	1.2 0.5
1 1/4 x 3/4 32 x 20	1.660 x 1.050 42.4 x 26.7	1 3/16 30	1 1/4 32	300 20.7	-	1 3/4 44	1 1/8 29	3 3/4 95.5	2 1/4 57	3/8 x 1 3/8	1.2 0.5
1 1/4 x 1 32 x 25	1.660 x 1.315 42.4 x 33.7	1 3/16 30	1 1/4 32	300 20.7	-	2 1/16 53	1 1/8 29	3 3/4 95.5	2 1/4 57	3/8 x 1 3/8	1.2 0.5
1 1/2 x 1/2 40 x 15	1.900 x 0.840 48.3 x 21.3	1 3/16 30	1 1/4 32	300 20.7	-	1 3/8 35.5	1 1/4 32.5	4 101.5	2 1/4 57	3/8 x 1 3/8	1.3 0.6
1 1/2 x 3/4 40 x 20	1.900 x 1.050 48.3 x 26.7	1 3/16 30	1 1/4 32	300 20.7	-	1 7/8 47.5	1 1/4 32.5	4 101.5	2 1/4 57	3/8 x 1 3/8	1.3 0.6
1 1/2 x 1 40 x 25	1.900 x 1.315 48.3 x 33.7	1 3/16 30	1 1/4 32	300 20.7	-	2 3/16 56	1 1/4 32.5	4 101.5	2 1/4 57	3/8 x 1 3/8	1.3 0.6
2 x 1/2 50 x 15	2.375 x 0.840 60.3 x 21.3	1 1/2 38	1 5/8 41	300 20.7	2 1/8 53.8	2 5/8 67	1 9/16 40	4 7/8 124	2 1/8 53.8	3/8 x 2 1/4	1.7 0.8
2 x 3/4 50 x 20	2.375 x 1.050 60.3 x 26.7	1 1/2 38	1 5/8 41	300 20.7	2 1/8 53.8	2 5/8 67	1 9/16 40	4 7/8 124	2 1/8 53.8	3/8 x 2 1/4	1.7 0.8
2 x 1 50 x 25	2.375 x 1.315 60.3 x 33.7	1 1/2 38	1 5/8 41	300 20.7	1 15/16 50	2 5/8 67	1 9/16 40	4 5/8 117	2 1/2 63	3/8 x 2	1.7 0.8
2 x 1 1/4 50 x 32	2.375 x 1.660 60.3 x 42.4	1 3/4 44	1 7/8 48	300 20.7	1 15/16 49	2 5/8 67	1 9/16 40	4 5/8 117	2 1/2 63	3/8 x 2	1.7 0.8
2 x 1 1/2 50 x 40	2.375 x 1.900 60.3 x 48.3	1 3/4 44	1 7/8 48	300 20.7	1 15/16 49	2 5/8 67	1 9/16 40	4 5/8 117	2 7/8 73	3/8 x 2	1.7 0.8
2 1/2 x 1/2 65 x 15	2.875 x 0.840 73.0 x 21.3	1 1/2 38	1 5/8 41	300 20.7	2 3/8 60.5	2 7/8 73.2	1 13/16 46	5 1/4 133.4	3 1/16 78	3/8 x 2 1/4	3.6 1.6
2 1/2 x 3/4 65 x 20	2.875 x 1.050 73.0 x 26.7	1 1/2 38	1 5/8 41	300 20.7	2 3/8 60.5	2 7/8 73.2	1 13/16 46	5 1/4 133.4	3 1/16 78	3/8 x 2 1/4	3.6 1.6
2 1/2 x 1 65 x 25	2.875 x 1.315 73.0 x 33.7	1 1/2 38	1 5/8 41	300 20.7	2 7/16 62	3 1/8 79	1 13/16 46	5 9/16 141	3 3/8 86	1/2 X 2 3/4	3.6 1.6
2 1/2 x 1 1/4 65 x 32	2.875 x 1.660 73.0 x 42.4	2 51	2 1/8 54	300 20.7	2 7/16 62	3 1/8 79	1 13/16 46	5 9/16 141	3 3/8 86	1/2 X 2 3/4	3.6 1.6
2 1/2 x 1 1/2 65 x 40	2.875 x 1.900 73.0 x 48.3	2 51	2 1/8 54	300 20.7	2 7/16 62	3 1/8 79	1 13/16 46	5 9/16 141	3 3/8 86	1/2 X 2 3/4	3.6 1.6
3 x 1/2 80 x 15	3.500 x 0.840 88.9 x 21.3	1 1/2 38	1 5/8 41	300 20.7	2 9/16 65	3 3/16 81	2 3/16 56.1	6 1/8 155.7	3 1/16 78	1/2 x 3	3.8 1.7
3 x 3/4 80 x 20	3.500 x 1.050 88.9 x 26.7	1 1/2 38	1 5/8 41	300 20.7	2 9/16 65	3 3/16 81	2 3/16 56.1	6 1/8 155.7	3 1/16 78	1/2 x 3	3.8 1.7
3 x 1 80 x 25	3.500 x 1.315 88.9 x 33.7	1 1/2 38	1 5/8 41	300 20.7	2 3/4 71	3 7/16 87	2 1/8 55	6 1/4 159	3 15/16 99	1/2 x 2 3/4	3.8 1.7
3 x 1 1/4 80 x 32	3.500 x 1.660 88.9 x 42.4	2 51	2 1/8 54	300 20.7	2 3/4 70	3 7/16 87	2 1/8 55	6 1/4 159	3 15/16 99	1/2 x 2 3/4	3.8 1.7
3 x 1 1/2 80 x 40	3.500 x 1.900 88.9 x 48.3	2 51	2 1/8 54	300 20.7	2 3/4 70	3 7/16 87	2 1/8 55	6 1/4 159	3 15/16 99	1/2 x 2 3/4	3.8 1.7
3 x 2 80 x 50	3.500 x 2.375 88.9 x 60.3	2 1/2 64	2 5/8 67	300 20.7	2 3/4 70	3 7/16 87	2 1/8 55	6 1/4 159	3 15/16 99	1/2 x 2 3/4	4.4 2.0

All sizes may be used as mechanical crosses.

Threads are NPT per ASME B1.20.1

- 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 anvilintl.com or contact your local Anvil Representative.

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-1 Threaded 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 5/8" (16mm) of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket.



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.

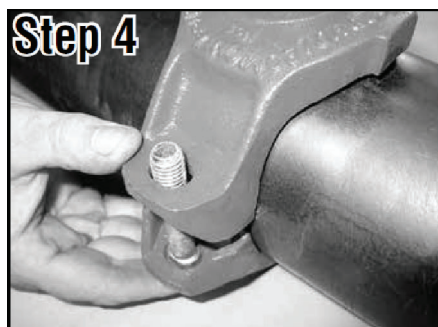


3 Gasket installation

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.

Branch Size	Hole Saw Size	Flow Data	
Inches (mm.)	Inches +1/8, -0 (mm +3, -0)	(see note)	
1 25	1 1/2 38	2 0.61	2 0.61
1 1/4 (2"run) 32 (50mm run)	1 3/4 44	4 1.22	4 1.22
1 1/4 (2 1/2"-6" run) 32 (65-150mm run)	2 51	4 1.22	4 1.22
1 1/2 (2"run) 40 (50mm run)	1 3/4 44	8 2.44	4 1.22
1 1/2 (2 1/2"-6" run) 40 (65-150mm run)	2 51	8 2.44	4 1.22
2 50	2 1/2 64	9 2.74	9 2.74
2 1/2 65	2 3/4 70	10 3.05	10 3.05
3 O.D. 76.1	2 3/4 70	7 2.13	7 2.13
3 80.4	3 1/2 89	8 2.44	8 2.44

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



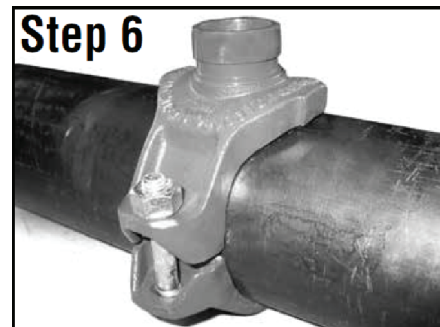
4 Alignment

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.

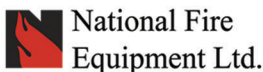
Caution: Proper torquing of mechanical branch bolts is required to obtain specified performance. **Over torquing the bolts may result in damage to the bolt and/or casting which could result in pipe joint separation.** Under torquing the bolts may result in lower pressure retention capabilities, lower 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
3/8	11/16	30-45
1/2	7/8	80-100
5/8	1 1/6	100-130
3/4	1 1/4	130-180

* Non-lubricated bolt torque

Metric Specified Bolt Torque		
Bolt Size	Wrench Size	Specified Bolt Torque*
In.	In.	Ft.-Lbs
M10	16	40-60
M12	22	110-150
M16	24	135-175
M20	30	175-245

* Non-lubricated bolt torque



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