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.

c UL us LISTED FM APPROVED

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 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)
☐ Other available options: Example: RAL3000 or RAL9000 Series
For other coating requirements contact an Anvil Representative.

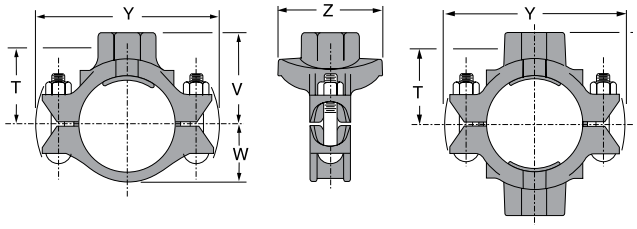
LUBRICATION:
☐ Standard Gruvlok
☐ Gruvlok Xtreme™ required for dry pipe systems and freezer applications.

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.

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

FIG. MT-1 Threaded Mechanical Branch Tee



MT-1 THREADED MECHANICAL BRANCH TEE

Nominal Size	O.D.	Hole Dimensions		Max. Working Pressure▲	Dimensions					Bolt Size	Approx. Wt. Ea.
		Min. Diameter	Max. Diameter		T	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*
2 x 1 *50 x 25*	2.375 x 1.315 *60.3 x 33.7*	1½ *38*	1⅝ *41*	300 *20.7*	1 15/16 *50*	2⅝ *67*	1 9/16 *40*	4⅝ *117*	2½ *63*	⅜ x 2	1.7 *0.8*
2 x 1¼ *50 x 32*	2.375 x 1.660 *60.3 x 42.4*	1¾ *44*	1⅞ *48*	300 *20.7*	1 15/16 *49*	2⅝ *67*	1 9/16 *40*	4⅝ *117*	2½ *63*	⅜ x 2	1.7 *0.8*
2 x 1½ *50 x 40*	2.375 x 1.900 *60.3 x 48.3*	1¾ *44*	1⅞ *48*	300 *20.7*	1 15/16 *49*	2⅝ *67*	1 9/16 *40*	4⅝ *117*	2⅞ *73*	⅜ x 2	1.7 *0.8*
2½ x 1 *65 x 25*	2.875 x 1.315 *73.0 x 33.7*	1½ *38*	1⅝ *41*	300 *20.7*	2 7/16 *62*	3⅛ *79*	1 13/16 *46*	5 5/16 *141*	3⅜ *86*	½ x 2¾	3.6 *1.6*
2½ x 1¼ *65 x 32*	2.875 x 1.660 *73.0 x 42.4*	2 *51*	2⅛ *54*	300 *20.7*	2 7/16 *62*	3⅛ *79*	1 13/16 *46*	5 5/16 *141*	3⅜ *86*	½ x 2¾	3.6 *1.6*
2½ x 1½ *65 x 40*	2.875 x 1.900 *73.0 x 48.3*	2 *51*	2⅛ *54*	300 *20.7*	2 7/16 *62*	3⅛ *79*	1 13/16 *46*	5 5/16 *141*	3⅜ *86*	½ x 2¾	3.6 *1.6*
3 x 1 *80 x 25*	3.500 x 1.315 *88.9 x 33.7*	1½ *38*	1⅝ *41*	300 *20.7*	2¾ *71*	3 7/16 *87*	2⅛ *55*	6¼ *159*	3 15/16 *99*	½ x 2¾	3.8 *1.7*
3 x 1¼ *80 x 32*	3.500 x 1.660 *88.9 x 42.4*	2 *51*	2⅛ *54*	300 *20.7*	2¾ *70*	3 7/16 *87*	2⅛ *55*	6¼ *159*	3 15/16 *99*	½ x 2¾	3.8 *1.7*
3 x 1½ *80 x 40*	3.500 x 1.900 *88.9 x 48.3*	2 *51*	2⅛ *54*	300 *20.7*	2¾ *70*	3 7/16 *87*	2⅛ *55*	6¼ *159*	3 15/16 *99*	½ x 2¾	3.8 *1.7*
3 x 2 *80 x 50*	3.500 x 2.375 *88.9 x 60.3*	2½ *64*	2⅝ *67*	300 *20.7*	2¾ *70*	3 7/16 *87*	2⅛ *55*	6¼ *159*	3 15/16 *99*	½ x 2¾	4.4 *2.0*
4 x 1 *100 x 25*	4.500 x 1.315 *114.3 x 33.7*	1½ *38*	1⅝ *41*	300 *20.7*	3 5/16 *85*	4 *102*	2⅝ *67*	7¼ *184*	3 13/16 *97*	½ x 2¾	4.6 *2.1*
4 x 1¼ *100 x 32*	4.500 x 1.660 *114.3 x 42.4*	2 *51*	2⅛ *54*	300 *20.7*	3 5/16 *84*	4 *102*	2⅝ *67*	7¼ *184*	3 13/16 *97*	½ x 2¾	4.6 *2.1*
4 x 1½ *100 x 40*	4.500 x 1.900 *114.3 x 48.3*	2 *51*	2⅛ *54*	300 *20.7*	3 5/16 *84*	4 *102*	2⅝ *67*	7¼ *184*	3 13/16 *97*	½ x 2¾	4.6 *2.1*
4 x 2 *100 x 50*	4.500 x 2.375 *114.3 x 60.3*	2½ *64*	2⅝ *67*	300 *20.7*	3 5/16 *84*	4 *102*	2⅝ *67*	7¼ *184*	4½ *115*	½ x 2¾	4.8 *2.2*
4 x 2½ *100 x 65*	4.500 x 2.875 *114.3 x 73.0*	2¾ *70*	2⅞ *73*	300 *20.7*	3 1/16 *78*	4 *102*	2⅝ *67*	7¼ *184*	4½ *115*	½ x 2¾	5.4 *2.4*
4 x 3 *100 x 80*	4.500 x 3.500 *114.3 x 88.9*	3½ *89*	3⅝ *92*	300 *20.7*	3 *76*	4⅛ *105*	2⅝ *67*	7¼ *184*	5⅛ *130*	½ x 2¾	5.4 *2.4*
5 x 1½ *125 x 40*	5.563 x 1.900 *141.3 x 48.3*	2 *51*	2⅛ *54*	300 *20.7*	4 1/16 *103*	4¾ *121*	3 3/16 *81*	8 5/16 *211*	3 13/16 *97*	⅝ x 4	7.4 *3.4*
5 x 2 *125 x 50*	5.563 x 2.375 *141.3 x 60.3*	2½ *64*	2⅝ *67*	300 *20.7*	4 1/16 *103*	4¾ *121*	3 3/16 *81*	8 5/16 *211*	3 13/16 *97*	⅝ x 4	7.9 *3.6*
5 x 2½ *125 x 65*	5.563 x 2.875 *141.3 x 73.0*	2¾ *70*	2⅞ *73*	300 *20.7*	3 13/16 *97*	4¾ *121*	3 3/16 *81*	8 5/16 *211*	3 13/16 *97*	⅝ x 4	7.9 *3.6*
6 x 1¼ *150 x 32*	6.625 x 1.660 *168.3 x 42.2*	2 *51*	2⅛ *54*	300 *20.7*	3 13/16 *97*	4 15/16 *126*	3 11/16 *94*	9⅜ *238*	3⅞ *98*	⅝ x 4	8.0 *3.6*
6 x 1½ *150 x 40*	6.625 x 1.900 *168.3 x 48.3*	2 *51*	2⅛ *54*	300 *20.7*	4 7/16 *113*	5⅛ *130*	3 11/16 *94*	9⅜ *238*	3⅞ *98*	⅝ x 4	7.5 *3.4*
6 x 2 *150 x 50*	6.625 x 2.375 *168.3 x 60.3*	2½ *64*	2⅝ *67*	300 *20.7*	4 7/16 *112*	5⅛ *130*	3 11/16 *94*	9⅜ *238*	4 7/16 *112*	⅝ x 4	8.0 *3.6*
6 x 2½ *150 x 65*	6.625 x 2.875 *168.3 x 73.0*	2¾ *70*	2⅞ *73*	300 *20.7*	4 3/16 *106*	5⅛ *130*	3 11/16 *94*	9⅜ *238*	4 7/16 *112*	⅝ x 4	8.0 *3.6*
6 x 3 *150 x 80*	6.625 x 3.500 *168.3 x 88.9*	3½ *89*	3⅝ *92*	300 *20.7*	4⅛ *105*	5¼ *133*	3 11/16 *94*	9⅜ *238*	5⅝ *143*	⅝ x 4	9.7 *4.4*
8 x 2 *200 x 50*	8.625 x 2.375 *219.1 x 60.3*	2½ *64*	2⅝ *67*	300 *20.7*	5 7/16 *138*	6¼ *159*	4⅞ *123*	10 5/16 *313*	4 7/16 *112*	¾ x 4¼	10.2 *4.6*

All sizes may be used as mechanical crosses.

Threads are NPT per ANSI/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.

FIG. MT-1 & MT-8 Threaded Mechanical Branch Tees

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.

BRANCH SIZE	HOLE SAW SIZE	FLOW DATA	
		MT-1	MT-8
Inches (*mm*)	Inches +1/8, -0 (*mm +3, -0*)	*(see note)*	
1 *25*	1½ *38*	2 *0.61*	2 *0.61*
1¼ (2" run) *32 (50mm run)*	1¾ *44*	4 *1.22*	4 *1.22*
1¼ (2½"-6" run) *32 (65-150mm run)*	2 *51*	4 *1.22*	4 *1.22*
1½ (2" run) *40 (50mm run)*	1¾ *44*	8 *2.44*	4 *1.22*
1½ (2½"-6" run) *40 (65-150mm run)*	2 *51*	8 *2.44*	4 *1.22*
2 *50*	2½ *64*	9 *2.74*	9 *2.74*
2½ *65*	2¾ *70*	10 *3.05*	10 *3.05*
3 O.D. *76.1*	2¾ *70*	7 *2.13*	7 *2.13*
3 *80.4*	3½ *89*	8 *2.44*	8 *2.44*

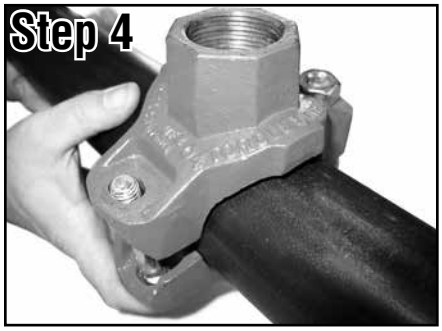
2 Check and lubricate gasket

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.

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

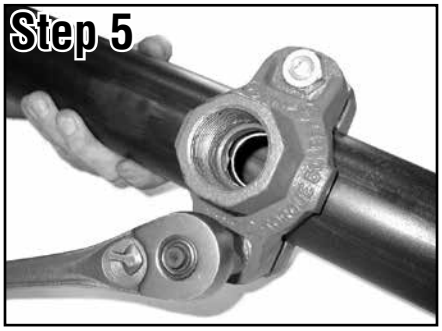
3 Gasket installation

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® threaded 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 1/16	100-130
3/4	1 1/4	130-180

* Non-lubricated bolt torque

Metric Specified Bolt Torque		
Bolt Size	Wrench Size	Specified Bolt Torque*
mm	*mm*	*N-M*
M10	16	40-60
M12	22	110-150
M16	24	135-175
M20	30	175-245

* Non-lubricated bolt torque