ASC Engineered Solutions

Threaded Mechanical Branch Tee
Fig. MT-8

LPS 1219: Issue 3.1
Cert/LPCB ref. 519a/10

Mechanical branch connections are used for reducing branch outlets without welding. The MT-8 is a bolted saddle type fitting with BSP 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.asc-es.com or contact your local ASC Engineered Solutions™ Representative.

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

Material Specifications

Housing
Ductile Iron conforming to ASTM A536, 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 ASC Engineered Solutions Representative.

Lubrication
☐ Standard Gruvlok
☐ Gruvlok Xtreme required for dry pipe systems and freezer applications

Gasket Materials
Properties as designated in accordance with ASTM D2000

☐ **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.

S/A SPF ANVIL
An ASC Engineered Solution

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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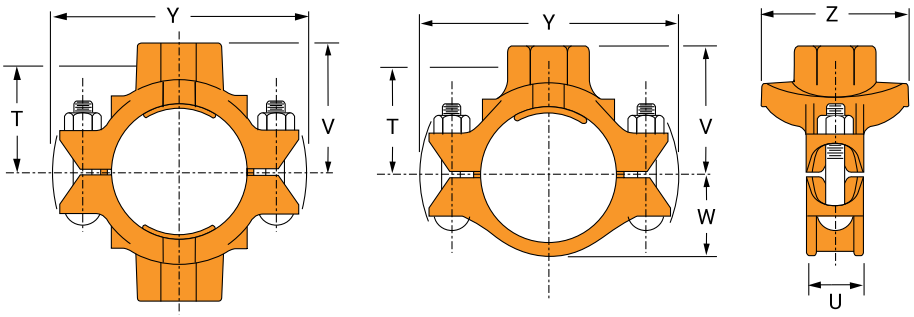
Fig. MT-8



Nominal Size	O.D.	Hole Dimensions		Max. Working Pressure ▲	Dimensions						Bolt Size	Approx. Wt. Ea.
		Min. Diam.	Max. Diam.		T	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	In./mm	Lbs./kg
2 x 1 50 x 25	2.375 x 1.315 60.3 x 33.7	1 1/2 38	1 5/8 41	500 34.5	1 15/16 50	1 1/2 38	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	500 34.5	1 15/16 49	1 1/2 38	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	500 34.5	1 15/16 49	1 1/2 38	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 65 x 25	2.875 x 1.315 73.0 x 42.2	1 1/2 38	1 5/8 41	500 34.5	2 7/16 62	1 7/8 48	3 76	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 48.3	2 51	2 1/8 54	500 34.5	2 7/16 62	1 7/8 48	3 76	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	500 34.5	2 7/16 62	1 7/8 48	3 76	1 13/16 46	5 9/16 141	3 3/8 86	1/2 x 2 3/4	3.6 1.6
3 O.D. x 1 76.1 x 25	2.996 x 1.315 76.1 x 33.7	1 1/2 38	1 5/8 41	500 34.5	2 7/16 62	2 51	3 3/16 81	1 7/8 48	5 11/16 145	3 3/8 86	1/2 x 2 3/4	3.6 1.6
3 O.D. x 1 1/4 76.1 x 32	2.996 x 1.660 76.1 x 42.4	2 51	2 1/8 54	500 34.5	2 7/16 62	2 51	3 3/16 81	1 7/8 48	5 11/16 145	3 3/8 86	1/2 x 2 3/4	3.6 1.6
3 O.D. x 1 1/2 76.1 x 40	2.996 x 1.900 76.1 x 48.3	2 51	2 1/8 54	500 34.5	2 7/16 62	2 51	3 3/16 81	1 7/8 48	5 11/16 145	3 3/8 86	1/2 x 2 3/4	3.6 1.6
3 x 1 80 x 25	3.500 x 1.315 88.9 x 33.7	1 1/2 38	1 5/8 41	500 34.5	2 3/4 71	2 51	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	500 34.5	2 3/4 70	2 51	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	500 34.5	2 3/4 70	2 51	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

Note:

All sizes may be used as mechanical crosses.

Threads are British Standard Parallel (BSP) per BS-21.

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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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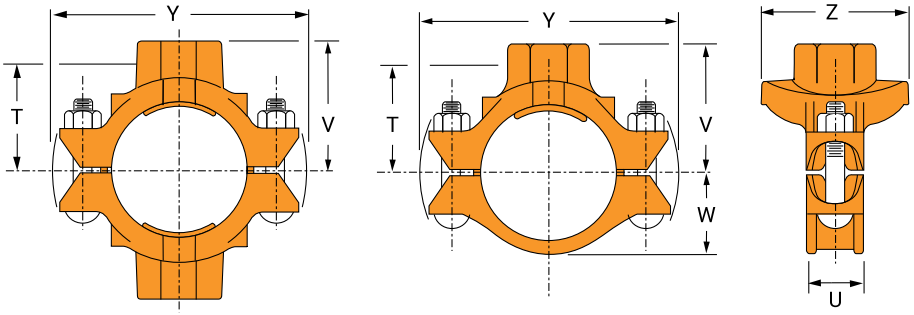
Building connections that last™

Threaded Mechanical Branch Tee
Fig. MT-8

(continued)



Nominal Size	O.D.	Hole Dimensions		Max. Working Pressure ▲	Dimensions						Bolt Size	Approx. Wt. Ea.
		Min. Diam.	Max. Diam.		T	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	In./mm	Lbs./kg
3 x 2 80 x 50	3.500 x 2.375 88.9 x 60.3	2 1/2 64	2 5/8 67	500 34.5	2 3/4 70	2 51	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
4 x 1 100 x 25	4.500 x 1.315 114.3 x 33.7	1 1/2 38	1 5/8 41	500 34.5	3 5/16 85	2 51	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	500 34.5	3 5/16 84	2 51	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	500 34.5	3 5/16 84	2 51	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	500 34.5	3 5/16 84	2 51	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 3 O.D. 100 x 76.1	4.500 x 2.996 114.3 x 76.1	2 3/4 70	2 7/8 73	500 34.5	3 1/16 78	2 51	4 102	2 5/8 67	7 1/4 184	4 1/2 115	1/2 x 2 3/4	5.0 2.3
4 x 3 100 x 80	4.500 x 3.500 114.3 x 88.9	3 1/2 89	3 5/8 92	500 34.5	3 76	2 51	4 102	2 5/8 67	7 1/4 184	5 1/8 130	1/2 x 2 3/4	5.4 2.4
5 x 2 125 x 50	5.563 x 2.375 141.3 x 60.3	2 1/2 64	2 5/8 67	500 34.5	4 1/16 103	2 1/4 57	4 5/8 117	3 11/16 94	8 3/8 213	4 1/2 115	5/8 x 4	6.0 2.7
5 1/2 O.D. x 2 139.7 x 50	5.500 x 2.375 139.7 x 60.3	2 1/2 64	2 5/8 67	500 34.5	3 3/4 95	2 1/4 57	4 5/8 117	3 3/16 81	8 3/8 213	4 1/2 114	5/8 x 4	7.9 3.6
5 1/2 O.D. x 3 O.D. 139.7 x 76.1	5.500 x 2.996 139.7 x 76.1	2 3/4 70	2 7/8 73	500 34.5	3 3/4 95	2 1/4 57	4 5/8 117	3 3/16 81	8 3/8 213	4 1/2 114	5/8 x 4	7.9 3.6
5 1/2 O.D. x 3 139.7 x 88.9	5.500 x 3.500 139.7 x 88.9	3 1/2 89	3 5/8 92	500 34.5	3 3/4 95	2 1/4 57	4 7/8 124	3 3/16 81	8 3/8 213	5 1/8 130	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	500 34.5	3 13/16 97	2 1/4 57	4 7/8 124	3 11/16 94	9 3/8 238	3 7/8 98	5/8 x 4	7.9 3.6

Note:

All sizes may be used as mechanical crosses.

Threads are British Standard Parallel (BSP) per BS-21.

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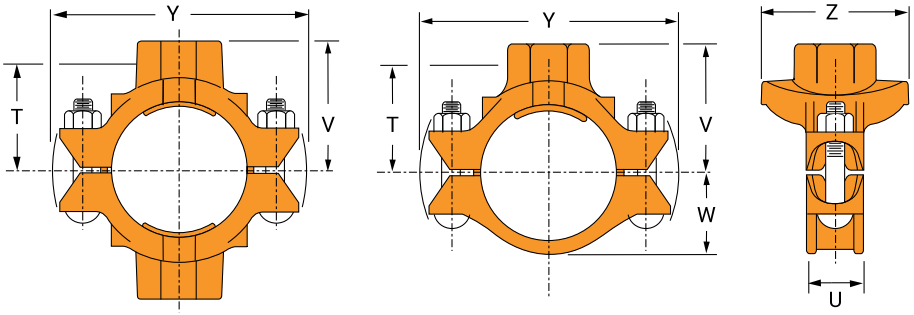
Building connections that last™

Threaded Mechanical Branch Tee
Fig. MT-8

(continued)



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		Min. Diam.	Max. Diam.		T	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	In./mm	Lbs./kg
6 x 1½ 150 x 40	6.625 x 1.900 168.3 x 48.3	2 51	2 1/8 54	500 34.5	4 7/16 113	2 1/4 57	5 1/8 130	3 11/16 94	9 3/8 238	3 7/8 98	5/8 x 4	8.0 3.6
6 x 2 150 x 50	6.625 x 2.375 168.3 x 60.3	2½ 64	2 5/8 67	500 34.5	4 7/16 112	2 1/4 57	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 O.D. 150 x 76.1	6.625 x 2.996 168.3 x 76.1	2¾ 70	2 7/8 73	500 34.5	4 3/16 106	2 1/4 57	5 1/8 130	3 11/16 94	9 3/8 238	4 7/16 112	5/8 x 4	9.6 4.4
6 x 3 150 x 80	6.625 x 3.500 168.3 x 88.9	3½ 89	3 5/8 92	500 34.5	4 1/8 105	2 1/4 57	5 1/8 130	3 11/16 94	9 3/8 238	5 5/8 143	5/8 x 4	9.7 4.4
6½ O.D. x 1¼ 165.1 x 32	6.500 x 1.660 165.1 x 42.2	2 51	2 1/8 54	500 34.5	4 102	2 1/4 57	4¾ 121	3 5/8 93	9 1/4 235	3 7/8 98	5/8 x 4	9.6 4.4
6½ O.D. x 1½ 165.1 x 40	6.500 x 1.900 165.1 x 48.3	2 51	2 1/8 54	500 34.5	4 5/16 110	2 1/4 57	5 1/16 129	3 5/8 93	9 1/4 235	3 7/8 98	5/8 x 4	9.4 4.3
6½ O.D. x 2 165.1 x 50	6.500 x 2.375 165.1 x 60.3	2½ 64	2 5/8 67	500 34.5	4 5/16 110	2 1/4 57	5 1/16 129	3 5/8 93	9 1/4 235	4 7/16 112	5/8 x 4	12.6 5.7
6½ O.D. x 3 O.D. 165.1 x 80	6.500 x 3.500 165.1 x 88.9	3½ 89	3 5/8 92	500 34.5	4½ 114	2 1/4 57	5 1/8 130	3 5/8 93	9 1/4 235	5 5/8 143	5/8 x 4	9.6 4.4
8 x 2 200 x 50	8.625 x 2.375 219.1 x 60.3	2½ 64	2 5/8 67	500 34.5	5 7/16 138	2½ 64	6 1/8 156	4 7/8 124	12 3/8 314	4 7/16 112	¾ x 4¼	10.2 4.6
8 O.D. x 3 O.D. 200 x 76.1	8.625 x 2.996 219.1 x 76.1	2¾ 70	2 7/8 73	500 34.5	5 7/16 138	2½ 64	6 1/8 156	4 7/8 124	12 3/8 314	4 7/16 112	¾ x 4¼	10.6 4.8

Note:

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

Fig. MT-8 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.

Branch Size	Hole Saw Size	Flow Data	
		MT-1	MT-8
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

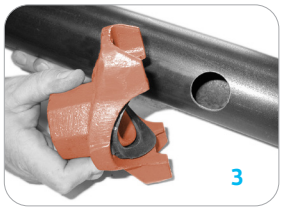
2 Check and lubricate gasket

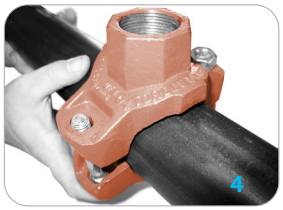
Check the gasket to be sure it is compatible for the intended service. Apply a thin layer of Gruvlok SPF/Anvil lubricant to the back surface of the gasket. Be careful that foreign particles do not adhere to the lubricated surfaces. Insert the gasket back into the outlet housing making sure the tabs in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

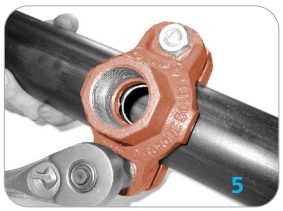
Note: Flow Data is expressed as Feet/Meters of Schedule 40 steel outlet pipe with a *"Hazen-Williams coefficient of friction value of 120"*.

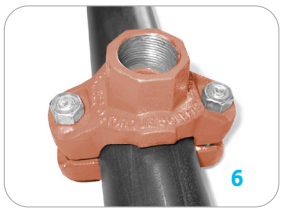
3 Gasket installation

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/Metric Specified Bolt Torque

Bolt Size	Wrench Size	Specified Bolt Torque*
In./mm	In./mm	Ft.-Lbs/N-m
3/8 M10	11/16 16	30-45 40-60
1/2 M12	7/8 22	80-100 110-150
5/8 M16	1 1/16 24	100-130 135-175
3/4 M20	1 1/4 30	130-180 175-245

* Non-lubricated bolt torque

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