






Mechanical-T[®] Bolted Branch Outlet for Copper Tubing

STYLE 622

⚠ WARNING

- Read and understand all instructions before attempting to install any Victaulic piping products.
- Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
- Wear safety glasses, hardhat, and foot protection.

Failure to follow these instructions could result in serious personal injury, improper product installation, and/or property damage.



COPPER TUBING PREPARATION REQUIREMENTS FOR MECHANICAL-T OUTLET AND MECHANICAL-T CROSS INSTALLATION

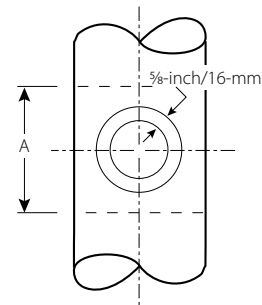
NOTICE

- Victaulic hole-cutting tools are recommended for proper hole preparation.

- Proper preparation of the hole is essential for sealing and product performance. Make sure the correct hole saw size is being used. Refer to the "Copper Tubing Preparation Requirements" table on this page for the proper hole saw size.
- Holes MUST be drilled on the centerline of the tubing. Holes for Mechanical-T Cross assemblies must be drilled on the centerline of the tubing at predetermined locations for each branch. Holes for Mechanical-T Cross assemblies must be in line within 1/16 inch/ 1.6mm of each other.
- Ensure that a 3/16-inch/16-mm area around the hole is clean, smooth, and free from indentations and/or projections that could affect gasket sealing (refer to the sketch on this page). Remove any burrs and sharp or rough edges from the hole. Burrs and sharp edges could affect product assembly, seating of the locating collar, flow from the outlet, and gasket sealing.
- The tubing around the entire circumference, within the "A" dimension shown in the sketch on this page, must be free from any dirt, scale, projections, and cutting particles that could prevent the housing from seating fully on the tubing. Refer to the "Copper Tubing Preparation Requirements" table on this page for the "A" dimension.

COPPER TUBING PREPARATION REQUIREMENTS

Size	Hole Dimensions		Surface Preparation Dimensions
	Minimum Hole Diameter/ Hole Saw Size inches/mm	Maximum Allowable Hole Diameter inches/mm	"A" Dimension inches/mm
All 3/4-inch/20-mm Outlets	1.50 38.1	1.63 41.4	3.50 88.9
All 1-inch/25-mm Outlets	1.50 38.1	1.63 41.4	3.50 88.9
All 1 1/2-inch/40-mm Outlets	2.00 50.8	2.13 54.1	4.00 101.6



Exaggerated for clarity
(Not to scale)

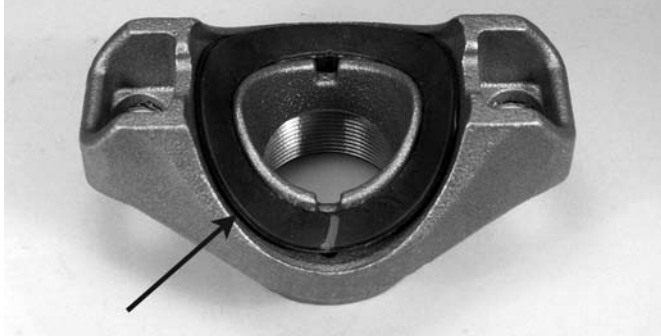
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MECHANICAL-T INSTALLATION

CAUTION

- Make sure tubing is prepared properly in accordance with the instructions on this page.
- Failure to follow these instructions could cause improper gasket sealing.



1. **CHECK GASKET AND LUBRICATE:** Inspect the sealing surface of the gasket to make sure no debris is present. It is not necessary to remove the gasket from the housing. Lubricate the exposed sealing surface of the gasket with a thin coat of Victaulic lubricant or silicone lubricant. DO NOT use petroleum-based lubricants.



2. **ASSEMBLE HOUSINGS:** Insert a bolt (provided) into the two housings. Thread a nut loosely onto the end of the bolt.



3. **INSTALL HOUSINGS:** Rotate the lower housing so that it is positioned approximately 90° to the upper (outlet) housing, as shown above. Place the upper (outlet) housing onto the face of the tubing in line with the hole in the tubing.



- 3a. Rotate the lower housing around the tubing.



4. **CHECK PRODUCT ENGAGEMENT:** Make sure the locating collar engages the outlet hole properly. Check this engagement by rocking the upper (outlet) housing in the hole.

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5. **INSTALL REMAINING BOLT/NUT:** Insert the remaining bolt (provided) into the two housings. Thread a nut onto the bolt finger-tight. Make sure the bolt track heads seat properly in the bolt holes.



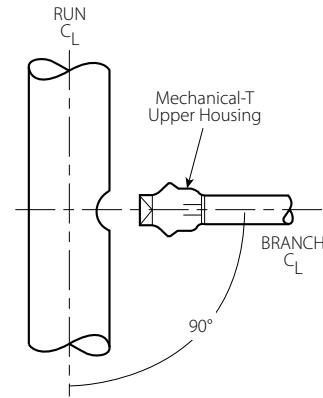
6. **TIGHTEN NUTS:** Make sure the locating collar is still positioned properly in the outlet hole. Tighten the nuts evenly by alternating sides until the upper (outlet) housing contacts the tubing completely.
- 6a. Torque the nuts to 50 – 70ft-lbs/68 – 95 N•m with even gaps between the bolt pads. **DO NOT** exceed 70ft-lbs/95 N•m of torque on the nuts. **NOTE:** For a properly assembled joint, the bolt pads shall not touch. Each joint must be inspected to ensure even gaps between the bolt pads are achieved.
- 6b. For threaded outlets, complete the assembly using standard threading practices.

⚠ WARNING

- Nuts must be torqued to 50 – 70ft-lbs/68 – 95 N•m.
- **DO NOT** exceed 70ft-lbs/95 N•m of torque on the nuts. Increased bolt torque will not improve sealing and may cause product failure.

Failure to torque nuts properly could cause product failure, resulting in serious personal injury and/or property damage.

BRANCH CONNECTIONS



Exaggerated for clarity

- If a branch connection is made to the upper (outlet) housing before the Mechanical-T Outlet is installed on the tubing, make sure the branch connection is 90° to the run before completing the tightening sequence of the Mechanical-T Outlet assembly.
- When the Mechanical-T Outlet is used as a transition piece between two runs, it must be assembled onto the runs before the branch connection is made.
- Victaulic female threaded products are designed to accommodate standard ANSI male threads only. Use of male threaded products with special features, such as probes, dry pendent sprinkler heads, etc., should be verified as suitable for use with this Victaulic product. Failure to verify suitability in advance may result in assembly problems or leakage.

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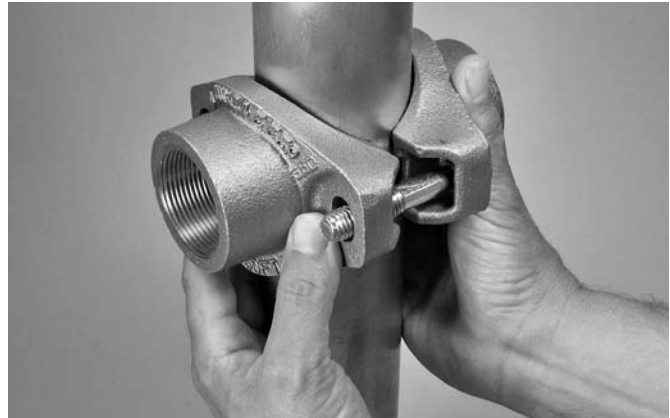
STYLE 622 MECHANICAL-T CROSSES

Cross connections can be made by using two upper (outlet) housings of the same run size. Different branch sizes are allowable.

1. Refer to the "Copper Tubing Preparation Requirements for Copper Mechanical-T Outlet and Copper Mechanical-T Cross Installation" section on page 1 for preparing both outlet holes.
2. **CHECK GASKETS AND LUBRICATE:** Inspect the sealing surface of the gaskets in both upper (outlet) housings to make sure no debris is present. It is not necessary to remove the gaskets from the two upper (outlet) housings. Lubricate the exposed sealing surface of both gaskets with a thin coat of Victaulic Lubricant or silicone lubricant. DO NOT use petroleum-based lubricants.



3. **INSTALL HOUSINGS:** Insert a bolt into each bolt hole of the first upper (outlet) housing. Place the first upper (outlet) housing onto the face of the tubing in line with the one outlet hole.
- 3a. Align the bolt holes of the second upper (outlet) housing with the bolts, and place this housing onto the face of the tubing in line with the other outlet hole.



4. **CHECK PRODUCT ENGAGEMENT:** Make sure the locating collars of the upper (outlet) housings engage the outlet holes properly. Check this engagement by rocking both upper (outlet) housings in the outlet holes.
5. **INSTALL AND TIGHTEN NUTS:** Thread a nut onto each bolt until finger-tight. Make sure the bolt track heads seat properly in the bolt holes and that the locating collars of the upper (outlet) housings are still positioned properly in the outlet holes. Tighten the nuts evenly by alternating sides until the upper (outlet) housings contact the tubing completely.
- 5a. Torque the nuts to 50 – 70ft-lbs/68 – 95N•m with even gaps between the bolt pads. DO NOT exceed 70ft-lbs/95N•m of torque on the nuts. **NOTE:** For a properly assembled joint, the bolt pads shall not touch. Each joint must be inspected to ensure even gaps between the bolt pads are achieved.
- 5b. For threaded outlets, complete the assembly using standard threading practices.

WARNING

- Nuts must be torqued to 50 – 70ft-lbs/68 – 95N•m.
- DO NOT exceed 70ft-lbs/95N•m of torque on the nuts. Increased bolt torque will not improve sealing and may cause product failure.

Failure to torque nuts properly could cause product failure, resulting in serious personal injury and/or property damage.

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