

Style 920 - Mechanical-T® Bolted Branch Outlet

Style 920N - Mechanical-T Bolted Branch Outlet

⚠ WARNING

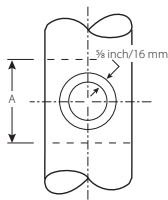


- Read and understand all instructions before attempting to install any Victaulic piping products.
 - Depressurize and drain the piping system before attempting to install, remove, or adjust any Victaulic piping products.
 - Wear safety glasses, hardhat, and foot protection.
- Failure to follow these instructions could result in serious personal injury, improper product installation, and/or property damage.

Pipe Preparation 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 performance. Make sure the correct hole saw size is being used. Refer to the “Style 920/920N Mechanical-T Outlet and Mechanical-T Cross Pipe Preparation Requirements” table for the proper hole saw size.
- Holes **MUST** be drilled on the centerline of the pipe. Holes for Mechanical-T Cross assemblies must be cut on the centerline of the pipe at predetermined locations for each branch. Holes for Mechanical-T Cross assemblies must be in line within $\frac{1}{16}$ inch/1.6mm of each other.
- Ensure that a $\frac{3}{16}$ -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 below). Remove any burrs and sharp or rough edges from the hole. Burrs and sharp edges might affect assembly, proper seating of the locating collar, flow from the outlet, or gasket sealing.
- The pipe around the entire circumference, within the “A” dimension shown in the sketch below, must be free from any dirt, scale, or projections that might prevent the housing from seating fully on the pipe. Refer to the “Style 920/920N Mechanical-T Outlet and Mechanical-T Cross Pipe Preparation Requirements” table on the following page for the “A” dimension.
- **DO NOT USE STYLE 920/920N MECHANICAL-T BOLTED BRANCH OUTLETS ON PVC PLASTIC PIPE.**



Exaggerated for clarity

NOTICE

- For proper installation, some new sizes of Style 920N products require a different hole size than the Style 920 or Style 921 it replaces. Make sure the proper size hole is prepared for the size and style being installed (refer to the table below for requirements).

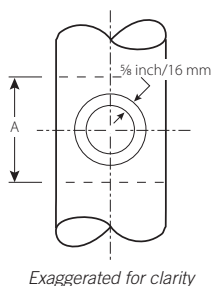
Style 920/920N Mechanical-T Outlet and Mechanical-T Cross Pipe Preparation Requirements

Size	Hole Dimensions inches/mm		Surface Preparation "A" Dimension
	Nominal Outlet Size inches Actual mm	Minimum Hole Diameter/Hole Saw Size	Maximum Allowable Diameter inches mm
All ½-inch/ 21.3 Outlets	1 ½ 38	1 ⅝ 41	3 ½ 89
All ¾-inch/ 26.9 Outlets	1 ½ 38	1 ⅝ 41	3 ½ 89
All 1-inch/ 33.7 Outlets	1 ½ 38	1 ⅝ 41	3 ½ 89
All 1 ¼-inch/ 42.4 Outlets	1 ¾ 44	1 ⅞ 48	4 102
All 1 ½-inch/ 48.3 Outlets	2† 51	2 ⅞ 54	4 102
All 2-inch/ 60.3 Outlets	2 ½‡ 64	2 ⅞ 67	4 ½ 114
All 2 ½-inch/ 73.0 Outlets	2 ¾ 70	2 ⅞ 73	5 127
All 76.1-mm Outlets	2 ¾ 70	2 ⅞ 73	5 ½ 140
All 3-inch/ 88.9 Outlets	3 ½ 89	3 ⅝ 92	5 ½ 140
All 4-inch/ 114.3 Outlets	4 ½ 114	4 ⅝ 118	6 ½ 165
All 108.0-mm Outlets	4 ½ 114	4 ⅝ 118	6 ½ 165

† 2 x 1 ½-inch/60.3 x 48.3-mm Style 920N products require a 1 ¾-inch/44-mm hole.

‡ 8 x 2-inch/219.1 x 60.3-mm Style 920 products require a 2 ¾-inch/70-mm size hole.

NOTE: Style 920 and Style 920N housings CANNOT be mated to each other to achieve cross connections.

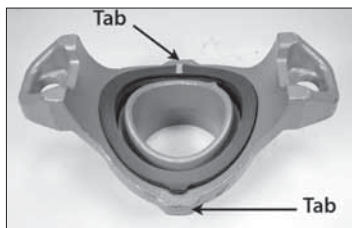


Mechanical-T Installation



1. ASSEMBLE HOUSINGS: Insert a bolt into the two housings. Thread a nut loosely onto the end of the bolt.

Style 920 Gasket



Style 920N Gasket



2. CHECK GASKET AND LUBRICATE: Inspect the sealing surface of the gasket to make sure no debris is present. For Style 920N Mechanical-T Outlets, it is not necessary to remove the gasket from the housing. **GASKETS FOR THE STYLE 920 ARE NOT INTERCHANGEABLE WITH GASKETS FOR THE STYLE 920N. THE CORRECT GASKET IS SHIPPED WITH THE APPROPRIATE PRODUCT.**

Lubricant Compatibility for Gaskets

Lubricant	Compatibility with Grade "T" Nitrile Gaskets	Compatibility with Grade "E" EPDM Gaskets
Victaulic Lubricant, Soap-Based Solutions, Glycerin, Silicone Oil, or Silicone Release Agent	Good	Good
Corn Oil, Soybean Oil, Hydrocarbon-Based Oils, or Petroleum-Based Greases	Good	Not Recommended

Due to variations in HDPE pipe, always consult with the pipe manufacturer for lubricant compatibility requirements. **DO NOT USE VICTAULIC LUBRICANT ON HDPE PIPE.**

Style 920 Gaskets have a narrower gasket sealing area and two pronounced alignment tabs for proper positioning inside the housing. Style 920N gaskets have a wider gasket sealing area. Refer to the above photos for differences between the gaskets.

2a. For Metal Pipe: Lubricate the exposed sealing surface of the gasket in accordance with the "Lubricant Compatibility for Gaskets" table below.

2b. For HDPE Pipe: Lubricate the exposed sealing surface of the gasket in accordance with the "Lubricant Compatibility for Gaskets" table below. **DO NOT** use Victaulic lubricant on HDPE pipe. Always consult with the pipe manufacturer for lubricant compatibility requirements.



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 pipe in line with the outlet hole cut into the pipe. Rotate the lower housing around the pipe.



3a. Make sure the locating collar engages the outlet hole properly. Check this engagement by rocking the upper (outlet) housing in the hole.



4. INSTALL REMAINING BOLT/NUT: Insert the remaining bolt. Thread a nut onto the bolt finger-tight. **NOTE:** Make sure the oval neck of each bolt seats properly in the bolt hole.



5. 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 pipe completely.

5a. For Metal Pipe: The nuts must be torqued to 50ft-lbs/68N•m with even gaps between the bolt pads. **DO NOT** exceed 70ft-lbs/95N•m of torque on the nuts.

5b. For HDPE Pipe: The nuts must be torqued to 50ft-lbs/68N•m. **NOTE:** On HDPE pipe, it is normal for bolt pads to contact when the nuts are tightened to 50ft-lbs/68N•m. **DO NOT** exceed 70ft-lbs/95N•m of torque on the nuts.

NOTICE

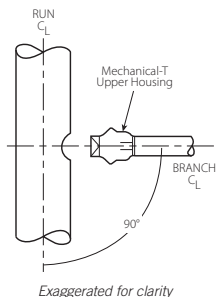
- For grooved outlets, refer to the applicable coupling installation instructions.
- For threaded outlets, complete the assembly using standard threading practices.

⚠ WARNING

- Nuts must be torqued to 50ft-lbs/68N•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.

Branch Connections



If a branch connection is made to the upper housing before the Mechanical-T is installed on the pipe, make sure the branch connection is 90° to the pipe run before completing the tightening sequence of the Mechanical-T assembly.

- When the Mechanical-T 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 pipe 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.

Style 920N Mechanical-T Crosses

- Cross connections can be made **ON METAL PIPE ONLY** by using two upper housings of the same size. Different branch sizes are allowable. **DO NOT make cross assemblies on HDPE pipe.**
- Install the cross connection in accordance with the instructions in this section. Make sure the locating collar on each side is positioned securely inside the hole. Nuts must be torqued to 50ft-lbs/68N•m, with even gaps between the bolt pads, to ensure the cross assembly is rigid. **DO NOT** exceed 70ft-lbs/95N•m of torque on the nuts.
- **DO NOT mix Style 920 Outlets with Style 920N Outlets when making cross assemblies.**



Style 920 Helpful Information

Size		Nut Size	Socket Size
Nominal Size inches or mm	Actual Pipe Outside Diameter inches/mm	inches/ Metric	inches/ mm
76.1 mm	3.000 76.1	½ M12	⅞ 22
108.0 mm	4.250 108.0	½ M12	⅞ 22
4	4.500 114.3	½ M12	⅞ 22
133.0 mm	5.250 133.0	⅝ M16	1 ⅛ 27
139.7 mm	5.500 139.7	⅝ M16	1 ⅛ 27
5 – 6	5.563 – 6.625 141.3 – 168.3	⅝ M16	1 ⅛ 27
159.0 mm	6.250 159.0	⅝ M16	1 ⅛ 27
165.1 mm	6.500 165.1	⅝ M16	1 ⅛ 27
200A (JIS)	— 216.3	¾ M20	1 ¼ 32
8	8.625 219.1	¾ M20	1 ¼ 32

Style 920N Helpful Information

Size		Nut Size	Socket Size
Nominal Size inches or mm	Actual Pipe Outside Diameter inches/mm	inches/ Metric	inches/ mm
2 – 6	2.375 – 6.625 60.3 – 168.3	½ M12	⅞ 22
76.1 – 139.7 mm	3.000 – 5.500 76.1 – 139.7	½ M12	⅞ 22
159.0 mm	6.250 159.0	⅝ M16	1 ⅛ 27
165.1 mm	6.500 165.1	½ M12	⅞ 22