

Copper Mechanical-T® Bolted Branch Outlets & Cross Assemblies



SEE VICTAULIC PUBLICATION 10.01 FOR DETAILS

STYLE 622

Victaulic Copper Mechanical-T® Outlets provide a direct branch connection at any location a hole can be cut in pipe. The hole is cut oversize to receive a “holefinder” locating collar which secures the outlet in position permanently. A pressure responsive gasket seals on the pipe O.D.

Cross-type connections can be achieved by utilizing two upper housings of the same style and run size, with the same or differing branch size connections.

Style 622 Mechanical-T outlets are available with a female threaded NPT outlet and supplied with plated fasteners.

Standard piping practices dictate that the Style 622 Mechanical-T must be installed so that the main and branch connections are a true 90° angle when permanently attached to the pipeline surface.



STYLE 622

STYLE 622 CROSS

MATERIAL SPECIFICATIONS

Upper Housing: Cast Bronze conforming to UNS C83600 (85 5 5 5)

Lower Housing/Coating: Ductile iron conforming to ASTM A-536, grade 65-45-12, with copper colored alkyd enamel coating.

Gasket: (Specify choice*)

• Grade “E” EPDM

EPDM (Copper color code). Temperature range –30°F to +230°F/–34°C to +110°C.

Recommended for cold and hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL Classified in accordance with ANSI/NSF 61 for cold +86°F/+30°C and hot +180°F/+82°C. NOT RECOMMENDED FOR PETROLEUM SERVICES.

• Grade “T” nitrile

Nitrile (Orange color code). Temperature range –20°F to + 180°F/–29°C to +82°C.

Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range; except hot, dry air over +140°F/+60°C and water over +150°F/+66°C. NOT RECOMMENDED FOR HOT WATER SERVICES

* Services listed are General Service Recommendations only. It should be noted that there are services for which these gaskets are not recommended. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket service recommendations and for a listing of services which are not recommended.

Bolts/Nuts: Heat-treated plated carbon steel, trackhead meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.

JOB/OWNER

System No. _____

Location _____

CONTRACTOR

Submitted By _____

Date _____

ENGINEER

Spec Sect _____ Para _____

Approved _____

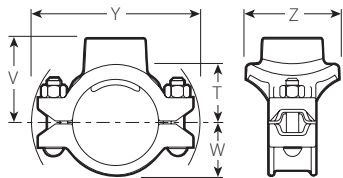
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STYLE 622

DIMENSIONS

Style 622



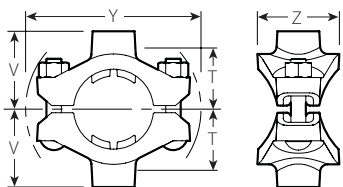
| Size | | Dimensions – Inches/mm | | | | | | Approx. Weight Each | Bolt/Nut |
|-------------------------------------|----------|---------------------------|------------|------------|------------|-------------|------------|---------------------|------------------|
| Run x Branch Nominal Size Inches/mm | | Hole Diameter +0.13 -0.00 | T** | V ‡ Thd. | W | Y | Z | Lbs. kg | Size Inches/mm |
| 2½ 65 | ¾ 20 | 1.50 38 | 2.05 52 | 2.61 66 | 1.73 44 | 5.90 150 | 2.75 70 | 3.1 1.4 | ½ x 3 15 x 80 |
| | 1 25 | 1.50 38 | 1.93 49 | 2.61 66 | 1.73 44 | 5.90 150 | 2.75 70 | 3.2 1.5 | ½ x 3 15 x 80 |
| | 1½ 40 | 2.00 51 | 2.15 55 | 2.87 73 | 1.73 44 | 6.06 154 | 3.38 86 | 4.1 1.9 | ½ x 3 15 x 80 |
| 3 80 | ¾ 20 | 1.50 38 | 2.30 58 | 2.86 73 | 2.09 53 | 6.30 160 | 2.75 70 | 3.4 1.5 | ½ x 3 15 x 80 |
| | 1 25 | 1.50 38 | 2.19 56 | 2.87 73 | 2.09 53 | 6.30 160 | 2.75 70 | 3.6 1.6 | ½ x 3 15 x 80 |
| | 1½ 40 | 2.00 51 | 2.59 66 | 3.31 84 | 2.09 53 | 6.30 160 | 3.38 86 | 4.5 2.0 | ½ x 3 15 x 80 |
| 4 100 | ¾ 20 | 1.50 38 | 2.81 71 | 3.37 86 | 2.50 64 | 7.25 184 | 2.75 70 | 3.3 1.7 | ½ x 3 15 x 80 |
| | 1 25 | 1.50 38 | 2.69 68 | 3.37 86 | 2.50 64 | 7.25 184 | 2.75 70 | 4.0 1.8 | ½ x 3 15 x 80 |
| | 1½ 40 | 2.00 51 | 3.09 79 | 3.81 97 | 2.50 64 | 7.25 184 | 3.38 86 | 5.0 2.3 | ½ x 3 15 x 80 |

** Center of run to engaged pipe end, female threaded outlet only (dimensions approximate).

‡ Center of run to end of fitting.

DIMENSIONS

Style 622 Cross



The following combinations of Mechanical-T cross assemblies can be achieved with the use of two Style 622 of the same run size and the same or differing outlet size.

| SIZE | | Dimensions - Inches/mm | | | | | Approx. Weight Each | Bolt/Nut |
|-------------------------------------|----------|---------------------------|------------|------------|-------------|------------|---------------------|------------------|
| Run x Branch Nominal Size Inches/mm | | Hole Diameter +0.13 -0.00 | T** | V ‡ Thd. | Y | Z | lbs. kg | Size inches/mm |
| 2½ 65 | ¾ 20 | 1.50 38 | 2.05 52 | 2.61 66 | 5.90 150 | 2.75 70 | 4.2 1.9 | ½ x 3 15 x 80 |
| | 1 25 | 1.50 38 | 1.93 49 | 2.61 66 | 5.90 150 | 2.75 70 | 4.4 2.0 | ½ x 3 15 x 80 |
| | 1½ 40 | 2.00 51 | 2.15 55 | 2.87 73 | 6.06 154 | 3.38 86 | 6.2 2.8 | ½ x 3 15 x 80 |
| 3 80 | ¾ 20 | 1.50 38 | 2.30 58 | 2.86 73 | 6.30 160 | 2.75 70 | 4.4 2.0 | ½ x 3 15 x 80 |
| | 1 25 | 1.50 38 | 2.19 56 | 2.87 73 | 6.30 160 | 2.75 70 | 4.8 2.2 | ½ x 3 15 x 80 |
| | 1½ 40 | 2.00 51 | 2.59 66 | 3.31 84 | 6.30 160 | 3.38 86 | 6.6 3.0 | ½ x 3 15 x 80 |
| 4 100 | ¾ 20 | 1.50 38 | 2.81 71 | 3.37 86 | 7.25 184 | 2.75 70 | 4.5 2.0 | ½ x 3 15 x 80 |
| | 1 25 | 1.50 38 | 2.69 68 | 3.37 86 | 7.25 184 | 2.75 70 | 5.4 2.5 | ½ x 3 15 x 80 |
| | 1½ 40 | 2.0 51 | 3.09 79 | 3.81 97 | 7.25 184 | 3.38 86 | 7.4 3.4 | ½ x 3 15 x 80 |

** Center of run to engaged pipe end, female threaded outlet only (dimensions approximate).

‡ Center of run to end of fitting.

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STYLE 622

PERFORMANCE

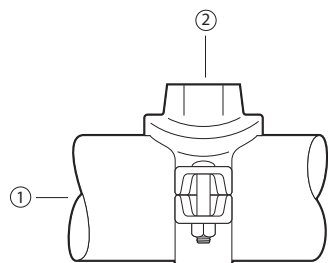
| Tubing | Type “K” – ASTM B-88 | | | | Type “L” – ASTM B-88 | | | | Type “M” – ASTM B-88 | | | |
|-----------------------------|-----------------------------|---|--|---|-----------------------------|---|--|---|-----------------------------|---|--|---|
| Nominal Inches Actual mm | Wall Thick. Inches mm | Wall Thick. Tolerances Inches mm | Max. * Joint Wk. Press. psi/kPa | Max. * Permis. End Load Lbs./N | Wall Thick. Inches mm | Wall Thick. Tolerances Inches mm | Max. * Joint Wk. Press. psi/kPa | Max. * Permis. End Load Lbs./N | Wall Thick. Inches mm | Wall Thick. Tolerances Inches mm | Max. * Joint Wk. Press. psi/kPa | Max. * Permis. End Load Lbs./N |
| 2½ 66.7 | 0.095 2.4 | ± 0.010 ± 0.25 | 300 2065 | 1,625 7230 | 0.080 2.0 | ± 0.008 ± 0.20 | 300 2065 | 1,625 7230 | 0.065 1.7 | ± 0.006 ± 0.15 | 250 1725 | 1,350 6010 |
| 3 79.4 | 0.109 2.8 | ± 0.011 ± 0.28 | 300 2065 | 2,300 10235 | 0.090 2.3 | ± 0.009 ± 0.23 | 300 2065 | 2,300 10235 | 0.072 1.8 | ± 0.007 ± 0.187 | 250 1725 | 1,415 6300 |
| 4 104.8 | 0.134 2.8 | ± 0.013 ± 0.33 | 300 2065 | 4,005 17825 | 0.110 2.8 | ± 0.011 ± 0.28 | 300 2065 | 4,005 17825 | 0.095 2.4 | ± 0.010 ± 0.25 | 250 1725 | 3,340 14865 |

* Working Pressure and End Load are total, from all internal and external loads, based on hard drawn copper tubing of the weight indicated, roll grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 ½ times the figures shown.

WARNING: Depressurize and drain the piping system before attempting to install, remove or adjust any Victaulic piping products.

FLOW DATA



Exaggerated for clarity

Head loss values per UL 213, Section 16 "Pipe Outlet Flow Characteristics Test" are shown in the table below.

The head loss values are expressed in equivalent length of outlet pipe and represent the total head loss between points 1 and 2.

| Run Size | Outlet Size – inches | | |
|----------|-----------------------|-----------------------|-------------------------|
| | ¾" Type K Copper Tube | 1" Type K Copper Tube | 1 ½" Type K Copper Tube |
| 2½ | 1.1' | 1.8' | 4.5' |
| 3 | 0.8' | 2.0' | 3.4' |
| 4 | 0.9' | 1.2' | 3.6' |

LISTINGS

UL Listed for wet and dry Fire Protection services to 175 psi/1207 kPa on ASTM B-88 Hard Drawn type K, L and M copper tube.

UPC Listed for plumbing systems on ASTM B-88 Hard Drawn type K, L and M copper tube.

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INSTALLATION

Reference should always be made to the I-600 Victaulic Field Installation Handbook for Copper Connection Products for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

WARRANTY

Refer to the Warranty section of the current Price List or contact Victaulic for details.

NOTE

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.



For complete contact information, visit www.victaulic.com

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