

# Mechanical-T<sup>®</sup> Bolted Branch Outlets



## STYLES 920 AND 920N

Victaulic Mechanical-T<sup>®</sup> Outlet provides 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 size, with the same or differing branch size connections. NOTE: Style 920 and Style 920N housings cannot be mated to each other to achieve a cross connection.

Style 920 and Style 920N Mechanical-T outlets are available with grooved or female threaded outlet. Specify choice on order. Units are supplied painted with plated bolts. Galvanized housings are available, supplied with plated bolts.

All sizes of Style 920 and 920N are rated at 500 psi/3450 kPa working pressure on Schedule 10 and 40 carbon steel pipe. They may also be used on high density polyethylene or polybutylene (HDPE) pipe. Pressure ratings on HDPE are dependent on the pipe rating. Contact Victaulic for ratings on other pipe. **Style 920 and 920N are not recommended for use on PVC plastic pipe.**

Standard piping practices dictate that the Mechanical-T Styles 920 and 920N must be installed so that the main and branch connections are a true 90° angle when permanently attached to the pipeline surface.

Additionally, the Vic-Tap II<sup>®</sup> hole cutting tool, which allows for hole cutting capabilities on pressurized systems, utilizes the Style 920 Mechanical-T in conjunction with the Series 726 Vic-Ball Valve to create the Style 931 Vic-Tap II Mechanical-T unit. See page 8 for further information.



STYLES 920 AND 920N

STYLE 920 CROSS

PATENTED

### MATERIAL SPECIFICATIONS

**Housing/Coating:** Ductile iron conforming to ASTM A-536, grade 65-45-12, with orange enamel coating. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

- **Optional:** Hot dipped galvanized

**Gasket: (Specify choice\*)**

- **Grade “E” EPDM**  
EPDM (Green 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. Not recommended for hot water services over +150°F/+66°C or for hot dry air over +140°F/+60°C.

\*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 \_\_\_\_\_

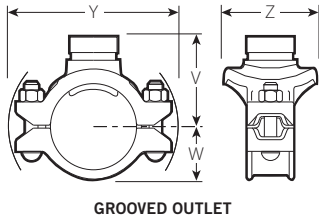
**ENGINEER**

Spec Sect \_\_\_\_\_ Para \_\_\_\_\_  
Approved \_\_\_\_\_  
Date \_\_\_\_\_

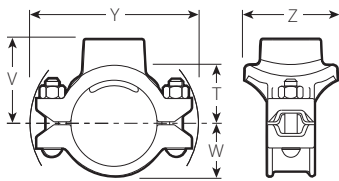
# Mechanical-T<sup>®</sup> Bolted Branch Outlets

STYLES 920 AND 920N

## DIMENSIONS



GROOVED OUTLET



FEMALE THREADED OUTLET

- Provides a direct branch connection at any location where a hole can be cut in the pipe
- A pressure responsive gasket provides the seal
- Request Publication 11.03 for Mechanical-T cross assemblies
- Pressure rated up to 500 psi/3450 kPa on steel pipe; also available for use with HDPE pipe
- Sizes from 2 × ½"/50 × 15 mm through 8 × 4"/200 × 100 mm

### IMPORTANT NOTES:

Style 920 and Style 920N housings cannot be mated to one another to achieve cross connections.

| Size<br>Run × Branch<br>Nominal Size<br>Inches<br>mm | Style<br>No.<br>920<br>or<br>920N | Max. Work<br>Pressure@<br>psi<br>kPa | Dimensions   |                     |                               |                             |                   |                   |                   | Approx.<br>Weight Each       |                    |
|--|-----------------------------------|--------------------------------------|--|---------------------|-------------------------------|-----------------------------|-------------------|-------------------|-------------------|------------------------------|--------------------|
|  |                                   |                                      | Hole<br>Diameter<br>+0.13<br>-0.00<br>Inches<br>mm | T**<br>Inches<br>mm | V ‡ #<br>Thd.<br>Inches<br>mm | V ‡<br>Grv.<br>Inches<br>mm | W<br>Inches<br>mm | Y<br>Inches<br>mm | Z<br>Inches<br>mm | Female<br>Thd.<br>Lbs.<br>kg | Grv.<br>Lbs.<br>kg |
| 2<br>50 × ½ (a) □<br>15                              | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 2.00<br>51          | 2.53<br>64                    | —                           | 1.61<br>41        | 5.35<br>136       | 2.75<br>70        | 3.1<br>1.5                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 1.97<br>50          | 2.53<br>64                    | —                           | 1.61<br>41        | 5.35<br>136       | 2.75<br>70        | 3.1<br>1.5                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 1.85<br>47          | 2.53<br>64                    | —                           | 1.61<br>41        | 5.35<br>136       | 2.75<br>70        | 3.0<br>1.4                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.75<br>44.5                                       | 2.05<br>52          | 2.75<br>70                    | 3.00<br>76                  | 1.61<br>41        | 5.35<br>136       | 3.00<br>76        | 3.5<br>1.7                   | 3.2<br>1.5         |
|  | 920N                              | 500<br>3450                          | 1.75<br>44.5                                       | 2.03<br>52          | 2.75<br>70                    | 3.12<br>79                  | 1.61<br>41        | 5.35<br>136       | 3.25<br>83        | 3.6<br>1.7                   | 3.2<br>1.5         |
| 2½<br>65 × ½ (a) § □<br>15                           | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 2.21<br>56          | 2.74<br>70                    | —                           | 1.82<br>46        | 5.64<br>143       | 2.75<br>70        | 3.0<br>1.4                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 2.18<br>55          | 2.74<br>70                    | —                           | 1.82<br>46        | 5.64<br>143       | 2.75<br>70        | 3.0<br>1.4                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 2.06<br>52          | 2.74<br>70                    | —                           | 1.82<br>46        | 5.64<br>143       | 2.75<br>70        | 2.9<br>1.4                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.75<br>44.5                                       | 2.30<br>58          | 3.00<br>76                    | 3.25<br>83                  | 1.82<br>46        | 6.29<br>160       | 3.00<br>76        | 3.5<br>1.7                   | 3.2<br>1.5         |
|  | 920N                              | 500<br>3450                          | 2.00<br>50.8                                       | 2.28<br>58          | 3.00<br>76                    | 3.25<br>83                  | 1.82<br>46        | 6.26<br>159       | 3.25<br>83        | 3.6<br>1.7                   | 3.3<br>1.6         |
| 76.1 × ½ (a) □<br>15                                 | 920N                              | 300<br>2065                          | 1.50<br>38.1                                       | 2.22<br>56          | 2.75<br>70                    | —                           | 2.25<br>57        | 6.46<br>164       | 3.18<br>81        | 3.9<br>1.8                   | —                  |
|  | 920N                              | 300<br>2065                          | 1.50<br>38.1                                       | 2.19<br>56          | 2.75<br>70                    | —                           | 2.25<br>57        | 6.46<br>164       | 3.18<br>81        | 3.9<br>1.8                   | —                  |
|  | 920N                              | 300<br>2065                          | 1.50<br>38.1                                       | 2.07<br>53          | 2.75<br>70                    | —                           | 2.25<br>57        | 6.46<br>164       | 3.18<br>81        | 3.8<br>1.7                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.75<br>44.5                                       | 2.30<br>58          | 3.00<br>76                    | 3.31<br>84                  | 1.92<br>49        | 6.29<br>160       | 3.00<br>76        | 3.5<br>1.6                   | 3.2<br>1.5         |
|  | 920N                              | 500<br>3450                          | 2.00<br>50.8                                       | 2.28<br>58          | 3.00<br>76                    | 3.31<br>84                  | 1.92<br>49        | 6.29<br>160       | 3.25<br>83        | 3.5<br>1.6                   | 3.3<br>1.5         |
| 3<br>80 × ½ (a) □<br>15                              | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 2.52<br>64          | 3.05<br>78                    | —                           | 2.28<br>58        | 6.15<br>156       | 2.75<br>70        | 3.4<br>1.6                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 2.49<br>63          | 3.05<br>78                    | —                           | 2.28<br>58        | 6.15<br>156       | 2.75<br>70        | 3.4<br>1.6                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.50<br>38.1                                       | 2.38<br>61          | 3.06<br>78                    | —                           | 2.28<br>58        | 6.15<br>156       | 2.75<br>70        | 3.3<br>1.6                   | —                  |
|  | 920N                              | 500<br>3450                          | 1.75<br>44.5                                       | 2.55<br>65          | 3.25<br>83                    | 3.56<br>90                  | 2.28<br>58        | 6.15<br>156       | 3.00<br>76        | 3.8<br>1.8                   | 3.7<br>1.8         |
|  | 920N                              | 500<br>3450                          | 2.00<br>50.8                                       | 2.78<br>71          | 3.50<br>89                    | 3.56<br>90                  | 2.28<br>58        | 6.15<br>156       | 3.25<br>83        | 4.1<br>1.9                   | 3.8<br>1.8         |
|  | 920N                              | 500<br>3450                          | 2.50<br>63.5                                       | 2.75<br>70          | 3.50<br>89                    | 3.56<br>90                  | 2.28<br>58        | 6.75<br>172       | 3.88<br>99        | 4.9<br>2.3                   | 4.6<br>2.1         |
| 3½<br>90 × 2<br>50                                   | 920N                              | 500<br>3450                          | 2.50<br>63.5                                       | 3.00<br>76          | —                             | 3.75<br>95                  | 2.44<br>62        | 6.72<br>171       | 3.88<br>99        | —                            | 3.8<br>1.8         |

TABLE CONTINUED ON PG. 3

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

† Available with grooved or female threaded outlet. Specify choice on order.

‡ Center of run to end of fitting.

# Female threaded outlets are available to NPT and BSPT specifications.

@ See page 7 for Fire Protection approvals and pressure ratings.

(a) British Standard female pipe threaded outlet is available as listed. Specify "BSPT" clearly on order.

(b) For 76.1 mm threaded outlet, specify 2½" BSPT clearly on order.

§ Vds approved for fire protection services

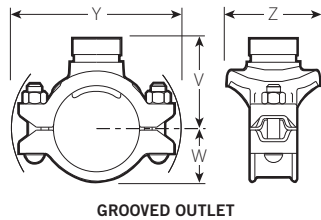
□ LPCB approved for fire protection services

∅ Approved for use in China by Tianjin Approvals Company.

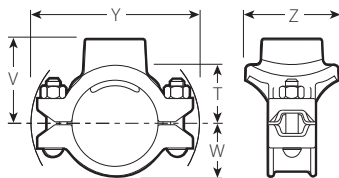
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### IMPORTANT NOTES:

Style 920 and Style 920N housings cannot be mated to one another to achieve cross connections.

| Size                               | Style No. | Max. Work Pressure@ | Dimensions                          |              |              |                           |               |                      |                    | Approx. Weight Each |             |             |
|------------------------------------|-----------|---------------------|-------------------------------------|--------------|--------------|---------------------------|---------------|----------------------|--------------------|---------------------|-------------|-------------|
|                                    |           |                     | Run × Branch Nominal Size Inches mm | 920 or 920N  | psi kPa      | Hole Diameter +0.13 -0.00 | T** Inches mm | V ‡ # Thd. Inches mm | V ‡ Grv. Inches mm | W Inches mm         | Y Inches mm | Z Inches mm |
| <b>TABLE CONTINUED FROM PAGE 2</b> |           |                     |                                     |              |              |                           |               |                      |                    |                     |             |             |
| 4<br>100                           | ½ (a) □   | 920N                | 500<br>3450                         | 1.50<br>38.1 | 3.03<br>77   | 3.56<br>90                | —             | 2.69<br>68           | 7.01<br>178        | 2.75<br>70          | 3.7<br>1.8  | —           |
|                                    | ¾ (a) □   | 920N                | 500<br>3450                         | 1.50<br>38.1 | 3.00<br>76   | 3.56<br>90                | —             | 2.69<br>68           | 7.01<br>178        | 2.75<br>70          | 3.7<br>1.8  | —           |
|                                    | 1 (a) □   | 920N                | 500<br>3450                         | 1.50<br>38.1 | 2.88<br>73   | 3.56<br>90                | —             | 2.69<br>68           | 7.01<br>178        | 2.75<br>70          | 3.6<br>1.8  | —           |
|                                    | 1 ¼ (a) † |                     | 500<br>3450                         | 1.75<br>44.5 | 3.08<br>78   | 3.78<br>96                | 4.00<br>102   | 2.69<br>68           | 7.01<br>178        | 3.00<br>76          | 4.0<br>1.9  | 3.6<br>1.8  |
|                                    | 1 ½ (a) † | 920N                | 500<br>3450                         | 2.00<br>50.8 | 3.28<br>83   | 4.00<br>102               | 4.00<br>102   | 2.69<br>68           | 7.01<br>178        | 3.25<br>83          | 4.2<br>2.0  | 3.9<br>1.9  |
|                                    | 2 (a) †   | 920N                | 500<br>3450                         | 2.50<br>63.5 | 3.25<br>83   | 4.00<br>102               | 4.00<br>102   | 2.69<br>68           | 7.01<br>178        | 3.88<br>99          | 5.0<br>2.3  | 4.6<br>2.1  |
|                                    | 2 ½ (a) † |                     | 500<br>3450                         | 2.75<br>69.9 | 2.88<br>73   | 4.00<br>102               | 4.00<br>102   | 2.69<br>68           | 7.34<br>186        | 4.63<br>118         | 5.8<br>2.6  | 5.0<br>2.3  |
|                                    | 76.1 mm   | 920                 | 500<br>3450                         | 2.75<br>69.9 | 2.88<br>73   | —                         | 4.00<br>102   | 2.69<br>68           | 7.34<br>186        | 4.63<br>118         | —           | 6.4<br>2.9  |
|                                    | 3 (a) †   | 920                 | 500<br>3450                         | 3.50<br>88.9 | 3.31<br>84   | 4.50<br>114               | 4.12<br>105   | 2.69<br>68           | 7.73<br>196        | 5.12<br>130         | 8.4<br>3.8  | 6.4<br>2.9  |
|                                    | 108.0     | 1 ¼ (a) □           | 920N                                | 500<br>3450  | 1.75<br>44.5 | 3.08<br>78                | 3.78<br>96    | —                    | 2.63<br>67         | 7.64<br>194         | 3.05<br>78  | 5.0<br>2.3  |
| 1 ½ (a) □                          |           | 920N                | 500<br>3450                         | 2.00<br>50.8 | 3.28<br>83   | 4.00<br>102               | —             | 2.63<br>67           | 7.64<br>194        | 3.25<br>83          | 5.0<br>2.3  | —           |
| 2 (a)                              |           | 920N                | 500<br>3450                         | 2.50<br>63.5 | 3.25<br>83   | 4.00<br>102               | —             | 2.63<br>67           | 7.64<br>194        | 4.00<br>102         | 4.0<br>1.9  | —           |
| 76.1 mm                            |           | 920                 | 500<br>3450                         | 2.75<br>69.9 | 2.88<br>73   | 4.00<br>102               | 4.00<br>102   | 2.63<br>67           | 7.64<br>194        | 4.29<br>109         | 8.0<br>3.6  | 7.8<br>3.5  |
| 3 (a)                              |           | 920                 | 500<br>3450                         | 3.50<br>88.9 | 3.31<br>84   | 4.50<br>114               | 4.50<br>114   | 2.63<br>67           | 7.63<br>194        | 4.88<br>124         | 6.8<br>3.1  | 6.5<br>3.0  |
| 80                                 |           |                     | 500<br>3450                         | 3.50<br>88.9 | 3.31<br>84   | 4.50<br>114               | 4.50<br>114   | 2.63<br>67           | 7.63<br>194        | 4.88<br>124         | 6.8<br>3.1  | 6.5<br>3.0  |
| 5<br>125                           | 1 ½ (a) † | 920                 | 500<br>3450                         | 2.00<br>50.8 | 4.03<br>102  | 4.75<br>121               | 4.75<br>121   | 3.16<br>80           | 9.70<br>246        | 3.69<br>94          | 7.4<br>3.4  | 7.6<br>3.4  |
|                                    | 2 (a) †   |                     | 500<br>3450                         | 2.50<br>63.5 | 4.00<br>102  | 4.75<br>121               | 4.75<br>121   | 3.16<br>80           | 9.70<br>246        | 4.38<br>111         | 8.2<br>3.7  | 8.0<br>3.6  |
|                                    | 2 ½ (a) † | 920                 | 500<br>3450                         | 2.75<br>69.9 | 3.63<br>92   | 4.75<br>121               | 4.75<br>121   | 3.16<br>80           | 9.70<br>246        | 4.63<br>118         | 8.3<br>3.8  | 7.9<br>3.6  |
|                                    | 76.1 mm □ |                     | 500<br>3450                         | 2.75<br>69.9 | 3.75<br>95   | —                         | 4.75<br>121   | 3.16<br>80           | 9.70<br>246        | 4.63<br>118         | —           | 8.0<br>3.6  |
|                                    | 3 (a) †   | 920                 | 500<br>3450                         | 3.50<br>88.9 | 3.81<br>97   | 5.00<br>127               | 4.63<br>118   | 3.16<br>80           | 9.70<br>246        | 5.31<br>135         | 8.4<br>3.8  | 8.8<br>4.0  |
|                                    | 80        |                     | 500<br>3450                         | 3.50<br>88.9 | 3.81<br>97   | 5.00<br>127               | 4.63<br>118   | 3.16<br>80           | 9.70<br>246        | 5.31<br>135         | 8.4<br>3.8  | 8.8<br>4.0  |
| 133.0                              | 2<br>50   | 920N                | 500<br>3450                         | 2.50<br>63.5 | 3.75<br>95   | 4.50<br>114               | —             | 3.17<br>81           | 8.00<br>203        | 3.88<br>99          | 8.0<br>3.6  | —           |
|                                    | 3<br>80   | 920                 | 500<br>3450                         | 3.50<br>88.9 | 3.81<br>97   | 5.00<br>127               | —             | 3.00<br>76           | 9.46<br>240        | 5.31<br>135         | 8.0<br>3.6  | —           |
| <b>TABLE CONTINUED ON PG. 4</b>    |           |                     |                                     |              |              |                           |               |                      |                    |                     |             |             |

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

† Available with grooved or female threaded outlet. Specify choice on order.

‡ Center of run to end of fitting.

# Female threaded outlets are available to NPT and BSPT specifications.

@ See page 7 for Fire Protection approvals and pressure ratings.

(a) British Standard female pipe threaded outlet is available as listed. Specify "BSPT" clearly on order.

(b) For 76.1 mm threaded outlet, specify 2½" BSPT clearly on order.

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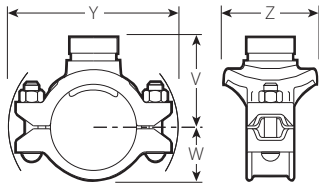
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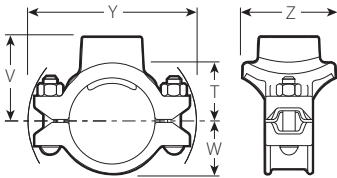
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- Sizes from 2 × 1/2"/50 × 15 mm through 8 × 4"/200 × 100 mm

### IMPORTANT NOTES:

Style 920 and Style 920N housings cannot be mated to one another to achieve cross connections.

| Size<br>Run × Branch<br>Nominal Size<br>Inches<br>mm | Style<br>No.<br>920<br>or<br>920N | Max. Work<br>Pressure@<br>psi<br>kPa | Dimensions   |                     |                               |                             |                   |                   |                   | Approx.<br>Weight Each       |                    |             |
|--|-----------------------------------|--------------------------------------|--|---------------------|-------------------------------|-----------------------------|-------------------|-------------------|-------------------|------------------------------|--------------------|-------------|
|  |                                   |                                      | Hole<br>Diameter<br>+0.13<br>-0.00<br>Inches<br>mm | T**<br>Inches<br>mm | V ‡ #<br>Thd.<br>Inches<br>mm | V ‡<br>Grv.<br>Inches<br>mm | W<br>Inches<br>mm | Y<br>Inches<br>mm | Z<br>Inches<br>mm | Female<br>Thd.<br>Lbs.<br>kg | Grv.<br>Lbs.<br>kg |             |
| <b>TABLE CONTINUED FROM PAGE 3</b>                   |                                   |                                      |  |                     |                               |                             |                   |                   |                   |                              |                    |             |
| 139.7 ×  | 1 1/2 †<br>40                     | 920N                                 | 500<br>3450  | 2.00<br>50.8        | 3.78<br>96                    | 4.50<br>114                 | —                 | 3.30<br>84        | 8.23<br>209       | 3.25<br>83                   | 7.0<br>3.2         | —           |
|  | 2 †<br>50                         | 920N                                 | 500<br>3450  | 2.50<br>63.5        | 3.75<br>95                    | 4.50<br>114                 | —                 | 3.30<br>84        | 8.23<br>209       | 3.88<br>99                   | 9.0<br>4.1         | —           |
| 6<br>150 ×   | 1 1/2 (a)<br>32 (b)               | 920N                                 | 500<br>3450  | 1.75<br>44.5        | 4.43<br>112                   | 5.13<br>130                 | 5.13<br>130       | 3.79<br>96        | 9.15<br>232       | 3.25<br>83                   | 5.1<br>2.3         | 4.8<br>2.2  |
|  | 1 1/2 (a) †<br>40 (b)             | 920N                                 | 500<br>3450  | 2.00<br>50.8        | 4.40<br>112                   | 5.13<br>130                 | 5.13<br>130       | 3.79<br>96        | 9.15<br>232       | 3.25<br>83                   | 5.4<br>2.4         | 5.1<br>2.3  |
|  | 2 (a) †<br>50                     | 920N                                 | 500<br>3450  | 2.50<br>63.5        | 4.38<br>111                   | 5.13<br>130                 | 5.13<br>130       | 3.79<br>96        | 9.15<br>232       | 3.88<br>99                   | 6.0<br>2.7         | 5.6<br>2.5  |
|  | 2 1/2<br>65                       | 920                                  | 500<br>3450  | 2.75<br>69.9        | 4.01<br>110                   | 5.13<br>130                 | 5.12<br>130       | 3.69<br>94        | 10.51<br>267      | 4.63<br>118                  | 8.3<br>3.8         | 7.6<br>3.4  |
|  | 76.1 mm <sup>¶</sup>              | 920                                  | 500<br>3450  | 2.75<br>69.9        | 4.15<br>105                   | —                           | 5.21<br>132       | 3.69<br>94        | 10.51<br>267      | 4.63<br>118                  | —                  | 8.4<br>3.8  |
|  | 3 (a) †<br>80                     | 920                                  | 500<br>3450  | 3.50<br>88.9        | 4.31<br>110                   | 5.50<br>140                 | 5.13<br>130       | 3.69<br>94        | 10.51<br>267      | 5.31<br>135                  | 9.9<br>4.5         | 8.4<br>3.8  |
| 159.0 ×  | 4 (a) †<br>100                    | 920                                  | 500<br>3450  | 4.50<br>114.3       | 3.81<br>97                    | 5.75<br>146                 | 5.38<br>137       | 3.69<br>94        | 10.51<br>267      | 6.25<br>159                  | 10.1<br>4.6        | 10.1<br>4.6 |
|  | 1 1/2 (a)<br>40                   | 920N                                 | 500<br>3450  | 2.00<br>50.8        | 4.41<br>112                   | 5.13<br>130                 | —                 | 3.63<br>92        | 9.40<br>239       | 3.25<br>83                   | 7.8<br>3.5         | —           |
|  | 2 (a)<br>50                       | 920N                                 | 500<br>3450  | 2.50<br>63.5        | 4.38<br>111                   | 5.13<br>130                 | —                 | 3.63<br>92        | 9.40<br>239       | 3.88<br>99                   | 8.0<br>3.6         | —           |
|  | 76.1 mm                           | 920                                  | 500<br>3450  | 2.75<br>69.9        | 4.38<br>111                   | 5.50<br>140                 | 5.13<br>130       | 3.63<br>92        | 9.40<br>239       | 4.63<br>118                  | 9.5<br>4.3         | 9.5<br>4.3  |
|  | 3<br>80                           | 920                                  | 500<br>3450  | 3.50<br>88.9        | 4.31<br>110                   | 5.50<br>140                 | 5.13<br>130       | 3.63<br>92        | 9.40<br>239       | 5.31<br>135                  | 8.1<br>3.7         | 14.0<br>6.4 |
|  | 108.0 mm                          | 920                                  | 500<br>3450  | 4.50<br>114.3       | 4.45<br>113                   | —                           | 5.38<br>137       | 3.63<br>92        | 9.40<br>239       | 6.12<br>155                  | —                  | 10.0<br>4.5 |
| <b>TABLE CONTINUED ON PG. 5</b>                      |                                   |                                      |  |                     |                               |                             |                   |                   |                   |                              |                    |             |

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

† Available with grooved or female threaded outlet. Specify choice on order.

‡ Center of run to end of fitting.

# Female threaded outlets are available to NPT and BSPT specifications.

@ See page 7 for Fire Protection approvals and pressure ratings.

(a) British Standard female pipe threaded outlet is available as listed. Specify "BSPT" clearly on order.

(b) For 76.1 mm threaded outlet, specify 2 1/2" BSPT clearly on order.

§ Vds approved for fire protection services

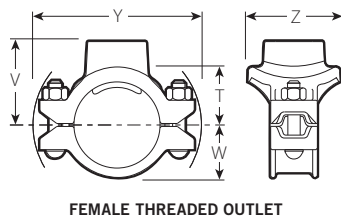
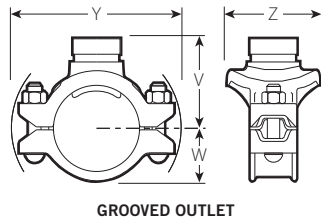
¶ LPCB approved for fire protection services

Ø Approved for use in China by Tianjin Approvals Company.

# Mechanical-T<sup>®</sup> Bolted Branch Outlets

STYLES 920 AND 920N

## DIMENSIONS



- Provides a direct branch connection at any location where a hole can be cut in the pipe
- A pressure responsive gasket provides the seal
- Request Publication 11.03 for Mechanical-T cross assemblies
- Pressure rated up to 500 psi/3450 kPa on steel pipe; also available for use with HDPE pipe
- Sizes from 2 × 1/2"/50 × 15mm through 8 × 4"/200 × 100mm

| Size<br>Run × Branch<br>Nominal Size<br>Inches<br>mm | Style<br>No.<br>920<br>or<br>920N | Max. Work<br>Pressure@<br>psi<br>kPa | Dimensions   |                     |                               |                             |                   |                   |                   | Approx.<br>Weight Each       |                    |             |
|--|-----------------------------------|--------------------------------------|--|---------------------|-------------------------------|-----------------------------|-------------------|-------------------|-------------------|------------------------------|--------------------|-------------|
|  |                                   |                                      | Hole<br>Diameter<br>+0.13<br>-0.00<br>Inches<br>mm | T**<br>Inches<br>mm | V ‡ #<br>Thd.<br>Inches<br>mm | V ‡<br>Grv.<br>Inches<br>mm | W<br>Inches<br>mm | Y<br>Inches<br>mm | Z<br>Inches<br>mm | Female<br>Thd.<br>Lbs.<br>kg | Grv.<br>Lbs.<br>kg |             |
| <b>TABLE CONTINUED FROM PAGE 4</b>                   |                                   |                                      |  |                     |                               |                             |                   |                   |                   |                              |                    |             |
| 165.1 ×  | 1<br>25                           | 920N                                 | 500<br>3450  | 1.50<br>38.1        | 3.88<br>99                    | 4.56<br>116                 | —                 | 3.79<br>96        | 9.34<br>237       | 2.75<br>70                   | 8.0<br>3.6         | —           |
|  | 1 1/4 (a) †<br>32                 | 920N                                 | 500<br>3450  | 1.75<br>44.5        | 4.43<br>113                   | 5.13<br>130                 | —                 | 3.79<br>96        | 9.34<br>237       | 3.25<br>83                   | 8.4<br>3.8         | —           |
|  | 1 1/2 (a) †<br>40                 | 920N                                 | 500<br>3450  | 2.00<br>50.8        | 4.41<br>112                   | 5.13<br>130                 | 5.13<br>130       | 3.79<br>96        | 9.34<br>237       | 3.25<br>83                   | 8.4<br>3.8         | 5.4<br>2.4  |
|  | 2 (a) †<br>50                     | 920N                                 | 500<br>3450  | 2.50<br>63.5        | 4.38<br>111                   | 5.13<br>130                 | 5.13<br>130       | 3.79<br>96        | 9.34<br>237       | 3.88<br>99                   | 8.5<br>3.9         | 6.0<br>2.7  |
|  | 76.1 mm                           | 920                                  | 500<br>3450  | 2.75<br>69.9        | 4.01<br>110                   | 5.13<br>130                 | 5.21<br>132       | 3.63<br>92        | 10.51<br>267      | 4.63<br>118                  | 8.6<br>3.9         | 7.6<br>3.4  |
|  | 3 (a) † ∅<br>80                   | 920                                  | 500<br>3450  | 3.50<br>88.9        | 4.31<br>110                   | 5.50<br>140                 | 5.13<br>130       | 3.63<br>92        | 10.51<br>267      | 5.31<br>135                  | 10.2<br>4.6        | 8.4<br>3.8  |
| 8<br>200 ×   | 2 (a) †<br>50                     | 920                                  | 500<br>3450  | 2.75<br>69.9        | 5.44<br>138                   | 6.19<br>157                 | 6.25<br>159       | 4.81<br>122       | 12.42<br>316      | 4.50<br>114                  | 11.6<br>5.3        | 11.6<br>5.3 |
|  | 2 1/2 (a) †<br>65                 | 920                                  | 500<br>3450  | 2.75<br>69.9        | 5.07<br>129                   | 6.19<br>157                 | 6.19<br>157       | 4.81<br>122       | 12.42<br>316      | 4.50<br>114                  | 11.6<br>5.3        | 11.6<br>5.3 |
|  | 76.1 mm (a) †                     | 920                                  | 500<br>3450  | 2.75<br>69.9        | 5.25<br>133                   | —                           | 6.25<br>159       | 4.81<br>122       | 12.42<br>316      | 4.56<br>116                  | —                  | 11.6<br>5.3 |
|  | 3 (a) †<br>80                     | 920                                  | 500<br>3450  | 3.50<br>88.9        | 5.31<br>135                   | 6.50<br>165                 | 6.50<br>165       | 4.81<br>122       | 12.42<br>316      | 5.31<br>135                  | 12.6<br>5.7        | 11.6<br>5.3 |
|  | 4 (a) †<br>100                    | 920                                  | 500<br>3450  | 4.50<br>114.3       | 4.81<br>122                   | 6.75<br>171                 | 6.38<br>162       | 4.81<br>122       | 12.42<br>316      | 6.25<br>159                  | 15.3<br>6.9        | 12.5<br>5.7 |
|  | 8 × 4" (a) †                      | 920                                  | 500<br>3450  | 4.50<br>114.3       | 4.81<br>122                   | 6.75<br>171                 | 6.38<br>162       | 4.81<br>122       | 12.42<br>316      | 6.25<br>159                  | 15.3<br>6.9        | 12.5<br>5.7 |

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

† Available with grooved or female threaded outlet. Specify choice on order.

‡ Center of run to end of fitting.

# Female threaded outlets are available to NPT and BSPT specifications.

@ See page 7 for Fire Protection approvals and pressure ratings.

(a) British Standard female pipe threaded outlet is available as listed. Specify "BSPT" clearly on order.

(b) For 76.1 mm threaded outlet, specify 2 1/2" BSPT clearly on order.

§ Vds approved for fire protection services

▣ LPCB approved for fire protection services

∅ Approved for use in China by Tianjin Approvals Company.

### IMPORTANT NOTES:

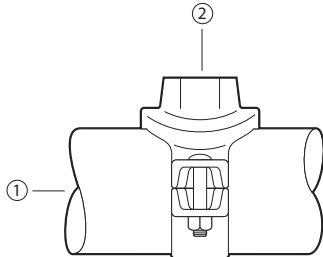
Style 920 and Style 920N housings cannot be mated to **each other** to achieve cross connections.

# Mechanical-T<sup>®</sup> Bolted Branch Outlets

STYLES 920 AND 920N

## FLOW DATA

Flow test data has shown that the total head loss between point (1) and (2) for the Style 920, 920N and 929 Mechanical-T<sup>®</sup> fittings can best be expressed in terms of the pressure difference across the inlet and branch. The pressure difference can be obtained from the relationship below.



Exaggerated for clarity

### C<sub>v</sub> and K<sub>v</sub> Values

Values for flow of water at +60°F/+16°C are shown in the table below.

### Formulas for C<sub>v</sub>, K<sub>v</sub> Values:

$$\Delta P = \frac{Q^2}{C_v^2}$$

$$Q = C_v \times \sqrt{\Delta P}$$

### Where:

Q = Flow (GPM)

ΔP = Pressure Drop (psi)

C<sub>v</sub> = Flow Coefficient

$$\Delta P = \frac{Q^2}{K_v^2}$$

$$Q = K_v \times \sqrt{\Delta P}$$

### Where:

Q = Flow (m<sup>3</sup>/hr)

ΔP = Pressure Drop (Bar)

K<sub>v</sub> = Flow Coefficient

| OUTLET SIZE            |                   | Equivalent Length of Outlet Size Schedule 40 Carbon Steel Pipe (per UL 213, Sec. 16) (C = 120)† FT |          | C <sub>v</sub> /K <sub>v</sub> Values |          |
|------------------------|-------------------|--|----------|---------------------------------------|----------|
| NOMINAL DIAMETER In/mm | ACTUAL O.D. In/mm | GROOVED  | THREADED | GROOVED                               | THREADED |
| ½                      | 0.840             | -  | 2        | -                                     | 11       |
| 15                     | 21.3              | -  | -        | -                                     | 9.4      |
| ¾                      | 1.050             | -  | 4        | -                                     | 16       |
| 20                     | 26.7              | -  | -        | -                                     | 13.7     |
| 1                      | 1.315             | 3**  | 8        | -                                     | 21       |
| 25                     | 33.7              | -  | -        | -                                     | 1.8      |
| 1 ¼                    | 1.660             | 5 ½  | 6        | 50                                    | 48       |
| 32                     | 42.7              | -  | -        | 42.9                                  | 41.1     |
| 1 ½                    | 1.900             | 11   | 11       | 53                                    | 53       |
| 40                     | 48.3              | -  | -        | 45.4                                  | 45.4     |
| 2                      | 2.375             | 9  | 10 ½     | 112                                   | 104      |
| 50                     | 60.3              | -  | -        | 96                                    | 89.1     |
| 2 ½                    | 2.875             | 20   | 12 ½     | 119                                   | 150      |
| 65                     | 73.0              | -  | -        | 102                                   | 128.5    |
| 76.1 mm                | 3.000             | 16*  | -        | 161                                   | -        |
|                        | 76.1              | -  | -        | 138.1                                 | -        |
| 3                      | 3.500             | 14   | 15 ½     | 249                                   | 237      |
| 80                     | 88.9              | -  | -        | 213.4                                 | 203.1    |
| 4                      | 4.500             | 20   | 22       | 421                                   | 401      |
| 100                    | 114.3             | -  | -        | 360.8                                 | 343.6    |

† Hazen-Williams coefficient of friction is 120.

\* Pipe with a wall thickness of 0.165in./4.2mm.

\*\* 1" FireLock™ Innovative Groove System (IGS) outlet

# Mechanical-T<sup>®</sup> Bolted Branch Outlets

STYLES 920 AND 920N

## FIRE PROTECTION APPROVALS AND PRESSURE RATINGS

The information provided below is based on the latest listing and approval data at the time of publication. Listings/Approvals are subject to change and/or additions by the approvals agencies. Contact Victaulic for performance on other pipe and the latest listings and approvals.

| Run Size                  |                                      | Outlet Size<br>Inches/mm | Pipe<br>Schedule | Approval Agency<br>Rated Working Pressures – psi/kPa |             |             |             | Vds         |              |
|---------------------------|--------------------------------------|--------------------------|------------------|--|-------------|-------------|-------------|-------------|--------------|
| Nominal Size<br>Inches/mm | Actual Outside Diameter<br>Inches/mm |                          |                  | UL   | ULC         | FM          | LPCB        | (Style 920) | (Style 920N) |
| 2 1/2 - 6<br>65 - 150     | 2.875 - 6.625<br>73.0 - 168.3        | All                      | 10, 40           | 400<br>2755  | 400<br>2755 | 400<br>2755 | 290<br>1999 | 232<br>1599 | 362<br>2496  |
| 2 1/2 - 4<br>65 - 100     | 2.875 - 4.500<br>73.0 - 114.3        | All                      | DF               | 300<br>2065  | 300<br>2065 | 300<br>2065 | 290<br>1999 | 232<br>1599 | 362<br>2496  |
| 2 1/2 - 4<br>65 - 100     | 2.875 - 4.500<br>73.0 - 114.3        | All                      | SF               | 300<br>2065  | 300<br>2065 | 300<br>2065 | 290<br>1999 | 232<br>1599 | 362<br>2496  |
| 6<br>150                  | 6.625<br>168.3                       | 3, 4                     | 10               | 300<br>2065  | 300<br>2065 | 250<br>1724 | 290<br>1999 | 232<br>1599 | 362<br>2496  |
| 6<br>150                  | 6.625<br>168.3                       | 3,4                      | 30, 40           | 300<br>2065  | 300<br>2065 | 300<br>2065 | 290<br>1999 | 232<br>1599 | 362<br>2496  |
| 8<br>200                  | 8.625<br>219.1                       | 2 1/2                    | 10, 40           | 400<br>2755  | —           | —           | —           | 145<br>1000 | —            |
| 8<br>200                  | 8.625<br>219.1                       | 3,4                      | 10               | 300<br>2065  | —           | 250<br>1724 | —           | 145<br>1000 | —            |
| 8<br>200                  | 8.625<br>219.1                       | 3,4                      | 30, 40           | 300<br>2065  | —           | 300<br>2065 | —           | 145<br>1000 | —            |

NOTES:

10 refers to Listed/Approved Schedule 10 steel sprinkler pipe.

40 refers to Listed/Approved Schedule 40 steel sprinkler pipe.

DF refers to Listed/Approved Dyna-Flow steel sprinkler pipe manufactured by American Tube Company.

SF refers to Listed/Approved Super-Flo steel sprinkler pipe manufactured by Allied Tube and Conduit Corporation.

### VIC-TAP II HOLE CUTTING TOOL FOR 4 - 8"/100 - 200MM CARBON STEEL PIPE



The Vic-Tap II hole cutting tool is designed for use with the Style 931 Vic-Tap II Mechanical-T unit, which is a combination of the Style 920 Mechanical-T and Series 726 Vic-Ball Valve. The Vic-Tap II is capable of tapping into carbon steel pipe systems under pressures up to 500 psi/3450 kPa.

The Style 931 Vic-Tap II Mechanical-T unit is a full port ball valve which can be mounted on 4"/100mm, 5"/125mm, 6"/150mm and 8"/200mm diameter pipe. The Style 931 comes with a 2 1/2"/65mm grooved outlet.

The drill motor is an electric motor with ground fault circuit interrupter (GFCI) in accordance with safety codes.

For more information, refer to publication 24.01.

## Mechanical-T<sup>®</sup> Bolted Branch Outlets

STYLES 920 AND 920N

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**INSTALLATION**

Reference should always be made to the I-100 Victaulic Field Installation Handbook 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](http://www.victaulic.com).

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**WARRANTY**

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

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**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.

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For complete contact information, visit [www.victaulic.com](http://www.victaulic.com)

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