



# Tube Fittings

**ASTM A479 ASME SA479**

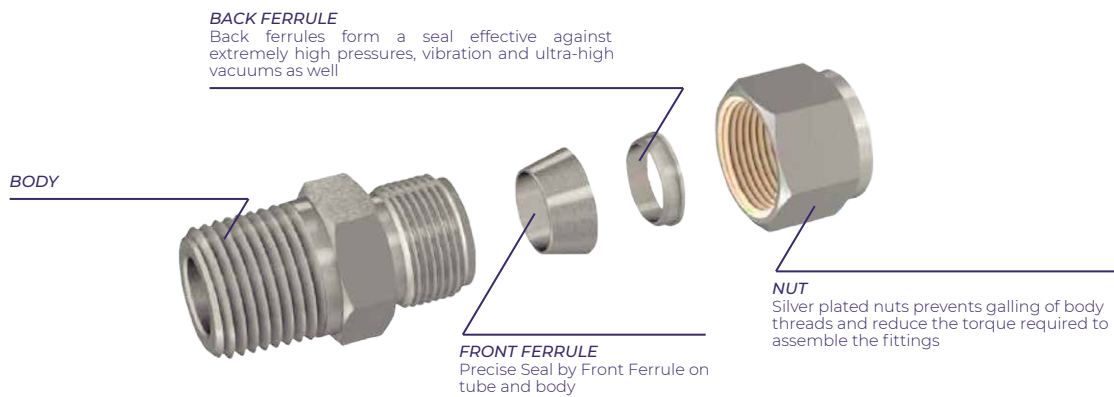


**High quality products for  
industrial & construction**



## FEATURES

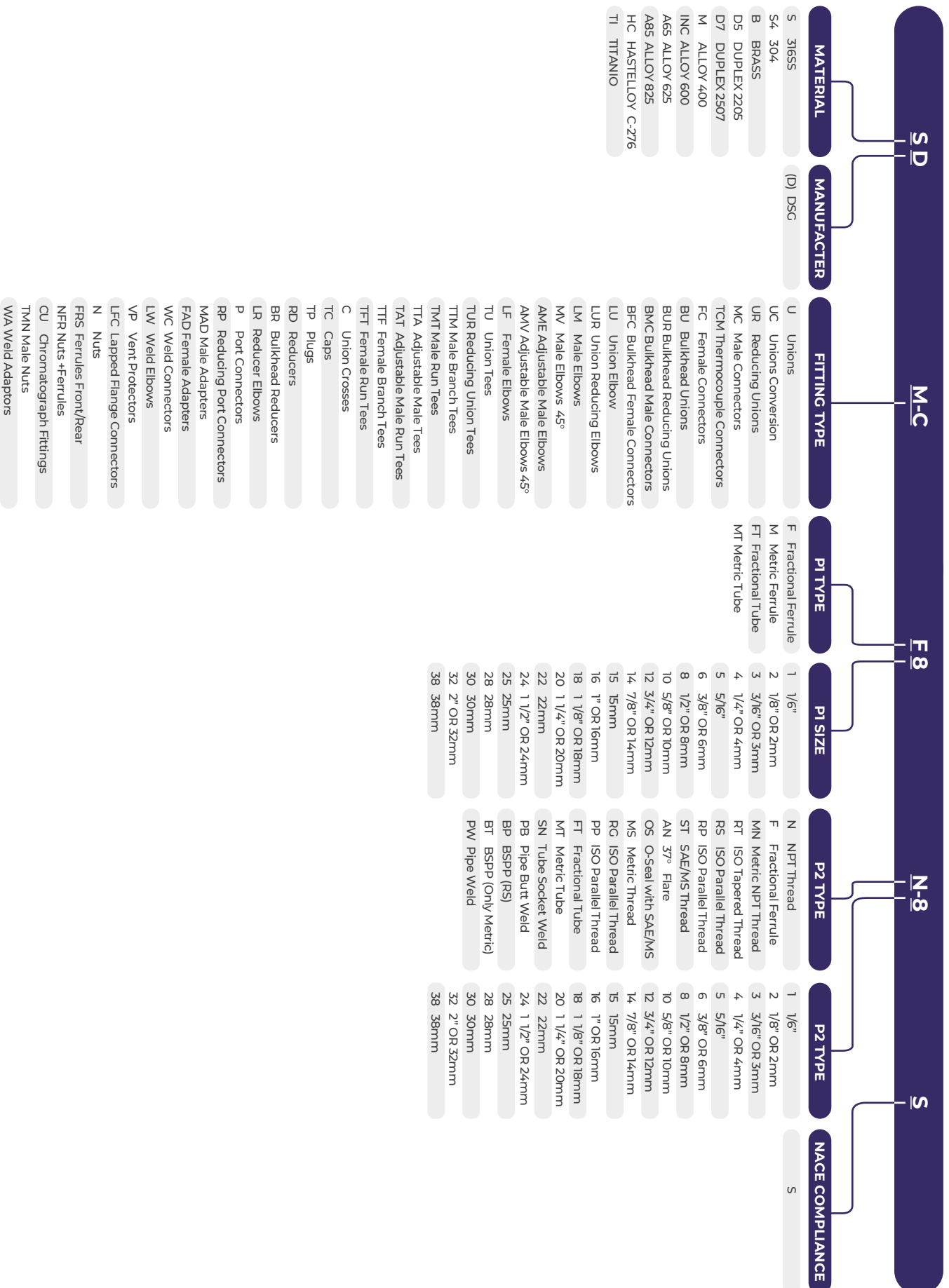
- ° Size ranges from 1/16" to 1" and 2mm to 25mm
- ° All fittings have a high-quality appearance
- ° Straight fittings are manufactured from Bar stock and Shaped fittings are manufactured from forgings
- ° Every fitting is marked with Manufacturer's name, Size, Material and heat code for traceability
- ° Precision machined components ensure perfect deformation of ferrules and the tubing
- ° Excellent leak-free sealing integrity on heavy vibration, vacuum and impulse
- ° Case hardened back ferrules for additional strength
- ° Female nut threads are silver plated to reduce friction against the body threads and avoid galling
- ° Radius junction design for elbows provides smooth flow path
- ° Fittings are easy to disconnect and retighten



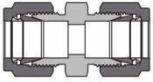
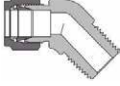
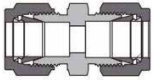
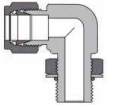
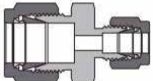
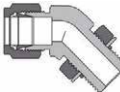
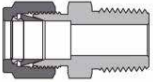
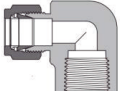
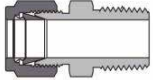
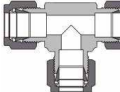
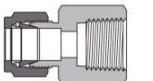
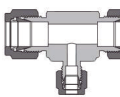
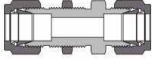
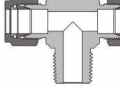
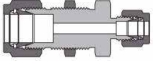
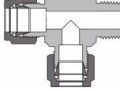
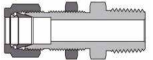
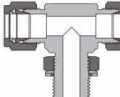
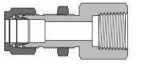


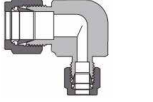
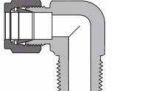
## PRESSURE RATING

| NPT / ISO<br>Pipe Size | Stainless steel 316 |        |        |       | Brass |       |        |       | Carbon Steel |        |        |       |
|------------------------|---------------------|--------|--------|-------|-------|-------|--------|-------|--------------|--------|--------|-------|
|                        | Male                |        | Female |       | Male  |       | Female |       | Male         |        | Female |       |
|                        | Bar                 | Psig   | Bar    | Psig  | Bar   | Psig  | Bar    | Psig  | Bar          | Psig   | Bar    | Psig  |
| 1/8                    | 689                 | 10,000 | 420    | 6,100 | 337   | 4,900 | 207    | 3,000 | 689          | 10,000 | 420    | 6,100 |
| 1/4                    | 558                 | 8,100  | 434    | 6,300 | 275   | 4,000 | 214    | 3,200 | 558          | 8,100  | 434    | 6,300 |
| 3/8                    | 524                 | 7,600  | 345    | 5,000 | 262   | 3,800 | 172    | 2,500 | 524          | 7,600  | 345    | 5,000 |
| 1/2                    | 517                 | 7,500  | 324    | 4,700 | 255   | 3,700 | 158    | 2,300 | 524          | 7,500  | 324    | 4,700 |
| 3/4                    | 496                 | 7,200  | 303    | 4,400 | 248   | 3,600 | 152    | 2,200 | 496          | 7,200  | 303    | 4,400 |
| 1                      | 365                 | 5,300  | 296    | 4,300 | 172   | 2,500 | 145    | 2,100 | 365          | 5,300  | 296    | 4,300 |

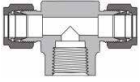
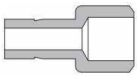
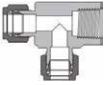
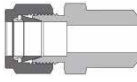



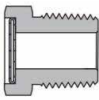

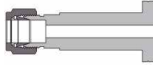
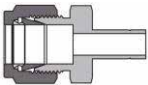

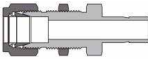

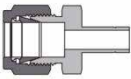



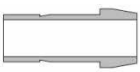

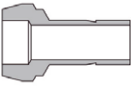
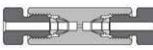
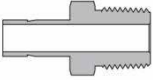
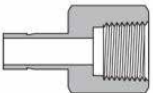
- ° Pressure ratings are calculated at -28 to 37 C (-20 to 100 F) using allowable stress value of 20,000psi for SS 316, 10,000psi for Brass and 20,000psi for Carbon Steel as per ASME B31.3
- ° Process Piping Code
- ° Pressure ratings are listed for temperatures up to 37°C (100°F)
- ° To determine the pressure ratings in accordance with ASME B31.1, Power Piping:
  - ° Carbon Steel material - multiply by 0.85
  - ° Stainless Steel and Brass material - remains the same



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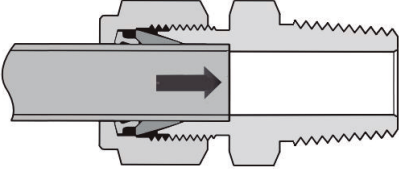
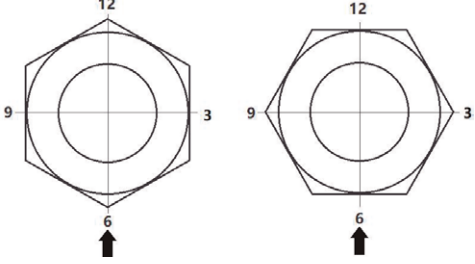
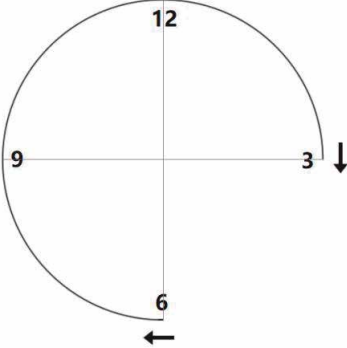
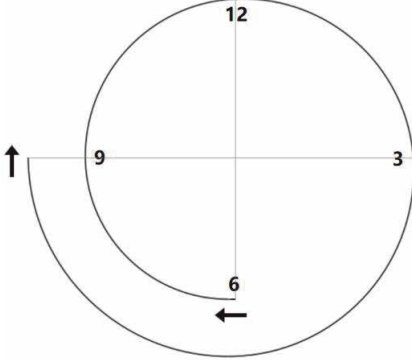
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|---|---------------------------------------|-----------|--|--|-----------|
|    | Unions <b>U</b>                       | <b>06</b> |    | 45° Male Elbows <b>MV</b>              | <b>34</b> |
|    | Conversion Unions <b>CU</b>           | <b>07</b> |    | Adjustable Male Elbows <b>AME</b>      | <b>35</b> |
|    | Reducing Unions <b>RU</b>             | <b>08</b> |    | 45° Adjustable Male Elbows <b>AMV</b>  | <b>36</b> |
|    | Male Connectors <b>MC</b>             | <b>10</b> |    | Female Elbows <b>LF</b>                | <b>37</b> |
|    | Thermocouple Connectors <b>TC</b>     | <b>20</b> |    | Union Tees <b>TU</b>                   | <b>38</b> |
|    | Female Connectors <b>CF</b>           | <b>21</b> |   | Reducing Union Tees <b>TUR</b>         | <b>39</b> |
|  | Bulkhead Unions <b>BU</b>             | <b>26</b> |  | Male Branch Tees <b>TTM</b>            | <b>41</b> |
|  | Bulkhead Reducing Unions <b>BRU</b>   | <b>27</b> |  | Male Run Tees <b>TMT</b>               | <b>42</b> |
|  | Bulkhead Male Connectors <b>BMC</b>   | <b>28</b> |  | Adjustable Male Branch Tees <b>TTA</b> | <b>43</b> |
|  | Bulkhead Female Connectors <b>BFC</b> | <b>29</b> |  | Adjustable Male Run Tees <b>TAT</b>    | <b>44</b> |
|  | Union Elbows <b>LU</b>                | <b>30</b> |  |  |           |
|  | Union Reducing Elbows <b>LUR</b>      | <b>31</b> |  |  |           |
|  | Male Elbows <b>LM</b>                 | <b>32</b> |  |  |           |

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## TUBE FITTINGS UP TO 1IN. / 25MM

These instructions apply both to traditional fittings and to fittings with the advanced back-ferrule geometry.

|   |  |
|---|--|
|  <p>Fully insert the tube into the fitting and against the shoulder; rotate the nut finger-tight.</p>                          |  <p>Mark the nut at the 6 o'clock position.</p>  |
|  <p>1/16, 1/8 and 3/16 in; 2,3 and 4mm tube fittings, tighten the nut only three-quarters turn to the 3 o'clock position.</p> |  <p>1/4 to 1 inch., and 6mm to 25mm tube fittings, tighten the nut one and one-quarters turn to the 9 o'clock position.</p> |

## TUBE FITTINGS OVER 1IN. / 25MM

1. Preswage the ferrules onto the tube using the Multihead Hydraulic Swaging Unit (MHSU).
2. Apply the lubricant lightly to the body threads and the rear surface of the back ferrule.
3. Insert the tube with preswaged ferrules into the fitting until the front ferrule seats against the fitting body; rotate the nut finger-tight.
4. Mark the nut at the 6 o'clock position.
5. While holding the fitting body steady, tighten the nut one-half turn to the 12 o'clock position.

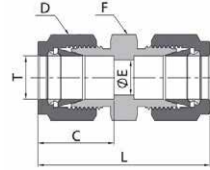
## REASSEMBLY ALL-SIZES

You may disassemble and reassemble tube fittings many times. Always depressurize the system before disassembling. Prior to disassembly, mark a line along the nut and fitting body flats. Use the marks to ensure that you return the nut to the previously pulled-up position.

Insert the tube with preswaged ferrules into the fitting until the front ferrule seats against the fitting body.

While holding the fitting body steady, rotate the nut with a wrench to the previously pulled-up position, as indicated by the marks on the tube and flats. At this point, you will feel a significant increase in resistance. Tighten the nut slightly.

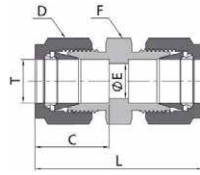
# UNIONS



| Fractional Tube        |                          |                     |              |             |             |             |
|------------------------|--------------------------|---------------------|--------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |              |             |             |             |
|                        |                          | L                   | C            | D           | F           | E           |
| 1/16                   | _D-U-F1                  | 0.99 (25.1)         | 0.34 (8.6)   | 0.31 (7.9)  | 0.44 (11.1) | 0.05 (1.3)  |
| 1/8                    | _D-U-F2                  | 1.40 (35.6)         | 0.54 (13.7)  | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.3)  |
| 3/16                   | -D-U-F3                  | 1.47 (37.3)         | 0.60 (15.2)  | 0.50 (12.7) | 0.50 (12.7) | 0.12 (3.0)  |
| 1/4                    | _D-U-F4                  | 1.61 (40.9)         | 0.64 (16.2)  | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  |
| 5/16                   | _D-U-F5                  | 1.69 (42.9)         | 0.66 (16.8)  | 0.63 (15.9) | 0.56 (14.3) | 0.25 (6.4)  |
| 3/8                    | _D-U-F6                  | 1.77 (45.0)         | 0.90 (22.9)  | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  |
| 1/2                    | -D-U-F8                  | 2.02 (51.3)         | 0.96 (24.4)  | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) |
| 5/8                    | -D-U-F10                 | 2.05 (52.1)         | 1.02 (25.9)  | 1.00 (25.4) | 0.94 (23.9) | 0.50 (12.7) |
| 3/4                    | -D-U-F12                 | 2.11 (53.6)         | 1.23 (31.2)  | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) |
| 7/8                    | _D-U-F14                 | 2.17 (55.1)         | 1.23 (31.2)  | 1.25 (31.8) | 1.37 (34.9) | 0.72 (18.3) |
| 1                      | _D-U-F16                 | 2.55 (64.8)         | 1.62 (41.1)  | 1.5 (38.1)  | 1.37 (34.9) | 0.88 (22.4) |
| 1 1/8                  | _D-U-F18                 | 2.55 (64.8)         | 1.97 (50.0)  | 1.75 (44.5) | 1.63 (41.3) | 0.97 (24.6) |
| 1 1/4                  | _D-U-F20                 | 3.63 (92.2)         | 3.63 (92.2)  | 1.87 (47.6) | 1.75 (44.5) | 1.09 (27.7) |
| 1 1/2                  | _D-U-F24                 | 4.25 (108.0)        | 4.25 (108.0) | 2.25 (57.2) | 2.13 (54.0) | 1.34 (34.0) |

| Metric Tube           |                          |                     |             |             |             |             |
|-----------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |
|                       |                          | L                   | C           | D           | F           | E           |
| 2                     | _D-U-MT2                 | 35.6 (1.40)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 1.7 (0.07)  |
| 3                     | _D-U-MT3                 | 35.3 (1.39)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  |
| 4                     | _D-U-MT4                 | 37.3 (1.47)         | 13.7 (0.54) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  |
| 6                     | _D-U-MT6                 | 41.0 (1.61)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  |
| 8                     | _D-U-MT8                 | 43.2 (1.70)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 6.4 (0.25)  |
| 10                    | _D-U-MT10                | 46.2 (1.82)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 7.9 (0.31)  |
| 12                    | _D-U-MT12                | 51.2 (2.02)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  |
| 14                    | _D-U-MT14                | 52.0 (2.05)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 11.1 (0.44) |
| 15                    | _D-U-MT15                | 52.0 (2.05)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 11.9 (0.47) |
| 16                    | _D-U-MT16                | 52.0 (2.05)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 12.7 (0.50) |
| 18                    | _D-U-MT18                | 53.5 (2.11)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 20                    | _D-U-MT20                | 55.0 (2.17)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 15.9 (0.63) |
| 22                    | _D-U-MT22                | 55.0 (2.17)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 18.3 (0.72) |
| 25                    | _D-U-MT25                | 65.0 (2.56)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) | 21.8 (0.86) |
| 28                    | _D-U-MT28                | 85.0 (3.35)         | 36.6 (1.44) | 46.0 (1.81) | 41.0 (1.61) | 21.8 (0.86) |
| 30                    | _D-U-MT30                | 92.7 (3.65)         | 39.6 (1.56) | 50.0 (1.97) | 46.0 (1.81) | 26.2 (1.03) |
| 32                    | _D-U-MT32                | 97.3 (3.83)         | 42.0 (1.65) | 50.0 (1.97) | 46.0 (1.81) | 28.6 (1.13) |
| 38                    | _D-U-MT38                | 113.6 (4.47)        | 49.4 (1.94) | 60.0 (2.36) | 55.0 (2.17) | 33.7 (1.33) |

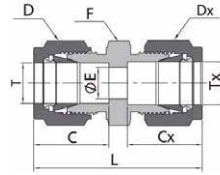
# CONVERSION UNIONS



## Metric Tube to Fractional Tube

| T - Tube<br>O.D. (mm) | Tx - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|-------------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                         |                          | L                   | C           | D           | F           | E           | Cx          | Dx          |
| 3                     | 1/8                     | _D-UC-M3-F2              | 35.2 (1.39)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  | 12.7 (0.50) | 11.1 (0.44) |
| 4                     | 1/8                     | _D-UC-M4-F2              | 36.5 (1.44)         | 13.7 (0.54) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  | 12.7 (0.50) | 11.1 (0.44) |
| 4                     | 1/4                     | _D-UC-M4-F4              | 39.4 (1.55)         | 13.7 (0.54) | 12.0 (0.47) | 14.0 (0.55) | 2.4 (0.09)  | 15.2 (0.60) | 14.3 (0.56) |
| 6                     | 1/8                     | _D-UC-M6-F2              | 38.5 (1.52)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 2.4 (0.09)  | 12.7 (0.50) | 11.1 (0.44) |
| 6                     | 1/4                     | _D-UC-M6-F4              | 41.0 (1.61)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  | 15.2 (0.60) | 14.3 (0.56) |
| 6                     | 5/16                    | _D-UC-M6-F5              | 42.3 (1.67)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  | 16.2 (0.64) | 15.9 (0.63) |
| 8                     | 1/4                     | _D-UC-M8-F4              | 42.3 (1.67)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 4.8 (0.19)  | 15.2 (0.60) | 14.3 (0.56) |
| 8                     | 3/8                     | _D-UC-M8-F6              | 44.3 (1.74)         | 16.2 (0.64) | 16.0 (0.63) | 16.0 (0.63) | 6.4 (0.25)  | 16.8 (0.66) | 17.5 (0.69) |
| 10                    | 1/8                     | _D-UC-M10-F2             | 41.8 (1.65)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 2.4 (0.09)  | 12.7 (0.50) | 11.1 (0.44) |
| 10                    | 1/4                     | _D-UC-M10-F4             | 44.5 (1.75)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 4.8 (0.19)  | 15.2 (0.60) | 14.3 (0.56) |
| 10                    | 5/16                    | _D-UC-M10-F5             | 45.1 (1.78)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 6.4 (0.25)  | 16.2 (0.64) | 15.9 (0.63) |
| 10                    | 3/8                     | _D-UC-M10-F6             | 45.9 (1.81)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 7.1 (0.28)  | 16.8 (0.66) | 17.5 (0.69) |
| 12                    | 5/16                    | _D-UC-M12-F5             | 47.8 (1.88)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 6.4 (0.25)  | 16.2 (0.64) | 15.9 (0.63) |
| 12                    | 3/8                     | _D-UC-M12-F6             | 48.4 (1.91)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 7.1 (0.28)  | 16.8 (0.66) | 17.5 (0.69) |
| 12                    | 1/2                     | _D-UC-M12-F8             | 51.2 (2.02)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  | 22.9 (0.90) | 22.2 (0.87) |
| 15                    | 1/2                     | _D-UC-M15-F8             | 52.0 (2.05)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 10.4 (0.41) | 22.9 (0.90) | 22.2 (0.87) |
| 16                    | 5/8                     | _D-UC-M16-F10            | 52.0 (2.05)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 12.7 (0.50) | 24.4 (0.96) | 25.4 (1.00) |
| 18                    | 3/4                     | _D-UC-M18-F12            | 53.5 (2.11)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) | 24.4 (0.96) | 28.6 (1.13) |
| 20                    | 1/2                     | _D-UC-M20-F8             | 55.0 (2.17)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 10.4 (0.41) | 22.9 (0.90) | 22.2 (0.87) |
| 20                    | 1                       | _D-UC-M20-F16            | 62.8 (2.47)         | 26.0 (1.02) | 32.0 (1.26) | 35.0 (1.38) | 15.9 (0.63) | 31.2 (1.23) | 38.1 (1.50) |
| 25                    | 1                       | _D-UC-M25-F16            | 65.0 (2.56)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) | 21.8 (0.86) | 31.2 (1.23) | 38.1 (1.50) |
| 28                    | 1                       | _D-UC-M28-F16            | 79.6 (3.13)         | 36.6 (1.44) | 46.0 (1.81) | 41.0 (1.61) | 21.8 (0.86) | 31.2 (1.23) | 38.1 (1.50) |
| 30                    | 1                       | _D-UC-M32-F16            | 85.3 (3.35)         | 39.6 (1.56) | 50.0 (1.97) | 46.0 (1.81) | 21.8 (0.86) | 31.2 (1.23) | 38.1 (1.50) |
| 32                    | 1                       | _D-UC-M32-F16            | 86.5 (3.40)         | 42.0 (1.65) | 50.0 (1.97) | 46.0 (1.81) | 21.8 (0.86) | 31.2 (1.23) | 38.1 (1.50) |
| 38                    | 1                       | _D-UC-M38-F16            | 95.4 (3.76)         | 49.4 (1.94) | 60.0 (2.36) | 55.0 (2.17) | 21.8 (0.86) | 31.2 (1.23) | 38.1 (1.50) |

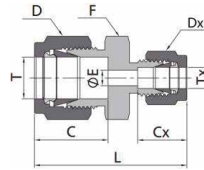
# REDUCING UNIONS



## Fractional Tube

| T - Tube<br>O.D. (in.) | Tx - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|------------------------|-------------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                        |                         |                          | L                   | C           | D           | F           | E           | Cx          | Gx          |
| 1/8                    | 1/16                    | _D-UR-F2-F1              | 1.22 (31.0)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.05 (1.3)  | 0.34 (8.6)  | 0.31 (7.9)  |
| 3/16                   | 1/16                    | _D-UR-F3-F1              | 1.27 (32.3)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.05 (1.3)  | 0.34 (8.6)  | 0.31 (7.9)  |
| 3/16                   | 1/8                     | _D-UR-F3-F2              | 1.44 (36.6)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.09 (2.3)  | 0.50 (12.7) | 0.44 (11.1) |
| 1/4                    | 1/16                    | _D-UR-F4-F1              | 1.35 (34.3)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.05 (1.3)  | 0.34 (8.6)  | 0.31 (7.9)  |
| 1/4                    | 1/8                     | _D-UR-F4-F2              | 1.52 (38.6)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.09 (2.3)  | 0.50 (12.7) | 0.44 (11.1) |
| 1/4                    | 3/16                    | _D-UR-F4-F3              | 1.55 (39.4)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.12 (3.0)  | 0.54 (13.7) | 0.50 (12.7) |
| 5/16                   | 1/8                     | _D-UR-F5-F2              | 1.56 (39.6)         | 0.64 (16.2) | 0.63 (15.9) | 0.56 (14.3) | 0.09 (2.3)  | 0.50 (12.7) | 0.44 (11.1) |
| 5/16                   | 1/4                     | _D-UR-F5-F4              | 1.66 (42.2)         | 0.64 (16.2) | 0.63 (15.9) | 0.56 (14.3) | 0.19 (4.8)  | 0.60 (15.2) | 0.56 (14.3) |
| 3/8                    | 1/16                    | _D-UR-F6-F1              | 1.44 (36.6)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.05 (1.3)  | 0.34 (8.6)  | 0.31 (7.9)  |
| 3/8                    | 1/8                     | _D-UR-F6-F2              | 1.61 (40.9)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.09 (2.3)  | 0.50 (12.7) | 0.44 (11.1) |
| 3/8                    | 1/4                     | _D-UR-F6-F4              | 1.70 (43.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.19 (4.8)  | 0.60 (15.2) | 0.56 (14.3) |
| 1/2                    | 1/4                     | _D-UR-F8-F4              | 1.85 (47.0)         | 0.90 (22.8) | 0.87 (22.2) | 0.81 (20.6) | 0.19 (4.8)  | 0.60 (15.2) | 0.56 (14.3) |
| 1/2                    | 3/8                     | _D-UR-F8-F6              | 1.91 (48.5)         | 0.90 (22.8) | 0.87 (22.2) | 0.81 (20.6) | 0.28 (7.1)  | 0.66 (16.8) | 0.69 (17.5) |
| 5/8                    | 3/8                     | _D-UR-F10-F6             | 1.94 (49.3)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.9) | 0.28 (7.1)  | 0.66 (16.8) | 0.69 (17.5) |
| 5/8                    | 1/2                     | _D-UR-F10-F8             | 2.05 (52.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.9) | 0.41 (10.4) | 0.90 (22.8) | 0.87 (22.2) |
| 3/4                    | 1/4                     | _D-UR-F12-F4             | 1.94 (49.3)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.19 (4.8)  | 0.60 (15.2) | 0.56 (14.3) |
| 3/4                    | 3/8                     | _D-UR-F12-F6             | 2.00 (50.8)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.28 (7.1)  | 0.66 (16.8) | 0.69 (17.5) |
| 3/4                    | 1/2                     | _D-UR-F12-F8             | 2.11 (53.6)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.41 (10.4) | 0.90 (22.8) | 0.87 (22.2) |
| 1                      | 1/2                     | _D-UR-F16-F8             | 2.38 (60.5)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.41 (10.4) | 0.90 (22.8) | 0.87 (22.2) |
| 1                      | 3/4                     | _D-UR-F16-F12            | 2.38 (60.5)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.62 (15.7) | 0.96 (24.4) | 1.13 (28.6) |

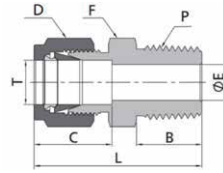
## REDUCING UNIONS



### Metric Tube

| T - Tube<br>O.D. (mm) | Tx - Tube<br>O.D. (mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|-----------------------|------------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                        |                          | L                   | C           | D           | F           | E           | Cx          | Gx          |
| 3                     | 2                      | _D-UR-M3-M2              | 35.3 (1.39)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 1.7 (0.07)  | 12.9 (0.51) | 12.0 (0.47) |
| 6                     | 3                      | _D-UR-M6-M3              | 38.6 (1.52)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 2.4 (0.09)  | 12.9 (0.51) | 12.0 (0.47) |
| 6                     | 4                      | _D-UR-M6-M4              | 39.4 (1.55)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 2.4 (0.09)  | 13.7 (0.54) | 12.0 (0.47) |
| 8                     | 6                      | _D-UR-M8-M6              | 42.3 (1.67)         | 16.3 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 4.8 (0.19)  | 15.3 (0.60) | 14.0 (0.55) |
| 10                    | 6                      | _D-UR-M10-M6             | 44.5 (1.75)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 4.8 (0.19)  | 15.3 (0.60) | 14.0 (0.55) |
| 10                    | 8                      | _D-UR-M10-M8             | 45.1 (1.78)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 6.4 (0.25)  | 16.3 (0.64) | 16.0 (0.63) |
| 12                    | 8                      | _D-UR-M12-M8             | 47.8 (1.88)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 6.4 (0.25)  | 16.3 (0.64) | 16.0 (0.63) |
| 12                    | 10                     | _D-UR-M12-M10            | 48.7 (1.92)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 7.9 (0.31)  | 17.2 (0.68) | 19.0 (0.75) |
| 16                    | 10                     | _D-UR-M16-M10            | 49.5 (1.95)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 7.9 (0.31)  | 17.2 (0.68) | 19.0 (0.75) |
| 16                    | 12                     | _D-UR-M16-M12            | 52.0 (2.05)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 9.5 (0.37)  | 22.8 (0.90) | 22.0 (0.87) |
| 18                    | 12                     | _D-UR-M18-M12            | 53.5 (2.11)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 9.5 (0.37)  | 22.8 (0.90) | 22.0 (0.87) |
| 25                    | 18                     | _D-UR-M25-M18            | 61.0 (2.40)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) | 15.1 (0.59) | 24.4 (0.96) | 30.0 (1.18) |
| 25                    | 20                     | _D-UR-M25-M20            | 62.3 (2.45)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) | 15.9 (0.63) | 26.0 (1.02) | 32.0 (1.26) |
| 30                    | 20                     | _D-UR-M30-M20            | 75.4 (2.97)         | 39.6 (1.56) | 50.0 (1.97) | 46.0 (1.81) | 15.9 (0.63) | 26.0 (1.02) | 32.0 (1.26) |
| 30                    | 25                     | _D-UR-M30-M25            | 80.1 (3.15)         | 39.6 (1.56) | 50.0 (1.97) | 46.0 (1.81) | 21.8 (0.86) | 31.3 (1.23) | 38.0 (1.50) |
| 32                    | 20                     | _D-UR-M32-M20            | 77.8 (3.06)         | 42.0 (1.65) | 50.0 (1.97) | 46.0 (1.81) | 15.9 (0.63) | 26.0 (1.02) | 32.0 (1.26) |
| 32                    | 25                     | _D-UR-M32-M25            | 82.3 (3.24)         | 42.0 (1.65) | 50.0 (1.97) | 46.0 (1.81) | 21.8 (0.86) | 31.3 (1.23) | 38.0 (1.50) |
| 38                    | 25                     | _D-UR-M38-M25            | 92.0 (3.62)         | 49.4 (1.94) | 60.0 (2.36) | 55.0 (2.17) | 21.8 (0.86) | 31.3 (1.23) | 38.0 (1.50) |
| 38                    | 30                     | _D-UR-M38-M30            | 104.6 (4.12)        | 49.4 (1.94) | 60.0 (2.36) | 55.0 (2.17) | 26.2 (1.03) | 39.6 (1.56) | 50.0 (1.97) |

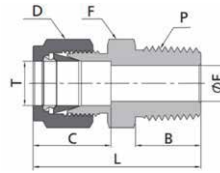
# MALE CONNECTOR



Fractional Tube to NPT Thread

| T - Tube O.D. (in.) | P - NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |
|---------------------|--------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                     |              |                       | L                   | B           | C           | E           | D           | F           |
| 1/16                | 1/16         | _D-MC-F1-N1           | 0.94 (23.9)         | 0.38 (9.7)  | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.31 (7.9)  |
| 1/16                | 1/8          | _D-MC-F1-N2           | 1.03 (26.2)         | 0.38 (9.7)  | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.44 (11.1) |
| 1/8                 | 1/16         | _D-MC-F2-N1           | 1.17 (29.7)         | 0.38 (9.7)  | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.44 (11.1) |
| 1/8                 | 1/8          | _D-MC-F2-N2           | 1.20 (30.5)         | 0.38 (9.7)  | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.44 (11.1) |
| 1/8                 | 1/4          | _D-MC-F2-N4           | 1.40 (35.6)         | 0.56 (14.2) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) |
| 3/16                | 1/8          | _D-MC-F3-N2           | 1.23 (31.2)         | 0.38 (9.7)  | 0.54 (13.7) | 0.12 (3.0)  | 0.50 (12.7) | 0.44 (11.1) |
| 3/16                | 1/4          | _D-MC-F3-N4           | 1.43 (36.3)         | 0.56 (14.2) | 0.54 (13.7) | 0.12 (3.0)  | 0.50 (12.7) | 0.56 (14.3) |
| 1/4                 | 1/16         | _D-MC-F4-N1           | 1.29 (32.8)         | 0.38 (9.7)  | 0.60 (15.2) | 0.12 (3.0)  | 0.56 (14.3) | 0.50 (12.7) |
| 1/4                 | 1/8          | _D-MC-F4-N2           | 1.29 (32.8)         | 0.38 (9.7)  | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.50 (12.7) |
| 1/4                 | 1/4          | _D-MC-F4-N4           | 1.49 (37.8)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.56 (14.3) |
| 1/4                 | 3/8          | _D-MC-F4-N6           | 1.51 (38.4)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.69 (17.5) |
| 1/4                 | 1/2          | _D-MC-F4-N8           | 1.75 (44.5)         | 0.75 (19.1) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) |
| 5/16                | 1/8          | _D-MC-F5-N2           | 1.34 (34.0)         | 0.38 (9.7)  | 0.64 (16.3) | 0.19 (4.8)  | 0.63 (15.9) | 0.56 (14.3) |
| 5/16                | 1/4          | _D-MC-F5-N4           | 1.52 (38.6)         | 0.38 (9.7)  | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.56 (14.3) |
| 5/16                | 3/8          | _D-MC-F5-N6           | 1.54 (39.1)         | 0.56 (14.2) | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.69 (17.5) |
| 5/16                | 1/2          | _D-MC-F5-N8           | 1.79 (45.5)         | 0.75 (19.1) | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.87 (22.2) |
| 3/8                 | 1/8          | _D-MC-F6-N2           | 1.39 (35.3)         | 0.38 (9.7)  | 0.66 (16.8) | 0.19 (4.8)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                 | 1/4          | _D-MC-F6-N4           | 1.57 (39.9)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                 | 3/8          | _D-MC-F6-N6           | 1.57 (39.9)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.69 (17.5) |
| 3/8                 | 1/2          | _D-MC-F6-N8           | 1.82 (46.2)         | 0.75 (19.1) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) |
| 1/2                 | 1/8          | _D-MC-F8-N2           | 1.53 (38.9)         | 0.38 (9.7)  | 0.90 (22.9) | 0.19 (4.8)  | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                 | 1/4          | _D-MC-F8-N4           | 1.71 (43.4)         | 0.56 (14.2) | 0.90 (22.9) | 0.28 (7.1)  | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                 | 3/8          | _D-MC-F8-N6           | 1.71 (43.4)         | 0.56 (14.2) | 0.90 (22.9) | 0.38 (9.7)  | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                 | 1/2          | _D-MC-F8-N8           | 1.93 (49.0)         | 0.75 (19.1) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                 | 3/4          | _D-MC-F8-N12          | 1.99 (50.5)         | 0.75 (19.1) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) |
| 1/2                 | 1            | _D-MC-F8-N16          | 2.25 (57.2)         | 0.94 (23.9) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.37 (34.9) |
| 5/8                 | 1/4          | _D-MC-F10-N4          | 1.74 (44.2)         | 0.56 (14.2) | 0.96 (24.4) | 0.28 (7.1)  | 1.00 (25.4) | 0.94 (23.8) |
| 5/8                 | 3/8          | _D-MC-F10-N6          | 1.74 (44.2)         | 0.56 (14.2) | 0.96 (24.4) | 0.38 (9.7)  | 1.00 (25.4) | 0.94 (23.8) |
| 5/8                 | 1/2          | _D-MC-F10-N8          | 1.93 (49.0)         | 0.75 (19.1) | 0.96 (24.4) | 0.47 (11.9) | 1.00 (25.4) | 0.94 (23.8) |
| 5/8                 | 3/4          | _D-MC-F10-N12         | 1.99 (50.5)         | 0.75 (19.1) | 0.96 (24.4) | 0.50 (12.7) | 1.00 (25.4) | 1.06 (27.0) |
| 3/4                 | 3/8          | _D-MC-F12-N6          | 1.99 (50.5)         | 0.56 (14.2) | 0.96 (24.4) | 0.41 (10.4) | 1.13 (28.6) | 1.06 (27.0) |
| 3/4                 | 1/2          | _D-MC-F12-N8          | 2.25 (57.2)         | 0.75 (19.1) | 0.96 (24.4) | 0.47 (11.9) | 1.13 (28.6) | 1.06 (27.0) |
| 3/4                 | 3/4          | _D-MC-F12-N12         | 1.99 (50.5)         | 0.75 (19.1) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) |
| 3/4                 | 1            | _D-MC-F12-N16         | 2.25 (57.2)         | 0.94 (23.9) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.37 (34.9) |
| 7/8                 | 1/2          | _D-MC-F14-N8          | 2.26 (57.4)         | 0.75 (19.1) | 1.02 (25.9) | 0.47 (11.9) | 1.25 (31.8) | 1.19 (30.2) |
| 7/8                 | 3/4          | _D-MC-F14-N12         | 2.45 (62.2)         | 0.75 (19.1) | 1.02 (25.9) | 0.62 (15.7) | 1.25 (31.8) | 1.19 (30.2) |
| 7/8                 | 1            | _D-MC-F14-N16         | 2.45 (62.2)         | 0.94 (23.9) | 1.02 (25.9) | 0.72 (18.3) | 1.25 (31.8) | 1.37 (34.9) |
| 1                   | 1/2          | _D-MC-F16-N8          | 3.04 (77.2)         | 0.75 (19.1) | 1.23 (31.2) | 0.47 (11.9) | 1.50 (38.1) | 1.37 (34.9) |
| 1                   | 3/4          | _D-MC-F16-N12         | 3.04 (77.2)         | 0.75 (19.1) | 1.23 (31.2) | 0.62 (15.7) | 1.50 (38.1) | 1.37 (34.9) |
| 1                   | 1            | _D-MC-F16-N16         | 3.50 (88.9)         | 0.94 (23.9) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.37 (34.9) |
| 1 1/8               | 1            | _D-MC-F18-N16         | 2.45 (62.2)         | 0.94 (23.9) | 1.23 (31.2) | 0.88 (22.4) | 1.81 (46.0) | 1.63 (41.3) |
| 1 1/4               | 1            | _D-MC-F18-N16         | 3.04 (77.2)         | 0.94 (23.9) | 1.62 (41.1) | 0.88 (22.4) | 1.87 (47.6) | 1.75 (44.5) |
| 1 1/4               | 1 1/4        | _D-MC-F20-N20         | 3.04 (77.2)         | 0.94 (23.9) | 1.62 (41.1) | 1.09 (27.7) | 1.87 (47.6) | 1.75 (44.5) |
| 1 1/2               | 1 1/2        | _D-MC-F24-N24         | 3.50 (88.9)         | 1.03 (26.2) | 1.97 (50.0) | 1.34 (34.0) | 2.25 (57.2) | 2.13 (54.0) |

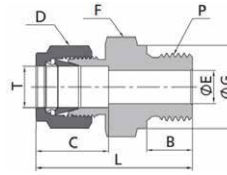
# MALE CONNECTOR



## Fractional Tube to RT Thread

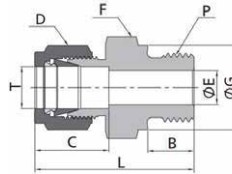
| T - Tube<br>O.D. (in.) | P-RT<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |
|------------------------|--------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                        |              |                          | L                   | B           | C           | E           | D           | F           |
| 1/8                    | 1/8          | _D-MC-F2-RT2             | 1.20 (30.5)         | 0.38 (9.7)  | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.44 (11.1) |
| 1/8                    | 1/4          | _D-MC-F2-RT4             | 1.40 (35.6)         | 0.56 (14.2) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) |
| 1/4                    | 1/8          | _D-MC-F4-RT2             | 1.29 (32.8)         | 0.38 (9.7)  | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.50 (12.7) |
| 1/4                    | 1/4          | _D-MC-F4-RT4             | 1.49 (37.8)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.56 (14.3) |
| 1/4                    | 3/8          | _D-MC-F4-RT6             | 1.51 (38.4)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.69 (17.5) |
| 1/4                    | 1/2          | _D-MC-F4-RT8             | 1.76 (44.7)         | 0.75 (19.1) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) |
| 5/16                   | 1/8          | _D-MC-F5-RT2             | 1.34 (34.0)         | 0.38 (9.7)  | 0.64 (16.3) | 0.19 (4.8)  | 0.63 (15.9) | 0.56 (14.3) |
| 5/16                   | 1/4          | _D-MC-F5-RT4             | 1.52 (38.6)         | 0.56 (14.2) | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.56 (14.3) |
| 3/8                    | 1/8          | _D-MC-F6-RT2             | 1.39 (35.3)         | 0.38 (9.7)  | 0.66 (16.8) | 0.19 (4.8)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                    | 1/4          | _D-MC-F6-RT4             | 1.57 (39.9)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                    | 3/8          | _D-MC-F6-RT6             | 1.57 (39.9)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.69 (17.5) |
| 3/8                    | 1/2          | _D-MC-F6-RT8             | 1.82 (46.2)         | 0.75 (19.1) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) |
| 3/8                    | 3/4          | _D-MC-F6-RT12            | 1.88 (47.8)         | 0.75 (19.1) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.06 (27.0) |
| 1/2                    | 1/4          | _D-MC-F3-RT4             | 1.71 (43.4)         | 0.56 (14.2) | 0.90 (22.9) | 0.28 (7.1)  | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                    | 3/8          | _D-MC-F3-RT6             | 1.71 (43.4)         | 0.56 (14.2) | 0.90 (22.9) | 0.38 (9.7)  | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                    | 1/2          | _D-MC-F3-RT8             | 1.93 (49.0)         | 0.75 (19.1) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                    | 3/4          | _D-MC-F3-RT12            | 1.99 (50.5)         | 0.75 (19.1) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) |
| 5/8                    | 1/2          | _D-MC-F10-RT8            | 1.93 (49.0)         | 0.75 (19.1) | 0.96 (24.4) | 0.47 (11.9) | 1.00 (25.4) | 0.94 (23.8) |
| 3/4                    | 3/4          | _D-MC-F12-RT12           | 1.99 (50.5)         | 0.75 (19.1) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) |
| 3/4                    | 1            | _D-MC-F12-RT16           | 2.25 (57.2)         | 0.94 (23.9) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.37 (34.9) |
| 1                      | 3/4          | _D-MC-F16-RT12           | 2.26 (57.4)         | 0.75 (19.1) | 1.23 (31.2) | 0.62 (15.7) | 1.50 (38.1) | 1.37 (34.9) |
| 1                      | 1            | _D-MC-F16-RT16           | 2.45 (62.2)         | 0.94 (23.9) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.37 (34.9) |
| 1 1/8                  | 1            | _D-MC-F18-RT16           | 2.45 (62.2)         | 0.94 (23.9) | 1.23 (31.2) | 0.88 (22.4) | 1.81 (46.0) | 1.63 (41.3) |
| 1 1/4                  | 1            | _D-MC-F20-RT16           | 3.04 (77.2)         | 0.94 (23.9) | 1.62 (41.1) | 0.88 (22.4) | 1.87 (47.6) | 1.75 (44.5) |
| 1 1/4                  | 1 1/4        | _D-MC-F20-RT20           | 3.04 (77.2)         | 0.94 (23.9) | 1.62 (41.1) | 1.09 (27.7) | 1.87 (47.6) | 1.75(44.5)  |
| 1 1/2                  | 1 1/2        | _D-MC-F24-RT24           | 3.50 (88.9)         | 1.03 (26.2) | 1.97 (50.0) | 1.34 (34.0) | 2.25 (57.2) | 2.13 (54.0) |

# MALE CONNECTOR



Fractional Tube to ISO Parallel Thread

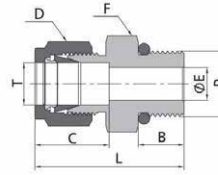
| T - Tube O.D. (in.) | P-RS Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|---------------------|-----------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |           |                       | L                   | B           | C           | E           | D           | F           | G           |
| 1/8                 | 1/8       | _D-MC-F2-RS2          | 1.18 (30.0)         | 0.28 (7.1)  | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) | 0.54 (13.7) |
| 1/8                 | 1/4       | _D-MC-F2-RS4          | 1.39 (35.3)         | 0.44 (11.2) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.75 (19.1) | 0.71 (18.0) |
| 1/8                 | 3/8       | _D-MC-F2-RS6          | 1.43 (36.3)         | 0.44 (11.2) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.87 (22.2) | 0.86 (21.8) |
| 1/4                 | 1/8       | _D-MC-F4-RS2          | 1.27 (32.3)         | 0.28 (7.1)  | 0.60 (15.2) | 0.16 (4.0)  | 0.56 (14.3) | 0.56 (14.3) | 0.54 (13.7) |
| 1/4                 | 1/4       | _D-MC-F4-RS4          | 1.48 (37.6)         | 0.44 (11.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) | 0.71 (18.0) |
| 1/4                 | 3/8       | _D-MC-F4-RS6          | 1.53 (38.9)         | 0.44 (11.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) | 0.86 (21.8) |
| 1/4                 | 1/2       | _D-MC-F4-RS8          | 1.76 (44.7)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 1.06 (27.0) | 1.02 (25.9) |
| 3/8                 | 1/8       | _D-MC-F6-RS2          | 1.49 (37.8)         | 0.28 (7.1)  | 0.66 (16.8) | 0.16 (4.0)  | 0.69 (17.5) | 0.63 (15.9) | 0.54 (13.7) |
| 3/8                 | 1/4       | _D-MC-F6-RS4          | 1.54 (39.1)         | 0.44 (11.2) | 0.66 (16.8) | 0.23 (5.9)  | 0.69 (17.5) | 0.75 (19.1) | 0.71 (18.0) |
| 3/8                 | 3/8       | _D-MC-F6-RS6          | 1.59 (40.4)         | 0.44 (11.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) | 0.86 (21.8) |
| 3/8                 | 1/2       | _D-MC-F6-RS8          | 1.82 (46.2)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.06 (27.0) | 1.02 (25.9) |
| 1/2                 | 1/4       | _D-MC-F8-RS4          | 1.68 (42.7)         | 0.44 (11.2) | 0.90 (22.9) | 0.23 (5.9)  | 0.87 (22.2) | 0.81 (20.6) | 0.71 (18.0) |
| 1/2                 | 3/8       | _D-MC-F8-RS6          | 1.70 (43.2)         | 0.44 (11.2) | 0.90 (22.9) | 0.31 (7.9)  | 0.87 (22.2) | 0.87 (22.2) | 0.86 (21.8) |
| 1/2                 | 1/2       | _D-MC-F8-RS8          | 1.93 (49.0)         | 0.56 (14.2) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) | 1.02 (25.9) |
| 3/4                 | 1/2       | _D-MC-F12-RS8         | 1.93 (49.0)         | 0.56 (14.2) | 0.96 (24.4) | 0.47 (11.9) | 1.13 (28.6) | 1.06 (27.0) | 1.02 (25.9) |
| 3/4                 | 3/4       | _D-MC-F12-RS12        | 2.08 (52.9)         | 0.62 (15.7) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.31 (33.3) | 1.26 (32.0) |
| 1                   | 1/2       | _D-MC-F16-RS8         | 2.19 (55.5)         | 0.56 (14.2) | 1.23 (31.2) | 0.47 (11.9) | 1.50 (38.1) | 1.37 (34.9) | 1.02 (25.9) |
| 1                   | 3/4       | _D-MC-F16-RS12        | 2.27 (57.7)         | 0.62 (15.7) | 1.23 (31.2) | 0.63 (16.0) | 1.50 (38.1) | 1.37 (34.9) | 1.26 (32.0) |
| 1                   | 1         | _D-MC-F16-RS16        | 2.36 (59.9)         | 0.72 (18.3) | 1.23 (31.2) | 0.78 (19.8) | 1.50 (38.1) | 1.63 (41.3) | 1.54 (39.1) |



Fractional Tube to ISO Parallel Thread

| T - Tube O.D. (in.) | P-RS Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|---------------------|-----------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |           |                       | L                   | B           | C           | E           | D           | F           | G           |
| 1/8                 | 1/8       | _D-MC-F2-RP2          | 1.18 (30.0)         | 0.28 (7.1)  | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) | 0.54 (13.8) |
| 1/8                 | 1/4       | _D-MC-F2-RP4          | 1.39 (35.3)         | 0.44 (11.2) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.75 (19.1) | 0.70 (17.8) |
| 1/4                 | 1/8       | _D-MC-F4-RP2          | 1.27 (32.3)         | 0.28 (7.1)  | 0.60 (15.2) | 0.16 (4.1)  | 0.56 (14.3) | 0.56 (14.3) | 0.54 (13.8) |
| 1/4                 | 1/4       | _D-MC-F4-RP4          | 1.48 (37.6)         | 0.44 (11.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) | 0.70 (17.8) |
| 1/2                 | 3/8       | _D-MC-F8-RP6          | 1.59 (40.4)         | 0.44 (11.2) | 0.90 (22.9) | 0.31 (7.9)  | 0.87 (22.2) | 0.87 (22.2) | 0.86 (21.8) |
| 1/2                 | 1/2       | _D-MC-F8-RP8          | 1.93 (49.0)         | 0.56 (14.2) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) | 1.02 (25.9) |
| 3/4                 | 1/2       | _D-MC-F12-RP8         | 1.93 (49.0)         | 0.56 (14.2) | 0.96 (24.4) | 0.47 (11.9) | 1.13 (28.6) | 1.06 (27.0) | 1.02 (25.9) |
| 3/4                 | 3/4       | _D-MC-F12-RP12        | 2.08 (52.9)         | 0.62 (15.7) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.31 (33.3) | 1.26 (32.0) |
| 1                   | 1         | _D-MC-F16-RP16        | 2.36 (59.9)         | 0.72 (18.3) | 1.23 (31.2) | 0.78 (19.8) | 1.50 (38.1) | 1.63 (41.3) | 1.53 (38.8) |

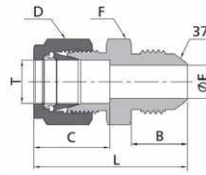
# MALE CONNECTOR



Fractional Tube to SAE / MS Thread

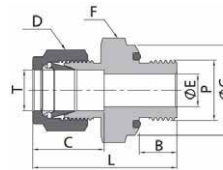
| T - Tube<br>O.D. (in.) | P-SAE/MS<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |
|------------------------|------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                        |                  |                          | L                   | B           | C           | E           | D           | F           |
| 1/16                   | 5/16-24          | _D-MC-F1-ST5             | 0.92 (23.4)         | 030 (7.6)   | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.44 (11.1) |
| 1/8                    | 5/16-24          | _D-MC-F2-ST5             | 1.18 (30.0)         | 030 (7.6)   | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.44 (11.1) |
| 1/8                    | 7/16-20          | _D-MC-F2-ST7             | 1.24 (31.5)         | 036 (9.1)   | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) |
| 1/8                    | 9/16-18          | _D-MC-F2-ST9             | 1.31 (33.3)         | 039 (9.9)   | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.69 (17.5) |
| 3/16                   | 3/8-24           | _D-MC-F3-ST6             | 1.20 (30.5)         | 030 (7.6)   | 0.54 (13.7) | 0.12 (3.0)  | 0.50 (12.7) | 0.50 (12.7) |
| 1/4                    | 5/16-24          | _D-MC-F4-ST5             | 1.27 (32.3)         | 030 (7.6)   | 0.60 (15.2) | 0.09 (2.3)  | 0.56 (14.3) | 0.50 (12.7) |
| 1/4                    | 7/16-20          | _D-MC-F4-ST7             | 1.34 (34.0)         | 036 (9.1)   | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.56 (14.3) |
| 1/4                    | 9/16-18          | _D-MC-F4-ST9             | 1.40 (35.6)         | 039 (9.9)   | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.69 (17.5) |
| 1/4                    | 3/4-16           | _D-MC-F4-ST12            | 1.48 (37.6)         | 0.44 (11.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) |
| 1/4                    | 7/8-14           | _D-MC-F4-ST14            | 1.60 (40.6)         | 0.50 (12.7) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 1.00 (25.4) |
| 5/16                   | 1/2-20           | _D-MC-F5-ST8             | 1.37 (34.8)         | 036 (9.1)   | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.63 (15.9) |
| 3/8                    | 7/16-20          | _D-MC-F6-ST7             | 1.40 (35.6)         | 0.36 (9.1)  | 0.66 (16.8) | 0.20 (5.1)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                    | 9/16-18          | _D-MC-F6-ST9             | 1.46 (37.1)         | 039 (9.9)   | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.69 (17.5) |
| 3/8                    | 3/4-16           | _D-MC-F6-ST12            | 1.54 (39.1)         | 0.44 (11.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) |
| 3/8                    | 7/8-14           | _D-MC-F6-ST14            | 1.66 (42.2)         | 0.50 (12.7) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.00 (25.4) |
| 1/2                    | 9/16-18          | _D-MC-F8-ST9             | 1.54 (39.1)         | 039 (9.9)   | 0.90 (22.9) | 0.28 (7.1)  | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                    | 3/4-16           | _D-MC-F8-ST12            | 1.65 (41.9)         | 0.44 (11.2) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                    | 7/8-14           | _D-MC-F8-ST14            | 1.77 (45.0)         | 0.50 (12.7) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.00 (25.4) |
| 1/2                    | 1 1/16-12        | _D-MC-F8-ST17            | 1.93 (49.0)         | 0.59 (15.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.25 (31.8) |
| 5/8                    | 3/4-16           | _D-MC-F10-ST12           | 1.65 (41.9)         | 0.44 (11.2) | 0.96 (24.4) | 0.42 (10.7) | 1.00 (25.4) | 0.94 (23.8) |
| 5/8                    | 7/8-14           | _D-MC-F10-ST14           | 1.78 (45.2)         | 0.50 (12.7) | 0.96 (24.4) | 0.50 (12.7) | 1.00 (25.4) | 1.00 (25.4) |
| 3/4                    | 3/4-16           | _D-MC-F12-ST12           | 1.81 (46.0)         | 0.44 (11.2) | 0.96 (24.4) | 0.42 (10.7) | 1.13 (28.6) | 1.06 (27.0) |
| 3/4                    | 1 1/16-12        | _D-MC-F12-ST17           | 1.93 (49.0)         | 0.59 (15.0) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.25 (31.8) |
| 3/4                    | 1 5/16-12        | _D-MC-F12-ST21           | 1.96 (49.8)         | 0.59 (15.0) | 0.96 (24.4) | 0.63 (16.0) | 1.13 (28.6) | 1.50 (38.1) |
| 7/8                    | 1 3/16-12        | _D-MC-F14-ST19           | 1.93 (49.0)         | 0.59 (15.0) | 1.02 (25.9) | 0.72 (18.3) | 1.25 (31.8) | 1.37 (34.9) |
| 1                      | 1 1/16-12        | _D-MC-F16-ST17           | 2.10 (53.3)         | 0.59 (15.0) | 1.23 (31.2) | 0.54 (13.8) | 1.50 (38.1) | 1.37 (34.9) |
| 1                      | 1 5/16-12        | _D-MC-F16-ST21           | 2.14 (54.4)         | 0.59 (15.0) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.50 (38.1) |
| 1 1/4                  | 1 5/8-12         | _D-MC-F20-ST26           | 2.69 (68.3)         | 0.59 (15.0) | 1.62 (41.1) | 1.09 (27.7) | 1.87 (47.6) | 1.87 (47.6) |
| 1 1/2                  | 1 7/8-12         | _D-MC-F24-ST30           | 3.06 (77.7)         | 0.59 (15.0) | 1.97 (50.0) | 1.34 (34.0) | 2.25 (57.2) | 2.13 (54.0) |

# MALE CONNECTOR



Fractional Tube to 37° Flared

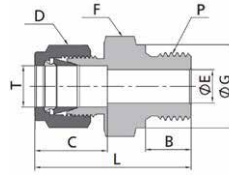
| T - Tube O.D. (in.) | Flared Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |
|---------------------|-------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                     |             |                       | L                   | B           | C           | E           | D           | F           |
| 1/16                | 1/8         | _D-MC-F1-AN2          | 1.07 (27.2)         | 0.45 (11.4) | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.44 (11.1) |
| 1/8                 | 1/8         | _D-MC-F2-AN2          | 1.27 (32.3)         | 0.45 (11.4) | 0.50 (12.7) | 0.06 (1.5)  | 0.44 (11.1) | 0.44 (11.1) |
| 1/8                 | 1/4         | _D-MC-F2-AN4          | 1.38 (35.1)         | 0.55 (14.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.50 (12.7) |
| 3/16                | 3/16        | _D-MC-F3-AN3          | 1.32 (33.5)         | 0.48 (12.2) | 0.54 (13.7) | 0.09 (2.3)  | 0.50 (12.7) | 0.44 (11.1) |
| 1/4                 | 1/4         | _D-MC-F4-AN4          | 1.48 (37.6)         | 0.55 (14.0) | 0.60 (15.2) | 0.17 (4.3)  | 0.56 (14.3) | 0.50 (12.7) |
| 5/16                | 5/16        | _D-MC-F5-AN5          | 1.51 (38.4)         | 0.55 (14.0) | 0.64 (16.2) | 0.23 (5.8)  | 0.63 (15.9) | 0.56 (14.3) |
| 3/8                 | 1/4         | _D-MC-F6-AN4          | 1.56 (39.6)         | 0.55 (14.0) | 0.66 (16.8) | 0.17 (4.3)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                 | 3/8         | _D-MC-F6-AN6          | 1.56 (39.6)         | 0.56 (14.1) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.63 (15.9) |
| 1/2                 | 1/2         | _D-MC-F8-AN8          | 1.81 (46.0)         | 0.66 (16.7) | 0.90 (22.8) | 0.39 (9.9)  | 0.87 (22.2) | 0.81 (20.6) |
| 5/8                 | 5/8         | _D-MC-F10-AN10        | 1.93 (49.0)         | 0.76 (19.3) | 0.96 (24.5) | 0.48 (12.3) | 1.00 (25.4) | 0.94 (23.8) |
| 3/4                 | 3/4         | _D-MC-F12-AN12        | 2.10 (53.3)         | 0.86 (21.9) | 0.96 (24.4) | 0.61 (15.5) | 1.13 (28.6) | 1.13 (28.6) |
| 1                   | 1           | _D-MC-F16-AN16        | 2.42 (61.5)         | 0.91 (23.1) | 1.23 (31.2) | 0.84 (21.3) | 1.50 (38.1) | 1.37 (34.9) |



Fractional Tube to SAE / MS Thread

| T - Tube O.D. (in.) | P-SAE/MS Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|---------------------|---------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |               |                       | L                   | B           | C           | E           | D           | F           | G           |
| 1/16                | 5/16-24       | _D-MC-F1-OS5          | 1.05 (26.7)         | 0.34 (8.6)  | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.56 (14.3) | 0.55 (14.0) |
| 1/8                 | 5/16-24       | _D-MC-F2-OS5          | 1.29 (32.8)         | 0.34 (8.6)  | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) | 0.55 (14.0) |
| 3/16                | 3/8-24        | _D-MC-F3-OS6          | 1.35 (34.3)         | 0.38 (9.7)  | 0.54 (13.7) | 0.12 (3.0)  | 0.50 (12.7) | 0.63 (15.9) | 0.62 (15.7) |
| 1/4                 | 7/16-20       | _D-MC-F4-OS7          | 1.51 (38.4)         | 0.41 (10.4) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) | 0.74 (18.8) |
| 5/16                | 1/2-20        | _D-MC-F5-OS8          | 1.60 (40.6)         | 0.44 (11.2) | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.87 (22.2) | 0.86 (21.8) |
| 3/8                 | 9/16-18       | _D-MC-F6-OS9          | 1.67 (42.4)         | 0.47 (11.9) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.94 (23.8) | 0.93 (23.6) |
| 1/2                 | 3/4-16        | _D-MC-F8-OS12         | 1.81 (46.0)         | 0.47 (11.9) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.13 (28.6) | 1.12 (28.4) |
| 3/4                 | 1 1/16-12     | _D-MC-F12-OS17        | 2.06 (52.3)         | 0.56 (14.2) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.50 (38.1) | 1.49 (37.8) |
| 1                   | 1 5/16-12     | _D-MC-F16-OS21        | 2.29 (58.2)         | 0.56 (14.2) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.75 (44.5) | 1.74 (44.2) |

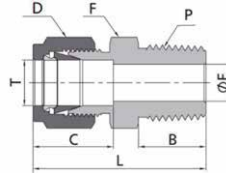
# MALE CONNECTOR



## Fractional Tube to Metric Thread

| T - Tube<br>O.D. (in.) | P-Metric<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|------------------------|------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                        |                  |                          | L                   | B           | C           | E           | D           | F           | G           |
| 1/8                    | M14x 1.5         | _D-MC-F2-MS14            | 1.44 (36.7)         | 0.47 (12.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.75 (19.1) | 0.75 (19.0) |
| 1/8                    | M16x 1.5         | _D-MC-F2-MS16            | 1.48 (37.5)         | 0.47 (12.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.87 (22.2) | 0.83 (21.0) |
| 1/8                    | M18x 1.5         | _D-MC-F2-MS18            | 1.52 (38.5)         | 0.47 (12.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.94 (23.8) | 0.91 (23.0) |
| 1/8                    | M20x 1.5         | _D-MC-F2-MS20            | 1.62 (41.1)         | 0.55 (14.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 1.00 (25.4) | 0.98 (25.0) |
| 1/4                    | M14x 1.5         | _D-MC-F4-MS14            | 1.50 (38.0)         | 0.47 (12.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) | 0.75 (19.0) |
| 1/4                    | M16x 1.5         | _D-MC-F4-MS16            | 1.57 (39.9)         | 0.47 (12.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) | 0.83 (21.0) |
| 1/4                    | M18x 1.5         | _D-MC-F4-MS18            | 1.61 (40.8)         | 0.47 (12.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.94 (23.8) | 0.91 (23.0) |
| 1/4                    | M20x 1.5         | _D-MC-F4-MS20            | 1.72 (43.6)         | 0.55 (14.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 1.00 (25.4) | 0.98 (25.0) |
| 3/8                    | M14x 1.5         | _D-MC-F6-MS14            | 1.63 (41.3)         | 0.47 (12.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.75 (19.1) | 0.75 (19.0) |
| 3/8                    | M16x 1.5         | _D-MC-F6-MS16            | 1.63 (41.3)         | 0.47 (12.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) | 0.83 (21.0) |
| 3/8                    | M18x 1.5         | _D-MC-F6-MS18            | 1.65 (41.8)         | 0.47 (12.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.94 (23.8) | 0.91 (23.0) |
| 3/8                    | M20x 1.5         | _D-MC-F6-MS20            | 1.78 (45.1)         | 0.55 (14.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.00 (25.4) | 0.98 (25.0) |
| 1/2                    | M16x 1.5         | _D-MC-F8-MS16            | 1.73 (44.0)         | 0.47 (12.0) | 0.90 (22.8) | 0.35 (9.0)  | 0.87 (22.2) | 0.87 (22.2) | 0.83 (21.0) |
| 1/2                    | M18x 1.5         | _D-MC-F8-MS18            | 1.73 (44.0)         | 0.47 (12.0) | 0.90 (22.9) | 0.39 (10.0) | 0.87 (22.2) | 0.94 (23.8) | 0.91 (23.0) |
| 1/2                    | M20x 1.5         | _D-MC-F8-MS20            | 1.89 (47.9)         | 0.55 (14.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.00 (25.4) | 0.98 (25.0) |
| 1/2                    | M22x 1.5         | _D-MC-F8-MS22            | 1.91 (48.5)         | 0.55 (14.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) | 1.06 (27.0) |

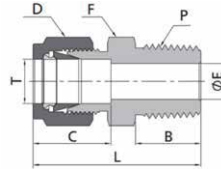
# MALE CONNECTOR



## Metric Tube to NPT Thread

| T - Tube O.D. (mm) | P - NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |
|--------------------|--------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                    |              |                       | L                   | B           | C           | E           | D           | F           |
| 2                  | 1/8          | _D-MC-M2-N2           | 30.5 (1.20)         | 9.7 (0.38)  | 12.9 (0.51) | 1.7 (0.07)  | 12.0 (0.47) | 12.0 (0.47) |
| 3                  | 1/8          | _D-MC-M3-N2           | 30.5 (1.20)         | 9.7 (0.38)  | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 12.0 (0.47) |
| 3                  | 1/4          | _D-MC-M3-N4           | 35.6 (1.40)         | 14.2 (0.56) | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) |
| 4                  | 1/8          | _D-MC-M4-N2           | 31.2 (1.23)         | 9.7 (0.38)  | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 12.0 (0.47) |
| 4                  | 1/4          | _D-MC-M4-N4           | 36.3 (1.43)         | 14.2 (0.56) | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) |
| 6                  | 1/8          | _D-MC-M6-N2           | 32.8 (1.29)         | 9.7 (0.38)  | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 14.0 (0.55) |
| 6                  | 1/4          | _D-MC-M6-N4           | 37.9 (1.49)         | 14.2 (0.56) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 14.0 (0.55) |
| 6                  | 3/8          | _D-MC-M6-N6           | 38.4 (1.51)         | 14.2 (0.56) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 18.0 (0.71) |
| 8                  | 1/8          | _D-MC-M8-N2           | 34.2 (1.35)         | 9.7 (0.38)  | 16.2 (0.64) | 4.8 (0.19)  | 16.0 (0.63) | 15.0 (0.59) |
| 8                  | 1/4          | _D-MC-M8-N4           | 38.7 (1.52)         | 14.2 (0.56) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 15.0 (0.59) |
| 8                  | 3/8          | _D-MC-M8-N6           | 39.3 (1.55)         | 14.2 (0.56) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 18.0 (0.71) |
| 10                 | 1/4          | _D-MC-M10-N4          | 40.9 (1.61)         | 14.2 (0.56) | 17.2 (0.68) | 7.1 (0.28)  | 19.0 (0.75) | 18.0 (0.71) |
| 10                 | 3/8          | _D-MC-M10-N6          | 40.9 (1.61)         | 14.2 (0.56) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 18.0 (0.71) |
| 10                 | 1/2          | _D-MC-M10-N8          | 46.5 (1.83)         | 19.1 (0.75) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) |
| 12                 | 1/4          | _D-MC-M12-N4          | 43.4 (1.71)         | 14.2 (0.56) | 22.8 (0.90) | 7.1 (0.28)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 3/8          | _D-MC-M12-N6          | 43.4 (1.71)         | 14.2 (0.56) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 1/2          | _D-MC-M12-N8          | 49.0 (1.93)         | 19.1 (0.75) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 3/4          | _D-MC-M12-N12         | 50.5 (1.99)         | 19.1 (0.75) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) |
| 14                 | 1/8          | _D-MC-M14-N2          | 38.8 (1.53)         | 9.7 (0.38)  | 24.4 (0.96) | 4.8 (0.19)  | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 1/4          | _D-MC-M14-N4          | 44.1 (1.74)         | 14.2 (0.56) | 24.4 (0.96) | 7.1 (0.28)  | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 3/8          | _D-MC-M14-N6          | 44.1 (1.74)         | 14.2 (0.56) | 24.4 (0.96) | 9.5 (0.37)  | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 1/2          | _D-MC-M14-N8          | 49.0 (1.93)         | 19.1 (0.75) | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 3/4          | _D-MC-M14-N12         | 50.5 (1.99)         | 19.1 (0.75) | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 27.0 (1.06) |
| 15                 | 1/2          | _D-MC-M15-N8          | 49.0 (1.93)         | 19.1 (0.75) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 24.0 (0.94) |
| 15                 | 3/4          | _D-MC-M15-N12         | 50.5 (1.99)         | 19.1 (0.75) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) |
| 16                 | 1/4          | _D-MC-M16-N4          | 44.1 (1.74)         | 14.2 (0.56) | 24.4 (0.96) | 7.1 (0.28)  | 25.0 (0.98) | 24.0 (0.94) |
| 16                 | 3/8          | _D-MC-M16-N6          | 44.1 (1.74)         | 14.2 (0.56) | 24.4 (0.96) | 9.5 (0.37)  | 25.0 (0.98) | 24.0 (0.94) |
| 16                 | 1/2          | _D-MC-M16-N8          | 49.0 (1.93)         | 19.1 (0.75) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 24.0 (0.94) |
| 16                 | 3/4          | _D-MC-M16-N12         | 50.5 (1.99)         | 19.1 (0.75) | 24.4 (0.96) | 12.7 (0.5)  | 25.0 (0.98) | 27.0 (1.06) |
| 18                 | 3/8          | _D-MC-M18-N6          | 45.6 (1.80)         | 14.2 (0.56) | 24.4 (0.96) | 9.5 (0.37)  | 30.0 (1.18) | 27.0 (1.06) |
| 18                 | 1/2          | _D-MC-M18-N8          | 50.5 (1.99)         | 19.1 (0.75) | 24.4 (0.96) | 11.9 (0.47) | 30.0 (1.18) | 27.0 (1.06) |
| 18                 | 3/4          | _D-MC-M18-N12         | 50.5 (1.99)         | 19.1 (0.75) | 24.4 (0.96) | 15.1 (0.59) | 30.0 (1.18) | 27.0 (1.06) |
| 20                 | 1/2          | _D-MC-M20-N8          | 52.3 (2.06)         | 19.1 (0.75) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) |
| 20                 | 3/4          | _D-MC-M20-N12         | 52.3 (2.06)         | 19.1 (0.75) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 30.0 (1.18) |
| 20                 | 1            | _D-MC-M20-N16         | 57.1 (2.25)         | 23.9 (0.94) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) |
| 22                 | 1/2          | _D-MC-M22-N8          | 52.3 (2.06)         | 19.1 (0.75) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) |
| 22                 | 3/4          | _D-MC-M22-N12         | 52.3 (2.06)         | 19.1 (0.75) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 30.0 (1.18) |
| 22                 | 1            | _D-MC-M22-N16         | 57.1 (2.25)         | 23.9 (0.94) | 26.0 (1.02) | 18.3 (0.72) | 32.0 (1.26) | 35.0 (1.38) |
| 25                 | 1/2          | _D-MC-M25-N8          | 57.5 (2.26)         | 19.1 (0.75) | 31.3 (1.23) | 11.9 (0.47) | 38.0 (1.50) | 35.0 (1.38) |
| 25                 | 3/4          | _D-MC-M25-N12         | 57.5 (2.26)         | 19.1 (0.75) | 31.3 (1.23) | 15.9 (0.63) | 38.0 (1.50) | 35.0 (1.38) |
| 25                 | 1            | _D-MC-M25-N16         | 62.3 (2.45)         | 23.9 (0.94) | 31.3 (1.23) | 21.8 (0.86) | 38.0 (1.50) | 35.0 (1.38) |
| 28                 | 1            | _D-MC-M28-N16         | 72.4 (2.85)         | 23.9 (0.94) | 36.6 (1.44) | 21.8 (0.86) | 46.0 (1.81) | 41.0 (1.61) |
| 28                 | 1 1/4        | _D-MC-MT8-N20         | 73.1 (2.88)         | 23.9 (0.94) | 36.6 (1.44) | 21.8 (0.86) | 46.0 (1.81) | 46.0 (1.81) |
| 30                 | 1 1/4        | _D-MC-M30-N20         | 77.2 (3.04)         | 23.9 (0.94) | 39.6 (1.56) | 26.2 (1.03) | 50.0 (1.97) | 46.0 (1.81) |
| 32                 | 1 1/4        | _D-MC-M32-N20         | 79.6 (3.13)         | 23.9 (0.94) | 42.0 (1.65) | 28.6 (1.13) | 50.0 (1.97) | 46.0 (1.81) |
| 38                 | 1 1/2        | _D-MC-M38-N24         | 91.6 (3.61)         | 26.2 (1.03) | 49.4 (1.94) | 33.7 (1.33) | 60.0 (2.36) | 55.0 (2.17) |

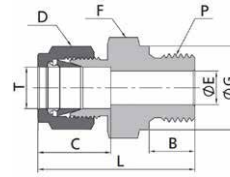
# MALE CONNECTOR



## Metric Tube to RT Thread

| T - Tube O.D. (mm) | P - NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |
|--------------------|--------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                    |              |                       | L                   | B           | C           | E           | D           | F           |
| 2                  | 1/8          | _D-MC-M2-RT2          | 30.5 (1.20)         | 9.7 (0.38)  | 12.9 (0.51) | 1.7 (0.07)  | 12.0 (0.47) | 12.0 (0.47) |
| 3                  | 1/8          | _D-MC-M3-RT2          | 30.5 (1.20)         | 9.7 (0.38)  | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 12.0 (0.47) |
| 3                  | 1/4          | _D-MC-M3-RT4          | 35.6 (1.40)         | 14.2 (0.56) | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) |
| 4                  | 1/8          | _D-MC-M4-RT2          | 31.2 (1.23)         | 9.7 (0.38)  | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 12.0 (0.47) |
| 4                  | 1/4          | _D-MC-M4-RT4          | 36.3 (1.43)         | 14.2 (0.56) | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) |
| 6                  | 1/8          | _D-MC-M6-R72          | 32.8 (1.29)         | 9.7 (0.38)  | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 14.0 (0.55) |
| 6                  | 1/4          | _D-MC-M6-RT4          | 37.9 (1.49)         | 14.2 (0.56) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 14.0 (0.55) |
| 6                  | 3/8          | _D-MC-M6-RT6          | 38.4 (1.51)         | 14.2 (0.56) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 18.0 (0.71) |
| 8                  | 1/8          | _D-MC-M8-RT2          | 34.2 (1.35)         | 9.7 (0.38)  | 16.2 (0.64) | 4.8 (0.19)  | 16.0 (0.63) | 15.0 (0.59) |
| 8                  | 1/4          | _D-MC-M8-RT4          | 38.7 (1.52)         | 14.2 (0.56) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 15.0 (0.59) |
| 8                  | 3/8          | _D-MC-M8-RT6          | 39.2 (1.54)         | 14.2 (0.56) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 18.0 (0.71) |
| 10                 | 1/4          | _D-MC-M10-RT4         | 40.9 (1.61)         | 14.2 (0.56) | 17.2 (0.68) | 7.1 (0.28)  | 19.0 (0.75) | 18.0 (0.71) |
| 10                 | 3/8          | _D-MC-M10-RT6         | 40.9 (1.61)         | 14.2 (0.56) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 18.0 (0.71) |
| 10                 | 1/2          | _D-MC-M10-RT8         | 46.5 (1.83)         | 19.1 (0.75) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) |
| 12                 | 1/4          | _D-MC-M12-RT4         | 43.4 (1.71)         | 14.2 (0.56) | 22.8 (0.90) | 7.1 (0.28)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 3/8          | _D-MC-M12-RT6         | 43.4 (1.71)         | 14.2 (0.56) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 1/2          | _D-MC-M12-RT8         | 49.0 (1.93)         | 19.1 (0.75) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 3/4          | _D-MC-M12-RT12        | 50.5 (1.99)         | 19.1 (0.75) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) |
| 14                 | 1/4          | _D-MC-M14-RT4         | 44.1 (1.74)         | 14.2 (0.56) | 22.4 (0.88) | 7.1 (0.28)  | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 3/8          | _D-MC-M14-RT6         | 44.1 (1.74)         | 14.2 (0.56) | 22.4 (0.88) | 7.9 (0.31)  | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 1/2          | _D-MC-M14-RT8         | 49.0 (1.93)         | 19.1 (0.75) | 22.4 (0.88) | 11.1 (0.44) | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 3/4          | _D-MC-M14-RT12        | 50.5 (1.99)         | 19.1 (0.75) | 22.4 (0.88) | 11.1 (0.44) | 25.0 (0.98) | 27.0 (1.06) |
| 15                 | 1/2          | _D-MC-M15-RT8         | 49.0 (1.93)         | 19.1 (0.75) | 22.4 (0.88) | 11.9 (0.47) | 25.0 (0.98) | 24.0 (0.94) |
| 16                 | 1/4          | _D-MC-M16-RT4         | 44.1 (1.74)         | 14.2 (0.56) | 22.4 (0.88) | 7.1 (0.28)  | 25.0 (0.98) | 24.0 (0.94) |
| 16                 | 3/8          | _D-MC-M16-RT6         | 44.1 (1.74)         | 14.2 (0.56) | 22.4 (0.88) | 9.5 (0.37)  | 25.0 (0.98) | 24.0 (0.94) |
| 16                 | 1/2          | _D-MC-M16-RT8         | 49.0 (1.93)         | 19.1 (0.75) | 22.4 (0.88) | 11.9 (0.47) | 25.0 (0.98) | 24.0 (0.94) |
| 16                 | 3/4          | _D-MC-M16-RT12        | 50.5 (1.99)         | 19.1 (0.75) | 22.4 (0.88) | 12.7 (0.5)  | 25.0 (0.98) | 27.0 (1.06) |
| 18                 | 1/2          | _D-MC-M18-RT8         | 50.5 (1.99)         | 19.1 (0.75) | 22.4 (0.88) | 11.9 (0.47) | 30.0 (1.18) | 27.0 (1.06) |
| 18                 | 3/4          | _D-MC-M18-RT12        | 50.5 (1.99)         | 19.1 (0.75) | 22.4 (0.88) | 15.1 (0.59) | 30.0 (1.18) | 27.0 (1.06) |
| 20                 | 1/2          | _D-MC-M20-RT8         | 52.3 (2.06)         | 19.1 (0.75) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) |
| 20                 | 3/4          | _D-MC-M20-RT12        | 52.3 (2.06)         | 19.1 (0.75) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 30.0 (1.18) |
| 22                 | 3/4          | _D-MC-M22-RT12        | 52.3 (2.06)         | 19.1 (0.75) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 30.0 (1.18) |
| 22                 | 1            | _D-MC-M22-RT16        | 57.1 (2.25)         | 23.9 (0.94) | 26.0 (1.02) | 18.3 (0.72) | 32.0 (1.26) | 35.0 (1.38) |
| 25                 | 1/2          | _D-MC-M25-RT8         | 57.5 (2.26)         | 19.1 (0.75) | 31.3 (1.23) | 11.9 (0.47) | 38.0 (1.50) | 35.0 (1.38) |
| 25                 | 3/4          | _D-MC-M25-RT12        | 57.5 (2.26)         | 19.1 (0.75) | 31.3 (1.23) | 15.9 (0.63) | 38.0 (1.50) | 35.0 (1.38) |
| 25                 | 1            | _D-MC-M25-RT16        | 62.3 (2.45)         | 23.9 (0.94) | 31.3 (1.23) | 21.8 (0.86) | 38.0 (1.50) | 35.0 (1.38) |
| 28                 | 1            | _D-MC-M28-RT16        | 72.4 (2.85)         | 23.9 (0.94) | 36.6 (1.44) | 21.8 (0.86) | 46.0 (1.81) | 41.0 (1.61) |
| 28                 | 1 1/4        | _D-MC-M28-RT20        | 73.1 (2.88)         | 23.9 (0.94) | 36.6 (1.44) | 21.8 (0.86) | 46.0 (1.81) | 46.0 (1.81) |
| 30                 | 1 1/4        | _D-MC-M30-RT20        | 77.2 (3.04)         | 23.9 (0.94) | 39.6 (1.56) | 26.2 (1.03) | 50.0 (1.97) | 46.0 (1.81) |
| 32                 | 1 1/4        | _D-MC-M32-RT20        | 79.6 (3.13)         | 23.9 (0.94) | 42.0 (1.65) | 28.6 (1.13) | 50.0 (1.97) | 46.0 (1.81) |
| 38                 | 1 1/2        | _D-MC-M38-RT24        | 91.6 (3.61)         | 26.2 (1.03) | 49.4 (1.94) | 33.7 (1.33) | 60.0 (2.36) | 55.0 (2.17) |

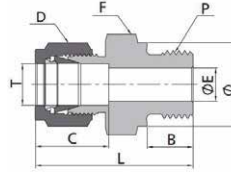
# MALE CONNECTOR



## Metric Tube to ISO Parallel Thread

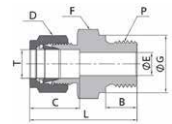
| T - Tube<br>O.D. (mm) | P - RS<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|-----------------------|----------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                |                          | L                   | B           | C           | E           | D           | F           | G           |
| 2                     | 1/8            | _D-MC-M2-RS2             | 30.0 (1.18)         | 7.1 (0.28)  | 12.9 (0.51) | 1.7 (0.07)  | 12.0 (0.47) | 14.0 (0.55) | 13.7 (0.54) |
| 3                     | 1/8            | _D-MC-M3-RS2             | 30.0 (1.18)         | 7.1 (0.28)  | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) | 13.7 (0.54) |
| 3                     | 1/4            | _D-MC-M3-RS4             | 35.3 (1.39)         | 11.2 (0.44) | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 19.0 (0.75) | 18.0 (0.71) |
| 4                     | 1/8            | _D-MC-M4-RS2             | 30.7 (1.21)         | 7.1 (0.28)  | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) | 13.7 (0.54) |
| 4                     | 1/4            | _D-MC-M4-RS4             | 36.0 (1.42)         | 11.2 (0.44) | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 19.0 (0.75) | 18.0 (0.71) |
| 6                     | 1/8            | _D-MC-M6-RS2             | 32.3 (1.27)         | 7.1 (0.28)  | 15.3 (0.60) | 4.0 (0.16)  | 14.0 (0.55) | 14.0 (0.55) | 13.7 (0.54) |
| 6                     | 1/4            | _D-MC-M6-RS4             | 37.6 (1.48)         | 11.2 (0.44) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 19.0 (0.75) | 18.0 (0.71) |
| 6                     | 3/8            | _D-MC-M6-RS6             | 38.9 (1.53)         | 11.2 (0.44) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 22.0 (0.87) | 21.6 (0.85) |
| 8                     | 1/8            | _D-MC-M8-RS2             | 33.2 (1.31)         | 7.1 (0.28)  | 16.2 (0.64) | 4.0 (0.16)  | 16.0 (0.63) | 15.0 (0.59) | 14.5 (0.57) |
| 8                     | 1/4            | _D-MC-M8-RS4             | 38.5 (1.52)         | 11.2 (0.44) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 19.0 (0.75) | 18.0 (0.71) |
| 8                     | 3/8            | _D-MC-M8-RS6             | 39.8 (1.57)         | 11.2 (0.44) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 22.0 (0.87) | 21.6 (0.85) |
| 10                    | 1/4            | _D-MC-M10-RS4            | 39.4 (1.55)         | 11.2 (0.44) | 17.2 (0.68) | 5.9 (0.23)  | 19.0 (0.75) | 19.0 (0.75) | 18.0 (0.71) |
| 10                    | 3/8            | _D-MC-M10-RS6            | 40.6 (1.60)         | 11.2 (0.44) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) | 21.6 (0.85) |
| 10                    | 1/2            | _D-MC-M10-RS8            | 46.5 (1.83)         | 14.2 (0.56) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 27.0 (1.06) | 25.9 (1.02) |
| 12                    | 1/4            | _D-MC-M12-RS4            | 42.6 (1.68)         | 11.2 (0.44) | 22.8 (0.90) | 5.9 (0.23)  | 22.0 (0.87) | 22.0 (0.87) | 21.6 (0.85) |
| 12                    | 3/8            | _D-MC-M12-RS6            | 43.1 (1.70)         | 11.2 (0.44) | 22.8 (0.90) | 7.9 (0.31)  | 22.0 (0.87) | 22.0 (0.87) | 21.6 (0.85) |
| 12                    | 1/2            | _D-MC-M12-RS8            | 49.0 (1.93)         | 14.2 (0.56) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) | 25.9 (1.02) |
| 12                    | 3/4            | _D-MC-M12-RS12           | 52.8 (2.08)         | 15.7 (0.62) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 35.0 (1.38) | 32.0 (1.26) |
| 14                    | 3/8            | _D-MC-M14-RS6            | 43.9 (1.73)         | 11.2 (0.44) | 24.4 (0.96) | 7.9 (0.31)  | 25.0 (0.98) | 24.0 (0.94) | 21.6 (0.85) |
| 14                    | 1/2            | _D-MC-M14-RS8            | 49.0 (1.93)         | 14.2 (0.56) | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 27.0 (1.06) | 25.9 (1.02) |
| 14                    | 3/4            | _D-MC-M14-RS12           | 52.8 (2.08)         | 15.7 (0.62) | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 35.0 (1.38) | 32.0 (1.26) |
| 15                    | 3/8            | _D-MC-M15-RS6            | 43.9 (1.73)         | 11.2 (0.44) | 24.4 (0.96) | 7.9 (0.31)  | 25.0 (0.98) | 24.0 (0.94) | 21.6 (0.85) |
| 15                    | 1/2            | _D-MC-M15-RS8            | 49.0 (1.93)         | 14.2 (0.56) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) | 25.9 (1.02) |
| 15                    | 3/4            | _D-MC-M15-RS12           | 52.8 (2.08)         | 15.7 (0.62) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 35.0 (1.38) | 32.0 (1.26) |
| 16                    | 3/8            | _D-MC-M16-RS6            | 43.9 (1.73)         | 11.2 (0.44) | 24.4 (0.96) | 7.9 (0.31)  | 25.0 (0.98) | 24.0 (0.94) | 21.6 (0.85) |
| 16                    | 1/2            | _D-MC-M16-RS8            | 49.0 (1.93)         | 14.2 (0.56) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) | 25.9 (1.02) |
| 18                    | 1/2            | _D-MC-M18-RS8            | 49.0 (1.93)         | 14.2 (0.56) | 24.4 (0.96) | 11.9 (0.47) | 30.0 (1.18) | 27.0 (1.06) | 25.9 (1.02) |
| 18                    | 3/4            | _D-MC-M18-RS12           | 52.8 (2.08)         | 15.7 (0.62) | 24.4 (0.96) | 15.1 (0.59) | 30.0 (1.18) | 35.0 (1.38) | 32.0 (1.26) |
| 20                    | 1/2            | _D-MC-M20-RS8            | 50.5 (1.99)         | 14.2 (0.56) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) | 25.9 (1.02) |
| 20                    | 3/4            | _D-MC-M20-RS12           | 52.8 (2.08)         | 15.7 (0.62) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) | 32.0 (1.26) |
| 22                    | 3/4            | _D-MC-M22-RS12           | 52.8 (2.08)         | 15.7 (0.62) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) | 32.0 (1.26) |
| 22                    | 1              | _D-MC-M22-RS16           | 55.3 (2.18)         | 18.3 (0.72) | 26.0 (1.02) | 18.3 (0.72) | 32.0 (1.26) | 41.0 (1.61) | 39.1 (1.54) |
| 25                    | 3/4            | _D-MC-M25-RS12           | 57.5 (2.26)         | 15.7 (0.62) | 31.3 (1.23) | 15.9 (0.63) | 38.0 (1.50) | 35.0 (1.38) | 32.0 (1.26) |
| 25                    | 1              | _D-MC-M25-RS16           | 60.1 (2.37)         | 18.3 (0.72) | 31.3 (1.23) | 19.8 (0.78) | 38.0 (1.50) | 41.0 (1.61) | 39.1 (1.54) |
| 28                    | 1              | _D-MC-M28-RS16           | 70.1 (2.76)         | 18.3 (0.72) | 36.6 (1.44) | 19.8 (0.78) | 46.0 (1.81) | 41.0 (1.61) | 39.1 (1.54) |
| 28                    | 1 1/4          | _D-MC-M28-RS20           | 73.9 (2.91)         | 19.8 (0.78) | 36.6 (1.44) | 21.8 (0.86) | 46.0 (1.81) | 50.0 (1.97) | 49.0 (1.93) |
| 30                    | 1 1/4          | _D-MC-M30-RS20           | 76.5 (3.01)         | 19.8 (0.78) | 39.6 (1.56) | 25.0 (0.98) | 50.0 (1.97) | 50.0 (1.97) | 49.0 (1.93) |
| 32                    | 1 1/4          | _D-MC-M32-RS20           | 78.9 (3.11)         | 19.8 (0.78) | 42.0 (1.65) | 25.0 (0.98) | 50.0 (1.97) | 50.0 (1.97) | 49.0 (1.93) |
| 38                    | 1 1/2          | _D-MC-M38-RS24           | 90.8 (3.57)         | 22.1 (0.87) | 49.4 (1.94) | 31.8 (1.25) | 60.0 (2.36) | 55.0 (2.17) | 54.7 (2.15) |

# MALE CONNECTOR



## Metric Tube to ISO Parallel Thread

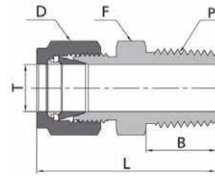
| T - Tube<br>O.D. (mm) | P-RP<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|-----------------------|--------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |              |                          | L                   | B           | C           | E           | D           | F           | G           |
| 3                     | 1/8          | _D-MC-M3-RP2             | 30.0(1.18)          | 7.1 (0.28)  | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) | 13.8 (0.54) |
| 4                     | 1/8          | _D-MC-M4-RP2             | 30.7(1.21)          | 7.1 (0.28)  | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) | 13.8 (0.54) |
| 6                     | 1/4          | _D-MC-M6-RP4             | 37.6(1.48)          | 11.2 (0.44) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 19.0 (0.75) | 18.0 (0.71) |
| 8                     | 1/4          | _D-MC-M8-RP4             | 38.5(1.52)          | 11.2 (0.44) | 16.2 (0.64) | 5.9 (0.23)  | 16.0 (0.63) | 19.0 (0.75) | 18.0 (0.71) |
| 10                    | 3/8          | _D-MC-M10-RP6            | 40.6(1.60)          | 11.2 (0.44) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) | 21.8 (0.86) |
| 12                    | 3/8          | _D-MC-M12-RP6            | 43.1(1.70)          | 11.2 (0.44) | 22.8 (0.90) | 7.9 (0.31)  | 22.0 (0.87) | 22.0 (0.87) | 21.8 (0.86) |
| 12                    | 1/2          | _D-MC-M12-RP8            | 49.0(1.93)          | 14.2 (0.56) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) | 26.0 (1.02) |
| 15                    | 1/2          | _D-MC-M15-RP8            | 49.0(1.93)          | 14.2 (0.56) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) | 26.0 (1.02) |
| 16                    | 1/2          | _D-MC-M16-RP8            | 49.0(1.93)          | 14.2 (0.56) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) | 26.0 (1.02) |
| 18                    | 1/2          | _D-MC-M18-RP8            | 49.0(1.93)          | 14.2 (0.56) | 24.4 (0.96) | 11.9 (0.47) | 30.0 (1.18) | 27.0 (1.06) | 26.0 (1.02) |
| 20                    | 3/4          | _D-MC-M20-RP12           | 52.8(2.08)          | 15.7 (0.62) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) | 32.0 (1.26) |
| 22                    | 3/4          | _D-MC-M22-RP12           | 52.8(2.08)          | 15.7 (0.62) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) | 32.0 (1.26) |
| 25                    | 1            | _D-MC-M25-RP16           | 60.1(2.37)          | 18.3 (0.72) | 31.3 (1.23) | 19.8 (0.78) | 38.0 (1.50) | 41.0 (1.61) | 39.0 (1.54) |
| 28                    | 1            | _D-MC-M28-RP16           | 70.1(2.76)          | 18.3 (0.72) | 36.6 (1.44) | 19.8 (0.78) | 46.0 (1.81) | 41.0 (1.61) | 39.0 (1.54) |
| 28                    | 1 1/4        | _D-MC-M28-RP20           | 73.9(2.91)          | 19.8 (0.78) | 36.6 (1.44) | 21.8 (0.86) | 46.0 (1.81) | 50.0 (1.97) | 49.0 (1.93) |
| 30                    | 1 1/4        | _D-MC-M30-RP20           | 76.5(3.01)          | 19.8 (0.78) | 39.6 (1.56) | 26.2 (1.03) | 50.0 (1.97) | 50.0 (1.97) | 49.0 (1.93) |
| 32                    | 1 1/4        | _D-MC-M32-RP20           | 78.9(3.11)          | 19.8 (0.78) | 42.0 (1.65) | 28.6 (1.13) | 50.0 (1.97) | 50.0 (1.97) | 49.0 (1.93) |
| 38                    | 1 1/2        | _D-MC-M38-RP24           | 89.3(3.52)          | 20.6 (0.81) | 49.4 (1.94) | 31.8 (1.25) | 60.0 (2.36) | 55.0 (2.17) | 54.7 (2.15) |



## Metric Tube to Metric Thread

| T - Tube<br>O.D. (mm) | P-Metric<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|-----------------------|------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                  |                          | L                   | B           | C           | E           | D           | F           | G           |
| 6                     | M8x1             | _D-MC-M6-MS8             | 33.3 (1.31)         | 8.0 (0.31)  | 15.3 (0.60) | 3.0 (0.12)  | 14.0 (0.55) | 14.0 (0.55) | 12.0 (0.47) |
| 6                     | M10x1            | _D-MC-M6-MS10            | 33.3 (1.31)         | 8.0 (0.31)  | 15.3 (0.60) | 4.0 (0.16)  | 14.0 (0.55) | 14.0 (0.55) | 14.0 (0.55) |
| 8                     | M10x1            | _D-MC-M8-MS10            | 34.1 (1.34)         | 8.0 (0.31)  | 16.2 (0.64) | 5.0 (0.20)  | 16.0 (0.63) | 15.0 (0.59) | 14.0 (0.55) |
| 8                     | M12x1.5          | _D-MC-M8-MS12            | 40.4 (1.59)         | 12.0 (0.47) | 16.2 (0.64) | 6.0 (0.24)  | 16.0 (0.63) | 18.0 (0.71) | 17.0 (0.67) |
| 10                    | M12x1.5          | _D-MC-M10-MS12           | 40.7 (1.60)         | 12.0 (0.47) | 17.2 (0.68) | 6.0 (0.24)  | 19.0 (0.75) | 18.0 (0.71) | 17.0 (0.67) |
| 10                    | M14x1.5          | _D-MC-M10-MS14           | 41.5 (1.63)         | 12.0 (0.47) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 19.0 (0.75) | 19.0 (0.75) |
| 12                    | M16x1.5          | _D-MC-M12-MS16           | 45.5 (1.79)         | 12.0 (0.47) | 22.8 (0.90) | 9.0 (0.35)  | 22.0 (0.87) | 22.0 (0.87) | 21.0 (0.83) |
| 12                    | M20x1.5          | _D-MC-M12-MS20           | 48.0 (1.89)         | 14.0 (0.55) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 25.0 (0.98) | 25.0 (0.98) |
| 14                    | M20x1.5          | _D-MC-M14-MS20           | 48.0 (1.89)         | 14.0 (0.55) | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 25.0 (0.98) | 25.0 (0.98) |
| 16                    | M20x1.5          | _D-MC-M16-MS20           | 48.0 (1.89)         | 14.0 (0.55) | 24.4 (0.96) | 12.0 (0.47) | 25.0 (0.98) | 25.0 (0.98) | 25.0 (0.98) |
| 18                    | M20x1.5          | _D-MC-M18-MS20           | 48.5 (1.91)         | 14.0 (0.55) | 24.4 (0.96) | 12.0 (0.47) | 30.0 (1.18) | 27.0 (1.06) | 25.0 (0.98) |
| 20                    | M20x1.5          | _D-MC-M20-MS20           | 50.0 (1.97)         | 14.0 (0.55) | 26.0 (1.02) | 12.0 (0.47) | 32.0 (1.26) | 30.0 (1.18) | 25.0 (0.98) |
| 22                    | M24x1.5          | _D-MC-M22-MS24           | 50.5 (1.99)         | 14.0 (0.55) | 26.0 (1.02) | 15.0 (0.59) | 32.0 (1.26) | 30.0 (1.18) | 32.0 (1.26) |
| 25                    | M27x2            | _D-MC-M25-MS27           | 57.5 (2.26)         | 16.0 (0.63) | 31.3 (1.23) | 16.8 (0.66) | 38.0 (1.50) | 35.0 (1.38) | 32.0 (1.26) |

# THERMOCOUPLE CONNECTOR



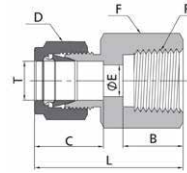
Fractional Tube to NPT Thread

| T - Tube O.D. (in.) | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |
|---------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|
|                     |            |                       | L                   | B           | C           | D           |
| 3/16                | 1/16       | _D-TCM-F1-N1          | 0.94 (23.9)         | 0.38(9.7)   | 0.31 (7.9)  | 0.31 (7.9)  |
| 1/6                 | 1/8        | _D-TCM-F1-N2          | 1.03 (26.2)         | 0.38(9.7)   | 0.31 (7.9)  | 0.44 (11.1) |
| 1/8                 | 1/16       | _D-TCM-F2-N1          | 1.17 (29.7)         | 0.38(9.7)   | 0.44 (11.1) | 0.44 (11.1) |
| 1/8                 | 1/8        | _D-TCM-F2-N2          | 1.20 (30.5)         | 0.38(9.7)   | 0.44 (11.1) | 0.44 (11.1) |
| 1/8                 | 1/4        | _D-TCM-F2-N4          | 1.40 (35.6)         | 0.56(14.2)  | 0.44 (11.1) | 0.56 (14.3) |
| 3/16                | 1/8        | _D-TCM-F3-N2          | 1.23 (31.2)         | 0.38(9.7)   | 0.50 (12.7) | 0.44 (11.1) |
| 3/16                | 1/4        | _D-TCM-F3-N4          | 1.43 (36.3)         | 0.56(14.2)  | 0.50 (12.7) | 0.56 (14.3) |
| 1/4                 | 1/8        | _D-TCM-F4-N2          | 1.29 (32.8)         | 0.38(9.7)   | 0.56 (14.3) | 0.50 (12.7) |
| 1/4                 | 1/4        | _D-TCM-F4-N4          | 1.49 (37.8)         | 0.56(14.2)  | 0.56 (14.3) | 0.56 (14.3) |
| 1/4                 | 3/8        | _D-TCM-F4-N6          | 1.51 (38.4)         | 0.56(14.2)  | 0.56 (14.3) | 0.69 (17.5) |
| 1/4                 | 1/2        | _D-TCM-F4-N8          | 1.76 (44.7)         | 0.75(19.1)  | 0.56 (14.3) | 0.87 (22.2) |
| 5/16                | 1/4        | _D-TCM-F5-N4          | 1.52 (38.6)         | 0.56(14.2)  | 0.63 (15.9) | 0.56 (14.3) |
| 3/8                 | 1/4        | _D-TCM-F6-N4          | 1.57 (39.9)         | 0.56(14.2)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                 | 3/8        | _D-TCM-F6-N6          | 1.57 (39.9)         | 0.56(14.2)  | 0.69 (17.5) | 0.69 (17.5) |
| 3/8                 | 1/2        | _D-TCM-F6-N8          | 1.82 (46.2)         | 0.75(19.1)  | 0.69 (17.5) | 0.87 (22.2) |
| 1/2                 | 1/2        | _D-TCM-F8-N8          | 1.93 (49.0)         | 0.75(19.1)  | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                 | 3/4        | _D-TCM-F8-N12         | 1.99 (50.5)         | 0.75(19.1)  | 0.87 (22.2) | 1.06 (27.0) |
| 5/8                 | 3/4        | _D-TCM-F10-N12        | 1.99 (50.5)         | 0.75(19.1)  | 1.00 (25.4) | 1.06 (27.0) |
| 3/4                 | 3/4        | _D-TCM-F12-N12        | 1.99 (50.5)         | 0.75(19.1)  | 1.13 (28.6) | 1.06 (27.0) |
| 1                   | 1          | _D-TCM-F16-N16        | 2.45 (62.2)         | 0.94 (23.9) | 1.50 (38.1) | 1.37 (34.9) |

Metric Tube to NPT Thread

| T - Tube O.D. (mm) | P-NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|
|                    |            |                       | L                   | B           | C           | D           |
| 2                  | 1/8        | _D-TCM-M2-N2          | 30.5 (1.20)         | 9.7 (0.38)  | 12.0 (0.47) | 12.0 (0.47) |
| 3                  | 1/8        | _D-TCM-M3-N2          | 30.5 (1.20)         | 9.7 (0.38)  | 12.0 (0.47) | 12.0 (0.47) |
| 3                  | 1/4        | _D-TCM-M3-N4          | 35.6 (1.40)         | 14.2 (0.56) | 12.0 (0.47) | 14.0 (0.55) |
| 4                  | 1/8        | _D-TCM-M4-N2          | 31.2 (1.23)         | 9.7 (0.38)  | 12.0 (0.47) | 12.0 (0.47) |
| 4                  | 1/4        | _D-TCM-M4-N4          | 36.3 (1.43)         | 14.2 (0.56) | 12.0 (0.47) | 14.0 (0.55) |
| 6                  | 1/8        | _D-TCM-M6-N2          | 32.8 (1.29)         | 9.7 (0.38)  | 14.0 (0.55) | 14.0 (0.55) |
| 6                  | 1/4        | _D-TCM-M6-N4          | 37.9 (1.49)         | 14.2 (0.56) | 14.0 (0.55) | 14.0 (0.55) |
| 8                  | 1/4        | _D-TCM-M8-N4          | 38.7 (1.52)         | 14.2 (0.56) | 16.0 (0.63) | 15.0 (0.59) |
| 8                  | 3/8        | _D-TCM-M8-N6          | 39.3 (1.55)         | 14.2 (0.56) | 16.0 (0.63) | 18.0 (0.71) |
| 10                 | 3/8        | _D-TCM-M10-N6         | 40.9 (1.61)         | 14.2 (0.56) | 19.0 (0.75) | 18.0 (0.71) |
| 10                 | 1/2        | _D-TCM-M10-N8         | 46.5 (1.83)         | 19.1 (0.75) | 19.0 (0.75) | 22.0 (0.87) |
| 12                 | 3/8        | _D-TCM-M12-N6         | 43.4 (1.71)         | 14.2 (0.56) | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 1/2        | _D-TCM-M12-N8         | 49.0 (1.93)         | 19.1 (0.75) | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 3/4        | _D-TCM-M12-N12        | 50.5 (1.99)         | 19.1 (0.75) | 22.0 (0.87) | 27.0 (1.06) |
| 14                 | 1/2        | _D-TCM-M14-N8         | 49.0 (1.93)         | 19.1 (0.75) | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | 3/4        | _D-TCM-M14-N12        | 50.5 (1.99)         | 19.1 (0.75) | 25.0 (0.98) | 27.0 (1.06) |
| 15                 | 1/2        | _D-TCM-M15-N8         | 49.0 (1.93)         | 19.1 (0.75) | 25.0 (0.98) | 24.0 (0.94) |

# FEMALE CONNECTOR



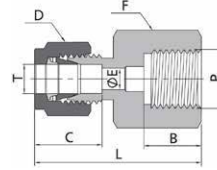
Fractional Tube to NPT Thread

| T - Tube O.D. (in.) | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |
|---------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                     |            |                       | L                   | B           | C           | E           | D           | F           |
| 1/16                | 1/16       | _D-FC-F1-N1           | 0.93 (23.6)         | 0.39 (9.9)  | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.44 (11.1) |
| 1/16                | 1/8        | _D-FC-F1-N2           | 0.96 (24.4)         | 0.41 (10.4) | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.56 (14.3) |
| 1/8                 | 1/8        | _D-FC-F2-N2           | 1.13 (28.7)         | 0.41 (10.4) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) |
| 1/8                 | 1/4        | _D-FC-F2-N4           | 1.32 (33.5)         | 0.59 (15.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.75 (19.1) |
| 3/16                | 1/8        | _D-FC-F3-N2           | 1.17 (29.7)         | 0.41 (10.4) | 0.54 (13.7) | 0.12 (3.0)  | 0.50 (12.7) | 0.56 (14.3) |
| 1/4                 | 1/8        | _D-FC-F4-N2           | 1.23 (31.2)         | 0.41 (10.4) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.56 (14.3) |
| 1/4                 | 1/4        | _D-FC-F4-N4           | 1.41 (35.8)         | 0.59 (15.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) |
| 1/4                 | 3/8        | _D-FC-F4-N6           | 1.48 (37.6)         | 0.59 (15.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) |
| 5/16                | 1/8        | _D-FC-F5-N2           | 1.26 (32.0)         | 0.41 (10.4) | 0.64 (16.3) | 0.16 (4.1)  | 0.63 (15.9) | 0.56 (14.3) |
| 5/16                | 1/4        | _D-FC-F5-N4           | 1.45 (36.8)         | 0.59 (15.0) | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.75 (19.1) |
| 3/8                 | 1/8        | _D-FC-F6-N2           | 1.29 (32.8)         | 0.41 (10.4) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.63 (15.9) |
| 3/8                 | 1/4        | _D-FC-F6-N4           | 1.48 (37.6)         | 0.59 (15.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.75 (19.1) |
| 3/8                 | 3/8        | _D-FC-F6-N6           | 1.54 (39.1)         | 0.59 (15.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.0) |
| 3/8                 | 1/2        | _D-FC-F6-N8           | 1.73 (43.9)         | 0.78 (19.8) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.06 (27.0) |
| 1/2                 | 1/4        | _D-FC-F8-N4           | 1.59 (40.4)         | 0.59 (15.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                 | 3/8        | _D-FC-F8-N6           | 1.65 (41.9)         | 0.59 (15.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                 | 1/2        | _D-FC-F8-N8           | 1.84 (46.7)         | 0.78 (19.8) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) |
| 1/2                 | 3/4        | _D-FC-F8-N12          | 1.90 (48.3)         | 0.81 (20.6) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.31 (33.3) |
| 5/8                 | 1/2        | _D-FC-F10-N8          | 1.84 (46.7)         | 0.78 (19.8) | 0.96 (24.4) | 0.50 (12.7) | 1.00 (25.4) | 1.06 (27.0) |
| 3/4                 | 1/2        | _D-FC-F12-N8          | 1.84 (46.7)         | 0.78 (19.8) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) |
| 3/4                 | 3/4        | _D-FC-F12-N12         | 1.90 (48.3)         | 0.81 (20.6) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.31 (33.3) |
| 7/8                 | 3/4        | _D-FC-F14-N12         | 1.96 (49.8)         | 0.81 (20.6) | 1.02 (25.9) | 0.72 (18.3) | 1.25 (31.8) | 1.31 (33.3) |
| 1                   | 3/4        | _D-FC-F16-N12         | 2.10 (53.3)         | 0.81 (20.6) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.37 (34.9) |
| 1                   | 1          | _D-FC-F16-N16         | 2.45 (62.2)         | 1.00 (25.4) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.63 (41.3) |
| 1 1/4               | 1 1/4      | _D-FC-F20-N20         | 2.94 (74.7)         | 1.00 (25.4) | 1.62 (41.1) | 1.09 (27.7) | 1.87 (47.6) | 2.13 (54.0) |
| 1 1/2               | 1 1/2      | _D-FC-F24-N24         | 3.30 (83.8)         | 1.09 (27.7) | 1.97 (50.0) | 1.43 (36.3) | 2.25 (57.2) | 2.37 (60.3) |

Fractional Tube to RT Thread

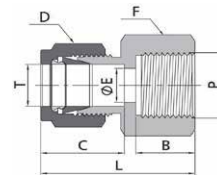
| T - Tube O.D. (in.) | P-RT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |
|---------------------|-----------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                     |           |                       | L                   | B           | C           | E           | D           | F           |
| 1/4                 | 1/8       | _D-FC-F4-R2           | 1.23 (31.2)         | 0.41 (10.4) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.56 (14.3) |
| 1/4                 | 1/4       | _D-FC-F4-R4           | 1.41 (35.8)         | 0.59 (15.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) |
| 1/4                 | 3/8       | _D-FC-F4-R6           | 1.48 (37.6)         | 0.59 (15.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) |
| 1/4                 | 1/2       | _D-FC-F4-R8           | 1.67 (42.4)         | 0.78 (19.8) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 1.06 (27.0) |
| 3/8                 | 1/4       | _D-FC-F6-R4           | 1.48 (37.6)         | 0.59 (15.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.75 (19.1) |
| 3/8                 | 3/8       | _D-FC-F6-R6           | 1.54 (39.1)         | 0.59 (15.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) |
| 3/8                 | 1/2       | _D-FC-F6-R8           | 1.73 (43.9)         | 0.78 (19.8) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.06 (27.0) |
| 1/2                 | 1/4       | _D-FC-F8-R4           | 1.59 (40.4)         | 0.59 (15.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.81 (20.6) |
| 1/2                 | 3/8       | _D-FC-F8-R6           | 1.65 (41.9)         | 0.59 (15.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                 | 1/2       | _D-FC-F8-R8           | 1.84 (46.7)         | 0.78 (19.8) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) |

# FEMALE CONNECTOR



Fractional Tube to ISO Parallel Thread

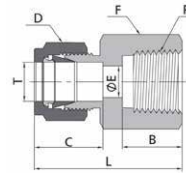
| T - Tube O.D. (in.) | P-RG Size | Basic Ordering Number | Dimension, in. (mm) |             |             |            |             |             |
|---------------------|-----------|-----------------------|---------------------|-------------|-------------|------------|-------------|-------------|
|                     |           |                       | L                   | B           | C           | E          | D           | F           |
| 1/8                 | 1/4       | _D-FC-F2-RG4          | 1.39 (35.3)         | 0.51 (12.9) | 0.50 (12.7) | 0.09 (2.3) | 0.44 (11.1) | 0.75 (19.1) |
| 1/8                 | 3/8       | _D-FC-F2-RG6          | 1.52 (38.7)         | 0.56 (14.2) | 0.50 (12.7) | 0.09 (2.3) | 0.44 (11.1) | 0.94 (23.8) |
| 1/4                 | 1/4       | _D-FC-F4-RG4          | 1.48 (37.6)         | 0.51 (12.9) | 0.60 (15.2) | 0.19 (4.8) | 0.56 (14.3) | 0.75 (19.1) |
| 1/4                 | 3/8       | _D-FC-F4-RG6          | 1.48 (37.6)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8) | 0.56 (14.3) | 0.94 (23.8) |
| 1/4                 | 1/2       | _D-FC-F4-RG8          | 1.71 (43.4)         | 0.74 (18.8) | 0.60 (15.2) | 0.19 (4.8) | 0.56 (14.3) | 1.06 (27.0) |
| 5/16                | 1/4       | _D-FC-F5-RG4          | 1.51 (38.4)         | 0.51 (12.9) | 0.64 (16.3) | 0.22 (5.6) | 0.63 (15.9) | 0.75 (19.1) |
| 5/16                | 3/8       | _D-FC-F5-RG6          | 1.54 (39.2)         | 0.56 (14.2) | 0.64 (16.3) | 0.25 (6.4) | 0.63 (15.9) | 0.94 (23.8) |
| 5/16                | 1/2       | _D-FC-F5-RG8          | 1.61 (40.9)         | 0.74 (18.8) | 0.64 (16.3) | 0.28 (7.1) | 0.63 (15.9) | 1.06 (27.0) |
| 3/8                 | 1/4       | _D-FC-F6-RG4          | 1.54 (39.1)         | 0.51 (12.9) | 0.66 (16.8) | 0.22 (5.6) | 0.69 (17.5) | 0.75 (19.1) |
| 3/8                 | 3/8       | _D-FC-F6-RG6          | 1.52 (38.6)         | 0.56 (14.2) | 0.66 (16.8) | 0.21 (5.4) | 0.69 (17.5) | 0.94 (23.8) |
| 3/8                 | 1/2       | _D-FC-F6-RG8          | 1.65 (41.9)         | 0.74 (18.8) | 0.66 (16.8) | 0.28 (7.1) | 0.69 (17.5) | 1.06 (27.0) |
| 1/2                 | 1/4       | _D-FC-F8-RG4          | 1.65 (41.9)         | 0.51 (12.9) | 0.90 (22.9) | 0.22 (5.6) | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                 | 3/8       | _D-FC-F8-RG6          | 1.75 (44.5)         | 0.56 (14.2) | 0.90 (22.9) | 0.25 (6.4) | 0.87 (22.2) | 0.94 (23.8) |
| 1/2                 | 1/2       | _D-FC-F8-RG8          | 1.90 (48.3)         | 0.74 (18.8) | 0.90 (22.9) | 0.28 (7.1) | 0.87 (22.2) | 1.06 (27.0) |



Fractional Tube to Metric Thread

| T - Tube O.D. (in.) | P-RG Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |
|---------------------|-----------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                     |           |                       | L                   | B           | C           | E           | D           | F           |
| 1/8                 | M14 x 1.5 | _D-FC-F2-MN14         | 1.27 (32.3)         | 0.51 (13.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.75 (19.1) |
| 1/8                 | M16 x 1.5 | _D-FC-F2-MN16         | 1.31 (33.3)         | 0.55 (14.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.87 (22.2) |
| 1/8                 | M18 x 1.5 | _D-FC-F2-MN18         | 1.35 (34.3)         | 0.59 (15.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 1.00 (25.4) |
| 1/4                 | M16 x 1.5 | _D-FC-F4-MN16         | 1.41 (35.8)         | 0.55 (14.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) |
| 1/4                 | M18 x 1.5 | _D-FC-F4-MN18         | 1.45 (36.8)         | 0.59 (15.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 1.00 (25.4) |
| 1/4                 | M20 x 1.5 | _D-FC-F4-MN20         | 1.49 (37.8)         | 0.63 (16.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 1.06 (27.0) |
| 3/8                 | M14 x 1.5 | _D-FC-F6-MN14         | 1.46 (37.1)         | 0.51 (13.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.75 (19.1) |
| 3/8                 | M16 x 1.5 | _D-FC-F6-MN16         | 1.48 (37.5)         | 0.55 (14.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) |
| 3/8                 | M18 x 1.5 | _D-FC-F6-MN18         | 1.52 (38.5)         | 0.59 (15.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.00 (25.4) |
| 3/8                 | M20 x 1.5 | _D-FC-F6-MN20         | 1.56 (39.5)         | 0.63 (16.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.06 (27.0) |
| 1/2                 | M16 x 1.5 | _D-FC-F8-MN16         | 1.63 (41.4)         | 0.55 (14.0) | 0.90 (22.9) | 0.33 (8.4)  | 0.87 (22.2) | 0.87 (22.2) |
| 1/2                 | M18 x 1.5 | _D-FC-F8-MN18         | 1.67 (42.4)         | 0.59 (15.0) | 0.90 (22.9) | 0.38 (9.6)  | 0.87 (22.2) | 1.00 (25.4) |
| 1/2                 | M20 x 1.5 | _D-FC-F8-MN20         | 1.71 (43.4)         | 0.63 (16.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) |
| 1/2                 | M22 x 1.5 | _D-FC-F8-MN22         | 1.75 (44.4)         | 0.67 (17.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) |

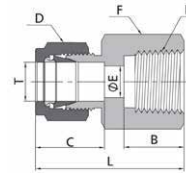
# FEMALE CONNECTOR



## Metric Tube to NPT Thread

| T - Tube<br>O.D. (mm) | P - NPT<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |
|-----------------------|-----------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                       |                 |                          | L                   | B           | C           | E           | D           | F           |
| 3                     | 1/8             | _D-FC-M3-N2              | 28.7 (1.13)         | 10.4 (0.41) | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) |
| 3                     | 1/4             | _D-FC-M3-N4              | 33.5 (1.32)         | 15.0 (0.59) | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 19.0 (0.75) |
| 4                     | 1/8             | _D-FC-M4-N2              | 29.7 (1.17)         | 10.4 (0.41) | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) |
| 6                     | 1/8             | _D-FC-M6-N2              | 31.3 (1.23)         | 10.4 (0.41) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 14.0 (0.55) |
| 6                     | 1/4             | _D-FC-M6-N4              | 35.8 (1.41)         | 15.0 (0.59) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 19.0 (0.75) |
| 6                     | 3/8             | _D-FC-M6-N6              | 37.7 (1.48)         | 15.0 (0.59) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 22.0 (0.87) |
| 6                     | 1/2             | _D-FC-M6-N8              | 42.5 (1.67)         | 19.8 (0.78) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 27.0 (1.06) |
| 8                     | 1/8             | _D-FC-M8-N2              | 32.1 (1.26)         | 10.4 (0.41) | 16.2 (0.64) | 4.8 (0.19)  | 16.0 (0.63) | 15.0 (0.59) |
| 8                     | 1/4             | _D-FC-M8-N4              | 37.0 (1.46)         | 15.0 (0.59) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 19.0 (0.75) |
| 8                     | 3/8             | _D-FC-M8-N6              | 38.5 (1.52)         | 15.0 (0.59) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 22.0 (0.87) |
| 8                     | 1/2             | _D-FC-M8-N8              | 43.3 (1.70)         | 19.8 (0.78) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 27.0 (1.06) |
| 10                    | 1/8             | _D-FC-M10-N2             | 33.0 (1.30)         | 10.4 (0.41) | 17.2 (0.68) | 4.8 (0.19)  | 19.0 (0.75) | 15.0 (0.59) |
| 10                    | 1/4             | _D-FC-M10-N4             | 37.8 (1.49)         | 15.0 (0.59) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 19.0 (0.75) |
| 10                    | 3/8             | _D-FC-M10-N6             | 39.4 (1.55)         | 15.0 (0.59) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) |
| 10                    | 1/2             | _D-FC-M10-N8             | 44.2 (1.74)         | 19.8 (0.78) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 27.0 (1.06) |
| 12                    | 1/4             | _D-FC-M12-N4             | 40.3 (1.59)         | 15.0 (0.59) | 22.8 (0.90) | 7.9 (0.31)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                    | 3/8             | _D-FC-M12-N6             | 41.9 (1.65)         | 15.0 (0.59) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                    | 1/2             | _D-FC-M12-N8             | 46.7 (1.84)         | 19.8 (0.78) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) |
| 12                    | 3/4             | _D-FC-M12-N12            | 49.7 (1.96)         | 20.6 (0.81) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 35.0 (1.38) |
| 14                    | 3/4             | _D-FC-M14-N12            | 49.7 (1.96)         | 20.6 (0.81) | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 35.0 (1.38) |
| 15                    | 1/2             | _D-FC-M15-N8             | 46.7 (1.84)         | 19.8 (0.78) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) |
| 16                    | 3/8             | _D-FC-M16-N6             | 41.9 (1.65)         | 15.0 (0.59) | 24.4 (0.96) | 9.5 (0.37)  | 25.0 (0.98) | 27.0 (1.06) |
| 16                    | 1/2             | _D-FC-M16-N8             | 46.9 (1.85)         | 19.8 (0.78) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) |
| 20                    | 1/2             | _D-FC-M20-N8             | 47.9 (1.89)         | 19.8 (0.78) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) |
| 20                    | 3/4             | _D-FC-M20-N12            | 49.7 (1.96)         | 20.6 (0.81) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) |
| 22                    | 3/4             | _D-FC-M22-N12            | 49.7 (1.96)         | 20.6 (0.81) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) |
| 22                    | 1               | _D-FC-M22-N16            | 57.9 (2.28)         | 25.4 (1.00) | 26.0 (1.02) | 18.3 (0.72) | 32.0 (1.26) | 41.0 (1.61) |
| 25                    | 3/4             | _D-FC-M25-N12            | 53.4 (2.10)         | 20.6 (0.81) | 31.3 (1.23) | 15.9 (0.63) | 38.0 (1.50) | 35.0 (1.38) |
| 25                    | 1               | _D-FC-M25-N16            | 62.3 (2.45)         | 25.4 (1.00) | 31.3 (1.23) | 21.8 (0.86) | 38.0 (1.50) | 41.0 (1.61) |

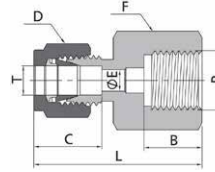
# FEMALE CONNECTOR



## Metric Tube to RT Thread

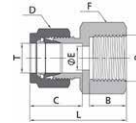
| T - Tube<br>O.D. (mm) | P - RT<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |
|-----------------------|----------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                       |                |                          | L                   | B           | C           | E           | D           | F           |
| 3                     | 1/8            | _D-FC-M3-RT2             | 28.7 (1.13)         | 10.4 (0.41) | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) |
| 6                     | 1/8            | _D-FC-M6-RT2             | 31.3 (1.23)         | 10.4 (0.41) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 14.0 (0.55) |
| 6                     | 1/4            | _D-FC-M6-RT4             | 35.8 (1.41)         | 15.0 (0.59) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 19.0 (0.75) |
| 6                     | 3/8            | _D-FC-M6-RT6             | 36.9 (1.45)         | 15.0 (0.59) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 22.0 (0.87) |
| 6                     | 1/2            | _D-FC-M6-RT8             | 42.5 (1.67)         | 19.8 (0.78) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 27.0 (1.06) |
| 8                     | 1/8            | _D-FC-M8-RT2             | 32.1 (1.26)         | 10.4 (0.41) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 15.0 (0.59) |
| 8                     | 1/4            | _D-FC-M8-RT4             | 37.0 (1.46)         | 15.0 (0.59) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 19.0 (0.75) |
| 8                     | 3/8            | _D-FC-M8-RT6             | 38.5 (1.52)         | 15.0 (0.59) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 22.0 (0.87) |
| 8                     | 1/2            | _D-FC-M8-RT8             | 43.3 (1.70)         | 19.8 (0.78) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 27.0 (1.06) |
| 10                    | 1/8            | _D-FC-M10-RT2            | 33.0 (1.30)         | 10.4 (0.41) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 18.0 (0.71) |
| 10                    | 1/4            | _D-FC-M10-RT4            | 37.8 (1.49)         | 15.0 (0.59) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 19.0 (0.75) |
| 10                    | 3/8            | _D-FC-M10-RT6            | 39.4 (1.55)         | 15.0 (0.59) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) |
| 10                    | 1/2            | _D-FC-M10-RT8            | 44.2 (1.74)         | 19.8 (0.78) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 27.0 (1.06) |
| 12                    | 1/8            | _D-FC-M12-RT2            | 35.5 (1.40)         | 10.4 (0.41) | 22.8 (0.90) | 8.3 (0.33)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                    | 1/4            | _D-FC-M12-RT4            | 40.3 (1.59)         | 15.0 (0.59) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                    | 3/8            | _D-FC-M12-RT6            | 41.9 (1.65)         | 15.0 (0.59) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                    | 1/2            | _D-FC-M12-RT8            | 46.7 (1.84)         | 19.8 (0.78) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) |
| 12                    | 3/4            | _D-FC-M12-RT12           | 49.0 (1.93)         | 20.6 (0.81) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 35.0 (1.38) |
| 15                    | 1/2            | _D-FC-M15-RT8            | 46.7 (1.84)         | 19.8 (0.78) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) |
| 16                    | 1/2            | _D-FC-M16-RT8            | 48.4 (1.91)         | 19.8 (0.78) | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) |
| 16                    | 3/4            | _D-FC-M16-RT12           | 49.7 (1.96)         | 20.6 (0.81) | 24.4 (0.96) | 12.7 (0.5)  | 25.0 (0.98) | 35.0 (1.38) |
| 20                    | 1/2            | _D-FC-M20-RT8            | 47.9 (1.89)         | 19.8 (0.78) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) |
| 20                    | 3/4            | _D-FC-M20-RT12           | 49.7 (1.96)         | 20.6 (0.81) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) |
| 22                    | 3/4            | _D-FC-M22-RT12           | 49.7 (1.96)         | 20.6 (0.81) | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) |
| 22                    | 1              | _D-FC-M22-RT16           | 57.9 (2.28)         | 25.4 (1.00) | 26.0 (1.02) | 18.3 (0.72) | 32.0 (1.26) | 41.0 (1.61) |
| 25                    | 3/4            | _D-FC-M25-RT12           | 53.4 (2.10)         | 20.6 (0.81) | 31.3 (1.23) | 15.9 (0.63) | 38.0 (1.50) | 35.0 (1.38) |
| 25                    | 1              | _D-FC-M25-RT16           | 62.3 (2.45)         | 25.4 (1.00) | 31.3 (1.23) | 21.8 (0.86) | 38.0 (1.50) | 41.0 (1.61) |
| 25                    | 3/4            | _D-FC-M25-RT12           | 53.4 (2.10)         | 20.6 (0.81) | 31.3 (1.23) | 15.9 (0.63) | 38.0 (1.50) | 35.0 (1.38) |
| 25                    | 1              | _D-FC-M25-RT16           | 62.3 (2.45)         | 25.4 (1.00) | 31.3 (1.23) | 21.8 (0.86) | 38.0 (1.50) | 41.0 (1.61) |

# FEMALE CONNECTOR



Metric Tube to ISO Parallel Thread

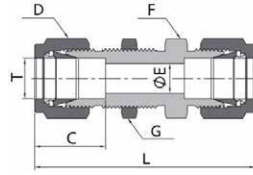
| T - Tube O.D. (mm) | P-RG Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |
|--------------------|-----------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                    |           |                       | L                   | B           | C           | E           | D           | F           |
| 3                  | 1/4       | _D-FC-M3-RG4          | 35.3 (1.39)         | 12.9 (0.51) | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 19.0 (0.75) |
| 6                  | 1/4       | _D-FC-M6-RG4          | 37.6 (1.48)         | 12.9 (0.51) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 19.0 (0.75) |
| 6                  | 3/8       | _D-FC-M6-RG6          | 37.6 (1.48)         | 14.2 (0.56) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 24.0 (0.94) |
| 6                  | 1/2       | _D-FC-M6-RG8          | 43.5 (1.71)         | 18.8 (0.74) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 27.0 (1.06) |
| 8                  | 1/4       | _D-FC-M8-RG4          | 38.5 (1.52)         | 12.9 (0.51) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 19.0 (0.75) |
| 8                  | 3/8       | _D-FC-M8-RG6          | 36.2 (1.43)         | 14.2 (0.56) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 24.0 (0.94) |
| 8                  | 1/2       | _D-FC-M8-RG8          | 41.0 (1.61)         | 18.8 (0.74) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 27.0 (1.06) |
| 10                 | 1/4       | _D-FC-M10-RG4         | 39.4 (1.55)         | 12.9 (0.51) | 17.2 (0.68) | 5.9 (0.23)  | 19.0 (0.75) | 19.0 (0.75) |
| 10                 | 3/8       | _D-FC-M10-RG6         | 38.8 (1.53)         | 14.2 (0.56) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 24.0 (0.94) |
| 10                 | 1/2       | _D-FC-M10-RG8         | 42.1 (1.66)         | 18.8 (0.74) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 27.0 (1.06) |
| 12                 | 1/4       | _D-FC-M12-RG4         | 41.9 (1.65)         | 12.9 (0.51) | 22.8 (0.90) | 5.9 (0.23)  | 22.0 (0.87) | 22.0 (0.87) |
| 12                 | 3/8       | _D-FC-M12-RG6         | 44.4 (1.75)         | 14.2 (0.56) | 22.8 (0.90) | 7.9 (0.31)  | 22.0 (0.87) | 24.0 (0.94) |
| 12                 | 1/2       | _D-FC-M12-RG8         | 48.2 (1.90)         | 18.8 (0.74) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) |
| 20                 | 1/2       | _D-FC-M20-RG8         | 54.3 (2.14)         | 18.8 (0.74) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) |
| 22                 | 1/2       | _D-FC-M22-RG8         | 54.3 (2.14)         | 18.8 (0.74) | 26.0 (1.02) | 11.9 (0.47) | 32.0 (1.26) | 30.0 (1.18) |



Metric Tube to Metric Thread

| T - Tube O.D. (mm) | P-Metric Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |
|--------------------|---------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                    |               |                       | L                   | B           | C           | E           | D           | F           |
| 6                  | M10 x 1       | _D-FM-M6-MN10         | 32.7 (1.29)         | 11.0 (0.43) | 15.3 (0.60) | 4.0 (0.16)  | 14.0 (0.55) | 16.0 (0.63) |
| 6                  | M14 x 1.5     | _D-FM-M6-MN14         | 34.2 (1.35)         | 13.0 (0.51) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 19.0 (0.75) |
| 6                  | M20 x 1.5     | _D-FM-M6-MN20         | 37.7 (1.48)         | 16.0 (0.63) | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 27.0 (1.06) |
| 8                  | M8 x 1        | _D-FM-M8-MN8          | 31.6 (1.24)         | 9.0 (0.35)  | 16.2 (0.64) | 3.2 (0.13)  | 16.0 (0.63) | 14.0 (0.55) |
| 8                  | M10 x 1       | _D-FM-M8-MN10         | 33.6 (1.32)         | 11.0 (0.43) | 16.2 (0.64) | 4.0 (0.16)  | 16.0 (0.63) | 16.0 (0.63) |
| 8                  | M14 x 1.5     | _D-FM-M8-MN14         | 35.6 (1.40)         | 13.0 (0.51) | 16.2 (0.64) | 6.0 (0.24)  | 16.0 (0.63) | 19.0 (0.75) |
| 8                  | M20 x 1.5     | _D-FM-M8-MN20         | 38.6 (1.52)         | 16.0 (0.63) | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 27.0 (1.06) |
| 10                 | M16 x 1.5     | _D-FC-M10-MN16        | 38.1 (1.50)         | 14.0 (0.55) | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) |
| 12                 | M20 x 1.5     | _D-FM-M12-MN20        | 44.9 (1.77)         | 16.0 (0.63) | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 27.0 (1.06) |
| 14                 | M10 x 1       | _D-FM-M14-MN10        | 42.5 (1.67)         | 11.0 (0.43) | 24.4 (0.96) | 4.0 (0.16)  | 25.0 (0.98) | 24.0 (0.94) |
| 14                 | M20 x 1.5     | _D-FM-M14-MN20        | 44.9 (1.77)         | 16.0 (0.63) | 24.4 (0.96) | 10.8 (0.43) | 25.0 (0.98) | 27.0 (1.06) |
| 14                 | M22 x 1.5     | _D-FM-M14-MN22        | 45.9 (1.81)         | 17.0 (0.67) | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 27.0 (1.06) |
| 16                 | M20 x 1.5     | _D-FM-M16-MN20        | 44.9 (1.77)         | 16.0 (0.63) | 24.4 (0.96) | 10.8 (0.43) | 26.0 (1.02) | 27.0 (1.06) |
| 20                 | M20 x 1.5     | _D-FM-M20-MN20        | 46.5 (1.83)         | 16.0 (0.63) | 26.0 (1.02) | 10.8 (0.43) | 32.0 (1.26) | 30.0 (1.18) |
| 25                 | M27 x 2       | _D-FM-M25-MN27        | 54.4 (2.14)         | 18.0 (0.71) | 31.3 (1.23) | 16.1 (0.63) | 38.0 (1.50) | 35.0 (1.38) |

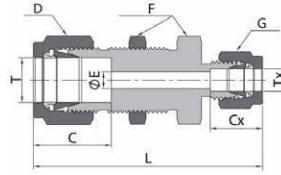
# BULKHEAD UNIONS



| Fractional Tube    |                       |                     |             |             |             |             |             |                          |                               |
|--------------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|--------------------------|-------------------------------|
| T - Tube O.D.(in.) | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             | Panel Hole Size in. (mm) | Max. Panel Thickness in. (mm) |
|                    |                       | L                   | C           | E           | D           | F           | G           |                          |                               |
| 1/16               | _D-BU-F1              | 1.24 (31.5)         | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.31 (7.9)  | 0.31 (7.9)  | 0.20 (5.2)               | 0.12 (3.0)                    |
| 1/8                | _D-BU-F2              | 2.02 (51.3)         | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.50 (12.7) | 0.50 (12.7) | 0.33 (8.3)               | 0.50 (12.7)                   |
| 3/16               | _D-BU-F3              | 2.11 (53.6)         | 0.54 (13.7) | 0.12 (3.0)  | 0.50 (12.7) | 0.56 (14.3) | 0.56 (14.3) | 0.39 (9.9)               | 0.50 (12.7)                   |
| 1/4                | _D-BU-F4              | 2.27 (57.7)         | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.63 (15.9) | 0.63 (15.9) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 5/16               | _D-BU-F5              | 2.39 (60.7)         | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.69 (17.5) | 0.69 (17.5) | 0.52 (13.1)              | 0.44 (11.2)                   |
| 3/8                | _D-BU-F6              | 2.45 (62.2)         | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.75 (19.1) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 1/2                | _D-BU-F8              | 2.80 (71.1)         | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.94 (23.8) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 5/8                | _D-BU-F10             | 2.86 (72.6)         | 0.96 (24.4) | 0.50 (12.7) | 1.00 (25.4) | 1.06 (27.0) | 1.06 (27.0) | 0.89 (22.6)              | 0.50 (12.7)                   |
| 3/4                | _D-BU-F12             | 3.11 (79.0)         | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.19 (30.2) | 1.19 (30.2) | 1.02 (25.8)              | 0.66 (16.8)                   |
| 7/8                | _D-BU-F14             | 3.33 (84.6)         | 1.02(25.9)  | 0.72(18.3)  | 1.25 (31.8) | 1.31 (33.3) | 1.37 (34.9) | 1.14 (29.0)              | 0.75 (19.1)                   |
| 1                  | _D-BU-F16             | 3.77 (95.8)         | 1.23(31.2)  | 0.88(22.4)  | 1.50 (38.1) | 1.63 (41.3) | 1.63 (41.3) | 1.33 (33.7)              | 0.75 (19.1)                   |
| 1 1/4              | _D-BU-F20             | 4.85 (123.2)        | 1.62(41.1)  | 1.09(27.8)  | 1.87 (47.6) | 1.87 (47.6) | 1.87 (47.6) | 1.64 (41.7)              | 0.75 (19.1)                   |
| 1 1/2              | _D-BU-F24             | 5.48 (139.2)        | 1.97(50.0)  | 1.34(34.0)  | 2.25 (57.2) | 2.25 (57.2) | 2.25 (57.2) | 1.95 (49.6)              | 0.75 (19.1)                   |

| Metric Tube       |                       |                     |             |             |             |             |             |                          |                               |
|-------------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|--------------------------|-------------------------------|
| T - Tube O.D.(mm) | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             | Panel Hole Size in. (mm) | Max. Panel Thickness in. (mm) |
|                   |                       | L                   | C           | E           | D           | F           | G           |                          |                               |
| 3                 | _D-BU-M3              | 51.3 (2.02)         | 12.9 (0.51) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) | 14.0 (0.55) | 8.3 (0.33)               | 12.7 (0.50)                   |
| 4                 | _D-BU-M4              | 53.6 (2.11)         | 13.7 (0.54) | 2.4 (0.09)  | 12.0 (0.47) | 14.0 (0.55) | 14.0 (0.55) | 9.9 (0.39)               | 12.7 (0.50)                   |
| 6                 | _D-BU-M6              | 57.7 (2.27)         | 15.3 (0.60) | 4.8 (0.19)  | 14.0 (0.55) | 16.0 (0.63) | 16.0 (0.63) | 11.5 (0.45)              | 10.2 (0.40)                   |
| 8                 | _D-BU-M8              | 61.0 (2.40)         | 16.2 (0.64) | 6.4 (0.25)  | 16.0 (0.63) | 18.0 (0.71) | 18.0 (0.71) | 13.1 (0.52)              | 11.2 (0.44)                   |
| 10                | _D-BU-M10             | 63.7 (2.51)         | 17.2 (0.68) | 7.9 (0.31)  | 19.0 (0.75) | 22.0 (0.87) | 22.0 (0.87) | 16.3 (0.64)              | 11.2 (0.44)                   |
| 12                | _D-BU-M12             | 71.0 (2.80)         | 22.8 (0.90) | 9.5 (0.37)  | 22.0 (0.87) | 24.0 (0.94) | 24.0 (0.94) | 19.5 (0.77)              | 12.7 (0.50)                   |
| 14                | _D-BU-M14             | 72.5 (2.85)         | 24.4 (0.96) | 11.1 (0.44) | 25.0 (0.98) | 27.0 (1.06) | 27.0 (1.06) | 22.5 (0.89)              | 12.7 (0.50)                   |
| 15                | _D-BU-M15             | 72.5 (2.85)         | 24.4 (0.96) | 11.9 (0.47) | 25.0 (0.98) | 27.0 (1.06) | 27.0 (1.06) | 22.8 (0.90)              | 12.7 (0.50)                   |
| 16                | _D-BU-M16             | 72.5 (2.85)         | 24.4 (0.96) | 12.7 (0.50) | 25.0 (0.98) | 27.0 (1.06) | 27.0 (1.06) | 22.8 (0.90)              | 12.7 (0.50)                   |
| 18                | _D-BU-M18             | 78.9 (3.11)         | 24.4 (0.96) | 15.1 (0.59) | 30.0 (1.18) | 30.0 (1.18) | 30.0 (1.18) | 26.0 (1.02)              | 16.8 (0.66)                   |
| 20                | _D-BU-M20             | 84.5 (3.33)         | 26.0 (1.02) | 15.9 (0.63) | 32.0 (1.26) | 35.0 (1.38) | 35.0 (1.38) | 29.0 (1.14)              | 19.0 (0.75)                   |
| 25                | _D-BU-M25             | 96.0 (3.78)         | 31.3 (1.23) | 21.8 (0.86) | 38.0 (1.50) | 41.0 (1.61) | 41.0 (1.61) | 34.0 (1.34)              | 19.0 (0.75)                   |
| 30                | _D-BU-M30             | 124.0 (4.88)        | 39.6 (1.56) | 26.2 (1.03) | 50.0 (1.97) | 50.0 (1.97) | 50.0 (1.97) | 40.5 (1.59)              | 19.0 (0.75)                   |
| 32                | _D-BU-M32             | 128.0 (5.04)        | 42.0 (1.65) | 28.6 (1.13) | 50.0 (1.97) | 50.0 (1.97) | 50.0 (1.97) | 42.5 (1.67)              | 19.0 (0.75)                   |
| 38                | _D-BU-M38             | 145.0 (5.71)        | 49.4 (1.94) | 33.7 (1.33) | 60.0 (2.36) | 60.0 (2.36) | 60.0 (2.36) | 50.5 (1.99)              | 19.0 (0.75)                   |

## BULKHEAD REDUCING UNIONS



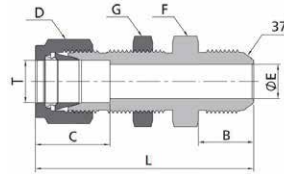
### Fractional Tube

| T - Tube<br>O.D.(in.) | Tx - Tube<br>O.D.(in.) | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |            |             |             |             |             | Panel Hole<br>Size<br>in. (mm) | Max. Panel<br>Thickness<br>in. (mm) |
|-----------------------|------------------------|-----------------------------|---------------------|-------------|------------|-------------|-------------|-------------|-------------|--------------------------------|-------------------------------------|
|                       |                        |                             | L                   | C           | E          | D           | F           | Cx          | G           |                                |                                     |
| 1/4                   | 1/8                    | _D-BUR-F4-F2                | 2.17 (55.1)         | 0.60 (15.2) | 0.09 (2.3) | 0.56 (14.3) | 0.63 (15.9) | 0.50 (12.7) | 0.44 (11.1) | 0.45 (11.5)                    | 0.40 (10.2)                         |
| 3/8                   | 1/4                    | _D-BUR-F6-F4                | 2.39 (60.7)         | 0.66 (16.8) | 0.19 (4.8) | 0.69 (17.5) | 0.75 (19.1) | 0.60 (15.2) | 0.56 (14.3) | 0.58 (14.7)                    | 0.44 (11.2)                         |
| 1/2                   | 1/4                    | _D-BUR-F8-F4                | 2.63 (66.8)         | 0.90 (22.9) | 0.19 (4.8) | 0.87 (22.2) | 0.94 (23.8) | 0.60 (15.2) | 0.56 (14.3) | 0.76 (19.4)                    | 0.50 (12.7)                         |

### Metric Tube

| T - Tube<br>O.D.(mm) | Tx - Tube<br>O.D.(mm) | Basic<br>Ordering<br>Number | Dimension, mm (in.) |             |            |             |             |             |             | Panel Hole<br>Size<br>in. (mm) | Max. Panel<br>Thickness<br>in. (mm) |
|----------------------|-----------------------|-----------------------------|---------------------|-------------|------------|-------------|-------------|-------------|-------------|--------------------------------|-------------------------------------|
|                      |                       |                             | L                   | C           | E          | D           | F           | Cx          | G           |                                |                                     |
| 16                   | 3                     | _D-BUR-FT6-AN3              | 55.1 (2.17)         | 15.3 (0.60) | 2.4 (0.09) | 14.0 (0.55) | 16.0 (0.63) | 12.9 (0.51) | 12.0 (0.47) | 11.5 (0.45)                    | 10.2 (0.40)                         |
| 8                    | 6                     | _D-BUR-FT8-AN6              | 60.1 (2.37)         | 16.2 (0.64) | 4.8 (0.19) | 16.0 (0.63) | 18.0 (0.71) | 15.3 (0.60) | 14.0 (0.55) | 13.1 (0.52)                    | 11.2 (0.44)                         |
| 12                   | 8                     | _D-BUR-FT12-AN8             | 67.6 (2.66)         | 22.8 (0.90) | 6.4 (0.25) | 22.0 (0.87) | 24.0 (0.94) | 16.2 (0.64) | 16.0 (0.63) | 19.5 (0.77)                    | 12.7 (0.50)                         |

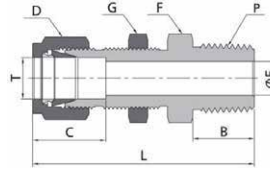
## BULKHEAD FLARED CONNECTOR



### Fractional Tube to 37° Flared

| T - Tube<br>O.D.(in.) | Tube<br>Flared<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             | Panel Hole<br>Size<br>in. (mm) | Max. Panel<br>Thickness<br>in. (mm) |
|-----------------------|------------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------------|-------------------------------------|
|                       |                        |                             | L                   | B           | C           | E           | D           | F           | G           |                                |                                     |
| 1/8                   | 1/8                    | _D-BMC-FT2-AN2              | 1.91 (48.5)         | 0.45 (11.4) | 0.50 (12.7) | 0.06 (1.5)  | 0.44 (11.1) | 0.50 (12.7) | 0.50 (12.7) | 0.33 (8.3)                     | 0.50 (12.7)                         |
| 1/8                   | 1/4                    | _D-BMC-FT2-AN4              | 2.04 (51.8)         | 0.55 (14.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.63 (15.9) | 0.63 (15.9) | 0.33 (8.3)                     | 0.51 (12.7)                         |
| 3/16                  | 3/16                   | _D-BMC-FT3-AN3              | 1.98 (50.3)         | 0.48 (12.2) | 0.54 (13.7) | 0.09 (2.3)  | 0.50 (12.7) | 0.56 (14.3) | 0.56 (14.3) | 0.39 (9.9)                     | 0.50 (12.7)                         |
| 1/4                   | 1/4                    | _D-BMC-FT4-AN4              | 2.12 (53.8)         | 0.55 (14.0) | 0.60 (15.2) | 0.17 (4.3)  | 0.56 (14.3) | 0.63 (15.9) | 0.63 (15.9) | 0.45 (11.5)                    | 0.40 (10.2)                         |
| 5/16                  | 5/16                   | _D-BMC-FT5-AN5              | 2.21 (56.1)         | 0.55 (14.0) | 0.64 (16.2) | 0.23 (5.8)  | 0.63 (15.9) | 0.69 (17.5) | 0.69 (17.5) | 0.52 (13.1)                    | 0.56 (14.3)                         |
| 3/8                   | 1/4                    | _D-BMC-FT6-AN4              | 2.25 (57.2)         | 0.55 (14.0) | 0.66 (16.8) | 0.17 (4.3)  | 0.69 (17.5) | 0.75 (19.1) | 0.75 (19.1) | 0.58 (14.7)                    | 0.44 (11.2)                         |
| 3/8                   | 3/8                    | _D-BMC-FT6-AN6              | 2.25 (57.2)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.75 (19.1) | 0.75 (19.1) | 0.58 (14.7)                    | 0.44 (11.2)                         |
| 1/2                   | 1/2                    | _D-BMC-FT8-AN8              | 2.59 (65.8)         | 0.66 (16.8) | 0.90 (22.8) | 0.39 (9.9)  | 0.87 (22.2) | 0.94 (23.8) | 0.94 (23.8) | 0.76 (19.4)                    | 0.50 (12.7)                         |
| 5/8                   | 5/8                    | _D-BMC-FT10-AN10            | 2.74 (69.6)         | 0.76 (19.3) | 0.96 (24.4) | 0.48 (12.3) | 1.00 (25.4) | 1.06 (27.0) | 1.06 (27.0) | 0.89 (22.6)                    | 0.59 (15.1)                         |
| 3/4                   | 3/4                    | _D-BMC-FT12-AN12            | 3.11 (79.0)         | 0.86 (21.8) | 0.96 (24.4) | 0.61 (15.5) | 1.13 (28.6) | 1.19 (30.2) | 1.19 (30.2) | 1.02 (25.8)                    | 0.66 (16.8)                         |
| 1                     | 1                      | _D-BMC-FT16-AN16            | 3.64 (92.5)         | 0.91 (23.1) | 1.23 (31.2) | 0.84 (21.3) | 1.50 (38.1) | 1.63 (41.3) | 1.63 (41.3) | 1.33 (33.7)                    | 0.75 (19.1)                         |

# BULKHEAD MALE CONNECTOR



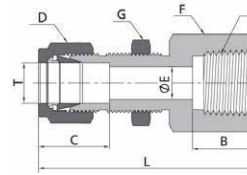
## Fractional Tube to NPT Thread

| T - Tube O.D.(in.) | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |            |            |             | Panel Hole Size in. (mm) | Max. Panel Thickness in. (mm) |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|------------|------------|-------------|--------------------------|-------------------------------|
|                    |            |                       | L                   | B           | C           | E           | D          | F          | G           |                          |                               |
| 1/16               | 1/16       | _D-BMC-M1-N1          | 1.19 (30.2)         | 0.38 (9.7)  | 0.34 (8.6)  | 0.05 (1.3)  | 0.31(7.9)  | 0.31(7.9)  | 0.31 (7.9)  | 0.20 (5.2)               | 0.25 (6.4)                    |
| 1/16               | 1/8        | _D-BMC-M1-N2          | 1.27 (32.3)         | 0.38 (9.7)  | 0.34 (8.6)  | 0.05 (1.3)  | 0.31(7.9)  | 0.44(11.1) | 0.31 (7.9)  | 0.20 (5.2)               | 0.25 (6.4)                    |
| 1/8                | 1/8        | _D-BMC-M2-N2          | 1.83 (46.5)         | 0.38 (9.7)  | 0.50 (12.7) | 0.09 (2.3)  | 0.44(11.1) | 0.50(12.7) | 0.50 (12.7) | 0.33 (8.3)               | 0.50 (12.7)                   |
| 3/16               | 1/8        | _D-BMC-M3-N2          | 1.89 (48.0)         | 0.38 (9.7)  | 0.54 (13.7) | 0.12 (3.0)  | 0.50(12.7) | 0.56(14.3) | 0.56 (14.3) | 0.39 (9.9)               | 0.50 (12.7)                   |
| 1/4                | 1/8        | _D-BMC-M4-N2          | 1.95 (49.5)         | 0.38 (9.7)  | 0.60 (15.2) | 0.19 (4.8)  | 0.56(14.3) | 0.63(15.9) | 0.63 (15.9) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 1/4                | 1/4        | _D-BMC-M4-N4          | 2.13 (54.1)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56(14.3) | 0.63(15.9) | 0.63 (15.9) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 1/4                | 3/8        | _D-BMC-M4-N6          | 2.16 (54.9)         | 0.56 (14.2) | 0.60 (15.2) | 0.19 (4.8)  | 0.56(14.3) | 0.69(17.5) | 0.69 (17.5) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 1/4                | 1/2        | _D-BMC-M4-N8          | 2.37 (60.3)         | 0.75 (19.1) | 0.60 (15.2) | 0.19 (4.8)  | 0.56(14.3) | 0.87(22.2) | 0.87 (22.2) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 5/16               | 1/8        | _D-BMC-M5-N2          | 2.08 (52.8)         | 0.38 (9.7)  | 0.64 (16.3) | 0.19 (4.8)  | 0.63(15.9) | 0.69(17.5) | 0.69 (17.5) | 0.52 (13.1)              | 0.44 (11.2)                   |
| 5/16               | 1/4        | _D-BMC-M5-N4          | 2.27 (57.7)         | 0.56 (14.2) | 0.64 (16.3) | 0.25 (6.4)  | 0.63(15.9) | 0.69(17.5) | 0.69 (17.5) | 0.52 (13.1)              | 0.44 (11.2)                   |
| 3/8                | 1/8        | _D-BMC-M6-N2          | 2.08 (52.9)         | 0.38 (9.7)  | 0.66 (16.8) | 0.19 (4.8)  | 0.69(17.5) | 0.75(19.1) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 3/8                | 1/4        | _D-BMC-M6-N4          | 2.26 (57.4)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69(17.5) | 0.75(19.1) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 3/8                | 3/8        | _D-BMC-M6-N6          | 2.26 (57.4)         | 0.56 (14.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69(17.5) | 0.75(19.1) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 3/8                | 1/2        | _D-BMC-M6-N8          | 2.51 (63.8)         | 0.75 (19.1) | 0.66 (16.8) | 0.28 (7.1)  | 0.69(17.5) | 0.87(22.2) | 0.87 (22.2) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 1/2                | 1/8        | _D-BMC-M8-N2          | 2.31 (58.7)         | 0.38 (9.7)  | 0.90 (22.9) | 0.19 (4.8)  | 0.87(22.2) | 0.94(23.8) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 1/2                | 1/4        | _D-BMC-M8-N4          | 2.49 (63.2)         | 0.56 (14.2) | 0.90 (22.9) | 0.28 (7.1)  | 0.87(22.2) | 0.94(23.8) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 1/2                | 3/8        | _D-BMC-M8-N6          | 2.49 (63.2)         | 0.56 (14.2) | 0.90 (22.9) | 0.38 (9.7)  | 0.87(22.0) | 0.94(23.8) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 1/2                | 1/2        | _D-BMC-M8-N8          | 2.71 (68.8)         | 0.75 (19.1) | 0.90 (22.9) | 0.41 (10.4) | 0.87(22.0) | 0.94(23.8) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 5/8                | 3/8        | _D-BMC-M10-N6         | 2.63 (66.7)         | 0.56 (14.2) | 0.96 (24.4) | 0.38 (9.7)  | 1.00(25.4) | 1.06(27.0) | 1.06 (27.0) | 0.89 (22.6)              | 0.59 (15.1)                   |
| 5/8                | 1/2        | _D-BMC-M10-N8         | 2.81 (71.5)         | 0.75 (19.1) | 0.96 (24.4) | 0.47 (11.9) | 1.00(25.4) | 1.06(27.0) | 1.06 (27.0) | 0.89 (22.6)              | 0.59 (15.1)                   |
| 3/4                | 1/2        | _D-BMC-M12-N8         | 3.00 (76.2)         | 0.75 (19.1) | 0.96 (24.4) | 0.47 (11.9) | 1.13(28.6) | 1.19(30.2) | 1.19 (30.2) | 1.02 (25.8)              | 0.66 (16.8)                   |
| 3/4                | 3/4        | _D-BMC-M12-N12        | 3.00 (76.2)         | 0.75 (19.1) | 0.96 (24.4) | 0.62 (15.7) | 1.13(28.6) | 1.19(30.2) | 1.19 (30.2) | 1.02 (25.8)              | 0.66 (16.8)                   |
| 7/8                | 3/4        | _D-BMC-M14-N12        | 3.31 (84.1)         | 0.75 (19.1) | 1.02 (25.9) | 0.62 (15.7) | 1.25(31.8) | 1.31(33.3) | 1.31 (33.3) | 1.14 (29.0)              | 0.75 (19.1)                   |
| 1                  | 3/4        | _D-BMC-M16-N12        | 3.48 (88.4)         | 0.75 (19.1) | 1.23 (31.2) | 0.62 (15.7) | 1.50(38.1) | 1.63(41.3) | 1.63 (41.3) | 1.33 (33.7)              | 0.75 (19.1)                   |
| 1                  | 1          | _D-BMC-M6-N16         | 3.67 (93.2)         | 0.94 (23.9) | 1.23 (31.2) | 0.88 (22.4) | 1.50(38.1) | 1.63(41.3) | 1.63 (41.3) | 1.33 (33.7)              | 0.75 (19.1)                   |

## Metric Tube to NPT Thread

| T - Tube O.D.(mm) | P-NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |            |             |             |             | Panel Hole Size in. (mm) | Max. Panel Thickness in. (mm) |
|-------------------|------------|-----------------------|---------------------|-------------|-------------|------------|-------------|-------------|-------------|--------------------------|-------------------------------|
|                   |            |                       | L                   | B           | C           | E          | D           | F           | G           |                          |                               |
| 6                 | 1/8        | _D-BMC-M6-N2          | 49.6 (1.95)         | 9.7 (0.38)  | 15.3 (0.60) | 4.8 (0.19) | 14.0 (0.55) | 16.0 (0.63) | 16.0 (0.63) | 11.5 (0.45)              | 10.2 (0.40)                   |
| 6                 | 1/4        | _D-BMC-M6-N4          | 53.6 (2.11)         | 14.2 (0.56) | 15.3 (0.60) | 4.8 (0.19) | 14.0 (0.55) | 16.0 (0.63) | 16.0 (0.63) | 11.5 (0.45)              | 10.2 (0.40)                   |
| 8                 | 1/8        | _D-BMC-M8-N2          | 52.3 (2.06)         | 9.7 (0.38)  | 16.2 (0.64) | 4.8 (0.19) | 16.0 (0.63) | 18.0 (0.71) | 18.0 (0.71) | 13.1 (0.52)              | 11.2 (0.44)                   |
| 8                 | 1/4        | _D-BMC-M8-N4          | 57.5 (2.26)         | 14.2 (0.56) | 16.2 (0.64) | 6.4 (0.25) | 16.0 (0.63) | 18.0 (0.71) | 18.0 (0.71) | 13.1 (0.52)              | 11.2 (0.44)                   |
| 10                | 1/4        | _D-BMC-M10-N4         | 58.4 (2.30)         | 14.2 (0.56) | 17.2 (0.68) | 7.9 (0.31) | 19.0 (0.75) | 22.0 (0.87) | 22.0 (0.87) | 16.3 (0.64)              | 11.2 (0.44)                   |
| 10                | 3/8        | _D-BMC-M10-N6         | 58.4 (2.30)         | 14.2 (0.56) | 17.2 (0.68) | 7.9 (0.31) | 19.0 (0.75) | 22.0 (0.87) | 22.0 (0.87) | 16.3 (0.64)              | 11.2 (0.44)                   |
| 10                | 1/2        | _D-BMC-M10-N8         | 63.1 (2.48)         | 19.1 (0.75) | 17.2 (0.68) | 7.9 (0.31) | 19.0 (0.75) | 22.0 (0.87) | 22.0 (0.87) | 16.3 (0.64)              | 11.2 (0.44)                   |
| 12                | 1/4        | _D-BMC-M12-N4         | 63.9 (2.52)         | 14.2 (0.56) | 22.8 (0.90) | 7.9 (0.31) | 22.0 (0.87) | 24.0 (0.94) | 24.0 (0.94) | 19.5 (0.77)              | 12.7 (0.50)                   |
| 12                | 3/8        | _D-BMC-M12-N6         | 63.9 (2.52)         | 14.2 (0.56) | 22.8 (0.90) | 9.5 (0.37) | 22.0 (0.87) | 24.0 (0.94) | 24.0 (0.94) | 19.5 (0.77)              | 12.7 (0.50)                   |
| 12                | 1/2        | _D-BMC-M12-N8         | 68.8 (2.71)         | 19.1 (0.75) | 22.8 (0.90) | 9.5 (0.37) | 22.0 (0.87) | 24.0 (0.94) | 24.0 (0.94) | 19.5 (0.77)              | 12.7 (0.50)                   |

# BULKHEAD FEMALE CONNECTOR



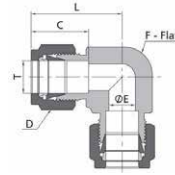
## Fractional Tube to NPT Thread

| T - Tube O.D.(in.) | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             | Panel Hole Size in. (mm) | Max. Panel Thickness in. (mm) |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------|-------------------------------|
|                    |            |                       | L                   | B           | C           | E           | D           | F           | G           |                          |                               |
| 1/16               | 1/16       | _D-BFC-F1-MN1         | 1.03 (26.2)         | 0.39 (9.9)  | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.44 (11.1) | 0.31 (7.9)  | 0.20 (5.2)               | 0.13 (3.2)                    |
| 1/16               | 1/8        | _D-BFC-F1-MN2         | 1.06 (26.9)         | 0.41 (10.4) | 0.34 (8.6)  | 0.05 (1.3)  | 0.31 (7.9)  | 0.56 (14.3) | 0.31 (7.9)  | 0.20 (5.2)               | 0.13 (3.2)                    |
| 1/8                | 1/8        | _D-BFC-F2-MN2         | 1.76 (44.7)         | 0.41 (10.4) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.56 (14.3) | 0.50 (12.7) | 0.33 (8.3)               | 0.50 (12.7)                   |
| 1/8                | 1/4        | _D-BFC-F2-MN4         | 1.95 (49.6)         | 0.59 (15.0) | 0.50 (12.7) | 0.09 (2.3)  | 0.44 (11.1) | 0.75 (19.1) | 0.50 (12.7) | 0.33 (8.3)               | 0.50 (12.7)                   |
| 3/16               | 1/8        | _D-BFC-F3-MN2         | 1.79 (45.5)         | 0.41 (10.4) | 0.54 (13.7) | 0.12 (3.0)  | 0.50 (12.7) | 0.56 (14.3) | 0.56 (14.3) | 0.39 (9.9)               | 0.50 (12.7)                   |
| 1/4                | 1/8        | _D-BFC-F4-MN2         | 1.85 (47.0)         | 0.41 (10.4) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.63 (15.9) | 0.63 (15.9) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 1/4                | 1/4        | _D-BFC-F4-MN4         | 2.04 (51.8)         | 0.59 (15.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) | 0.63 (15.9) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 1/4                | 3/8        | _D-BFC-F4-MN6         | 2.10 (53.3)         | 0.59 (15.0) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.87 (22.2) | 0.63 (15.9) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 1/4                | 1/2        | _D-BFC-F4-MN8         | 2.29 (58.2)         | 0.78 (19.8) | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 1.06 (27.0) | 0.63 (15.9) | 0.45 (11.5)              | 0.40 (10.2)                   |
| 5/16               | 1/8        | _D-BFC-F5-MN2         | 1.96 (49.8)         | 0.41 (10.4) | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.56 (14.3) | 0.69 (17.5) | 0.52 (13.1)              | 0.44 (11.2)                   |
| 5/16               | 1/4        | _D-BFC-F5-MN4         | 2.38 (60.5)         | 0.59 (15.0) | 0.64 (16.3) | 0.25 (6.4)  | 0.63 (15.9) | 0.75 (19.1) | 0.69 (17.5) | 0.52 (13.1)              | 0.44 (11.2)                   |
| 3/8                | 1/8        | _D-BFC-F6-MN2         | 1.98 (50.3)         | 0.41 (10.4) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.63 (15.9) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 3/8                | 1/4        | _D-BFC-F6-MN4         | 2.17 (55.1)         | 0.59 (15.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.75 (19.1) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 3/8                | 3/8        | _D-BFC-F6-MN6         | 2.23 (56.6)         | 0.59 (15.0) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.87 (22.2) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 3/8                | 1/2        | _D-BFC-F6-FN8         | 2.42 (61.5)         | 0.78 (19.8) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.06 (27.0) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 3/8                | 3/4        | _D-BFC-F6-MN12        | 2.57 (65.3)         | 0.81 (20.6) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 1.31 (33.3) | 0.75 (19.1) | 0.58 (14.7)              | 0.44 (11.2)                   |
| 1/2                | 1/4        | _D-BFC-F8-MN4         | 2.37 (60.2)         | 0.59 (15.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.94 (23.8) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 1/2                | 3/8        | _D-BFC-F8-MN6         | 2.43 (61.7)         | 0.59 (15.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.94 (23.8) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 1/2                | 1/2        | _D-BFC-F8-MN8         | 2.62 (66.5)         | 0.78 (19.8) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.06 (27.0) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 1/2                | 3/4        | _D-BFC-F8-MN12        | 2.68 (68.1)         | 0.81 (20.6) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 1.31 (33.3) | 0.94 (23.8) | 0.76 (19.4)              | 0.50 (12.7)                   |
| 5/8                | 3/8        | _D-BFC-F10-MN6        | 2.46 (62.5)         | 0.59 (15.0) | 0.96 (24.4) | 0.50 (12.7) | 1.00 (25.4) | 0.94 (23.8) | 1.06 (27.0) | 0.89 (22.6)              | 0.59 (15.1)                   |
| 5/8                | 1/2        | _D-BFC-F10-MN8        | 2.65 (67.3)         | 0.78 (19.8) | 0.96 (24.4) | 0.50 (12.7) | 1.00 (25.4) | 1.06 (27.0) | 1.06 (27.0) | 0.89 (22.6)              | 0.59 (15.1)                   |
| 3/4                | 1/2        | _D-BFC-F12-MN8        | 2.84 (72.2)         | 0.78 (19.8) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) | 1.19 (30.2) | 1.02 (25.8)              | 0.78 (19.8)                   |
| 3/4                | 3/4        | _D-BFC-F12-MN12       | 2.90 (73.7)         | 0.81 (20.6) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.31 (33.3) | 1.19 (30.2) | 1.02 (25.8)              | 0.78 (19.8)                   |
| 7/8                | 3/4        | _D-BFC-F14-MN12       | 3.18 (80.8)         | 0.81 (20.6) | 1.02 (25.9) | 0.72 (18.3) | 1.25 (31.8) | 1.31 (33.3) | 1.31 (33.3) | 1.14 (29.0)              | 0.94 (23.8)                   |
| 1                  | 3/4        | _D-BFC-F16-MN12       | 3.33 (84.7)         | 0.81 (20.6) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.63 (41.3) | 1.63 (41.3) | 1.33 (33.7)              | 0.94 (23.8)                   |
| 1                  | 1          | _D-BFC-F16-MN16       | 3.68 (93.5)         | 1.00 (25.4) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.63 (41.3) | 1.63 (41.3) | 1.33 (33.7)              | 0.94 (23.8)                   |

## Metric Tube to NPT Thread

| T - Tube O.D.(mm) | P-NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |            |             |             |             | Panel Hole Size in. (mm) | Max. Panel Thickness in. (mm) |
|-------------------|------------|-----------------------|---------------------|-------------|-------------|------------|-------------|-------------|-------------|--------------------------|-------------------------------|
|                   |            |                       | L                   | B           | C           | E          | D           | F           | G           |                          |                               |
| 6                 | 1/8        | _D-BFC-M6-N2          | 47.2 (1.86)         | 10.4 (0.41) | 15.3 (0.60) | 4.8 (0.19) | 14.0 (0.55) | 16.0 (0.63) | 16.0 (0.63) | 11.5 (0.45)              | 10.2 (0.40)                   |
| 6                 | 1/4        | _D-BFC-M6-N4          | 51.8 (2.04)         | 15.0 (0.59) | 15.3 (0.60) | 4.8 (0.19) | 14.0 (0.55) | 19.0 (0.75) | 16.0 (0.63) | 11.5 (0.45)              | 10.2 (0.40)                   |
| 8                 | 1/8        | _D-BFC-M8-N2          | 49.6 (1.95)         | 10.4 (0.41) | 16.2 (0.64) | 4.8 (0.19) | 16.0 (0.63) | 18.0 (0.71) | 18.0 (0.71) | 13.1 (0.52)              | 11.2 (0.44)                   |
| 10                | 1/4        | _D-BFC-M10-N4         | 55.2 (2.17)         | 15.0 (0.59) | 17.2 (0.68) | 7.9 (0.31) | 19.0 (0.75) | 22.0 (0.87) | 22.0 (0.87) | 16.3 (0.64)              | 11.2 (0.44)                   |
| 12                | 3/8        | _D-BFC-M12-N6         | 60.9 (2.40)         | 15.0 (0.59) | 22.8 (0.90) | 9.5 (0.37) | 22.0 (0.87) | 24.0 (0.94) | 24.0 (0.94) | 19.5 (0.77)              | 12.7 (0.50)                   |
| 12                | 1/2        | _D-BFC-M12-N8         | 66.5 (2.62)         | 19.8 (0.78) | 22.8 (0.90) | 9.5 (0.37) | 22.0 (0.87) | 24.0 (0.94) | 24.0 (0.94) | 19.5 (0.77)              | 12.7 (0.50)                   |

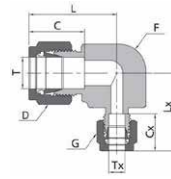
# UNION ELBOWS



| Fractional Tube        |                          |                     |             |             |             |             |
|------------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |
|                        |                          | L                   | C           | D           | F           | E           |
| 1/16                   | _D-LU-F1                 | 0.70 (17.8)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.37 (9.5)  | 0.05 (1.3)  |
| 1/8                    | _D-LU-F2                 | 0.88 (22.4)         | 0.50 (12.7) | 0.44 (11.1) | 0.37 (9.5)  | 0.09 (2.3)  |
| 3/16                   | _D-LU-F3                 | 1.00 (25.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.50 (12.7) | 0.12 (3.0)  |
| 1/4                    | _D-LU-F4                 | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  |
| 5/16                   | _D-LU-F5                 | 1.13 (28.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.25 (6.4)  |
| 3/8                    | _D-LU-F6                 | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  |
| 1/2                    | _D-LU-F8                 | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) |
| 5/8                    | _D-LU-F10                | 1.50 (38.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.5 (12.7)  |
| 3/4                    | _D-LU-F12                | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) |
| 7/8                    | _D-LU-F14                | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.37 (34.9) | 0.72 (18.3) |
| 1                      | _D-LU-F16                | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) |
| 1 1/8                  | _D-LU-F18                | 2.17 (55.1)         | 1.23 (31.2) | 1.63 (41.3) | 1.69 (42.9) | 0.97 (24.6) |
| 1 1/4                  | _D-LU-F20                | 2.62 (66.5)         | 1.62 (41.1) | 1.87 (47.6) | 1.69 (42.9) | 1.09 (27.7) |
| 1 1/2                  | _D-LU-F24                | 3.07 (78.0)         | 1.97 (50.0) | 2.25 (57.2) | 2.00 (50.8) | 1.34 (34.0) |

| Metric Tube           |                          |                     |             |             |             |             |
|-----------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |
|                       |                          | L                   | C           | D           | F           | E           |
| 3                     | _D-LU-M3                 | 22.3 (0.88)         | 12.9 (0.51) | 12.0 (0.47) | 9.5 (0.37)  | 2.4 (0.09)  |
| 4                     | _D-LU-M4                 | 25.4 (1.00)         | 13.7 (0.54) | 12.0 (0.47) | 12.7 (0.50) | 2.4 (0.09)  |
| 6                     | _D-LU-M6                 | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  |
| 8                     | _D-LU-M8                 | 28.8 (1.13)         | 16.2 (0.64) | 16.0 (0.63) | 14.3 (0.56) | 6.4 (0.25)  |
| 10                    | _D-LU-M10                | 31.5 (1.24)         | 17.2 (0.68) | 19.0 (0.75) | 17.5 (0.69) | 7.9 (0.31)  |
| 12                    | _D-LU-M12                | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  |
| 14                    | _D-LU-M14                | 38.0 (1.50)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 11.0 (0.43) |
| 15                    | _D-LU-M15                | 38.8 (1.53)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 11.9 (0.47) |
| 16                    | _D-LU-M16                | 38.0 (1.50)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 12.7 (0.50) |
| 18                    | _D-LU-M18                | 39.8 (1.57)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 20                    | _D-LU-M20                | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) |
| 22                    | _D-LU-M22                | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 18.3 (0.72) |
| 25                    | _D-LU-M25                | 49.1 (1.93)         | 31.3 (1.23) | 38.0 (1.5)  | 34.9 (1.37) | 21.8 (0.86) |
| 28                    | _D-LU-M28                | 64.0 (2.52)         | 36.6 (1.44) | 46.0 (1.81) | 42.9 (1.69) | 21.8 (0.86) |
| 30                    | _D-LU-M30                | 69.9 (2.75)         | 39.6 (1.56) | 50.0 (1.97) | 42.9 (1.69) | 26.2 (1.03) |
| 32                    | _D-LU-M32                | 72.3 (2.85)         | 42.0 (1.65) | 50.0 (1.97) | 42.9 (1.69) | 28.6 (1.13) |
| 38                    | _D-LU-M38                | 84.0 (3.31)         | 49.4 (1.94) | 60.0 (2.36) | 50.8 (2.00) | 33.7 (1.33) |

# UNION REDUCING ELBOWS



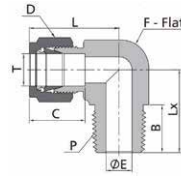
## Fractional Tube

| T - Tube<br>O.D.(in.) | Tx - Tube<br>O.D.(in.) | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|------------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                        |                             | L                   | C           | D           | F           | Cx          | G           | Lx          |
| 3/16                  | 1/8                    | _D-LUR-F3-F2                | 1.00 (25.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.50 (12.7) | 0.50 (12.7) | 0.44 (11.1) | 0.97 (24.7) |
| 1/4                   | 1/8                    | _D-LUR-F4-F2                | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.50 (12.7) | 0.44 (11.1) | 1.00 (25.4) |
| 5/16                  | 1/8                    | _D-LUR-F5-F2                | 1.17 (29.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.50 (12.7) | 0.44 (11.1) | 1.04 (26.4) |
| 5/16                  | 1/4                    | _D-LUR-F5-F4                | 1.17 (29.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.60 (15.2) | 0.56 (14.3) | 1.14 (29.0) |
| 3/8                   | 1/8                    | _D-LUR-F6-F2                | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.50 (12.7) | 0.44 (11.1) | 1.04 (26.4) |
| 3/8                   | 1/4                    | _D-LUR-F6-F4                | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.60 (15.2) | 0.56 (14.3) | 1.14 (29.0) |
| 3/8                   | 5/16                   | _D-LUR-F6-F5                | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.64 (16.3) | 0.63 (15.9) | 1.17 (29.7) |
| 1/2                   | 1/4                    | _D-LUR-F8-F4                | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.60 (15.2) | 0.56 (14.3) | 1.27 (32.2) |
| 1/2                   | 5/16                   | _D-LUR-F8-F5                | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.64 (16.3) | 0.63 (15.9) | 1.28 (32.5) |
| 1/2                   | 3/8                    | _D-LUR-F8-F6                | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.66 (16.8) | 0.69 (17.5) | 1.32 (33.6) |
| 5/8                   | 3/8                    | _D-LUR-F10-F6               | 1.50 (38.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.66 (16.8) | 0.69 (17.5) | 1.40 (35.6) |
| 5/8                   | 1/2                    | _D-LUR-F10-F8               | 1.50 (38.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.90 (22.9) | 0.87 (22.2) | 1.50 (38.1) |
| 3/4                   | 1/4                    | _D-LUR-F12-F4               | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.60 (15.2) | 0.56 (14.3) | 1.41 (35.9) |
| 3/4                   | 3/8                    | _D-LUR-F12-F6               | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.66 (16.8) | 0.69 (17.5) | 1.47 (37.4) |
| 3/4                   | 1/2                    | _D-LUR-F12-F8               | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.90 (22.9) | 0.87 (22.2) | 1.57 (39.9) |
| 7/8                   | 1/4                    | _D-LUR-F14-F4               | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.37 (34.9) | 0.60 (15.2) | 0.56 (14.3) | 1.60 (40.7) |
| 1                     | 1/2                    | _D-LUR-F16-F8               | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.90 (22.9) | 0.87 (22.2) | 1.75 (44.4) |
| 1                     | 3/4                    | _D-LUR-F16-F12              | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.96 (24.4) | 1.13 (28.6) | 1.75 (44.4) |

## Metric Tube

| T - Tube<br>O.D.(mm) | Tx - Tube<br>O.D.(mm) | Basic<br>Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|----------------------|-----------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                      |                       |                             | L                   | C           | D           | F           | Cx          | G           | Lx          |
| 8                    | 6                     | _D-LUR-M8-M6                | 28.8 (1.13)         | 16.2 (0.64) | 16.0 (0.63) | 14.3 (0.56) | 15.3 (0.60) | 14.0 (0.55) | 27.9 (1.10) |
| 10                   | 8                     | _D-LUR-M10-M8               | 31.5 (1.24)         | 17.2 (0.68) | 19.0 (0.75) | 17.5 (0.69) | 16.2 (0.64) | 16.0 (0.63) | 30.5 (1.20) |
| 12                   | 8                     | _D-LUR-M12-M8               | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 16.2 (0.64) | 16.0 (0.63) | 32.6 (1.28) |
| 14                   | 8                     | _D-LUR-M14-M8               | 38.8 (1.53)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 16.2 (0.64) | 16.0 (0.63) | 35.4 (1.39) |
| 14                   | 10                    | _D-LUR-M14-M10              | 38.8 (1.53)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 17.2 (0.68) | 19.0 (0.75) | 36.4 (1.43) |
| 18                   | 12                    | _D-LUR-M18-M12              | 39.9 (1.57)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 22.8 (0.90) | 22.0 (0.87) | 38.8 (1.53) |
| 22                   | 12                    | _D-LUR-M22-M12              | 44.7 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 22.8 (0.90) | 22.0 (0.87) | 39.8 (1.57) |
| 25                   | 18                    | _D-LUR-M25-M20              | 49.0 (1.93)         | 31.2 (1.23) | 38.0 (1.5)  | 34.9 (1.37) | 24.4 (0.96) | 30.0 (1.18) | 44.4 (1.75) |

# MALE ELBOWS



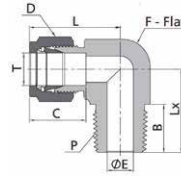
## Fractional Tube to NPT Thread

| T - Tube<br>O.D.(in.) | P-NPT<br>O.D.(in.) | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|--------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                    |                             | L                   | C           | D           | F           | E           | B           | Lx          |
| 1/16                  | 1/16               | _D-LM-F1-N1                 | 0.75 (19.1)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.44 (11.1) | 0.05 (1.3)  | 0.38 (9.7)  | 0.70 (17.8) |
| 1/16                  | 1/8                | _D-LM-F1-N2                 | 0.75 (19.1)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.44 (11.1) | 0.05 (1.3)  | 0.38 (9.7)  | 0.70 (17.8) |
| 1/8                   | 1/16               | _D-LM-F2-N1                 | 0.93 (23.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.4)  | 0.38 (9.7)  | 0.70 (17.8) |
| 1/8                   | 1/8                | _D-LM-F2-N2                 | 0.93 (23.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.4)  | 0.38 (9.7)  | 0.70 (17.8) |
| 1/8                   | 1/4                | _D-LM-F2-N4                 | 0.97 (24.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.50 (12.7) | 0.09 (2.4)  | 0.56 (14.2) | 0.92 (23.4) |
| 3/16                  | 1/8                | _D-LM-F3-N2                 | 1.00 (25.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.50 (12.7) | 0.12 (3.0)  | 0.38 (9.7)  | 0.74 (18.8) |
| 3/16                  | 1/4                | _D-LM-F3-N4                 | 1.00 (25.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.50 (12.7) | 0.12 (3.0)  | 0.56 (14.2) | 0.92 (23.4) |
| 1/4                   | 1/8                | _D-LM-F4-N2                 | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.38 (9.7)  | 0.74 (18.8) |
| 1/4                   | 1/4                | _D-LM-F4-N4                 | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.56 (14.2) | 0.92 (23.4) |
| 1/4                   | 3/8                | _D-LM-F4-N6                 | 1.17 (29.7)         | 0.60 (15.2) | 0.56 (14.3) | 0.69 (17.5) | 0.19 (4.8)  | 0.56 (14.2) | 1.03 (26.2) |
| 5/16                  | 1/4                | _D-LM-F5-N4                 | 1.13 (28.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.25 (6.4)  | 0.56 (14.2) | 0.96 (24.4) |
| 5/16                  | 3/8                | _D-LM-F5-N6                 | 1.20 (30.5)         | 0.64 (16.3) | 0.63 (15.9) | 0.69 (17.5) | 0.25 (6.4)  | 0.56 (14.2) | 1.03 (26.2) |
| 3/8                   | 1/4                | _D-LM-F6-N4                 | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  | 0.56 (14.2) | 1.00 (25.4) |
| 3/8                   | 3/8                | _D-LM-F6-N6                 | 1.23 (31.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.69 (17.5) | 0.28 (7.1)  | 0.56 (14.2) | 1.03 (26.2) |
| 3/8                   | 1/2                | _D-LM-F6-N8                 | 1.31 (33.3)         | 0.66 (16.8) | 0.69 (17.5) | 0.81 (20.6) | 0.28 (7.1)  | 0.75 (19.1) | 1.30 (33.0) |
| 1/2                   | 1/4                | _D-LM-F8-N4                 | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.28 (7.1)  | 0.56 (14.2) | 1.11 (28.2) |
| 1/2                   | 3/8                | _D-LM-F8-N6                 | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.38 (9.7)  | 0.56 (14.2) | 1.11 (28.2) |
| 1/2                   | 1/2                | _D-LM-F8-N8                 | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.75 (19.1) | 1.30 (33.0) |
| 1/2                   | 3/4                | _D-LM-F8-N12                | 1.57 (39.9)         | 0.90 (22.9) | 0.87 (22.2) | 1.06 (27.0) | 0.41 (10.4) | 0.75 (19.1) | 1.45 (36.8) |
| 5/8                   | 3/8                | _D-LM-F10-N6                | 1.50 (38.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.38 (9.7)  | 0.56 (14.2) | 1.19 (30.2) |
| 5/8                   | 1/2                | _D-LM-F10-N8                | 1.50 (38.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.47 (11.9) | 0.75 (19.1) | 1.38 (35.1) |
| 5/8                   | 3/4                | _D-LM-F10-N12               | 1.57 (39.9)         | 0.96 (24.4) | 1.00 (25.4) | 1.06 (27.0) | 0.50 (12.7) | 0.75 (19.1) | 1.45 (36.8) |
| 3/4                   | 1/2                | _D-LM-F12-N8                | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.47 (11.9) | 0.75 (19.1) | 1.45 (36.8) |
| 3/4                   | 3/4                | _D-LM-F12-N12               | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) | 0.75 (19.1) | 1.45 (36.8) |
| 7/8                   | 3/4                | _D-LM-F14-N12               | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.37 (34.9) | 0.62 (15.7) | 0.75 (19.1) | 1.64 (41.7) |
| 1                     | 3/4                | _D-LM-F16-N12               | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.62 (15.7) | 0.75 (19.1) | 1.64 (41.7) |
| 1                     | 1                  | _D-LM-F16-N16               | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) | 0.94 (23.9) | 1.83 (46.5) |
| 1 1/4                 | 1 1/4              | _D-LM-F20-N20               | 2.62 (66.5)         | 1.62 (41.1) | 1.87 (47.6) | 1.69 (42.9) | 1.09 (27.7) | 0.94 (23.9) | 2.06 (52.4) |
| 1 1/2                 | 1 1/2              | _D-LM-F24-N24               | 3.07 (78.0)         | 1.97 (50.0) | 2.25 (57.2) | 2.00 (50.8) | 1.34 (34.0) | 1.03 (26.2) | 2.38 (60.5) |

## Fractional Tube to RT Thread

| T - Tube<br>O.D.(in.) | P-RT<br>O.D.(in.) | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|-------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                   |                             | L                   | C           | D           | F           | E           | B           | Lx          |
| 1/8                   | 1/8               | _D-LM-F2-RT2                | 0.93 (23.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.4)  | 0.38 (9.7)  | 0.70 (17.8) |
| 1/8                   | 1/4               | _D-LM-F2-RT4                | 0.97 (24.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.50 (12.7) | 0.09 (2.4)  | 0.56 (14.2) | 0.92 (23.4) |
| 1/4                   | 1/4               | _D-LM-F4-RT4                | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.56 (14.2) | 0.92 (23.4) |
| 1/4                   | 3/8               | _D-LM-F4-RT6                | 1.17 (29.7)         | 0.60 (15.2) | 0.56 (14.3) | 0.69 (17.5) | 0.19 (4.8)  | 0.56 (14.2) | 1.03 (26.2) |
| 5/16                  | 1/4               | _D-LM-F5-RT4                | 1.13 (28.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.25 (6.4)  | 0.56 (14.2) | 0.96 (24.4) |
| 3/8                   | 1/4               | _D-LM-F6-RT4                | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  | 0.56 (14.2) | 1.00 (25.4) |
| 3/8                   | 3/8               | _D-LM-F6-RT6                | 1.23 (31.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.69 (17.5) | 0.28 (7.1)  | 0.56 (14.2) | 1.03 (26.2) |
| 1/2                   | 3/8               | _D-LM-F8-RT6                | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.38 (9.7)  | 0.56 (14.2) | 1.10 (27.9) |
| 1/2                   | 1/2               | _D-LM-F8-RT8                | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.75 (19.1) | 1.30 (33.0) |
| 3/4                   | 1/2               | _D-LM-F12-RT8               | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.47 (11.9) | 0.75 (19.1) | 1.45 (36.8) |
| 1                     | 1                 | _D-LM-F16-RT16              | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) | 0.94 (23.9) | 1.83 (46.5) |

# MALE ELBOWS



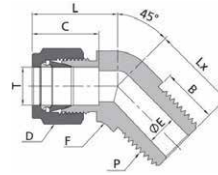
## Metric Tube to NPT Thread

| T - Tube O.D.(mm) | P-RT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |             |
|-------------------|-----------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |           |                       | L                   | C           | D           | F           | E           | B           | Lx          |
| 3                 | 1/8       | _D-LM-M3-N2           | 23.6 (0.93)         | 12.9 (0.51) | 12.0 (0.47) | 11.1 (0.44) | 2.4 (0.09)  | 9.7 (0.38)  | 17.8 (0.70) |
| 3                 | 1/4       | _D-LM-M3-N4           | 24.6 (0.97)         | 12.9 (0.51) | 12.0 (0.47) | 12.7 (0.50) | 2.4 (0.09)  | 14.2 (0.56) | 23.4 (0.92) |
| 4                 | 1/8       | _D-LM-M4-N2           | 25.4 (1.00)         | 13.7 (0.54) | 12.0 (0.47) | 12.7 (0.50) | 2.4 (0.09)  | 9.7 (0.38)  | 18.8 (0.74) |
| 4                 | 1/4       | _D-LM-M4-N4           | 25.4 (1.00)         | 13.7 (0.54) | 12.0 (0.47) | 12.7 (0.50) | 2.4 (0.09)  | 14.2 (0.56) | 23.4 (0.92) |
| 6                 | 1/8       | _D-LM-M6-N2           | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 9.7 (0.38)  | 18.8 (0.74) |
| 6                 | 1/4       | _D-LM-M6-N4           | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 14.2 (0.56) | 23.4 (0.92) |
| 8                 | 1/4       | _D-LM-M8-N4           | 28.8 (1.13)         | 16.2 (0.64) | 16.0 (0.63) | 14.3 (0.56) | 6.4 (0.25)  | 14.2 (0.56) | 24.4 (0.96) |
| 8                 | 3/8       | _D-LM-M8-N6           | 30.6 (1.20)         | 16.2 (0.64) | 16.0 (0.63) | 17.5 (0.69) | 6.4 (0.25)  | 14.2 (0.56) | 26.2 (1.03) |
| 10                | 1/4       | _D-LM-M10-N4          | 31.5 (1.24)         | 17.2 (0.68) | 19.0 (0.75) | 17.5 (0.69) | 7.1 (0.28)  | 14.2 (0.56) | 26.2 (1.03) |
| 10                | 3/8       | _D-LM-M10-N6          | 31.5 (1.24)         | 17.2 (0.68) | 19.0 (0.75) | 17.5 (0.69) | 7.9 (0.31)  | 14.2 (0.56) | 26.2 (1.03) |
| 10                | 1/2       | _D-LM-M10-M8          | 33.5 (1.32)         | 17.2 (0.68) | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  | 19.1 (0.75) | 33.0 (1.30) |
| 12                | 3/8       | _D-LM-M12-N6          | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                | 1/2       | _D-LM-M12-N8          | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 19.1 (0.75) | 33.0 (1.30) |
| 15                | 1/2       | _D-LM-M15-N8          | 38.0 (1.50)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 11.9 (0.47) | 19.1 (0.75) | 35.1 (1.38) |
| 16                | 1/2       | _D-LM-M16-N8          | 38.0 (1.50)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 11.9 (0.47) | 19.1 (0.75) | 35.1 (1.38) |
| 16                | 3/4       | _D-LM-M16-N12         | 39.8 (1.57)         | 24.4 (0.96) | 25.0 (0.98) | 27.0 (1.06) | 12.7 (0.50) | 19.1 (0.75) | 36.8 (1.45) |
| 18                | 1/2       | _D-LM-M18-N8          | 39.8 (1.57)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 11.9 (0.47) | 19.1 (0.75) | 36.8 (1.45) |
| 18                | 3/4       | _D-LM-M18-N12         | 39.8 (1.57)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) | 19.1 (0.75) | 36.8 (1.45) |
| 20                | 1/2       | _D-LM-M20-N8          | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 11.9 (0.47) | 19.1 (0.75) | 41.7 (1.64) |
| 20                | 3/4       | _D-LM-M20-N12         | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) | 19.1 (0.75) | 41.7 (1.64) |
| 22                | 3/4       | _D-LM-M22-N12         | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) | 19.1 (0.75) | 41.7 (1.64) |
| 22                | 1         | _D-LM-M22-N16         | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 18.3 (0.72) | 23.9 (0.94) | 46.5 (1.83) |
| 25                | 1         | _D-LM-M25-N16         | 49.1 (1.93)         | 31.3 (1.23) | 38.0 (1.50) | 34.9 (1.37) | 21.8 (0.86) | 23.9 (0.94) | 46.5 (1.83) |
| 30                | 1 1/4     | _D-LM-M30-N20         | 69.9 (2.75)         | 39.6 (1.56) | 50.0 (1.97) | 42.9 (1.69) | 26.2 (1.03) | 23.9 (0.94) | 53.1 (2.09) |
| 32                | 1 1/4     | _D-LM-M32-N20         | 72.3 (2.85)         | 42.0 (1.65) | 50.0 (1.97) | 42.9 (1.69) | 27.8 (1.09) | 23.9 (0.94) | 53.1 (2.09) |
| 38                | 1 1/2     | _D-LM-M38-N24         | 84.0 (3.31)         | 49.4 (1.94) | 60.0 (2.36) | 50.8 (2.00) | 33.7 (1.33) | 26.2 (1.03) | 60.4 (2.38) |

## Metric Tube to RT Thread

| T - Tube O.D.(mm) | P-RT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |             |
|-------------------|-----------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |           |                       | L                   | C           | D           | F           | E           | B           | Lx          |
| 3                 | 1/8       | _D-LM-M3-RT2          | 23.6 (0.93)         | 12.9 (0.51) | 12.0 (0.47) | 11.1 (0.44) | 2.4 (0.09)  | 9.7 (0.38)  | 17.8 (0.70) |
| 4                 | 1/8       | _D-LM-MT-RT2          | 25.4 (1.00)         | 13.7 (0.54) | 12.0 (0.47) | 12.7 (0.50) | 2.4 (0.09)  | 9.7 (0.38)  | 18.8 (0.74) |
| 6                 | 1/4       | _D-LM-M6-RT4          | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 14.2 (0.56) | 23.4 (0.92) |
| 8                 | 1/4       | _D-LM-M8-RT4          | 28.8 (1.13)         | 16.2 (0.64) | 16.0 (0.63) | 14.3 (0.56) | 6.4 (0.25)  | 14.2 (0.56) | 24.4 (0.96) |
| 10                | 3/8       | _D-LM-M10-RT6         | 31.5 (1.24)         | 17.2 (0.68) | 19.0 (0.75) | 17.5 (0.69) | 7.9 (0.31)  | 14.2 (0.56) | 26.2 (1.03) |
| 12                | 3/8       | _D-LM-M12-RT6         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                | 1/2       | _D-LM-M12-RT8         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 0.5 (0.02)  | 19.1 (0.75) | 33.0 (1.30) |
| 15                | 1/2       | _D-LM-M15-RT8         | 38.1 (1.50)         | 24.4 (0.90) | 25.0 (0.98) | 23.8 (0.94) | 11.9 (0.47) | 19.1 (0.75) | 35.1 (1.38) |
| 16                | 1/2       | _D-LM-M16-RT8         | 38.0 (1.50)         | 24.4 (0.90) | 25.0 (0.98) | 23.8 (0.94) | 11.9 (0.47) | 19.1 (0.75) | 35.1 (1.38) |
| 18                | 1/2       | _D-LM-M18-RT8         | 39.8 (1.57)         | 24.4 (0.90) | 30.0 (1.18) | 27.0 (1.06) | 11.9 (0.47) | 19.1 (0.75) | 36.8 (1.45) |
| 20                | 3/4       | _D-LM-M20-RT12        | 44.6 (1.76)         | 26.0 (0.90) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) | 19.1 (0.75) | 41.7 (1.64) |
| 22                | 3/4       | _D-LM-M22-RT12        | 44.6 (1.76)         | 26.0 (0.90) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) | 19.1 (0.75) | 41.7 (1.64) |
| 25                | 1         | _D-LM-M25-RT16        | 49.1 (1.93)         | 31.3 (0.90) | 38.0 (1.50) | 34.9 (1.37) | 21.8 (0.86) | 23.9 (0.94) | 46.5 (1.83) |
| 28                | 1         | _D-LM-M28-RT16        | 64.0 (2.52)         | 36.6 (0.90) | 46.0 (1.81) | 42.9 (1.69) | 21.8 (0.86) | 23.9 (0.94) | 53.1 (2.09) |

# 45° MALE ELBOWS



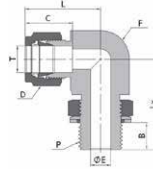
## Fractional Tube to NPT Thread

| T - Tube<br>O.D.(in.) | P-NPT<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|---------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |               |                             | L                   | C           | D           | F           | E           | B           | Lx          |
| 1/16                  | 1/16          | _D-MV-F1-N1                 | 0.62 (15.7)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.37 (9.5)  | 0.05 (1.3)  | 0.38 (9.7)  | 0.57 (14.5) |
| 1/8                   | 1/8           | _D-MV-F2-N2                 | 0.82 (20.8)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.3)  | 0.38 (9.7)  | 0.66 (16.8) |
| 3/16                  | 1/8           | _D-MV-F3-N2                 | 0.85 (21.6)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.12 (3.0)  | 0.38 (9.7)  | 0.58 (14.7) |
| 1/4                   | 1/8           | _D-MV-F4-N2                 | 0.97 (24.6)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.38 (9.7)  | 0.65 (16.5) |
| 1/4                   | 1/4           | _D-MV-F4-N4                 | 0.97 (24.6)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.56 (14.2) | 0.83 (21.1) |
| 5/16                  | 1/8           | _D-MV-F5-N2                 | 1.03 (26.1)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.19 (4.8)  | 0.38 (9.7)  | 0.66 (16.8) |
| 3/8                   | 1/8           | _D-MV-F6-N2                 | 1.10 (27.9)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.19 (4.8)  | 0.38 (9.7)  | 0.72 (18.3) |
| 3/8                   | 1/4           | _D-MV-F6-N4                 | 1.10 (27.9)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  | 0.56 (14.2) | 0.90 (22.9) |
| 3/8                   | 3/8           | _D-MV-F6-N6                 | 1.15 (29.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.81 (20.6) | 0.28 (7.1)  | 0.75 (19.1) | 0.95 (24.1) |
| 1/2                   | 3/8           | _D-MV-F8-N6                 | 1.26 (32.0)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.38 (9.7)  | 0.75 (19.1) | 0.95 (24.1) |
| 5/8                   | 1/2           | _D-V-F10-N8                 | 1.21 (30.7)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.47 (11.9) | 0.75 (19.1) | 1.17 (29.7) |
| 3/4                   | 3/4           | _D-MV-F12-N12               | 1.34 (34.0)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) | 0.75 (19.1) | 1.22 (31.0) |
| 7/8                   | 3/4           | _D-MV-F14-N12               | 1.59 (40.4)         | 1.02 (25.9) | 1.25 (31.8) | 1.25 (31.8) | 0.62 (15.7) | 0.75 (19.1) | 1.27 (32.3) |
| 1                     | 1             | _D-MV-F16-N16               | 1.59 (40.4)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) | 0.94 (23.9) | 1.49 (37.8) |

## Metric Tube to NPT Thread

| T - Tube<br>O.D.(mm) | P-NPT<br>Size | Basic<br>Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|----------------------|---------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                      |               |                             | L                   | C           | D           | F           | E           | B           | Lx          |
| 6                    | 1/8           | _D-MV-M6-N2                 | 23.4 (0.92)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 9.7 (0.38)  | 16.8 (0.66) |
| 6                    | 1/4           | _D-MV-M6-N4                 | 23.4 (0.92)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 14.2 (0.56) | 21.8 (0.86) |
| 8                    | 1/8           | _D-MV-M8-N2                 | 24.3 (0.96)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 4.8 (0.19)  | 9.7 (0.38)  | 16.8 (0.66) |
| 10                   | 1/4           | _D-MV-M10-N4                | 26.6 (1.05)         | 17.2 (0.68) | 19.0 (0.75) | 17.5 (0.69) | 7.9 (0.31)  | 14.2 (0.56) | 24.1 (0.95) |
| 12                   | 3/8           | _D-MV-M12-N6                | 29.1 (1.15)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 19.1 (0.75) | 24.1 (0.95) |
| 12                   | 1/2           | _D-MV-M12-N8                | 30.7 (1.21)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 19.1 (0.75) | 29.7 (1.17) |
| 16                   | 1/2           | _D-MV-M16-N8                | 30.7 (1.21)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 11.9 (0.47) | 19.1 (0.75) | 29.7 (1.17) |
| 18                   | 3/4           | _D-MV-M18-N12               | 34.0 (1.34)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) | 19.1 (0.75) | 1.22 (31.0) |
| 22                   | 3/4           | _D-MV-M22-N12               | 40.4 (1.59)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) | 19.1 (0.75) | 32.3 (1.27) |
| 25                   | 1             | _D-MV-M25-N16               | 40.4 (1.59)         | 31.3 (1.23) | 38.0 (1.50) | 34.9 (1.37) | 21.8 (0.86) | 23.9 (0.94) | 37.8 (1.49) |

# AJUSTABLE MALE ELBOWS



## Fractional Tube to SAE/MS Thread

| T - Tube O.D.(in.) | P-SAE/MS Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|--------------------|---------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                    |               |                       | L                   | B           | C           | D           | E           | F           | Lx          |
| 1/4                | 7/16-20       | _D-AME-F4-ST7         | 1.12 (28.4)         | 0.39 (9.9)  | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 0.50 (12.7) | 1.12 (28.4) |
| 1/4                | 9/16-18       | _D-AME-F4-ST9         | 1.20 (30.5)         | 0.44 (11.2) | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 0.63 (15.9) | 1.27 (32.3) |
| 5/16               | 1/2-20        | _D-AME-F5-ST8         | 1.19 (30.2)         | 0.39 (9.9)  | 0.64 (16.3) | 0.63 (15.9) | 0.23 (5.8)  | 0.56 (14.3) | 1.16 (29.5) |
| 3/8                | 7/16-20       | _D-AME-F6-ST7         | 1.31 (33.3)         | 0.39 (9.9)  | 0.66 (16.8) | 0.69 (17.5) | 0.20 (5.1)  | 0.63 (15.9) | 1.24 (31.5) |
| 3/8                | 9/16-18       | _D-AME-F6-ST9         | 1.26 (32.0)         | 0.44 (11.2) | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 0.63 (15.9) | 1.27 (32.3) |
| 3/8                | 3/4-16        | _D-AME-F6-ST2         | 1.37 (34.8)         | 0.50 (12.7) | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 0.81 (20.6) | 1.49 (37.8) |
| 1/2                | 9/16-18       | _D-AME-F8-ST9         | 1.48 (37.6)         | 0.44 (11.2) | 0.90 (22.9) | 0.87 (22.2) | 0.28 (7.1)  | 0.81 (20.6) | 1.48 (37.5) |
| 1/2                | 3/4-16        | _D-AME-F8-ST2         | 1.48 (37.6)         | 0.50 (12.7) | 0.90 (22.9) | 0.87 (22.2) | 0.41 (10.4) | 0.81 (20.6) | 1.49 (37.8) |
| 5/8                | 7/8-14        | _D-AME-F10-ST14       | 1.56 (39.6)         | 0.56 (14.2) | 0.96 (24.4) | 1.00 (25.4) | 0.50 (12.7) | 0.94 (23.8) | 1.71 (43.4) |
| 3/4                | 1 1/16-12     | _D-AME-F12-ST7        | 1.63 (41.4)         | 0.66 (16.8) | 0.96 (24.4) | 1.13 (28.6) | 0.62 (15.7) | 1.06 (27.0) | 1.92 (48.8) |
| 7/8                | 1 3/16-12     | _D-AME-F14-ST9        | 1.70 (43.2)         | 0.66 (16.8) | 1.02 (25.9) | 1.25 (31.8) | 0.72 (18.3) | 1.19 (30.2) | 1.99 (50.5) |
| 1                  | 1 5/16-12     | _D-AME-F16-ST21       | 1.99 (50.5)         | 0.66 (16.8) | 1.23 (31.2) | 1.50 (38.1) | 0.88 (22.4) | 1.37 (34.9) | 2.11 (53.6) |
| 1 1/4              | 1 5/8-12      | _D-AME-F20-ST26       | 2.67 (67.8)         | 0.66 (16.8) | 1.62 (41.1) | 1.87 (47.6) | 1.09 (27.7) | 1.69 (42.9) | 2.29 (58.2) |
| 1 1/2              | 1 7/8-12      | _D-AME-F24-ST30       | 3.07 (78.0)         | 0.66 (16.8) | 1.97 (50.0) | 2.25 (57.2) | 1.34 (34.0) | 2.00 (50.8) | 2.38 (60.5) |

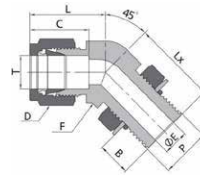
## Fractional Tube to ISO Parallel Thread

| T - Tube O.D.(in.) | P-BSP Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                    |            |                       | L                   | B           | C           | D           | E           | F           | Lx          |
| 1/4                | 1/8        | _D-AME-F4-PP2         | 1.06 (26.9)         | 0.32 (8.1)  | 0.60 (15.2) | 0.56 (14.3) | 0.16 (4.1)  | 0.50 (12.7) | 1.04 (26.4) |
| 1/4                | 1/4        | _D-AME-F4-PP4         | 1.14 (29.0)         | 0.36 (9.1)  | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 0.63 (15.9) | 1.27 (32.3) |
| 3/8                | 1/4        | _D-AME-F6-PP4         | 1.20 (30.5)         | 0.36 (9.1)  | 0.66 (16.8) | 0.69 (17.5) | 0.23 (5.8)  | 0.63 (15.9) | 1.27 (32.3) |
| 3/8                | 3/8        | _D-AME-F6-PP6         | 1.31 (33.3)         | 0.37 (9.4)  | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 0.81 (20.6) | 1.46 (37.1) |
| 1/2                | 1/4        | _D-AME-F8-PP4         | 1.42 (36.1)         | 0.36 (9.1)  | 0.90 (22.9) | 0.87 (22.2) | 0.23 (5.8)  | 0.81 (20.6) | 1.38 (35.1) |
| 1/2                | 3/8        | _D-AME-F8-PP6         | 1.42 (36.1)         | 0.37 (9.4)  | 0.90 (22.9) | 0.87 (22.2) | 0.31 (7.9)  | 0.81 (20.6) | 1.46 (37.1) |
| 1/2                | 1/2        | _D-AME-F8-PP8         | 1.50 (38.1)         | 0.51 (13.0) | 0.90 (22.9) | 0.87 (22.2) | 0.41 (10.4) | 0.94 (23.8) | 1.71 (43.4) |
| 5/8                | 1/2        | _D-AME-F10-PP8        | 1.50 (38.1)         | 0.51 (13.0) | 0.96 (24.4) | 1.00 (25.4) | 0.47 (11.9) | 0.94 (23.8) | 1.71 (43.4) |
| 3/4                | 1/2        | _D-AME-F12-PP8        | 1.57 (39.9)         | 0.51 (13.0) | 0.96 (24.4) | 1.13 (28.6) | 0.47 (11.9) | 1.06 (27.0) | 1.78 (45.2) |
| 3/4                | 3/4        | _D-AME-F12-PP12       | 1.57 (39.9)         | 0.51 (13.0) | 0.96 (24.4) | 1.13 (28.6) | 0.62 (15.7) | 1.06 (27.0) | 1.92 (48.8) |
| 1                  | 3/4        | _D-AME-F16-PP12       | 1.93 (49.0)         | 0.51 (13.0) | 1.23 (31.2) | 1.50 (38.1) | 0.62 (15.7) | 1.37 (34.9) | 2.10 (53.3) |
| 1                  | 1          | _D-AME-F16-PP16       | 1.93 (49.0)         | 0.55 (14.0) | 1.23 (31.2) | 1.50 (38.1) | 0.78 (19.8) | 1.37 (34.9) | 2.11 (53.6) |

## Metric Tube to ISO Parallel Thread

| T - Tube O.D.(mm) | P-BSP Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |            |             |             |
|-------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|------------|-------------|-------------|
|                   |            |                       | L                   | B           | C           | D           | E          | F           | Lx          |
| 6                 | 1/8        | _D-AME-M6-PP2         | 27.0 (1.06)         | 8.1 (0.32)  | 15.3 (0.60) | 14.0 (0.55) | 4.0 (0.16) | 12.7 (0.50) | 26.4 (1.04) |
| 6                 | 1/4        | _D-AME-M6-PP4         | 29.0 (1.14)         | 9.1 (0.36)  | 15.3 (0.60) | 14.0 (0.55) | 4.8 (0.19) | 15.9 (0.63) | 32.3 (1.27) |
| 8                 | 1/8        | _D-AME-M8-PP2         | 28.8 (1.13)         | 8.1 (0.32)  | 16.2 (0.64) | 16.0 (0.63) | 4.0 (0.16) | 14.3 (0.56) | 27.4 (1.08) |
| 8                 | 1/4        | _D-AME-M8-PP4         | 29.9 (1.18)         | 9.1 (0.36)  | 16.2 (0.64) | 16.0 (0.63) | 5.9 (0.23) | 15.9 (0.63) | 32.2 (1.27) |
| 10                | 1/4        | _D-AME-M10-PP4        | 33.5 (1.32)         | 9.1 (0.36)  | 17.2 (0.68) | 19.0 (0.75) | 5.9 (0.23) | 20.6 (0.81) | 35.0 (1.38) |
| 10                | 3/8        | _D-AME-M10-PP6        | 33.5 (1.32)         | 9.4 (0.37)  | 17.2 (0.68) | 19.0 (0.75) | 7.9 (0.31) | 20.6 (0.81) | 37.1 (1.46) |
| 12                | 1/4        | _D-AME-M12-PP4        | 36.0 (1.42)         | 9.1 (0.36)  | 22.8 (0.90) | 22.0 (0.87) | 5.9 (0.23) | 20.6 (0.81) | 35.0 (1.38) |
| 12                | 3/8        | _D-AME-M12-PP6        | 36.0 (1.42)         | 9.4 (0.37)  | 22.8 (0.90) | 22.0 (0.87) | 7.9 (0.31) | 20.6 (0.81) | 37.1 (1.46) |
| 12                | 1/2        | _D-AME-M12-PP8        | 38.0 (1.50)         | 13.0 (0.51) | 22.8 (0.90) | 22.0 (0.87) | 9.5 (0.37) | 23.8 (0.94) | 43.4 (1.71) |
| 12                | 3/4        | _D-AME-M12-PP12       | 39.8 (1.57)         | 13.0 (0.51) | 22.8 (0.90) | 22.0 (0.87) | 9.5 (0.37) | 27.0 (1.06) | 48.8 (1.92) |

# 45° AJUSTABLE MALE ELBOWS



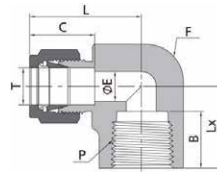
## Fractional Tube to SAE/MS Thread

| T - Tube<br>O.D.(in.) | P-SAE/MS<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                  |                             | L                   | B           | C           | D           | E           | F           | Lx          |
| 1/4                   | 7/16-20          | _D-AMV-FT-ST7               | 1.01 (25.7)         | 0.39 (9.9)  | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 0.50 (12.7) | 1.01 (25.7) |
| 3/8                   | 9/16-18          | _D-AMV-F6-ST9               | 1.10 (27.9)         | 0.44 (11.2) | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 0.63 (15.9) | 1.11 (28.2) |
| 1/2                   | 3/4-16           | _D-AMV-F8-ST12              | 1.26 (32.0)         | 0.50 (12.7) | 0.90 (22.9) | 0.87 (22.2) | 0.41 (10.4) | 0.81 (20.6) | 1.27 (32.3) |
| 3/4                   | 1 1/16-12        | _D-AMV-F12-ST17             | 1.57 (39.9)         | 0.66 (16.8) | 0.96 (24.4) | 1.13 (28.6) | 0.62 (15.7) | 1.06 (27.0) | 1.86 (47.2) |
| 1                     | 1 5/16-12        | _D-AMV-F16-ST21             | 1.87 (47.5)         | 0.66 (16.8) | 1.23 (31.2) | 1.50 (38.1) | 0.88 (22.4) | 1.37 (34.9) | 1.99 (50.5) |

## Fractional Tube to ISO Parallel Thread

| T - Tube<br>O.D.(in.) | P-BSP<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|---------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |               |                             | L                   | B           | C           | D           | E           | F           | Lx          |
| 1/4                   | 1/8           | _D-AMV-F4-PP2               | 1.06 (26.9)         | 0.32 (8.1)  | 0.60 (15.2) | 0.56 (14.3) | 0.16 (4.1)  | 0.50 (12.7) | 1.04 (26.4) |
| 3/8                   | 1/4           | _D-AMV-F6-PP4               | 1.20 (30.5)         | 0.36 (9.1)  | 0.66 (16.8) | 0.69 (17.5) | 0.23 (5.8)  | 0.63 (15.9) | 1.27 (32.3) |
| 1/2                   | 1/2           | _D-AMV-F8-PP8               | 1.50 (38.1)         | 0.51 (13.0) | 0.90 (22.9) | 0.87 (22.2) | 0.41 (10.4) | 0.94 (23.8) | 1.71 (43.4) |
| 3/4                   | 3/4           | _D-AMV-F12-PP12             | 1.57 (39.9)         | 0.51 (13.0) | 0.96 (24.4) | 1.13 (28.6) | 0.62 (15.7) | 1.06 (27.0) | 1.92 (48.8) |
| 1                     | 1             | _D-AMV-F16-PP16             | 1.93 (49.0)         | 0.55 (14.0) | 1.23 (31.2) | 1.50 (38.1) | 0.78 (19.8) | 1.37 (34.9) | 2.11 (53.6) |

# FEMALE ELBOWS



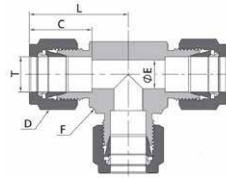
## Fractional Tube to NPT Thread

| T - Tube O.D. (in.) | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|---------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |            |                       | L                   | B           | C           | D           | E           | F           | Lx          |
| 1/16                | 1/16       | _D-LF-F1-N1           | 0.71 (18.0)         | 0.39 (9.9)  | 0.34 (8.6)  | 0.31 (7.9)  | 0.05 (1.3)  | 0.44 (11.1) | 0.56 (14.2) |
| 1/16                | 1/8        | _D-LF-F1-N2           | 0.81 (20.6)         | 0.41 (10.4) | 0.34 (8.6)  | 0.31 (7.9)  | 0.05 (1.3)  | 0.56 (14.3) | 0.75 (19.1) |
| 1/8                 | 1/8        | _D-LF-F2-N2           | 0.97 (24.6)         | 0.41 (10.4) | 0.50 (12.7) | 0.44 (11.1) | 0.09 (2.3)  | 0.56 (14.3) | 0.75 (19.1) |
| 1/8                 | 1/4        | _D-LF-F2-N4           | 1.08 (27.4)         | 0.59 (15.0) | 0.50 (12.7) | 0.44 (11.1) | 0.09 (2.3)  | 0.69 (17.5) | 0.88 (22.4) |
| 3/16                | 1/8        | _D-LF-F3-N2           | 1.00 (25.4)         | 0.41 (10.4) | 0.54 (13.7) | 0.50 (12.7) | 0.12 (3.0)  | 0.5 (12.7)  | 0.75 (19.1) |
| 1/4                 | 1/8        | _D-LF-F4-N2           | 1.06 (26.9)         | 0.41 (10.4) | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 0.56 (14.3) | 0.75 (19.1) |
| 1/4                 | 1/4        | _D-LF-F4-N4           | 1.17 (29.7)         | 0.59 (15.0) | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 0.69 (17.5) | 0.88 (22.4) |
| 1/4                 | 3/8        | _D-LF-F4-N6           | 1.25 (31.8)         | 0.59 (15.0) | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 0.81 (20.6) | 0.88 (22.4) |
| 1/4                 | 1/2        | _D-LF-F4-N8           | 1.36 (34.5)         | 0.78 (19.8) | 0.60 (15.2) | 0.56 (14.3) | 0.19 (4.8)  | 1.00 (25.4) | 1.12 (28.4) |
| 5/16                | 1/8        | _D-LF-F5-N2           | 1.13 (28.7)         | 0.41 (10.4) | 0.64 (16.3) | 0.63 (15.9) | 0.25 (6.4)  | 0.56 (14.3) | 0.75 (19.1) |
| 5/16                | 1/4        | _D-LF-F5-N4           | 1.20 (30.5)         | 0.59 (15.0) | 0.64 (16.3) | 0.63 (15.9) | 0.25 (6.4)  | 0.69 (17.5) | 0.88 (22.4) |
| 3/8                 | 1/8        | _D-LF-F6-N2           | 1.20 (30.5)         | 0.41 (10.4) | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 0.63 (15.9) | 0.75 (19.1) |
| 3/8                 | 1/4        | _D-LF-F6-N4           | 1.23 (31.2)         | 0.59 (15.0) | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 0.69 (17.5) | 0.88 (22.4) |
| 3/8                 | 3/8        | _D-LF-F6-N6           | 1.31 (33.3)         | 0.59 (15.0) | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 0.81 (20.6) | 0.88 (22.4) |
| 3/8                 | 1/2        | _D-LF-F6-N8           | 1.42 (36.1)         | 0.78 (19.8) | 0.66 (16.8) | 0.69 (17.5) | 0.28 (7.1)  | 1.00 (25.4) | 1.12 (28.4) |
| 1/2                 | 1/4        | _D-LF-F8-N4           | 1.42 (36.1)         | 0.59 (15.0) | 0.90 (22.9) | 0.87 (22.2) | 0.41 (10.4) | 0.81 (20.6) | 0.88 (22.4) |
| 1/2                 | 3/8        | _D-LF-F8-N6           | 1.42 (36.1)         | 0.59 (15.0) | 0.90 (22.9) | 0.87 (22.2) | 0.41 (10.4) | 0.81 (20.6) | 0.88 (22.4) |
| 1/2                 | 1/2        | _D-LF-F8-N8           | 1.53 (38.9)         | 0.78 (19.8) | 0.90 (22.9) | 0.87 (22.2) | 0.41 (10.4) | 1.00 (25.4) | 1.12 (28.4) |
| 5/8                 | 3/8        | _D-LF-F10-N6          | 1.50 (38.1)         | 0.59 (15.0) | 0.96 (24.4) | 1.00 (25.4) | 0.50 (12.7) | 0.94 (23.8) | 0.88 (22.4) |
| 5/8                 | 1/2        | _D-LF-F10-N8          | 1.57 (39.9)         | 0.78 (19.8) | 0.96 (24.4) | 1.00 (25.4) | 0.50 (12.7) | 1.06 (27.0) | 1.12 (28.4) |
| 3/4                 | 1/2        | _D-LF-F12-N8          | 1.57 (39.9)         | 0.78 (19.8) | 0.96 (24.4) | 1.13 (28.6) | 0.62 (15.7) | 1.06 (27.0) | 1.12 (28.4) |
| 3/4                 | 3/4        | _D-LF-F12-N12         | 1.76 (44.7)         | 0.81 (20.6) | 0.96 (24.4) | 1.13 (28.6) | 0.62 (15.7) | 1.37 (34.9) | 1.25 (31.8) |
| 7/8                 | 3/4        | _D-LF-F14-N12         | 1.76 (44.7)         | 0.81 (20.6) | 1.02 (25.9) | 1.25 (31.8) | 0.72 (18.3) | 1.37 (34.9) | 1.25 (31.8) |
| 1                   | 3/4        | _D-LF-F16-N12         | 1.93 (49.0)         | 0.81 (20.6) | 1.23 (31.2) | 1.50 (38.1) | 0.88 (22.4) | 1.37 (34.9) | 1.25 (31.8) |
| 1                   | 1          | _D-LF-F6-N16          | 2.11 (53.6)         | 1.00 (25.4) | 1.23 (31.2) | 1.50 (38.1) | 0.88 (22.4) | 1.69 (42.9) | 1.50 (38.1) |

## Metric Tube to NPT Thread

| T - Tube O.D. (mm) | P-NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |             |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                    |            |                       | L                   | B           | C           | D           | E           | F           | Lx          |
| 6                  | 1/8        | _D-LF-M6-N2           | 27.0 (1.06)         | 10.4 (0.41) | 15.3 (0.60) | 14.0 (0.55) | 4.8 (0.19)  | 12.7 (0.50) | 19.0 (0.75) |
| 6                  | 1/4        | _D-LF-M6-N4           | 29.8 (1.17)         | 15.0 (0.59) | 15.3 (0.60) | 14.0 (0.55) | 4.8 (0.19)  | 17.5 (0.69) | 22.4 (0.88) |
| 8                  | 1/8        | _D-LF-M8-N2           | 28.8 (1.13)         | 10.4 (0.41) | 16.2 (0.64) | 16.0 (0.63) | 4.8 (0.19)  | 14.3 (0.56) | 19.1 (0.75) |
| 8                  | 1/4        | _D-LF-M8-N4           | 30.6 (1.20)         | 15.0 (0.59) | 16.2 (0.64) | 16.0 (0.63) | 6.4 (0.25)  | 17.5 (0.69) | 22.4 (0.88) |
| 10                 | 1/4        | _D-LF-M10-N4          | 33.5 (1.32)         | 15.0 (0.59) | 17.2 (0.68) | 19.0 (0.75) | 7.9 (0.31)  | 20.6 (0.81) | 22.4 (0.88) |
| 10                 | 3/8        | _D-LF-M10-N6          | 33.5 (1.32)         | 15.0 (0.59) | 17.2 (0.68) | 19.0 (0.75) | 7.9 (0.31)  | 20.6 (0.81) | 22.4 (0.88) |
| 10                 | 1/2        | _D-LF-M10-N8          | 36.6 (1.44)         | 19.8 (0.78) | 17.2 (0.68) | 19.0 (0.75) | 7.9 (0.31)  | 25.4 (1.00) | 28.5 (1.12) |
| 12                 | 1/4        | _D-LF-M12-N4          | 36.0 (1.42)         | 15.0 (0.59) | 22.8 (0.90) | 22.0 (0.87) | 7.9 (0.31)  | 20.6 (0.81) | 22.4 (0.88) |
| 12                 | 3/8        | _D-LF-M12-N6          | 36.0 (1.42)         | 15.0 (0.59) | 22.8 (0.90) | 22.0 (0.87) | 9.5 (0.37)  | 20.6 (0.81) | 22.4 (0.88) |
| 12                 | 1/2        | _D-LF-M12-N8          | 38.8 (1.53)         | 19.8 (0.78) | 22.8 (0.90) | 22.0 (0.87) | 9.5 (0.37)  | 25.4 (1.00) | 28.4 (1.12) |
| 16                 | 3/8        | _D-LF-M16-N6          | 39.5 (1.56)         | 15.0 (0.59) | 24.4 (0.96) | 25.0 (0.98) | 9.5 (0.37)  | 27.0 (1.06) | 23.6 (0.93) |
| 16                 | 1/2        | _D-LF-M16-N8          | 39.5 (1.56)         | 19.8 (0.78) | 24.4 (0.96) | 25.0 (0.98) | 12.7 (0.50) | 27.0 (1.06) | 28.5 (1.12) |

# UNION TEES



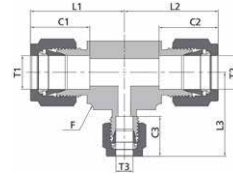
## Fractional Tube

| T - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |
|------------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
|                        |                          | L                   | C           | D           | F           | E           |
| 1/16                   | _D-TU-F1                 | 0.70 (17.8)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.37 (9.5)  | 0.05 (1.3)  |
| 1/8                    | _D-TU-F2                 | 0.96 (24.4)         | 0.50 (12.7) | 0.44 (11.1) | 0.37 (9.5)  | 0.09 (2.3)  |
| 3/16                   | _D-TU-F3                 | 0.96 (24.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.12 (3.0)  |
| 1/4                    | _D-TU-F4                 | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  |
| 5/16                   | _D-TU-F5                 | 1.17 (29.7)         | 0.64 (16.2) | 0.63 (15.9) | 0.63 (15.9) | 0.25 (6.4)  |
| 3/8                    | _D-TU-F6                 | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  |
| 1/2                    | _D-TU-F8                 | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) |
| 5/8                    | _D-TU-F10                | 1.53 (38.9)         | 0.96 (24.4) | 1.00 (25.4) | 1.00 (25.4) | 0.50 (12.7) |
| 3/4                    | _D-TU-F12                | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) |
| 7/8                    | _D-TU-F14                | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.37 (34.9) | 0.72 (18.3) |
| 1                      | _D-TU-F16                | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) |
| 1 1/8                  | _D-TU-F18                | 2.17 (55.1)         | 1.23 (31.2) | 1.81 (46.0) | 1.69 (42.9) | 0.97 (24.6) |
| 1 1/4                  | _D-TU-F20                | 2.62 (66.5)         | 1.62 (41.1) | 1.87 (47.6) | 1.69 (42.9) | 1.09 (27.7) |
| 1 1/2                  | _D-TU-F24                | 3.07 (78.0)         | 1.97 (50.0) | 2.25 (57.2) | 2.00 (50.8) | 1.34 (34.0) |

## Metric Tube

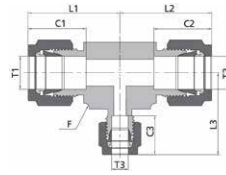
| T - Tube<br>O.D. (mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |
|-----------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
|                       |                          | L                   | C           | D           | F           | E           |
| 2                     | _D-TU-M2                 | 22.3 (0.88)         | 12.9 (0.51) | 12.0 (0.47) | 9.5 (0.37)  | 1.7 (0.07)  |
| 3                     | _D-TU-M3                 | 22.3 (0.88)         | 12.9 (0.51) | 12.0 (0.47) | 9.5 (0.37)  | 2.4 (0.09)  |
| 4                     | _D-TU-M4                 | 25.4 (1.00)         | 13.7 (0.54) | 12.0 (0.47) | 12.7 (0.50) | 2.4 (0.09)  |
| 6                     | _D-TU-M6                 | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  |
| 8                     | _D-TU-M8                 | 29.9 (1.18)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 6.4 (0.25)  |
| 10                    | _D-TU-M10                | 31.5 (1.24)         | 17.2 (0.68) | 19.0 (0.75) | 17.5 (0.69) | 7.9 (0.31)  |
| 12                    | _D-TU-M12                | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  |
| 14                    | _D-TU-M14                | 38.8 (1.53)         | 24.4 (0.96) | 25.0 (0.98) | 25.4 (1.00) | 11.1 (0.44) |
| 15                    | _D-TU-M15                | 38.8 (1.53)         | 24.4 (0.96) | 25.0 (0.98) | 25.4 (1.00) | 11.9 (0.47) |
| 16                    | _D-TU-M16                | 38.8 (1.53)         | 24.4 (0.96) | 25.0 (0.98) | 25.4 (1.00) | 12.7 (0.50) |
| 18                    | _D-TU-M18                | 38.8 (1.53)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 20                    | _D-TU-M20                | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) |
| 22                    | _D-TU-M22                | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 18.3 (0.72) |
| 25                    | _D-TU-M25                | 49.1 (1.93)         | 31.3 (1.23) | 38.0 (1.50) | 34.9 (1.37) | 21.8 (0.86) |
| 28                    | _D-TU-M28                | 64.0 (2.52)         | 36.6 (1.44) | 46.0 (1.81) | 42.9 (1.69) | 21.8 (0.86) |
| 30                    | _D-TU-M30                | 69.9 (2.75)         | 39.6 (1.56) | 50.0 (1.97) | 42.9 (1.69) | 26.2 (1.03) |
| 32                    | _D-TU-M32                | 72.3 (2.85)         | 42.0 (1.65) | 50.0 (1.97) | 42.9 (1.69) | 28.6 (1.13) |
| 38                    | _D-TU-M38                | 84.0 (3.31)         | 49.4 (1.94) | 60.0 (2.36) | 50.8 (2.00) | 33.7 (1.33) |

# REDUCING UNION TEES



| Fractional Tube |                 |                 |                       | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------|-----------------|-----------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| T1 - O.D. (in.) | T2 - O.D. (in.) | T3 - O.D. (in.) | Basic Ordering Number | L1                  | L2          | L3          | C1          | C2          | C3          | F           |
| 1/4             | 1/4             | 1/8             | _D-TUR-F4-F4-F2       | 1.05 (26.7)         | 1.05 (26.7) | 0.96 (24.4) | 0.60 (15.2) | 0.60 (15.2) | 0.50 (12.7) | 0.50 (12.7) |
| 3/8             | 1/4             | 1/4             | _D-TUR-F6-F4-F4       | 1.20 (30.5)         | 1.14 (29.0) | 1.14 (29.0) | 0.66 (16.8) | 0.60 (15.2) | 0.60 (15.2) | 0.63 (15.9) |
| 3/8             | 1/4             | 3/8             | _D-TUR-F6-F4-F6       | 1.20 (30.5)         | 1.14 (29.0) | 1.20 (30.5) | 0.66 (16.8) | 0.60 (15.2) | 0.66 (16.8) | 0.63 (15.9) |
| 3/8             | 3/8             | 1/4             | _D-TUR-F6-F6-F4       | 1.20 (30.5)         | 1.20 (30.5) | 1.14 (29.0) | 0.66 (16.8) | 0.66 (16.8) | 0.60 (15.2) | 0.63 (15.9) |
| 1/2             | 1/4             | 1/4             | _D-TUR-F8-F4-F4       | 1.42 (36.1)         | 1.25 (31.8) | 1.25 (31.8) | 0.90 (22.9) | 0.60 (15.2) | 0.60 (15.2) | 0.81 (20.6) |
| 1/2             | 1/4             | 1/2             | _D-TUR-F8-F4-F8       | 1.42 (36.1)         | 1.25 (31.8) | 1.42 (36.1) | 0.90 (22.9) | 0.60 (15.2) | 0.90 (22.9) | 0.81 (20.6) |
| 1/2             | 3/8             | 3/8             | _D-TUR-F8-F6-F6       | 1.42 (36.1)         | 1.31 (33.3) | 1.31 (33.3) | 0.90 (22.9) | 0.66 (16.8) | 0.66 (16.8) | 0.81 (20.6) |
| 1/2             | 3/8             | 1/2             | _D-TUR-F8-F6-F8       | 1.42 (36.1)         | 1.31 (33.3) | 1.42 (36.1) | 0.90 (22.9) | 0.66 (16.8) | 0.90 (22.9) | 0.81 (20.6) |
| 1/2             | 1/2             | 1/4             | _D-TUR-F8-F8-F4       | 1.42 (36.1)         | 1.42 (36.1) | 1.25 (31.8) | 0.90 (22.9) | 0.90 (22.9) | 0.60 (15.2) | 0.81 (20.6) |
| 1/2             | 1/2             | 3/8             | _D-TUR-F8-F8-F6       | 1.42 (36.1)         | 1.42 (36.1) | 1.31 (33.3) | 0.90 (22.9) | 0.90 (22.9) | 0.66 (16.8) | 0.81 (20.6) |
| 5/8             | 3/8             | 3/8             | _D-TUR-F10-F6-F6      | 1.53 (38.9)         | 1.42 (36.1) | 1.42 (36.1) | 0.96 (24.4) | 0.66 (16.8) | 0.66 (16.8) | 1.00 (25.4) |
| 5/8             | 3/8             | 1/2             | _D-TUR-F10-F6-F8      | 1.53 (38.9)         | 1.42 (36.1) | 1.53 (38.9) | 0.96 (24.4) | 0.66 (16.8) | 0.90 (22.9) | 1.00 (25.4) |
| 5/8             | 1/2             | 1/2             | _D-TUR-F10-F8-F8      | 1.53 (38.9)         | 1.53 (38.9) | 1.53 (38.9) | 0.96 (24.4) | 0.90 (22.9) | 0.90 (22.9) | 1.00 (25.4) |
| 5/8             | 5/8             | 3/8             | _D-TUR-F10-F10-F6     | 1.53 (38.9)         | 1.53 (38.9) | 1.42 (36.1) | 0.96 (24.4) | 0.96 (24.4) | 0.66 (16.8) | 1.00 (25.4) |
| 5/8             | 5/8             | 1/2             | _D-TUR-F10-F10-F8     | 1.53 (38.9)         | 1.53 (38.9) | 1.53 (38.9) | 0.96 (24.4) | 0.96 (24.4) | 0.90 (22.9) | 1.00 (25.4) |
| 3/4             | 3/8             | 3/8             | _D-TUR-F12-F6-F6      | 1.56 (39.6)         | 1.45 (36.9) | 1.45 (36.9) | 0.96 (24.4) | 0.66 (16.8) | 0.66 (16.8) | 1.06 (27.0) |
| 3/4             | 1/2             | 3/8             | _D-TUR-F12-F8-F6      | 1.56 (39.6)         | 1.56 (39.6) | 1.45 (36.9) | 0.96 (24.4) | 0.90 (22.9) | 0.66 (16.8) | 1.06 (27.0) |
| 3/4             | 1/2             | 1/2             | _D-TUR-F12-F8-F8      | 1.56 (39.6)         | 1.56 (39.6) | 1.56 (39.6) | 0.96 (24.4) | 0.90 (22.9) | 0.90 (22.9) | 1.06 (27.0) |
| 3/4             | 5/8             | 1/2             | _D-TUR-F12-F10-F8     | 1.56 (39.6)         | 1.56 (39.6) | 1.56 (39.6) | 0.96 (24.4) | 0.96 (24.4) | 0.90 (22.9) | 1.06 (27.0) |
| 3/4             | 5/8             | 5/8             | _D-TUR-F12-F10-F10    | 1.56 (39.6)         | 1.56 (39.6) | 1.56 (39.6) | 0.96 (24.4) | 0.96 (24.4) | 0.96 (24.4) | 1.06 (27.0) |
| 3/4             | 3/4             | 1/4             | _D-TUR-F12-F12-F4     | 1.56 (39.6)         | 1.56 (39.6) | 1.38 (35.1) | 0.96 (24.4) | 0.96 (24.4) | 0.60 (15.2) | 1.06 (27.0) |
| 3/4             | 3/4             | 3/8             | _D-TUR-F12-F12-F6     | 1.56 (39.6)         | 1.56 (39.6) | 1.45 (36.9) | 0.96 (24.4) | 0.96 (24.4) | 0.66 (16.8) | 1.06 (27.0) |
| 3/4             | 3/4             | 1/2             | _D-TUR-F12-F12-F8     | 1.56 (39.6)         | 1.56 (39.6) | 1.56 (39.6) | 0.96 (24.4) | 0.96 (24.4) | 0.90 (22.9) | 1.06 (27.0) |
| 3/4             | 3/4             | 5/8             | _D-TUR-F12-F12-F10    | 1.56 (39.6)         | 1.56 (39.6) | 1.56 (39.6) | 0.96 (24.4) | 0.96 (24.4) | 0.96 (24.4) | 1.06 (27.0) |
| 7/8             | 1/2             | 3/4             | _D-TUR-F14-F8-F12     | 1.76 (44.7)         | 1.76 (44.7) | 1.76 (44.7) | 1.02 (25.9) | 0.90 (22.9) | 0.96 (24.4) | 1.37 (34.9) |
| 7/8             | 5/8             | 3/8             | _D-TUR-F14-F10-F6     | 1.76 (44.7)         | 1.76 (44.7) | 1.65 (41.9) | 1.02 (25.9) | 0.96 (24.4) | 0.66 (16.8) | 1.37 (34.9) |
| 7/8             | 3/4             | 1/2             | _D-TUR-F14-F12-F8     | 1.76 (44.7)         | 1.76 (44.7) | 1.76 (44.7) | 1.02 (25.9) | 0.96 (24.4) | 0.90 (22.9) | 1.37 (34.9) |
| 7/8             | 3/4             | 3/4             | _D-TUR-F14-F12-F12    | 1.76 (44.7)         | 1.76 (44.7) | 1.76 (44.7) | 1.02 (25.9) | 0.96 (24.4) | 0.96 (24.4) | 1.37 (34.9) |
| 7/8             | 7/8             | 1/4             | _D-TUR-F14-F14-F4     | 1.76 (44.7)         | 1.76 (44.7) | 1.59 (40.4) | 1.02 (25.9) | 1.02 (25.9) | 0.60 (15.2) | 1.37 (34.9) |
| 7/8             | 7/8             | 3/8             | _D-TUR-F14-F14-F6     | 1.76 (44.7)         | 1.76 (44.7) | 1.65 (41.9) | 1.02 (25.9) | 1.02 (25.9) | 0.66 (16.8) | 1.37 (34.9) |
| 1               | 3/8             | 3/8             | _D-TUR-F16-F6-F6      | 1.94 (49.3)         | 1.65 (41.9) | 1.65 (41.9) | 1.23 (31.2) | 0.66 (16.8) | 0.66 (16.8) | 1.37 (34.9) |
| 1               | 1/2             | 1/4             | _D-TUR-F16-F8-F4      | 1.94 (49.3)         | 1.76 (44.7) | 1.59 (40.4) | 1.23 (31.2) | 0.90 (22.9) | 0.60 (15.2) | 1.37 (34.9) |
| 1               | 1/2             | 3/8             | _D-TUR-F16-F8-F6      | 1.94 (49.3)         | 1.76 (44.7) | 1.65 (41.9) | 1.23 (31.2) | 0.90 (22.9) | 0.66 (16.8) | 1.37 (34.9) |
| 1               | 1/2             | 1/2             | _D-TUR-F16-F8-F8      | 1.94 (49.3)         | 1.76 (44.7) | 1.76 (44.7) | 1.23 (31.2) | 0.90 (22.9) | 0.90 (22.9) | 1.37 (34.9) |
| 1               | 1/2             | 1               | _D-TUR-F16-F8-F16     | 1.94 (49.3)         | 1.76 (44.7) | 1.94 (49.3) | 1.23 (31.2) | 0.90 (22.9) | 1.23 (31.2) | 1.37 (34.9) |
| 1               | 3/4             | 3/8             | _D-TUR-F16-F12-F6     | 1.94 (49.3)         | 1.76 (44.7) | 1.65 (41.9) | 1.23 (31.2) | 0.96 (24.4) | 0.66 (16.8) | 1.37 (34.9) |
| 1               | 3/4             | 1/2             | _D-TUR-F16-F12-F8     | 1.94 (49.3)         | 1.76 (44.7) | 1.76 (44.7) | 1.23 (31.2) | 0.96 (24.4) | 0.90 (22.9) | 1.37 (34.9) |
| 1               | 3/4             | 5/8             | _D-TUR-F16-F12-F10    | 1.94 (49.3)         | 1.76 (44.7) | 1.76 (44.7) | 1.23 (31.2) | 0.96 (24.4) | 0.96 (24.4) | 1.37 (34.9) |
| 1               | 3/4             | 1               | _D-TUR-F16-F12-F16    | 1.94 (49.3)         | 1.76 (44.7) | 1.94 (49.3) | 1.23 (31.2) | 0.96 (24.4) | 1.23 (31.2) | 1.37 (34.9) |
| 1               | 7/8             | 1/4             | _D-TUR-F16-F14-F4     | 1.94 (49.3)         | 1.76 (44.7) | 1.59 (40.4) | 1.23 (31.2) | 1.02 (25.9) | 0.60 (15.2) | 1.37 (34.9) |
| 1               | 7/8             | 3/8             | _D-TUR-F16-F14-F6     | 1.94 (49.3)         | 1.76 (44.7) | 1.65 (41.9) | 1.23 (31.2) | 1.02 (25.9) | 0.66 (16.8) | 1.37 (34.9) |
| 1               | 7/8             | 1/2             | _D-TUR-F16-F14-F8     | 1.94 (49.3)         | 1.76 (44.7) | 1.76 (44.7) | 1.23 (31.2) | 1.02 (25.9) | 0.90 (22.9) | 1.37 (34.9) |
| 1               | 7/8             | 3/4             | _D-TUR-F16-F14-F12    | 1.94 (49.3)         | 1.76 (44.7) | 1.76 (44.7) | 1.23 (31.2) | 1.02 (25.9) | 0.96 (24.4) | 1.37 (34.9) |
| 1               | 7/8             | 7/8             | _D-TUR-F16-F14-F14    | 1.94 (49.3)         | 1.76 (44.7) | 1.76 (44.7) | 1.23 (31.2) | 1.02 (25.9) | 1.02 (25.9) | 1.37 (34.9) |
| 1               | 1               | 1/4             | _D-TUR-F16-F16-F4     | 1.94 (49.3)         | 1.94 (49.3) | 1.59 (40.4) | 1.23 (31.2) | 1.23 (31.2) | 0.60 (15.2) | 1.37 (34.9) |
| 1               | 1               | 3/8             | _D-TUR-F16-F16-F6     | 1.94 (49.3)         | 1.94 (49.3) | 1.65 (41.9) | 1.23 (31.2) | 1.23 (31.2) | 0.66 (16.8) | 1.37 (34.9) |
| 1               | 1               | 1/2             | _D-TUR-F16-F16-F8     | 1.94 (49.3)         | 1.94 (49.3) | 1.76 (44.7) | 1.23 (31.2) | 1.23 (31.2) | 0.90 (22.9) | 1.37 (34.9) |
| 1               | 1               | 5/8             | _D-TUR-F16-F16-F10    | 1.94 (49.3)         | 1.94 (49.3) | 1.76 (44.7) | 1.23 (31.2) | 1.23 (31.2) | 0.96 (24.4) | 1.37 (34.9) |
| 1               | 1               | 3/4             | _D-TUR-F16-F16-F12    | 1.94 (49.3)         | 1.94 (49.3) | 1.76 (44.7) | 1.23 (31.2) | 1.23 (31.2) | 0.96 (24.4) | 1.37 (34.9) |
| 1               | 1               | 7/8             | _D-TUR-F16-F16-F14    | 1.94 (49.3)         | 1.94 (49.3) | 1.76 (44.7) | 1.23 (31.2) | 1.23 (31.2) | 1.02 (25.9) | 1.37 (34.9) |
| 1 1/4           | 1 1/4           | 1               | _D-TUR-F20-F20-F16    | 2.67 (67.8)         | 2.67 (67.8) | 2.17 (55.1) | 1.62 (41.2) | 1.62 (41.2) | 1.23 (31.3) | 1.69 (42.9) |
| 1 1/2           | 1 1/2           | 1               | _D-TUR-F24-F24-F16    | 3.10 (78.7)         | 3.10 (78.7) | 2.36 (60.0) | 1.97 (50.0) | 1.97 (50.0) | 1.23 (31.3) | 2.00 (50.8) |

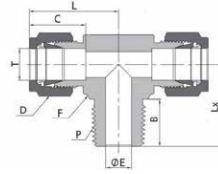
# REDUCING UNION TEES



## Metric Tube

| T1 - O.D.<br>(mm) | T2 - O.D.<br>(mm) | T3 - O.D.<br>(mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|-------------------|-------------------|-------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                   |                   |                   |                          | L1                  | L2          | L3          | C1          | C2          | C3          | F           |
| 3                 | 3                 | 6                 | _D-TUR-M3-M3-M6          | 24.7 (0.97)         | 24.7 (0.97) | 27.0 (1.06) | 12.9 (0.51) | 12.9 (0.51) | 15.3 (0.60) | 12.7 (0.50) |
| 6                 | 6                 | 3                 | _D-TUR-M6-M6-M3          | 27.0 (1.06)         | 27.0 (1.06) | 25.4 (1.00) | 15.3 (0.60) | 15.3 (0.60) | 12.9 (0.51) | 12.7 (0.50) |
| 6                 | 6                 | 8                 | _D-TUR-M6-M6-M8          | 28.0 (1.10)         | 28.0 (1.10) | 28.8 (1.13) | 15.3 (0.60) | 15.3 (0.60) | 16.2 (0.64) | 14.3 (0.56) |
| 8                 | 8                 | 6                 | _D-TUR-M8-M8-M6          | 30.0 (1.18)         | 30.0 (1.18) | 29.0 (1.14) | 16.2 (0.64) | 16.2 (0.64) | 15.3 (0.60) | 15.9 (0.63) |
| 8                 | 8                 | 12                | _D-TUR-M8-M8-M12         | 35.2 (1.39)         | 35.2 (1.39) | 36.0 (1.42) | 16.2 (0.64) | 16.2 (0.64) | 22.8 (0.90) | 20.6 (0.81) |
| 10                | 10                | 6                 | _D-TUR-M10-M10-M6        | 31.5 (1.24)         | 31.5 (1.24) | 29.9 (1.18) | 17.2 (0.68) | 17.2 (0.68) | 15.3 (0.60) | 17.5 (0.69) |
| 10                | 10                | 8                 | _D-TUR-M10-M10-M8        | 31.5 (1.24)         | 31.5 (1.24) | 30.7 (1.21) | 17.2 (0.68) | 17.2 (0.68) | 16.2 (0.64) | 17.5 (0.69) |
| 12                | 12                | 6                 | _D-TUR-M12-M12-M6        | 36.0 (1.42)         | 36.0 (1.42) | 31.8 (1.25) | 22.8 (0.90) | 22.8 (0.90) | 15.3 (0.60) | 20.6 (0.81) |
| 12                | 12                | 8                 | _D-TUR-M12-M12-M8        | 36.0 (1.42)         | 36.0 (1.42) | 35.2 (1.39) | 22.8 (0.90) | 22.8 (0.90) | 16.2 (0.64) | 20.6 (0.81) |
| 12                | 12                | 14                | _D-TUR-M12-M12-M14       | 38.0 (1.50)         | 38.0 (1.50) | 38.0 (1.50) | 22.8 (0.90) | 22.8 (0.90) | 24.4 (0.96) | 25.4 (1.00) |
| 12                | 12                | 18                | _D-TUR-M12-M12-M18       | 39.8 (1.57)         | 39.8 (1.57) | 39.8 (1.57) | 22.8 (0.90) | 22.8 (0.90) | 24.4 (0.96) | 27.0 (1.06) |
| 14                | 14                | 8                 | _D-TUR-M14-M14-M8        | 38.0 (1.50)         | 38.0 (1.50) | 37.2 (1.46) | 24.4 (0.96) | 24.4 (0.96) | 16.2 (0.64) | 25.4 (1.00) |
| 14                | 14                | 10                | _D-TUR-M14-M14-M10       | 38.0 (1.50)         | 38.0 (1.50) | 38.0 (1.50) | 24.4 (0.96) | 24.4 (0.96) | 17.2 (0.68) | 25.4 (1.00) |
| 15                | 15                | 12                | _D-TUR-M15-M15-M12       | 38.8 (1.53)         | 38.8 (1.53) | 38.8 (1.53) | 24.4 (0.96) | 24.4 (0.96) | 22.8 (0.90) | 25.4 (1.00) |
| 16                | 8                 | 16                | _D-TUR-M16-M8-M16        | 38.8 (1.53)         | 37.2 (1.46) | 38.8 (1.53) | 24.4 (0.96) | 16.2 (0.64) | 24.4 (0.96) | 25.4 (1.00) |
| 16                | 16                | 12                | _D-TUR-M16-M16-M12       | 38.8 (1.53)         | 38.8 (1.53) | 38.9 (1.53) | 24.4 (0.96) | 24.4 (0.96) | 22.8 (0.90) | 25.4 (1.00) |
| 18                | 18                | 8                 | _D-TUR-M18-M18-M8        | 39.8 (1.57)         | 39.8 (1.57) | 39.0 (1.54) | 24.4 (0.96) | 24.4 (0.96) | 16.2 (0.64) | 27.0 (1.06) |
| 18                | 18                | 10                | _D-TUR-M18-M18-M10       | 39.8 (1.57)         | 39.8 (1.57) | 39.8 (1.57) | 24.4 (0.96) | 24.4 (0.96) | 17.2 (0.68) | 27.0 (1.06) |
| 18                | 18                | 12                | _D-TUR-M18-M18-M12       | 39.8 (1.57)         | 39.8 (1.57) | 39.8 (1.57) | 24.4 (0.96) | 24.4 (0.96) | 22.8 (0.90) | 27.0 (1.06) |
| 18                | 18                | 14                | _D-TUR-M18-M18-M14       | 39.8 (1.57)         | 39.8 (1.57) | 39.8 (1.57) | 24.4 (0.96) | 24.4 (0.96) | 24.4 (0.96) | 27.0 (1.06) |
| 20                | 20                | 14                | _D-TUR-M20-M20-M14       | 44.6 (1.76)         | 44.6 (1.76) | 44.6 (1.76) | 26.0 (1.02) | 26.0 (1.02) | 24.4 (0.96) | 34.9 (1.37) |
| 22                | 22                | 12                | _D-TUR-M22-M22-M12       | 44.6 (1.76)         | 44.6 (1.76) | 44.6 (1.76) | 26.0 (1.02) | 26.0 (1.02) | 22.8 (0.90) | 34.9 (1.37) |
| 25                | 25                | 12                | _D-TUR-M25-M25-M12       | 49.1 (1.93)         | 49.1 (1.93) | 44.7 (1.76) | 31.3 (1.23) | 31.3 (1.23) | 22.8 (0.90) | 34.9 (1.37) |

# MALE BRANCH TEES



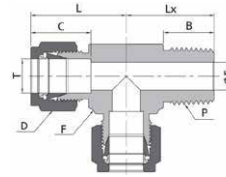
## Fractional Tube to NPT Thread

| T - Tube O.D. (in.) | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|---------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |            |                       | L                   | C           | D           | F           | E           | B           | Lx          |
| 1/8                 | 1/8        | _D-TTM-F2-N2          | 0.93 (23.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.3)  | 0.38 (9.7)  | 0.70 (17.8) |
| 1/8                 | 1/4        | _D-TTM-F2-N4          | 0.97 (24.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.50 (12.7) | 0.09 (2.3)  | 0.56 (14.2) | 0.92 (23.4) |
| 3/16                | 1/8        | _D-TTM-F3-N2          | 0.96 (24.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.12 (3.0)  | 0.38 (9.7)  | 0.70 (17.8) |
| 1/4                 | 1/8        | _D-TTM-F4-N2          | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.38 (9.7)  | 0.74 (18.8) |
| 1/4                 | 1/4        | _D-TTM-F4-N4          | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.56 (14.2) | 0.92 (23.4) |
| 5/16                | 1/8        | _D-TTM-F5-N2          | 1.17 (29.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.63 (15.9) | 0.19 (4.8)  | 0.38 (9.7)  | 0.82 (20.8) |
| 5/16                | 1/4        | _D-TTM-F5-N4          | 1.17 (29.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.63 (15.9) | 0.25 (6.4)  | 0.56 (14.2) | 1.01 (25.7) |
| 3/8                 | 1/4        | _D-TTM-F6-N4          | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  | 0.56 (14.2) | 1.00 (25.4) |
| 3/8                 | 3/8        | _D-TTM-F6-N6          | 1.31 (33.3)         | 0.66 (16.8) | 0.69 (17.5) | 0.81 (20.6) | 0.28 (7.1)  | 0.56 (14.2) | 1.11 (28.2) |
| 1/2                 | 3/8        | _D-TTM-F8-N6          | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.38 (9.7)  | 0.56 (14.2) | 1.11 (28.2) |
| 1/2                 | 1/2        | _D-TTM-F8-N8          | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.75 (19.1) | 1.30 (33.0) |
| 5/8                 | 1/2        | _D-TTM-F10-N8         | 1.53 (38.9)         | 0.96 (24.4) | 1.00 (25.4) | 1.00 (25.4) | 0.47 (11.9) | 0.75 (19.1) | 1.41 (35.8) |
| 3/4                 | 3/4        | _D-TTM-F12-N12        | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) | 0.75 (19.1) | 1.45 (36.8) |
| 7/8                 | 3/4        | _D-TTM-F14-N12        | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.31 (33.3) | 0.62 (15.7) | 0.75 (19.1) | 1.50 (38.1) |
| 1                   | 3/4        | _D-TTM-F16-N12        | 1.94 (49.3)         | 1.23 (31.2) | 1.50 (38.1) | 1.31 (33.3) | 0.62 (15.7) | 0.75 (19.1) | 1.67 (42.4) |
| 1                   | 1          | _D-TTM-F16-N16        | 1.94 (49.3)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) | 0.94 (23.9) | 1.84 (46.7) |

## Metric Tube to NPT Thread

| T - Tube O.D. (mm) | P-NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |             |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                    |            |                       | L                   | C           | D           | F           | E           | B           | Lx          |
| 6                  | 1/8        | _D-TTM-M6-N2          | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 9.7 (0.38)  | 18.8 (0.74) |
| 6                  | 1/4        | _D-TTM-M6-N4          | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 14.2 (0.56) | 23.4 (0.92) |
| 8                  | 1/8        | _D-TTM-M8-N2          | 29.9 (1.18)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 4.8 (0.19)  | 9.7 (0.38)  | 20.8 (0.82) |
| 8                  | 1/4        | _D-TTM-M8-N4          | 29.9 (1.18)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 6.4 (0.25)  | 14.2 (0.56) | 25.4 (1.00) |
| 10                 | 1/4        | _D-TTM-M10-N4         | 33.5 (1.32)         | 17.2 (0.68) | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  | 14.2 (0.56) | 28.2 (1.11) |
| 10                 | 3/8        | _D-TTM-M10-N6         | 33.5 (1.32)         | 17.2 (0.68) | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                 | 1/4        | _D-TTM-M12-N4         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 7.9 (0.31)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                 | 3/8        | _D-TTM-M12-N6         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                 | 1/2        | _D-TTM-M12-N8         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 19.1 (0.75) | 33.0 (1.30) |
| 16                 | 1/2        | _D-TTM-M16-N8         | 38.8 (1.53)         | 24.4 (0.96) | 25.0 (0.98) | 25.4 (1.00) | 11.9 (0.47) | 19.1 (0.75) | 35.8 (1.41) |

# MALE RUN TEES



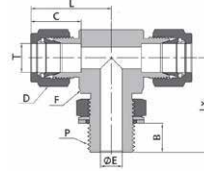
## Fractional Tube to NPT Thread

| T - Tube O.D. (in.) | P-NPT Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|---------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |            |                       | L                   | C           | D           | F           | E           | B           | Lx          |
| 1/8                 | 1/8        | _D-TMT-F2-N2          | 0.93 (23.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.44 (11.1) | 0.38 (9.7)  | 0.70 (17.8) |
| 1/8                 | 1/4        | _D-TMT-F2-N4          | 0.97 (24.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.50 (12.7) | 0.50 (12.7) | 0.56 (14.2) | 0.92 (23.4) |
| 3/16                | 1/8        | _D-TMT-F3-N2          | 0.96 (24.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.38 (9.7)  | 0.70 (17.8) |
| 1/4                 | 1/8        | _D-TMT-F4-N2          | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.50 (12.7) | 0.38 (9.7)  | 0.74 (18.8) |
| 1/4                 | 1/4        | _D-TMT-F4-N4          | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.50 (12.7) | 0.56 (14.2) | 0.92 (23.4) |
| 5/16                | 1/8        | _D-TMT-F5-N2          | 1.17 (29.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.63 (15.9) | 0.63 (15.9) | 0.38 (9.7)  | 0.82 (20.8) |
| 5/16                | 1/4        | _D-TMT-F5-N4          | 1.17 (29.7)         | 0.64 (16.3) | 0.63 (15.9) | 0.63 (15.9) | 0.63 (15.9) | 0.56 (14.2) | 1.01 (25.7) |
| 3/8                 | 1/4        | _D-TMT-F6-N4          | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.63 (15.9) | 0.56 (14.2) | 1.00 (25.4) |
| 3/8                 | 3/8        | _D-TMT-F6-N6          | 1.31 (33.3)         | 0.66 (16.8) | 0.69 (17.5) | 0.81 (20.6) | 0.81 (20.6) | 0.56 (14.2) | 1.11 (28.2) |
| 1/2                 | 3/8        | _D-TMT-F8-N6          | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.81 (20.6) | 0.56 (14.2) | 1.11 (28.2) |
| 1/2                 | 1/2        | _D-TMT-F8-N8          | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.81 (20.6) | 0.75 (19.1) | 1.3 (33.0)  |
| 5/8                 | 1/2        | _D-TMT-F10-N8         | 1.50 (38.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.94 (23.8) | 0.75 (19.1) | 1.41 (35.8) |
| 3/4                 | 3/4        | _D-TMT-F12-N12        | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 1.06 (27.0) | 0.75 (19.1) | 1.45 (36.8) |
| 7/8                 | 3/4        | _D-TMT-F14-N12        | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.31 (33.3) | 1.31 (33.3) | 0.75 (19.1) | 1.50 (38.1) |
| 1                   | 3/4        | _D-TMT-F16-N12        | 1.94 (49.3)         | 1.23 (31.2) | 1.50 (38.1) | 1.31 (33.3) | 1.31 (33.3) | 0.75 (19.1) | 1.67 (42.4) |
| 1                   | 1          | _D-TMT-F16-N16        | 1.94 (49.3)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 1.37 (34.9) | 0.94 (23.9) | 1.84 (46.7) |

## Metric Tube to NPT Thread

| T - Tube O.D. (mm) | P-NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |             |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                    |            |                       | L                   | C           | D           | F           | E           | B           | Lx          |
| 6                  | 1/8        | _D-TMT-M6-N2          | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 9.7 (0.38)  | 18.0 (0.71) |
| 6                  | 1/4        | _D-TMT-M6-N4          | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 14.2 (0.56) | 23.4 (0.92) |
| 8                  | 1/8        | _D-TMT-M8-N2          | 29.9 (1.18)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 4.8 (0.19)  | 9.7 (0.38)  | 20.8 (0.82) |
| 8                  | 1/4        | _D-TMT-M8-N4          | 29.9 (1.18)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 6.4 (0.25)  | 14.2 (0.56) | 25.4 (1.00) |
| 10                 | 1/4        | _D-TMT-M10-N4         | 33.5 (1.32)         | 17.2 (0.68) | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  | 14.2 (0.56) | 28.2 (1.11) |
| 10                 | 1/2        | _D-TMT-M10-N8         | 33.5 (1.32)         | 17.2 (0.68) | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                 | 1/4        | _D-TMT-M12-N4         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 7.9 (0.31)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                 | 3/8        | _D-TMT-M12-N6         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 14.2 (0.56) | 28.2 (1.11) |
| 12                 | 1/2        | _D-TMT-M12-N8         | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 19.1 (0.75) | 33.0 (1.30) |
| 16                 | 1/2        | _D-TMT-M16-N8         | 38.0 (1.50)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 11.9 (0.47) | 19.1 (0.75) | 35.0 (1.38) |

# AJUSTABLE MALE BRANCH TEES



## Fractional Tube to ISO Parallel Thread

| T - Tube<br>O.D.(in.) | P-BSP<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|---------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |               |                             | L                   | B           | C           | E           | D           | F           | Lx          |
| 1/4                   | 1/8           | _D-TTA-F4-PP2               | 1.06 (26.9)         | 0.32 (8.1)  | 0.60 (15.2) | 0.16 (4.1)  | 0.56 (14.3) | 0.50 (12.7) | 1.04 (26.4) |
| 1/4                   | 1/4           | _D-TTA-F4-PP4               | 1.14 (29.0)         | 0.36 (9.1)  | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.63 (15.9) | 1.27 (32.3) |
| 3/8                   | 1/4           | _D-TTA-F6-PP4               | 1.20 (30.5)         | 0.36 (9.1)  | 0.66 (16.8) | 0.23 (5.8)  | 0.69 (17.5) | 0.63 (15.9) | 1.27 (32.3) |
| 1/2                   | 3/8           | _D-TTA-F8-PP6               | 1.42 (36.1)         | 0.37 (9.4)  | 0.90 (22.9) | 0.31 (7.9)  | 0.87 (22.2) | 0.81 (20.6) | 1.46 (37.1) |
| 1/2                   | 1/2           | _D-TTA-F8-PP8               | 1.50 (38.1)         | 0.51 (13.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.94 (23.8) | 1.71 (43.4) |
| 5/8                   | 1/2           | _D-TTA-F10-PP8              | 1.50 (38.1)         | 0.51 (13.0) | 0.96 (24.4) | 0.47 (11.9) | 1.00 (25.4) | 0.94 (23.8) | 1.71 (43.4) |
| 3/4                   | 1/2           | _D-TTA-F12-PP8              | 1.57 (39.9)         | 0.51 (13.0) | 0.96 (24.4) | 0.47 (11.9) | 1.13 (28.6) | 1.06 (27.0) | 1.78 (45.2) |
| 3/4                   | 3/4           | _D-TTA-F12-PP12             | 1.57 (39.9)         | 0.51 (13.0) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) | 1.92 (48.8) |
| 1                     | 1             | _D-TTA-F16-PP16             | 1.93 (49.0)         | 0.55 (14.0) | 1.23 (31.2) | 0.78 (19.8) | 1.50 (38.1) | 1.37 (34.9) | 2.11 (53.6) |

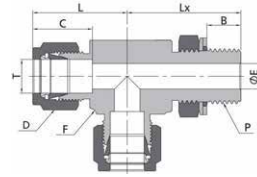
## Fractional Tube to SAE/MS Thread

| T - Tube<br>O.D.(in.) | P-SAE/MS<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                  |                             | L                   | B           | C           | E           | D           | F           | Lx          |
| 1/4                   | 7/16-20          | _D-TTA-F4-ST7               | 1.12 (28.5)         | 0.39 (9.9)  | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.50 (12.7) | 1.12 (28.5) |
| 3/8                   | 9/16-18          | _D-TTA-F6-ST9               | 1.26 (32.0)         | 0.44 (11.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.63 (15.9) | 1.27 (32.3) |
| 1/2                   | 3/4-16           | _D-TTA-F8-ST12              | 1.48 (37.6)         | 0.50 (12.7) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.81 (20.6) | 1.49 (37.8) |
| 3/4                   | 1 1/16-12        | _D-TTA-F12-ST17             | 1.63 (41.4)         | 0.66 (16.8) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) | 1.92 (48.8) |
| 1                     | 1 5/16-12        | _D-TTA-F16-ST21             | 1.99 (50.5)         | 0.66 (16.8) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.37 (34.9) | 2.11 (53.6) |
| 1 1/4                 | 1 5/8-12         | _D-TTA-F20-ST26             | 2.67 (67.8)         | 0.66 (16.8) | 1.62 (41.1) | 1.09 (27.7) | 1.87 (47.6) | 1.69 (42.9) | 2.29 (58.2) |
| 1 1/2                 | 1 7/8-12         | _D-TTA-F24-ST30             | 3.07 (78.0)         | 0.66 (16.8) | 1.97 (50.0) | 1.34 (34.0) | 2.25 (57.2) | 2.00 (50.8) | 2.38 (60.5) |

## Metric Tube to ISO Parallel Thread

| T - Tube<br>O.D.(mm) | P-BSP<br>Size | Basic<br>Ordering<br>Number | Dimension, mm (in.) |             |             |            |             |             |             |
|----------------------|---------------|-----------------------------|---------------------|-------------|-------------|------------|-------------|-------------|-------------|
|                      |               |                             | L                   | B           | C           | E          | D           | F           | Lx          |
| 6                    | 1/8           | _D-TTA-M6-PP2               | 27.0 (1.06)         | 8.1 (0.32)  | 15.3 (0.60) | 4.0 (0.16) | 14.0 (0.55) | 12.7 (0.50) | 26.4 (1.04) |
| 6                    | 1/4           | _D-TTA-M6-PP4               | 29.0 (1.14)         | 9.1 (0.36)  | 15.3 (0.60) | 4.8 (0.19) | 14.0 (0.55) | 15.9 (0.63) | 32.2 (1.27) |
| 8                    | 1/8           | _D-TTA-M8-PP2               | 28.8 (1.13)         | 8.1 (0.32)  | 16.2 (0.64) | 4.0 (0.16) | 16.0 (0.63) | 14.3 (0.56) | 27.5 (1.08) |
| 8                    | 1/4           | _D-TTA-M8-PP4               | 29.9 (1.18)         | 9.1 (0.36)  | 16.2 (0.64) | 5.9 (0.23) | 16.0 (0.63) | 15.9 (0.63) | 32.2 (1.27) |
| 10                   | 1/4           | _D-TTA-M10-PP4              | 33.5 (1.32)         | 9.1 (0.36)  | 17.2 (0.68) | 5.9 (0.23) | 19.0 (0.75) | 20.6 (0.81) | 35.1 (1.38) |
| 12                   | 3/8           | _D-TTA-M12-PP6              | 36.0 (1.42)         | 9.4 (0.37)  | 22.8 (0.90) | 7.9 (0.31) | 22.0 (0.87) | 20.6 (0.81) | 37.1 (1.46) |
| 12                   | 1/2           | _D-TTA-M12-PP8              | 38.0 (1.50)         | 13.0 (0.51) | 22.8 (0.90) | 9.5 (0.37) | 22.0 (0.87) | 23.8 (0.94) | 43.5 (1.71) |

# AJUSTABLE MALE RUN TEES



## Fractional Tube to ISO Parallel Thread

| T - Tube<br>O.D.(in.) | P-BSP<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|---------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |               |                             | L                   | B           | C           | E           | D           | F           | Lx          |
| 1/4                   | 1/8           | _D-TAT-F4-PP2               | 1.06 (26.9)         | 0.32 (8.1)  | 0.60 (15.2) | 0.16 (4.1)  | 0.56 (14.3) | 0.50 (12.7) | 1.04 (26.4) |
| 1/4                   | 1/4           | _D-TAT-F4-PP4               | 1.14 (29.0)         | 0.36 (9.1)  | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.63 (15.9) | 1.27 (32.3) |
| 3/8                   | 1/4           | _D-TAT-F6-PP4               | 1.20 (30.5)         | 0.36 (9.1)  | 0.66 (16.8) | 0.23 (5.8)  | 0.69 (17.5) | 0.63 (15.9) | 1.27 (32.3) |
| 1/2                   | 3/8           | _D-TAT-F8-PP6               | 1.42 (36.1)         | 0.37 (9.4)  | 0.90 (22.9) | 0.31 (7.9)  | 0.87 (22.2) | 0.81 (20.6) | 1.46 (37.1) |
| 1/2                   | 1/2           | _D-TAT-F8-PP8               | 1.50 (38.1)         | 0.51 (13.0) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.94 (23.8) | 1.71 (43.4) |
| 5/8                   | 1/2           | _D-TAT-F10-PP8              | 1.50 (38.1)         | 0.51 (13.0) | 0.96 (24.4) | 0.47 (11.9) | 1.00 (25.4) | 0.94 (23.8) | 1.71 (43.4) |
| 3/4                   | 1/2           | _D-TAT-F12-PP8              | 1.57 (39.9)         | 0.51 (13.0) | 0.96 (24.4) | 0.47 (11.9) | 1.13 (28.6) | 1.06 (27.0) | 1.78 (45.2) |
| 3/4                   | 3/4           | _D-TAT-F12-PP12             | 1.57 (39.9)         | 0.51 (13.0) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) | 1.92 (48.8) |
| 1                     | 1             | _D-TAT-F16-PP16             | 1.93 (49.0)         | 0.55 (14.0) | 1.23 (31.2) | 0.78 (19.8) | 1.50 (38.1) | 1.37 (34.9) | 2.11 (53.6) |

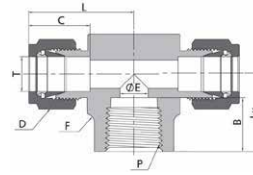
## Fractional Tube to SAE/MS Thread

| T - Tube<br>O.D.(in.) | P-SAE/MS<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |                  |                             | L                   | B           | C           | E           | D           | F           | Lx          |
| 1/4                   | 7/16-20          | _D-TAT-F4-ST7               | 1.12 (28.5)         | 0.39 (9.9)  | 0.60 (15.2) | 0.19 (4.8)  | 0.56 (14.3) | 0.50 (12.7) | 1.12 (28.5) |
| 3/8                   | 9/16-18          | _D-TAT-F6-ST9               | 1.26 (32.0)         | 0.44 (11.2) | 0.66 (16.8) | 0.28 (7.1)  | 0.69 (17.5) | 0.63 (15.9) | 1.27 (32.3) |
| 1/2                   | 3/4-16           | _D-TAT-F8-ST12              | 1.48 (37.6)         | 0.50 (12.7) | 0.90 (22.9) | 0.41 (10.4) | 0.87 (22.2) | 0.81 (20.6) | 1.49 (37.8) |
| 3/4                   | 1 1/16-12        | _D-TAT-F12-ST17             | 1.63 (41.4)         | 0.66 (16.8) | 0.96 (24.4) | 0.62 (15.7) | 1.13 (28.6) | 1.06 (27.0) | 1.92 (48.8) |
| 1                     | 1 5/16-12        | _D-TAT-F16-ST21             | 1.99 (50.5)         | 0.66 (16.8) | 1.23 (31.2) | 0.88 (22.4) | 1.50 (38.1) | 1.37 (34.9) | 2.11 (53.6) |
| 1 1/4                 | 1 5/8-12         | _D-TAT-F20-ST26             | 2.67 (67.8)         | 0.66 (16.8) | 1.62 (41.1) | 1.09 (27.7) | 1.87 (47.6) | 1.69 (42.9) | 2.29 (58.2) |
| 1 1/2                 | 1 7/8-12         | _D-TAT-F24-ST30             | 3.07 (78.0)         | 0.66 (16.8) | 1.97 (50.0) | 1.34 (34.0) | 2.25 (57.2) | 2.00 (50.8) | 2.38 (60.5) |

## Metric Tube to ISO Parallel Thread

| T - Tube<br>O.D.(mm) | P-BSP<br>Size | Basic<br>Ordering<br>Number | Dimension, mm (in.) |             |             |            |             |             |             |
|----------------------|---------------|-----------------------------|---------------------|-------------|-------------|------------|-------------|-------------|-------------|
|                      |               |                             | L                   | B           | C           | E          | D           | F           | Lx          |
| 6                    | 1/8           | _D-TAT-M6-PP2               | 27.0 (1.06)         | 8.1 (0.32)  | 15.3 (0.60) | 4.0 (0.16) | 14.0 (0.55) | 12.7 (0.50) | 26.4 (1.04) |
| 6                    | 1/4           | _D-TAT-M4-PP4               | 29.0 (1.14)         | 9.1 (0.36)  | 15.3 (0.60) | 4.8 (0.19) | 14.0 (0.55) | 15.9 (0.63) | 32.2 (1.27) |
| 8                    | 1/8           | _D-TAT-M8-PP4               | 28.8 (1.13)         | 8.1 (0.32)  | 16.2 (0.64) | 4.0 (0.16) | 16.0 (0.63) | 14.3 (0.56) | 27.5 (1.08) |
| 8                    | 1/4           | _D-TAT-M8-PP6               | 29.9 (1.18)         | 9.1 (0.36)  | 16.2 (0.64) | 5.9 (0.23) | 16.0 (0.63) | 15.9 (0.63) | 32.2 (1.27) |
| 10                   | 1/4           | _D-TAT-M10-PP8              | 33.5 (1.32)         | 9.1 (0.36)  | 17.2 (0.68) | 5.9 (0.23) | 19.0 (0.75) | 20.6 (0.81) | 35.1 (1.38) |
| 12                   | 3/8           | _D-TAT-M12-PP8              | 36.0 (1.42)         | 9.4 (0.37)  | 22.8 (0.90) | 7.9 (0.31) | 22.0 (0.87) | 20.6 (0.81) | 37.1 (1.46) |
| 12                   | 1/2           | _D-TAT-M12-PP8              | 38.0 (1.50)         | 13.0 (0.51) | 22.8 (0.90) | 9.5 (0.37) | 22.0 (0.87) | 23.8 (0.94) | 43.5 (1.71) |

# FEMALE BRANCH TEES



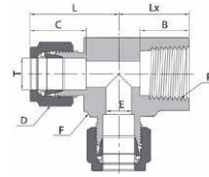
## Fractional Tube to NPT Thread

| T - Tube<br>O.D.(in.) | P-NPT<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |             |
|-----------------------|---------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                       |               |                             | L                   | C           | D           | F           | E           | B           | Lx          |
| 1/8                   | 1/8           | _D-TTF-F2-N2                | 0.97 (24.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.50 (12.7) | 0.09 (2.3)  | 0.41 (10.4) | 0.75 (19.1) |
| 3/16                  | 1/8           | _D-TTF-F3-N2                | 1.01 (25.7)         | 0.54 (13.7) | 0.50 (12.7) | 0.50 (12.7) | 0.12 (3.0)  | 0.41 (10.4) | 0.75 (19.1) |
| 1/4                   | 1/8           | _D-TTF-F4-N2                | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.41 (10.4) | 0.75 (19.1) |
| 1/4                   | 1/4           | _D-TTF-F4-N4                | 1.17 (29.7)         | 0.60 (15.2) | 0.56 (14.3) | 0.69 (17.5) | 0.19 (4.8)  | 0.59 (15.0) | 0.88 (22.4) |
| 5/16                  | 1/8           | _D-TTF-F5-N2                | 1.17 (29.7)         | 0.64 (16.2) | 0.63 (15.9) | 0.63 (15.9) | 0.25 (6.4)  | 0.41 (10.4) | 0.75 (19.1) |
| 3/8                   | 1/4           | _D-TTF-F6-N4                | 1.23 (31.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.69 (17.5) | 0.28 (7.1)  | 0.59 (15.0) | 0.88 (22.4) |
| 3/8                   | 3/8           | _D-TTF-F6-N6                | 1.31 (33.3)         | 0.66 (16.8) | 0.69 (17.5) | 0.81 (20.6) | 0.28 (7.1)  | 0.59 (15.0) | 0.88 (22.4) |
| 3/8                   | 1/2           | _D-TTF-F6-N8                | 1.42 (36.1)         | 0.66 (16.8) | 0.69 (17.5) | 1.00 (25.4) | 0.28 (7.1)  | 0.78 (19.8) | 1.12 (28.4) |
| 1/2                   | 1/4           | _D-TTF-F8-N4                | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.59 (15.0) | 0.88 (22.4) |
| 1/2                   | 3/8           | _D-TTF-F8-N6                | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.59 (15.0) | 0.88 (22.4) |
| 1/2                   | 1/2           | _D-TTF-F8-N8                | 1.53 (38.9)         | 0.90 (22.9) | 0.87 (22.2) | 1.00 (25.4) | 0.41 (10.4) | 0.78 (19.8) | 1.12 (28.4) |
| 5/8                   | 1/2           | _D-TTF-F10-N8               | 1.53 (38.9)         | 0.96 (24.4) | 1.00 (25.4) | 1.00 (25.4) | 0.50 (12.7) | 0.78 (19.8) | 1.12 (28.4) |
| 3/4                   | 3/4           | _D-TTF-F12-N12              | 1.76 (44.7)         | 0.96 (24.4) | 1.13 (28.6) | 1.37 (34.9) | 0.62 (15.7) | 0.81 (20.6) | 1.25 (31.8) |
| 7/8                   | 3/4           | _D-TTF-F14-N12              | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.37 (34.9) | 0.72 (18.3) | 0.81 (20.6) | 1.25 (31.8) |
| 1                     | 3/4           | _D-TTF-F16-N12              | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) | 0.81 (20.6) | 1.25 (31.8) |
| 1                     | 1             | _D-TTF-F16-N16              | 2.11 (53.6)         | 1.23 (31.2) | 1.50 (38.1) | 1.69 (42.9) | 0.88 (22.4) | 1.00 (25.4) | 1.50 (38.1) |

## Metric Tube to NPT Thread

| T - Tube<br>O.D.(mm) | P-NPT<br>Size | Basic<br>Ordering<br>Number | Dimension, mm (in.) |              |             |             |             |             |             |
|----------------------|---------------|-----------------------------|---------------------|--------------|-------------|-------------|-------------|-------------|-------------|
|                      |               |                             | L                   | C            | D           | F           | E           | B           | Lx          |
| 6                    | 1/8           | _D-TTF-M6-N2                | 27.0 (1.06)         | 115.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 10.4 (0.41) | 19.0 (0.75) |
| 6                    | 1/4           | _D-TTF-M6-N4                | 29.8 (1.17)         | 15.3 (0.60)  | 14.0 (0.55) | 17.5 (0.69) | 4.8 (0.19)  | 15.0 (0.59) | 22.4 (0.88) |
| 8                    | 1/8           | _D-TTF-M8-N2                | 29.9 (1.18)         | 16.2 (0.64)  | 16.0 (0.63) | 15.9 (0.63) | 6.4 (0.25)  | 10.4 (0.41) | 19.0 (0.75) |
| 8                    | 1/4           | _D-TTF-M8-N4                | 30.6 (1.2)          | 16.2 (0.64)  | 16.0 (0.63) | 17.5 (0.69) | 6.4 (0.25)  | 15.0 (0.59) | 22.4 (0.88) |
| 10                   | 1/4           | _D-TTF-M10-N4               | 33.5 (1.32)         | 17.2 (0.68)  | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  | 15.0 (0.59) | 22.4 (0.88) |
| 12                   | 1/8           | _D-TTF-M10-N2               | 36.0 (1.42)         | 22.8 (0.90)  | 22.0 (0.87) | 20.6 (0.81) | 6.4 (0.25)  | 10.4 (0.41) | 22.3 (0.88) |
| 12                   | 1/4           | _D-TTF-M12-N4               | 36.0 (1.42)         | 22.8 (0.90)  | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 15.0 (0.59) | 22.4 (0.88) |
| 12                   | 3/8           | _D-TTF-M12-N6               | 36.0 (1.42)         | 22.8 (0.90)  | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 15.0 (0.59) | 22.4 (0.88) |
| 12                   | 1/2           | _D-TTF-M12-N8               | 38.8 (1.53)         | 22.8 (0.90)  | 22.0 (0.87) | 25.4 (1.00) | 9.5 (0.37)  | 19.8 (0.78) | 28.5 (1.12) |
| 16                   | 1/2           | _D-TTF-M16-N8               | 38.8 (1.53)         | 24.4 (0.96)  | 25.0 (0.98) | 25.4 (1.00) | 12.7 (0.50) | 19.8 (0.78) | 28.4 (1.12) |

# FEMALE RUN TEES



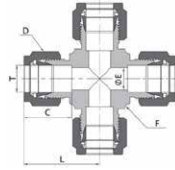
## Fractional Tube to NPT Thread

| T - Tube<br>O.D.(in.) | P-NPT<br>Size | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |            |             |             |             |             |
|-----------------------|---------------|-----------------------------|---------------------|-------------|------------|-------------|-------------|-------------|-------------|
|                       |               |                             | L                   | C           | D          | F           | E           | B           | Lx          |
| 1/8                   | 1/8           | _D-TFT-F2-N2                | 0.97 (24.6)         | 0.50 (12.7) | 0.44(11.1) | 0.50 (12.7) | 0.09 (2.3)  | 0.41 (10.4) | 0.75 (19.1) |
| 3/16                  | 1/8           | _D-TFT-F3-N2                | 1.01 (25.7)         | 0.54 (13.7) | 0.50(12.7) | 0.50 (12.7) | 0.12 (3.0)  | 0.41 (10.4) | 0.75 (19.1) |
| 1/4                   | 1/8           | _D-TFT-F4-N2                | 1.06 (26.9)         | 0.60 (15.2) | 0.56(14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.41 (10.4) | 0.75 (19.1) |
| 1/4                   | 1/4           | _D-TFT-F4-N4                | 1.17 (29.7)         | 0.60 (15.2) | 0.56(14.3) | 0.69 (17.5) | 0.19 (4.8)  | 0.59 (15.0) | 0.88 (22.4) |
| 5/16                  | 1/8           | _D-TFT-F5-FN2               | 1.17 (29.7)         | 0.64 (16.2) | 0.63(15.9) | 0.63 (15.9) | 0.25 (6.4)  | 0.41 (10.4) | 0.75 (19.1) |
| 3/8                   | 1/4           | _D-TFT-F6-N4                | 1.23 (31.2)         | 0.66 (16.8) | 0.69(17.5) | 0.69 (17.5) | 0.28 (7.1)  | 0.59 (15.0) | 0.88 (22.4) |
| 1/2                   | 1/4           | _D-TFT-F8-N4                | 1.42 (36.1)         | 0.90 (22.9) | 0.87(22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.59 (15.0) | 0.88 (22.4) |
| 1/2                   | 3/8           | _D-TFT-F8-N6                | 1.42 (36.1)         | 0.90 (22.9) | 0.87(22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.59 (15.0) | 0.88 (22.4) |
| 1/2                   | 1/2           | _D-TFT-F8-N8                | 1.57 (39.9)         | 0.90 (22.9) | 0.87(22.2) | 1.06 (27.0) | 0.41 (10.4) | 0.78 (19.8) | 1.12 (28.4) |
| 5/8                   | 1/2           | _D-TFT-F10-N8               | 1.57 (39.9)         | 0.96 (24.4) | 1.00(25.4) | 1.06 (27.0) | 0.50 (12.7) | 0.78 (19.8) | 1.12 (28.4) |
| 3/4                   | 3/4           | _D-TFT-F12-N12              | 1.76 (44.7)         | 0.96 (24.4) | 1.13(28.6) | 1.37 (34.9) | 0.62 (15.7) | 0.81 (20.6) | 1.25 (31.8) |
| 7/8                   | 3/4           | _D-TFT-F14-N8               | 1.76 (44.7)         | 1.02 (25.9) | 1.25(31.8) | 1.37 (34.9) | 0.62 (15.7) | 0.78 (19.8) | 1.12 (28.4) |
| 7/8                   | 3/4           | _D-TFT-F14-N12              | 1.76 (44.7)         | 1.02 (25.9) | 1.25(31.8) | 1.37 (34.9) | 0.72 (18.3) | 0.81 (20.6) | 1.25 (31.8) |
| 1                     | 3/4           | _D-TFT-F16-N12              | 1.93 (49.0)         | 1.23 (31.2) | 1.50(38.1) | 1.37 (34.9) | 0.88 (22.4) | 0.81 (20.6) | 1.25 (31.8) |
| 1                     | 1             | _D-TFT-F16-N16              | 2.11 (53.6)         | 1.23 (31.2) | 1.50(38.1) | 1.69 (42.9) | 0.88 (22.4) | 1.00 (25.4) | 1.50 (38.1) |

## Metric Tube to NPT Thread

| T - Tube<br>O.D.(mm) | P-NPT<br>Size | Basic<br>Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |             |
|----------------------|---------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                      |               |                             | L                   | C           | D           | F           | E           | B           | Lx          |
| 6                    | 1/8           | _D-TFT-M6-N2                | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  | 10.4 (0.41) | 19.0 (0.75) |
| 6                    | 1/4           | _D-TFT-M6-N4                | 29.8 (1.17)         | 15.3 (0.60) | 14.0 (0.55) | 17.5 (0.69) | 4.8 (0.19)  | 15.0 (0.59) | 22.4 (0.88) |
| 8                    | 1/8           | _D-TFT-M8-N2                | 29.9 (1.18)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 4.8 (0.19)  | 10.4 (0.41) | 19.0 (0.75) |
| 8                    | 1/4           | _D-TFT-M8-N4                | 30.6 (1.20)         | 16.2 (0.64) | 16.0 (0.63) | 17.5 (0.69) | 6.4 (0.25)  | 15.0 (0.59) | 22.4 (0.88) |
| 10                   | 1/4           | _D-TFT-M10-N4               | 33.5 (1.32)         | 17.2 (0.68) | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  | 15.0 (0.59) | 22.4 (0.88) |
| 12                   | 1/4           | _D-TFT-M12-N4               | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 15.0 (0.59) | 22.4 (0.88) |
| 12                   | 3/8           | _D-TFT-M12-N6               | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  | 15.0 (0.59) | 23.1 (0.91) |
| 12                   | 1/2           | _D-TFT-M12-N8               | 38.8 (1.53)         | 22.8 (0.90) | 22.0 (0.87) | 25.4 (1.00) | 9.5 (0.37)  | 19.8 (0.78) | 28.5 (1.12) |
| 16                   | 1/2           | _D-TFT-M16-N8               | 39.8 (1.57)         | 24.4 (0.96) | 25.0 (0.98) | 27.0 (1.06) | 11.9 (0.47) | 19.8 (0.78) | 28.4 (1.12) |

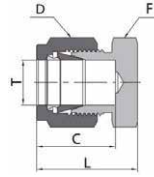
# UNION CROSSES



| Fractional Tube       |                             |                     |             |             |             |             |
|-----------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D.(in.) | Basic<br>Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |
|                       |                             | L                   | C           | D           | F           | E           |
| 1/8                   | _D-C-F2                     | 0.88 (22.4)         | 0.50 (12.7) | 0.44 (11.1) | 0.37 (9.5)  | 0.09 (2.3)  |
| 3/16                  | _D-C-F3                     | 0.96 (24.4)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.12 (3.0)  |
| 1/4                   | _D-C-F4                     | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  |
| 5/16                  | _D-C-F5                     | 1.17 (29.7)         | 0.64 (16.2) | 0.63 (15.9) | 0.63 (15.9) | 0.25 (6.4)  |
| 3/8                   | _D-C-F6                     | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  |
| 1/2                   | _D-C-F8                     | 1.42 (36.1)         | 0.90 (22.9) | 0.69 (17.5) | 0.81 (20.6) | 0.41 (10.4) |
| 5/8                   | _D-C-F10                    | 1.43 (36.3)         | 0.96 (24.4) | 1.00 (25.4) | 1.06 (27.0) | 0.50 (12.7) |
| 3/4                   | _D-C-F12                    | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) |
| 7/8                   | _D-C-F14                    | 1.76 (44.7)         | 1.02 (25.9) | 1.25 (31.8) | 1.37 (34.9) | 0.72 (18.3) |
| 1                     | _D-C-F16                    | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) |

| Metric Tube          |                             |                     |             |             |             |             |
|----------------------|-----------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D.(mm) | Basic<br>Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |
|                      |                             | L                   | C           | D           | F           | E           |
| 3                    | _D-C-M3                     | 22.3 (0.88)         | 12.9 (0.51) | 12.0 (0.47) | 9.5 (0.37)  | 2.4 (0.09)  |
| 4                    | _D-C-M4                     | 25.4 (1.00)         | 13.7 (0.54) | 12.0 (0.47) | 12.7 (0.50) | 2.4 (0.09)  |
| 6                    | _D-C-M6                     | 27.0 (1.06)         | 15.3 (0.60) | 14.0 (0.55) | 12.7 (0.50) | 4.8 (0.19)  |
| 8                    | _D-C-M8                     | 29.9 (1.18)         | 16.2 (0.64) | 16.0 (0.63) | 15.9 (0.63) | 6.4 (0.25)  |
| 10                   | _D-C-M10                    | 33.5 (1.32)         | 17.2 (0.68) | 19.0 (0.75) | 20.6 (0.81) | 7.9 (0.31)  |
| 12                   | _D-C-M12                    | 36.0 (1.42)         | 22.8 (0.90) | 22.0 (0.87) | 20.6 (0.81) | 9.5 (0.37)  |
| 16                   | _D-C-M16                    | 37.0 (1.46)         | 24.4 (0.96) | 25.0 (0.98) | 23.8 (0.94) | 12.7 (0.50) |
| 18                   | _D-C-M18                    | 38.3 (1.51)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 20                   | _D-C-M20                    | 44.6 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 15.9 (0.63) |
| 22                   | _D-C-M22                    | 44.7 (1.76)         | 26.0 (1.02) | 32.0 (1.26) | 34.9 (1.37) | 18.3 (0.72) |
| 25                   | _D-C-MT25                   | 49.2 (1.94)         | 31.3 (1.23) | 38.0 (1.50) | 34.9 (1.37) | 21.8 (0.86) |

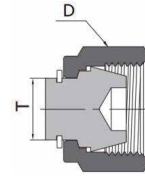
# CAPS



| Fractional Tube    |                       |                     |             |             |             |
|--------------------|-----------------------|---------------------|-------------|-------------|-------------|
| T - Tube O.D.(in.) | Basic Ordering Number | Dimension, in. (mm) |             |             |             |
|                    |                       | L                   | C           | D           | F           |
| 1/16               | _D-TC-F1              | 0.59 (15.0)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.31 (7.9)  |
| 1/8                | _D-TC-F2              | 0.79 (20.1)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) |
| 3/16               | _D-TC-F3              | 0.84 (21.3)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) |
| 1/4                | _D-TC-F4              | 0.92 (23.4)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) |
| 5/16               | _D-TC-F5              | 0.96 (24.4)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) |
| 3/8                | _D-TC-F6              | 1.01 (25.7)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) |
| 1/2                | _D-TC-F8              | 1.15 (29.2)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) |
| 5/8                | _D-TC-F10             | 1.18 (30.0)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) |
| 3/4                | _D-TC-F12             | 1.24 (31.5)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) |
| 7/8                | _D-TC-F14             | 1.34 (34.0)         | 1.02 (25.9) | 1.25 (31.8) | 1.19 (30.2) |
| 1                  | _D-TC-F16             | 1.51 (38.4)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) |
| 1 1/8              | _D-TC-F18             | 1.51 (38.4)         | 1.23 (31.2) | 1.81 (46.0) | 1.63 (41.3) |
| 1 1/4              | _D-TC-F20             | 2.10 (53.3)         | 1.62 (41.1) | 1.87 (47.6) | 1.75 (44.5) |
| 1 1/2              | _D-TC-F24             | 2.54 (64.5)         | 1.97 (50.0) | 2.25 (57.2) | 2.13 (54.0) |

| Metric Tube       |                       |                     |             |             |             |
|-------------------|-----------------------|---------------------|-------------|-------------|-------------|
| T - Tube O.D.(mm) | Basic Ordering Number | Dimension, mm (in.) |             |             |             |
|                   |                       | L                   | C           | D           | F           |
| 2                 | _D-TC-M2              | 20.1 (0.79)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) |
| 3                 | _D-TC-M3              | 20.1 (0.79)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) |
| 4                 | _D-TC-M4              | 21.3 (0.84)         | 13.7 (0.54) | 12.0 (0.47) | 12.0 (0.47) |
| 6                 | _D-TC-M6              | 23.1 (0.91)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) |
| 8                 | _D-TC-M8              | 24.5 (0.96)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) |
| 10                | _D-TC-M10             | 26.6 (1.05)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) |
| 12                | _D-TC-M12             | 29.1 (1.15)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) |
| 14                | _D-TC-M14             | 29.9 (1.18)         | 24.4 (0.96) | 22.0 (0.87) | 24.0 (0.94) |
| 15                | _D-TC-M15             | 29.9 (1.18)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) |
| 16                | _D-TC-M16             | 29.9 (1.18)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) |
| 18                | _D-TC-M18             | 31.4 (1.24)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) |
| 20                | _D-TC-M20             | 34.0 (1.34)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) |
| 22                | _D-TC-M22             | 34.0 (1.34)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) |
| 25                | _D-TC-M25             | 38.5 (1.52)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) |
| 28                | _D-TC-M28             | 48.5 (1.91)         | 36.6 (1.44) | 46.0 (1.81) | 41.0 (1.61) |
| 30                | _D-TC-M30             | 53.4 (2.10)         | 39.6 (1.56) | 50.0 (1.97) | 46.0 (1.81) |
| 32                | _D-TC-M32             | 55.8 (2.20)         | 42.0 (1.65) | 50.0 (1.97) | 46.0 (1.81) |
| 38                | _D-TC-M38             | 65.4 (2.57)         | 49.4 (1.94) | 60.0 (2.36) | 55.0 (2.17) |

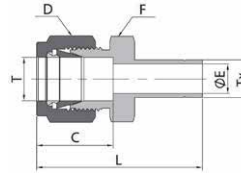
# PLUGS



| Fractional Tube       |                          |                     |
|-----------------------|--------------------------|---------------------|
| T - Tube<br>O.D.(in.) | Basic Ordering<br>Number | Dimension, in. (mm) |
|                       |                          | D                   |
| 1/16                  | _D-TP-F1                 | 0.31 (7.9)          |
| 1/8                   | _D-TP-F2                 | 0.44 (11.1)         |
| 3/16                  | _D-TP-F3                 | 0.50 (12.7)         |
| 1/4                   | _D-TP-F4                 | 0.56 (14.3)         |
| 5/16                  | _D-TP-F5                 | 0.63 (15.9)         |
| 3/8                   | _D-TP-F6                 | 0.69 (17.5)         |
| 1/2                   | _D-TP-F8                 | 0.87 (22.2)         |
| 5/8                   | _D-TP-F10                | 1.00 (25.4)         |
| 3/4                   | _D-TP-F12                | 1.13 (28.6)         |
| 7/8                   | _D-TP-F14                | 1.25 (31.8)         |
| 1                     | _D-TP-F16                | 1.50 (38.1)         |
| 1 1/4                 | _D-TP-F20                | 1.87 (47.6)         |
| 1 1/2                 | _D-TP-F24                | 2.25 (57.2)         |

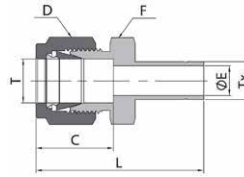
| Metric Tube          |                          |                     |
|----------------------|--------------------------|---------------------|
| T - Tube<br>O.D.(mm) | Basic Ordering<br>Number | Dimension, mm (in.) |
|                      |                          | D                   |
| 2                    | _D-TP-M2                 | 12.0 (0.47)         |
| 3                    | _D-TP-M3                 | 12.0 (0.47)         |
| 4                    | _D-TP-M4                 | 12.0 (0.47)         |
| 6                    | _D-TP-M6                 | 14.0 (0.55)         |
| 8                    | _D-TP-M8                 | 16.0 (0.63)         |
| 10                   | _D-TP-M10                | 19.0 (0.75)         |
| 12                   | _D-TP-M12                | 22.0 (0.87)         |
| 14                   | _D-TP-M14                | 25.0 (0.98)         |
| 15                   | _D-TP-M15                | 25.0 (0.98)         |
| 16                   | _D-TP-M16                | 25.0 (0.98)         |
| 18                   | _D-TP-M18                | 30.0 (1.18)         |
| 20                   | _D-TP-M20                | 32.0 (1.26)         |
| 22                   | _D-TP-M22                | 32.0 (1.26)         |
| 25                   | _D-TP-M25                | 38.0 (1.50)         |
| 28                   | _D-TP-M28                | 46.0 (1.81)         |
| 30                   | _D-TP-M30                | 50.0 (1.97)         |
| 32                   | _D-TP-M32                | 50.0 (1.97)         |
| 38                   | _D-TP-M38                | 60.0 (2.36)         |

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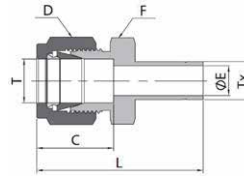
| Fractional Tube        |                      |                          |                     |             |             |             |             |
|------------------------|----------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (in.) | Tx-Tube<br>O.D.(in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |
|                        |                      |                          | L                   | C           | D           | F           | E           |
| 3/16                   | 1/8                  | _D-RD-F1-FT2             | 1.15 (29.2)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.31 (7.9)  | 0.05 (1.3)  |
| 1/16                   | 3/16                 | _D-RD-F1-FT3             | 1.18 (30.0)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.31 (7.9)  | 0.05 (1.3)  |
| 1/16                   | 1/4                  | _D-RD-F1-FT4             | 1.24 (31.5)         | 0.34 (8.6)  | 0.31 (7.9)  | 0.31 (7.9)  | 0.05 (1.3)  |
| 1/8                    | 1/16                 | _D-RD-F2-FT1             | 1.14 (29.0)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.03 (0.8)  |
| 1/8                    | 1/8                  | _D-RD-F2-FT2             | 1.32 (33.5)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.08 (2.0)  |
| 1/8                    | 3/16                 | _D-RD-F2-FT3             | 1.35 (34.3)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.3)  |
| 1/8                    | 1/4                  | _D-RD-F2-FT4             | 1.42 (36.1)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.3)  |
| 1/8                    | 3/8                  | _D-RD-F2-FT6             | 1.48 (37.6)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.3)  |
| 1/8                    | 1/2                  | _D-RD-F2-FT8             | 1.74 (44.2)         | 0.50 (12.7) | 0.44 (11.1) | 0.56 (14.3) | 0.09 (2.3)  |
| 3/16                   | 1/8                  | _D-RD-F3-FT2             | 1.37 (34.8)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.08 (2.0)  |
| 3/16                   | 1/4                  | _D-RD-F3-FT4             | 1.46 (37.1)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.12 (3.0)  |
| 1/4                    | 1/8                  | _D-RD-F4-FT2             | 1.45 (36.8)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.08 (2.0)  |
| 1/4                    | 3/16                 | _D-RD-F4-FT3             | 1.48 (37.6)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.12 (3.0)  |
| 1/4                    | 1/4                  | _D-RD-F4-FT4             | 1.54 (39.1)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.17 (4.3)  |
| 1/4                    | 5/16                 | _D-RD-F4-FT5             | 1.57 (39.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  |
| 1/4                    | 3/8                  | _D-RD-F4-FT6             | 1.60 (40.6)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  |
| 1/4                    | 1/2                  | _D-RD-F4-FT8             | 1.82 (46.2)         | 0.60 (15.2) | 0.56 (14.3) | 0.56 (14.3) | 0.19 (4.8)  |
| 1/4                    | 5/8                  | _D-RD-F4-FT0             | 1.89 (48.0)         | 0.60 (15.2) | 0.56 (14.3) | 0.69 (17.5) | 0.19 (4.8)  |
| 1/4                    | 3/4                  | _D-RD-F4-FT2             | 1.88 (47.8)         | 0.60 (15.2) | 0.56 (14.3) | 0.81 (20.6) | 0.19 (4.8)  |
| 5/6                    | 3/8                  | _D-RD-F5-FT6             | 1.65 (41.9)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.25 (6.4)  |
| 5/16                   | 1/2                  | _D-RD-F5-FT8             | 1.87 (47.5)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.25 (6.4)  |
| 3/8                    | 1/4                  | _D-RD-F6-FT4             | 1.63 (41.4)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.17 (4.3)  |
| 3/8                    | 3/8                  | _D-RD-F6-FT6             | 1.70 (43.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.27 (6.9)  |
| 3/8                    | 1/2                  | _D-RD-F6-FT8             | 1.91 (48.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  |
| 3/8                    | 5/8                  | _D-RD-F6-FT0             | 1.98 (50.3)         | 0.66 (16.8) | 0.69 (17.5) | 0.69 (17.5) | 0.28 (7.1)  |
| 3/8                    | 3/4                  | _D-RD-F6-FT2             | 1.98 (50.3)         | 0.66 (16.8) | 0.69 (17.5) | 0.81 (20.6) | 0.28 (7.1)  |
| 1/2                    | 1/4                  | _D-RD-F8-FT4             | 1.77 (45.0)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.17 (4.3)  |
| 1/2                    | 3/8                  | _D-RD-F8-FT6             | 1.84 (46.7)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.27 (6.9)  |
| 1/2                    | 1/2                  | _D-RD-F8-FT8             | 2.06 (52.3)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.37 (9.4)  |
| 1/2                    | 5/8                  | _D-RD-F8-FT0             | 2.12 (53.8)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) |
| 1/2                    | 3/4                  | _D-RD-F8-FT2             | 2.12 (53.8)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) |
| 1/2                    | 1                    | _D-RD-F8-FT6             | 2.37 (60.2)         | 0.90 (22.9) | 0.87 (22.2) | 1.06 (27.0) | 0.41 (10.4) |
| 5/8                    | 3/4                  | _D-RD-F10-F2             | 2.15 (54.6)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.50 (12.7) |
| 5/8                    | 7/8                  | _D-RD-F10-FT14           | 2.21 (56.1)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.50 (12.7) |
| 5/8                    | 1                    | _D-RD-F10-FT16           | 2.40 (61.0)         | 0.96 (24.4) | 1.00 (25.4) | 1.06 (27.0) | 0.50 (12.7) |
| 3/4                    | 3/4                  | _D-RD-F12-FT12           | 2.15 (54.6)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.58 (14.7) |
| 3/4                    | 1                    | _D-RD-F12-FT16           | 2.46 (62.5)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.62 (15.7) |
| 1                      | 1 1/4                | _D-RD-F16-FT20           | 3.17 (80.5)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) |
| 1                      | 1 1/2                | _D-RD-F16-FT24           | 3.51 (89.2)         | 1.23 (31.2) | 1.50 (38.1) | 1.63 (41.3) | 0.88 (22.4) |
| 1                      | 2                    | _D-RD-F16-FT32           | 4.43 (112.5)        | 1.23 (31.2) | 1.50 (38.1) | 2.13 (54.0) | 0.96 (24.4) |
| 1 1/4                  | 1 1/2                | _D-RD-F20-FT24           | 4.10 (104.1)        | 1.62 (41.1) | 2.25 (57.2) | 1.87 (47.6) | 1.09 (27.7) |

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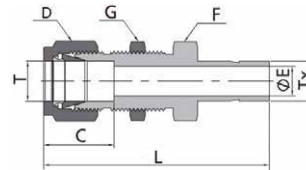
| Metric Tube           |                     |                          |                     |             |             |             |             |
|-----------------------|---------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (mm) | Tx-Tube<br>O.D.(mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |
|                       |                     |                          | L                   | C           | D           | F           | E           |
| 2                     | 3                   | _D-RD-M2-MT3             | 33.5 (1.32)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 1.7 (0.07)  |
| 3                     | 4                   | _D-RD-M3-MT4             | 35.0 (1.38)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  |
| 3                     | 6                   | _D-RD-M3-MT6             | 36.1 (1.42)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  |
| 3                     | 10                  | _D-RD-M3-MT10            | 38.4 (1.51)         | 12.9 (0.51) | 12.0 (0.47) | 14.0 (0.55) | 2.4 (0.09)  |
| 4                     | 6                   | _D-RD-M4-MT6             | 37.1 (1.46)         | 13.7 (0.54) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  |
| 6                     | 3                   | _D-RD-M6-MT3             | 36.9 (1.45)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 1.9 (0.07)  |
| 6                     | 8                   | _D-RD-M6-MT8             | 39.9 (1.57)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  |
| 6                     | 10                  | _D-RD-M6-MT10            | 40.7 (1.60)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  |
| 6                     | 12                  | _D-RD-M6-MT12            | 46.3 (1.82)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  |
| 6                     | 18                  | _D-RD-M6-MT18            | 49.6 (1.95)         | 15.3 (0.60) | 14.0 (0.55) | 22.0 (0.87) | 4.8 (0.19)  |
| 8                     | 6                   | _D-RD-M8-MT6             | 40.3 (1.59)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 4.1 (0.16)  |
| 8                     | 10                  | _D-RD-M8-MT10            | 42.0 (1.65)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 6.4 (0.25)  |
| 8                     | 12                  | _D-RD-M8-MT12            | 47.6 (1.87)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 6.4 (0.25)  |
| 10                    | 6                   | _D-RD-M10-MT6            | 42.4 (1.67)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 4.1 (0.16)  |
| 10                    | 8                   | _D-RD-M10-MT8            | 43.4 (1.71)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 5.6 (0.22)  |
| 10                    | 12                  | _D-RD-M10-MT12           | 49.8 (1.96)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 7.9 (0.31)  |
| 10                    | 15                  | _D-RD-M10-MT15           | 51.3 (2.02)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 7.9 (0.31)  |
| 10                    | 18                  | _D-RD-M10-MT18           | 51.3 (2.02)         | 17.2 (0.68) | 19.0 (0.75) | 22.0 (0.87) | 7.9 (0.31)  |
| 12                    | 6                   | _D-RD-M12-MT6            | 44.9 (1.77)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 4.1 (0.16)  |
| 12                    | 8                   | _D-RD-M12-MT8            | 45.9 (1.81)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 5.6 (0.22)  |
| 12                    | 10                  | _D-RD-M12-MT10           | 46.7 (1.84)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 7.1 (0.28)  |
| 12                    | 16                  | _D-RD-M12-MT16           | 53.8 (2.12)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  |
| 12                    | 18                  | _D-RD-M12-MT18           | 53.8 (2.12)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  |
| 12                    | 20                  | _D-RD-M12-MT20           | 56.1 (2.21)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  |
| 12                    | 22                  | _D-RD-M12-MT22           | 56.1 (2.21)         | 22.8 (0.90) | 22.0 (0.87) | 24.0 (0.94) | 9.5 (0.37)  |
| 12                    | 25                  | _D-RD-M12-MT25           | 62.4 (2.46)         | 22.8 (0.90) | 22.0 (0.87) | 27.0 (1.06) | 9.5 (0.37)  |
| 16                    | 12                  | _D-RD-M16-MT12           | 53.0 (2.09)         | 24.4 (0.96) | 25.0 (0.98) | 24.0 (0.94) | 8.8 (0.35)  |
| 18                    | 12                  | _D-RD-M18-MT12           | 54.6 (2.15)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 8.8 (0.35)  |
| 18                    | 16                  | _D-RD-M18-MT16           | 56.1 (2.21)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 12.0 (0.47) |
| 18                    | 20                  | _D-RD-M18-MT20           | 57.6 (2.27)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 18                    | 22                  | _D-RD-M18-MT22           | 57.6 (2.27)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 18                    | 25                  | _D-RD-M18-MT25           | 62.4 (2.46)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 20                    | 16                  | _D-RD-M20-MT16           | 57.9 (2.28)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 12.0 (0.47) |
| 20                    | 18                  | _D-RD-M20-MT18           | 57.9 (2.28)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 13.9 (0.55) |
| 20                    | 22                  | _D-RD-M20-MT22           | 59.4 (2.34)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 15.9 (0.63) |
| 20                    | 25                  | _D-RD-M20-MT25           | 64.2 (2.53)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 15.8 (0.62) |
| 22                    | 18                  | _D-RD-M22-MT18           | 57.9 (2.28)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 13.9 (0.55) |
| 22                    | 20                  | _D-RD-M22-MT20           | 59.4 (2.34)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 15.5 (0.61) |
| 22                    | 25                  | _D-RD-M22-MT25           | 64.2 (2.53)         | 26.0 (1.02) | 32.0 (1.26) | 30.0 (1.18) | 18.3 (0.72) |
| 25                    | 18                  | _D-RD-M25-MT18           | 63.1 (2.48)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) | 13.9 (0.55) |
| 25                    | 20                  | _D-RD-M25-MT20           | 64.6 (2.54)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) | 15.5 (0.61) |

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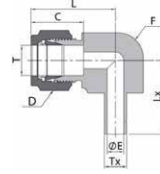
| Metric Tube to Fractional Tube |                      |                          |                     |             |             |             |             |
|--------------------------------|----------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (mm)          | Tx-Tube<br>O.D.(in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |
|                                |                      |                          | L                   | C           | D           | F           | E           |
| 2                              | 31/8                 | _D-RD-M2-FT2             | 33.5 (1.32)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 1.7 (0.07)  |
| 3                              | 1/8                  | _D-RD-M3-FT2             | 33.5 (1.32)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 2.0 (0.08)  |
| 3                              | 1/4                  | _D-RD-M3-FT4             | 36.1 (1.42)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  |
| 4                              | 1/4                  | _D-RD-M4-FT4             | 37.1 (1.46)         | 13.7 (0.54) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  |
| 6                              | 1/8                  | _D-RD-M6-FT2             | 36.9 (1.45)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 2.0 (0.08)  |
| 6                              | 1/4                  | _D-RD-M6-FT4             | 39.2 (1.54)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.4 (0.17)  |
| 6                              | 5/16                 | _D-RD-M6-FT5             | 39.9 (1.57)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  |
| 6                              | 3/8                  | _D-RD-M6-FT6             | 40.7 (1.60)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  |
| 6                              | 1/2                  | _D-RD-M6-FT8             | 46.3 (1.82)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  |
| 8                              | 1/4                  | _D-RD-M8-FT4             | 40.3 (1.59)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 4.4 (0.17)  |
| 8                              | 3/8                  | _D-RD-M8-FT6             | 42.0 (1.65)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 6.4 (0.25)  |
| 8                              | 1/2                  | _D-RD-M8-FT8             | 47.6 (1.87)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 6.4 (0.25)  |
| 10                             | 3/8                  | _D-RD-M10-FT6            | 44.4 (1.75)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 6.8 (0.27)  |
| 10                             | 1/2                  | _D-RD-M10-FT8            | 49.8 (1.96)         | 17.2 (0.68) | 19.0 (0.75) | 18.0 (0.71) | 7.9 (0.31)  |
| 12                             | 1/2                  | _D-RD-M12-FT8            | 52.3 (2.06)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.3 (0.37)  |
| 12                             | 3/4                  | _D-RD-M12-FT12           | 53.8 (2.12)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  |
| 18                             | 3/4                  | _D-RD-M18-FT12           | 56.1 (2.21)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 14.7 (0.58) |
| 18                             | 1                    | _D-RD-M18-FT16           | 62.4 (2.46)         | 24.4 (0.96) | 30.0 (1.18) | 27.0 (1.06) | 15.1 (0.59) |
| 25                             | 1                    | _D-RD-M25-FT16           | 69.5 (2.74)         | 31.3 (1.23) | 38.0 (1.50) | 35.0 (1.38) | 20.2 (0.80) |

## BULKHEAD REDUCERS



| Fractional Tube        |                      |                          |                     |             |             |             |             |             |
|------------------------|----------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (in.) | Tx-Tube<br>O.D.(in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |             |
|                        |                      |                          | L                   | C           | D           | F           | G           | E           |
| 1/8                    | 1/8                  | _D-BR-F2-FT2             | 1.95 (49.5)         | 0.50 (12.7) | 0.44 (11.1) | 0.50 (12.7) | 0.50 (12.7) | 0.08 (2.0)  |
| 1/4                    | 1/4                  | _D-BR-F4-FT4             | 2.20 (55.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.63 (15.9) | 0.63 (15.9) | 0.17 (4.3)  |
| 3/8                    | 3/8                  | _D-BR-F6-FT6             | 2.41 (61.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.75 (19.1) | 0.75 (19.1) | 0.27 (6.9)  |
| 1/2                    | 1/2                  | _D-BR-F8-FT8             | 2.87 (72.9)         | 0.90 (22.9) | 0.87 (22.2) | 0.94 (23.8) | 0.94 (23.8) | 0.37 (9.4)  |
| 5/8                    | 5/8                  | _D-BR-F10-FT10           | 2.96 (75.2)         | 0.96 (24.4) | 1.00 (25.4) | 1.06 (27.0) | 1.06 (27.0) | 0.47 (11.9) |
| 3/4                    | 3/4                  | _D-BR-F12-FT12           | 3.21 (81.5)         | 0.96 (24.4) | 1.13 (28.6) | 1.19 (30.2) | 1.19 (30.2) | 0.58 (14.7) |
| 1                      | 1                    | _D-BR-F16-FT16           | 3.95 (100.3)        | 1.23 (31.2) | 1.50 (38.1) | 1.63 (41.3) | 1.63 (41.3) | 0.80 (20.3) |

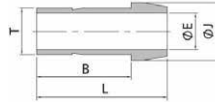
## REDUCER ELBOWS



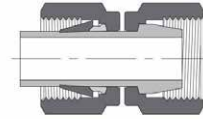
### Metric Tube to Fractional Tube

| T - Tube<br>O.D. (mm) | Tx-Tube<br>O.D.(mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |             |
|-----------------------|---------------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|-------------|
|                       |                     |                          | L                   | C           | D           | F           | G           | E           |
| 6                     | 6                   | _D-LR-M6-MT6             | 27.0 (1.06)         | 27.0 (1.06) | 27.0 (1.06) | 27.0 (1.06) | 27.0 (1.06) | 27.0 (1.06) |
| 12                    | 12                  | _D-LR-M12-MT12           | 38.1 (1.50)         | 38.1 (1.50) | 38.1 (1.50) | 38.1 (1.50) | 38.1 (1.50) | 38.1 (1.50) |

## PORT CONNECTORS



1" /25 mm and below



1 1/4" /28 mm and above

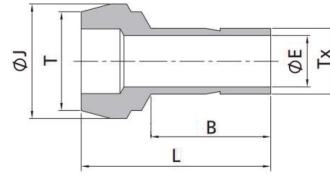
### Fractional Tube

| T - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |
|------------------------|--------------------------|---------------------|-------------|-------------|-------------|
|                        |                          | L                   | F           | B           | E           |
| 1/16                   | _D-P-FT1                 | 0.54 (13.7)         | 0.42 (10.7) | 0.03 (0.8)  | 0.13 (3.3)  |
| 1/8                    | _D-P-FT2                 | 0.88 (22.4)         | 0.62 (15.7) | 0.08 (2.0)  | 0.24 (6.1)  |
| 1/4                    | _D-P-FT4                 | 0.97 (24.6)         | 0.74 (18.8) | 0.17 (4.3)  | 0.37 (9.4)  |
| 5/16                   | _D-P-FT5                 | 1.02 (25.9)         | 0.79 (20.1) | 0.22 (5.6)  | 0.43 (10.9) |
| 3/8                    | _D-P-FT6                 | 1.03 (26.2)         | 0.80 (20.3) | 0.27 (6.9)  | 0.50 (12.7) |
| 1/2                    | _D-P-FT8                 | 1.41 (35.8)         | 1.02 (25.9) | 0.37 (9.4)  | 0.62 (15.7) |
| 5/8                    | _D-P-FT10                | 1.64 (41.7)         | 1.11 (28.1) | 0.47 (11.9) | 0.81 (20.5) |
| 3/4                    | _D-P-FT12                | 1.65 (41.9)         | 1.09 (27.7) | 0.58 (14.7) | 0.87 (22.1) |
| 1                      | _D-P-FT16                | 1.89 (48.0)         | 1.36 (34.5) | 0.80 (20.3) | 1.12 (28.4) |
| 1 1/4                  | _D-P-FT20                | 2.72 (69.1)         | 1.99 (50.6) | 1.02 (25.9) | 1.47 (37.4) |
| 1 1/2                  | _D-P-FT24                | 3.31 (84.1)         | 2.34 (59.4) | 1.25 (31.8) | 1.80 (45.8) |

### Metric Tube

| T - Tube<br>O.D. (mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |
|-----------------------|--------------------------|---------------------|-------------|-------------|-------------|
|                       |                          | L                   | F           | B           | E           |
| 3                     | _D-P-MT3                 | 22.2 (0.87)         | 15.7 (0.62) | 1.9 (0.07)  | 6.0 (0.24)  |
| 6                     | _D-P-MT6                 | 24.6 (0.97)         | 18.7 (0.74) | 4.1 (0.16)  | 9.0 (0.35)  |
| 8                     | _D-P-MT8                 | 25.9 (1.02)         | 20.0 (0.79) | 5.6 (0.22)  | 11.0 (0.43) |
| 10                    | _D-P-MT10                | 26.1 (1.03)         | 20.2 (0.80) | 7.1 (0.28)  | 13.1 (0.52) |
| 12                    | _D-P-MT12                | 35.8 (1.41)         | 26.0 (1.02) | 8.8 (0.35)  | 15.0 (0.59) |
| 15                    | _D-P-MT15                | 37.8 (1.49)         | 27.6 (1.09) | 11.2 (0.44) | 19.6 (0.77) |
| 16                    | _D-P-MT16                | 37.8 (1.49)         | 27.6 (1.09) | 12.0 (0.47) | 20.6 (0.81) |
| 18                    | _D-P-MT18                | 37.8 (1.49)         | 27.7 (1.09) | 13.9 (0.55) | 21.0 (0.83) |
| 20                    | _D-P-MT20                | 39.4 (1.55)         | 29.2 (1.15) | 15.5 (0.61) | 24.6 (0.97) |
| 25                    | _D-P-MT25                | 49.3 (1.94)         | 34.5 (1.36) | 19.9 (0.78) | 31.2 (1.23) |
| 28                    | _D-P-MT28                | 63.5 (2.5)          | 48.3 (1.90) | 22.5 (0.89) | 34.4 (1.35) |
| 30                    | _D-P-MT30                | 67.6 (2.66)         | 52.2 (2.06) | 24.3 (0.96) | 37.4 (1.47) |
| 32                    | _D-P-MT32                | 69.7 (2.74)         | 52.4 (2.06) | 26.5 (1.04) | 39.4 (1.55) |
| 38                    | _D-P-MT38                | 81.9 (3.22)         | 61.4 (2.42) | 31.6 (1.24) | 45.8 (1.80) |

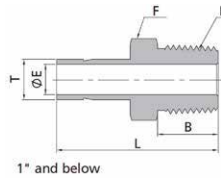
## REDUCING PORT CONNECTORS



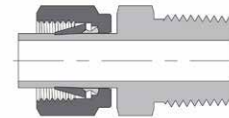
| Fractional Tube        |                      |                          |                     |             |             |             |
|------------------------|----------------------|--------------------------|---------------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (in.) | Tx-Tube<br>O.D.(in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |
|                        |                      |                          | L                   | B           | E           | J           |
| 1/8                    | 1/16                 | _D-RP-F2-FT1             | 0.68 (17.3)         | 0.34 (8.6)  | 0.03 (0.8)  | 0.24 (6.1)  |
| 1/4                    | 1/16                 | _D-RP-F4-FT1             | 0.71 (18.0)         | 0.34 (8.6)  | 0.03 (0.8)  | 0.37 (9.4)  |
| 1/4                    | 1/8                  | _D-RP-F4-FT2             | 0.89 (22.6)         | 0.53 (13.5) | 0.08 (2.0)  | 0.37 (9.4)  |
| 3/8                    | 1/8                  | _D-RP-F6-FT2             | 0.91 (23.1)         | 0.53 (13.5) | 0.08 (2.0)  | 0.50 (12.7) |
| 3/8                    | 1/4                  | _D-RP-F6-FT4             | 0.98 (24.9)         | 0.62 (15.7) | 0.17 (4.3)  | 0.50 (12.7) |
| 1/2                    | 1/4                  | _D-RP-F8-FT4             | 1.15 (29.2)         | 0.62 (15.7) | 0.17 (4.3)  | 0.62 (15.7) |
| 1/2                    | 3/8                  | _D-RP-F8-FT6             | 1.20 (30.5)         | 0.69 (17.5) | 0.27 (6.9)  | 0.62 (15.7) |
| 3/4                    | 1/2                  | _D-RP-F12-FT8            | 1.49 (37.8)         | 0.91 (23.1) | 0.37 (9.4)  | 0.87 (22.1) |
| 1                      | 1/2                  | _D-RP-F16-FT8            | 1.69 (42.9)         | 0.96 (24.4) | 0.37 (9.4)  | 1.12 (28.5) |
| 1                      | 3/4                  | _D-RP-F16-FT12           | 1.72 (43.7)         | 1.02 (25.9) | 0.58 (14.7) | 1.12 (28.5) |

| Metric Tube           |                     |                          |                     |             |             |             |
|-----------------------|---------------------|--------------------------|---------------------|-------------|-------------|-------------|
| T - Tube<br>O.D. (mm) | Tx-Tube<br>O.D.(mm) | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |
|                       |                     |                          | L                   | B           | E           | J           |
| 6                     | 3                   | _D-RPCM6-MT3             | 22.6 (0.89)         | 13.5 (0.53) | 1.9 (0.07)  | 9.0 (0.35)  |
| 8                     | 6                   | _D-RP-M8-MT6             | 24.7 (0.97)         | 15.7 (0.62) | 4.1 (0.16)  | 11.0 (0.43) |
| 10                    | 6                   | _D-RP-M10-MT6            | 25.0 (0.98)         | 15.7 (0.62) | 4.1 (0.16)  | 13.1 (0.52) |
| 10                    | 8                   | _D-RP-M10-MT8            | 26.3 (1.04)         | 17.0 (0.67) | 5.6 (0.22)  | 13.1 (0.52) |
| 12                    | 6                   | _D-RP-M12-MT6            | 29.6 (1.17)         | 15.7 (0.62) | 4.1 (0.16)  | 15.0 (0.59) |
| 12                    | 8                   | _D-RP-M12-MT8            | 29.8 (1.17)         | 16.8 (0.66) | 5.6 (0.22)  | 15.0 (0.59) |
| 12                    | 10                  | _D-RP-M12-MT10           | 30.4 (1.20)         | 17.5 (0.69) | 7.1 (0.28)  | 15.0 (0.59) |
| 16                    | 12                  | _D-RP-M16-MT12           | 36.2 (1.43)         | 23.1 (0.91) | 8.8 (0.35)  | 19.0 (0.75) |
| 28                    | 25                  | _D-RP-M28-MT25           | 56.5 (2.22)         | 33.0 (1.30) | 19.8 (0.78) | 34.3 (1.35) |
| 32                    | 25                  | _D-RP-M32-MT25           | 60.3 (2.37)         | 33.0 (1.30) | 19.8 (0.78) | 39.5 (1.56) |
| 38                    | 25                  | _D-RP-M38-MT25           | 65.8 (2.59)         | 33.0 (1.30) | 19.8 (0.78) | 47.1 (1.85) |

# MALE ADAPTERS



1" and below



1 1/4" and above

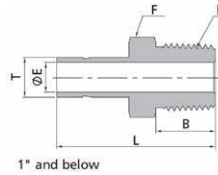
## Fractional Tube to NPT Thread

| T - Tube<br>O.D. (in.) | P-NPT<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |
|------------------------|---------------|--------------------------|---------------------|-------------|-------------|-------------|
|                        |               |                          | L                   | B           | E           | F           |
| 1/16                   | 1/8           | _D-MAD-FT1-N2            | 1.00 (25.4)         | 0.38 (9.7)  | 0.03 (0.8)  | 0.44 (11.1) |
| 1/8                    | 1/8           | _D-MAD-FT2-N2            | 1.16 (29.5)         | 0.38 (9.7)  | 0.08 (2.0)  | 0.44 (11.1) |
| 1/8                    | 1/4           | _D-MAD-FT2-N4            | 1.37 (34.8)         | 0.56 (14.2) | 0.08 (2.0)  | 0.56 (14.3) |
| 3/16                   | 1/8           | _D-MAD-FT3-N2            | 1.19 (30.2)         | 0.38 (9.7)  | 0.12 (3.0)  | 0.44 (11.1) |
| 3/16                   | 1/4           | _D-MAD-FT3-N4            | 1.40 (35.6)         | 0.56 (14.2) | 0.12 (3.0)  | 0.56 (14.3) |
| 1/4                    | 1/8           | _D-MAD-FT4-N2            | 1.25 (31.8)         | 0.38 (9.7)  | 0.17 (4.3)  | 0.44 (11.1) |
| 1/4                    | 1/4           | _D-MAD-FT4-N4            | 1.46 (37.1)         | 0.56 (14.2) | 0.17 (4.3)  | 0.56 (14.3) |
| 1/4                    | 3/8           | _D-MAD-FT4-N6            | 1.49 (37.8)         | 0.56 (14.2) | 0.17 (4.3)  | 0.69 (17.5) |
| 1/4                    | 1/2           | _D-MAD-FT4-N8            | 1.71 (43.4)         | 0.75 (19.1) | 0.17 (4.3)  | 0.87 (22.2) |
| 5/16                   | 1/8           | _D-MAD-FT5-N2            | 1.29 (32.8)         | 0.38 (9.7)  | 0.19 (4.8)  | 0.44 (11.1) |
| 5/16                   | 1/4           | _D-MAD-FT5-N4            | 1.50 (38.1)         | 0.56 (14.2) | 0.22 (5.6)  | 0.56 (14.3) |
| 5/16                   | 3/8           | _D-MAD-FT5-N6            | 1.53 (38.9)         | 0.56 (14.2) | 0.22 (5.6)  | 0.69 (17.5) |
| 5/16                   | 1/2           | _D-MAD-FT5-N8            | 1.74 (44.2)         | 0.75 (19.1) | 0.22 (5.6)  | 0.87 (22.2) |
| 3/8                    | 1/8           | _D-MAD-FT6-N2            | 1.32 (33.5)         | 0.38 (9.7)  | 0.19 (4.8)  | 0.44 (11.1) |
| 3/8                    | 1/4           | _D-MAD-FT6-N4            | 1.53 (38.9)         | 0.56 (14.2) | 0.27 (6.9)  | 0.56 (14.3) |
| 3/8                    | 3/8           | _D-MAD-FT6-N6            | 1.56 (39.6)         | 0.56 (14.2) | 0.27 (6.9)  | 0.69 (17.5) |
| 3/8                    | 1/2           | _D-MAD-FT6-N8            | 1.78 (45.2)         | 0.75 (19.1) | 0.27 (6.9)  | 0.87 (22.2) |
| 1/2                    | 1/4           | _D-MAD-FT8-N4            | 1.75 (44.5)         | 0.56 (14.2) | 0.28 (7.1)  | 0.56 (14.3) |
| 1/2                    | 3/8           | _D-MAD-FT8-N6            | 1.78 (45.2)         | 0.56 (14.2) | 0.37 (9.4)  | 0.69 (17.5) |
| 1/2                    | 1/2           | _D-MAD-FT8-N8            | 2.00 (50.8)         | 0.75 (19.1) | 0.37 (9.4)  | 0.87 (22.2) |
| 5/8                    | 1/2           | _D-MAD-FT10-N8           | 2.06 (52.3)         | 0.75 (19.1) | 0.47 (11.9) | 0.87 (22.2) |
| 3/4                    | 1/2           | _D-MAD-FT12-N8           | 2.06 (52.3)         | 0.75 (19.1) | 0.47 (11.9) | 0.87 (22.2) |
| 3/4                    | 3/4           | _D-MAD-FT12-N12          | 2.06 (52.3)         | 0.75 (19.1) | 0.58 (14.7) | 1.06 (27.0) |
| 3/4                    | 1             | _D-MAD-FT12-N16          | 2.41 (61.2)         | 0.94 (23.9) | 0.81 (20.7) | 1.37 (34.9) |
| 1                      | 3/4           | _D-MAD-FT16-N12          | 2.31 (58.7)         | 0.75 (19.1) | 0.62 (15.7) | 1.06 (27.0) |
| 1                      | 1             | _D-MAD-FT16-N16          | 2.60 (66.0)         | 0.94 (23.9) | 0.80 (20.3) | 1.37 (34.9) |
| 1 1/4                  | 1 1/4         | _D-MAD-FT20-N20          | 3.16 (80.3)         | 0.94 (23.9) | 1.02 (25.9) | 1.75 (44.5) |
| 1 1/2                  | 1 1/2         | _D-MAD-FT24-N24          | 3.72 (94.5)         | 1.03 (26.2) | 1.25 (31.8) | 2.13 (54.0) |

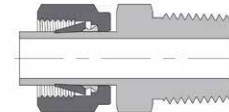
## Fractional Tube to RT Thread

| T - Tube<br>O.D. (in.) | P-RT<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |            |             |
|------------------------|--------------|--------------------------|---------------------|-------------|------------|-------------|
|                        |              |                          | L                   | B           | E          | F           |
| 1/8                    | 1/8          | _D-MAD-FTD2-RT2          | 1.00 (25.4)         | 0.38 (9.7)  | 0.03 (0.8) | 0.44 (11.1) |
| 1/8                    | 1/4          | _D-MAD-FTD2-RT4          | 1.16 (29.5)         | 0.38 (9.7)  | 0.08 (2.0) | 0.44 (11.1) |
| 1/4                    | 1/8          | _D-MAD-FTD4-RT2          | 1.37 (34.8)         | 0.56 (14.2) | 0.08 (2.0) | 0.56 (14.3) |
| 1/4                    | 1/4          | _D-MAD-FTD4-RT4          | 1.19 (30.2)         | 0.38 (9.7)  | 0.12 (3.0) | 0.44 (11.1) |
| 1/4                    | 3/8          | _D-MAD-FTD4-RT6          | 1.40 (35.6)         | 0.56 (14.2) | 0.12 (3.0) | 0.56 (14.3) |
| 1/4                    | 1/2          | _D-MAD-FTD4-RT8          | 1.25 (31.8)         | 0.38 (9.7)  | 0.17 (4.3) | 0.44 (11.1) |
| 5/16                   | 1/8          | _D-MAD-FTD5-RT2          | 1.46 (37.1)         | 0.56 (14.2) | 0.17 (4.3) | 0.56 (14.3) |
| 5/16                   | 1/4          | _D-MAD-FTD5-RT4          | 1.49 (37.8)         | 0.56 (14.2) | 0.17 (4.3) | 0.69 (17.5) |
| 3/8                    | 1/4          | _D-MAD-FTD6-RT4          | 1.71 (43.4)         | 0.75 (19.1) | 0.17 (4.3) | 0.87 (22.2) |
| 3/8                    | 3/8          | _D-MAD-FTD6-RT6          | 1.29 (32.8)         | 0.38 (9.7)  | 0.19 (4.8) | 0.44 (11.1) |
| 3/8                    | 1/2          | _D-MAD-FTD6-RT8          | 1.50 (38.1)         | 0.56 (14.2) | 0.22 (5.6) | 0.56 (14.3) |
| 1/2                    | 1/4          | _D-MAD-FTD8-RT4          | 1.53 (38.9)         | 0.56 (14.2) | 0.22 (5.6) | 0.69 (17.5) |
| 1/2                    | 3/8          | _D-MAD-FTD8-RT6          | 1.74 (44.2)         | 0.75 (19.1) | 0.22 (5.6) | 0.87 (22.2) |
| 1/2                    | 1/2          | _D-MAD-FTD8-RT8          | 1.32 (33.5)         | 0.38 (9.7)  | 0.19 (4.8) | 0.44 (11.1) |
| 5/8                    | 3/8          | _D-MAD-FTD10-RT6         | 1.53 (38.9)         | 0.56 (14.2) | 0.27 (6.9) | 0.56 (14.3) |
| 5/8                    | 1/2          | _D-MAD-FTD10-RT8         | 1.56 (39.6)         | 0.56 (14.2) | 0.27 (6.9) | 0.69 (17.5) |
| 3/4                    | 3/4          | _D-MAD-FTD12-RT12        | 1.78 (45.2)         | 0.75 (19.1) | 0.27 (6.9) | 0.87 (22.2) |
| 1                      | 1            | _D-MAD-FTD16-RT16        | 1.75 (44.5)         | 0.56 (14.2) | 0.28 (7.1) | 0.56 (14.3) |

# MALE ADAPTERS



1" and below



1 1/4" and above

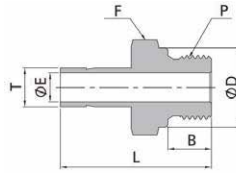
## Metric Tube to NPT Thread

| T - Tube O.D. (mm) | P-NPT Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |
|--------------------|------------|-----------------------|---------------------|-------------|-------------|-------------|
|                    |            |                       | L                   | B           | E           | F           |
| 3                  | 1/8        | _D-MAD-MT3-N2         | 29.4 (1.16)         | 9.7 (0.38)  | 1.8 (0.07)  | 12.0(0.47)  |
| 4                  | 1/8        | _D-MAD-MT4-N2         | 29.4 (1.16)         | 9.7 (0.38)  | 2.0 (0.08)  | 12.0 (0.47) |
| 6                  | 1/8        | _D-MAD-MT6-N2         | 32.8 (1.29)         | 9.7 (0.38)  | 4.1 (0.16)  | 12.0 (0.47) |
| 6                  | 1/4        | _D-MAD-MT6-N4         | 38.1 (1.50)         | 14.2 (0.56) | 4.1 (0.16)  | 14.0 (0.55) |
| 6                  | 3/8        | _D-MAD-MT6-N6         | 39.2 (1.54)         | 14.2 (0.56) | 4.1 (0.16)  | 18.0 (0.71) |
| 6                  | 1/2        | _D-MAD-MT6-N8         | 42.1 (1.66)         | 19.1 (0.75) | 4.1 (0.16)  | 22.0 (0.87) |
| 8                  | 1/4        | _D-MAD-MT8-N4         | 39.1 (1.54)         | 14.2 (0.56) | 5.6 (0.22)  | 14.0 (0.55) |
| 8                  | 3/8        | _D-MAD-MT8-N6         | 39.9 (1.57)         | 14.2 (0.56) | 5.6 (0.22)  | 19.0 (0.75) |
| 10                 | 1/4        | _D-MAD-MT10-N4        | 39.9 (1.57)         | 14.2 (0.56) | 7.1 (0.28)  | 14.0 (0.55) |
| 10                 | 3/8        | _D-MAD-MT10-N6        | 40.6 (1.60)         | 14.2 (0.56) | 7.1 (0.28)  | 18.0 (0.71) |
| 10                 | 1/2        | _D-MAD-MT10-N8        | 46.2 (1.82)         | 19.1 (0.75) | 7.1 (0.28)  | 22.0 (0.87) |
| 12                 | 1/4        | _D-MAD-MT12-N4        | 46.5 (1.83)         | 14.2 (0.56) | 7.1 (0.28)  | 14.0 (0.55) |
| 12                 | 3/8        | _D-MAD-MT12-N6        | 46.2 (1.82)         | 14.2 (0.56) | 8.8 (0.35)  | 18.0 (0.71) |
| 12                 | 1/2        | _D-MAD-MT12-N8        | 52.1 (2.05)         | 19.1 (0.75) | 8.8 (0.35)  | 22.0 (0.87) |
| 16                 | 1/2        | _D-MAD-MT16-N8        | 50.8 (2.00)         | 19.1 (0.75) | 12.7 (0.50) | 22.0 (0.87) |
| 16                 | 3/4        | _D-MAD-MT16-N12       | 51.6 (2.03)         | 19.1 (0.75) | 12.7 (0.50) | 27.0 (1.06) |
| 18                 | 1/2        | _D-MAD-MT18-N8        | 50.8 (2.00)         | 19.1 (0.75) | 12.7 (0.50) | 27.0 (1.06) |
| 18                 | 3/4        | _D-MAD-MT18-N12       | 51.6 (2.03)         | 19.1 (0.75) | 14.0 (0.55) | 27.0 (1.06) |
| 20                 | 1/2        | _D-MAD-MT20-N8        | 51.8 (2.04)         | 19.1 (0.75) | 11.9 (0.47) | 22.0 (0.87) |
| 20                 | 3/4        | _D-MAD-MT20-N12       | 52.4 (2.06)         | 19.1 (0.75) | 15.1 (0.59) | 27.0 (1.06) |
| 25                 | 1          | _D-MAD-MT25-N16       | 65.9 (2.59)         | 23.9 (0.94) | 19.8 (0.78) | 35.0 (1.38) |
| 28                 | 1          | _D-MAD-MT28-N16       | 74.4 (2.93)         | 23.9 (0.94) | 22.2 (0.87) | 35.0 (1.38) |
| 28                 | 1 1/4      | _D-MAD-MT28-N20       | 76.2 (3.00)         | 23.9 (0.94) | 22.5 (0.89) | 46.0 (1.81) |
| 30                 | 1          | _D-MAD-MT30-N16       | 79.2 (3.12)         | 23.9 (0.94) | 22.2 (0.87) | 41.0 (1.61) |
| 30                 | 1 1/4      | _D-MAD-MT30-N20       | 80.0 (3.15)         | 23.9 (0.94) | 24.3 (0.96) | 46.0 (1.81) |
| 32                 | 1 1/4      | _D-MAD-MT32-N20       | 81.0 (3.19)         | 23.9 (0.94) | 26.5 (1.04) | 46.0 (1.81) |
| 38                 | 1 1/2      | _D-MAD-MT38-N24       | 92.2 (3.63)         | 26.2 (1.03) | 31.6 (1.24) | 55.0 (2.17) |
| 1 1/2              | 1 1/2      | _D-MAD-MT24-N24       | 3.72 (94.5)         | 1.03 (26.2) | 1.25 (31.8) | 2.13 (54.0) |

## Metric Tube to RT Thread

| T - Tube O.D. (mm) | P-RT Size | Basic Ordering Number | Dimension, mm (mm) |             |             |             |
|--------------------|-----------|-----------------------|--------------------|-------------|-------------|-------------|
|                    |           |                       | L                  | B           | E           | F           |
| 3                  | 1/8       | _D-MAD-MT3-RT2        | 29.4 (1.16)        | 9.7 (0.38)  | 1.8 (0.07)  | 12.0 (0.47) |
| 4                  | 1/8       | _D-MAD-MT4-RT2        | 29.4 (1.16)        | 9.7 (0.38)  | 2.0 (0.08)  | 12.0 (0.47) |
| 6                  | 1/8       | _D-MAD-MT6-RT2        | 32.8 (1.29)        | 9.7 (0.38)  | 4.1 (0.16)  | 12.0 (0.47) |
| 6                  | 1/4       | _D-MAD-MT6-RT4        | 38.1 (1.50)        | 14.2 (0.56) | 4.1 (0.16)  | 14.0 (0.55) |
| 8                  | 1/4       | _D-MAD-MT8-RT4        | 39.1 (1.54)        | 14.2 (0.56) | 5.6 (0.22)  | 14.0 (0.55) |
| 8                  | 3/8       | _D-MAD-MT8-RT6        | 39.9 (1.57)        | 14.2 (0.56) | 5.6 (0.22)  | 18.0 (0.71) |
| 10                 | 1/4       | _D-MAD-MT10-RT4       | 39.9 (1.57)        | 14.2 (0.56) | 7.1 (0.28)  | 14.0 (0.55) |
| 10                 | 3/8       | _D-MAD-MT10-RT6       | 40.6 (1.60)        | 14.2 (0.56) | 7.1 (0.28)  | 18.0 (0.71) |
| 10                 | 1/2       | _D-MAD-MT10-RT8       | 44.5 (1.75)        | 19.1 (0.75) | 7.5 (0.30)  | 22.0 (0.87) |
| 12                 | 1/4       | _D-MAD-MT12-RT4       | 46.5 (1.83)        | 14.2 (0.56) | 7.1 (0.28)  | 16.0 (0.63) |
| 12                 | 3/8       | _D-MAD-MT12-RT6       | 46.2 (1.82)        | 14.2 (0.56) | 8.8 (0.35)  | 18.0 (0.71) |
| 12                 | 1/2       | _D-MAD-MT12-RT8       | 51.8 (2.04)        | 19.1 (0.75) | 8.8 (0.35)  | 22.0 (0.87) |
| 16                 | 1/2       | _D-MAD-MT16-RT8       | 50.8 (2.00)        | 19.1 (0.75) | 12.7 (0.50) | 22.0 (0.87) |
| 18                 | 3/4       | _D-MAD-MT18-RT12      | 51.6 (2.03)        | 19.1 (0.75) | 14.0 (0.55) | 27.0 (1.06) |
| 20                 | 3/4       | _D-MAD-MT20-RT12      | 52.4 (2.06)        | 19.1 (0.75) | 15.1 (0.59) | 27.0 (1.06) |
| 25                 | 1         | _D-MAD-MT25-RT16      | 65.9 (2.59)        | 23.9 (0.94) | 19.8 (0.78) | 35.0 (1.38) |
| 28                 | 1         | _D-MAD-MT28-RT16      | 74.7 (2.94)        | 23.9 (0.94) | 22.2 (0.87) | 35.0 (1.38) |
| 28                 | 1 1/4     | _D-MAD-MT28-RT20      | 76.2 (3.00)        | 23.9 (0.94) | 22.5 (0.89) | 46.0 (1.81) |
| 30                 | 1 1/4     | _D-MAD-MT30-RT20      | 80.0 (3.15)        | 23.9 (0.94) | 24.3 (0.96) | 46.0 (1.81) |
| 32                 | 1 1/4     | _D-MAD-MT32-RT20      | 81.0 (3.19)        | 23.9 (0.94) | 26.5 (1.04) | 46.0 (1.81) |

# MALE ADAPTERS



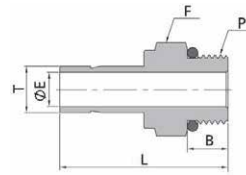
## Fractional Tube to ISO Parallel Thread

| T - Tube<br>O.D. (in.) | P-RP<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |             |
|------------------------|--------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
|                        |              |                          | L                   | B           | E           | F           | D           |
| 1/8                    | 1/8          | _D-MAD-FT2-RS2           | 1.22 (31.0)         | 0.28 (7.1)  | 0.08 (2.0)  | 0.56 (14.3) | 0.54 (13.7) |
| 1/8                    | 1/4          | _D-MAD-FT2-RS4           | 1.41 (35.8)         | 0.44 (11.2) | 0.08 (2.0)  | 0.75 (19.1) | 0.70 (17.8) |
| 1/4                    | 1/8          | _D-MAD-FT4-RS2           | 1.31 (33.3)         | 0.28 (7.1)  | 0.16 (4.1)  | 0.56 (14.3) | 0.54 (13.7) |
| 1/4                    | 1/4          | _D-MAD-FT4-RS4           | 1.50 (38.1)         | 0.44 (11.2) | 0.17 (4.3)  | 0.75 (19.1) | 0.70 (17.8) |
| 3/8                    | 1/8          | _D-MAD-FT6-RS2           | 1.34 (34.0)         | 0.28 (7.1)  | 0.05 (1.3)  | 0.56 (14.3) | 0.54 (13.7) |
| 3/8                    | 1/4          | _D-MAD-FT6-RS4           | 1.57 (39.9)         | 0.44 (11.2) | 0.23 (5.8)  | 0.75 (19.1) | 0.70 (17.8) |
| 3/8                    | 3/8          | _D-MAD-FT6-RS6           | 1.60 (40.6)         | 0.44 (11.2) | 0.27 (6.9)  | 0.87 (22.2) | 0.85 (21.6) |
| 3/8                    | 1/2          | _D-MAD-FT6-RS8           | 1.69 (42.9)         | 0.56 (14.2) | 0.28 (7.1)  | 1.06 (27.0) | 1.02 (25.9) |
| 1/2                    | 1/4          | _D-MAD-FT8-RS4           | 1.79 (45.5)         | 0.44 (11.2) | 0.23 (5.8)  | 0.75 (19.1) | 0.70 (17.8) |
| 1/2                    | 3/8          | _D-MAD-FT8-RS6           | 1.82 (46.2)         | 0.44 (11.2) | 0.31 (7.9)  | 0.87 (22.2) | 0.85 (21.6) |
| 1/2                    | 1/2          | _D-MAD-FT8-RS8           | 1.94 (49.2)         | 0.56 (14.2) | 0.37 (9.4)  | 1.06 (27.0) | 1.02 (25.9) |
| 5/8                    | 1/2          | _D-MAD-FT10-RS8          | 1.97 (50.0)         | 0.56 (14.2) | 0.47 (11.9) | 1.06 (27.0) | 1.02 (25.9) |
| 3/4                    | 3/4          | _D-MAD-FT12-RS12         | 2.16 (54.9)         | 0.63 (16.0) | 0.58 (14.7) | 1.31 (33.3) | 1.26 (32.0) |
| 1                      | 1            | _D-MAD-FT16-RS16         | 2.54 (64.5)         | 0.72 (18.3) | 0.80 (20.3) | 1.63 (41.3) | 1.53 (38.9) |

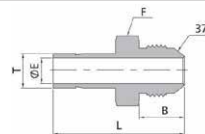
## Metric Tube to ISO Parallel Thread

| T - Tube<br>O.D. (mm) | P-RS<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |             |
|-----------------------|--------------|--------------------------|---------------------|-------------|-------------|-------------|-------------|
|                       |              |                          | L                   | B           | E           | F           | D           |
| 3                     | 1/8          | _D-MAD-MT3-RS2           | 31.0 (1.22)         | 7.1 (0.28)  | 1.8 (0.07)  | 14.0 (0.55) | 13.7 (0.54) |
| 4                     | 1/8          | _D-MAD-MT4-RS2           | 31.8 (1.25)         | 7.1 (0.28)  | 2.0 (0.08)  | 14.0 (0.55) | 13.7 (0.54) |
| 6                     | 1/8          | _D-MAD-MT6-RS2           | 34.3 (1.35)         | 7.1 (0.28)  | 4.0 (0.16)  | 14.0 (0.55) | 13.7 (0.54) |
| 6                     | 1/4          | _D-MAD-MT6-RS4           | 39.1 (1.54)         | 11.2 (0.44) | 4.1 (0.16)  | 19.0 (0.75) | 17.8 (0.70) |
| 8                     | 1/4          | _D-MAD-MT8-RS4           | 40.1 (1.58)         | 11.2 (0.44) | 5.6 (0.22)  | 19.0 (0.75) | 17.8 (0.70) |
| 10                    | 1/4          | _D-MAD-MT10-RS4          | 40.9 (1.61)         | 11.2 (0.44) | 5.9 (0.23)  | 19.0 (0.75) | 17.8 (0.70) |
| 10                    | 3/8          | _D-MAD-MT10-RS6          | 41.7 (1.64)         | 11.2 (0.44) | 7.1 (0.28)  | 22.0 (0.87) | 21.6 (0.85) |
| 10                    | 1/2          | _D-MAD-MT10-RS8          | 44.7 (1.76)         | 14.2 (0.56) | 7.1 (0.28)  | 27.0 (1.06) | 25.9 (1.02) |
| 12                    | 1/4          | _D-MAD-MT12-RS4          | 46.7 (1.84)         | 11.2 (0.44) | 5.9 (0.23)  | 19.0 (0.75) | 17.8 (0.70) |
| 12                    | 3/8          | _D-MAD-MT12-RS6          | 47.2 (1.86)         | 11.2 (0.44) | 7.9 (0.31)  | 22.0 (0.87) | 21.6 (0.85) |
| 12                    | 1/2          | _D-MAD-MT12-RS8          | 50.5 (1.99)         | 14.2 (0.56) | 8.8 (0.35)  | 27.0 (1.06) | 25.9 (1.02) |
| 16                    | 1/2          | _D-MAD-MT16-RS8          | 50.8 (2.00)         | 14.2 (0.56) | 11.9 (0.47) | 27.0 (1.06) | 25.9 (1.02) |
| 18                    | 3/4          | _D-MAD-MT18-RS12         | 55.9 (2.20)         | 16.0 (0.63) | 13.9 (0.55) | 35.0 (1.38) | 32.0 (1.26) |
| 20                    | 3/4          | _D-MAD-MT20-RS12         | 57.0 (2.24)         | 16.0 (0.63) | 15.1 (0.59) | 33.0 (1.30) | 32.0 (1.26) |
| 25                    | 1            | _D-MAD-MT25-RS16         | 65.1 (2.56)         | 18.3 (0.72) | 19.8 (0.78) | 41.0 (1.61) | 38.9 (1.53) |

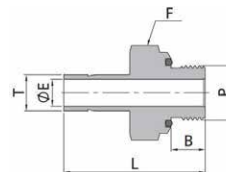
# MALE ADAPTERS



| Fractional Tube to SAE/MS Thread |               |                       |                     |             |             |             |
|----------------------------------|---------------|-----------------------|---------------------|-------------|-------------|-------------|
| T - Tube O.D. (in.)              | P-SAE/MS Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |
|                                  |               |                       | L                   | B           | E           | F           |
| 1/8                              | 5/16-24       | _D-MAD-FT2-ST5        | 1.20 (30.5)         | 0.30 (7.6)  | 0.08 (2.0)  | 0.44 (11.1) |
| 1/4                              | 7/16-20       | _D-MAD-FT4-ST7        | 1.39 (35.3)         | 0.36 (9.1)  | 0.17 (4.3)  | 0.56 (14.3) |
| 3/8                              | 7/16-20       | _D-MAD-FT6-ST7        | 1.46 (37.1)         | 0.36 (9.1)  | 0.20 (5.1)  | 0.56 (14.3) |
| 3/8                              | 9/16-18       | _D-MAD-FT6-ST9        | 1.52 (38.6)         | 0.39 (9.9)  | 0.27 (6.9)  | 0.69 (17.5) |
| 3/8                              | 3/4-16        | _D-MAD-FT6-ST12       | 1.60 (40.6)         | 0.44 (11.2) | 0.27 (6.9)  | 0.87 (22.2) |
| 1/2                              | 9/16-18       | _D-MAD-FT8-ST9        | 1.74 (44.2)         | 0.39 (9.9)  | 0.28 (7.1)  | 0.69 (17.5) |
| 1/2                              | 3/4-16        | _D-MAD-FT8-ST12       | 1.82 (46.2)         | 0.44 (11.2) | 0.37 (9.4)  | 0.87 (22.2) |
| 5/8                              | 7/8-14        | _D-MAD-FT10-ST14      | 1.94 (49.3)         | 0.50 (12.7) | 0.47 (11.9) | 1.00 (25.4) |
| 3/4                              | 1 1/16-12     | _D-MAD-FT12-ST17      | 2.10 (53.3)         | 0.59 (15.0) | 0.58 (14.7) | 1.25 (31.8) |
| 1                                | 1 5/16-12     | _D-MAD-FT16-ST21      | 2.41 (61.2)         | 0.59 (15.0) | 0.80 (20.3) | 1.50 (38.1) |

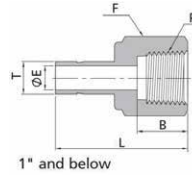


| Fractional Tube to Flared |                  |                       |                     |             |             |             |
|---------------------------|------------------|-----------------------|---------------------|-------------|-------------|-------------|
| T - Tube O.D. (in.)       | Tube Flared Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |
|                           |                  |                       | L                   | B           | E           | F           |
| 1/4                       | 5/4              | _D-MAD-FT4-AN4        | 1.46 (37.1)         | 0.55 (14.0) | 0.17 (4.3)  | 0.50 (12.7) |
| 3/8                       | 1/4              | _D-MAD-FT6-AN4        | 1.53 (38.9)         | 0.55 (14.0) | 0.17 (4.3)  | 0.50 (12.7) |
| 3/8                       | 3/8              | _D-MAD-FT6-AN6        | 1.56 (39.6)         | 0.56 (14.2) | 0.27 (6.9)  | 0.63 (15.9) |
| 1/2                       | 1/2              | _D-MAD-FT8-AN8        | 1.91 (48.5)         | 0.66 (16.8) | 0.37 (9.4)  | 0.81 (20.6) |
| 3/4                       | 3/4              | _D-MAD-FT12-AN12      | 2.21 (56.1)         | 0.86 (21.8) | 0.58 (14.7) | 1.13 (28.6) |
| 1                         | 1                | _D-MAD-FT16-AN16      | 2.58 (65.5)         | 0.91 (23.1) | 0.80 (20.3) | 1.37 (34.9) |

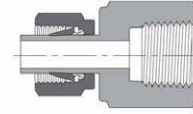


| Fractional Tube to SAE/MS Thread |               |                       |                     |             |            |             |
|----------------------------------|---------------|-----------------------|---------------------|-------------|------------|-------------|
| T - Tube O.D. (in.)              | P-SAE/MS Size | Basic Ordering Number | Dimension, in. (mm) |             |            |             |
|                                  |               |                       | L                   | B           | E          | F           |
| 1/8                              | 5/16-24       | _D-MAD-FT2-OS5        | 1.28 (32.5)         | 0.34 (8.6)  | 0.08 (2.0) | 0.56 (14.3) |
| 3/16                             | 3/8-24        | _D-MAD-FT3-OS6        | 1.38 (35.1)         | 0.38 (9.7)  | 0.12 (3.0) | 0.63 (15.9) |
| 1/4                              | 7/16-20       | _D-MAD-FT4-OS7        | 1.54 (39.1)         | 0.41 (10.4) | 0.17 (4.3) | 0.75 (19.1) |
| 5/16                             | 1/2-20        | _D-MAD-FT5-OS8        | 1.64 (41.7)         | 0.44 (11.2) | 0.22 (5.6) | 0.87 (22.2) |
| 3/8                              | 9/16-18       | _D-MAD-FT6-OS9        | 1.70 (43.2)         | 0.47 (11.9) | 0.27 (6.9) | 0.94 (23.8) |
| 1/2                              | 3/4-16        | _D-MAD-FT8-OS12       | 1.95 (49.5)         | 0.47 (11.9) | 0.37 (9.4) | 1.13 (28.6) |

# FEMALE ADAPTERS



1" and below



1 1/4" and above

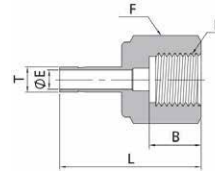
## Fractional Tube to NPT Thread

| T - Tube<br>O.D. (in.) | P-NPT<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |             |             |
|------------------------|---------------|--------------------------|---------------------|-------------|-------------|-------------|
|                        |               |                          | L                   | B           | E           | F           |
| 1/16                   | 1/8           | _D-FAD-FT1-N2            | 1.07 (27.2)         | 0.41 (10.4) | 0.03 (0.8)  | 0.56 (14.3) |
| 1/8                    | 1/8           | _D-FAD-FT2-N2            | 1.24 (31.5)         | 0.41 (10.4) | 0.08 (2.0)  | 0.56 (14.3) |
| 1/8                    | 1/4           | _D-FAD-FT2-N4            | 1.39 (35.3)         | 0.59 (15.0) | 0.08 (2.0)  | 0.75 (19.1) |
| 3/16                   | 1/8           | _D-FAD-FT3-N2            | 1.25 (31.8)         | 0.41 (10.4) | 0.11 (2.9)  | 0.56 (14.3) |
| 3/16                   | 1/4           | _D-FAD-FT3-N4            | 1.41 (35.8)         | 0.59 (15.0) | 0.12 (3.0)  | 0.75 (19.1) |
| 1/4                    | 1/8           | _D-FAD-FT4-N2            | 1.30 (33.0)         | 0.41 (10.4) | 0.17 (4.3)  | 0.56 (14.3) |
| 1/4                    | 1/4           | _D-FAD-FT4-N4            | 1.46 (37.1)         | 0.59 (15.0) | 0.17 (4.3)  | 0.75 (19.1) |
| 1/4                    | 3/8           | _D-FAD-FT4-N6            | 1.55 (39.4)         | 0.59 (15.0) | 0.17 (4.3)  | 0.87 (22.2) |
| 1/4                    | 1/2           | _D-FAD-FT4-N8            | 1.79 (45.5)         | 0.78 (19.8) | 0.17 (4.3)  | 1.06 (27.0) |
| 5/16                   | 1/8           | _D-FAD-FT5-FN2           | 1.34 (34.0)         | 0.41 (10.4) | 0.22 (5.6)  | 0.56 (14.3) |
| 5/16                   | 1/4           | _D-FAD-FT5-N4            | 1.48 (37.6)         | 0.59 (15.0) | 0.22 (5.6)  | 0.75 (19.1) |
| 5/16                   | 3/8           | _D-FAD-FT5-N6            | 1.59 (40.4)         | 0.59 (15.0) | 0.22 (5.6)  | 0.87 (22.2) |
| 3/8                    | 1/8           | _D-FAD-FT6-N2            | 1.35 (34.3)         | 0.41 (10.4) | 0.27 (6.9)  | 0.56 (14.3) |
| 3/8                    | 1/4           | _D-FAD-FT6-N4            | 1.50 (38.1)         | 0.59 (15.0) | 0.27 (6.9)  | 0.75 (19.1) |
| 3/8                    | 3/8           | _D-FAD-FT6-N6            | 1.59 (40.4)         | 0.59 (15.0) | 0.27 (6.9)  | 0.87 (22.2) |
| 3/8                    | 1/2           | _D-FAD-FT6-N8            | 1.84 (46.7)         | 0.78 (19.8) | 0.27 (6.9)  | 1.06 (27.0) |
| 1/2                    | 1/4           | _D-FAD-FT8-N4            | 1.71 (43.4)         | 0.59 (15.0) | 0.37 (9.4)  | 0.75 (19.1) |
| 1/2                    | 3/8           | _D-FAD-FT8-N6            | 1.79 (45.5)         | 0.59 (15.0) | 0.37 (9.4)  | 0.87 (22.2) |
| 1/2                    | 1/2           | _D-FAD-FT8-N8            | 2.04 (51.8)         | 0.78 (19.8) | 0.37 (9.4)  | 1.06 (27.0) |
| 5/8                    | 3/8           | _D-FAD-FT10-N6           | 1.86 (47.2)         | 0.59 (15.0) | 0.47 (11.9) | 0.87 (22.2) |
| 5/8                    | 1/2           | _D-FAD-FT10-N8           | 2.09 (53.1)         | 0.78 (19.8) | 0.47 (11.9) | 1.06 (27.0) |
| 3/4                    | 1/2           | _D-FAD-FT12-N8           | 2.08 (52.8)         | 0.78 (19.8) | 0.58 (14.7) | 1.06 (27.0) |
| 3/4                    | 3/4           | _D-FAD-FT12-N12          | 2.16 (54.9)         | 0.81 (20.6) | 0.58 (14.7) | 1.31 (33.3) |
| 3/4                    | 1             | _D-FAD-FT12-N16          | 2.30 (58.4)         | 1.00 (25.4) | 0.58 (14.7) | 1.63 (41.3) |
| 7/8                    | 3/4           | _D-FAD-FT14-N12          | 2.22 (56.4)         | 0.81 (20.6) | 0.58 (14.7) | 1.31 (33.3) |
| 1                      | 3/4           | _D-FAD-FT16-N12          | 2.39 (60.7)         | 0.81 (20.6) | 0.80 (20.3) | 1.31 (33.3) |
| 1                      | 1             | _D-FAD-FT16-N16          | 2.53 (64.3)         | 1.00 (25.4) | 0.80 (20.3) | 1.63 (41.3) |
| 1 1/4                  | 1 1/4         | _D-FAD-FT20-N20          | 3.06 (77.7)         | 1.00 (25.4) | 1.02 (25.9) | 2.13 (54.0) |
| 1 1/2                  | 1 1/2         | _D-FAD-FT24-N24          | 3.50 (88.9)         | 1.09 (27.7) | 1.25 (31.8) | 2.37 (60.3) |

## Fractional Tube to ISO Parallel Thread

| T - Tube<br>O.D. (in.) | P-RT<br>Size | Basic Ordering<br>Number | Dimension, in. (mm) |             |            |             |
|------------------------|--------------|--------------------------|---------------------|-------------|------------|-------------|
|                        |              |                          | L                   | B           | E          | F           |
| 1/4                    | 1/8          | _D-FAD-FT4-RT2           | 1.30 (33.0)         | 0.41 (10.4) | 0.17 (4.3) | 0.56 (14.3) |
| 1/4                    | 1/4          | _D-FAD-FT4-RT4           | 1.45 (36.8)         | 0.59 (15.0) | 0.17 (4.3) | 0.75 (19.1) |
| 3/8                    | 1/4          | _D-FAD-FT6-RT4           | 1.50 (38.1)         | 0.59 (15.0) | 0.27 (6.9) | 0.75 (19.1) |
| 3/8                    | 3/8          | _D-FAD-FT6-RT6           | 1.59 (40.4)         | 0.59 (15.0) | 0.27 (6.9) | 0.87 (22.2) |
| 1/2                    | 1/4          | _D-FAD-FT8-RT4           | 1.71 (43.4)         | 0.59 (15.0) | 0.37 (9.4) | 0.75 (19.1) |
| 1/2                    | 3/8          | _D-FAD-FT8-RT6           | 1.80 (45.7)         | 0.59 (15.0) | 0.37 (9.4) | 0.87 (22.2) |
| 1/2                    | 1/2          | _D-FAD-FT8-RT8           | 2.05 (52.1)         | 0.78 (19.8) | 0.37 (9.4) | 1.06 (27.0) |

# FEMALE ADAPTERS



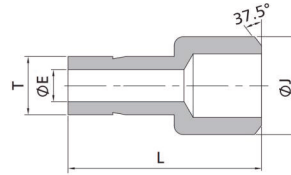
Metric Tube to ISO Parallel Thread

| T - Tube<br>O.D. (mm) | P-BSP<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |
|-----------------------|---------------|--------------------------|---------------------|-------------|-------------|-------------|
|                       |               |                          | L                   | B           | E           | F           |
| 3                     | 1/8           | _D-FAD-MT3-N2            | 28.8 (1.13)         | 10.4 (0.41) | 1.3 (0.05)  | 14.0 (0.55) |
| 4                     | 1/8           | _D-FAD-MT4-N2            | 33.3 (1.31)         | 10.4 (0.41) | 2.0 (0.08)  | 14.0 (0.55) |
| 6                     | 1/8           | _D-FAD-MT6-N2            | 32.5 (1.28)         | 10.4 (0.41) | 4.1 (0.16)  | 14.0 (0.55) |
| 6                     | 1/4           | _D-FAD-MT6-N4            | 37.1 (1.46)         | 15.0 (0.59) | 4.1 (0.16)  | 19.0 (0.75) |
| 8                     | 1/8           | _D-FAD-MT8-N2            | 35.1 (1.38)         | 10.4 (0.41) | 6.4 (0.25)  | 14.0 (0.55) |
| 8                     | 1/4           | _D-FAD-MT8-N4            | 37.6 (1.48)         | 15.0 (0.59) | 5.6 (0.22)  | 19.0 (0.75) |
| 8                     | 3/8           | _D-FAD-MT8-N6            | 36.5 (1.44)         | 15.0 (0.59) | 6.4 (0.25)  | 22.0 (0.87) |
| 10                    | 1/4           | _D-FAD-MT10-N4           | 38.1 (1.50)         | 15.0 (0.59) | 7.1 (0.28)  | 19.0 (0.75) |
| 10                    | 3/8           | _D-FAD-MT10-N6           | 40.1 (1.58)         | 15.0 (0.59) | 7.1 (0.28)  | 22.0 (0.87) |
| 10                    | 1/2           | _D-FAD-MT10-N8           | 46.5 (1.83)         | 19.8 (0.78) | 7.1 (0.28)  | 27.0 (1.06) |
| 12                    | 1/4           | _D-FAD-MT12-N4           | 43.7 (1.72)         | 15.0 (0.59) | 8.8 (0.35)  | 19.0 (0.75) |
| 12                    | 3/8           | _D-FAD-MT12-N6           | 42.9 (1.69)         | 15.0 (0.59) | 9.1 (0.36)  | 22.0 (0.87) |
| 12                    | 1/2           | _D-FAD-MT12-N8           | 52.3 (2.06)         | 19.8 (0.78) | 8.8 (0.35)  | 27.0 (1.06) |
| 16                    | 1/2           | _D-FAD-MT16-N8           | 49.2 (1.94)         | 19.8 (0.78) | 12.7 (0.50) | 27.0 (1.06) |
| 18                    | 3/4           | _D-FAD-MT18-N12          | 52.4 (2.06)         | 20.6 (0.81) | 14.0 (0.55) | 32.0 (1.26) |
| 20                    | 1/2           | _D-FAD-MT20-N8           | 50.0 (1.97)         | 19.8 (0.78) | 15.0 (0.59) | 27.0 (1.06) |
| 20                    | 3/4           | _D-FAD-MT20-N12          | 53.2 (2.09)         | 20.6 (0.81) | 15.1 (0.59) | 32.0 (1.26) |
| 25                    | 1             | _D-FAD-MT25-N16          | 66.7 (2.63)         | 25.4 (1.00) | 19.8 (0.78) | 41.0 (1.61) |

Metric Tube to ISO Parallel Thread

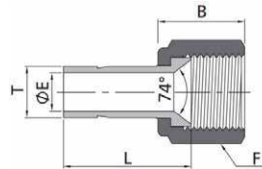
| T - Tube<br>O.D. (mm) | P-RT<br>Size | Basic Ordering<br>Number | Dimension, mm (in.) |             |             |             |
|-----------------------|--------------|--------------------------|---------------------|-------------|-------------|-------------|
|                       |              |                          | L                   | B           | E           | F           |
| 3                     | 1/8          | _D-FAD-MT3-TR2           | 27.8 (1.09)         | 10.4 (0.41) | 1.8 (0.07)  | 14.0 (0.55) |
| 4                     | 1/8          | _D-FAD-MT4-TR2           | 28.6 (1.13)         | 10.4 (0.41) | 2.0 (0.08)  | 14.0 (0.55) |
| 6                     | 1/8          | _D-FAD-MT6-TR2           | 33.0 (1.30)         | 10.4 (0.41) | 4.1 (0.16)  | 14.0 (0.55) |
| 8                     | 1/4          | _D-FAD-MT8-TR4           | 37.6 (1.48)         | 15.0 (0.59) | 5.6 (0.22)  | 19.0 (0.75) |
| 10                    | 1/4          | _D-FAD-MT10-TR4          | 38.1 (1.50)         | 15.0 (0.59) | 7.1 (0.28)  | 19.0 (0.75) |
| 10                    | 3/8          | _D-FAD-MT10-TR6          | 36.5 (1.44)         | 15.0 (0.59) | 7.5 (0.30)  | 22.0 (0.87) |
| 10                    | 1/2          | _D-FAD-MT10-TR8          | 41.3 (1.63)         | 19.8 (0.78) | 7.5 (0.30)  | 27.0 (1.06) |
| 12                    | 1/4          | _D-FAD-MT12-TR4          | 40.5 (1.59)         | 15.0 (0.59) | 9.1 (0.36)  | 19.0 (0.75) |
| 12                    | 3/8          | _D-FAD-MT12-TR6          | 43.7 (1.72)         | 15.0 (0.59) | 9.1 (0.36)  | 22.0 (0.87) |
| 12                    | 1/2          | _D-FAD-MT12-TR8          | 46.8 (1.84)         | 19.8 (0.78) | 9.1 (0.36)  | 27.0 (1.06) |
| 16                    | 1/2          | _D-FAD-MT16-TR8          | 48.4 (1.91)         | 19.8 (0.78) | 12.7 (0.50) | 27.0 (1.06) |
| 18                    | 3/4          | _D-FAD-MT18-TR12         | 52.4 (2.06)         | 20.6 (0.81) | 14.0 (0.55) | 32.0 (1.26) |
| 20                    | 3/4          | _D-FAD-MT20-TR12         | 53.2 (2.09)         | 20.6 (0.81) | 15.1 (0.59) | 32.0 (1.26) |
| 25                    | 1            | _D-FAD-MT25-TR16         | 66.7 (2.63)         | 25.4 (1.00) | 19.8 (0.78) | 41.0 (1.61) |

# FEMALE ADAPTERS



## Metric Tube to ISO Parallel Thread

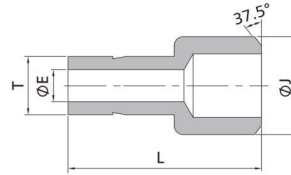
| T - Tube O.D. (mm) | P-BSP Size | Basic Ordering Number | Dimension, mm (in.) |             |            |             |
|--------------------|------------|-----------------------|---------------------|-------------|------------|-------------|
|                    |            |                       | L                   | B           | E          | F           |
| 3                  | 1/8        | _D-FAD-MT3-RG2        | 28.6 (1.13)         | 6.5 (0.26)  | 1.6 (0.06) | 14.0 (0.55) |
| 3                  | 1/4        | _D-FAD-MT4-RG2        | 33.5 (1.32)         | 10.2 (0.40) | 1.9 (0.07) | 19.0 (0.75) |
| 4                  | 1/8        | _D-FAD-MT6-RG2        | 29.4 (1.16)         | 6.5 (0.26)  | 2.0 (0.08) | 14.0 (0.55) |
| 6                  | 1/8        | _D-FAD-MT6-RG4        | 31.0 (1.22)         | 6.5 (0.26)  | 4.1 (0.16) | 14.0 (0.55) |
| 6                  | 1/4        | _D-FAD-MT8-RG2        | 35.3 (1.39)         | 10.2 (0.40) | 4.1 (0.16) | 19.0 (0.75) |
| 6                  | 3/8        | _D-FAD-MT8-RG4        | 38.4 (1.51)         | 14.2 (0.56) | 4.1 (0.16) | 24.0 (0.94) |
| 6                  | 1/2        | _D-FAD-MT8-RG6        | 42.9 (1.69)         | 18.0 (0.71) | 4.1 (0.16) | 27.0 (1.06) |
| 8                  | 1/4        | _D-FAD-MT10-RG4       | 33.0 (1.30)         | 10.2 (0.40) | 5.5 (0.22) | 19.0 (0.75) |
| 8                  | 3/8        | _D-FAD-MT10-RG6       | 38.9 (1.53)         | 14.2 (0.56) | 5.6 (0.22) | 24.0 (0.94) |
| 8                  | 1/2        | _D-FAD-MT10-RG8       | 43.7 (1.72)         | 18.0 (0.71) | 5.6 (0.22) | 27.0 (1.06) |
| 10                 | 1/4        | _D-FAD-MT12-RG4       | 43.5 (1.36)         | 10.2 (0.40) | 5.5 (0.22) | 19.0 (0.75) |
| 10                 | 3/8        | _D-FAD-MT12-RG6       | 36.1 (1.42)         | 14.2 (0.56) | 6.5 (0.26) | 24.0 (0.94) |
| 10                 | 1/2        | _D-FAD-MT12-RG8       | 41.1 (1.62)         | 18.0 (0.71) | 7.1 (0.28) | 27.0 (1.06) |
| 12                 | 1/4        | _D-FAD-MT16-RG8       | 41.1 (1.62)         | 10.2 (0.40) | 5.5 (0.22) | 19.0 (0.75) |
| 12                 | 3/8        | _D-FAD-MT18-RG12      | 44.7 (1.76)         | 14.2 (0.56) | 6.5 (0.26) | 24.0 (0.94) |
| 12                 | 1/2        | _D-FAD-MT20-RG8       | 48.8 (1.92)         | 18.0 (0.71) | 7.0 (0.28) | 27.0 (1.06) |
| 16                 | 1/2        | _D-FAD-MT20-RG12      | 49.0 (1.93)         | 18.0 (0.71) | 7.0 (0.28) | 27.0 (1.06) |
| 18                 | 1/2        | _D-FAD-MT25-RG16      | 49.3 (1.94)         | 18.0 (0.71) | 7.0 (0.28) | 27.0 (1.06) |



## Fractional Tube to Fraed

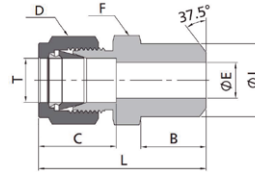
| T - Tube O.D. (in.) | Tube Fraed Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |
|---------------------|-----------------|-----------------------|---------------------|-------------|-------------|-------------|
|                     |                 |                       | L                   | B           | E           | F           |
| 1/8                 | 1/8             | _D-FAD-FT3-AN2        | 0.88 (22.4)         | 0.55 (14.0) | 0.09 (2.4)  | 0.37 (9.5)  |
| 1/8                 | 1/4             | _D-FAD-FT4-AN2        | 0.88 (22.4)         | 0.62 (15.8) | 0.09 (2.4)  | 0.56 (14.3) |
| 1/4                 | 1/4             | _D-FAD-FT6-AN2        | 0.96 (24.4)         | 0.62 (15.8) | 0.18 (4.6)  | 0.56 (14.3) |
| 3/8                 | 3/8             | _D-FAD-FT6-AN4        | 1.11 (28.1)         | 0.73 (18.5) | 0.28 (7.1)  | 0.69 (17.5) |
| 1/2                 | 1/2             | _D-FAD-FT8-AN2        | 1.42 (36.1)         | 0.85 (21.6) | 0.39 (9.9)  | 0.87 (22.2) |
| 3/4                 | 3/4             | _D-FAD-FT8-AN4        | 1.49 (37.8)         | 1.03 (26.2) | 0.58 (14.7) | 1.25 (31.8) |

## WELD ADAPTERS



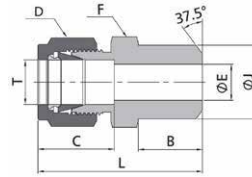
| Fractional Tube to Pipe Weld |                |                       |                     |             |             |
|------------------------------|----------------|-----------------------|---------------------|-------------|-------------|
| T - Tube O.D. (in.)          | Pipe Weld Size | Basic Ordering Number | Dimension, in. (mm) |             |             |
|                              |                |                       | L                   | J           | E           |
| 1/4                          | 1/4            | _D-WA-FT4-PW4         | 1.14 (29.0)         | 0.54 (13.7) | 0.17 (4.3)  |
| 3/8                          | 1/2            | _D-WA-FT6-PW8         | 1.46 (37.1)         | 0.84 (21.3) | 0.27 (6.9)  |
| 1/2                          | 1/2            | _D-WA-FT8-PW8         | 1.66 (42.2)         | 0.84 (21.3) | 0.37 (9.4)  |
| 1/2                          | 3/4            | _D-WA-FT8-PW12        | 1.68 (42.7)         | 1.05 (26.7) | 0.37 (9.4)  |
| 3/4                          | 3/4            | _D-WA-FT12-PW12       | 1.87 (47.5)         | 1.05 (26.7) | 0.58 (14.7) |

## WELD CONNECTORS



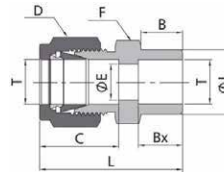
| Fractional Tube to Pipe Butt Weld |                |                       |                     |             |             |             |             |             |             |
|-----------------------------------|----------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| T - Tube O.D. (in.)               | Pipe Weld Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |
|                                   |                |                       | L                   | C           | D           | F           | E           | B           | J           |
| 1/8                               | 1/8            | _D-WC-F2-PB2          | 1.20 (30.5)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.09 (2.3)  | 0.38 (9.7)  | 0.41 (10.3) |
| 3/16                              | 1/8            | _D-WC-F3-PB2          | 1.23 (31.2)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.12 (3.0)  | 0.38 (9.7)  | 0.41 (10.3) |
| 1/4                               | 1/8            | _D-WC-F4-PB2          | 1.29 (32.8)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.19 (4.8)  | 0.38 (9.7)  | 0.41 (10.3) |
| 1/4                               | 1/4            | _D-WC-F4-PB4          | 1.49 (37.8)         | 0.60 (15.2) | 0.56 (14.3) | 0.56 (14.3) | 0.19 (4.8)  | 0.56 (14.2) | 0.54 (13.7) |
| 5/16                              | 1/8            | _D-WC-F5-PB2          | 1.34 (34.0)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.21 (5.3)  | 0.38 (9.7)  | 0.41 (10.3) |
| 5/16                              | 1/4            | _D-WC-F5-PB4          | 1.52 (38.6)         | 0.64 (16.3) | 0.63 (15.9) | 0.56 (14.3) | 0.25 (6.4)  | 0.56 (14.2) | 0.54 (13.7) |
| 3/8                               | 1/4            | _D-WC-F6-PB4          | 1.57 (39.9)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.28 (7.1)  | 0.56 (14.2) | 0.54 (13.7) |
| 3/8                               | 3/8            | _D-WC-F6-PB6          | 1.57 (39.9)         | 0.66 (16.8) | 0.69 (17.5) | 0.69 (17.5) | 0.28 (7.1)  | 0.56 (14.2) | 0.67 (17.1) |
| 3/8                               | 1/2            | _D-WC-F6-PB8          | 1.82 (46.2)         | 0.66 (16.8) | 0.69 (17.5) | 0.87 (22.2) | 0.28 (7.1)  | 0.75 (19.1) | 0.84 (21.3) |
| 3/8                               | 3/4            | _D-WC-F6-PB12         | 1.88 (47.8)         | 0.66 (16.8) | 0.69 (17.5) | 1.06 (27.0) | 0.28 (7.1)  | 0.75 (19.1) | 1.05 (26.7) |
| 1/2                               | 3/8            | _D-WC-F8-PB6          | 1.71 (43.4)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.41 (10.4) | 0.56 (14.2) | 0.67 (17.1) |
| 1/2                               | 1/2            | _D-WC-F8-PB8          | 1.93 (49.0)         | 0.90 (22.9) | 0.87 (22.2) | 0.87 (22.2) | 0.41 (10.4) | 0.75 (19.1) | 0.84 (21.3) |
| 1/2                               | 3/4            | _D-WC-F8-PB12         | 1.99 (50.5)         | 0.90 (22.9) | 0.87 (22.2) | 1.06 (27.0) | 0.41 (10.4) | 0.75 (19.1) | 1.05 (26.7) |
| 5/8                               | 1/2            | _D-WC-F10-PB8         | 1.93 (49.0)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.50 (12.7) | 0.75 (19.1) | 0.84 (21.3) |
| 3/4                               | 1/2            | _D-WC-F12-PB8         | 1.99 (50.5)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.55 (14.0) | 0.75 (19.1) | 0.84 (21.3) |
| 3/4                               | 3/4            | _D-WC-F12-PB12        | 1.99 (50.5)         | 0.96 (24.4) | 1.10 (28.0) | 1.06 (27.0) | 0.62 (15.7) | 0.75 (19.1) | 1.05 (26.7) |
| 1                                 | 1              | _D-WC-F16-PB16        | 2.45 (62.2)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.88 (22.4) | 0.94 (23.9) | 1.31 (33.4) |
| 1 1/4                             | 1 1/4          | _D-WC-F20-PB20        | 3.04 (77.2)         | 1.62 (41.1) | 1.87 (47.6) | 1.75 (44.5) | 1.09 (27.7) | 0.94 (23.9) | 1.66 (42.2) |
| 1 1/2                             | 1 1/2          | _D-WC-F24-PB24        | 3.50 (88.9)         | 1.97 (50.0) | 2.25 (57.2) | 2.13 (54.0) | 1.34 (34.0) | 1.03 (26.2) | 1.90 (48.3) |

# WELD CONNECTORS



Metric Tube to Pipe Butt Weld

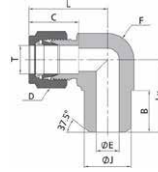
| T - Tube O.D. (mm) | Pipe Weld Size | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |             |
|--------------------|----------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                    |                |                       | L                   | C           | D           | F           | E           | B           | J           |
| 3                  | 1/8            | _D-WCM3-PB2           | 30.5 (1.20)         | 12.9 (0.51) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  | 9.7 (0.38)  | 10.3 (0.41) |
| 4                  | 1/8            | _D-WC-M4-PB2          | 31.5 (1.24)         | 13.7 (0.54) | 12.0 (0.47) | 12.0 (0.47) | 2.4 (0.09)  | 9.7 (0.38)  | 10.3 (0.41) |
| 6                  | 1/8            | _D-WC-M6-PB2          | 32.8 (1.29)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  | 9.7 (0.38)  | 10.3 (0.41) |
| 6                  | 1/4            | _D-WC-M6-PB4          | 37.9 (1.49)         | 15.3 (0.60) | 14.0 (0.55) | 14.0 (0.55) | 4.8 (0.19)  | 14.2 (0.56) | 13.7 (0.54) |
| 8                  | 1/8            | _D-WC-M8-PB2          | 34.2 (1.35)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 5.4 (0.21)  | 9.7 (0.38)  | 10.3 (0.41) |
| 8                  | 1/4            | _D-WC-M8-PB4          | 38.7 (1.52)         | 16.2 (0.64) | 16.0 (0.63) | 15.0 (0.59) | 6.4 (0.25)  | 14.2 (0.56) | 13.7 (0.54) |
| 8                  | 1/2            | _D-WC-M8-PB8          | 45.6 (1.80)         | 16.2 (0.64) | 16.0 (0.63) | 22.0 (0.87) | 6.4 (0.25)  | 19.1 (0.75) | 21.3 (0.84) |
| 10                 | 1/4            | _D-WC-M10-PB4         | 40.9 (1.60)         | 17.2 (0.70) | 19.0 (0.75) | 18.0 (0.71) | 7.5 (0.30)  | 14.2 (0.56) | 13.7 (0.54) |
| 10                 | 3/8            | _D-WC-M10-PB6         | 40.9 (1.60)         | 17.2 (0.70) | 19.0 (0.75) | 18.0 (0.71) | 7.9 (0.31)  | 14.2 (0.56) | 17.1 (0.67) |
| 10                 | 1/2            | _D-WC-M10-PB8         | 46.5 (1.80)         | 17.2 (0.70) | 19.0 (0.75) | 22.0 (0.87) | 7.9 (0.31)  | 19.1 (0.75) | 21.3 (0.84) |
| 12                 | 1/4            | _D-WC-M12-PB4         | 43.4 (1.70)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 7.5 (0.30)  | 14.2 (0.56) | 13.7 (0.54) |
| 12                 | 3/8            | _D-WC-M12-PB6         | 43.4 (1.70)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  | 14.2 (0.56) | 17.1 (0.67) |
| 12                 | 1/2            | _D-WC-M12-PB8         | 49.0 (1.90)         | 22.8 (0.90) | 22.0 (0.87) | 22.0 (0.87) | 9.5 (0.37)  | 19.1 (0.75) | 21.3 (0.84) |
| 14                 | 3/8            | _D-WC-M14-PB6         | 44.1 (1.70)         | 24.4 (1.00) | 25.0 (0.98) | 24.0 (0.94) | 10.7 (0.42) | 14.2 (0.56) | 17.1 (0.67) |
| 15                 | 1/2            | _D-WC-M15-PB8         | 49.0 (1.90)         | 24.4 (1.00) | 25.0 (0.98) | 24.0 (0.94) | 11.9 (0.47) | 19.1 (0.75) | 21.3 (0.84) |
| 16                 | 1/2            | _D-WC-M16-PB8         | 49.0 (1.90)         | 24.4 (1.00) | 25.0 (0.98) | 24.0 (0.94) | 12.7 (0.50) | 19.1 (0.75) | 21.3 (0.84) |
| 18                 | 1/2            | _D-WC-M18-PB8         | 50.5 (2.00)         | 24.4 (1.00) | 30.0 (1.18) | 27.0 (1.06) | 13.9 (0.55) | 19.1 (0.75) | 21.3 (0.84) |
| 30                 | 1 1/4          | _D-WC-M30-PB20        | 77.2 (3.00)         | 39.6 (1.60) | 50.0 (1.97) | 46.0 (1.81) | 26.2 (1.03) | 23.9 (0.94) | 42.2 (1.66) |
| 32                 | 1 1/4          | _D-WC-M32-PB20        | 79.6 (3.10)         | 42.0 (1.70) | 50.0 (1.97) | 46.0 (1.81) | 28.6 (1.13) | 23.9 (0.94) | 42.2 (1.66) |
| 38                 | 1 1/2          | _D-WC-M38-PB24        | 91.6 (3.60)         | 49.4 (1.90) | 60.0 (2.36) | 55.0 (2.17) | 33.7 (1.33) | 26.2 (1.03) | 48.3 (1.9)  |



Fractional Tube to Tube Socket Weld

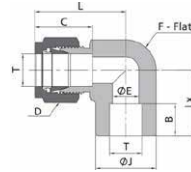
| T - Tube O.D. (in.) | Basic Ordering Number | Dimension, mm (in.) |             |             |             |             |             |             |             |
|---------------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |                       | L                   | C           | D           | F           | B           | E           | Bx          | J           |
| 1/8                 | _D-WC-F2-SW2          | 1.14 (29.0)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.34 (8.6)  | 0.09 (2.3)  | 0.10 (2.5)  | 0.31 (7.9)  |
| 3/16                | _D-WC-F3-SW3          | 1.17 (29.7)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.37 (9.5)  | 0.13 (3.3)  | 0.19 (4.8)  | 0.42 (10.7) |
| 1/4                 | _D-WC-F4-SW4          | 1.32 (33.5)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.41 (10.4) | 0.19 (4.8)  | 0.28 (7.1)  | 0.44 (11.2) |
| 3/8                 | _D-WC-F6-SW6          | 1.48 (37.6)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.47 (11.9) | 0.28 (7.1)  | 0.31 (7.9)  | 0.62 (15.7) |
| 1/2                 | _D-WC-F8-SW8          | 1.62 (41.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.47 (11.9) | 0.41 (10.4) | 0.38 (9.7)  | 0.75 (19.1) |
| 5/8                 | _D-WC-F10-SW10        | 1.65 (41.9)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.47 (11.9) | 0.50 (12.7) | 0.41 (10.4) | 0.92 (23.4) |
| 3/4                 | _D-WC-F12-SW12        | 1.71 (43.4)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.47 (11.9) | 0.62 (15.7) | 0.44 (11.1) | 1.05 (26.7) |
| 1                   | _D-WC-F16-SW16        | 2.07 (52.6)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.56 (14.2) | 0.88 (22.4) | 0.62 (15.7) | 1.31 (33.3) |

# WELD ELBOWS



## Fractional Tube to Pipe Butt Weld

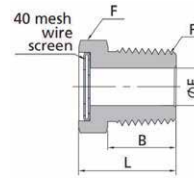
| T - Tube O.D. (in.) | Pipe Weld Size | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |             |
|---------------------|----------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |                |                       | L                   | C           | D           | F           | B           | E           | Lx          | Lx          |
| 1/8                 | 1/8            | _D-LW-F2-PB2          | 0.92 (23.4)         | 0.50 (12.7) | 0.44 (11.1) | 0.44 (11.1) | 0.38 (9.7)  | 0.09 (2.3)  | 0.72 (18.3) | 0.41 (10.3) |
| 3/16                | 1/8            | _D-LW-F3-PB2          | 1.01 (25.7)         | 0.54 (13.7) | 0.50 (12.7) | 0.50 (12.7) | 0.38 (9.7)  | 0.13 (3.3)  | 0.74 (18.8) | 0.41 (10.3) |
| 1/4                 | 1/8            | _D-LW-F4-PB2          | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.38 (9.7)  | 0.19 (4.8)  | 0.74 (18.8) | 0.41 (10.3) |
| 1/4                 | 1/4            | _D-LW-F4-PB4          | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.56 (14.2) | 0.19 (4.8)  | 0.92 (23.4) | 0.54 (13.7) |
| 3/8                 | 1/4            | _D-LW-F6-PB4          | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.56 (14.2) | 0.28 (7.1)  | 1.00 (25.4) | 0.54 (13.7) |
| 1/2                 | 3/8            | _D-LW-F8-PB6          | 1.37 (34.8)         | 0.90 (22.9) | 0.87 (22.2) | 0.75 (19.1) | 0.56 (14.2) | 0.41 (10.4) | 1.13 (28.8) | 0.67 (17.1) |
| 1/2                 | 1/2            | _D-LW-F8-PB8          | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.75 (19.1) | 0.41 (10.4) | 1.30 (33.0) | 0.84 (21.3) |
| 5/8                 | 1/2            | _D-LW-F10-PB8         | 1.57 (39.9)         | 0.96 (24.4) | 1.00 (25.4) | 0.94 (23.8) | 0.75 (19.1) | 0.50 (12.7) | 1.38 (35.1) | 0.84 (21.3) |
| 3/4                 | 3/4            | _D-LW-F12-PB12        | 1.94 (49.3)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.75 (19.1) | 0.62 (15.7) | 1.45 (36.8) | 1.05 (26.7) |
| 1                   | 3/4            | _D-LW-F16-PB12        | 1.94 (49.3)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.75 (19.1) | 0.88 (22.4) | 1.65 (41.9) | 1.05 (26.7) |
| 1                   | 1              | _D-LW-F16-PB16        | 1.94 (49.3)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.81 (20.6) | 0.88 (22.4) | 1.84 (46.7) | 1.31 (33.4) |



## Fractional Tube to Tube Socket Weld

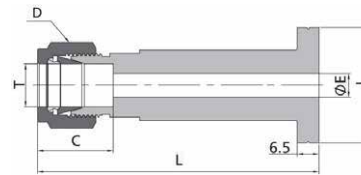
| T - Tube O.D. (in.) | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |             |             |             |
|---------------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                     |                       | L                   | C           | D           | F           | B           | E           | Lx          | Lx          |
| 1/8                 | _D-LW-F2-SW2          | 0.66 (16.8)         | 0.50 (12.7) | 0.44 (11.1) | 0.37 (9.5)  | 0.10 (2.5)  | 0.09 (2.3)  | 0.63 (16.0) | 0.38 (9.7)  |
| 3/16                | _D-LW-F3-SW3          | 0.72 (18.3)         | 0.54 (13.7) | 0.50 (12.7) | 0.44 (11.1) | 0.19 (4.8)  | 0.13 (3.3)  | 0.69 (17.5) | 0.44 (11.2) |
| 1/4                 | _D-LW-F4-SW4          | 1.06 (26.9)         | 0.60 (15.2) | 0.56 (14.3) | 0.50 (12.7) | 0.28 (7.1)  | 0.19 (4.8)  | 0.77 (19.6) | 0.50 (12.7) |
| 3/8                 | _D-LW-F6-SW6          | 1.20 (30.5)         | 0.66 (16.8) | 0.69 (17.5) | 0.63 (15.9) | 0.31 (7.9)  | 0.28 (7.1)  | 0.91 (23.1) | 0.62 (15.7) |
| 1/2                 | _D-LW-F8-SW8          | 1.42 (36.1)         | 0.90 (22.9) | 0.87 (22.2) | 0.81 (20.6) | 0.38 (9.7)  | 0.41 (10.4) | 1.02 (25.9) | 0.81 (20.6) |
| 5/8                 | _D-LW-F10-SW10        | 1.16 (29.5)         | 0.96 (24.4) | 1.00 (25.4) | 1.06 (27.0) | 0.41 (10.4) | 0.50 (12.7) | 1.16 (29.5) | 0.94 (23.9) |
| 3/4                 | _D-LW-F12-SW12        | 1.57 (39.9)         | 0.96 (24.4) | 1.13 (28.6) | 1.06 (27.0) | 0.44 (11.2) | 0.62 (15.7) | 1.17 (29.7) | 1.06 (26.9) |
| 1                   | _D-LW-F16-SW16        | 1.93 (49.0)         | 1.23 (31.2) | 1.50 (38.1) | 1.37 (34.9) | 0.62 (15.7) | 0.88 (22.4) | 1.45 (36.8) | 1.38 (35.1) |

## VENTS PROTECTORS



| Fractional Tube to Tube Socket Weld |                       |                     |             |             |             |
|-------------------------------------|-----------------------|---------------------|-------------|-------------|-------------|
| T - Tube O.D. (in.)                 | Basic Ordering Number | Dimension, in. (mm) |             |             |             |
|                                     |                       | L                   | C           | D           | F           |
| 1/8                                 | _D-VP-N2              | 0.56 (14.2)         | 0.50 (12.7) | 0.38 (9.7)  | 0.19 (4.8)  |
| 1/4                                 | _D-VP-N4              | 0.78 (19.8)         | 0.56 (14.3) | 0.56 (14.2) | 0.28 (7.1)  |
| 3/8                                 | _D-VP-N6              | 0.81 (20.6)         | 0.69 (17.5) | 0.56 (14.2) | 0.41 (10.4) |
| 1/2                                 | _D-VP-N8              | 1.03 (26.2)         | 0.87 (22.2) | 0.75 (19.1) | 0.50 (12.7) |
| 3/4                                 | _D-VP-N12             | 1.06 (26.9)         | 1.06 (27.0) | 0.76 (19.2) | 0.72 (18.3) |
| 1                                   | _D-VP-N16             | 1.37 (34.8)         | 1.37 (34.9) | 0.94 (23.9) | 0.88 (22.4) |

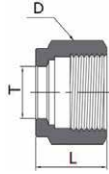
## LAPPED FLANGE CONNECTORS



| Fractional Tube     |             |                       |                     |             |             |             |             |
|---------------------|-------------|-----------------------|---------------------|-------------|-------------|-------------|-------------|
| T - Tube O.D. (in.) | Flange Seal | Basic Ordering Number | Dimension, in. (mm) |             |             |             |             |
|                     |             |                       | L                   | D           | C           | E           | J           |
| 1/4                 | A           | _D-LFC-F4A            | 3.18 (80.8)         | 0.56 (14.3) | 0.60 (15.2) | 0.60 (15.2) | 1.36 (34.5) |
| 1/4                 | B           | _D-LFC-F4B            | 3.18 (80.8)         | 0.56 (14.3) | 0.60 (15.2) | 0.19 (4.8)  | 1.36 (34.5) |
| 3/8                 | A           | _D-LFC-F6A            | 3.26 (82.9)         | 0.69 (17.5) | 0.66 (16.8) | 0.28 (7.1)  | 1.36 (34.5) |
| 3/8                 | B           | _D-LFC-F6B            | 3.26 (82.9)         | 0.69 (17.5) | 0.66 (16.8) | 0.28 (7.1)  | 1.36 (34.5) |
| 1/2                 | A           | _D-LFC-F8A            | 3.35 (85.1)         | 0.87 (22.2) | 0.90 (22.9) | 0.31 (7.9)  | 1.36 (34.5) |
| 1/2                 | B           | _D-LFC-F8B            | 3.35 (85.1)         | 0.87 (22.2) | 0.90 (22.9) | 0.31 (7.9)  | 1.36 (34.5) |

| Metric Tube        |             |                       |                     |             |             |            |             |
|--------------------|-------------|-----------------------|---------------------|-------------|-------------|------------|-------------|
| T - Tube O.D. (mm) | Flange Seal | Basic Ordering Number | Dimension, mm (in.) |             |             |            |             |
|                    |             |                       | L                   | D           | C           | E          | J           |
| 10                 | A           | _D-LFC-M10A           | 82.6 (3.25)         | 19.0 (0.75) | 17.2 (0.68) | 7.9 (0.31) | 34.5 (1.36) |
| 10                 | B           | _D-LFC-M10B           | 82.6 (3.25)         | 19.0 (0.75) | 17.2 (0.68) | 7.9 (0.31) | 34.5 (1.36) |

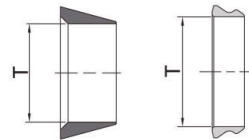
## NUTS



| Fractional Tube     |                       |                     |             |
|---------------------|-----------------------|---------------------|-------------|
| T - Tube O.D. (in.) | Basic Ordering Number | Dimension, in. (mm) |             |
|                     |                       | D                   | L           |
| 1/16                | _D-N-F1               | 0.31 (7.9)          | 0.31 (7.9)  |
| 1/8                 | _D-N-F2               | 0.44 (11.1)         | 0.47 (11.9) |
| 3/16                | _D-N-F3               | 0.50 (12.7)         | 0.47 (11.9) |
| 1/4                 | _D-N-F4               | 0.56 (14.3)         | 0.50 (12.7) |
| 5/16                | _D-N-F5               | 0.63 (15.9)         | 0.53 (13.5) |
| 3/8                 | _D-N-F6               | 0.69 (17.5)         | 0.56 (14.2) |
| 1/2                 | _D-N-F8               | 0.87 (22.2)         | 0.69 (17.5) |
| 5/8                 | _D-N-F10              | 1.00 (25.4)         | 0.69 (17.5) |
| 3/4                 | _D-N-F12              | 1.13 (28.6)         | 0.69 (17.5) |
| 7/8                 | _D-N-F14              | 1.25 (31.8)         | 0.69 (17.5) |
| 1                   | _D-N-F16              | 1.50 (38.1)         | 0.81 (20.6) |
| 1 1/8               | _D-N-F18              | 1.81 (46.0)         | 1.21 (30.8) |
| 1 1/4               | _D-N-F20              | 1.87 (47.6)         | 1.25 (31.8) |
| 1 1/2               | _D-N-F24              | 2.25 (57.2)         | 1.50 (38.1) |

| Metric Tube        |                       |                     |             |
|--------------------|-----------------------|---------------------|-------------|
| T - Tube O.D. (mm) | Basic Ordering Number | Dimension, mm (in.) |             |
|                    |                       | D                   | L           |
| 2                  | _D-N-M2               | 12.0 (0.47)         | 11.9 (0.47) |
| 3                  | _D-N-M3               | 12.0 (0.47)         | 11.9 (0.47) |
| 4                  | _D-N-M4               | 12.0 (0.47)         | 11.9 (0.47) |
| 6                  | _D-N-M6               | 14.0 (0.55)         | 12.7 (0.50) |
| 8                  | _D-N-M8               | 16.0 (0.63)         | 13.5 (0.53) |
| 10                 | _D-N-M10              | 19.0 (0.75)         | 15.1 (0.59) |
| 12                 | _D-N-M12              | 22.0 (0.87)         | 17.4 (0.69) |
| 14                 | _D-N-M14              | 25.0 (0.98)         | 17.4 (0.69) |
| 15                 | _D-N-M15              | 25.0 (0.98)         | 17.4 (0.69) |
| 16                 | _D-N-M16              | 25.0 (0.98)         | 17.4 (0.69) |
| 18                 | _D-N-M18              | 30.0 (1.18)         | 17.4 (0.69) |
| 20                 | _D-N-M20              | 32.0 (1.26)         | 17.4 (0.69) |
| 22                 | _D-N-M22              | 32.0 (1.26)         | 17.4 (0.69) |
| 25                 | _D-N-M25              | 38.0 (1.50)         | 20.6 (0.81) |
| 28                 | _D-N-M28              | 46.0 (1.81)         | 30.6 (1.20) |
| 30                 | _D-TN-MT30            | 50.0 (1.97)         | 32.7 (1.29) |
| 32                 | _D-TN-MT32            | 50.0 (1.97)         | 34.4 (1.35) |
| 38                 | _D-TN-MT38            | 60.0 (2.36)         | 40.6 (1.60) |

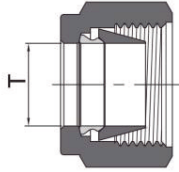
## FRONT AND REAR FERRULES



| Fabrical Tube       |                       |
|---------------------|-----------------------|
| T - Tube O.D. (in.) | Basic Ordering Number |
| 1/16                | _D-FRS-F1             |
| 1/8                 | _D-FRS-F2             |
| 3/16                | _D-FRS-F3             |
| 1/4                 | _D-FRS-F4             |
| 5/16                | _D-FRS-F5             |
| 3/8                 | _D-FRS-F6             |
| 1/2                 | _D-FRS-F8             |
| 5/8                 | _D-FRS-F10            |
| 3/4                 | _D-FRS-F12            |
| 7/8                 | _D-FRS-F14            |
| 1                   | _D-FRS-F16            |
| 1 1/8               | _D-FRS-F18            |
| 1 1/4               | _D-FRS-F20            |
| 1 1/2               | _D-FRS-F24            |

| Metric Tube        |                       |
|--------------------|-----------------------|
| T - Tube O.D. (mm) | Basic Ordering Number |
| 2                  | _D-FRS-M2             |
| 3                  | _D-FRS-M3             |
| 4                  | _D-FRS-M4             |
| 6                  | _D-FRS-M6             |
| 8                  | _D-FRS-M8             |
| 10                 | _D-FRS-M10            |
| 12                 | _D-FRS-M12            |
| 14                 | _D-FRS-M14            |
| 15                 | _D-FRS-M15            |
| 16                 | _D-FRS-M16            |
| 18                 | _D-FRS-M18            |
| 20                 | _D-FRS-M20            |
| 22                 | _D-FRS-M22            |
| 25                 | _D-FRS-M25            |
| 28                 | _D-FRS-M28            |
| 30                 | _D-FRS-M30            |
| 32                 | _D-FRS-M32            |

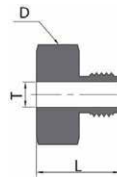
## NUTS + FERRULES



| Fractional Tube     |                       |
|---------------------|-----------------------|
| T - Tube O.D. (in.) | Basic Ordering Number |
| 1/16                | _D-NFR-F1             |
| 1/8                 | _D-NFR-F2             |
| 3/16                | _D-NFR-F3             |
| 1/4                 | _D-NFR-F4             |
| 5/16                | _D-NFR-F5             |
| 3/8                 | _D-NFR-F6             |
| 1/2                 | _D-NFR-F8             |
| 5/8                 | _D-NFR-F10            |
| 3/4                 | _D-NFR-F12            |
| 7/8                 | _D-NFR-F14            |
| 1                   | _D-NFR-F16            |
| 1 1/8               | _D-NFR-F18*           |
| 1 1/4               | _D-NFR-F20*           |
| 1 1/2               | _D-NFR-F24*           |

| Metric Tube        |                       |
|--------------------|-----------------------|
| T - Tube O.D. (mm) | Basic Ordering Number |
| 2                  | _D-NFR-M2             |
| 3                  | _D-NFR-M3             |
| 4                  | _D-NFR-M4             |
| 6                  | _D-NFR-M6             |
| 8                  | _D-NFR-M8             |
| 10                 | _D-NFR-M10            |
| 12                 | _D-NFR-M12            |
| 14                 | _D-NFR-M14            |
| 15                 | _D-NFR-M15            |
| 16                 | _D-NFR-M16            |
| 18                 | _D-NFR-M18            |
| 20                 | _D-NFR-M20            |
| 22                 | _D-NFR-M22            |
| 25                 | _D-NFR-M25            |
| 28                 | _D-NFR-M28*           |
| 30                 | _D-NFR-M30*           |
| 32                 | _D-NFR-M32*           |
| 38                 | _D-NFR-M38*           |

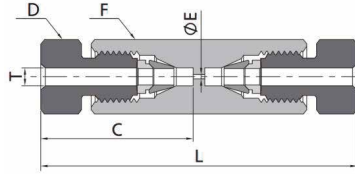
## MALE NUTS



| Fabrical Tube       |                       |                     |             |
|---------------------|-----------------------|---------------------|-------------|
| T - Tube O.D. (in.) | Basic Ordering Number | Dimension, in. (mm) |             |
|                     |                       | D                   | L           |
| 1/16                | _D-TMN-F1             | 0.25 (6.4)          | 0.38 (9.7)  |
| 1/8                 | _D-TMN-F2             | 0.37 (9.5)          | 0.53 (13.5) |
| 1/4                 | _D-TMN-F4             | 0.50 (12.7)         | 0.62 (15.7) |
| 1/2                 | _D-TMN-F8             | 0.94 (23.8)         | 0.87 (22.1) |

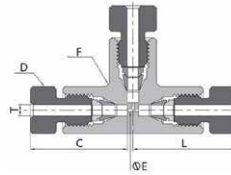
| Metric Tube        |                       |                     |             |
|--------------------|-----------------------|---------------------|-------------|
| T - Tube O.D. (mm) | Basic Ordering Number | Dimension, mm (in.) |             |
|                    |                       | D                   | L           |
| 3                  | _D-TMN-M3             | 10.0 (0.39)         | 13.5 (0.53) |
| 6                  | _D-TMN-M6             | 14.0 (0.55)         | 15.7 (0.62) |
| 10                 | _D-TMN-M10            | 22.0 (0.87)         | 22.1 (0.87) |
| 12                 | _D-TMN-M12            | 24.0 (0.94)         | 22.1 (0.87) |

## CHROMATOGRAPH STRAIGHT FITTINGS



| Fractional Tube        |                          |                     |            |           |           |           |                           |
|------------------------|--------------------------|---------------------|------------|-----------|-----------|-----------|---------------------------|
| T - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |            |           |           |           | Dead<br>Volumen           |
|                        |                          | L                   | C          | E         | D         | F         |                           |
| 1/16                   | _D-CU-F1                 | 1.26 (32.0)         | 0.61(15.5) | 0.01(0.3) | 0.25(6.4) | 0.25(6.4) | 6.6 × 10-5cm <sup>3</sup> |

## CHROMATOGRAPH TEE FITTINGS



| Fractional Tube        |                          |                     |             |            |            |            |                           |
|------------------------|--------------------------|---------------------|-------------|------------|------------|------------|---------------------------|
| T - Tube<br>O.D. (in.) | Basic Ordering<br>Number | Dimension, in. (mm) |             |            |            |            | Dead<br>Volumen           |
|                        |                          | L                   | C           | E          | D          | F          |                           |
| 1/16                   | _D-CT-F1                 | 0.66 (16.8)         | 0.61 (15.5) | 0.01 (0.3) | 0.25 (6.4) | 0.37 (9.5) | 6.6 × 10-4cm <sup>3</sup> |



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