

# TWIN FERRULES COMPRESSION FITTINGS



 **Tecra**  
**[www.tecratubes.com](http://www.tecratubes.com)**

Sede Legale/Headquarters: Via Benedetto Croce n. 19, 26900, Lodi, Italy  
Ufficio Commerciale/Commercial Office: Via Lodi n. 11, 26816 Ossago Lodigiano (Lo), Italy  
Ph. +39.0371.87083 / Fax +39.0371.871153 - [www.tecrasrl.it](http://www.tecrasrl.it) - e-mail: [info@tecrasrl.it](mailto:info@tecrasrl.it)





- Gaugeability

**Tecra** tube fittings are produced in accordance with the exact and tight tolerance. Without such close tolerance, the interaction of the nut, the ferrules and the body would not be interacted properly.

- Corrosion Resistance

**Tecra** ferrules have the strongest corrosion resistance by our own special hardening process. It has been proved in various 22of industrial areas for some decades.

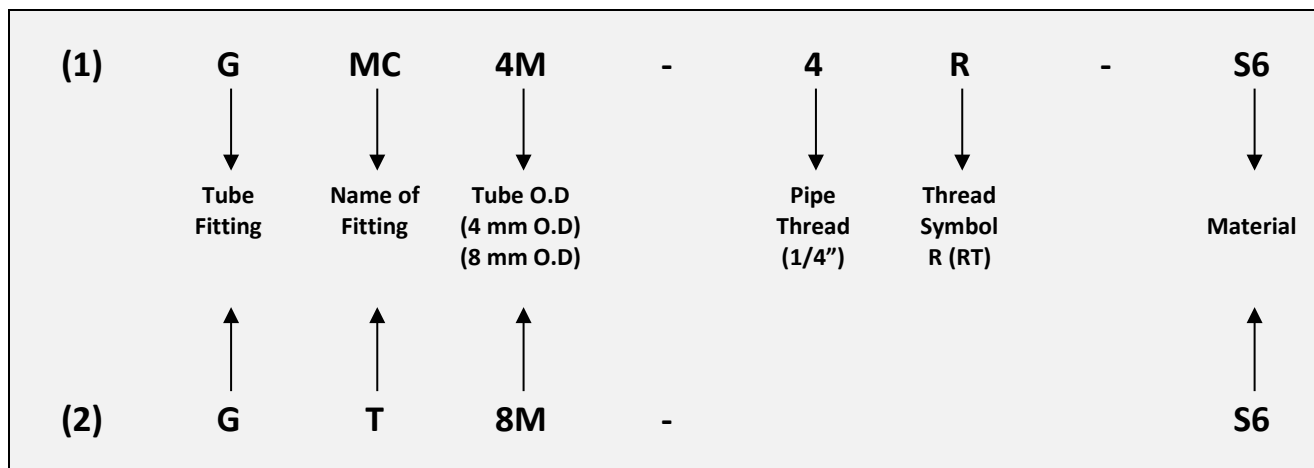
- Interchangeability

**Tecra** tube fittings can be interchanged with the tube fittings which are manufactured by the international standard.

- Less Torque and Anti Distortion

When the nut is tightened, both ferrules are driven forward between the nut and the body. This axial movement doesn't transfer any torque from the fitting to the tubing when original tubing's mechanical properties are maintained.

## HOW TO ORDER



| Tube O.D Designator |            |            |            |
|---------------------|------------|------------|------------|
| Inch O.D.           | Identifier | Metric O.D | Identifier |
| 1/16"               | 1          | 2 mm       | 2M         |
| 1/8"                | 2          | 3 mm       | 3M         |
| 3/16"               | 3          | 4 mm       | 4M         |
| 1/4"                | 4          | 6 mm       | 6M         |
| 5/16"               | 5          | 8 mm       | 8M         |
| 3/8"                | 6          | 10 mm      | 10M        |
| 1/2"                | 8          | 12 mm      | 12M        |
| 5/8"                | 10         | 16 mm      | 16M        |
| 3/4"                | 12         | 20 mm      | 20M        |
| 7/8"                | 14         | 22 mm      | 22M        |
| 1"                  | 16         | 25 mm      | 25M        |
| 1.1/4"              | 20         | 28 mm      | 28M        |
| 1.1/2"              | 24         | 32 mm      | 32M        |
| 2"                  | 32         | 38 mm      | 38M        |
|                     |            | 42 mm      | 42M        |

| Pipe Thread Size Designator |            |
|-----------------------------|------------|
| Nom. Size                   | Identifier |
| 1/8"                        | 2          |
| 1/4"                        | 4          |
| 3/8"                        | 6          |
| 1/2"                        | 8          |
| 3/4"                        | 12         |
| 1"                          | 16         |
| 1.1/4"                      | 20         |
| 1.1/2"                      | 24         |
| 2"                          | 32         |

| Fitting Material Designator |            |
|-----------------------------|------------|
| Material                    | Identifier |
| SS316                       | S6         |
| SS316L                      | 6L         |
| SS304                       | S4         |

| Pipe Thread Symbol |                                                      |                     |                                                |                                               |
|--------------------|------------------------------------------------------|---------------------|------------------------------------------------|-----------------------------------------------|
| Type               | Taper Threads                                        |                     | Parallel Threads                               |                                               |
| Symbol             | R                                                    | N                   | G                                              | U                                             |
| Specifications     | ISO 7/1, BS 21 (BSPT)<br>JIS B 0203 (PT)<br>DIN 2999 | ANSI B 1.20.1 (NPT) | ISO 228/1<br>BS 2779 (BSPP)<br>JIS B 0202 (PF) | American Standard<br>Unified Screw<br>Threads |

## VISUAL INDEX

| Tube to Tube Union                                            |                                                                                     |                                                                |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>Union</b><br>Mod. GU<br>Page 05                            |    | <b>Union Elbow</b><br>Mod. GL<br>Page 06                       |
| <b>Union Tee</b><br>Mod. GT<br>Page 09                        |    | <b>Union Cross</b><br>Mod. GX<br>Page 10                       |
|                                                               |                                                                                     | <b>Reducing Union</b><br>Mod. GRU<br>Page 07, 08               |
|                                                               |                                                                                     | <b>Bulkhead Union</b><br>Mod. GBU<br>Page 11                   |
| Tube to Male Pipe                                             |                                                                                     |                                                                |
| <b>Male Connector</b><br>Mod. GMC-N<br>Page 12, 13            |    | <b>Male Connector</b><br>Mod. GMC-R<br>Page 14                 |
| <b>Male Connector for Metal Gasket</b><br>Mod. GMO<br>Page 16 |   | <b>Bulkhead Male Connector</b><br>Mod. GBMC<br>Page 17         |
| <b>Male Elbow</b><br>Mod. GML<br>Page 18, 19, 20              |  | <b>Male Run Tee</b><br>Mod. GMRT<br>Page 21, 22                |
|                                                               |                                                                                     | <b>Male Branch Tee</b><br>Mod. GMBT<br>Page 23, 24             |
|                                                               |                                                                                     | <b>Male Connector for Bonded Seal</b><br>Mod. GMC-G<br>Page 15 |
|                                                               |                                                                                     | <b>45° Male Elbow</b><br>Mod. GMBL<br>Page 17                  |
| Tube to Female Pipe                                           |                                                                                     |                                                                |
| <b>Female Connector</b><br>Mod. GFC<br>Page 25, 26, 27        |  | <b>Bulkhead Female Connector</b><br>Mod. GBFC<br>Page 29       |
| <b>Female Elbow</b><br>Mod. GFL<br>Page 30                    |  | <b>Female Branch Tee</b><br>Mod. GFBT<br>Page 32               |
|                                                               |                                                                                     | <b>Gauge Connector</b><br>Mod. GGC<br>Page 28                  |
|                                                               |                                                                                     | <b>Female Run Tee</b><br>Mod. GFTR<br>Page 31                  |
| Stub Tube Connector                                           |                                                                                     |                                                                |
| <b>Reducer</b><br>Mod. GR<br>Page 33, 34, 35                  |  | <b>Male Adapter</b><br>Mod. GMA<br>Page 36, 37                 |
| <b>Report Connector</b><br>Mod. GPC<br>Page 40                |  | <b>Female Adapter</b><br>Mod. GFA<br>Page 38, 39               |

## VISUAL INDEX

### Tube to AN Tube

**AN Union**  
Mod. GAU  
Page 41



**AN Bulkhead Union**  
Mod. GABU  
Page 41



**AN Adapter**  
Mod. GAA  
Page 42



### Tube to Male Pipe

**SAE Male Connector**  
Mod. GSMC  
Page 42



**SAE/MS Male Elbow**  
Mod. GSML  
Page 43



**SAE/MS  
45° Male Elbow**  
Mod. GSMBL  
Page 43



**SAE Male Run Tee**  
Mod. GSMRT  
Page 44



**SAE Male Branch Tee**  
Mod. GSMBT  
Page 44



**O-Seal Straight  
Thread Connector**  
Mod. GOSTC  
Page 45



**O-Seal Pipe Thread  
Connector**  
Mod. GOPTC  
Page 45



### Tube to SAE/MS, O-Ring Seal

**Male Pipe Weld  
Connector**  
Mod. GMPWC  
Page 46



**Male Pipe Weld  
Elbow**  
Mod. GMPWL  
Page 47



**Tube Socket  
Weld Connector**  
Mod. GTSWC  
Page 47



**Tube Socket Weld  
Elbow**  
Mod. GTSWC  
Page 47



### Plug/Cap/Other

**Plug**  
Mod. GP  
Page 48



**Tube Cap**  
Mod. GC  
Page 49



### Spare Parts

**Tube Insert**  
Mod. GI  
Page 50



**Nut**  
Mod. GN  
Page 50



**Front Ferrule**  
Mod. GFF  
Page 51



**Back Ferrule**  
Mod. GBF  
Page 51



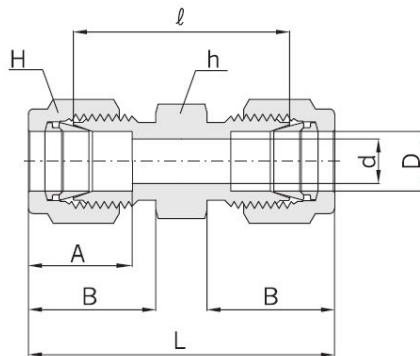
**Ferrule Set**  
Mod. GFS  
Page 52



**Ferrule & Nut Set**  
Mod. GFNS  
Page 52



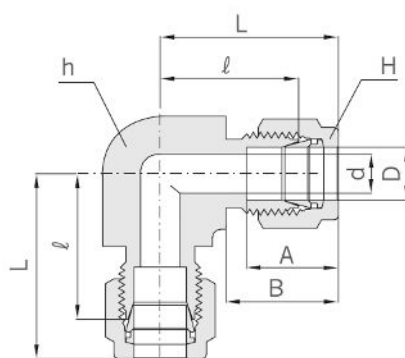
## Union Mod. GU



| Connects Fractional Tube |           |       |        |                   |       |       |       |       |       |       |        |
|--------------------------|-----------|-------|--------|-------------------|-------|-------|-------|-------|-------|-------|--------|
| Part No.                 | Tube O.D. |       | d Min. | Width across flat |       |       |       | A     | B     | ℓ     | L      |
|                          | D         |       |        | h                 |       | H     |       |       |       |       |        |
|                          | in        | mm    |        | in                | mm    | in    | mm    |       |       |       |        |
| GU-1                     | 1/16      | 1.58  | 1.27   | 5/16              | 7.93  | 5/16  | 7.93  | 8.63  | 10.92 | 17.50 | 25.15  |
| GU-2                     | 1/8       | 3.17  | 2.28   | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 22.35 | 35.56  |
| GU-3                     | 3/16      | 4.76  | 3.04   | 7/16              | 11.11 | 1/2   | 12.70 | 13.71 | 16.00 | 24.13 | 37.33  |
| GU-4                     | 1/4       | 6.35  | 4.82   | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 26.16 | 40.89  |
| GU-5                     | 5/16      | 7.93  | 6.35   | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 28.19 | 42.92  |
| GU-6                     | 3/8       | 9.52  | 7.11   | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 30.22 | 44.95  |
| GU-8                     | 1/2       | 12.70 | 10.41  | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 30.98 | 51.30  |
| GU-10                    | 5/8       | 15.87 | 12.70  | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 31.75 | 52.07  |
| GU-12                    | 3/4       | 19.05 | 15.74  | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 33.27 | 53.59  |
| GU-14                    | 7/8       | 22.22 | 18.28  | 1-3/16            | 30.16 | 1-1/4 | 31.75 | 25.90 | 21.84 | 35.05 | 55.37  |
| GU-16                    |           | 25.40 | 22.35  | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 40.38 | 64.77  |
| GU-20                    | 1 1/4     | 31.75 | 27.68  | 1-3/4             | 44.45 | 1-7/8 | 47.62 | 41.14 | 38.86 | 48.00 | 92.20  |
| GU-24                    | 1 1/2     | 38.10 | 34.03  | 2-1/8             | 53.97 | 2-1/4 | 57.15 | 50.03 | 45.21 | 53.60 | 107.95 |
| GU-32                    | 2         | 50.80 | 45.97  | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 74.70 | 149.35 |

| Connects Metric Tube |                |        |                   |    |      |      |      |       |
|----------------------|----------------|--------|-------------------|----|------|------|------|-------|
| Part No.             | Tube O.D.<br>D | d Min. | Width across flat |    | A    | B    | ℓ    | L     |
|                      |                |        | h                 | H  |      |      |      |       |
| GU-2M                | 2              | 1.7    | 12                | 12 | 12.9 | 15.3 | 22.4 | 35.6  |
| GU-3M                | 3              | 2.4    | 12                | 12 | 12.9 | 15.3 | 22.1 | 35.3  |
| GU-4M                | 4              | 2.4    | 12                | 12 | 13.7 | 16.1 | 24.1 | 37.3  |
| GU-6M                | 6              | 4.8    | 14                | 14 | 15.3 | 17.7 | 26.2 | 41.0  |
| GU-8M                | 8              | 6.3    | 14                | 16 | 16.2 | 18.6 | 28.2 | 43.2  |
| GU-10M               | 10             | 7.9    | 18                | 19 | 17.2 | 19.5 | 31.0 | 46.2  |
| GU-12M               | 12             | 9.5    | 22                | 22 | 22.8 | 22.0 | 31.0 | 51.2  |
| GU-15M               | 15             | 11.9   | 24                | 25 | 24.4 | 22.0 | 31.8 | 52.0  |
| GU-16M               | 16             | 12.7   | 24                | 25 | 24.4 | 22.0 | 31.8 | 52.0  |
| GU-18M               | 18             | 15.1   | 27                | 30 | 24.4 | 22.0 | 33.3 | 53.5  |
| GU-20M               | 20             | 15.9   | 30                | 32 | 26.0 | 22.0 | 34.8 | 55.0  |
| GU-22M               | 22             | 18.3   | 30                | 32 | 26.0 | 22.0 | 34.8 | 55.0  |
| GU-25M               | 25             | 21.8   | 35                | 38 | 31.3 | 26.5 | 40.4 | 65.0  |
| GU-28M               | 28             | 21.8   | 41                | 46 | 36.6 | 36.5 | 43.4 | 85.0  |
| GU-32M               | 32             | 28.6   | 46                | 50 | 42.0 | 41.6 | 51.3 | 97.3  |
| GU-38M               | 38             | 33.7   | 55                | 60 | 49.4 | 47.9 | 58.4 | 113.6 |
| GU-42M               | 42             | 33.7   | 55                | 65 | 55.1 | 53.6 | 64.0 | 126.2 |

## Union Elbow Mod. GL



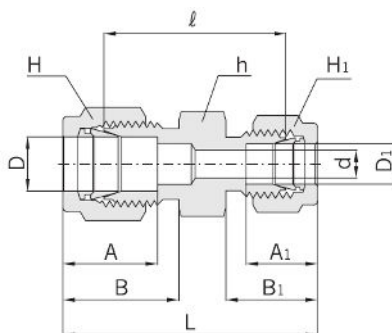
### Connects Fractional Tube

| Part No. | Tube O.D. |       | d Min. | Width across flat |       |       |       | A     | B     | ℓ     | L      |
|----------|-----------|-------|--------|-------------------|-------|-------|-------|-------|-------|-------|--------|
|          | D         |       |        | h                 |       | H     |       |       |       |       |        |
|          | in        | mm    |        | in                | mm    | in    | mm    |       |       |       |        |
|          | in        | mm    |        | in                | mm    | in    | mm    |       |       |       |        |
| GL-1     | 1/16      | 1.58  | 1.27   | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 14.00 | 17.88  |
| GL-2     | 1/8       | 3.17  | 2.28   | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 15.74 | 22.35  |
| GL-3     | 3/16      | 4.76  | 3.04   | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 17.78 | 24.38  |
| GL-4     | 1/4       | 6.35  | 4.82   | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92  |
| GL-5     | 5/16      | 7.93  | 6.35   | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 21.33 | 28.70  |
| GL-6     | 3/8       | 9.52  | 7.11   | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 30.48  |
| GL-8     | 1/2       | 12.70 | 10.41  | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06  |
| GL-10    | 5/8       | 15.87 | 12.70  | 15/16             | 23.80 | 1     | 25.40 | 24.38 | 21.84 | 28.70 | 38.80  |
| GL-12    | 3/4       | 19.05 | 15.74  | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 29.71 | 39.87  |
| GL-14    | 7/8       | 22.22 | 18.28  | 1-3/16            | 30.00 | 1-1/4 | 31.75 | 25.90 | 21.84 | 34.54 | 44.70  |
| GL-16    | 1         | 25.40 | 22.35  | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02  |
| GL-20    | 1.1/4     | 31.75 | 27.68  | 1-11/16           | 42.86 | 1-7/8 | 47.62 | 41.14 | 38.86 | 44.50 | 66.54  |
| GL-24    | 1.1/2     | 38.10 | 34.03  | 2                 | 50.80 | 2-1/4 | 57.15 | 50.03 | 45.21 | 50.80 | 77.97  |
| GL-32    | 2         | 50.80 | 45.97  | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 69.80 | 107.18 |

### Connects Metric Tube

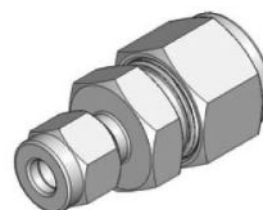
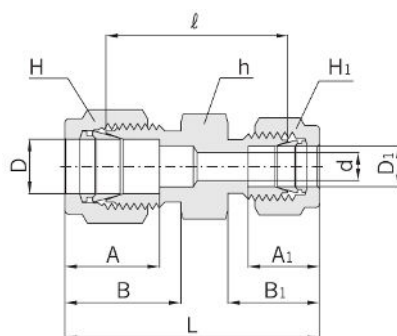
| Part No. | Tube O.D.<br>D | d Min. | Width across flat |    | A    | B    | ℓ    | L    |
|----------|----------------|--------|-------------------|----|------|------|------|------|
|          |                |        | h                 | H  |      |      |      |      |
| GL-2M    | 2              | 1.7    | 11.11             | 12 | 12.9 | 15.3 | 15.7 | 22.3 |
| GL-3M    | 3              | 2.4    | 11.11             | 12 | 12.9 | 15.3 | 15.7 | 22.3 |
| GL-4M    | 4              | 2.4    | 12.7              | 12 | 13.7 | 16.4 | 18.8 | 25.4 |
| GL-6M    | 6              | 4.8    | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 |
| GL-8M    | 8              | 6.3    | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 |
| GL-10M   | 10             | 7.9    | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 |
| GL-12M   | 12             | 9.5    | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 |
| GL-15M   | 15             | 11.9   | 23.8              | 25 | 24.4 | 22.0 | 28.7 | 38.8 |
| GL-16M   | 16             | 12.7   | 23.8              | 25 | 24.4 | 22.0 | 28.7 | 38.8 |
| GL-18M   | 18             | 15.1   | 27.0              | 30 | 24.4 | 22.0 | 29.7 | 39.8 |
| GL-20M   | 20             | 15.9   | 30.0              | 32 | 26.0 | 22.0 | 32.5 | 42.6 |
| GL-22M   | 22             | 18.3   | 30.0              | 32 | 26.0 | 22.0 | 32.5 | 42.6 |
| GL-25M   | 25             | 21.8   | 34.9              | 38 | 31.3 | 26.5 | 36.8 | 49.1 |
| GL-28M   | 28             | 21.8   | 41.0              | 46 | 36.6 | 36.6 | 43.2 | 64.0 |
| GL-32M   | 32             | 28.6   | 46.0              | 50 | 42.0 | 41.6 | 49.3 | 72.3 |
| GL-38M   | 38             | 33.7   | 55.0              | 60 | 49.4 | 47.9 | 56.4 | 84.0 |
| GL-42M   | 42             | 36.0   | 55.0              | 65 | 55.1 | 53.6 | 58.0 | 89.1 |

## Reducing Union Mod. GRU



| Connects Fractional Tube |           |       |      |       |       |                   |       |       |       |       |       |       |       |       |       |       |       |
|--------------------------|-----------|-------|------|-------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                 | Tube O.D. |       |      |       | E     | Width across flat |       |       |       |       |       | A     | A1    | B     | B1    | ℓ     | L     |
|                          | D         |       | D1   |       |       | h                 |       | H     |       | H1    |       |       |       |       |       |       |       |
|                          | in        | mm    | in   | mm    |       | Min.              | in    | mm    | in    | mm    | in    |       |       |       |       |       |       |
| GRU-2-1                  | 1/8       | 3.18  | 1/16 | 1.59  | 1.27  | 7/16              | 11.11 | 7/16  | 11.11 | 5/16  | 7.93  | 12.70 | 8.63  | 15.24 | 10.92 | 20.60 | 30.91 |
| GRU 3-1                  | 3/16      | 4.76  | 1/16 | 1.59  | 1.27  | 7/16              | 11.11 | 1/2   | 12.70 | 5/16  | 7.93  | 13.71 | 8.63  | 16.00 | 10.92 | 21.84 | 32.25 |
| GRU 3-2                  | 3/16      | 4.76  | 1/8  | 3.17  | 2.28  | 7/16              | 11.11 | 1/2   | 12.70 | 7/16  | 11.11 | 13.71 | 12.70 | 16.00 | 15.24 | 23.36 | 36.57 |
| GRU 4-1                  | 1/4       | 6.35  | 1/16 | 1.59  | 1.27  | 1/2               | 12.70 | 9/16  | 14.28 | 5/16  | 7.93  | 15.24 | 8.63  | 17.78 | 10.92 | 23.11 | 34.29 |
| GRU 4-2                  | 1/4       | 6.35  | 1/8  | 3.17  | 2.28  | 1/2               | 12.70 | 9/16  | 14.28 | 7/16  | 11.11 | 15.24 | 12.70 | 17.78 | 15.24 | 24.63 | 38.60 |
| GRU 4-3                  | 1/4       | 6.35  | 3/16 | 4.76  | 3.04  | 1/2               | 12.70 | 9/16  | 14.28 | 1/2   | 12.70 | 15.24 | 13.71 | 17.78 | 16.00 | 25.40 | 39.37 |
| GRU 5-2                  | 5/16      | 7.93  | 1/8  | 3.17  | 2.28  | 9/16              | 14.28 | 5/8   | 15.87 | 7/16  | 11.11 | 16.25 | 12.70 | 18.54 | 15.24 | 25.90 | 39.87 |
| GRU 5-4                  | 5/16      | 7.93  | 1/4  | 6.35  | 4.82  | 9/16              | 14.28 | 5/8   | 15.87 | 9/16  | 14.28 | 16.25 | 15.24 | 18.54 | 17.78 | 27.43 | 42.16 |
| GRU 6-1                  | 3/8       | 9.52  | 1/16 | 1.59  | 1.27  | 5/8               | 15.87 | 11/16 | 17.46 | 5/16  | 7.93  | 16.76 | 8.63  | 19.30 | 10.92 | 25.40 | 36.57 |
| GRU 6-2                  | 3/8       | 9.52  | 1/8  | 3.17  | 2.28  | 5/8               | 15.87 | 11/16 | 17.46 | 7/16  | 11.11 | 16.76 | 12.70 | 19.30 | 15.24 | 26.92 | 40.89 |
| GRU 6-4                  | 3/8       | 9.52  | 1/4  | 6.35  | 4.82  | 5/8               | 15.87 | 11/16 | 17.46 | 9/16  | 14.28 | 16.76 | 15.24 | 19.30 | 17.78 | 28.44 | 43.18 |
| GRU 6-5                  | 3/8       | 9.52  | 5/16 | 7.93  | 6.35  | 5/8               | 15.87 | 11/16 | 17.46 | 5/8   | 15.87 | 16.76 | 16.25 | 19.30 | 18.54 | 29.46 | 44.19 |
| GRU 8-2                  | 1/2       | 12.70 | 1/8  | 3.17  | 2.28  | 13/16             | 20.64 | 7/8   | 22.22 | 7/16  | 11.11 | 22.86 | 12.70 | 21.84 | 15.24 | 28.44 | 45.21 |
| GRU 8-4                  | 1/2       | 12.70 | 1/4  | 6.35  | 4.82  | 13/16             | 20.64 | 7/8   | 22.22 | 9/16  | 14.28 | 22.86 | 15.24 | 21.84 | 17.78 | 29.46 | 46.99 |
| GRU 8-6                  | 1/2       | 12.70 | 3/8  | 9.52  | 7.11  | 13/16             | 20.64 | 7/8   | 22.22 | 11/16 | 17.46 | 22.86 | 16.76 | 21.84 | 19.30 | 30.98 | 48.51 |
| GRU 10-6                 | 5/8       | 15.87 | 3/8  | 9.52  | 7.11  | 15/16             | 23.81 | 1     | 25.40 | 11/16 | 17.46 | 24.38 | 16.76 | 21.84 | 19.30 | 31.75 | 49.27 |
| GRU 10-8                 | 5/8       | 15.87 | 1/2  | 12.70 | 10.41 | 15/16             | 23.81 | 1     | 25.40 | 7/8   | 22.22 | 24.38 | 22.86 | 21.84 | 21.84 | 31.75 | 52.07 |
| GRU 12-4                 | 3/4       | 19.05 | 1/4  | 6.35  | 4.82  | 1-1/16            | 23.81 | 1-1/8 | 28.57 | 9/16  | 14.48 | 24.38 | 15.24 | 21.84 | 17.78 | 31.75 | 49.27 |
| GRU 12-6                 | 3/4       | 19.05 | 3/8  | 9.52  | 7.11  | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 11/16 | 17.46 | 24.38 | 16.76 | 21.84 | 19.30 | 33.27 | 50.80 |
| GRU 12-8                 | 3/4       | 19.05 | 1/2  | 12.70 | 10.41 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 7/8   | 22.22 | 24.38 | 22.86 | 21.84 | 21.84 | 33.27 | 53.59 |
| GRU 12-10                | 3/4       | 19.05 | 5/8  | 15.87 | 12.70 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 1     | 25.40 | 24.38 | 24.38 | 21.84 | 21.84 | 33.27 | 53.59 |
| GRU 16-8                 | 1         | 25.40 | 1/2  | 12.70 | 10.41 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 7/8   | 22.22 | 31.24 | 22.86 | 26.41 | 21.84 | 40.89 | 63.24 |
| GRU 16-12                | 1         | 25.40 | 3/4  | 19.05 | 15.74 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 1-1/8 | 28.58 | 31.24 | 24.38 | 26.41 | 21.84 | 40.38 | 62.73 |

## Reducing Union Mod. GRU



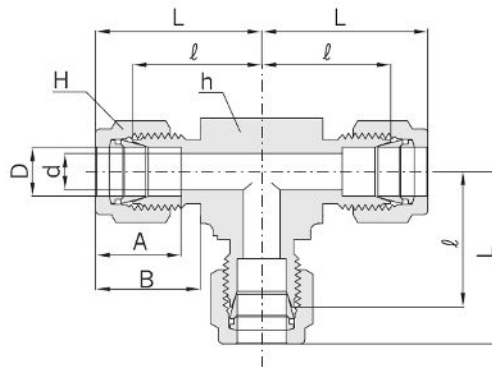
**Connects Metric Tube**

| Part No.    | Tube O.D. |    | d Min. | Width across flat |    |    | A    | A1   | B    | B1   | ℓ    | L    |
|-------------|-----------|----|--------|-------------------|----|----|------|------|------|------|------|------|
|             | D         | D1 |        | h                 | H  | H1 |      |      |      |      |      |      |
| GRU 3M-2M   | 3         | 2  | 1.7    | 12                | 12 | 12 | 12.9 | 12.9 | 15.3 | 15.3 | 22.1 | 35.3 |
| GRU 6M-2M   | 6         | 2  | 1.7    | 14                | 14 | 12 | 15.3 | 12.9 | 17.7 | 15.3 | 24.6 | 38.6 |
| GRU 6M-3M   | 6         | 3  | 2.4    | 14                | 14 | 12 | 15.3 | 12.9 | 17.7 | 15.3 | 24.6 | 38.6 |
| GRU 6M-4M   | 6         | 4  | 2.4    | 14                | 14 | 12 | 15.3 | 13.7 | 17.7 | 16.1 | 25.4 | 39.4 |
| GRU 8M-6M   | 8         | 6  | 4.8    | 14                | 16 | 14 | 16.2 | 15.3 | 18.6 | 17.7 | 27.4 | 42.3 |
| GRU 10M-6M  | 10        | 6  | 4.8    | 18                | 19 | 14 | 17.2 | 15.3 | 19.5 | 17.7 | 29.5 | 44.5 |
| GRU 10M-8M  | 10        | 8  | 6.3    | 18                | 19 | 16 | 17.2 | 16.2 | 19.5 | 18.6 | 30.0 | 45.1 |
| GRU 12M-6M  | 12        | 6  | 4.8    | 22                | 22 | 14 | 22.8 | 15.3 | 22.0 | 17.7 | 29.5 | 47.0 |
| GRU 12M-8M  | 12        | 8  | 6.3    | 22                | 22 | 16 | 22.8 | 16.2 | 22.0 | 18.6 | 30.2 | 47.8 |
| GRU 12M-10M | 12        | 10 | 7.9    | 22                | 22 | 19 | 22.8 | 17.2 | 22.0 | 19.5 | 31.0 | 48.7 |
| GRU 16M-10M | 16        | 10 | 7.9    | 24                | 25 | 19 | 24.4 | 17.2 | 22.0 | 19.5 | 31.8 | 49.5 |
| GRU 16M-12M | 16        | 12 | 9.5    | 24                | 25 | 22 | 24.4 | 22.8 | 22.0 | 22.0 | 31.8 | 52.0 |
| GRU 18M-12M | 18        | 12 | 9.5    | 27                | 30 | 22 | 24.4 | 22.8 | 22.0 | 22.0 | 33.3 | 53.5 |
| GRU 25M-18M | 25        | 18 | 15.1   | 35                | 38 | 30 | 31.3 | 24.4 | 26.5 | 22.0 | 38.6 | 61.0 |
| GRU 25M-20M | 25        | 20 | 15.9   | 35                | 38 | 32 | 31.3 | 26.0 | 26.5 | 22.0 | 39.9 | 62.3 |

**Connects Metric Tube to Francional tube**

| Connects Metric Tube to Frantcional tube |           |      |       |        |                   |    |      |      |      |      |      |      |      |
|------------------------------------------|-----------|------|-------|--------|-------------------|----|------|------|------|------|------|------|------|
| Part No.                                 | Tube O.D. |      |       | d Min. | Width across flat |    |      | A    | A1   | B    | B1   | ℓ    | L    |
|                                          | D         | D1   |       |        | h                 | H  | H1   |      |      |      |      |      |      |
|                                          |           | In   | mm    |        |                   |    |      |      |      |      |      |      |      |
| GRU 3M-2                                 | 3         | 1/8  | 3.17  | 2.3    | 12.0              | 12 | 11.1 | 12.9 | 12.8 | 15.3 | 15.2 | 22.1 | 35.2 |
| GRU 4M-2                                 | 4         | 1/8  | 3.17  | 2.3    | 12.0              | 12 | 11.1 | 13.7 | 12.8 | 16.1 | 15.2 | 23.4 | 36.5 |
| GRU 4M-4                                 | 4         | 1/4  | 6.35  | 2.4    | 14.0              | 12 | 14.3 | 13.7 | 15.3 | 16.1 | 17.7 | 25.4 | 39.4 |
| GRU 6M-2                                 | 6         | 1/8  | 3.17  | 2.3    | 14.0              | 14 | 11.1 | 15.3 | 12.8 | 17.7 | 15.2 | 24.6 | 38.5 |
| GRU 6M-4                                 | 6         | 1/4  | 6.35  | 4.8    | 14.0              | 14 | 14.3 | 15.3 | 15.3 | 17.7 | 17.7 | 26.2 | 41.0 |
| GRU 6M-5                                 | 6         | 5/16 | 7.93  | 4.8    | 14.2              | 14 | 15.9 | 15.3 | 16.2 | 17.7 | 18.6 | 27.4 | 42.3 |
| GRU 8M-4                                 | 8         | 1/4  | 6.35  | 4.8    | 15.0              | 16 | 14.3 | 16.2 | 15.3 | 18.6 | 17.7 | 27.4 | 42.3 |
| GRU 10M-2                                | 10        | 1/8  | 3.17  | 2.3    | 18.0              | 19 | 11.1 | 17.2 | 12.8 | 19.5 | 15.2 | 27.7 | 41.8 |
| GRU 10M-4                                | 10        | 1/4  | 6.35  | 4.8    | 18.0              | 19 | 14.3 | 17.2 | 15.3 | 19.5 | 17.7 | 29.5 | 44.5 |
| GRU 10M-5                                | 10        | 5/16 | 7.93  | 6.3    | 18.0              | 19 | 15.9 | 17.2 | 16.2 | 19.5 | 18.6 | 30.3 | 45.1 |
| GRU 10M-6                                | 10        | 3/8  | 9.52  | 7.1    | 18.0              | 19 | 17.5 | 17.2 | 16.9 | 19.5 | 19.2 | 31.0 | 45.9 |
| GRU 12M-5                                | 12        | 5/16 | 7.93  | 6.3    | 22.0              | 22 | 15.9 | 22.8 | 16.2 | 22.0 | 18.6 | 30.3 | 47.8 |
| GRU 12M-6                                | 12        | 3/8  | 9.52  | 7.1    | 22.0              | 22 | 17.5 | 22.8 | 16.9 | 22.0 | 19.2 | 31.0 | 48.4 |
| GRU 12M-8                                | 12        | 1/2  | 12.70 | 9.5    | 22.0              | 22 | 22.2 | 22.8 | 22.8 | 22.0 | 22.0 | 31.0 | 51.2 |
| GRU 15M-8                                | 15        | 1/2  | 12.70 | 10.4   | 24.0              | 25 | 22.2 | 24.4 | 22.8 | 22.0 | 22.0 | 31.8 | 52.0 |
| GRU 16M-10                               | 16        | 5/8  | 15.87 | 12.7   | 24.0              | 25 | 25.4 | 24.4 | 24.4 | 22.0 | 22.0 | 31.8 | 52.0 |
| GRU 18M-12                               | 18        | 3/4  | 19.05 | 15.1   | 27.0              | 30 | 28.6 | 24.4 | 24.4 | 22.0 | 22.0 | 33.3 | 53.5 |
| GRU 20M-12                               | 20        | 3/4  | 19.05 | 15.7   | 30.0              | 32 | 28.6 | 26.0 | 24.4 | 22.0 | 22.0 | 34.8 | 54.9 |
| GRU 20M-16                               | 20        | 1    | 25.40 | 15.9   | 34.9              | 32 | 38.1 | 26.0 | 31.2 | 22.0 | 26.4 | 38.0 | 60.3 |
| GRU 22M-16                               | 22        | 1    | 25.40 | 18.3   | 34.9              | 32 | 38.1 | 26.0 | 31.2 | 22.0 | 26.4 | 38.2 | 60.3 |

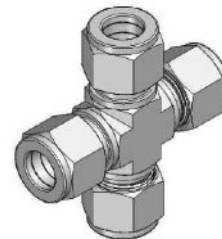
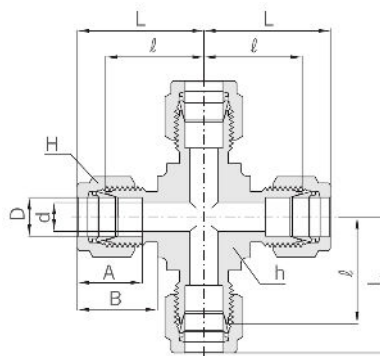
## Union Tee Mod. GT



| Connects Fractional Tube |           |       |        |                   |       |       |       |       |       |       |        |
|--------------------------|-----------|-------|--------|-------------------|-------|-------|-------|-------|-------|-------|--------|
| Part No.                 | Tube O.D. |       | d Min. | Width across flat |       |       |       | A     | B     | ℓ     | L      |
|                          | D         |       |        | h                 |       | H     |       |       |       |       |        |
|                          | in        | mm    |        | in                | mm    | in    | mm    |       |       |       |        |
| GT-1                     | 1/16      | 1.58  | 1.27   | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 14.00 | 17.88  |
| GT-2                     | 1/8       | 3.17  | 2.28   | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 15.74 | 22.35  |
| GT-3                     | 3/16      | 4.76  | 3.04   | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 17.78 | 24.38  |
| GT-4                     | 1/4       | 6.35  | 4.82   | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92  |
| GT-5                     | 5/16      | 7.93  | 6.35   | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 21.33 | 28.70  |
| GT-6                     | 3/8       | 9.52  | 7.11   | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 30.48  |
| GT-8                     | 1/2       | 12.70 | 10.41  | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06  |
| GT-10                    | 5/8       | 15.87 | 12.70  | 15/16             | 23.80 | 1     | 25.40 | 24.38 | 21.84 | 28.70 | 38.80  |
| GT-12                    | 3/4       | 19.05 | 15.74  | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 29.71 | 39.87  |
| GT-14                    | 7/8       | 22.22 | 18.28  | 1-3/16            | 30.00 | 1-1/4 | 31.75 | 25.90 | 21.84 | 34.54 | 44.70  |
| GT-16                    | 1         | 25.40 | 22.35  | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02  |
| GT-20                    | 1-1/4     | 31.75 | 27.68  | 1-11/16           | 42.86 | 1-7/8 | 47.62 | 41.14 | 38.86 | 44.50 | 66.54  |
| GT-24                    | 1-1/2     | 38.10 | 34.03  | 2                 | 50.80 | 2-1/4 | 57.15 | 50.03 | 45.21 | 50.80 | 77.97  |
| GT-32                    | 2         | 50.80 | 45.97  | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 69.80 | 107.18 |

| Connects Metric Tube |                |        |                   |    |      |      |      |      |  |
|----------------------|----------------|--------|-------------------|----|------|------|------|------|--|
| Part No.             | Tube O.D.<br>D | E Min. | Width across flat |    | A    | B    | ℓ    | L    |  |
|                      |                |        | h                 | H  |      |      |      |      |  |
| GT-2M                | 2              | 1.7    | 11.11             | 12 | 12.9 | 15.3 | 15.7 | 22.3 |  |
| GT-3M                | 3              | 2.4    | 11.11             | 12 | 12.9 | 15.3 | 15.7 | 22.3 |  |
| GT-4M                | 4              | 2.4    | 12.7              | 12 | 13.7 | 16.1 | 18.8 | 25.4 |  |
| GT-6M                | 6              | 4.8    | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 |  |
| GT-8M                | 8              | 6.4    | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 |  |
| GT-10M               | 10             | 7.9    | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 |  |
| GT-12M               | 12             | 9.5    | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 |  |
| GT-15M               | 15             | 11.9   | 23.8              | 25 | 24.4 | 22.0 | 28.7 | 38.8 |  |
| GT-16M               | 16             | 12.7   | 23.8              | 25 | 24.4 | 22.0 | 28.7 | 38.8 |  |
| GT-18M               | 18             | 15.1   | 27.0              | 30 | 24.4 | 22.0 | 29.7 | 39.8 |  |
| GT-20M               | 20             | 15.9   | 30.0              | 32 | 26.0 | 22.0 | 34.5 | 42.6 |  |
| GT-22M               | 22             | 18.3   | 30.0              | 32 | 26.0 | 22.0 | 34.5 | 42.6 |  |
| GT-25M               | 25             | 21.8   | 34.9              | 38 | 31.3 | 26.5 | 36.8 | 49.1 |  |
| GT-28M               | 28             | 21.8   | 41.0              | 46 | 36.6 | 36.6 | 43.2 | 64.0 |  |
| GT-32M               | 32             | 28.6   | 46.0              | 50 | 42.0 | 41.6 | 49.3 | 72.3 |  |
| GT-38M               | 38             | 33.7   | 55.0              | 60 | 49.4 | 47.9 | 56.4 | 84.0 |  |

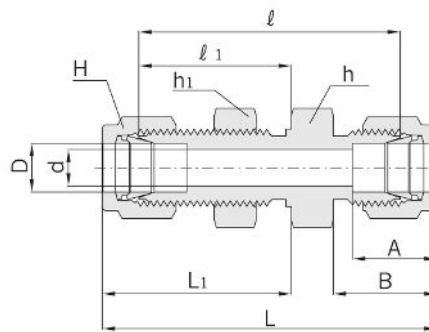
## Union Cross Mod. GX



| Connects Fractional Tube |           |       |        |                   |       |       |       |       |       |       |       |
|--------------------------|-----------|-------|--------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                 | Tube O.D. |       | d Min. | Width across flat |       |       |       | A     | B     | ℓ     | L     |
|                          | D         |       |        | h                 |       | H     |       |       |       |       |       |
|                          | in        | mm    |        | in                | mm    | in    | mm    |       |       |       |       |
| GX-1                     | 1/16      | 1.58  | 1.27   | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 14.00 | 17.88 |
| GX-2                     | 1/8       | 3.17  | 2.28   | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 15.74 | 22.35 |
| GX-3                     | 3/16      | 4.76  | 3.04   | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 17.78 | 24.38 |
| GX-4                     | 1/4       | 6.35  | 4.82   | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92 |
| GX-5                     | 5/16      | 7.93  | 6.35   | 1/2               | 12.70 | 5/8   | 15.87 | 16.25 | 18.54 | 21.33 | 28.70 |
| GX-6                     | 3/8       | 9.52  | 7.11   | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 30.48 |
| GX-8                     | 1/2       | 12.70 | 10.41  | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 |
| GX-10                    | 5/8       | 15.87 | 12.70  | 1                 | 25.40 | 1     | 25.40 | 24.38 | 21.84 | 28.70 | 38.80 |
| GX-12                    | 3/4       | 19.05 | 15.74  | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 29.71 | 39.87 |
| GX-14                    | 7/8       | 22.22 | 18.28  | 1-3/16            | 30.00 | 1-1/4 | 31.75 | 25.90 | 21.84 | 34.54 | 44.70 |
| GX-16                    | 1         | 25.40 | 22.35  | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02 |

| Connects Metric Tube |                |           |                   |    |      |      |      |      |  |
|----------------------|----------------|-----------|-------------------|----|------|------|------|------|--|
| Part No.             | Tube O.D.<br>D | d<br>Min. | Width across flat |    | A    | B    | ℓ    | L    |  |
|                      |                |           | h                 | H  |      |      |      |      |  |
| GX-3M                | 3              | 2.4       | 11.11             | 12 | 12.9 | 15.3 | 15.7 | 22.3 |  |
| GX-6M                | 6              | 4.8       | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 |  |
| GX-8M                | 8              | 6.3       | 14.2              | 16 | 16.2 | 18.6 | 21.3 | 28.8 |  |
| GX-10M               | 10             | 7.9       | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 |  |
| GX-12M               | 12             | 9.5       | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 |  |
| GX-16M               | 16             | 12.7      | 23.8              | 25 | 24.4 | 22.0 | 28.7 | 38.8 |  |
| GX-18M               | 18             | 15.1      | 27.0              | 30 | 24.4 | 22.0 | 28.2 | 39.8 |  |
| GX-20M               | 20             | 15.9      | 30.0              | 32 | 26.0 | 22.0 | 34.5 | 42.6 |  |
| GX-25M               | 25             | 21.8      | 34.9              | 38 | 31.3 | 22.0 | 36.8 | 49.1 |  |

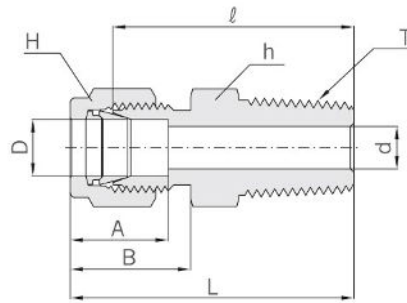
## Bulkhead Union Mod. GBU



| Connects Fractional Tube |           |       |        |                   |       |       |       |       |       |        |       |        |       |                       |                    |
|--------------------------|-----------|-------|--------|-------------------|-------|-------|-------|-------|-------|--------|-------|--------|-------|-----------------------|--------------------|
| Part No.                 | Tube O.D. |       | d Min. | Width across flat |       |       |       | A     | B     | ℓ      | ℓ1    | L      | L1    | Panel Hole Drill Size | Panel Max Thikness |
|                          | D         |       |        | h, h1             |       | H     |       |       |       |        |       |        |       |                       |                    |
|                          | in        | mm    |        | in                | mm    | in    | mm    |       |       |        |       |        |       |                       |                    |
| GBU-1                    | 1/16      | 1.59  | 1.27   | 5/16              | 7.93  | 5/16  | 7.93  | 8.63  | 10.92 | 23.87  | 13.46 | 31.50  | 17.27 | 5.16                  | 3.05               |
| GBU-2                    | 1/8       | 3.17  | 2.28   | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 38.10  | 24.63 | 51.30  | 31.24 | 8.33                  | 12.70              |
| GBU-3                    | 3/16      | 4.76  | 3.04   | 9/16              | 14.28 | 1/2   | 12.70 | 13.71 | 16.00 | 40.38  | 25.40 | 53.59  | 32.00 | 9.92                  | 12.70              |
| GBU-4                    | 1/4       | 6.35  | 4.82   | 5/8               | 15.87 | 9/16  | 14.28 | 15.24 | 17.78 | 42.92  | 26.16 | 57.65  | 33.52 | 11.50                 | 10.16              |
| GBU-5                    | 5/16      | 7.93  | 6.35   | 11/16             | 17.46 | 5/8   | 15.87 | 16.25 | 18.54 | 45.97  | 28.44 | 60.70  | 35.81 | 13.09                 | 11.17              |
| GBU-6                    | 3/8       | 9.52  | 7.11   | 3/4               | 19.05 | 11/16 | 17.46 | 16.76 | 19.30 | 47.49  | 29.46 | 62.23  | 36.83 | 14.68                 | 11.17              |
| GBU-8                    | 1/2       | 12.70 | 10.41  | 15/16             | 23.81 | 7/8   | 22.22 | 22.86 | 21.84 | 50.80  | 31.75 | 71.12  | 41.91 | 19.44                 | 12.70              |
| GBU-10                   | 5/8       | 15.87 | 12.70  | 1-1/16            | 26.98 | 1     | 25.40 | 24.38 | 21.84 | 52.32  | 32.51 | 72.64  | 42.67 | 22.62                 | 12.70              |
| GBU-12                   | 3/4       | 19.05 | 15.74  | 1-3/16            | 30.16 | 1-1/8 | 28.57 | 24.38 | 21.84 | 58.67  | 37.33 | 78.99  | 47.49 | 25.79                 | 16.76              |
| GBU-14                   | 7/8       | 22.22 | 18.28  | 1-3/8             | 34.92 | 1-1/4 | 31.75 | 25.90 | 21.84 | 64.26  | 42.92 | 84.58  | 53.08 | 28.97                 | 19.05              |
| GBU-16                   | 1         | 25.40 | 22.35  | 1-5/8             | 41.27 | 1-1/2 | 38.10 | 31.24 | 26.41 | 71.37  | 45.21 | 95.75  | 57.40 | 33.73                 | 19.05              |
| GBU-20                   | 1-1/4     | 31.75 | 27.68  | 1-7/8             | 47.62 | 1-7/8 | 47.62 | 41.14 | 38.86 | 78.99  | 47.75 | 123.19 | 69.85 | 41.67                 | 19.05              |
| GBU-24                   | 1-1/2     | 38.10 | 34.03  | 2-1/4             | 57.15 | 2-1/4 | 57.15 | 50.03 | 45.21 | 84.83  | 49.27 | 139.19 | 76.45 | 49.61                 | 19.05              |
| GBU-32                   | 2         | 50.80 | 45.97  | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 105.66 | 56.38 | 180.34 | 93.72 | 67.07                 | 19.05              |

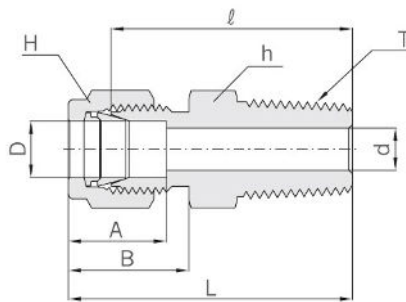
| Connects Metric Tube |                |           |                   |      |    |      |      |      |      |       |      |                          |                        |
|----------------------|----------------|-----------|-------------------|------|----|------|------|------|------|-------|------|--------------------------|------------------------|
| Part No.             | Tube O.D.<br>D | d<br>Min. | Width across flat |      |    | A    | B    | e    | e1   | L     | L1   | Panel Hole<br>Drill Size | Panel Max<br>Thickness |
|                      |                |           | h                 | h1   | H  |      |      |      |      |       |      |                          |                        |
| GBU-3M               | 3              | 2.4       | 14.0              | 12.7 | 12 | 12.9 | 15.3 | 38.1 | 24.6 | 51.3  | 31.2 | 8.3                      | 12.7                   |
| GBU-4M               | 4              | 2.4       | 14.0              | 14.3 | 12 | 13.7 | 16.1 | 40.4 | 25.4 | 53.6  | 32.0 | 9.9                      | 12.7                   |
| GBU-6M               | 6              | 4.8       | 15.8              | 15.9 | 14 | 15.3 | 17.7 | 42.9 | 26.2 | 57.7  | 33.6 | 11.5                     | 10.2                   |
| GBU-8M               | 8              | 6.3       | 17.0              | 17.5 | 16 | 16.2 | 18.6 | 46.0 | 28.6 | 61.0  | 36.1 | 13.1                     | 11.2                   |
| GBU-10M              | 10             | 7.9       | 22.0              | 22.0 | 19 | 17.2 | 19.5 | 48.5 | 29.4 | 63.7  | 37.0 | 16.2                     | 11.2                   |
| GBU-12M              | 12             | 9.5       | 24.0              | 23.8 | 22 | 22.8 | 22.0 | 50.8 | 31.8 | 71.0  | 41.9 | 19.5                     | 12.7                   |
| GBU-15M              | 15             | 11.9      | 27.0              | 27.0 | 25 | 24.4 | 22.0 | 52.3 | 32.5 | 72.5  | 42.6 | 22.8                     | 12.7                   |
| GBU-16M              | 16             | 12.7      | 27.0              | 27.0 | 25 | 24.4 | 22.0 | 52.3 | 32.5 | 72.5  | 42.6 | 22.8                     | 12.7                   |
| GBU-18M              | 18             | 15.1      | 30.0              | 30.0 | 30 | 24.4 | 22.0 | 58.7 | 37.3 | 78.9  | 47.4 | 26.0                     | 16.8                   |
| GBU-20M              | 20             | 15.9      | 35.0              | 35.0 | 32 | 26.0 | 22.0 | 64.3 | 42.9 | 84.5  | 53.0 | 29.0                     | 17.0                   |
| GBU-22M              | 22             | 18.3      | 35.0              | 35.0 | 32 | 26.0 | 22.0 | 64.3 | 42.9 | 84.5  | 53.0 | 29.0                     | 19.1                   |
| GBU-25M              | 25             | 21.8      | 41.3              | 41.3 | 38 | 31.3 | 26.5 | 71.4 | 45.2 | 95.9  | 57.5 | 33.7                     | 19.1                   |
| GBU-32M              | 32             | 28.6      | 50.0              | 50.0 | 50 | 42.0 | 41.6 | 82.3 | 49.5 | 128.3 | 72.5 | 42.5                     | 19.0                   |
| GBU-38M              | 38             | 33.7      | 60.0              | 60.0 | 60 | 49.4 | 47.9 | 89.4 | 51.5 | 144.6 | 79.1 | 50.5                     | 19.0                   |

## Male Connector Mod. GMC



| Connects Fractional Tube to Male NPT Thread |           |       |       |       |                   |       |       |       |       |       |       |        |
|---------------------------------------------|-----------|-------|-------|-------|-------------------|-------|-------|-------|-------|-------|-------|--------|
| Part No.                                    | Tube O.D. |       | T     | d     | Width across flat |       |       |       | A     | B     | ℓ     | L      |
|                                             | D         |       |       |       | h                 |       | H     |       |       |       |       |        |
|                                             | in        | mm    |       |       | NPT               | Min   | in    | mm    |       |       |       |        |
| GMC 1-1N                                    | 1/16      | 1.58  | 1/16  | 1.27  | 5/16              | 7.93  | 5/16  | 7.93  | 8.63  | 10.92 | 20.00 | 23.83  |
| GMC 1-2N                                    | 1/16      | 1.58  | 1/8   | 1.27  | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 22.35 | 26.23  |
| GMC 1-4N                                    | 1/16      | 1.58  | 1/4   | 1.27  | 9/16              | 14.28 | 5/16  | 7.93  | 8.63  | 10.92 | 27.17 | 30.98  |
| GMC 2-1N                                    | 1/8       | 3.17  | 1/16  | 2.28  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 23.11 | 29.71  |
| GMC 2-2N                                    | 1/8       | 3.17  | 1/8   | 2.28  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 23.87 | 30.48  |
| GMC 2-4N                                    | 1/8       | 3.17  | 1/4   | 2.28  | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.20 | 28.95 | 35.56  |
| GMC 2-6N                                    | 1/8       | 3.17  | 3/8   | 2.28  | 11/16             | 17.46 | 7/16  | 11.11 | 12.70 | 15.24 | 29.21 | 35.81  |
| GMC 2-8N                                    | 1/8       | 3.17  | 1/2   | 2.28  | 7/8               | 22.22 | 7/16  | 11.11 | 12.70 | 15.24 | 35.56 | 42.16  |
| GMC 3-2N                                    | 3/16      | 4.76  | 1/8   | 3.04  | 7/16              | 11.11 | 1/2   | 12.70 | 13.71 | 16.00 | 24.63 | 31.24  |
| GMC 3-4N                                    | 3/16      | 4.76  | 1/4   | 3.04  | 9/16              | 14.28 | 1/2   | 12.70 | 13.71 | 16.00 | 29.71 | 36.32  |
| GMC 4-1N                                    | 1/4       | 6.35  | 1/16  | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 25.40 | 32.76  |
| GMC 4-2N                                    | 1/4       | 6.35  | 1/8   | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 25.40 | 32.76  |
| GMC 4-4N                                    | 1/4       | 6.35  | 1/4   | 4.82  | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 30.48 | 37.84  |
| GMC 4-6N                                    | 1/4       | 6.35  | 3/8   | 4.82  | 11/16             | 17.46 | 9/16  | 14.28 | 15.24 | 17.78 | 30.98 | 38.35  |
| GMC 4-8N                                    | 1/4       | 6.35  | 1/2   | 4.82  | 7/8               | 22.22 | 9/16  | 14.28 | 15.24 | 17.78 | 37.33 | 44.70  |
| GMC 4-12N                                   | 1/4       | 6.35  | 3/4   | 4.82  | 1-1/16            | 26.98 | 9/16  | 14.28 | 15.24 | 17.78 | 38.86 | 46.22  |
| GMC 5-2N                                    | 5/16      | 7.93  | 1/8   | 4.82  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 26.67 | 34.03  |
| GMC 5-4N                                    | 5/16      | 7.93  | 1/4   | 6.35  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 31.24 | 38.60  |
| GMC 5-6N                                    | 5/16      | 7.93  | 3/8   | 6.35  | 11/16             | 17.46 | 5/8   | 15.87 | 16.25 | 18.54 | 31.75 | 39.11  |
| GMC 6-2N                                    | 3/8       | 9.52  | 1/8   | 4.82  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 27.94 | 35.30  |
| GMC 6-4N                                    | 3/8       | 9.52  | 1/4   | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 32.51 | 39.87  |
| GMC 6-6N                                    | 3/8       | 9.52  | 3/8   | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 32.51 | 39.87  |
| GMC 6-8N                                    | 3/8       | 9.52  | 1/2   | 7.11  | 7/8               | 22.22 | 11/16 | 17.46 | 16.76 | 19.30 | 38.86 | 46.22  |
| GMC 6-12N                                   | 3/8       | 9.52  | 3/4   | 7.11  | 1-1/16            | 26.98 | 11/16 | 17.46 | 16.76 | 19.30 | 40.38 | 47.75  |
| GMC 8-2N                                    | 1/2       | 12.70 | 1/8   | 4.82  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 28.70 | 38.86  |
| GMC 8-4N                                    | 1/2       | 12.70 | 1/4   | 7.11  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 33.27 | 43.43  |
| GMC 8-6N                                    | 1/2       | 12.70 | 3/8   | 9.65  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 33.27 | 43.43  |
| GMC 8-8N                                    | 1/2       | 12.70 | 1/2   | 10.41 | 7/8               | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 38.86 | 49.02  |
| GMC 8-12N                                   | 1/2       | 12.70 | 3/4   | 10.41 | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.86 | 21.84 | 40.38 | 50.54  |
| GMC 8-16N                                   | 1/2       | 12.70 | 1     | 10.41 | 1-3/8             | 34.92 | 7/8   | 22.22 | 22.86 | 21.84 | 46.99 | 57.15  |
| GMC 10-6N                                   | 5/8       | 15.87 | 3/8   | 9.65  | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 34.03 | 44.19  |
| GMC 10-8N                                   | 5/8       | 15.87 | 1/2   | 11.93 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 38.86 | 49.02  |
| GMC 10-12N                                  | 5/8       | 15.87 | 3/4   | 12.70 | 1-1/16            | 26.98 | 1     | 25.40 | 24.38 | 21.84 | 40.38 | 50.54  |
| GMC 12-8N                                   | 3/4       | 19.05 | 1/2   | 11.93 | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 40.38 | 50.54  |
| GMC 12-12N                                  | 3/4       | 19.05 | 3/4   | 15.74 | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 40.38 | 50.54  |
| GMC 12-16N                                  | 3/4       | 19.05 | 1     | 15.74 | 1-3/8             | 34.92 | 1-1/8 | 28.58 | 24.38 | 21.84 | 46.99 | 57.15  |
| GMC 14-12N                                  | 7/8       | 22.22 | 3/4   | 15.74 | 1-3/16            | 30.16 | 1-1/4 | 31.75 | 25.90 | 21.84 | 40.38 | 50.54  |
| GMC 14-16N                                  | 7/8       | 22.22 | 1     | 18.28 | 1-3/8             | 34.92 | 1-1/4 | 31.75 | 25.90 | 21.84 | 46.99 | 57.15  |
| GMC 16-8N                                   | 1         | 25.40 | 1/2   | 11.93 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 45.21 | 57.40  |
| GMC 16-12N                                  | 1         | 25.40 | 3/4   | 15.74 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 45.21 | 57.40  |
| GMC 16-16N                                  | 1         | 25.40 | 1     | 22.35 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 50.03 | 62.23  |
| GMC 20-16N                                  | 1-1/4     | 31.75 | 1     | 22.35 | 1-3/4             | 44.45 | 1-7/8 | 47.63 | 41.14 | 38.86 | 55.11 | 77.21  |
| GMC 20-20N                                  | 1-1/4     | 31.75 | 1-1/4 | 27.68 | 1-3/4             | 44.45 | 1-7/8 | 47.63 | 41.14 | 38.86 | 55.11 | 77.21  |
| GMC 24-24N                                  | 1-1/2     | 38.10 | 1-1/2 | 34.03 | 2-1/8             | 53.98 | 2-1/4 | 57.15 | 50.03 | 45.21 | 61.72 | 88.90  |
| GMC 32-32N                                  | 2         | 50.80 | 2     | 45.97 | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 76.20 | 113.53 |

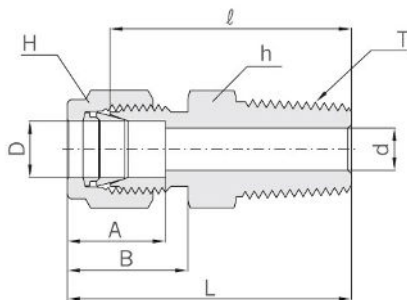
## Male Connector Mod. GMC



Connects Metric Tube to Male NPT Thread

| Part No.    | Tube O.D. | T     | D    | Width across flat |    | A    | B    | ℓ    | L    |
|-------------|-----------|-------|------|-------------------|----|------|------|------|------|
|             | D         |       |      | h                 | H  |      |      |      |      |
|             | mm        | NPT   | Min  | mm                | mm |      |      |      |      |
| GMC 2M-2N   | 2         | 1/8   | 1.7  | 12                | 12 | 12.9 | 15.3 | 23.9 | 30.5 |
| GMC 3M-2N   | 3         | 1/8   | 2.4  | 12                | 12 | 12.9 | 15.3 | 23.1 | 29.7 |
| GMC 3M-4N   | 3         | 1/4   | 2.4  | 14                | 12 | 12.9 | 15.3 | 29.0 | 35.6 |
| GMC 4M-2N   | 4         | 1/8   | 2.4  | 12                | 12 | 13.7 | 16.1 | 24.6 | 31.2 |
| GMC 4M-4N   | 4         | 1/4   | 2.4  | 14                | 12 | 13.7 | 16.1 | 29.7 | 36.3 |
| GMC 6M-2N   | 6         | 1/8   | 4.8  | 14                | 14 | 15.3 | 17.7 | 25.4 | 32.8 |
| GMC 6M-4N   | 6         | 1/4   | 4.8  | 14                | 14 | 15.3 | 17.7 | 30.2 | 37.6 |
| GMC 6M-6N   | 6         | 3/8   | 4.8  | 18                | 14 | 15.3 | 17.7 | 31.0 | 38.4 |
| GMC 6M-8N   | 6         | 1/2   | 4.8  | 22                | 14 | 15.3 | 17.7 | 36.6 | 44.0 |
| GMC 8M-2N   | 8         | 1/8   | 4.8  | 15                | 16 | 16.2 | 18.6 | 26.7 | 34.2 |
| GMC 8M-4N   | 8         | 1/4   | 6.4  | 15                | 16 | 16.2 | 18.6 | 31.2 | 38.7 |
| GMC 8M-6N   | 8         | 3/8   | 6.4  | 18                | 16 | 16.2 | 18.6 | 31.8 | 39.2 |
| GMC 8M-8N   | 8         | 1/2   | 6.4  | 22                | 16 | 16.2 | 18.6 | 37.3 | 44.8 |
| GMC 10M-2N  | 10        | 1/8   | 4.8  | 18                | 19 | 17.2 | 19.5 | 28.7 | 36.3 |
| GMC 10M-4N  | 10        | 1/4   | 7.1  | 18                | 19 | 17.2 | 19.5 | 33.3 | 40.9 |
| GMC 10M-6N  | 10        | 3/8   | 7.9  | 18                | 19 | 17.2 | 19.5 | 33.3 | 40.9 |
| GMC 10M-8N  | 10        | 1/2   | 7.9  | 22                | 19 | 17.2 | 19.5 | 38.1 | 45.7 |
| GMC 12M-4N  | 12        | 1/4   | 7.1  | 22                | 22 | 22.8 | 22.0 | 33.3 | 43.4 |
| GMC 12M-6N  | 12        | 3/8   | 9.5  | 22                | 22 | 22.8 | 22.0 | 33.3 | 43.4 |
| GMC 12M-8N  | 12        | 1/2   | 9.5  | 22                | 22 | 22.8 | 22.0 | 38.1 | 48.2 |
| GMC 12M-12N | 12        | 3/4   | 9.5  | 27                | 22 | 22.8 | 22.0 | 38.9 | 49.0 |
| GMC 15M-8N  | 15        | 1/2   | 11.9 | 24                | 25 | 24.4 | 22.0 | 38.9 | 49.0 |
| GMC 16M-4N  | 16        | 1/4   | 7.1  | 24                | 25 | 24.4 | 22.0 | 34.0 | 44.1 |
| GMC 16M-6N  | 16        | 3/8   | 9.5  | 24                | 25 | 24.4 | 22.0 | 34.0 | 44.1 |
| GMC 16M-8N  | 16        | 1/2   | 11.9 | 24                | 25 | 24.4 | 22.0 | 38.9 | 49.0 |
| GMC 16M-12N | 16        | 3/4   | 12.7 | 27                | 25 | 24.4 | 22.0 | 38.9 | 49.0 |
| GMC 18M-8N  | 18        | 1/2   | 11.9 | 27                | 30 | 24.4 | 22.0 | 40.4 | 50.5 |
| GMC 18M-12N | 18        | 3/4   | 15.1 | 27                | 30 | 24.4 | 22.0 | 40.4 | 50.5 |
| GMC 20M-8N  | 20        | 1/2   | 11.9 | 30                | 32 | 26.0 | 22.0 | 42.2 | 52.3 |
| GMC 20M-12N | 20        | 3/4   | 15.9 | 30                | 32 | 26.0 | 22.0 | 42.2 | 52.3 |
| GMC 22M-12N | 22        | 3/4   | 15.9 | 30                | 32 | 26.0 | 22.0 | 42.2 | 52.3 |
| GMC 22M-16N | 22        | 1     | 18.3 | 35                | 32 | 26.0 | 22.0 | 47.8 | 57.9 |
| GMC 25M-12N | 25        | 3/4   | 15.9 | 35                | 38 | 31.3 | 26.5 | 45.2 | 57.5 |
| GMC 25M-16N | 25        | 1     | 21.8 | 35                | 38 | 31.3 | 26.5 | 50.0 | 62.3 |
| GMC 28M-16N | 28        | 1     | 21.8 | 41                | 46 | 36.6 | 36.6 | 51.6 | 72.4 |
| GMC 28M-20N | 28        | 1-1/4 | 21.8 | 46                | 46 | 36.6 | 36.6 | 52.3 | 73.1 |
| GMC 32M-20N | 32        | 1-1/4 | 28.6 | 46                | 50 | 42.0 | 41.6 | 56.6 | 79.6 |
| GMC 38M-24N | 38        | 1-1/2 | 33.7 | 55                | 60 | 49.4 | 47.9 | 64.0 | 91.6 |

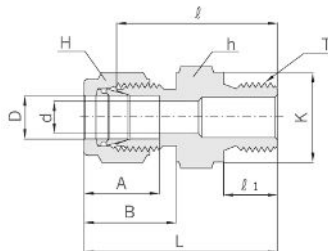
## Male Connector Mod. GMC



Connects Metric Tube to Male ISO Tapered Thread

| Part No.    | Tube O.D. | T     | D    | Width across flat |    | A    | B    | ℓ    | L    |
|-------------|-----------|-------|------|-------------------|----|------|------|------|------|
|             | D         |       |      | h                 | H  |      |      |      |      |
|             | mm        |       | Min  | mm                | mm |      |      |      |      |
| GMC 2M-2R   | 2         | 1/8   | 1.7  | 12                | 12 | 12.9 | 15.3 | 23.9 | 30.5 |
| GMC 3M-2R   | 3         | 1/8   | 2.4  | 12                | 12 | 12.9 | 15.3 | 23.1 | 29.7 |
| GMC 3M-4R   | 3         | 1/4   | 2.4  | 14                | 12 | 12.9 | 15.3 | 29.0 | 35.6 |
| GMC 4M-2R   | 4         | 1/8   | 2.4  | 12                | 12 | 13.7 | 16.1 | 24.6 | 31.2 |
| GMC 4M-4R   | 4         | 1/4   | 2.4  | 14                | 12 | 13.7 | 16.1 | 29.7 | 36.3 |
| GMC 6M-2R   | 6         | 1/8   | 4.8  | 14                | 14 | 15.3 | 17.7 | 25.4 | 32.8 |
| GMC 6M-4R   | 6         | 1/4   | 4.8  | 14                | 14 | 15.3 | 17.7 | 30.2 | 37.6 |
| GMC 6M-6R   | 6         | 3/8   | 4.8  | 18                | 14 | 15.3 | 17.7 | 31.0 | 38.4 |
| GMC 6M-8R   | 6         | 1/2   | 4.8  | 22                | 14 | 15.3 | 17.7 | 36.6 | 44.0 |
| GMC 8M-2R   | 8         | 1/8   | 4.8  | 15                | 16 | 16.2 | 18.6 | 26.7 | 34.2 |
| GMC 8M-4R   | 8         | 1/4   | 6.4  | 15                | 16 | 16.2 | 18.6 | 31.2 | 38.7 |
| GMC 8M-6R   | 8         | 3/8   | 6.4  | 18                | 16 | 16.2 | 18.6 | 31.8 | 39.2 |
| GMC 8M-8R   | 8         | 1/2   | 6.4  | 22                | 16 | 16.2 | 18.6 | 37.3 | 44.8 |
| GMC 10M-2R  | 10        | 1/8   | 4.8  | 18                | 19 | 17.2 | 19.5 | 28.7 | 36.3 |
| GMC 10M-4R  | 10        | 1/4   | 7.1  | 18                | 19 | 17.2 | 19.5 | 33.3 | 40.9 |
| GMC 10M-6R  | 10        | 3/8   | 7.9  | 18                | 19 | 17.2 | 19.5 | 33.3 | 40.9 |
| GMC 10M-8R  | 10        | 1/2   | 7.9  | 22                | 19 | 17.2 | 19.5 | 38.1 | 45.7 |
| GMC 12M-4R  | 12        | 1/4   | 7.1  | 22                | 22 | 22.8 | 22.0 | 33.3 | 43.4 |
| GMC 12M-6R  | 12        | 3/8   | 9.5  | 22                | 22 | 22.8 | 22.0 | 33.3 | 43.4 |
| GMC 12M-8R  | 12        | 1/2   | 9.5  | 22                | 22 | 22.8 | 22.0 | 38.1 | 48.2 |
| GMC 12M-12R | 12        | 3/4   | 9.5  | 27                | 22 | 22.8 | 22.0 | 38.9 | 49.0 |
| GMC 15M-8R  | 15        | 1/2   | 11.9 | 24                | 25 | 24.4 | 22.0 | 38.9 | 49.0 |
| GMC 16M-4R  | 16        | 1/4   | 7.1  | 24                | 25 | 24.4 | 22.0 | 34.0 | 44.1 |
| GMC 16M-6R  | 16        | 3/8   | 9.5  | 24                | 25 | 24.4 | 22.0 | 34.0 | 44.1 |
| GMC 16M-8R  | 16        | 1/2   | 11.9 | 24                | 25 | 24.4 | 22.0 | 38.9 | 49.0 |
| GMC 16M-12R | 16        | 3/4   | 12.7 | 27                | 25 | 24.4 | 22.0 | 38.9 | 49.0 |
| GMC 18M-8R  | 18        | 1/2   | 11.9 | 27                | 30 | 24.4 | 22.0 | 40.4 | 50.5 |
| GMC 18M-12R | 18        | 3/4   | 15.1 | 27                | 30 | 24.4 | 22.0 | 40.4 | 50.5 |
| GMC 20M-8R  | 20        | 1/2   | 11.9 | 30                | 32 | 26.0 | 22.0 | 42.2 | 52.3 |
| GMC 20M-12R | 20        | 3/4   | 15.9 | 30                | 32 | 26.0 | 22.0 | 42.2 | 52.3 |
| GMC 22M-12R | 22        | 3/4   | 15.9 | 30                | 32 | 26.0 | 22.0 | 42.2 | 52.3 |
| GMC 22M-16R | 22        | 1     | 18.3 | 35                | 32 | 26.0 | 22.0 | 47.8 | 57.9 |
| GMC 25M-12R | 25        | 3/4   | 15.9 | 35                | 38 | 31.3 | 26.5 | 45.2 | 57.5 |
| GMC 25M-16R | 25        | 1     | 21.8 | 35                | 38 | 31.3 | 26.5 | 50.0 | 62.3 |
| GMC 28M-16R | 28        | 1     | 21.8 | 41                | 46 | 36.6 | 36.6 | 51.6 | 72.4 |
| GMC 28M-20R | 28        | 1-1/4 | 21.8 | 46                | 46 | 36.6 | 36.6 | 52.3 | 73.1 |
| GMC 32M-20R | 32        | 1-1/4 | 28.6 | 46                | 50 | 42.0 | 41.6 | 56.6 | 79.6 |
| GMC 38M-24R | 38        | 1-1/2 | 33.7 | 55                | 60 | 49.4 | 47.9 | 64.0 | 91.6 |

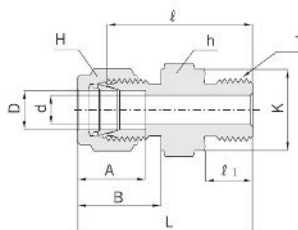
## Male Connector for Bonded Washer Seal Mod. GMC



| Connects Franctional Tube to Female ISO Parallel Thread |           |       |                |      |                   |       |       |       |      |       |      |      |      |      |
|---------------------------------------------------------|-----------|-------|----------------|------|-------------------|-------|-------|-------|------|-------|------|------|------|------|
| Part No.                                                | Tube O.D. |       | T<br>Iso 228/1 | E    | Width across flat |       |       |       | A    | B     | ℓ    | ℓ1   | L    | K    |
|                                                         | D         |       |                |      | h                 |       | H     |       |      |       |      |      |      |      |
|                                                         | in        | mm    |                |      | G(PF)             | Min   | in    | mm    |      |       |      |      |      |      |
| GMC 2-2G                                                | 1/8       | 3.17  | 1/8            | 2.3  | 9/16              | 14.28 | 7/16  | 11.11 | 12.7 | 15.24 | 23.4 | 7.1  | 30.0 | 13.8 |
| GMC 2-4G                                                | 1/8       | 3.17  | 1/4            | 2.3  | 3/4               | 19.05 | 7/16  | 11.11 | 12.7 | 15.24 | 28.7 | 11.2 | 35.3 | 18.0 |
| GMC 2-6G                                                | 1/8       | 3.17  | 3/8            | 2.3  | 7/8               | 22.22 | 7/16  | 11.11 | 12.7 | 15.24 | 29.7 | 11.2 | 36.3 | 21.8 |
| GMC 4-2G                                                | 1/4       | 6.35  | 1/8            | 4.1  | 9/16              | 14.28 | 9/16  | 14.28 | 15.2 | 17.78 | 24.9 | 7.1  | 32.3 | 13.8 |
| GMC 4-4G                                                | 1/4       | 6.35  | 1/4            | 4.8  | 3/4               | 19.05 | 9/16  | 14.28 | 15.2 | 17.78 | 30.2 | 11.2 | 37.6 | 18.0 |
| GMC 4-6G                                                | 1/4       | 6.35  | 3/8            | 4.8  | 7/8               | 22.22 | 9/16  | 14.28 | 15.2 | 17.78 | 31.5 | 11.2 | 38.9 | 21.8 |
| GMC 4-8G                                                | 1/4       | 6.35  | 1/2            | 4.8  | 1-1/16            | 26.98 | 9/16  | 14.28 | 15.2 | 17.78 | 37.3 | 14.2 | 44.7 | 26.0 |
| GMC 6-4G                                                | 3/8       | 9.52  | 1/4            | 5.8  | 3/4               | 19.05 | 11/16 | 17.46 | 16.8 | 17.78 | 31.8 | 11.2 | 39.1 | 18.0 |
| GMC 6-6G                                                | 3/8       | 9.52  | 3/8            | 7.1  | 7/8               | 22.22 | 11/16 | 17.46 | 16.8 | 19.30 | 33.0 | 11.2 | 40.4 | 21.8 |
| GMC 6-8G                                                | 3/8       | 9.52  | 1/2            | 7.1  | 1-1/16            | 26.98 | 11/16 | 17.46 | 16.8 | 19.30 | 38.9 | 14.2 | 46.2 | 26.0 |
| GNC 8-2G                                                | 1/2       | 12.70 | 1/8            | 4.8  | 7/8               | 22.22 | 7/8   | 22.22 | 22.9 | 19.30 | 28.5 | 7.1  | 38.7 | 13.8 |
| GMC 8-4G                                                | 1/2       | 12.70 | 1/4            | 5.8  | 13/16             | 20.63 | 7/8   | 22.22 | 22.9 | 19.30 | 32.5 | 11.2 | 42.7 | 18.0 |
| GMC 8-6G                                                | 1/2       | 12.70 | 3/8            | 7.9  | 7/8               | 22.22 | 7/8   | 22.22 | 22.9 | 21.84 | 33.0 | 11.2 | 43.2 | 21.8 |
| GMC 8-8G                                                | 1/2       | 12.70 | 1/2            | 10.4 | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.9 | 21.84 | 38.9 | 14.2 | 49.0 | 26.0 |
| GMC 12-8G                                               | 3/4       | 19.05 | 1/2            | 11.9 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.4 | 21.84 | 38.9 | 14.2 | 49.0 | 26.0 |
| GMC 12-12G                                              | 3/4       | 19.05 | 3/4            | 15.7 | 1-3/8             | 34.92 | 1-1/8 | 28.57 | 24.4 | 21.84 | 42.7 | 15.7 | 52.8 | 32.0 |
| GMC 16-12G                                              | 1         | 25.40 | 3/4            | 16.0 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.2 | 26.41 | 45.2 | 15.7 | 57.4 | 32.0 |
| GMC 16-16G                                              | 1         | 25.40 | 1              | 19.8 | 1-5/8             | 41.27 | 1-1/2 | 38.10 | 31.2 | 26.41 | 47.8 | 18.3 | 59.9 | 39.0 |

| Connects Metric Tube to Female ISO Parallel Thread |                |                         |          |                   |    |      |      |      |      |      |      |
|----------------------------------------------------|----------------|-------------------------|----------|-------------------|----|------|------|------|------|------|------|
| Part No.                                           | Tube O.D.<br>D | T<br>Iso 228/1<br>G(PF) | E<br>Min | Width across flat |    | A    | B    | ℓ    | ℓ1   | L    | L1   |
|                                                    |                |                         |          | h                 | H  |      |      |      |      |      |      |
| GMC 2M-2G                                          | 2              | 1/8                     | 1.7      | 14                | 12 | 12.9 | 15.3 | 23.4 | 7.1  | 30.0 | 13.8 |
| GMC 3M-2G                                          | 3              | 1/8                     | 2.4      | 14                | 12 | 12.9 | 15.3 | 23.4 | 7.1  | 30.0 | 13.8 |
| GMC 3M-4G                                          | 3              | 1/4                     | 2.4      | 19                | 12 | 12.9 | 15.3 | 28.7 | 11.2 | 35.3 | 18.0 |
| GMC 4M-2G                                          | 4              | 1/8                     | 2.4      | 14                | 12 | 13.7 | 16.1 | 24.1 | 7.1  | 30.7 | 13.8 |
| GMC 6M-2G                                          | 6              | 1/8                     | 4.0      | 14                | 14 | 15.3 | 17.7 | 24.9 | 7.1  | 32.3 | 13.8 |
| GMC 6M-4G                                          | 6              | 1/4                     | 4.8      | 19                | 14 | 15.3 | 17.7 | 30.2 | 11.2 | 37.6 | 18.0 |
| GMC 6M-6G                                          | 6              | 3/8                     | 4.8      | 22                | 14 | 15.3 | 17.7 | 31.5 | 11.2 | 38.9 | 21.8 |
| GMC 6M-8G                                          | 6              | 1/2                     | 4.8      | 27                | 14 | 15.3 | 17.7 | 37.3 | 14.2 | 44.7 | 26.0 |
| GMC 8M-2G                                          | 8              | 1/8                     | 4.0      | 15                | 16 | 16.2 | 18.6 | 25.7 | 7.1  | 33.2 | 13.8 |
| GMC 8M-4G                                          | 8              | 1/4                     | 6.4      | 19                | 16 | 16.2 | 18.6 | 31.0 | 11.2 | 38.5 | 13.8 |
| GMC 8M-6G                                          | 8              | 3/8                     | 6.4      | 22                | 16 | 16.2 | 18.6 | 32.3 | 11.2 | 39.8 | 21.8 |
| GMC 10M-4G                                         | 10             | 1/4                     | 6.4      | 19                | 19 | 17.2 | 19.5 | 31.8 | 11.2 | 39.4 | 18.0 |
| GMC 10M-6G                                         | 10             | 3/8                     | 7.9      | 22                | 19 | 17.2 | 19.5 | 33.0 | 11.2 | 40.6 | 21.8 |
| GMC 10M-8G                                         | 10             | 1/2                     | 7.9      | 27                | 19 | 17.2 | 19.5 | 38.9 | 14.2 | 46.5 | 26.0 |
| GMC 12M-4G                                         | 12             | 1/4                     | 5.9      | 22                | 22 | 22.8 | 22.0 | 32.5 | 11.2 | 42.6 | 18.0 |
| GMC 12M-6G                                         | 12             | 3/8                     | 7.9      | 22                | 22 | 22.8 | 22.0 | 33.0 | 11.2 | 43.1 | 21.8 |
| GMC 12M-8G                                         | 12             | 1/2                     | 9.5      | 27                | 22 | 22.8 | 22.0 | 38.9 | 14.2 | 49.0 | 26.0 |
| GMC 12M-12G                                        | 12             | 3/4                     | 9.5      | 32                | 22 | 22.8 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |
| GMC 16M-6G                                         | 16             | 3/8                     | 7.9      | 24                | 25 | 24.4 | 22.0 | 33.8 | 11.2 | 43.9 | 21.8 |
| GMC 16M-8G                                         | 16             | 1/2                     | 11.9     | 27                | 25 | 24.4 | 22.0 | 38.9 | 14.2 | 49.0 | 26.0 |
| GMC 18M-8G                                         | 18             | 1/2                     | 11.9     | 27                | 30 | 24.4 | 22.0 | 38.9 | 14.2 | 49.0 | 26.0 |
| GMC 18M-12G                                        | 18             | 3/4                     | 15.1     | 35                | 30 | 24.4 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |
| GMC 20M-8G                                         | 20             | 1/2                     | 11.9     | 30                | 32 | 26.0 | 22.0 | 40.4 | 14.2 | 50.5 | 26.0 |
| GMC 20M-12G                                        | 20             | 3/4                     | 15.9     | 35                | 32 | 26.0 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |
| GMC 22M-12G                                        | 22             | 3/4                     | 15.9     | 35                | 32 | 26.0 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |
| GMC 22M-16G                                        | 22             | 1                       | 18.3     | 41                | 32 | 26.0 | 22.0 | 45.2 | 18.3 | 55.3 | 39.0 |
| GMC 25M-12G                                        | 25             | 3/4                     | 15.9     | 35                | 38 | 31.3 | 26.5 | 45.2 | 15.7 | 57.5 | 32.0 |
| GMC 25M-16G                                        | 25             | 1                       | 19.8     | 41                | 38 | 31.3 | 26.5 | 47.8 | 18.3 | 60.1 | 39.0 |
| GMC 28M-16G                                        | 28             | 1                       | 19.8     | 41                | 46 | 36.6 | 36.6 | 49.3 | 18.3 | 70.1 | 39.0 |
| GMC 28M-20G                                        | 28             | 1-1/4                   | 21.8     | 50                | 46 | 36.6 | 36.6 | 53.1 | 19.8 | 73.9 | 49.0 |
| GMC 32M-20G                                        | 32             | 1-1/4                   | 25.0     | 50                | 50 | 42.0 | 41.6 | 55.9 | 19.8 | 78.9 | 49.0 |
| GMC 38M-24G                                        | 38             | 1-1/2                   | 31.8     | 55                | 60 | 49.4 | 47.9 | 63.2 | 22.1 | 90.8 | 54.7 |

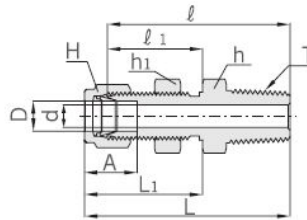
## Male Connector for Metal Gasket Seal Mod. GMO



| Connects Fractional Tube to Female ISO Parallel Thread |           |       |       |       |                   |       |       |       |       |       |       |       |       |       |
|--------------------------------------------------------|-----------|-------|-------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                                               | Tube O.D. |       | T     | E     | Width across flat |       |       |       | A     | B     | ℓ     | ℓ1    | L     | K     |
|                                                        | D         |       |       |       | h                 |       | H     |       |       |       |       |       |       |       |
|                                                        | in        | mm    |       |       | G(PT)             | Min   | in    | mm    |       |       |       |       |       |       |
| GMO 2-2G                                               | 1/8       | 3.17  | 1/8   | 2.28  | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.24 | 23.37 | 7.11  | 29.97 | 13.72 |
| GMO 2-4G                                               | 1/8       | 3.17  | 1/4   | 2.28  | 3/4               | 19.05 | 7/16  | 11.11 | 12.70 | 15.24 | 28.70 | 11.18 | 35.31 | 18.03 |
| GMO 2-6G                                               | 1/8       | 3.17  | 3/8   | 2.28  | 7/8               | 22.22 | 7/16  | 11.11 | 12.70 | 15.24 | 29.72 | 11.18 | 36.21 | 21.84 |
| GMO 4-2G                                               | 1/4       | 6.35  | 1/8   | 2.28  | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 24.89 | 7.11  | 32.26 | 13.72 |
| GMO 4-4G                                               | 1/4       | 6.35  | 1/4   | 4.82  | 3/4               | 19.05 | 9/16  | 14.28 | 15.24 | 17.78 | 30.23 | 11.18 | 37.59 | 18.03 |
| GMO 4-6G                                               | 1/4       | 6.35  | 3/8   | 4.82  | 7/8               | 22.22 | 9/16  | 14.28 | 15.24 | 17.78 | 31.50 | 11.18 | 38.86 | 21.84 |
| GMO 4-8G                                               | 1/4       | 6.35  | 1/2   | 4.82  | 1-1/16            | 26.98 | 9/16  | 14.28 | 15.24 | 17.78 | 37.34 | 14.22 | 44.70 | 25.91 |
| GMO 6-4G                                               | 3/8       | 9.53  | 1/4   | 4.82  | 3/4               | 19.05 | 11/16 | 17.46 | 16.76 | 19.30 | 31.75 | 11.18 | 39.12 | 18.03 |
| GMO 6-6G                                               | 3/8       | 9.53  | 3/8   | 7.11  | 7/8               | 22.22 | 11/16 | 17.46 | 16.76 | 19.30 | 33.02 | 11.18 | 40.39 | 21.84 |
| GMO 6-8G                                               | 3/8       | 9.53  | 1/2   | 7.11  | 1-1/16            | 26.98 | 11/16 | 17.46 | 16.76 | 19.30 | 38.86 | 14.22 | 46.23 | 25.91 |
| GMO 8-4G                                               | 1/2       | 12.70 | 1/4   | 7.11  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 32.51 | 11.18 | 42.67 | 18.03 |
| GMO 8-6G                                               | 1/2       | 12.70 | 3/8   | 9.65  | 7/8               | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 33.02 | 11.18 | 43.18 | 21.84 |
| GMO 8-8G                                               | 1/2       | 12.70 | 1/2   | 10.41 | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.86 | 21.84 | 38.86 | 14.22 | 49.02 | 25.91 |
| GMO 12-8G                                              | 3/4       | 19.05 | 1/2   | 11.93 | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 38.86 | 14.22 | 49.02 | 25.91 |
| GMO 12-12G                                             | 3/4       | 19.05 | 3/4   | 15.74 | 1-5/16            | 33.33 | 1-1/8 | 28.58 | 24.38 | 21.84 | 42.67 | 15.75 | 52.83 | 32.00 |
| GMO 16-8G                                              | 1         | 25.40 | 1/2   | 11.93 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 43.69 | 14.22 | 55.88 | 25.91 |
| GMO 16-16G                                             | 1         | 25.40 | 1     | 22.35 | 1-5/8             | 41.27 | 1-1/2 | 38.10 | 31.24 | 26.41 | 47.75 | 18.29 | 59.94 | 39.12 |
| GMO 20-20G                                             | 1-1/4     | 31.75 | 1-1/4 | 27.68 | 2                 | 50.80 | 1-7/8 | 47.63 | 41.14 | 38.86 | 51.16 | 20.00 | 73.26 | 49.00 |
| GMO 24-24G                                             | 1-1/2     | 38.10 | 1-1/2 | 34.03 | 2-1/4             | 57.15 | 2-1/4 | 57.15 | 50.03 | 45.21 | 57.57 | 20.00 | 84.75 | 55.00 |

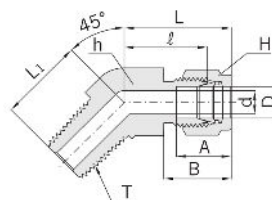
| Connects Metric Tube to Female ISO Parallel Thread |                |            |          |                   |    |      |      |      |      |      |      |  |  |
|----------------------------------------------------|----------------|------------|----------|-------------------|----|------|------|------|------|------|------|--|--|
| Part No.                                           | Tube O.D.<br>D | T<br>G(PT) | E<br>Min | Width across flat |    | A    | B    | e    | e1   | L    | K    |  |  |
|                                                    |                |            |          | h                 | H  |      |      |      |      |      |      |  |  |
| GMO 3M-2G                                          | 3              | 1/8        | 2.4      | 14                | 12 | 12.9 | 15.3 | 23.4 | 7.1  | 30.0 | 13.8 |  |  |
| GMO 3M-4G                                          | 3              | 1/4        | 2.4      | 19                | 12 | 12.9 | 15.3 | 28.7 | 11.2 | 35.3 | 18.0 |  |  |
| GMO 4M-2G                                          | 4              | 1/8        | 2.4      | 14                | 12 | 13.7 | 16.1 | 24.1 | 7.1  | 30.7 | 13.8 |  |  |
| GMO 6M-2G                                          | 6              | 1/8        | 4.0      | 14                | 14 | 15.3 | 17.7 | 24.9 | 7.1  | 32.3 | 13.8 |  |  |
| GMO 6M-4G                                          | 6              | 1/4        | 4.8      | 19                | 14 | 15.3 | 17.7 | 30.2 | 11.2 | 37.6 | 18.0 |  |  |
| GMO 6M-6G                                          | 6              | 3/8        | 4.8      | 22                | 14 | 15.3 | 17.7 | 31.5 | 11.2 | 38.9 | 21.8 |  |  |
| GMO 6M-8G                                          | 6              | 1/2        | 4.8      | 27                | 14 | 15.3 | 17.7 | 37.3 | 14.2 | 44.7 | 26.0 |  |  |
| GMO 8M-2G                                          | 8              | 1/8        | 4.0      | 15                | 16 | 16.2 | 18.6 | 25.7 | 7.1  | 33.2 | 13.8 |  |  |
| GMO 8M-4G                                          | 8              | 1/4        | 6.4      | 19                | 16 | 16.2 | 18.6 | 31.0 | 11.2 | 38.5 | 13.8 |  |  |
| GMO 8M-6G                                          | 8              | 3/8        | 6.4      | 22                | 16 | 16.2 | 18.6 | 32.3 | 11.2 | 39.8 | 21.8 |  |  |
| GMO 8M-8G                                          | 8              | 1/2        | 6.4      | 27                | 16 | 16.2 | 18.6 | 38.1 | 14.2 | 45.6 | 26.0 |  |  |
| GMO 10M-4G                                         | 10             | 1/4        | 5.9      | 19                | 19 | 17.2 | 19.5 | 31.8 | 11.2 | 39.4 | 18.0 |  |  |
| GMO 10M-6G                                         | 10             | 3/8        | 7.9      | 22                | 19 | 17.2 | 19.5 | 33.0 | 11.2 | 40.6 | 21.8 |  |  |
| GMO 10M-8G                                         | 10             | 1/2        | 7.9      | 27                | 19 | 17.2 | 19.5 | 38.9 | 14.2 | 46.5 | 26.0 |  |  |
| GMO 12M-4G                                         | 12             | 1/4        | 5.9      | 22                | 22 | 22.8 | 22.0 | 32.5 | 11.2 | 42.6 | 18.0 |  |  |
| GMO 12M-6G                                         | 12             | 3/8        | 7.9      | 22                | 22 | 22.8 | 22.0 | 33.0 | 11.2 | 43.1 | 21.8 |  |  |
| GMO 12M-8G                                         | 12             | 1/2        | 9.5      | 27                | 22 | 22.8 | 22.0 | 38.9 | 14.2 | 49.0 | 26.0 |  |  |
| GMO 12M-12G                                        | 12             | 3/4        | 9.5      | 32                | 22 | 22.8 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |  |  |
| GMO 15M-8G                                         | 15             | 1/2        | 11.9     | 27                | 25 | 24.4 | 22.0 | 33.9 | 14.2 | 49.0 | 26.0 |  |  |
| GMO 16M-6G                                         | 16             | 3/8        | 7.9      | 24                | 25 | 24.4 | 22.0 | 33.8 | 11.2 | 43.9 | 21.8 |  |  |
| GMO 16M-8G                                         | 16             | 1/2        | 11.9     | 27                | 25 | 24.4 | 22.0 | 38.9 | 14.2 | 49.0 | 26.0 |  |  |
| GMO 18M-8G                                         | 18             | 1/2        | 11.9     | 27                | 30 | 24.4 | 22.0 | 38.9 | 14.2 | 49.0 | 26.0 |  |  |
| GMO 18M-12G                                        | 18             | 3/4        | 15.1     | 35                | 30 | 24.4 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |  |  |
| GMO 20M-8G                                         | 20             | 1/2        | 11.9     | 30                | 32 | 26.0 | 22.0 | 40.4 | 14.2 | 50.5 | 26.0 |  |  |
| GMO 20M-12G                                        | 20             | 3/4        | 15.9     | 35                | 32 | 26.0 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |  |  |
| GMO 20M-12G                                        | 22             | 3/4        | 15.9     | 35                | 32 | 26.0 | 22.0 | 42.7 | 15.7 | 52.8 | 32.0 |  |  |
| GMO 22M-16G                                        | 22             | 1          | 18.3     | 41                | 32 | 26.0 | 22.0 | 45.2 | 18.3 | 55.3 | 39.0 |  |  |
| GMO 25M-12G                                        | 25             | 3/4        | 15.9     | 35                | 38 | 31.3 | 26.5 | 45.2 | 15.7 | 57.5 | 32.0 |  |  |
| GMO 25M-16G                                        | 25             | 1          | 19.8     | 41                | 38 | 31.3 | 26.5 | 47.8 | 18.3 | 60.1 | 39.0 |  |  |
| GMO 28M-16G                                        | 28             | 1          | 19.8     | 41                | 46 | 36.6 | 36.6 | 49.3 | 18.3 | 70.1 | 39.0 |  |  |
| GMO 28M-20G                                        | 28             | 1-1/4      | 21.8     | 50                | 46 | 36.6 | 36.6 | 53.1 | 19.8 | 73.9 | 49.0 |  |  |
| GMO 32M-20G                                        | 32             | 1-1/4      | 28.6     | 50                | 50 | 42.0 | 41.6 | 55.9 | 19.8 | 78.9 | 49.0 |  |  |
| GMO 38M-24G                                        | 38             | 1-1/2      | 31.8     | 55                | 60 | 49.4 | 47.9 | 61.7 | 20.6 | 89.3 | 54.7 |  |  |

## Bulkhead Male Connector Mod. GBMC



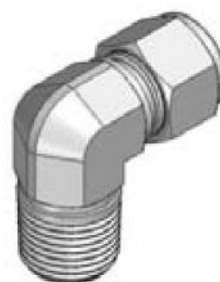
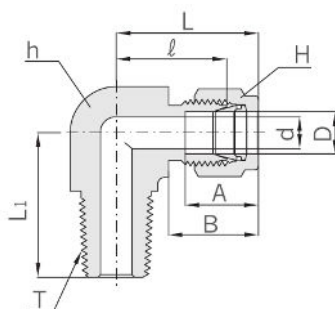
| Connects Fractional Tubeto Female NPT Thread |           |       |         |       |                   |       |        |       |       |       |       |       |       |       |       |                       |                |
|----------------------------------------------|-----------|-------|---------|-------|-------------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|----------------|
| Part No.                                     | Tube O.D. |       | T (NPT) | d Min | Width across flat |       |        |       |       |       | A     | ℓ     | ℓ1    | L     | L1    | Panel Hole Drill Size | Panel Max Thk. |
|                                              | D         |       |         |       | h                 |       | h1     |       | H     |       |       |       |       |       |       |                       |                |
|                                              | in        | mm    |         |       | in                | mm    | in     | mm    | in    | Mm    |       |       |       |       |       |                       |                |
| GBMC 2-2N                                    | 1/8       | 3.17  | 1/8     | 2.28  | 1/2               | 12.70 | 1/2    | 12.70 | 7/16  | 11.11 | 12.70 | 39.87 | 24.63 | 46.48 | 31.24 | 8.33                  | 12.70          |
| GBMC 4-2N                                    | 1/4       | 6.35  | 1/8     | 4.82  | 5/8               | 15.87 | 5/8    | 15.87 | 9/16  | 14.28 | 15.24 | 42.16 | 26.16 | 49.53 | 33.52 | 11.50                 | 10.16          |
| GBMC 4-4N                                    | 1/4       | 6.35  | 1/4     | 4.82  | 5/8               | 15.87 | 5/8    | 15.87 | 9/16  | 14.28 | 15.24 | 45.97 | 26.16 | 53.34 | 33.52 | 11.50                 | 10.16          |
| GBMC 6-4N                                    | 3/8       | 9.52  | 1/4     | 7.11  | 3/4               | 19.05 | 3/4    | 19.05 | 11/16 | 17.46 | 16.76 | 50.03 | 29.46 | 57.40 | 36.83 | 14.68                 | 11.17          |
| GBMC 6-6N                                    | 3/8       | 9.52  | 3/8     | 7.11  | 3/4               | 19.05 | 3/4    | 19.05 | 11/16 | 17.46 | 16.76 | 50.03 | 29.46 | 57.40 | 36.83 | 14.68                 | 11.17          |
| GBMC 6-8N                                    | 3/8       | 9.52  | 1/2     | 7.11  | 7/8               | 22.22 | 3/4    | 19.05 | 11/16 | 17.46 | 16.76 | 56.38 | 29.46 | 63.75 | 36.83 | 14.68                 | 11.17          |
| GBMC 8-6N                                    | 1/2       | 12.70 | 3/8     | 9.39  | 15/16             | 23.81 | 15/16  | 23.81 | 7/8   | 22.22 | 22.86 | 53.08 | 31.75 | 63.24 | 41.91 | 19.44                 | 12.70          |
| GBMC 8-8N                                    | 1/2       | 12.70 | 1/2     | 10.41 | 15/16             | 23.81 | 15/16  | 23.81 | 7/8   | 22.22 | 22.86 | 58.67 | 31.75 | 68.83 | 41.91 | 19.44                 | 12.70          |
| GBMC 12-12N                                  | 3/4       | 19.05 | 3/4     | 15.74 | 1-3/16            | 30.16 | 1-3/16 | 30.16 | 1-1/8 | 28.58 | 24.38 | 66.04 | 37.33 | 76.20 | 47.49 | 25.76                 | 16.76          |
| GBMC 16-16N                                  | 1         | 25.40 | 1       | 22.35 | 1-5/8             | 41.28 | 1-5/8  | 41.28 | 1-1/2 | 38.10 | 31.24 | 81.02 | 45.21 | 93.21 | 57.40 | 33.73                 | 19.05          |

## 45° Male Elbow Mod. GMBL



| Connects Fractional Tubeto Female NPT Thread |           |       |         |       |                   |       |       |       |       |       |       |       |       |
|----------------------------------------------|-----------|-------|---------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                                     | Tube O.D. |       | T (NPT) | d Min | Width across flat |       |       |       | A     | B     | ℓ     | L     | L1    |
|                                              | D         |       |         |       | h                 |       | H     |       |       |       |       |       |       |
|                                              | in        | mm    |         |       | in                | mm    | in    | mm    |       |       |       |       |       |
| GMBL 4-2N                                    | 1/4       | 6.35  | 1/8     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 17.27 | 24.63 | 16.51 |
| GMBL 4-4N                                    | 1/4       | 6.35  | 1/4     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 17.27 | 24.63 | 21.08 |
| GMBL 6-2N                                    | 3/8       | 9.52  | 1/8     | 4.82  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 20.57 | 27.94 | 18.28 |
| GMBL 6-4N                                    | 3/8       | 9.52  | 1/4     | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 20.57 | 27.94 | 22.86 |
| GMBL 6-6N                                    | 3/8       | 9.52  | 3/8     | 7.11  | 13/16             | 20.64 | 11/16 | 17.46 | 16.76 | 19.30 | 21.84 | 29.21 | 24.13 |
| GMBL 8-6N                                    | 1/2       | 12.70 | 3/8     | 9.65  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 21.84 | 32.00 | 24.13 |
| GMBL 8-8N                                    | 1/2       | 12.70 | 1/2     | 10.41 | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 21.84 | 32.00 | 28.95 |
| GMBL 12-12N                                  | 3/4       | 19.05 | 3/4     | 15.74 | 1-1/8             | 28.58 | 1-1/8 | 28.58 | 24.38 | 21.84 | 23.87 | 34.03 | 30.98 |
| GMBL 16-16N                                  | 1         | 25.40 | 1       | 22.35 | 1-3/8             | 34.93 | 1-1/2 | 38.10 | 31.24 | 26.41 | 28.19 | 40.38 | 37.84 |

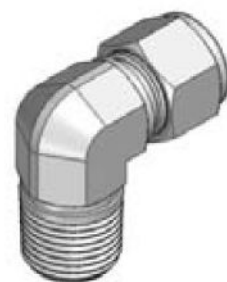
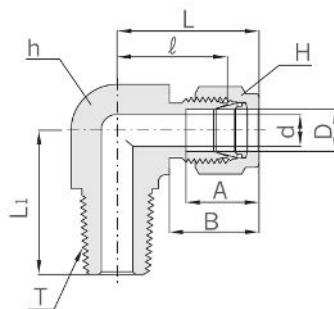
## Male Elbow Mod. GML



Connects Fractional Tube to Male NPT Thread

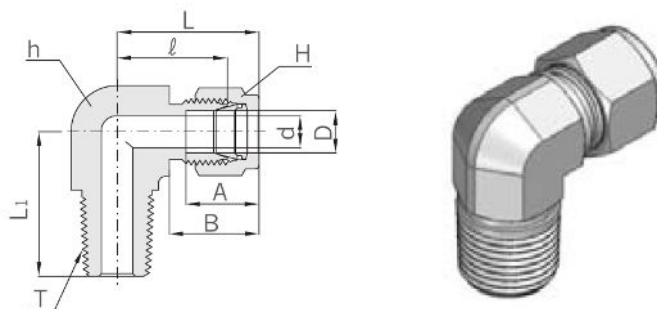
| Part No.   | Tube O.D. |       | T (NPT) | d Min | Width across flat |       |       |       | A     | B     | ℓ     | L      | L1    |
|------------|-----------|-------|---------|-------|-------------------|-------|-------|-------|-------|-------|-------|--------|-------|
|            | D         |       |         |       | h                 |       | H     |       |       |       |       |        |       |
|            | in        | mm    |         |       | in                | mm    | in    | mm    |       |       |       |        |       |
| GML 1-1N   | 1/16      | 1.58  | 1/16    | 1.27  | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 15.24 | 19.05  | 17.78 |
| GML 1-2N   | 1/16      | 1.58  | 1/8     | 1.27  | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 15.24 | 19.05  | 17.78 |
| GML 2-2N   | 1/8       | 3.17  | 1/8     | 2.28  | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 18.30 | 24.91  | 18.90 |
| GML 2-4N   | 1/8       | 3.17  | 1/4     | 2.28  | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 18.30 | 24.91  | 23.36 |
| GML 3-2N   | 3/16      | 4.76  | 1/8     | 3.04  | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 18.79 | 25.40  | 18.79 |
| GML 3-4N   | 3/16      | 4.76  | 1/4     | 3.04  | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 18.79 | 25.40  | 23.36 |
| GML 4-1N   | 1/4       | 6.35  | 1/16    | 3.04  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.90  | 18.79 |
| GML 4-2N   | 1/4       | 6.35  | 1/8     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.10 | 26.47  | 19.10 |
| GML 4-4N   | 1/4       | 6.35  | 1/4     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.81 | 27.18  | 23.87 |
| GML 4-6N   | 1/4       | 6.35  | 3/8     | 4.82  | 11/16             | 17.46 | 9/16  | 14.28 | 15.24 | 17.78 | 22.35 | 29.71  | 26.20 |
| GML 4-8N   | 1/4       | 6.35  | 1/2     | 4.82  | 13/16             | 20.64 | 9/16  | 14.28 | 15.24 | 17.78 | 24.60 | 31.97  | 33.02 |
| GML 5-2N   | 5/16      | 7.93  | 1/8     | 4.82  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 21.33 | 28.70  | 19.81 |
| GML 5-4N   | 5/16      | 7.93  | 1/4     | 6.35  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 21.33 | 29.77  | 24.50 |
| GML 5-6N   | 5/16      | 7.93  | 3/8     | 6.35  | 11/16             | 17.46 | 5/8   | 15.87 | 16.25 | 18.54 | 23.11 | 30.48  | 26.20 |
| GML 6-2N   | 3/8       | 9.52  | 1/8     | 4.82  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 30.48  | 20.60 |
| GML 6-4N   | 3/8       | 9.52  | 1/4     | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 30.48  | 25.40 |
| GML 6-6N   | 3/8       | 9.52  | 3/8     | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 23.87 | 31.24  | 26.20 |
| GML 6-8N   | 3/8       | 9.52  | 1/2     | 7.11  | 13/16             | 20.64 | 11/16 | 17.46 | 16.76 | 19.30 | 25.90 | 31.42  | 33.02 |
| GML 6-12N  | 3/8       | 9.52  | 3/4     | 7.11  | 1-1/16            | 26.98 | 11/16 | 17.46 | 16.76 | 19.30 | 29.71 | 37.08  | 36.83 |
| GML 8-4N   | 1/2       | 12.70 | 1/4     | 7.11  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06  | 28.30 |
| GML 8-6N   | 1/2       | 12.70 | 3/8     | 9.65  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06  | 28.30 |
| GML 8-8N   | 1/2       | 12.70 | 1/2     | 10.41 | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06  | 33.02 |
| GML 8-12N  | 1/2       | 12.70 | 3/4     | 10.41 | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.86 | 21.84 | 29.71 | 39.87  | 36.83 |
| GML 10-6N  | 5/8       | 15.87 | 3/8     | 9.65  | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 28.00 | 37.06  | 30.22 |
| GML 10-8N  | 5/8       | 15.87 | 1/2     | 11.93 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 28.00 | 37.06  | 35.10 |
| GML 10-12N | 5/8       | 15.87 | 3/4     | 12.70 | 1-1/16            | 26.98 | 1     | 25.40 | 24.38 | 21.84 | 29.71 | 39.87  | 36.83 |
| GML 12-8N  | 3/4       | 19.05 | 1/2     | 11.93 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 29.71 | 39.87  | 37.00 |
| GML 12-12N | 3/4       | 19.05 | 3/4     | 15.74 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 29.71 | 39.87  | 36.83 |
| GML 14-12N | 7/8       | 22.22 | 3/4     | 15.74 | 1-1/4             | 31.75 | 1-1/4 | 31.75 | 25.90 | 21.84 | 34.54 | 44.70  | 41.65 |
| GML 16-12N | 1         | 25.40 | 3/4     | 15.74 | 1-27-64           | 36.00 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02  | 42.20 |
| GML 16-16N | 1         | 25.40 | 1       | 22.35 | 1-27-64           | 36.00 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02  | 46.70 |
| GML 20-20N | 1-1/4     | 31.75 | 1-1/4   | 27.68 | 1-11/16           | 42.86 | 1-7/8 | 47.63 | 41.14 | 38.86 | 44.50 | 66.54  | 47.75 |
| GML 24-24N | 1-1/2     | 38.10 | 1-1/2   | 34.03 | 2                 | 50.80 | 2-1/4 | 57.15 | 50.03 | 45.21 | 50.80 | 77.97  | 60.45 |
| GML 32-32N | 2         | 50.80 | 2       | 45.97 | 2-3/4             | 69.85 | 3     | 76.20 | 62.73 | 63.73 | 69.80 | 107.18 | 70.61 |

## Male Elbow Mod. GML



| Connects Metric Tube to Male NPT Thread |           |         |       |                   |      |      |      |      |      |      |
|-----------------------------------------|-----------|---------|-------|-------------------|------|------|------|------|------|------|
| Part No.                                | Tube O.D. | T (NPT) | d Min | Width across flat |      | A    | B    | ℓ    | L    | L1   |
|                                         | D mm      |         |       | h mm              | H mm |      |      |      |      |      |
| GML 3M-2N                               | 3         | 1/8     | 2.4   | 12.7              | 12   | 12.9 | 15.3 | 17.0 | 23.6 | 17.8 |
| GML 3M-4N                               | 3         | 1/4     | 2.4   | 12.7              | 12   | 12.9 | 15.3 | 18.0 | 24.6 | 23.4 |
| GML 4M-2N                               | 4         | 1/8     | 2.4   | 12.7              | 12   | 13.7 | 16.1 | 18.8 | 25.4 | 18.8 |
| GML 4M-4N                               | 4         | 1/4     | 2.4   | 12.7              | 12   | 13.7 | 16.1 | 18.8 | 25.4 | 23.4 |
| GML 6M-2N                               | 6         | 1/8     | 4.8   | 12.7              | 14   | 15.3 | 17.7 | 19.6 | 27.0 | 18.8 |
| GML 6M-4N                               | 6         | 1/4     | 4.8   | 12.7              | 14   | 15.3 | 17.7 | 19.6 | 27.0 | 23.4 |
| GML 6M-6N                               | 6         | 3/8     | 4.8   | 17.5              | 14   | 15.3 | 17.7 | 22.4 | 29.8 | 26.2 |
| GML 6M-8N                               | 6         | 1/2     | 4.8   | 20.6              | 14   | 15.3 | 17.7 | 24.4 | 31.8 | 33.0 |
| GML 8M-2N                               | 8         | 1/8     | 4.8   | 14.3              | 16   | 16.2 | 18.6 | 21.3 | 28.8 | 19.8 |
| GML 8M-4N                               | 8         | 1/4     | 6.4   | 14.3              | 16   | 16.2 | 18.6 | 21.3 | 28.8 | 24.4 |
| GML 8M-6N                               | 8         | 3/8     | 6.4   | 17.5              | 16   | 16.2 | 18.6 | 23.1 | 30.6 | 26.2 |
| GML 8M-8N                               | 8         | 1/2     | 6.4   | 20.6              | 16   | 16.2 | 18.6 | 25.1 | 32.6 | 33.0 |
| GML 10M-2N                              | 10        | 1/8     | 4.8   | 17.5              | 19   | 17.2 | 19.5 | 23.9 | 31.5 | 23.6 |
| GML 10M-4N                              | 10        | 1/4     | 7.1   | 17.5              | 19   | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GML 10M-6N                              | 10        | 3/8     | 7.9   | 17.5              | 19   | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GML 10M-8N                              | 10        | 1/2     | 7.9   | 20.6              | 19   | 17.2 | 19.5 | 25.9 | 33.5 | 33.0 |
| GML 12M-2N                              | 12        | 1/8     | 4.8   | 20.6              | 22   | 22.8 | 22.0 | 25.9 | 36.0 | 23.6 |
| GML 12M-4N                              | 12        | 1/4     | 7.1   | 20.6              | 22   | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GML 12M-6N                              | 12        | 3/8     | 9.5   | 20.6              | 22   | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GML 12M-8N                              | 12        | 1/2     | 9.5   | 20.6              | 22   | 22.8 | 22.0 | 25.9 | 36.0 | 33.0 |
| GML 12M-12N                             | 12        | 3/4     | 9.5   | 27.0              | 22   | 22.8 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 16M-6N                              | 16        | 3/8     | 9.5   | 25.4              | 25   | 24.4 | 22.0 | 27.9 | 38.0 | 30.2 |
| GML 16M-8N                              | 16        | 1/2     | 11.9  | 25.4              | 25   | 24.4 | 22.0 | 27.9 | 38.0 | 35.1 |
| GML 16M-12N                             | 16        | 3/4     | 12.7  | 27.0              | 25   | 24.4 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 18M-8N                              | 18        | 1/2     | 11.9  | 27.0              | 30   | 24.4 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 18M-12N                             | 18        | 3/4     | 15.1  | 27.0              | 30   | 24.4 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 20M-8N                              | 20        | 1/2     | 11.9  | 31.8              | 32   | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |
| GML 20M-12N                             | 20        | 3/4     | 15.9  | 31.8              | 32   | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |
| GML 22M-12N                             | 22        | 3/4     | 15.9  | 31.8              | 32   | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |
| GML 22M-16N                             | 22        | 1       | 18.3  | 36.0              | 32   | 26.0 | 22.0 | 34.5 | 44.6 | 46.5 |
| GML 25M-12N                             | 25        | 3/4     | 15.9  | 36.0              | 38   | 31.3 | 26.5 | 36.8 | 49.1 | 41.7 |
| GML 25M-16N                             | 25        | 1       | 21.8  | 36.0              | 38   | 31.3 | 26.5 | 36.8 | 49.1 | 46.5 |

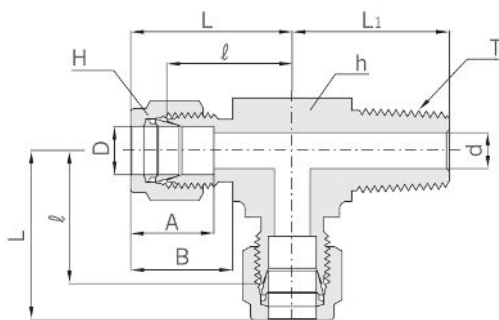
### Male Elbow Mod. GML



Connects Metric Tube to Female ISO Tapered Thread

| Part No.    | Tube O.D.<br>D | T<br>R(PT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L1   |
|-------------|----------------|------------|----------|-------------------|----|------|------|------|------|------|
|             |                |            |          | h                 | H  |      |      |      |      |      |
| GML 3M-2R   | 3              | 1/8        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 17.0 | 23.6 | 17.8 |
| GML 3M-4R   | 3              | 1/4        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 18.0 | 24.6 | 23.4 |
| GML 4M-2R   | 4              | 1/8        | 2.4      | 12.7              | 12 | 13.7 | 16.1 | 18.8 | 25.4 | 18.8 |
| GML 4M-4R   | 4              | 1/4        | 2.4      | 12.7              | 12 | 13.7 | 16.1 | 18.8 | 25.4 | 23.4 |
| GML 6M-2R   | 6              | 1/8        | 4.8      | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 18.8 |
| GML 6M-4R   | 6              | 1/4        | 4.8      | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 23.4 |
| GML 6M-6R   | 6              | 3/8        | 4.8      | 17.5              | 14 | 15.3 | 17.7 | 22.4 | 29.8 | 26.2 |
| GML 6M-8R   | 6              | 1/2        | 4.8      | 20.6              | 14 | 15.3 | 17.7 | 24.4 | 31.8 | 33.0 |
| GML 8M-2R   | 8              | 1/8        | 4.8      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 19.8 |
| GML 8M-4R   | 8              | 1/4        | 6.4      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 24.4 |
| GML 8M-6R   | 8              | 3/8        | 6.4      | 17.5              | 16 | 16.2 | 18.6 | 23.1 | 30.6 | 26.2 |
| GML 8M-8R   | 8              | 1/2        | 6.4      | 20.6              | 16 | 16.2 | 18.6 | 25.1 | 32.6 | 33.0 |
| GML 10M-2R  | 10             | 1/8        | 4.8      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 23.6 |
| GML 10M-4R  | 10             | 1/4        | 7.1      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GML 10M-6R  | 10             | 3/8        | 7.9      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GML 10M-8R  | 10             | 1/2        | 7.9      | 20.6              | 19 | 17.2 | 19.5 | 25.9 | 33.5 | 33.0 |
| GML 12M-2R  | 12             | 1/8        | 4.8      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 23.6 |
| GML 12M-4R  | 12             | 1/4        | 7.1      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GML 12M-6R  | 12             | 3/8        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GML 12M-8R  | 12             | 1/2        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 33.0 |
| GML 12M-12R | 12             | 3/4        | 9.5      | 27.0              | 22 | 22.8 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 16M-6R  | 16             | 3/8        | 9.5      | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 30.2 |
| GML 16M-8R  | 16             | 1/2        | 11.9     | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 35.1 |
| GML 16M-12R | 16             | 3/4        | 12.7     | 27.0              | 25 | 24.4 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 18M-8R  | 18             | 1/2        | 11.9     | 27.0              | 30 | 24.4 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 18M-12R | 18             | 3/4        | 15.1     | 27.0              | 30 | 24.4 | 22.0 | 29.7 | 39.8 | 36.8 |
| GML 20M-8R  | 20             | 1/2        | 11.9     | 31.8              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |
| GML 20M-12R | 20             | 3/4        | 15.9     | 31.8              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |
| GML 22M-12R | 22             | 3/4        | 15.9     | 31.8              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |
| GML 22M-16R | 22             | 1          | 18.3     | 36.0              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 46.5 |
| GML 25M-12R | 25             | 3/4        | 15.9     | 36.0              | 38 | 31.3 | 26.5 | 36.8 | 49.1 | 41.7 |
| GML 25M-16R | 25             | 1          | 21.8     | 36.0              | 38 | 31.3 | 26.5 | 36.8 | 49.1 | 46.5 |

## Male Run Tee Mod. GMRT

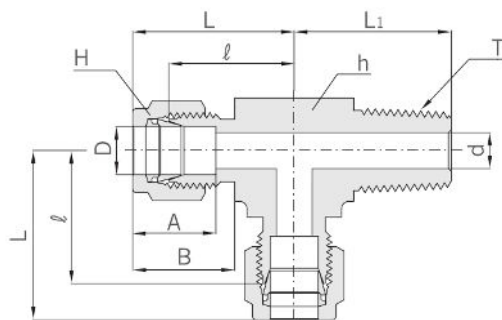


| Connects Fractional Tube to Female NPT Thread |           |       |         |       |                   |       |       |       |       |       |       |       |       |
|-----------------------------------------------|-----------|-------|---------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                                      | Tube O.D. |       | T (NPT) | d Min | Width across flat |       |       |       | A     | B     | ℓ     | L     | L1    |
|                                               | D         |       |         |       | h                 |       | H     |       |       |       |       |       |       |
|                                               | in        | mm    |         |       | in                | mm    | in    | mm    |       |       |       |       |       |
| GMRT 2-2N                                     | 1/8       | 3.17  | 1/8     | 2.28  | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 18.30 | 24.91 | 18.90 |
| GMRT 2-4N                                     | 1/8       | 3.17  | 1/4     | 2.28  | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 18.30 | 24.91 | 23.36 |
| GMRT 3-2N                                     | 3/16      | 4.76  | 1/8     | 3.04  | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 18.79 | 24.38 | 18.79 |
| GMRT 4-2N                                     | 1/4       | 6.35  | 1/8     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92 | 18.79 |
| GMRT 4-4N                                     | 1/4       | 6.35  | 1/4     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 27.08 | 23.87 |
| GMRT 5-2N                                     | 5/16      | 7.93  | 1/8     | 4.82  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 22.35 | 29.71 | 19.81 |
| GMRT 6-4N                                     | 3/8       | 9.52  | 1/4     | 7.11  | 5/8               | 15.87 | 1/16  | 17.46 | 16.76 | 19.30 | 23.11 | 30.48 | 25.40 |
| GMRT 6-6N                                     | 3/8       | 9.52  | 3/8     | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 23.87 | 31.24 | 28.44 |
| GMRT 8-6N                                     | 1/2       | 12.70 | 3/8     | 9.65  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 28.30 |
| GMRT 8-8N                                     | 1/2       | 12.70 | 1/2     | 10.41 | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 33.02 |
| GMRT 10-8N                                    | 5/8       | 15.87 | 1/2     | 11.93 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 27.90 | 38.10 | 34.00 |
| GMRT 12-12N                                   | 3/4       | 19.05 | 3/4     | 15.74 | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 29.71 | 39.81 | 36.83 |

Note: ISO Tapered threads are available upon request

| Connects Metric Tube to Female NPT Thread |                |            |          |                   |    |      |      |      |      |      |  |
|-------------------------------------------|----------------|------------|----------|-------------------|----|------|------|------|------|------|--|
| Part No.                                  | Tube O.D.<br>D | T<br>(NPT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L1   |  |
|                                           |                |            |          | h                 | H  |      |      |      |      |      |  |
| GMRT 3M-2N                                | 3              | 1/8        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 17.0 | 23.6 | 17.8 |  |
| GMRT 3M-4N                                | 3              | 1/4        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 18.0 | 24.6 | 23.4 |  |
| GMRT 4M-2N                                | 4              | 1/8        | 2.4      | 12.7              | 12 | 13.7 | 16.1 | 18.8 | 25.4 | 18.8 |  |
| GMRT 6M-2N                                | 6              | 1/8        | 4.8      | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 18.8 |  |
| GMRT 6M-4N                                | 6              | 1/4        | 4.8      | 14.2              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 23.4 |  |
| GMRT 8M-2N                                | 8              | 1/8        | 4.8      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 19.8 |  |
| GMRT 8M-4N                                | 8              | 1/4        | 6.4      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 24.4 |  |
| GMRT 10M-4N                               | 10             | 1/4        | 7.1      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |  |
| GMRT 10M-6N                               | 10             | 3/8        | 7.9      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |  |
| GMRT 12M-4N                               | 12             | 1/4        | 7.1      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |  |
| GMRT 12M-6N                               | 12             | 3/8        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |  |
| GMRT 12M-8N                               | 12             | 1/2        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 33.0 |  |
| GMRT 16M-6N                               | 16             | 3/8        | 9.5      | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 30.2 |  |
| GMRT 16M-8N                               | 16             | 1/2        | 11.9     | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 35.1 |  |
| GMRT 20M-12N                              | 20             | 3/4        | 15.9     | 31.8              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |  |

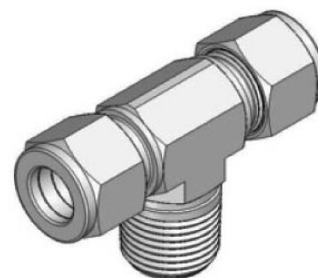
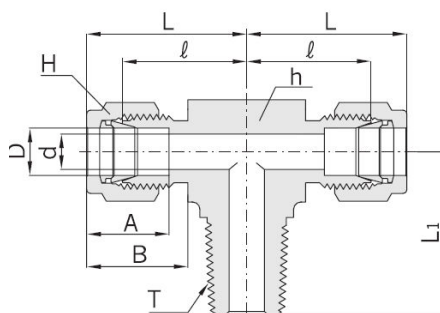
## Male Run Tee Mod. GMRT



Connects Metric Tube to Female ISO Tapered Thread

| Part No.     | Tube O.D.<br>D | T<br>R(PT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L1   |
|--------------|----------------|------------|----------|-------------------|----|------|------|------|------|------|
|              |                |            |          | h                 | H  |      |      |      |      |      |
| GMRT 3M-2R   | 3              | 1/8        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 17.0 | 23.6 | 17.8 |
| GMRT 3M-4R   | 3              | 1/4        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 18.0 | 24.6 | 23.4 |
| GMRT 4M-2R   | 4              | 1/8        | 2.4      | 12.7              | 12 | 13.7 | 16.1 | 18.8 | 25.4 | 18.8 |
| GMRT 6M-2R   | 6              | 1/8        | 4.8      | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 18.8 |
| GMRT 6M-4R   | 6              | 1/4        | 4.8      | 14.2              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 23.4 |
| GMRT 8M-2R   | 8              | 1/8        | 4.8      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 19.8 |
| GMRT 8M-4R   | 8              | 1/4        | 6.4      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 24.4 |
| GMRT 10M-4R  | 10             | 1/4        | 7.1      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GMRT 10M-6R  | 10             | 3/8        | 7.9      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GMRT 12M-4R  | 12             | 1/4        | 7.1      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GMRT 12M-6R  | 12             | 3/8        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GMRT 12M-8R  | 12             | 1/2        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 33.0 |
| GMRT 16M-6R  | 16             | 3/8        | 9.5      | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 30.2 |
| GMRT 16M-8R  | 16             | 1/2        | 11.9     | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 35.1 |
| GMRT 20M-12R | 20             | 3/4        | 15.9     | 31.8              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |

## Male Branch Tee Mod. GMBT



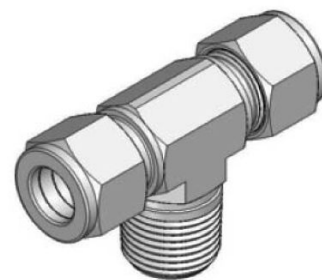
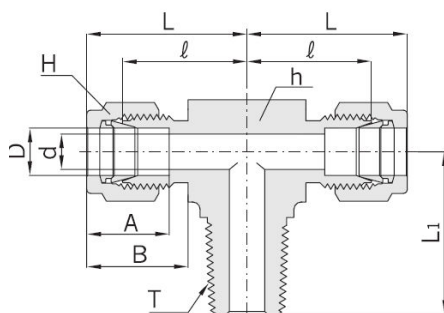
### Connects Fractional Tube to Female NPT Thread

| Part No.    | Tube O.D. |       | T (NPT) | d Min | Width across flat |       |       |       | A     | B     | ℓ     | L     | L1    |
|-------------|-----------|-------|---------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|             | D         |       |         |       | H                 |       |       |       |       |       |       |       |       |
|             | in        | mm    |         |       | h                 |       | H     |       |       |       |       |       |       |
| GMBT 2-2N   | 1/8       | 3.17  | 1/8     | 2.28  | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 17.00 | 24.91 | 17.80 |
| GMBT 2-4N   | 1/8       | 3.17  | 1/4     | 2.28  | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 18.03 | 24.91 | 23.36 |
| GMBT 3-2N   | 3/16      | 4.76  | 1/8     | 3.04  | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 17.78 | 24.38 | 17.78 |
| GMBT 4-2N   | 1/4       | 6.35  | 1/8     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92 | 18.79 |
| GMBT 4-4N   | 1/4       | 6.35  | 1/4     | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92 | 23.36 |
| GMBT 5-2N   | 5/16      | 7.93  | 1/8     | 4.82  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 22.35 | 29.71 | 20.82 |
| GMBT 6-4N   | 3/8       | 9.52  | 1/4     | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 30.48 | 25.40 |
| GMBT 6-6N   | 3/8       | 9.52  | 3/8     | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 23.87 | 31.24 | 26.20 |
| GMBT 8-6N   | 1/2       | 12.70 | 3/8     | 10.41 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 28.19 |
| GMBT 8-8N   | 1/2       | 12.70 | 1/2     | 10.41 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 33.02 |
| GMBT 10-8N  | 5/8       | 15.87 | 1/2     | 11.93 | 15/16             | 23.80 | 1     | 25.40 | 24.38 | 21.84 | 27.94 | 38.10 | 35.05 |
| GMBT 12-12N | 3/4       | 19.05 | 3/4     | 15.74 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 29.71 | 39.87 | 36.83 |

### Connects Metric Tube to Female NPT Thread

| Part No.     | Tube O.D.<br>D | T<br>(NPT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L1   |
|--------------|----------------|------------|----------|-------------------|----|------|------|------|------|------|
|              |                |            |          | h                 | H  |      |      |      |      |      |
| GMBT 3M-2N   | 3              | 1/8        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 17.0 | 23.6 | 17.8 |
| GMBT 3M-4N   | 3              | 1/4        | 2.4      | 12.7              | 12 | 12.9 | 15.3 | 18.0 | 24.6 | 23.4 |
| GMBT 4M-2N   | 4              | 1/8        | 2.4      | 12.7              | 12 | 13.7 | 16.1 | 18.8 | 25.4 | 18.8 |
| GMBT 6M-2N   | 6              | 1/8        | 4.8      | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 18.8 |
| GMBT 6M-4N   | 6              | 1/4        | 4.8      | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 23.4 |
| GMBT 8M-2N   | 8              | 1/8        | 4.8      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 19.8 |
| GMBT 8M-4N   | 8              | 1/4        | 6.4      | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 24.4 |
| GMBT 10M-4N  | 10             | 1/4        | 7.1      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GMBT 10M-6N  | 10             | 3/8        | 7.9      | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GMBT 12M-4N  | 12             | 1/4        | 7.1      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GMBT 12M-6N  | 12             | 3/8        | 9.0      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GMBT 12M-8N  | 12             | 1/2        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 33.0 |
| GMBT 16M-6N  | 16             | 3/8        | 9.5      | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 30.2 |
| GMBT 16M-8N  | 16             | 1/2        | 11.9     | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 35.1 |
| GMBT 20M-12N | 20             | 3/4        | 15.9     | 30.0              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |

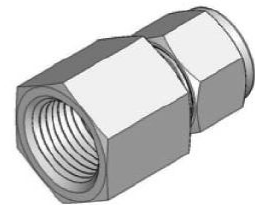
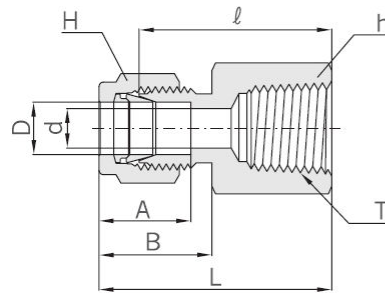
## Male Branch Tee Mod. GMBT



Connects Metric Tube to Female ISO Tapered Thread

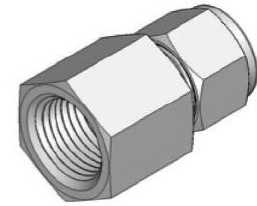
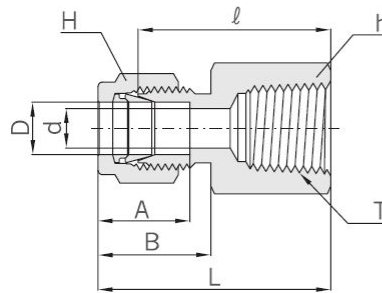
| Part No.     | Tube O.D. D | T R(PT) | d Min | Width across flat |    | A    | B    | ℓ    | L    | L1   |
|--------------|-------------|---------|-------|-------------------|----|------|------|------|------|------|
|              |             |         |       | h                 | H  |      |      |      |      |      |
| GMBT 3M-2R   | 3           | 1/8     | 2.4   | 12.7              | 12 | 12.9 | 15.3 | 17.0 | 23.6 | 17.8 |
| GMBT 3M-4R   | 3           | 1/4     | 2.4   | 12.7              | 12 | 12.9 | 15.3 | 18.0 | 24.6 | 23.4 |
| GMBT 4M-2R   | 4           | 1/8     | 2.4   | 12.7              | 12 | 13.7 | 16.1 | 18.8 | 25.4 | 18.8 |
| GMBT 6M-2R   | 6           | 1/8     | 4.8   | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 18.8 |
| GMBT 6M-4R   | 6           | 1/4     | 4.8   | 12.7              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 23.4 |
| GMBT 8M-2R   | 8           | 1/8     | 4.8   | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 19.8 |
| GMBT 8M-4R   | 8           | 1/4     | 6.4   | 14.3              | 16 | 16.2 | 18.6 | 21.3 | 28.8 | 24.4 |
| GMBT 10M-4R  | 10          | 1/4     | 7.1   | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GMBT 10M-6R  | 10          | 3/8     | 7.9   | 17.5              | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 26.2 |
| GMBT 12M-4R  | 12          | 1/4     | 7.1   | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GMBT 12M-6R  | 12          | 3/8     | 9.0   | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 28.2 |
| GMBT 12M-8R  | 12          | 1/2     | 9.5   | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 33.0 |
| GMBT 16M-6R  | 16          | 3/8     | 9.5   | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 30.2 |
| GMBT 16M-8R  | 16          | 1/2     | 11.9  | 25.4              | 25 | 24.4 | 22.0 | 27.9 | 38.0 | 35.1 |
| GMBT 20M-12R | 20          | 3/4     | 15.9  | 30.0              | 32 | 26.0 | 22.0 | 34.5 | 44.6 | 41.7 |

## Female Connector Mod. GFC



| Connects Fractional Tube to Female NPT |           |       |       |       |                   |       |       |       |       |       |       |        |
|----------------------------------------|-----------|-------|-------|-------|-------------------|-------|-------|-------|-------|-------|-------|--------|
| Part No.                               | Tube O.D. |       | T     | d     | Width across flat |       |       |       | A     | B     | ℓ     | L      |
|                                        | D         |       |       |       | h                 |       | H     |       |       |       |       |        |
|                                        |           |       |       |       | in                | mm    | in    | mm    |       |       |       |        |
| GFC 1-1N                               | 1/16      | 1.58  | 1/16  | 1.27  | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 19.81 | 23.62  |
| GFC 1-2N                               | 1/16      | 1.58  | 1/8   | 1.27  | 9/16              | 14.28 | 5/16  | 7.93  | 8.63  | 10.92 | 20.57 | 24.38  |
| GFC 2-2N                               | 1/8       | 3.17  | 1/8   | 2.28  | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.24 | 22.09 | 28.70  |
| GFC 2-4N                               | 1/8       | 3.17  | 1/4   | 2.28  | 3/4               | 19.05 | 7/16  | 11.11 | 12.70 | 15.24 | 26.92 | 33.52  |
| GFC 3-2N                               | 3/16      | 4.76  | 1/8   | 3.04  | 9/16              | 14.28 | 1/2   | 12.70 | 13.71 | 16.00 | 23.11 | 29.71  |
| GFC 4-2N                               | 1/4       | 6.35  | 1/8   | 4.82  | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 23.87 | 31.24  |
| GFC 4-4N                               | 1/4       | 6.35  | 1/4   | 4.82  | 3/4               | 19.05 | 9/16  | 14.28 | 15.24 | 17.78 | 28.44 | 35.81  |
| GFC 4-6N                               | 1/4       | 6.35  | 3/8   | 4.82  | 7/8               | 22.22 | 9/16  | 14.28 | 15.24 | 17.78 | 30.22 | 37.59  |
| GFC 4-8N                               | 1/4       | 6.35  | 1/2   | 4.82  | 1-1/16            | 26.98 | 9/16  | 14.28 | 15.24 | 17.78 | 35.05 | 42.41  |
| GFC 5-2N                               | 5/16      | 7.93  | 1/8   | 6.35  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 24.63 | 32.00  |
| GFC 5-4N                               | 5/16      | 7.93  | 1/4   | 6.35  | 3/4               | 19.05 | 5/8   | 15.87 | 16.25 | 18.54 | 29.46 | 36.83  |
| GFC 6-2N                               | 3/8       | 9.52  | 1/8   | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 25.40 | 32.76  |
| GFC 6-4N                               | 3/8       | 9.52  | 1/4   | 7.11  | 3/4               | 19.05 | 11/16 | 17.46 | 16.76 | 19.30 | 30.22 | 37.59  |
| GFC 6-6N                               | 3/8       | 9.52  | 3/8   | 7.11  | 7/8               | 22.22 | 11/16 | 17.46 | 16.76 | 19.30 | 31.75 | 39.11  |
| GFC 6-8N                               | 3/8       | 9.52  | 1/2   | 7.11  | 1-1/16            | 26.98 | 11/16 | 17.46 | 16.76 | 19.30 | 36.57 | 43.94  |
| GFC 6-12N                              | 3/8       | 9.52  | 3/4   | 7.11  | 1-5/16            | 33.33 | 11/16 | 17.46 | 16.76 | 19.30 | 40.38 | 47.75  |
| GFC 8-4N                               | 1/2       | 12.70 | 1/4   | 10.41 | 1-3/16            | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 30.22 | 40.38  |
| GFC 8-6N                               | 1/2       | 12.70 | 3/8   | 10.41 | 7/8               | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 31.75 | 41.91  |
| GFC 8-8N                               | 1/2       | 12.70 | 1/2   | 10.41 | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.86 | 21.84 | 36.57 | 46.73  |
| GFC 8-12N                              | 1/2       | 12.70 | 3/4   | 10.41 | 1-5/16            | 33.33 | 7/8   | 22.22 | 22.86 | 21.84 | 38.10 | 48.26  |
| GFC 10-6N                              | 5/8       | 15.87 | 3/8   | 12.70 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 31.75 | 41.91  |
| GFC 10-8N                              | 5/8       | 15.87 | 1/2   | 12.70 | 1-1/16            | 26.98 | 1     | 25.40 | 24.38 | 21.84 | 36.57 | 46.73  |
| GFC 10-12N                             | 5/8       | 15.87 | 3/4   | 12.70 | 1-5/16            | 33.33 | 1     | 25.40 | 24.38 | 21.84 | 38.10 | 48.26  |
| GFC 12-8N                              | 3/4       | 19.05 | 1/2   | 15.74 | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 36.57 | 46.73  |
| GFC 12-12N                             | 3/4       | 19.05 | 3/4   | 15.74 | 1-5/16            | 33.33 | 1-1/8 | 28.58 | 24.38 | 21.84 | 38.10 | 48.26  |
| GFC 14-12N                             | 7/8       | 22.22 | 3/4   | 18.28 | 1-5/16            | 33.33 | 1-1/4 | 31.75 | 25.90 | 21.84 | 39.62 | 49.78  |
| GFC 16-12N                             | 1         | 25.40 | 3/4   | 22.35 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 41.14 | 53.34  |
| GFC 16-16N                             | 1         | 25.40 | 1     | 22.35 | 1-5/8             | 41.27 | 1-1/2 | 38.10 | 31.24 | 26.41 | 50.03 | 62.23  |
| GFC 20-20N                             | 1-1/4     | 31.75 | 1-1/4 | 27.68 | 2-1/8             | 53.98 | 1-7/8 | 47.63 | 41.14 | 38.86 | 52.57 | 74.67  |
| GFC 24-24N                             | 1-1/2     | 58.10 | 1-1/2 | 34.03 | 2-3/8             | 60.33 | 2-1/4 | 57.15 | 50.03 | 45.21 | 56.13 | 83.31  |
| GFC 32-32N                             | 2         | 50.80 | 2     | 45.97 | 2-1/8             | 73.03 | 3     | 76.20 | 67.56 | 62.73 | 64.26 | 101.60 |

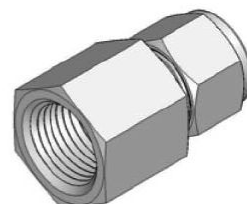
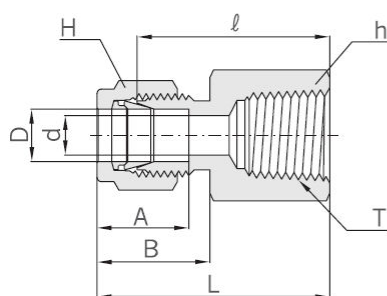
## Female Connector Mod. GFC



Connects Metric Tube to Female NPT Thread

| Part No.    | Tube O.D.<br>D | T<br>NPT | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    |
|-------------|----------------|----------|----------|-------------------|----|------|------|------|------|
|             |                |          |          | h                 | H  |      |      |      |      |
| GFC 3M-2N   | 3              | 1/8      | 2.4      | 14                | 12 | 12.9 | 15.3 | 22.1 | 28.7 |
| GFC 3M-4N   | 3              | 1/4      | 2.4      | 19                | 12 | 12.9 | 15.3 | 26.9 | 33.5 |
| GFC 4M-2N   | 4              | 1/8      | 2.4      | 14                | 12 | 13.7 | 16.1 | 23.1 | 29.7 |
| GFC 6M-2N   | 6              | 1/8      | 4.8      | 14                | 14 | 15.3 | 17.7 | 23.9 | 31.3 |
| GFC 6M-4N   | 6              | 1/4      | 4.8      | 19                | 14 | 15.3 | 17.7 | 28.4 | 35.8 |
| GFC 6M-6N   | 6              | 3/8      | 4.8      | 22                | 14 | 15.3 | 17.7 | 29.5 | 36.9 |
| GFC 6M-8N   | 6              | 1/2      | 4.8      | 27                | 14 | 15.3 | 17.7 | 35.1 | 42.5 |
| GFC 8M-2N   | 8              | 1/8      | 6.3      | 14                | 16 | 16.2 | 18.6 | 24.6 | 32.1 |
| GFC 8M-4N   | 8              | 1/4      | 6.3      | 19                | 16 | 16.2 | 18.6 | 29.5 | 37.0 |
| GFC 8M-6N   | 8              | 3/8      | 6.3      | 22                | 16 | 16.2 | 18.6 | 30.2 | 37.7 |
| GFC 8M-8N   | 8              | 1/2      | 6.3      | 27                | 16 | 16.2 | 18.6 | 35.8 | 43.3 |
| GFC 10M-2N  | 10             | 1/8      | 7.9      | 18                | 19 | 17.2 | 19.5 | 25.4 | 33.0 |
| GFC 10M-4N  | 10             | 1/4      | 7.9      | 19                | 19 | 17.2 | 19.5 | 30.2 | 37.8 |
| GFC 10M-6N  | 10             | 3/8      | 7.9      | 22                | 19 | 17.2 | 19.5 | 31.0 | 38.6 |
| GFC 10M-8N  | 10             | 1/2      | 7.9      | 27                | 19 | 17.2 | 19.5 | 36.6 | 44.2 |
| GFC 12M-2N  | 12             | 1/8      | 9.5      | 22                | 22 | 22.8 | 22.0 | 28.4 | 38.5 |
| GFC 12M-4N  | 12             | 1/4      | 9.5      | 22                | 22 | 22.8 | 22.0 | 30.2 | 40.3 |
| GFC 12M-6N  | 12             | 3/8      | 9.5      | 22                | 22 | 22.8 | 22.0 | 31.0 | 41.1 |
| GFC 12M-8N  | 12             | 1/2      | 9.5      | 27                | 22 | 22.8 | 22.0 | 36.6 | 46.7 |
| GFC 12M-12N | 12             | 3/4      | 9.5      | 35                | 22 | 22.8 | 22.0 | 38.9 | 49.0 |
| GFC 15M-8N  | 15             | 1/2      | 11.9     | 27                | 25 | 24.4 | 22.0 | 36.6 | 46.7 |
| GFC 16M-8N  | 16             | 1/2      | 12.7     | 27                | 25 | 24.4 | 22.0 | 36.8 | 46.9 |
| GFC 20M-8N  | 20             | 3/4      | 15.9     | 30                | 32 | 26.0 | 22.0 | 37.8 | 47.9 |
| GFC 20M-12N | 20             | 3/4      | 15.9     | 35                | 32 | 26.0 | 22.0 | 39.6 | 49.7 |
| GFC 22M-12N | 22             | 3/4      | 18.3     | 35                | 32 | 26.0 | 22.0 | 39.6 | 49.7 |
| GFC 22M-16N | 22             | 1        | 18.3     | 41                | 32 | 26.0 | 22.0 | 47.8 | 57.9 |
| GFC 25M-12N | 25             | 3/4      | 21.8     | 35                | 38 | 31.3 | 26.5 | 41.1 | 53.4 |
| GFC 25M-16N | 25             | 1        | 21.8     | 41                | 38 | 31.3 | 26.5 | 50   | 62.3 |

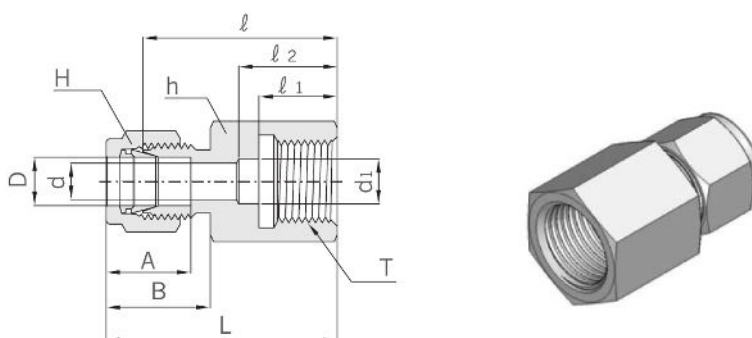
## Female Connector Mod. GFC



Connects Metric Tube to Female ISO Tapered Thread

| Part No.    | Tube O.D.<br>D | T<br>R(PT) | D<br>Min | Width across flat |    | A    | B    | ℓ    | L    |
|-------------|----------------|------------|----------|-------------------|----|------|------|------|------|
|             |                |            |          | h                 | H  |      |      |      |      |
| GFC 3M-2R   | 3              | 1/8        | 2.4      | 14                | 12 | 12.9 | 15.3 | 22.1 | 28.7 |
| GFC 3M-4R   | 3              | 1/4        | 2.4      | 19                | 12 | 12.9 | 15.3 | 26.9 | 33.5 |
| GFC 4M-2R   | 4              | 1/8        | 2.4      | 14                | 12 | 13.7 | 16.1 | 23.1 | 29.7 |
| GFC 6M-2R   | 6              | 1/8        | 4.8      | 14                | 14 | 15.3 | 17.7 | 23.9 | 31.3 |
| GFC 6M-4R   | 6              | 1/4        | 4.8      | 19                | 14 | 15.3 | 17.7 | 28.4 | 35.8 |
| GFC 6M-6R   | 6              | 3/8        | 4.8      | 22                | 14 | 15.3 | 17.7 | 29.5 | 36.9 |
| GFC 6M-8R   | 6              | 1/2        | 4.8      | 27                | 14 | 15.3 | 17.7 | 35.1 | 42.5 |
| GFC 8M-2R   | 8              | 1/8        | 6.3      | 14                | 16 | 16.2 | 18.6 | 24.6 | 32.1 |
| GFC 8M-4R   | 8              | 1/4        | 6.3      | 19                | 16 | 16.2 | 18.6 | 29.5 | 37.0 |
| GFC 8M-6R   | 8              | 3/8        | 6.3      | 22                | 16 | 16.2 | 18.6 | 30.2 | 37.7 |
| GFC 8M-8R   | 8              | 1/2        | 6.3      | 27                | 16 | 16.2 | 18.6 | 35.8 | 43.3 |
| GFC 10M-2R  | 10             | 1/8        | 7.9      | 18                | 19 | 17.2 | 19.5 | 25.4 | 33.0 |
| GFC 10M-4R  | 10             | 1/4        | 7.9      | 19                | 19 | 17.2 | 19.5 | 30.2 | 37.8 |
| GFC 10M-6R  | 10             | 3/8        | 7.9      | 22                | 19 | 17.2 | 19.5 | 31.0 | 38.6 |
| GFC 10M-8R  | 10             | 1/2        | 7.9      | 27                | 19 | 17.2 | 19.5 | 36.6 | 44.2 |
| GFC 12M-2R  | 12             | 1/8        | 9.5      | 22                | 22 | 22.8 | 22.0 | 28.4 | 38.5 |
| GFC 12M-4R  | 12             | 1/4        | 9.5      | 22                | 22 | 22.8 | 22.0 | 30.2 | 40.3 |
| GFC 12M-6R  | 12             | 3/8        | 9.5      | 22                | 22 | 22.8 | 22.0 | 31.0 | 41.1 |
| GFC 12M-8R  | 12             | 1/2        | 9.5      | 27                | 22 | 22.8 | 22.0 | 36.6 | 46.7 |
| GFC 12M-12R | 12             | 3/4        | 9.5      | 35                | 22 | 22.8 | 22.0 | 38.9 | 49.0 |
| GFC 15M-8R  | 15             | 1/2        | 11.9     | 27                | 25 | 24.4 | 22.0 | 36.6 | 46.7 |
| GFC 16M-8R  | 16             | 1/2        | 12.7     | 27                | 25 | 24.4 | 22.0 | 36.8 | 46.9 |
| GFC 20M-8R  | 20             | 3/4        | 15.9     | 30                | 32 | 26.0 | 22.0 | 37.8 | 47.9 |
| GFC 20M-12R | 20             | 3/4        | 15.9     | 35                | 32 | 26.0 | 22.0 | 39.6 | 49.7 |
| GFC 22M-12R | 22             | 3/4        | 18.3     | 35                | 32 | 26.0 | 22.0 | 39.6 | 49.7 |
| GFC 22M-16R | 22             | 1          | 18.3     | 41                | 32 | 26.0 | 22.0 | 47.8 | 57.9 |
| GFC 25M-12R | 25             | 3/4        | 21.8     | 35                | 38 | 31.3 | 26.5 | 41.1 | 53.4 |
| GFC 25M-16R | 25             | 1          | 21.8     | 41                | 38 | 31.3 | 26.5 | 50   | 62.3 |

## Gauge Connector Mod. GGC



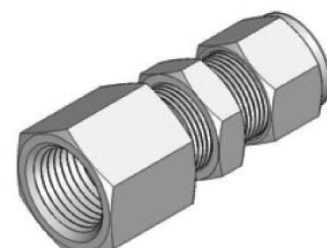
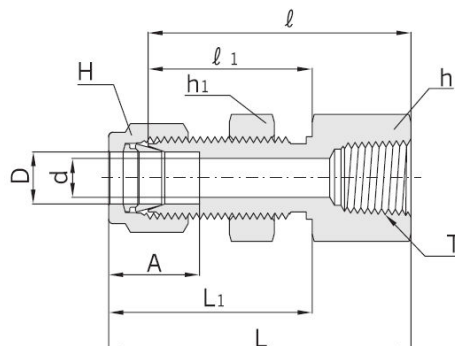
### Connects Fractional Tube to ISO Parallel Thread (Gauge)

| Part No. | Tube O.D. |       | T G(PF) | d Min | d1   | Width across flat |       |       |       | A     | B     | ℓ     | ℓ1    | ℓ2   | L     |
|----------|-----------|-------|---------|-------|------|-------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|
|          |           |       |         |       |      | h                 |       | H     |       |       |       |       |       |      |       |
|          | In        | mm    |         |       |      | in                | mm    | in    | mm    |       |       |       |       |      |       |
| GGC 4-2G | 1/4       | 6.35  | 1/8     | 4.82  | -    | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 24.30 | 10.00 | -    | 31.55 |
| GGC 4-4G | 1/4       | 6.35  | 1/4     | 4.82  | 5.58 | 3/4               | 19.05 | 9/16  | 14.28 | 15.24 | 17.78 | 30.22 | 13.00 | 17.0 | 37.59 |
| GGC 4-6G | 1/4       | 6.35  | 3/8     | 4.82  | 6.50 | 15/16             | 23.81 | 9/16  | 14.28 | 15.24 | 17.78 | 30.22 | 14.10 | 17.0 | 37.59 |
| GGC 4-8G | 1/4       | 6.35  | 1/2     | 4.82  | 6.50 | 11/16             | 26.98 | 9/16  | 14.28 | 15.24 | 17.78 | 36.07 | 18.80 | 23.0 | 43.43 |
| GGC 5-4G | 5/16      | 7.93  | 1/4     | 5.58  | -    | 3/4               | 19.05 | 5/8   | 15.87 | 16.25 | 18.54 | 30.98 | 13.00 | -    | 38.35 |
| GGC 5-8G | 5/16      | 7.93  | 1/2     | 7.11  | -    | 1-1/16            | 26.98 | 5/8   | 15.87 | 16.25 | 18.54 | 33.02 | 19.00 | -    | 40.38 |
| GGC 6-4G | 3/8       | 9.52  | 1/4     | 5.58  | -    | 3/4               | 19.05 | 11/16 | 17.46 | 16.76 | 19.30 | 31.75 | 12.95 | -    | 39.12 |
| GGC 6-6G | 3/8       | 9.52  | 3/8     | 6.60  | -    | 15/16             | 23.81 | 11/16 | 17.46 | 16.76 | 19.30 | 31.24 | 14.00 | -    | 38.61 |
| GGC 6-8G | 3/8       | 9.52  | 1/2     | 7.11  | -    | 1-1/16            | 26.98 | 11/16 | 17.46 | 16.76 | 19.30 | 34.54 | 18.80 | -    | 41.91 |
| GGC 8-4G | 1/2       | 12.70 | 1/4     | 5.50  | -    | 7/8               | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 31.80 | 12.90 | -    | 41.95 |
| GGC 8-6G | 1/2       | 12.70 | 3/8     | 6.60  | -    | 15/16             | 23.81 | 7/8   | 22.22 | 22.86 | 21.84 | 34.29 | 14.24 | -    | 44.45 |
| GGC 8-8G | 1/2       | 12.70 | 1/2     | 7.11  | -    | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.86 | 21.84 | 38.10 | 18.80 | -    | 48.26 |

### Connects Metric Tube to ISO Parallel Thread (Gauge)

| Part No.   | Tube O.D. | T<br>G(PF) | d<br>Min | d1  | Width across flat |    | A    | B    | ℓ    | ℓ1   | ℓ2 | L    |
|------------|-----------|------------|----------|-----|-------------------|----|------|------|------|------|----|------|
|            | D         |            |          |     | h                 | h  |      |      |      |      |    |      |
| GGC 3M-4G  | 3         | 1/4        | 2.4      | 5.5 | 19                | 12 | 12.9 | 15.3 | 28.7 | 12.9 | 17 | 35.3 |
| GGC 6M-4G  | 6         | 1/4        | 4.8      | 5.5 | 19                | 14 | 15.3 | 17.7 | 30.2 | 12.9 | 17 | 37.6 |
| GGC 6M-6G  | 6         | 3/8        | 4.8      | 6.5 | 24                | 14 | 15.3 | 17.7 | 30.2 | 14.0 | 17 | 37.6 |
| GGC 6M-8G  | 6         | 1/2        | 4.8      | 7.0 | 27                | 14 | 15.3 | 17.7 | 36.3 | 18.8 | 23 | 43.0 |
| GGC 8M-4G  | 8         | 1/4        | 5.5      | -   | 19                | 16 | 16.2 | 18.6 | 31.0 | 12.9 | -  | 38.5 |
| GGC 8M-6G  | 8         | 3/8        | 6.3      | -   | 24                | 16 | 16.2 | 18.6 | 28.7 | 14.0 | -  | 36.2 |
| GGC 8M-8G  | 8         | 1/2        | 6.3      | -   | 27                | 16 | 16.2 | 18.6 | 33.5 | 18.8 | -  | 41.0 |
| GGC 10M-4G | 10        | 1/4        | 5.5      | -   | 19                | 19 | 17.2 | 19.5 | 31.8 | 12.9 | -  | 39.4 |
| GGC 10M-6G | 10        | 3/8        | 6.5      | -   | 24                | 19 | 17.2 | 19.5 | 31.2 | 14.0 | -  | 38.8 |
| GGC 10M-8G | 10        | 1/2        | 7.0      | -   | 27                | 19 | 17.2 | 19.5 | 34.5 | 18.8 | -  | 41.4 |
| GGC 12M-4G | 12        | 1/4        | 5.5      | -   | 22                | 22 | 22.8 | 22.0 | 31.8 | 12.9 | -  | 41.9 |
| GGC 12M-6G | 12        | 3/8        | 6.5      | -   | 24                | 22 | 22.8 | 22.0 | 34.3 | 14.0 | -  | 44.4 |
| GGC 12M-8G | 12        | 1/2        | 7.0      | -   | 27                | 22 | 22.8 | 22.0 | 38.1 | 18.8 | -  | 48.2 |
| GGC 20M-8G | 20        | 1/2        | 7.0      | -   | 30                | 32 | 26.0 | 22.0 | 44.2 | 18.8 | -  | 54.3 |
| GGC 22M-8G | 22        | 1/2        | 7.0      | -   | 30                | 32 | 26.0 | 22.0 | 44.2 | 18.8 | -  | 54.3 |

## Bulkhead Female Connector Mod. GBFC



### Connects Fractional Tube to Male NPT Thread

| Part No.    | Tube O.D. |       | T (NPT) | d Min | Width across flat |       |                |       |       |       | A     | ℓ     | ℓ <sub>1</sub> | L     | L <sub>1</sub> | Panel Hole Drill Size | Panel Max Thk. |
|-------------|-----------|-------|---------|-------|-------------------|-------|----------------|-------|-------|-------|-------|-------|----------------|-------|----------------|-----------------------|----------------|
|             | D         |       |         |       | h                 |       | h <sub>1</sub> |       | H     |       |       |       |                |       |                |                       |                |
|             |           |       |         |       | in                | mm    | in             | mm    | in    | Mm    |       |       |                |       |                |                       |                |
| GBFC 2-2N   | 1/8       | 3.17  | 1/8     | 2.28  | 9/16              | 14.28 | 1/2            | 12.70 | 7/16  | 11.11 | 12.70 | 38.10 | 24.63          | 44.70 | 31.24          | 8.38                  | 12.70          |
| GBFC 4-2N   | 1/4       | 6.35  | 1/8     | 4.82  | 5/8               | 15.87 | 5/8            | 15.87 | 9/16  | 14.28 | 15.24 | 39.62 | 26.16          | 46.99 | 33.52          | 11.50                 | 10.16          |
| GBFC 4-4N   | 1/4       | 6.35  | 1/4     | 4.82  | 3/4               | 19.05 | 5/8            | 15.87 | 9/16  | 14.28 | 15.24 | 44.45 | 26.16          | 51.81 | 33.52          | 11.50                 | 10.16          |
| GBFC 6-4N   | 3/8       | 9.52  | 1/4     | 7.00  | 3/4               | 19.05 | 3/4            | 19.05 | 11/16 | 17.46 | 16.76 | 47.75 | 29.46          | 55.11 | 36.83          | 14.68                 | 11.17          |
| GBFC 8-6N   | 1/2       | 12.70 | 3/8     | 10.41 | 15/16             | 23.81 | 15/16          | 23.81 | 7/8   | 22.22 | 22.86 | 51.56 | 31.75          | 61.72 | 41.91          | 19.44                 | 12.70          |
| GBFC 8-8N   | 1/2       | 12.70 | 1/2     | 10.41 | 1-1/16            | 26.98 | 15/16          | 23.81 | 7/8   | 22.22 | 22.86 | 56.38 | 31.75          | 66.54 | 41.91          | 19.44                 | 12.70          |
| GBFC 12-12N | 3/4       | 19.05 | 3/4     | 15.74 | 1-5/16            | 33.33 | 1-3/16         | 30.16 | 1-1/8 | 28.57 | 24.38 | 63.60 | 38.30          | 73.51 | 47.21          | 25.79                 | 16.76          |

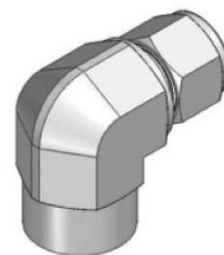
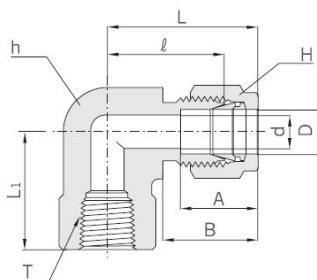
### Connects Metric Tube to Male NPT Thread

| Part No.    | Tube O.D.<br>D | T<br>(NPT) | d<br>Min | Width across flat |                |    | A    | ℓ    | ℓ <sub>1</sub> | L     | L <sub>1</sub> | Panel Hole Drill Size | Panel Max Thk. |
|-------------|----------------|------------|----------|-------------------|----------------|----|------|------|----------------|-------|----------------|-----------------------|----------------|
|             |                |            |          | h                 | h <sub>1</sub> | H  |      |      |                |       |                |                       |                |
| GBFC 6M-2N  | 6              | 1/8        | 4.8      | 16.0              | 15.8           | 14 | 15.3 | 39.6 | 26.2           | 46.90 | 35.00          | 11.5                  | 10.2           |
| GBFC 6M-4N  | 6              | 1/4        | 4.8      | 19.0              | 16.0           | 14 | 15.3 | 44.4 | 26.2           | 51.80 | 33.60          | 11.5                  | 10.2           |
| GBFC 8M-4N  | 6              | 1/4        | 6.3      | 19.0              | 17.4           | 16 | 16.2 | 46.7 | 28.6           | 53.85 | 35.55          | 13.1                  | 11.2           |
| GBFC 12M-8N | 6              | 1/2        | 9.5      | 27.0              | 24.0           | 22 | 22.8 | 56.4 | 31.8           | 66.50 | 41.90          | 19.5                  | 12.7           |

### Connects Metric Tube to Male ISO Tapered Thread

| Part No.    | Tube O.D.<br>D | T<br>R(PT) | d<br>Min | Width across flat |                |    | A    | ℓ    | ℓ <sub>1</sub> | L     | L <sub>1</sub> | Panel Hole Drill Size | Panel Max Thk. |
|-------------|----------------|------------|----------|-------------------|----------------|----|------|------|----------------|-------|----------------|-----------------------|----------------|
|             |                |            |          | h                 | h <sub>1</sub> | H  |      |      |                |       |                |                       |                |
| GBFC 6M-2R  | 6              | 1/8        | 4.8      | 16.0              | 15.8           | 14 | 15.3 | 39.6 | 26.2           | 46.90 | 35.00          | 11.5                  | 10.2           |
| GBFC 6M-4R  | 6              | 1/4        | 4.8      | 19.0              | 16.0           | 14 | 15.3 | 44.4 | 26.2           | 51.80 | 33.60          | 11.5                  | 10.2           |
| GBFC 8M-4R  | 6              | 1/4        | 6.3      | 19.0              | 17.4           | 16 | 16.2 | 46.7 | 28.6           | 53.85 | 35.55          | 13.1                  | 11.2           |
| GBFC 12M-8R | 6              | 1/2        | 9.5      | 27.0              | 24.0           | 22 | 22.8 | 56.4 | 31.8           | 66.50 | 41.90          | 19.5                  | 12.7           |

## Female Elbow Mod. GFL



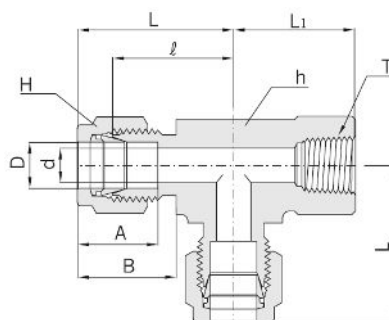
Connects Fractional Tube to Male NPT Thread

| Part<br>No. | Tube O.D.<br>D |       | T<br>(NPT) | d<br>Min | Width across flat |       |       |       | A     | B     | ℓ     | L     | L1    |
|-------------|----------------|-------|------------|----------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|             | in             | mm    |            |          | h                 |       | H     |       |       |       |       |       |       |
|             |                |       |            |          | in                | mm    | in    | mm    |       |       |       |       |       |
| GFL 2-2N    | 1/8            | 3.17  | 1/8        | 2.28     | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 18.03 | 24.63 | 19.05 |
| GFL 2-4N    | 1/8            | 3.17  | 1/4        | 2.28     | 11/16             | 17.46 | 7/16  | 11.11 | 12.70 | 15.24 | 20.82 | 27.43 | 22.35 |
| GFL 3-2N    | 3/16           | 4.76  | 1/8        | 3.04     | 1/2               | 12.70 | 1/2   | 12.70 | 13.71 | 16.00 | 18.79 | 25.40 | 19.05 |
| GFL 4-2N    | 1/4            | 6.35  | 1/8        | 4.82     | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92 | 19.05 |
| GFL 4-4N    | 1/4            | 6.35  | 1/4        | 4.82     | 11/16             | 17.46 | 9/16  | 14.28 | 15.24 | 17.78 | 22.35 | 29.71 | 22.35 |
| GFL 4-6N    | 1/4            | 6.35  | 3/8        | 4.82     | 13/16             | 20.64 | 9/16  | 14.28 | 15.24 | 17.78 | 24.38 | 31.75 | 22.35 |
| GFL 4-8N    | 1/4            | 6.35  | 1/2        | 4.82     | 1                 | 25.40 | 9/16  | 14.28 | 15.24 | 17.78 | 27.17 | 34.54 | 28.44 |
| GFL 5-2N    | 5/16           | 7.93  | 1/8        | 6.35     | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 21.33 | 28.70 | 19.05 |
| GFL 5-4N    | 5/16           | 7.93  | 1/4        | 6.35     | 11/16             | 17.46 | 5/8   | 15.87 | 16.25 | 18.54 | 23.11 | 30.48 | 22.35 |
| GFL 6-2N    | 3/8            | 9.52  | 1/8        | 7.11     | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 30.48 | 19.05 |
| GFL 6-4N    | 3/8            | 9.52  | 1/4        | 7.11     | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 23.87 | 31.24 | 22.35 |
| GFL 6-6N    | 3/8            | 9.52  | 3/8        | 7.11     | 13/16             | 20.64 | 11/16 | 17.46 | 16.76 | 19.30 | 25.90 | 33.27 | 22.35 |
| GFL 6-8N    | 3/8            | 9.52  | 1/2        | 7.11     | 1                 | 25.40 | 11/16 | 17.46 | 16.76 | 19.30 | 28.70 | 36.06 | 28.44 |
| GFL 8-4N    | 1/2            | 12.70 | 1/4        | 10.41    | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 22.35 |
| GFL 8-6N    | 1/2            | 12.70 | 3/8        | 10.41    | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 22.35 |
| GFL 8-8N    | 1/2            | 12.70 | 1/2        | 10.41    | 1                 | 25.40 | 7/8   | 22.22 | 22.86 | 21.84 | 28.70 | 38.86 | 28.44 |
| GFL 10-6N   | 5/8            | 15.87 | 3/8        | 12.70    | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 27.94 | 38.10 | 22.35 |
| GFL 10-8N   | 5/8            | 15.87 | 1/2        | 12.70    | 1                 | 25.40 | 1     | 25.40 | 24.38 | 21.84 | 29.71 | 39.87 | 28.44 |
| GFL 12-8N   | 3/4            | 19.05 | 1/2        | 15.74    | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 29.71 | 39.87 | 28.44 |
| GFL 12-12N  | 3/4            | 19.05 | 3/4        | 15.74    | 1-1/4             | 31.75 | 1-1/8 | 28.58 | 24.38 | 21.84 | 34.54 | 44.70 | 31.75 |
| GFL 14-12N  | 7/8            | 22.22 | 3/4        | 18.28    | 1-1/4             | 31.75 | 1-1/4 | 31.75 | 25.90 | 21.84 | 34.54 | 44.70 | 31.75 |
| GFL 16-12N  | 1              | 25.40 | 3/4        | 22.35    | 1-27/64           | 36.00 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02 | 31.75 |
| GFL 16-16N  | 1              | 25.40 | 1          | 22.35    | 1-11/16           | 42.86 | 1-1/2 | 38.10 | 31.24 | 26.41 | 41.40 | 50.29 | 38.10 |

Connects Metric Tube to Male NPT Thread

| Part No.   | Tube O.D.<br>D | T<br>(NPT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L1    |
|------------|----------------|------------|----------|-------------------|----|------|------|------|------|-------|
|            |                |            |          | h                 | H  |      |      |      |      |       |
| GFL 6M-2N  | 6              | 1/8        | 4.8      | 12.70             | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 19.00 |
| GFL 6M-4N  | 6              | 1/4        | 4.8      | 17.46             | 14 | 15.3 | 17.7 | 22.4 | 29.8 | 22.40 |
| GFL 6M-6N  | 6              | 3/8        | 4.8      | 20.64             | 14 | 15.3 | 17.7 | 24.4 | 31.7 | 22.40 |
| GFL 6M-8N  | 6              | 1/2        | 4.8      | 25.40             | 14 | 15.3 | 17.7 | 27.2 | 34.6 | 28.40 |
| GFL 8M-2N  | 8              | 1/8        | 6.4      | 15.87             | 16 | 16.2 | 18.6 | 23.1 | 29.9 | 19.00 |
| GFL 8M-4N  | 8              | 1/4        | 6.4      | 17.46             | 16 | 16.2 | 18.6 | 23.1 | 30.6 | 22.40 |
| GFL 8M-8N  | 8              | 1/2        | 6.4      | 25.40             | 16 | 16.2 | 18.6 | 28.0 | 35.2 | 28.40 |
| GFL 10M-2N | 10             | 1/8        | 7.9      | 17.46             | 19 | 17.2 | 19.5 | 23.9 | 31.5 | 19.00 |
| GFL 10M-4N | 10             | 1/4        | 7.9      | 17.46             | 19 | 17.2 | 19.5 | 25.9 | 33.5 | 22.35 |
| GFL 10M-6N | 10             | 3/8        | 7.9      | 20.64             | 19 | 17.2 | 19.5 | 25.9 | 33.5 | 22.40 |
| GFL 10M-8N | 10             | 1/2        | 7.9      | 25.40             | 19 | 17.2 | 19.5 | 28.7 | 36.1 | 28.40 |
| GFL 12M-4N | 12             | 1/4        | 9.5      | 20.64             | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 22.40 |
| GFL 12M-6N | 12             | 3/8        | 9.5      | 20.64             | 22 | 22.8 | 22.0 | 25.9 | 36.2 | 22.35 |
| GFL 12M-8N | 12             | 1/2        | 9.5      | 25.40             | 22 | 22.8 | 22.0 | 28.7 | 38.8 | 28.40 |
| GFL 16M-8N | 16             | 1/2        | 12.7     | 26.98             | 25 | 24.4 | 22.0 | 29.7 | 39.5 | 28.40 |

## Female Run Tee Mod. GFRT



### Connects Fractional Tube to Male NPT Thread

| Part<br>No. | Tube O.D.<br>D |       | T<br>(NPT) | d<br>Min | Width across flat |       |       |       | A     | B     | ℓ     | L     | L1    |
|-------------|----------------|-------|------------|----------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
|             | in             | mm    |            |          | h                 |       | H     |       |       |       |       |       |       |
|             |                |       |            |          | in                | mm    | in    | mm    |       |       |       |       |       |
| GFRT 2-2N   | 1/8            | 3.17  | 1/8        | 2.28     | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.24 | 18.03 | 24.63 | 19.05 |
| GFRT 4-2N   | 1/4            | 6.35  | 1/8        | 4.82     | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92 | 19.05 |
| GFRT 4-4N   | 1/4            | 6.35  | 1/4        | 4.82     | 11/16             | 17.46 | 9/16  | 14.28 | 15.24 | 17.78 | 22.35 | 29.71 | 22.35 |
| GFRT 6-4N   | 3/8            | 9.52  | 1/4        | 7.11     | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 23.87 | 31.24 | 22.35 |
| GFRT 8-6N   | 1/2            | 12.70 | 3/8        | 10.41    | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 22.35 |
| GFRT 8-8N   | 1/2            | 12.70 | 1/2        | 10.41    | 1                 | 25.40 | 7/8   | 22.22 | 22.86 | 21.84 | 28.70 | 38.86 | 28.44 |
| GFRT 12-12N | 3/4            | 19.05 | 3/4        | 15.74    | 1-3/8             | 34.92 | 1-1/8 | 28.57 | 24.38 | 21.84 | 34.54 | 44.70 | 31.75 |
| GFRT 16-12N | 1              | 25.40 | 3/4        | 22.35    | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02 | 31.75 |
| GFRT 16-16N | 1              | 25.40 | 1          | 22.35    | 1-11/16           | 42.86 | 1-1/2 | 38.10 | 31.24 | 26.41 | 41.40 | 53.29 | 38.10 |

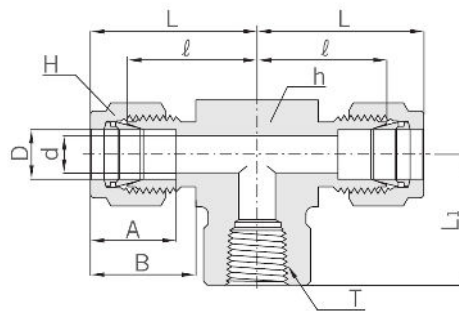
### Connects Metric Tube to Male NPT Thread

| Part No.    | Tube O.D.<br>D | T<br>(NPT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L1   |
|-------------|----------------|------------|----------|-------------------|----|------|------|------|------|------|
|             |                |            |          | h                 | H  |      |      |      |      |      |
| GFRT 6M-2N  | 6              | 1/8        | 4.8      | 14.0              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 19.0 |
| GFRT 6M-4N  | 6              | 1/4        | 4.8      | 17.5              | 14 | 15.3 | 17.7 | 22.4 | 29.8 | 22.4 |
| GFRT 6M-8N  | 6              | 1/2        | 4.8      | 25.4              | 14 | 15.3 | 17.7 | 27.2 | 34.5 | 28.4 |
| GFRT 8M-2N  | 8              | 1/8        | 6.3      | 15.8              | 16 | 16.2 | 18.6 | 22.4 | 29.9 | 19.0 |
| GFRT 8M-4N  | 8              | 1/4        | 6.3      | 17.5              | 16 | 16.2 | 18.6 | 23.1 | 30.6 | 22.4 |
| GFRT 8M-6N  | 8              | 3/8        | 6.3      | 20.6              | 16 | 16.2 | 18.6 | 25.2 | 32.4 | 22.4 |
| GFRT 8M-8N  | 8              | 1/2        | 6.3      | 25.4              | 16 | 16.2 | 18.6 | 28.0 | 35.2 | 28.4 |
| GFRT 10M-4N | 10             | 1/4        | 7.9      | 17.5              | 19 | 17.2 | 19.5 | 25.0 | 32.6 | 22.4 |
| GFRT 12M-4N | 12             | 1/4        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 22.4 |
| GFRT 12M-6N | 12             | 3/8        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 22.4 |
| GFRT 12M-8N | 12             | 1/2        | 9.5      | 25.4              | 22 | 22.8 | 22.0 | 28.7 | 38.8 | 28.4 |
| GFRT 16M-8N | 16             | 1/2        | 12.7     | 25.4              | 25 | 24.4 | 22.0 | 29.7 | 39.5 | 28.4 |

### Connects Metric Tube to Male ISO Tapered Thread

| Part No.    | Tube O.D.<br>D | T<br>R(PT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L1   |
|-------------|----------------|------------|----------|-------------------|----|------|------|------|------|------|
|             |                |            |          | h                 | H  |      |      |      |      |      |
| GFRT 6M-2R  | 6              | 1/8        | 4.8      | 14.0              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 19.0 |
| GFRT 6M-4R  | 6              | 1/4        | 4.8      | 17.5              | 14 | 15.3 | 17.7 | 22.4 | 29.8 | 22.4 |
| GFRT 6M-8R  | 6              | 1/2        | 4.8      | 25.4              | 14 | 15.3 | 17.7 | 27.2 | 34.5 | 28.4 |
| GFRT 8M-2R  | 8              | 1/8        | 6.3      | 15.8              | 16 | 16.2 | 18.6 | 22.4 | 29.9 | 19.0 |
| GFRT 8M-4R  | 8              | 1/4        | 6.3      | 17.5              | 16 | 16.2 | 18.6 | 23.1 | 30.6 | 22.4 |
| GFRT 8M-6R  | 8              | 3/8        | 6.3      | 20.6              | 16 | 16.2 | 18.6 | 25.2 | 32.4 | 22.4 |
| GFRT 8M-8R  | 8              | 1/2        | 6.3      | 25.4              | 16 | 16.2 | 18.6 | 28.0 | 35.2 | 28.4 |
| GFRT 10M-4R | 10             | 1/4        | 7.9      | 17.5              | 19 | 17.2 | 19.5 | 25.0 | 32.6 | 22.4 |
| GFRT 12M-4R | 12             | 1/4        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 22.4 |
| GFRT 12M-6R | 12             | 3/8        | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 22.4 |
| GFRT 12M-8R | 12             | 1/2        | 9.5      | 25.4              | 22 | 22.8 | 22.0 | 28.7 | 38.8 | 28.4 |
| GFRT 16M-8R | 16             | 1/2        | 12.7     | 25.4              | 25 | 24.4 | 22.0 | 29.7 | 39.5 | 28.4 |

## Female Branch Tee Mod. GFBT

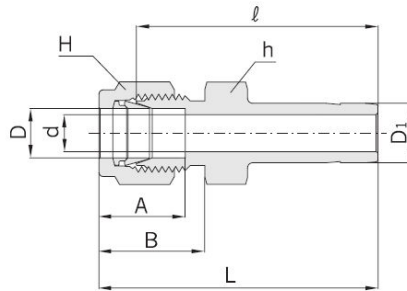


| Connects Fractional Tube to Male NPT Thread |           |       |         |       |                   |       |       |       |       |       |       |       |       |
|---------------------------------------------|-----------|-------|---------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                                    | Tube O.D. |       | T (NPT) | d Min | Width across flat |       |       |       | A     | B     | ℓ     | L     | L1    |
|                                             | D         |       |         |       | h                 |       | H     |       |       |       |       |       |       |
|                                             | in        | mm    |         |       | in                | mm    | in    | mm    |       |       |       |       |       |
| GFBT 2-2N                                   | 1/8       | 3.17  | 1/8     | 2.28  | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.24 | 18.03 | 24.38 | 19.05 |
| GFBT 4-2N                                   | 1/4       | 6.35  | 1/8     | 4.82  | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 26.92 | 19.05 |
| GFBT 4-4N                                   | 1/4       | 6.35  | 1/4     | 4.82  | 11/16             | 17.46 | 9/16  | 14.28 | 15.24 | 17.78 | 22.35 | 29.71 | 22.35 |
| GFBT 6-4N                                   | 3/8       | 9.52  | 1/4     | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 23.87 | 31.24 | 22.35 |
| GFBT 8-4N                                   | 1/2       | 12.70 | 1/4     | 10.41 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 22.35 |
| GFBT 8-6N                                   | 1/2       | 12.70 | 3/8     | 10.41 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 36.06 | 22.35 |
| GFBT 8-8N                                   | 1/2       | 12.70 | 1/2     | 10.41 | 1                 | 25.40 | 7/8   | 22.22 | 22.86 | 21.84 | 28.70 | 38.86 | 28.44 |
| GFBT 10-8N                                  | 5/8       | 15.87 | 1/2     | 12.70 | 1                 | 25.40 | 1     | 25.40 | 24.38 | 21.84 | 28.70 | 38.86 | 28.44 |
| GFBT 12-12N                                 | 3/4       | 19.05 | 3/4     | 15.74 | 1-3/8             | 34.92 | 1-1/8 | 28.57 | 24.38 | 21.84 | 34.54 | 44.70 | 31.75 |
| GFBT 16-12N                                 | 1         | 25.40 | 3/4     | 22.35 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 49.02 | 31.75 |
| GFBT 16-16N                                 | 1         | 25.40 | 1       | 22.35 | 1-11/16           | 42.86 | 1-1/2 | 38.10 | 31.24 | 26.41 | 44.20 | 53.59 | 38.10 |

| Connects Metric Tube to Male NPT Thread |                |             |          |                   |    |      |      |      |      |                |
|-----------------------------------------|----------------|-------------|----------|-------------------|----|------|------|------|------|----------------|
| Part No.                                | Tube O.D.<br>D | T*<br>(NPT) | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    | L <sub>1</sub> |
|                                         |                |             |          | h                 | H  |      |      |      |      |                |
| GFBT 6M-2N                              | 6              | 1/8         | 4.8      | 14.0              | 14 | 15.3 | 17.7 | 19.6 | 27.0 | 19.0           |
| GFBT 6M-4N                              | 6              | 1/4         | 4.8      | 17.5              | 14 | 15.3 | 17.7 | 22.4 | 29.8 | 22.4           |
| GFBT 6M-6N                              | 6              | 3/8         | 4.8      | 20.6              | 14 | 15.3 | 17.7 | 24.4 | 31.7 | 22.4           |
| GFBT 6M-8N                              | 6              | 1/2         | 4.8      | 25.4              | 14 | 15.3 | 17.7 | 27.2 | 34.5 | 28.4           |
| GFBT 8M-2N                              | 8              | 1/8         | 6.3      | 15.8              | 16 | 16.2 | 18.6 | 23.1 | 29.9 | 19.0           |
| GFBT 8M-4N                              | 8              | 1/4         | 6.3      | 17.5              | 16 | 16.2 | 18.6 | 23.1 | 30.6 | 22.4           |
| GFBT 8M-6N                              | 8              | 3/8         | 6.3      | 20.6              | 16 | 16.2 | 18.6 | 25.2 | 32.4 | 22.4           |
| GFBT 8M-8N                              | 8              | 1/2         | 6.3      | 25.4              | 16 | 16.2 | 18.6 | 28.0 | 35.2 | 28.4           |
| GFBT 10M-4N                             | 10             | 1/4         | 7.9      | 20.6              | 19 | 17.2 | 19.5 | 25.9 | 33.5 | 22.4           |
| GFBT 10M-6N                             | 10             | 3/8         | 7.9      | 20.6              | 19 | 17.2 | 19.5 | 25.9 | 33.3 | 22.4           |
| GFBT 10M-8N                             | 10             | 1/2         | 9.5      | 25.4              | 19 | 17.2 | 19.5 | 28.7 | 36.1 | 22.4           |
| GFBT 12M-4N                             | 12             | 1/4         | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 22.4           |
| GFBT 12M-6N                             | 12             | 3/8         | 9.5      | 20.6              | 22 | 22.8 | 22.0 | 25.9 | 36.0 | 22.4           |
| GFBT 12M-8N                             | 12             | 1/2         | 9.5      | 25.4              | 22 | 22.8 | 22.0 | 28.7 | 38.8 | 28.4           |
| GFBT 16M-8N                             | 16             | 1/2         | 12.7     | 25.4              | 25 | 24.4 | 22.0 | 28.7 | 38.8 | 28.4           |

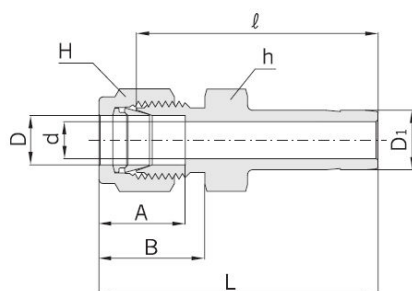
\* ISO TAPERED THREADS ARE AVAILABLE UPON REQUEST.

## Reducers Mod. GR



| Connects Fractional Tube to Fractional GPI Port |           |       |                |       |       |                   |       |       |       |       |       |        |        |
|-------------------------------------------------|-----------|-------|----------------|-------|-------|-------------------|-------|-------|-------|-------|-------|--------|--------|
| Part No.                                        | Tube O.D. |       |                |       | d     | Width across flat |       |       |       | A     | B     | ℓ      | L      |
|                                                 | D         |       | D <sub>1</sub> |       |       | h                 |       | H     |       |       |       |        |        |
|                                                 | in        | mm    | in             | mm    |       | Min               | in    | mm    | in    |       |       |        |        |
| GR 1-2                                          | 1/16      | 1.58  | 1/8            | 3.17  | 1.27  | 5/16              | 7.93  | 5/16  | 7.93  | 8.63  | 10.92 | 25.40  | 29.21  |
| GR 1-4                                          | 1/16      | 1.58  | 1/4            | 6.35  | 1.27  | 5/16              | 7.93  | 5/16  | 7.93  | 8.63  | 10.92 | 27.68  | 31.49  |
| GR 2-1                                          | 1/8       | 3.17  | 1/16           | 1.58  | 0.76  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 22.35  | 28.95  |
| GR 2-2                                          | 1/8       | 3.17  | 1/8            | 3.17  | 2.03  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 26.92  | 33.52  |
| GR 2-3                                          | 1/8       | 3.17  | 3/16           | 4.76  | 2.28  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 27.68  | 34.29  |
| GR 2-4                                          | 1/8       | 3.17  | 1/4            | 6.35  | 2.28  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 29.46  | 36.06  |
| GR 2-6                                          | 1/8       | 3.17  | 3/8            | 9.52  | 2.28  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 30.98  | 37.59  |
| GR 2-8                                          | 1/8       | 3.17  | 1/2            | 12.70 | 2.28  | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.24 | 37.59  | 44.19  |
| GR 3-2                                          | 3/16      | 4.76  | 1/8            | 3.17  | 1.70  | 7/16              | 11.11 | 1/2   | 12.70 | 13.71 | 16.00 | 28.19  | 34.79  |
| GR 3-4                                          | 3/16      | 4.76  | 1/4            | 6.35  | 3.04  | 7/16              | 11.11 | 1/2   | 12.70 | 13.71 | 16.00 | 30.48  | 37.08  |
| GR 4-2                                          | 1/4       | 6.35  | 1/8            | 3.17  | 2.03  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 29.46  | 36.83  |
| GR 4-3                                          | 1/4       | 6.35  | 3/16           | 4.76  | 3.04  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 30.22  | 37.59  |
| GR 4-4                                          | 1/4       | 6.35  | 1/4            | 6.35  | 4.32  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 31.75  | 39.11  |
| GR 4-5                                          | 1/4       | 6.35  | 5/16           | 7.93  | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 32.51  | 39.87  |
| GR 4-6                                          | 1/4       | 6.35  | 3/8            | 9.52  | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 33.27  | 40.64  |
| GR 4-8                                          | 1/4       | 6.35  | 1/2            | 12.70 | 4.82  | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 38.86  | 46.22  |
| GR 4-10                                         | 1/4       | 6.35  | 5/8            | 15.87 | 4.82  | 11/16             | 17.46 | 9/16  | 14.28 | 15.24 | 17.78 | 40.64  | 48.00  |
| GR 4-12                                         | 1/4       | 6.35  | 3/4            | 19.05 | 4.82  | 13/16             | 20.63 | 9/16  | 14.28 | 15.24 | 17.78 | 40.38  | 47.75  |
| GR 5-6                                          | 5/16      | 7.93  | 3/8            | 9.52  | 6.35  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 34.54  | 41.91  |
| GR 5-8                                          | 5/16      | 7.93  | 1/2            | 12.70 | 6.35  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 40.13  | 47.49  |
| GR 6-4                                          | 3/8       | 9.52  | 1/4            | 6.35  | 4.32  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 34.03  | 41.40  |
| GR 6-6                                          | 3/8       | 9.52  | 3/8            | 9.52  | 6.86  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 35.81  | 43.18  |
| GR 6-8                                          | 3/8       | 9.52  | 1/2            | 12.70 | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 41.14  | 48.51  |
| GR 6-10                                         | 3/8       | 9.52  | 5/8            | 15.87 | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 42.92  | 50.29  |
| GR 6-12                                         | 3/8       | 9.52  | 3/4            | 19.05 | 7.11  | 13/16             | 20.63 | 11/16 | 17.46 | 16.76 | 19.30 | 42.92  | 50.29  |
| GR 8-4                                          | 1/2       | 12.70 | 1/4            | 6.35  | 4.32  | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 34.79  | 44.95  |
| GR 8-6                                          | 1/2       | 12.70 | 3/8            | 9.52  | 6.86  | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 36.57  | 46.73  |
| GR 8-8                                          | 1/2       | 12.70 | 1/2            | 12.70 | 9.40  | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 42.16  | 52.32  |
| GR 8-10                                         | 1/2       | 12.70 | 5/8            | 15.87 | 10.41 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 43.68  | 53.84  |
| GR 8-12                                         | 1/2       | 12.70 | 3/4            | 19.05 | 10.41 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 43.68  | 53.84  |
| GR 8-16                                         | 1/2       | 12.70 | 1              | 25.40 | 10.41 | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.86 | 21.84 | 50.03  | 60.19  |
| GR 10-12                                        | 5/8       | 15.87 | 3/4            | 19.05 | 12.70 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 44.45  | 54.61  |
| GR 10-14                                        | 5/8       | 15.87 | 7/8            | 22.22 | 12.70 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 45.97  | 56.13  |
| GR 10-16                                        | 5/8       | 15.87 | 1              | 25.40 | 12.70 | 1-1/16            | 26.98 | 1     | 25.40 | 24.38 | 21.84 | 50.80  | 60.96  |
| GR 12-8                                         | 3/4       | 19.05 | 1/2            | 12.70 | 9.40  | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 44.45  | 54.61  |
| GR 12-16                                        | 3/4       | 19.05 | 1              | 25.40 | 15.74 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 52.32  | 62.48  |
| GR 16-20                                        | 1         | 25.40 | 1-1/4          | 31.75 | 22.35 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 68.32  | 80.51  |
| GR 16-24                                        | 1         | 25.40 | 1-1/2          | 38.10 | 22.35 | 1-5/8             | 41.27 | 1-1/2 | 38.10 | 31.24 | 26.41 | 76.96  | 89.15  |
| GR 16-32                                        | 1         | 25.40 | 2              | 50.80 | 22.35 | 2-1/8             | 53.97 | 1-1/2 | 38.10 | 31.24 | 26.41 | 100.33 | 112.52 |
| GR 20-24                                        | 1-1/4     | 31.75 | 1-1/2          | 38.10 | 27.68 | 1-3/4             | 44.45 | 1-7/8 | 47.62 | 41.14 | 38.86 | 82.04  | 104.14 |
| GR 20-32                                        | 1-1/4     | 31.75 | 2              | 50.80 | 27.68 | 2-1/8             | 53.97 | 1-7/8 | 47.62 | 41.14 | 38.86 | 103.12 | 125.22 |
| GR 24-32                                        | 1-1/2     | 38.10 | 2              | 50.80 | 34.03 | 2-1/4             | 57.15 | 2-1/4 | 57.15 | 50.03 | 45.21 | 104.14 | 131.31 |

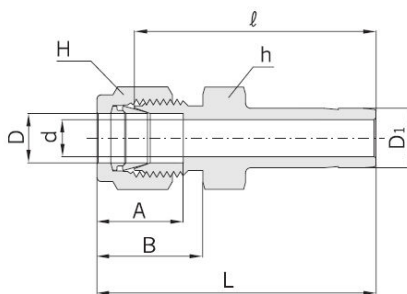
## Reducers Mod. GR



Connects Metric Tube to Fractional GPI Port

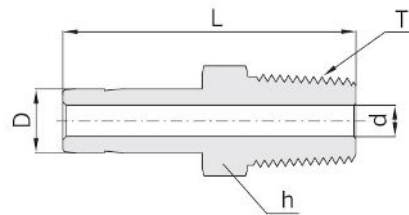
| Connects Metric Tube to Fractional GPI Port |           |      |       |      |                   |    |      |      |      |      |
|---------------------------------------------|-----------|------|-------|------|-------------------|----|------|------|------|------|
| Part No.                                    | Tube O.D. |      |       | d    | Width across flat |    | A    | B    | ℓ    | L    |
|                                             | D         | D1   |       |      | h                 | H  |      |      |      |      |
|                                             |           | in   | mm    | Min  |                   |    |      |      |      |      |
| GR 2M-2                                     | 2         | 1/8  | 3.17  | 1.7  | 12                | 12 | 12.9 | 15.3 | 26.9 | 33.5 |
| GR 3M-2                                     | 3         | 1/8  | 3.17  | 2.0  | 12                | 12 | 12.9 | 15.3 | 26.9 | 33.5 |
| GR 3M-4                                     | 3         | 1/4  | 6.35  | 2.4  | 12                | 12 | 12.9 | 15.3 | 29.5 | 36.1 |
| GR 4M-4                                     | 4         | 1/4  | 6.35  | 2.4  | 12                | 12 | 13.7 | 16.1 | 30.5 | 37.1 |
| GR 6M-2                                     | 6         | 1/8  | 3.17  | 2.0  | 14                | 14 | 15.3 | 17.7 | 29.5 | 36.9 |
| GR 6M-4                                     | 6         | 1/4  | 6.35  | 4.8  | 14                | 14 | 15.3 | 17.7 | 31.8 | 39.2 |
| GR 6M-5                                     | 6         | 5/16 | 7.93  | 4.8  | 14                | 14 | 15.3 | 17.7 | 32.5 | 39.9 |
| GR 6M-6                                     | 6         | 3/8  | 9.52  | 4.8  | 14                | 14 | 15.3 | 17.7 | 33.3 | 40.7 |
| GR 6M-8                                     | 6         | 1/2  | 12.70 | 4.8  | 14                | 14 | 15.3 | 17.7 | 38.9 | 46.3 |
| GR 8M-6                                     | 8         | 3/8  | 9.52  | 6.3  | 14                | 16 | 16.2 | 18.6 | 34.5 | 42.0 |
| GR 8M-8                                     | 8         | 1/2  | 12.70 | 6.3  | 14                | 16 | 16.2 | 18.6 | 40.1 | 47.6 |
| GR 10M-6                                    | 10        | 3/8  | 9.52  | 6.9  | 17                | 19 | 17.2 | 19.5 | 36.6 | 44.2 |
| GR 10M-8                                    | 10        | 1/2  | 12.70 | 7.9  | 17                | 19 | 17.2 | 19.5 | 42.2 | 49.8 |
| GR 12M-8                                    | 12        | 1/2  | 12.70 | 9.4  | 22                | 22 | 22.8 | 22.0 | 42.2 | 52.3 |
| GR 12M-12                                   | 12        | 3/4  | 19.05 | 9.4  | 22                | 22 | 22.8 | 22.0 | 43.7 | 53.8 |
| GR 18M-12                                   | 18        | 3/4  | 19.05 | 14.7 | 27                | 30 | 24.4 | 22.0 | 46.0 | 56.1 |
| GR 18M-16                                   | 18        | 1    | 25.40 | 15.1 | 27                | 30 | 24.4 | 22.0 | 52.3 | 62.4 |
| GR 25M-16                                   | 25        | 1    | 25.40 | 20.0 | 35                | 38 | 31.3 | 26.5 | 57.2 | 69.5 |

## Reducers Mod. GR



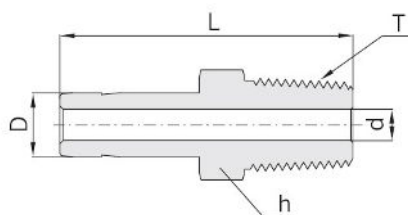
| Connects Metric Tube to Metric GPI Port |           |    |          |                   |    |      |      |      |      |
|-----------------------------------------|-----------|----|----------|-------------------|----|------|------|------|------|
| Part No.                                | Tube O.D. |    | d<br>Min | Width across flat |    | A    | B    | ℓ    | L    |
|                                         | D         | D1 |          | h                 | H  |      |      |      |      |
| GR 2M-3M                                | 2         | 3  | 1.7      | 12                | 12 | 12.9 | 15.3 | 26.9 | 33.5 |
| GR 3M-4M                                | 3         | 4  | 2.2      | 12                | 12 | 12.9 | 15.3 | 28.4 | 35.0 |
| GR 3M-6M                                | 3         | 6  | 2.4      | 12                | 12 | 12.9 | 15.3 | 29.5 | 36.1 |
| GR 3M-10M                               | 3         | 10 | 2.4      | 12                | 12 | 12.9 | 15.3 | 31.8 | 38.4 |
| GR 4M-6M                                | 4         | 6  | 2.4      | 12                | 12 | 13.7 | 16.1 | 30.5 | 37.1 |
| GR 6M-3M                                | 6         | 3  | 1.9      | 14                | 14 | 15.3 | 17.7 | 29.5 | 36.9 |
| GR 6M-8M                                | 6         | 8  | 4.8      | 14                | 14 | 15.3 | 17.7 | 32.5 | 39.9 |
| GR 6M-10M                               | 6         | 10 | 4.8      | 14                | 14 | 15.3 | 17.7 | 33.3 | 40.7 |
| GR 6M-12M                               | 6         | 12 | 4.8      | 14                | 14 | 15.3 | 17.7 | 38.9 | 46.3 |
| GR 8M-6M                                | 8         | 6  | 4.1      | 14                | 16 | 16.2 | 18.6 | 32.8 | 40.3 |
| GR 8M-10M                               | 8         | 10 | 6.3      | 14                | 16 | 16.2 | 18.6 | 34.5 | 42.0 |
| GR 8M-12M                               | 8         | 12 | 6.3      | 14                | 16 | 16.2 | 18.6 | 40.1 | 47.6 |
| GR 10M-6M                               | 10        | 6  | 4.1      | 17                | 19 | 17.2 | 19.5 | 34.8 | 42.4 |
| GR 10M-12M                              | 10        | 12 | 7.9      | 17                | 19 | 17.2 | 19.5 | 42.2 | 49.8 |
| GR 10M-15M                              | 10        | 15 | 7.9      | 17                | 19 | 17.2 | 19.5 | 43.7 | 51.3 |
| GR 10M-18M                              | 10        | 18 | 7.9      | 19                | 19 | 17.2 | 19.5 | 43.7 | 51.3 |
| GR 12M-6M                               | 12        | 6  | 4.1      | 22                | 22 | 22.8 | 22.0 | 34.8 | 44.9 |
| GR 12M-10M                              | 12        | 10 | 7.1      | 22                | 22 | 22.8 | 22.0 | 36.6 | 46.7 |
| GR 12M-16M                              | 12        | 16 | 9.5      | 22                | 22 | 22.8 | 22.0 | 43.7 | 53.8 |
| GR 12M-18M                              | 12        | 18 | 9.5      | 22                | 22 | 22.8 | 22.0 | 43.7 | 53.8 |
| GR 12M-20M                              | 12        | 20 | 9.5      | 22                | 22 | 22.8 | 22.0 | 46.0 | 56.1 |
| GR 12M-22M                              | 12        | 22 | 9.5      | 24                | 22 | 22.8 | 22.0 | 46.0 | 56.1 |
| GR 12M-25M                              | 12        | 25 | 9.5      | 27                | 22 | 22.8 | 22.0 | 52.3 | 62.4 |
| GR 16M-12M                              | 16        | 12 | 8.8      | 24                | 25 | 24.4 | 22.0 | 42.9 | 53.0 |
| GR 18M-12M                              | 18        | 12 | 8.8      | 27                | 30 | 24.4 | 22.0 | 44.5 | 54.6 |
| GR 18M-16M                              | 18        | 16 | 12.0     | 27                | 30 | 24.4 | 22.0 | 46.0 | 56.1 |
| GR 18M-20M                              | 18        | 20 | 15.1     | 27                | 30 | 24.4 | 22.0 | 47.5 | 57.6 |
| GR 18M-22M                              | 18        | 22 | 15.1     | 27                | 30 | 24.4 | 22.0 | 47.5 | 57.6 |
| GR 18M-25M                              | 18        | 25 | 15.1     | 27                | 30 | 24.4 | 22.0 | 52.3 | 62.4 |
| GR 20M-16M                              | 20        | 16 | 12.0     | 30                | 32 | 26.0 | 22.0 | 47.8 | 57.9 |
| GR 20M-18M                              | 20        | 18 | 13.9     | 30                | 32 | 26.0 | 22.0 | 47.8 | 57.9 |
| GR 20M-22M                              | 20        | 22 | 15.9     | 30                | 32 | 26.0 | 22.0 | 49.3 | 59.4 |
| GR 20M-25M                              | 20        | 25 | 15.9     | 30                | 32 | 26.0 | 22.0 | 54.1 | 64.2 |
| GR 22M-18M                              | 22        | 18 | 13.9     | 30                | 32 | 26.0 | 22.0 | 47.8 | 57.9 |
| GR 22M-20M                              | 22        | 20 | 15.5     | 30                | 32 | 26.0 | 22.0 | 49.3 | 59.4 |
| GR 22M-25M                              | 22        | 25 | 18.3     | 30                | 32 | 26.0 | 22.0 | 54.1 | 64.2 |
| GR 25M-18M                              | 25        | 18 | 13.9     | 35                | 38 | 31.3 | 26.5 | 50.8 | 63.1 |
| GR 25M-20M                              | 25        | 20 | 15.5     | 35                | 38 | 31.3 | 26.5 | 52.3 | 64.6 |

## Male Adapter Mod. GMA



| Connects Fractional GPI port to Female NPT Thread |                |       |            |          |                        |       |        |
|---------------------------------------------------|----------------|-------|------------|----------|------------------------|-------|--------|
| Part No.                                          | Tube O.D.<br>D |       | T<br>(NPT) | d<br>Min | Width across flat<br>h |       | L      |
|                                                   | in             | mm    |            |          | in                     | mm    |        |
| GMA 2-2N                                          | 1/8            | 3.17  | 1/8        | 2.03     | 7/16                   | 11.11 | 29.50  |
| GMA 2-4N                                          | 1/8            | 3.17  | 1/4        | 2.03     | 9/16                   | 14.28 | 34.80  |
| GMA 3-2N                                          | 3/16           | 4.76  | 1/8        | 3.04     | 7/16                   | 11.11 | 30.22  |
| GMA 3-4N                                          | 3/16           | 4.76  | 1/4        | 3.04     | 9/16                   | 14.28 | 35.56  |
| GMA 4-2N                                          | 1/4            | 6.35  | 1/8        | 4.32     | 7/16                   | 11.11 | 31.80  |
| GMA 4-4N                                          | 1/4            | 6.35  | 1/4        | 4.32     | 9/16                   | 14.28 | 37.08  |
| GMA 4-6N                                          | 1/4            | 6.35  | 3/8        | 4.32     | 11/16                  | 17.46 | 37.84  |
| GMA 4-8N                                          | 1/4            | 6.35  | 1/2        | 4.32     | 7/8                    | 22.22 | 43.43  |
| GMA 5-2N                                          | 5/16           | 7.93  | 1/8        | 4.57     | 7/16                   | 11.11 | 32.76  |
| GMA 5-4N                                          | 5/16           | 7.93  | 1/4        | 5.59     | 9/16                   | 14.28 | 38.10  |
| GMA 6-2N                                          | 3/8            | 9.52  | 1/8        | 4.83     | 7/16                   | 11.11 | 33.50  |
| GMA 6-4N                                          | 3/8            | 9.52  | 1/4        | 6.86     | 9/16                   | 14.28 | 38.90  |
| GMA 6-6N                                          | 3/8            | 9.52  | 3/8        | 6.86     | 11/16                  | 17.46 | 39.60  |
| GMA 6-8N                                          | 3/8            | 9.52  | 1/2        | 6.86     | 7/8                    | 22.22 | 45.20  |
| GMA 8-4N                                          | 1/2            | 12.70 | 1/4        | 7.11     | 9/16                   | 14.28 | 44.50  |
| GMA 8-6N                                          | 1/2            | 12.70 | 3/8        | 9.40     | 11/16                  | 17.46 | 45.20  |
| GMA 8-8N                                          | 1/2            | 12.70 | 1/2        | 9.40     | 7/8                    | 22.22 | 50.80  |
| GMA 10-6N                                         | 5/8            | 15.87 | 3/8        | 9.50     | 11/16                  | 17.46 | 47.40  |
| GMA 10-8N                                         | 5/8            | 15.87 | 1/2        | 11.94    | 7/8                    | 22.22 | 52.30  |
| GMA 10-12N                                        | 5/8            | 15.87 | 3/4        | 12.70    | 1-1/16                 | 26.98 | 52.30  |
| GMA 12-8N                                         | 3/4            | 19.05 | 1/2        | 11.94    | 7/8                    | 22.22 | 52.30  |
| GMA 12-12N                                        | 3/4            | 19.05 | 3/4        | 14.73    | 1-1/16                 | 26.98 | 52.30  |
| GMA 12-16N                                        | 3/4            | 19.05 | 1          | 14.73    | 1-3/8                  | 34.92 | 57.91  |
| GMA 14-12N                                        | 7/8            | 22.22 | 3/4        | 15.75    | 1-1/16                 | 26.98 | 54.80  |
| GMA 16-12N                                        | 1              | 25.40 | 3/4        | 15.75    | 1-1/16                 | 26.98 | 58.70  |
| GMA 16-16N                                        | 1              | 25.40 | 1          | 20.32    | 1-3/8                  | 34.92 | 66.00  |
| GMA 20-20N                                        | 1-1/4          | 31.75 | 1-1/4      | 25.91    | 1-3/4                  | 44.45 | 80.26  |
| GMA 24-24N                                        | 1-1/2          | 38.10 | 1-1/2      | 31.75    | 2-1/8                  | 53.97 | 94.48  |
| GMA 32-32N                                        | 2              | 50.80 | 2          | 43.69    | 2-9/16                 | 65.09 | 119.38 |

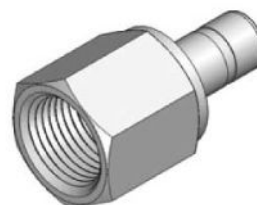
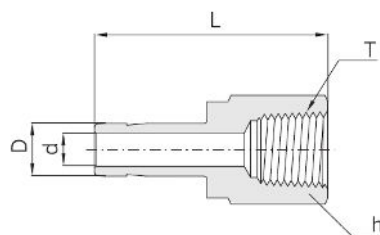
| Connects Fractional GPI port to Female NPT Thread |           |       |      |                   |      |
|---------------------------------------------------|-----------|-------|------|-------------------|------|
| Part No.                                          | Tube O.D. | T     | d    | Width across flat | L    |
|                                                   | D         | (NPT) | Min  | h                 |      |
| GMA 6M-2N                                         | 6         | 1/8   | 4.1  | 12                | 32.8 |
| GMA 6M-4N                                         | 6         | 1/4   | 4.1  | 14                | 38.1 |
| GMA 8M-4N                                         | 8         | 1/4   | 5.6  | 14                | 39.1 |
| GMA 10M-4N                                        | 10        | 1/4   | 7.1  | 14                | 39.9 |
| GMA 10M-6N                                        | 10        | 3/8   | 7.1  | 17                | 40.6 |
| GMA 10M-8N                                        | 10        | 1/2   | 7.1  | 22                | 45.2 |
| GMA 12M-4N                                        | 12        | 1/4   | 7.1  | 14                | 46.5 |
| GMA 12M-6N                                        | 12        | 3/8   | 8.8  | 17                | 46.2 |
| GMA 12M-8N                                        | 12        | 1/2   | 8.8  | 22                | 52.0 |
| GMA 18M-8N                                        | 18        | 1/2   | 11.9 | 22                | 53.2 |
| GMA 18M-12N                                       | 18        | 3/4   | 13.9 | 27                | 53.2 |
| GMA 28M-16N                                       | 28        | 1     | 22.2 | 35                | 74.7 |
| GMA 28M-20N                                       | 28        | 1-1/4 | 22.4 | 46                | 76.2 |
| GMA 32M-20N                                       | 32        | 1-1/4 | 26.5 | 46                | 81.0 |
| GMA 38M-24N                                       | 38        | 1-1/2 | 31.8 | 55                | 92.2 |

**Male Adapter  
Mod. GMA**


| Connects Fractional GPI port to Female ISO Tapered Thread |                |       |       |       |                        |       |        |
|-----------------------------------------------------------|----------------|-------|-------|-------|------------------------|-------|--------|
| Part No.                                                  | Tube O.D.<br>D |       | T     | d     | Width across flat<br>h |       | L      |
|                                                           | in             | mm    | R(PT) | Min   | in                     | mm    |        |
| GMA 2-2R                                                  | 1/8            | 3.17  | 1/8   | 2.03  | 7/16                   | 11.11 | 29.50  |
| GMA 2-4R                                                  | 1/8            | 3.17  | 1/4   | 2.03  | 9/16                   | 14.28 | 34.80  |
| GMA 3-2R                                                  | 3/16           | 4.76  | 1/8   | 3.04  | 7/16                   | 11.11 | 30.22  |
| GMA 3-4R                                                  | 3/16           | 4.76  | 1/4   | 3.04  | 9/16                   | 14.28 | 35.56  |
| GMA 4-2R                                                  | 1/4            | 6.35  | 1/8   | 4.32  | 7/16                   | 11.11 | 31.80  |
| GMA 4-4R                                                  | 1/4            | 6.35  | 1/4   | 4.32  | 9/16                   | 14.28 | 37.08  |
| GMA 4-6R                                                  | 1/4            | 6.35  | 3/8   | 4.32  | 11/16                  | 17.46 | 37.84  |
| GMA 4-8R                                                  | 1/4            | 6.35  | 1/2   | 4.32  | 7/8                    | 22.22 | 43.43  |
| GMA 5-2R                                                  | 5/16           | 7.93  | 1/8   | 4.57  | 7/16                   | 11.11 | 32.76  |
| GMA 5-4R                                                  | 5/16           | 7.93  | 1/4   | 5.59  | 9/16                   | 14.28 | 38.10  |
| GMA 6-2R                                                  | 3/8            | 9.52  | 1/8   | 4.83  | 7/16                   | 11.11 | 33.50  |
| GMA 6-4R                                                  | 3/8            | 9.52  | 1/4   | 6.86  | 9/16                   | 14.28 | 38.90  |
| GMA 6-6R                                                  | 3/8            | 9.52  | 3/8   | 6.86  | 11/16                  | 17.46 | 39.60  |
| GMA 6-8R                                                  | 3/8            | 9.52  | 1/2   | 6.86  | 7/8                    | 22.22 | 45.20  |
| GMA 8-4R                                                  | 1/2            | 12.70 | 1/4   | 7.11  | 9/16                   | 14.28 | 44.50  |
| GMA 8-6R                                                  | 1/2            | 12.70 | 3/8   | 9.40  | 11/16                  | 17.46 | 45.20  |
| GMA 8-8R                                                  | 1/2            | 12.70 | 1/2   | 9.40  | 7/8                    | 22.22 | 50.80  |
| GMA 10-6R                                                 | 5/8            | 15.87 | 3/8   | 9.50  | 11/16                  | 17.46 | 47.40  |
| GMA 10-8R                                                 | 5/8            | 15.87 | 1/2   | 11.94 | 7/8                    | 22.22 | 52.30  |
| GMA 10-12R                                                | 5/8            | 15.87 | 3/4   | 12.70 | 1-1/16                 | 26.98 | 52.30  |
| GMA 12-8R                                                 | 3/4            | 19.05 | 1/2   | 11.94 | 7/8                    | 22.22 | 52.30  |
| GMA 12-12R                                                | 3/4            | 19.05 | 3/4   | 14.73 | 1-1/16                 | 26.98 | 52.30  |
| GMA 12-16R                                                | 3/4            | 19.05 | 1     | 14.73 | 1-3/8                  | 34.92 | 57.91  |
| GMA 14-12R                                                | 7/8            | 22.22 | 3/4   | 15.75 | 1-1/16                 | 26.98 | 54.80  |
| GMA 16-12R                                                | 1              | 25.40 | 3/4   | 15.75 | 1-1/16                 | 26.98 | 58.70  |
| GMA 16-16R                                                | 1              | 25.40 | 1     | 20.32 | 1-3/8                  | 34.92 | 66.00  |
| GMA 20-20R                                                | 1-1/4          | 31.75 | 1-1/4 | 25.91 | 1-3/4                  | 44.45 | 80.26  |
| GMA 24-24R                                                | 1-1/2          | 38.10 | 1-1/2 | 31.75 | 2-1/8                  | 53.97 | 94.48  |
| GMA 32-32R                                                | 2              | 50.80 | 2     | 43.69 | 2-9/16                 | 65.09 | 119.38 |

| Connects Fractional GPI port to Female ISO Tapered Thread |                |            |          |                        |      |
|-----------------------------------------------------------|----------------|------------|----------|------------------------|------|
| Part No.                                                  | Tube O.D.<br>D | T<br>R(PT) | d<br>Min | Width across flat<br>h | L    |
|                                                           |                |            |          |                        |      |
| GMA 6M-2R                                                 | 6              | 1/8        | 4.1      | 12                     | 32.8 |
| GMA 6M-4R                                                 | 6              | 1/4        | 4.1      | 14                     | 38.1 |
| GMA 8M-4R                                                 | 8              | 1/4        | 5.6      | 14                     | 39.1 |
| GMA 10M-4R                                                | 10             | 1/4        | 7.1      | 14                     | 39.9 |
| GMA 10M-6R                                                | 10             | 3/8        | 7.1      | 17                     | 40.6 |
| GMA 10M-8R                                                | 10             | 1/2        | 7.1      | 22                     | 45.2 |
| GMA 12M-4R                                                | 12             | 1/4        | 7.1      | 14                     | 46.5 |
| GMA 12M-6R                                                | 12             | 3/8        | 8.8      | 17                     | 46.2 |
| GMA 12M-8R                                                | 12             | 1/2        | 8.8      | 22                     | 52.0 |
| GMA 18M-8R                                                | 18             | 1/2        | 11.9     | 22                     | 53.2 |
| GMA 18M-12R                                               | 18             | 3/4        | 13.9     | 27                     | 53.2 |
| GMA 28M-16R                                               | 28             | 1          | 22.2     | 35                     | 74.7 |
| GMA 28M-20R                                               | 28             | 1-1/4      | 22.4     | 46                     | 76.2 |
| GMA 32M-20R                                               | 32             | 1-1/4      | 26.5     | 46                     | 81.0 |
| GMA 38M-24R                                               | 38             | 1-1/2      | 31.8     | 55                     | 92.2 |

## Female Adapter Mod. GFA



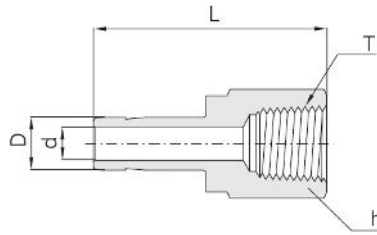
### Connects Fractional GPI port to Male NPT Thread

| Part No.   | Tube O.D.<br>D |       | T<br>(NPT) | d<br>Min | Width across flat<br>h |       | L      |
|------------|----------------|-------|------------|----------|------------------------|-------|--------|
|            | in             | mm    |            |          | in                     | mm    |        |
| GFA 2-2N   | 1/8            | 3.17  | 1/8        | 2.03     | 9/16                   | 14.28 | 31.50  |
| GFA 2-4N   | 1/8            | 3.17  | 1/4        | 2.03     | 3/4                    | 19.05 | 35.30  |
| GFA 3-2N   | 3/16           | 4.76  | 1/8        | 3.04     | 9/16                   | 14.28 | 32.00  |
| GFA 3-4N   | 3/16           | 4.76  | 1/4        | 3.04     | 3/4                    | 19.05 | 35.81  |
| GFA 4-2N   | 1/4            | 6.35  | 1/8        | 4.32     | 9/16                   | 14.28 | 33.02  |
| GFA 4-4N   | 1/4            | 6.35  | 1/4        | 4.32     | 3/4                    | 19.05 | 37.10  |
| GFA 4-6N   | 1/4            | 6.35  | 3/8        | 4.32     | 7/8                    | 22.22 | 39.37  |
| GFA 4-8N   | 1/4            | 6.35  | 1/2        | 4.32     | 1-1/16                 | 26.98 | 45.50  |
| GFA 5-2N   | 5/16           | 7.93  | 1/8        | 5.59     | 9/16                   | 14.28 | 34.29  |
| GFA 5-4N   | 5/16           | 7.93  | 1/4        | 5.59     | 3/4                    | 19.05 | 37.59  |
| GFA 6-2N   | 3/8            | 9.52  | 1/8        | 6.86     | 9/16                   | 14.28 | 34.29  |
| GFA 6-4N   | 3/8            | 9.52  | 1/4        | 6.86     | 3/4                    | 19.05 | 38.10  |
| GFA 6-6N   | 3/8            | 9.52  | 3/8        | 6.86     | 7/8                    | 22.22 | 40.38  |
| GFA 6-8N   | 3/8            | 9.52  | 1/2        | 6.86     | 1-1/16                 | 26.98 | 46.73  |
| GFA 8-4N   | 1/2            | 12.70 | 1/4        | 9.40     | 3/4                    | 19.05 | 43.43  |
| GFA 8-6N   | 1/2            | 12.70 | 3/8        | 9.40     | 7/8                    | 22.22 | 45.46  |
| GFA 8-8N   | 1/2            | 12.70 | 1/2        | 9.40     | 1-1/16                 | 26.98 | 51.80  |
| GFA 10-6N  | 5/8            | 15.87 | 3/8        | 11.94    | 7/8                    | 22.22 | 48.26  |
| GFA 10-8N  | 5/8            | 15.87 | 1/2        | 11.94    | 1-1/16                 | 26.98 | 53.84  |
| GFA 10-12N | 5/8            | 15.87 | 3/4        | 11.94    | 1-5/16                 | 33.33 | 55.37  |
| GFA 12-8N  | 3/4            | 19.05 | 1/2        | 14.73    | 1-1/16                 | 26.98 | 52.83  |
| GFA 12-12N | 3/4            | 19.05 | 3/4        | 14.73    | 1-5/16                 | 33.33 | 54.86  |
| GFA 12-16N | 3/4            | 19.05 | 1          | 14.73    | 1-5/8                  | 41.27 | 58.42  |
| GFA 14-12N | 7/8            | 22.22 | 3/4        | 18.20    | 1-5/16                 | 33.33 | 57.15  |
| GFA 16-12N | 1              | 25.40 | 3/4        | 20.32    | 1-5/16                 | 33.33 | 60.70  |
| GFA 16-16N | 1              | 25.40 | 1          | 20.32    | 1-5/8                  | 41.27 | 64.26  |
| GFA 20-20N | 1-1/4          | 31.75 | 1-1/4      | 25.91    | 2-1/8                  | 53.98 | 77.72  |
| GFA 24-24N | 1-1/2          | 38.10 | 1-1/2      | 31.75    | 2-3/8                  | 60.33 | 88.90  |
| GFA 32-32N | 2              | 50.80 | 2          | 43.69    | 2-7/8                  | 73.03 | 107.44 |

### Connects Metric GPI Port to Male NPT Thread

| Part No.    | Tube O.D.<br>D | T<br>(NPT) | d<br>Min | Width across flat | L     |
|-------------|----------------|------------|----------|-------------------|-------|
|             |                |            |          | h                 |       |
| GFA 3M-2N   | 3              | 1/8        | 1.9      | 14                | 31.15 |
| GFA 6M-2N   | 6              | 1/8        | 4.1      | 14                | 32.50 |
| GFA 6M-4N   | 6              | 1/4        | 4.1      | 19                | 37.10 |
| GFA 8M-4N   | 8              | 1/4        | 5.6      | 19                | 37.60 |
| GFA 10M-4N  | 10             | 1/4        | 7.1      | 19                | 38.10 |
| GFA 10M-6N  | 10             | 3/8        | 7.1      | 22                | 40.10 |
| GFA 10M-8N  | 10             | 1/2        | 7.1      | 27                | 46.50 |
| GFA 12M-4N  | 12             | 1/4        | 8.8      | 19                | 43.70 |
| GFA 12M-6N  | 12             | 3/8        | 8.8      | 22                | 46.00 |
| GFA 12M-8N  | 12             | 1/2        | 8.8      | 27                | 52.30 |
| GFA 18M-12N | 18             | 3/4        | 13.9     | 35                | 54.80 |

### Female Adapter Mod. GFA

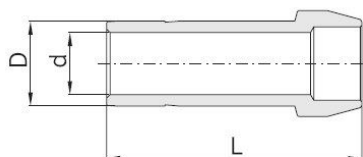


#### Connects Fractional GPI port to Male ISO Tapered Thread

| Part No.   | Tube O.D.<br>D |       | T<br>R(PT) | d<br>Min | Width across flat<br>h |       | L      |
|------------|----------------|-------|------------|----------|------------------------|-------|--------|
|            | in             | mm    |            |          | in                     | mm    |        |
| GFA 2-2R   | 1/8            | 3.17  | 1/8        | 2.03     | 9/16                   | 14.28 | 31.50  |
| GFA 2-4R   | 1/8            | 3.17  | 1/4        | 2.03     | 3/4                    | 19.05 | 35.30  |
| GFA 3-2R   | 3/16           | 4.76  | 1/8        | 3.04     | 9/16                   | 14.28 | 32.00  |
| GFA 3-4R   | 3/16           | 4.76  | 1/4        | 3.04     | 3/4                    | 19.05 | 35.81  |
| GFA 4-2R   | 1/4            | 6.35  | 1/8        | 4.32     | 9/16                   | 14.28 | 33.02  |
| GFA 4-4R   | 1/4            | 6.35  | 1/4        | 4.32     | 3/4                    | 19.05 | 37.10  |
| GFA 4-6R   | 1/4            | 6.35  | 3/8        | 4.32     | 7/8                    | 22.22 | 39.37  |
| GFA 4-8R   | 1/4            | 6.35  | 1/2        | 4.32     | 1-1/16                 | 26.98 | 45.50  |
| GFA 5-2R   | 5/16           | 7.93  | 1/8        | 5.59     | 9/16                   | 14.28 | 34.29  |
| GFA 5-4R   | 5/16           | 7.93  | 1/4        | 5.59     | 3/4                    | 19.05 | 37.59  |
| GFA 6-2R   | 3/8            | 9.52  | 1/8        | 6.86     | 9/16                   | 14.28 | 34.29  |
| GFA 6-4R   | 3/8            | 9.52  | 1/4        | 6.86     | 3/4                    | 19.05 | 38.10  |
| GFA 6-6R   | 3/8            | 9.52  | 3/8        | 6.86     | 7/8                    | 22.22 | 40.38  |
| GFA 6-8R   | 3/8            | 9.52  | 1/2        | 6.86     | 1-1/16                 | 26.98 | 46.73  |
| GFA 8-4R   | 1/2            | 12.70 | 1/4        | 9.40     | 3/4                    | 19.05 | 43.43  |
| GFA 8-6R   | 1/2            | 12.70 | 3/8        | 9.40     | 7/8                    | 22.22 | 45.46  |
| GFA 8-8R   | 1/2            | 12.70 | 1/2        | 9.40     | 1-1/16                 | 26.98 | 51.80  |
| GFA 10-6R  | 5/8            | 15.87 | 3/8        | 11.94    | 7/8                    | 22.22 | 48.26  |
| GFA 10-8R  | 5/8            | 15.87 | 1/2        | 11.94    | 1-1/16                 | 26.98 | 53.84  |
| GFA 10-12R | 5/8            | 15.87 | 3/4        | 11.94    | 1-5/16                 | 33.33 | 55.37  |
| GFA 12-8R  | 3/4            | 19.05 | 1/2        | 14.73    | 1-1/16                 | 26.98 | 52.83  |
| GFA 12-12R | 3/4            | 19.05 | 3/4        | 14.73    | 1-5/16                 | 33.33 | 54.86  |
| GFA 12-16R | 3/4            | 19.05 | 1          | 14.73    | 1-5/8                  | 41.27 | 58.42  |
| GFA 14-12R | 7/8            | 22.22 | 3/4        | 18.20    | 1-5/16                 | 33.33 | 57.15  |
| GFA 16-12R | 1              | 25.40 | 3/4        | 20.32    | 1-5/16                 | 33.33 | 60.70  |
| GFA 16-16R | 1              | 25.40 | 1          | 20.32    | 1-5/8                  | 41.27 | 64.26  |
| GFA 20-20R | 1-1/4          | 31.75 | 1-1/4      | 25.91    | 2-1/8                  | 53.98 | 77.72  |
| GFA 24-24R | 1-1/2          | 38.10 | 1-1/2      | 31.75    | 2-3/8                  | 60.33 | 88.90  |
| GFA 32-32R | 2              | 50.80 | 2          | 43.69    | 2-7/8                  | 73.03 | 107.44 |

#### Connects Metric GPI Port to Male ISO Tapered Thread

| Part No.    | Tube O.D.<br>D | T<br>R(PT) | d<br>Min | Width across flat | L     |
|-------------|----------------|------------|----------|-------------------|-------|
|             |                |            |          | h                 |       |
| GFA 3M-2R   | 3              | 1/8        | 1.9      | 14                | 31.15 |
| GFA 6M-2R   | 6              | 1/8        | 4.1      | 14                | 32.50 |
| GFA 6M-4R   | 6              | 1/4        | 4.1      | 19                | 37.10 |
| GFA 8M-4R   | 8              | 1/4        | 5.6      | 19                | 37.60 |
| GFA 10M-4R  | 10             | 1/4        | 7.1      | 19                | 38.10 |
| GFA 10M-6R  | 10             | 3/8        | 7.1      | 22                | 40.10 |
| GFA 10M-8R  | 10             | 1/2        | 7.1      | 27                | 46.50 |
| GFA 12M-4R  | 12             | 1/4        | 8.8      | 19                | 43.70 |
| GFA 12M-6R  | 12             | 3/8        | 8.8      | 22                | 46.00 |
| GFA 12M-8R  | 12             | 1/2        | 8.8      | 27                | 52.30 |
| GFA 18M-12R | 18             | 3/4        | 13.9     | 35                | 54.80 |

**Port Connector  
Mod. GPC**


| Connects two Fractional GPI ports |                |       |          |       |
|-----------------------------------|----------------|-------|----------|-------|
| Part No.                          | Tube O.D.<br>D |       | d<br>Min | L     |
|                                   | in             | mm    |          |       |
| GPC-1                             | 1/16           | 1.58  | 0.76     | 13.72 |
| GPC-2                             | 1/8            | 3.17  | 2.03     | 22.35 |
| GPC-4                             | 1/4            | 6.35  | 4.32     | 24.89 |
| GPC-5                             | 5/16           | 7.93  | 5.59     | 25.91 |
| GPC-6                             | 3/8            | 9.52  | 6.86     | 26.67 |
| GPC-8                             | 1/2            | 12.70 | 9.40     | 36.32 |
| GPC-12                            | 3/4            | 19.05 | 14.73    | 37.85 |
| GPC-16                            | 1              | 25.40 | 20.32    | 49.28 |

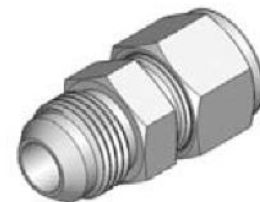
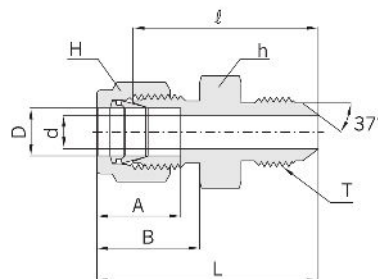
| Connects two Metric GPI ports |                |  |          |       |
|-------------------------------|----------------|--|----------|-------|
| Part No.                      | Tube O.D.<br>D |  | d<br>Min | L     |
|                               |                |  |          |       |
| GPC-3M                        | 3              |  | 1.9      | 22.20 |
| GPC-4M                        | 4              |  | 2.2      | 23.81 |
| GPC-6M                        | 6              |  | 4.1      | 25.00 |
| GPC-8M                        | 8              |  | 5.6      | 26.00 |
| GPC-10M                       | 10             |  | 7.1      | 27.10 |
| GPC-12M                       | 12             |  | 8.8      | 36.20 |
| GPC-15M                       | 15             |  | 11.2     | 37.80 |
| GPC-16M                       | 16             |  | 12.0     | 37.80 |
| GPC-18M                       | 18             |  | 13.9     | 37.80 |
| GPC-20M                       | 20             |  | 15.5     | 39.40 |
| GPC-22M                       | 22             |  | 16.1     | 38.97 |
| GPC-25M                       | 25             |  | 19.9     | 49.30 |
| GPC-28M                       | 28             |  | 22.5     | 63.50 |
| GPC-32M                       | 32             |  | 26.5     | 69.70 |
| GPC-38M                       | 38             |  | 31.6     | 81.90 |

16.1

**Installation Instructions:**

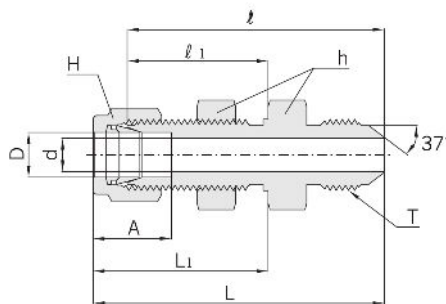
1. Remove the nut and ferrules from GLOK port 1 and set nut only (no ferrules) over the port connector.
2. Tighten the nut with wrench until sharp rise in torque is felt.
3. Insert the other end of port connector into port 2 and tighten nut 1-1/4 turns with wrench.  
for 1/8", 3mm only 3/4 turn from finger tight.

## AN Union Mod. GAU



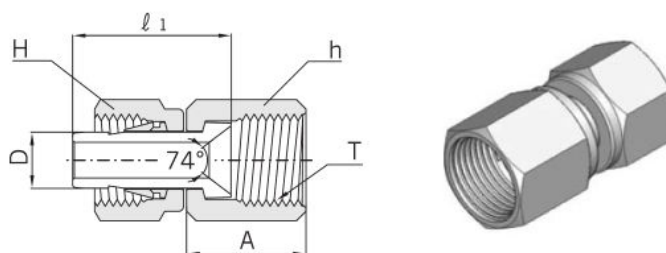
| Connects Fractional Tube to AN Flared tube |                |       |                    |       |                      |       |                   |       |       |       |       |       |       |       |
|--------------------------------------------|----------------|-------|--------------------|-------|----------------------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                                   | Tube O.D.<br>D |       | AN Tube Flare Size |       | Straight-Thread T(U) | E Min | Width across flat |       |       |       | A     | B     | ℓ     | L     |
|                                            | in             | mm    | in                 | mm    |                      |       | h                 |       | H     |       |       |       |       |       |
|                                            |                |       |                    |       |                      |       | in                | mm    | in    | mm    |       |       |       |       |
| GAU 1-2                                    | 1/16           | 1.58  | 1/8                | 3.17  | 5/16-24              | 1.27  | 7/16              | 11.11 | 5/16  | 7.93  | 8.63  | 10.92 | 23.36 | 27.17 |
| GAU 2-2                                    | 1/8            | 3.17  | 1/8                | 3.17  | 5/16-24              | 1.52  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 24.89 | 31.49 |
| GAU 2-4                                    | 1/8            | 3.17  | 1/4                | 6.35  | 7/16-20              | 2.28  | 1/2               | 12.70 | 7/16  | 11.11 | 12.70 | 15.24 | 28.44 | 35.05 |
| GAU 4-4                                    | 1/4            | 6.35  | 1/4                | 6.35  | 7/16-20              | 4.31  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 30.22 | 37.59 |
| GAU 5-5                                    | 5/16           | 7.93  | 5/16               | 7.93  | 1/2-20               | 5.84  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 30.98 | 38.35 |
| GAU 6-4                                    | 3/8            | 9.52  | 1/4                | 6.35  | 7/16-20              | 4.31  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 32.25 | 39.62 |
| GAU 6-6                                    | 3/8            | 9.52  | 3/8                | 9.52  | 9/16-18              | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 32.25 | 39.62 |
| GAU 8-8                                    | 1/2            | 12.70 | 1/2                | 12.70 | 3/4-16               | 9.90  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 35.81 | 45.97 |
| GAU 12-12                                  | 3/4            | 19.05 | 3/4                | 19.05 | 1-1/16-12            | 15.49 | 1-1/8             | 28.58 | 1-1/8 | 28.58 | 24.38 | 21.84 | 43.18 | 53.34 |
| GAU 16-16                                  | 1              | 25.40 | 1                  | 25.40 | 1-5/16-12            | 21.33 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 49.27 | 61.46 |

## AN Bulkhead Union Mod. GABU



| Connects Fractional Tube to AN Flared tube |                |       |                    |       |                     |       |                   |       |       |       |       |       |       |       |       |                       |                |
|--------------------------------------------|----------------|-------|--------------------|-------|---------------------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|----------------|
| Part No.                                   | Tube O.D.<br>D |       | AN Tube Flare Size |       | Straigh Thread T(U) | E Min | Width across flat |       |       |       | A     | ℓ     | ℓ1    | L     | L1    | Panel Hole Drill Size | Panel Max Thk. |
|                                            |                |       |                    |       |                     |       | h                 |       | H     |       |       |       |       |       |       |                       |                |
|                                            | in             | mm    | in                 | mm    |                     |       | in                | mm    | in    | mm    |       |       |       |       |       |                       |                |
| GABU 4-4                                   | 1/4            | 6.35  | 1/4                | 6.35  | 7/16-20             | 4.31  | 5/8               | 15.87 | 9/16  | 14.28 | 15.24 | 46.48 | 26.16 | 53.84 | 33.52 | 11.50                 | 10.16          |
| GABU 6-6                                   | 3/8            | 9.52  | 3/8                | 9.52  | 9/16-18             | 7.11  | 3/4               | 19.05 | 11/16 | 17.46 | 16.76 | 49.78 | 29.46 | 57.15 | 36.83 | 14.68                 | 11.17          |
| GABU 8-8                                   | 1/2            | 12.70 | 1/2                | 12.70 | 3/4-16              | 9.90  | 5/16              | 23.81 | 7/8   | 22.22 | 22.86 | 55.62 | 31.75 | 65.78 | 41.91 | 19.44                 | 12.70          |
| GABU12-12                                  | 3/4            | 19.05 | 3/4                | 19.05 | 1-1/16-12           | 15.49 | 1-3/16            | 30.16 | 1-1/8 | 28.58 | 24.38 | 68.83 | 37.33 | 78.99 | 47.49 | 25.79                 | 16.76          |
| GABU16-16                                  | 1              | 25.40 | 1                  | 25.40 | 1-5/16-12           | 21.33 | 1-5/8             | 41.27 | 1-1/2 | 38.10 | 31.24 | 80.26 | 45.21 | 92.45 | 57.40 | 33.73                 | 19.05          |

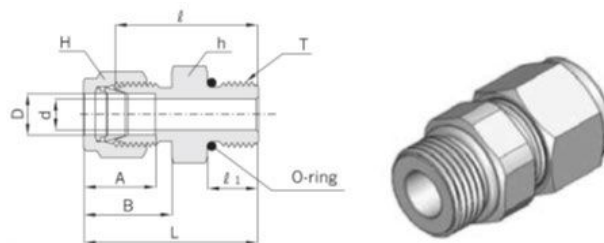
## AN Adapter Mod. GAA



Connects Fractional GPI port to Male AN

| Part No. | Tube O.D. |       | AN Tube    |       | Straight Thread<br>T(U) | Width across flat |       |       |       | A     | ℓ     | ℓ1    |
|----------|-----------|-------|------------|-------|-------------------------|-------------------|-------|-------|-------|-------|-------|-------|
|          | D         |       | Flare Size |       |                         | h                 |       | H     |       |       |       |       |
|          | in        | mm    | in         | mm    |                         | in                | mm    | in    | mm    |       |       |       |
| GAA 2-2  | 1/8       | 3.17  | 1/8        | 3.17  | 5/16-24                 | 3/8               | 9.52  | 7/16  | 11.11 | 13.71 | 13.46 | 18.54 |
| GAA 2-4  | 1/8       | 3.17  | 1/4        | 6.35  | 7/16-20                 | 9/16              | 14.28 | 7/16  | 11.11 | 15.74 | 13.46 | 19.05 |
| GAA 4-4  | 1/4       | 6.35  | 1/4        | 6.35  | 7/16-20                 | 9/16              | 14.28 | 9/16  | 14.28 | 15.74 | 15.74 | 21.33 |
| GAA 6-6  | 3/8       | 9.52  | 3/8        | 9.52  | 9/16-18                 | 11/16             | 17.46 | 11/16 | 17.46 | 18.28 | 17.52 | 24.89 |
| GAA 8-8  | 1/2       | 12.70 | 1/2        | 12.70 | 3/4-16                  | 7/8               | 22.22 | 7/8   | 22.22 | 21.59 | 23.11 | 31.75 |

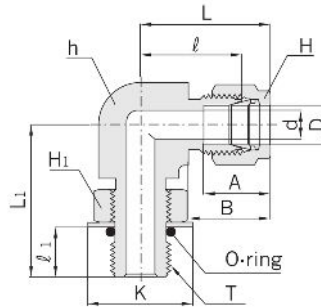
## SAE Male Connector Mod. GSCM



Connects Fractional Tube to SAE Straight Thread Boss

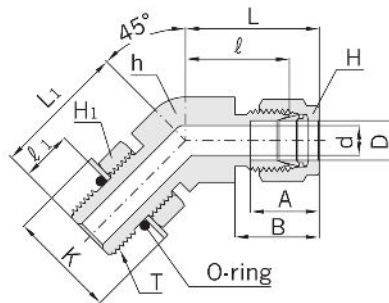
| Part No.    | Tube O.D. |       | Straight Thread T(U) | E Min | Width across flat |       |       |       | A     | B     | ℓ     | ℓ1    | L     | O-Ring Uniform Size No. |
|-------------|-----------|-------|----------------------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------|
|             | D         |       |                      |       | h                 |       | H     |       |       |       |       |       |       |                         |
|             | in        | mm    |                      |       | in                | mm    | in    | mm    |       |       |       |       |       |                         |
| GSMC 2-2U   | 1/8       | 3.17  | 5/16-24              | 2.28  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 23.26 | 7.62  | 29.97 | -902                    |
| GSMC 2-4U   | 1/8       | 3.17  | 7/16-20              | 2.28  | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.24 | 24.89 | 9.14  | 31.49 | -904                    |
| GSMC 4-4U   | 1/4       | 6.35  | 7/16-20              | 4.82  | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 26.67 | 9.14  | 34.03 | -904                    |
| GSMC 4-6U   | 1/4       | 6.35  | 9/16-18              | 4.82  | 11/16             | 17.46 | 9/16  | 14.28 | 15.24 | 17.78 | 28.19 | 9.90  | 35.56 | -906                    |
| GSMC 4-8U   | 1/4       | 6.35  | 3/4-16               | 4.82  | 7/8               | 22.22 | 9/16  | 14.28 | 15.24 | 17.78 | 30.22 | 11.17 | 37.59 | -908                    |
| GSMC 4-10U  | 1/4       | 6.35  | 7/8-14               | 4.82  | 1                 | 25.40 | 9/16  | 14.28 | 15.24 | 17.78 | 33.27 | 12.70 | 40.64 | -910                    |
| GSMC 5-5U   | 5/16      | 7.93  | 1/2-20               | 5.84  | 5/8               | 15.87 | 5/8   | 15.87 | 16.25 | 18.54 | 27.43 | 9.14  | 34.79 | -905                    |
| GSMC 6-4U   | 3/8       | 9.52  | 7/16-20              | 5.08  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 28.19 | 9.14  | 35.56 | -904                    |
| GSMC 6-6U   | 3/8       | 9.52  | 9/16-18              | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 29.71 | 9.90  | 37.08 | -906                    |
| GSMC 6-8U   | 3/8       | 9.52  | 3/4-16               | 7.11  | 7/8               | 22.22 | 11/16 | 17.46 | 16.76 | 19.30 | 31.75 | 11.17 | 39.11 | -908                    |
| GSMC 6-10U  | 3/8       | 9.52  | 7/8-14               | 7.11  | 1                 | 25.40 | 11/16 | 17.46 | 16.76 | 19.30 | 34.79 | 12.70 | 42.16 | -910                    |
| GSMC 8-6U   | 1/2       | 12.70 | 9/16-18              | 7.11  | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 28.95 | 9.90  | 39.11 | -906                    |
| GSMC 8-8U   | 1/2       | 12.70 | 3/4-16               | 10.41 | 7/8               | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 31.75 | 11.17 | 41.91 | -908                    |
| GSMC 8-10U  | 1/2       | 12.70 | 7/8-14               | 10.41 | 1                 | 25.40 | 7/8   | 22.22 | 22.86 | 21.84 | 34.79 | 12.70 | 44.95 | -910                    |
| GSMC 8-12U  | 1/2       | 12.70 | 1-1/16-12            | 10.41 | 1-1/4             | 31.75 | 7/8   | 22.22 | 22.86 | 21.84 | 38.86 | 14.98 | 49.02 | -912                    |
| GSMC 10-8U  | 5/8       | 15.87 | 3/4-16               | 10.66 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 31.75 | 11.17 | 41.91 | -908                    |
| GSMC 10-10U | 5/8       | 15.87 | 7/8-14               | 12.70 | 1                 | 25.40 | 1     | 25.40 | 24.38 | 21.84 | 35.05 | 12.70 | 45.21 | -910                    |
| GSMC 12-8U  | 3/4       | 19.05 | 3/4-16               | 10.66 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 35.81 | 11.17 | 45.97 | -908                    |
| GSMC 12-12U | 3/4       | 19.05 | 1-1/16-12            | 15.74 | 1-1/4             | 31.75 | 1-1/8 | 28.57 | 24.38 | 21.84 | 38.86 | 14.98 | 49.02 | -912                    |
| GSMC 14-14U | 7/8       | 22.22 | 1-3/16-12            | 18.28 | 1-3/8             | 34.92 | 1-1/4 | 31.75 | 25.90 | 21.84 | 38.86 | 14.98 | 49.02 | -914                    |
| GSMC 16-12U | 1         | 25.40 | 1-1/16-12            | 16.76 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 41.14 | 14.98 | 53.34 | -912                    |
| GSMC 16-16U | 1         | 25.40 | 1-5/16-12            | 22.35 | 1-1/2             | 38.10 | 1-1/2 | 38.10 | 31.24 | 26.41 | 42.16 | 14.98 | 54.35 | -916                    |
| GSMC 20-20U | 1-1/4     | 31.75 | 1-5/8-12             | 27.68 | 1-7/8             | 47.63 | 1-7/8 | 47.63 | 41.14 | 38.86 | 46.22 | 14.98 | 68.32 | -920                    |
| GSMC 24-24U | 1-1/2     | 38.10 | 1-7/8-12             | 34.03 | 2-1/8             | 53.98 | 2-1/4 | 57.15 | 50.03 | 45.21 | 50.54 | 14.98 | 77.72 | -924                    |
| GSMC 32-32U | 2         | 50.80 | 2-1/2-12             | 45.97 | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 64.26 | 14.98 | 101.6 | -932                    |

## SAE Male Elbow Mod. GSLM



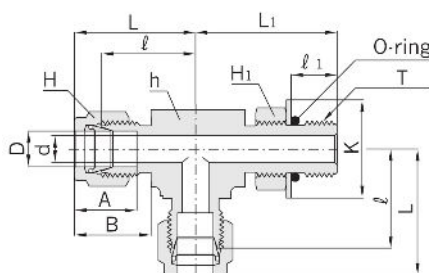
| Connects Fractional Tube to SAE StraightThred Boss |                |       |                        |          |                   |       |       |       |       |       |       |       |       |       |        |       |       |                                  |
|----------------------------------------------------|----------------|-------|------------------------|----------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|----------------------------------|
| Part No.                                           | Tube O.D.<br>D |       | Straigh Thread<br>T(U) | d<br>Min | Width across flat |       |       |       |       |       | A     | B     | ℓ     | ℓ1    | L      | L1    | K     | O-Ring<br>Uniform<br>Size<br>No. |
|                                                    |                |       |                        |          | h                 |       | H     |       | H1    |       |       |       |       |       |        |       |       |                                  |
|                                                    | in             | mm    |                        |          | in                | mm    | in    | mm    | in    | mm    |       |       |       |       |        |       |       |                                  |
| GSML4-4U                                           | 1/4            | 6.35  | 7/16-20                | 4.82     | 1/2               | 12.70 | 9/16  | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 21.08 | 9.90  | 28.44  | 28.44 | 16.51 | -904                             |
| GSML4-6U                                           | 1/4            | 6.35  | 9/16-18                | 4.82     | 5/8               | 15.87 | 9/16  | 14.28 | 11/16 | 17.46 | 15.24 | 17.78 | 23.11 | 11.17 | 30.48  | 32.25 | 20.06 | -906                             |
| GSML5-5U                                           | 5/16           | 7.93  | 1/2-20                 | 5.84     | 9/16              | 14.28 | 5/8   | 15.87 | 5/8   | 15.87 | 16.25 | 18.54 | 22.86 | 9.90  | 30.22  | 29.46 | 18.28 | -905                             |
| GSML6-6U                                           | 3/8            | 9.52  | 9/16-18                | 7.11     | 5/8               | 15.87 | 11/16 | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 24.63 | 11.17 | 32.00  | 32.25 | 20.06 | -906                             |
| GSML6-8U                                           | 3/8            | 9.52  | 3/4-16                 | 7.11     | 13/16             | 20.64 | 11/16 | 17.46 | 7/8   | 22.22 | 16.76 | 19.30 | 27.43 | 12.70 | 34.79  | 37.84 | 25.65 | -908                             |
| GSML8-8U                                           | ½              | 12.70 | 3/4-16                 | 10.41    | 13/16             | 20.64 | 7/8   | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 27.43 | 12.70 | 37.59  | 37.84 | 25.65 | -908                             |
| GSML 10-10U                                        | 5/8            | 15.87 | 7/8-14                 | 12.70    | 1                 | 25.40 | 1     | 25.40 | 1     | 25.40 | 24.38 | 21.84 | 29.46 | 14.22 | 39.62  | 43.43 | 29.46 | -910                             |
| GSML12-12U                                         | 3/4            | 19.05 | 1-1/16-12              | 15.74    | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 1-1/4 | 31.75 | 24.38 | 21.84 | 31.24 | 16.76 | 41.40  | 48.76 | 36.57 | -912                             |
| GSML14-14U                                         | 7/8            | 22.22 | 1-3/16-12              | 18.28    | 1-1/4             | 31.75 | 1-1/4 | 31.75 | 1-3/8 | 34.92 | 25.90 | 21.84 | 33.02 | 16.76 | 43.18  | 50.54 | 40.38 | -914                             |
| GSML16-16U                                         | 1              | 25.40 | 1-5/16-12              | 22.35    | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 1-1/2 | 38.10 | 31.24 | 26.41 | 38.35 | 16.76 | 50.54  | 53.59 | 43.94 | -916                             |
| GSML 20-20U                                        | 1-1/4          | 31.75 | 1-5/8-12               | 27.68    | 1-11/16           | 42.76 | 1-7/8 | 47.63 | 1-7/8 | 47.63 | 41.14 | 38.86 | 45.72 | 16.76 | 67.81  | 58.16 | 54.86 | -920                             |
| GSML 24-24U                                        | 1-1/2          | 38.10 | 1-7/8-12               | 34.03    | 2                 | 50.80 | 2-1/4 | 57.15 | 2-1/8 | 53.98 | 50.03 | 45.21 | 50.80 | 16.76 | 77.97  | 60.45 | 62.23 | -924                             |
| GSML 32-32U                                        | 2              | 50.80 | 2-1/2-12               | 45.97    | 2-3/4             | 69.85 | 3     | 76.20 | 2-3/4 | 69.85 | 67.56 | 62.73 | 69.85 | 16.76 | 107.18 | 71.62 | 80.26 | -932                             |

## 45° SAE Male Mod. GSMBL



| Connects Fractional Tube to SAE StraightThred Boss |           |       |                     |       |                   |       |       |       |       |       |       |       |       |       |       |       |       |                         |
|----------------------------------------------------|-----------|-------|---------------------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------|
| Part No.                                           | Tube O.D. |       | Straigh Thread T(U) | d Min | Width across flat |       |       |       |       |       | A     | B     | ℓ     | ℓ1    | L     | L1    | K     | O-Ring Uniform Size No. |
|                                                    | D         |       |                     |       | h                 |       | H     |       | H1    |       |       |       |       |       |       |       |       |                         |
|                                                    | in        | mm    |                     |       | in                | mm    | in    | mm    | in    | mm    |       |       |       |       |       |       |       |                         |
| GSMBL 4-4U                                         | 1/4       | 6.35  | 7/16-20             | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 18.28 | 9.90  | 25.65 | 25.65 | 16.51 | -904                    |
| GSMBL 6-6U                                         | 3/8       | 9.52  | 9/16-18             | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 20.57 | 11.17 | 27.94 | 28.19 | 20.06 | -906                    |
| GSMBL 8-8U                                         | 1/2       | 12.70 | 3/4-16              | 10.41 | 13/16             | 20.64 | 7/8   | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 21.84 | 12.70 | 32.00 | 32.25 | 25.65 | -908                    |
| GSMBL12-12U                                        | 3/4       | 19.05 | 1-1/16-12           | 15.74 | 1-1/8             | 28.58 | 1-1/8 | 28.58 | 1-1/4 | 31.75 | 24.38 | 21.84 | 29.71 | 16.76 | 39.87 | 47.24 | 36.57 | -912                    |
| GSMBL16-16U                                        | 1         | 25.40 | 1-5/16-12           | 22.35 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 1-1/2 | 38.10 | 31.24 | 26.41 | 35.30 | 16.76 | 47.49 | 50.54 | 43.94 | -916                    |

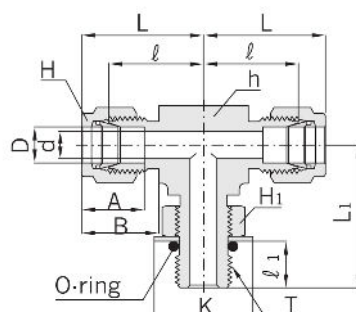
## SAE Male Run Tee Mod. GSMRT



Connects Fractional Tube to SAE StraightThred Boss

| Connects Fractional Tube to SAE StraightThred Boss |           |       |                     |       |                   |       |       |       |       |       |       |       |       |       |        |       |       |                         |
|----------------------------------------------------|-----------|-------|---------------------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------------------------|
| Part No.                                           | Tube O.D. |       | Straigh Thread T(U) | d Min | Width across flat |       |       |       |       |       | A     | B     | ℓ     | ℓ1    | L      | L1    | K     | O-Ring Uniform Size No. |
|                                                    | D         |       |                     |       | h                 |       | H     |       | H1    |       |       |       |       |       |        |       |       |                         |
|                                                    | in        | mm    |                     |       | in                | mm    | in    | mm    | in    | mm    |       |       |       |       |        |       |       |                         |
| GSMRT 4-4U                                         | 1/4       | 6.35  | 7/16-20             | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 21.08 | 9.90  | 28.44  | 28.44 | 16.51 | -904                    |
| GSMRT 6-6U                                         | 3/8       | 9.52  | 9/16-18             | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 24.63 | 11.17 | 32.00  | 32.25 | 20.06 | -906                    |
| GSMRT 8-8U                                         | 1/2       | 12.70 | 3/4-16              | 10.41 | 13/16             | 20.64 | 7/8   | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 27.43 | 12.70 | 37.59  | 37.84 | 25.65 | -908                    |
| GSMRT 12-12U                                       | 3/4       | 19.05 | 1-1/16-12           | 15.74 | 1-1/8             | 26.98 | 1-1/8 | 28.58 | 1-1/4 | 31.75 | 24.38 | 21.84 | 31.24 | 16.76 | 41.40  | 48.76 | 36.57 | -912                    |
| GSMRT 16-16U                                       | 1         | 25.40 | 1-5/16-12           | 22.35 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 1-1/2 | 38.10 | 31.24 | 26.41 | 38.35 | 16.76 | 50.54  | 50.54 | 43.94 | -916                    |
| GSMRT 20-20U                                       | 1-1/4     | 31.75 | 1-5/8-12            | 27.68 | 1-11/16           | 42.86 | 1-7/8 | 47.63 | 1-7/8 | 47.63 | 41.14 | 38.86 | 45.72 | 16.76 | 67.81  | 58.16 | 54.86 | -920                    |
| GSMRT 24-24U                                       | 1-1/2     | 38.10 | 1-7/8-12            | 34.03 | 2                 | 50.80 | 2-1/4 | 57.15 | 2-1/8 | 53.98 | 50.03 | 45.21 | 50.80 | 16.76 | 77.97  | 60.45 | 62.23 | -924                    |
| GSMRT 32-32U                                       | 2         | 50.80 | 2-1/2-12            | 45.97 | 2-3/4             | 69.85 | 3     | 76.20 | 2-3/4 | 69.85 | 67.56 | 62.73 | 69.85 | 16.76 | 107.18 | 71.62 | 80.26 | -932                    |

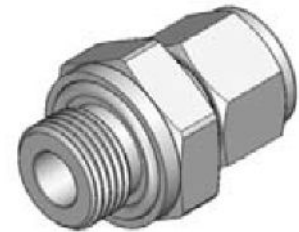
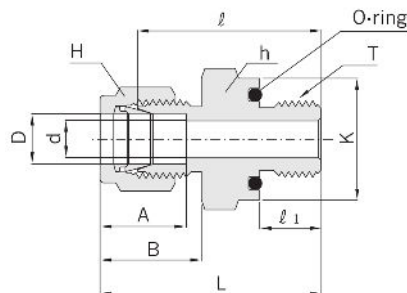
## SAE Male Brach Tee Mod. GSMBT



Connects Fractional Tube to SAE StraightThred Boss

| Connects Fractional Tube to SAE StraightThred Boss |                |       |                        |          |                   |       |       |       |       |       |       |       |       |       |        |       |       |                                 |
|----------------------------------------------------|----------------|-------|------------------------|----------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|---------------------------------|
| Part No.                                           | Tube O.D.<br>D |       | Straigh Thread<br>T(U) | d<br>Min | Width across flat |       |       |       |       |       | A     | B     | ℓ     | ℓ1    | L      | L1    | K     | O-Ring<br>Unform<br>Size<br>No. |
|                                                    |                |       |                        |          | h                 |       | H     |       | H1    |       |       |       |       |       |        |       |       |                                 |
|                                                    | in             | mm    |                        |          | in                | mm    | in    | mm    | in    | mm    |       |       |       |       |        |       |       |                                 |
| GSMBT 4-4U                                         | 1/4            | 6.35  | 7/16-20                | 4.82     | 1/2               | 12.70 | 9/16  | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 21.08 | 9.90  | 28.44  | 28.44 | 16.51 | -904                            |
| GSMBT 6-6U                                         | 3/8            | 9.52  | 9/16-18                | 7.11     | 5/8               | 15.87 | 11/16 | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 24.63 | 11.17 | 32.00  | 32.25 | 20.06 | -906                            |
| GSMBT 8-8U                                         | 1/2            | 12.70 | 3/4-16                 | 10.41    | 13/16             | 20.64 | 7/8   | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 27.43 | 12.70 | 37.59  | 37.84 | 25.65 | -908                            |
| GSMBT 12-12U                                       | 3/4            | 19.05 | 1-1/16-12              | 15.74    | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 1-1/4 | 31.75 | 24.38 | 21.84 | 31.24 | 16.76 | 41.40  | 48.76 | 36.57 | -912                            |
| GSMBT 16-16U                                       | 1              | 25.40 | 1-5/16-12              | 22.35    | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 1-1/2 | 38.10 | 31.24 | 26.41 | 38.35 | 16.76 | 50.54  | 53.59 | 43.94 | -916                            |
| GSMBT 20-20U                                       | 1-1/4          | 31.75 | 1-5/8-12               | 27.68    | 1-11/16           | 42.86 | 1-7/8 | 47.63 | 1-7/8 | 47.63 | 41.14 | 38.86 | 45.72 | 16.76 | 67.81  | 58.16 | 54.86 | -920                            |
| GSMBT 24-24U                                       | 1-1/2          | 38.10 | 1-7/8-12               | 34.03    | 2                 | 50.80 | 2-1/4 | 57.15 | 2-1/8 | 53.98 | 50.03 | 45.21 | 50.80 | 16.76 | 77.97  | 60.45 | 62.23 | -924                            |
| GSMBT 32-32U                                       | 2              | 50.80 | 2-1/2-12               | 45.97    | 2-3/4             | 69.85 | 3     | 76.20 | 2-3/4 | 69.85 | 67.56 | 62.73 | 69.85 | 16.76 | 107.18 | 71.62 | 80.26 | -932                            |

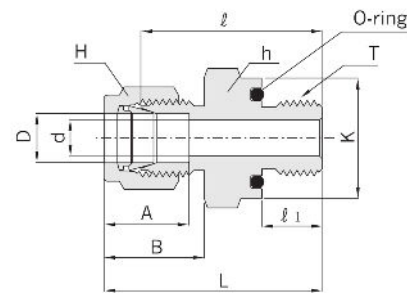
## O-Seal Straight Thread Connector Mod. GOSTC



Connects Fractional Tube to Female Straight Thread

| Part<br>No.  | Tube O.D.<br>D |       | Straight<br>Thread<br>T(U) | d<br>Min | Width across flat |       |       |       | A     | B     | ℓ     | ℓ <sub>1</sub> | L     | K     | O-Ring<br>Uniform<br>Size<br>No. |
|--------------|----------------|-------|----------------------------|----------|-------------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|----------------------------------|
|              | in             | mm    |                            |          | h                 |       | H     |       |       |       |       |                |       |       |                                  |
|              |                |       |                            |          | in                | mm    | in    | mm    |       |       |       |                |       |       |                                  |
| GOSTC 2-2U   | 1/8            | 3.17  | 5/16-20                    | 2.28     | 9/16              | 14.28 | 7/16  | 11.11 | 12.70 | 15.24 | 26.16 | 8.63           | 32.76 | 13.97 | -011                             |
| GOSTC 3-3U   | 3/16           | 4.76  | 3/8-24                     | 3.04     | 5/8               | 15.87 | 1/2   | 12.70 | 13.71 | 16.00 | 27.68 | 9.65           | 34.29 | 15.75 | -012                             |
| GOSTC 4-4U   | 1/4            | 6.35  | 7/16-20                    | 4.82     | 3/4               | 19.05 | 9/16  | 14.28 | 15.24 | 17.78 | 30.98 | 10.41          | 38.35 | 18.80 | -111                             |
| GOSTC 5-5U   | 5/16           | 7.93  | 1/2-20                     | 6.35     | 7/8               | 22.22 | 5/8   | 15.87 | 16.25 | 18.54 | 33.27 | 11.17          | 40.64 | 21.84 | -112                             |
| GOSTC 6-6U   | 3/8            | 9.52  | 9/16-18                    | 7.11     | 15/16             | 23.81 | 11/16 | 17.46 | 16.76 | 19.30 | 35.05 | 11.93          | 42.41 | 23.62 | -113                             |
| GOSTC 8-8U   | 1/2            | 12.70 | 3/4-16                     | 10.41    | 1-1/8             | 28.57 | 7/8   | 22.22 | 22.86 | 21.84 | 35.81 | 11.93          | 45.97 | 28.45 | -116                             |
| GOSTC 12-12U | 3/4            | 19.05 | 1-1/16-12                  | 15.74    | 1-1/2             | 38.10 | 1-1/8 | 28.58 | 24.38 | 21.84 | 42.16 | 14.22          | 52.32 | 37.85 | -215                             |
| GOSTC 16-16U | 1              | 25.40 | 1-5/16-12                  | 22.35    | 1-3/4             | 44.45 | 1-1/2 | 38.10 | 31.24 | 26.41 | 45.97 | 14.22          | 58.16 | 44.20 | -219                             |

## O-Seal Pipe Thread Connector Mod. GOPTC

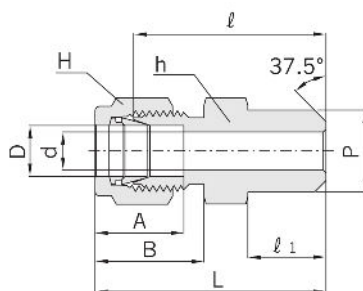


Connects Fractional Tube to Female NPT Thread

| Part No.   | Tube O.D.<br>D |       | Straight Thread<br>T*(NPT) | d<br>Min | Width across flat |       |       |       | A     | B     | ℓ     | ℓ <sub>1</sub> | L     | K     | O-Ring<br>Uniform<br>Size<br>No. |
|------------|----------------|-------|----------------------------|----------|-------------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|----------------------------------|
|            | in             | mm    |                            |          | h                 |       | H     |       |       |       |       |                |       |       |                                  |
|            |                |       |                            |          | in                | mm    | in    | mm    |       |       |       |                |       |       |                                  |
| GOPTC 2-2N | 1/8            | 3.17  | 1/8                        | 2.28     | 3/4               | 19.05 | 7/16  | 11.11 | 12.70 | 15.24 | 26.16 | 7.11           | 32.76 | 18.80 | -111                             |
| GOPTC 4-2N | 1/4            | 6.35  | 1/8                        | 4.82     | 3/4               | 19.05 | 9/16  | 14.28 | 15.24 | 17.78 | 27.68 | 7.11           | 35.05 | 18.80 | -111                             |
| GOPTC 4-4N | 1/4            | 6.35  | 1/4                        | 4.82     | 15/16             | 23.81 | 9/16  | 14.28 | 15.24 | 17.78 | 30.98 | 9.65           | 38.35 | 23.62 | -113                             |
| GOPTC 6-4N | 3/8            | 9.52  | 1/4                        | 7.11     | 15/16             | 23.81 | 11/16 | 17.46 | 16.76 | 19.30 | 32.51 | 9.65           | 39.87 | 23.62 | -113                             |
| GOPTC 6-6N | 3/8            | 9.52  | 3/8                        | 7.11     | 1-1/8             | 28.58 | 11/16 | 17.46 | 16.76 | 19.30 | 34.03 | 10.41          | 41.40 | 28.45 | -116                             |
| GOPTC 6-8N | 3/8            | 9.52  | 1/2                        | 7.11     | 1-5/16            | 33.33 | 11/16 | 17.46 | 16.76 | 19.30 | 39.62 | 13.46          | 46.99 | 33.02 | -212                             |
| GOPTC 8-8N | 1/2            | 12.70 | 1/2                        | 10.41    | 1-5/16            | 33.33 | 7/8   | 22.22 | 22.86 | 21.84 | 39.62 | 13.46          | 49.78 | 33.02 | -212                             |

- \* ISO Parallel Threads are available upon request

## Male Pipe Weld Connector Mod. GMPWC



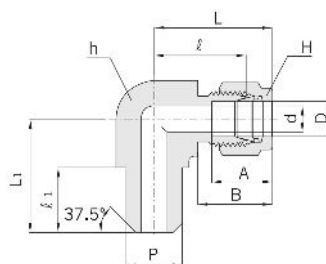
### Connects Fractional Tube to Pipe

| Part No.     | Tube O.D. |       | Male Pipe Size |       | d Min | Width across flat |       |       |       | A     | B     | ℓ     | ℓ1    | L      |
|--------------|-----------|-------|----------------|-------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|--------|
|              | D         | P     | h              |       |       | H                 |       |       |       |       |       |       |       |        |
|              |           |       | in             | mm    |       | in                | mm    |       |       |       |       |       |       |        |
| GMPWC 2-2P   | 1/8       | 3.17  | 1/8            | 10.30 | 2.28  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 23.87 | 9.65  | 31.24  |
| GMPWC 3-2P   | 3/16      | 4.76  | 1/8            | 10.30 | 3.04  | 7/16              | 11.11 | 1/2   | 12.70 | 13.71 | 16.00 | 24.63 | 9.65  | 31.24  |
| GMPWC 4-2P   | 1/4       | 6.35  | 1/8            | 10.30 | 4.82  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 25.40 | 9.65  | 32.76  |
| GMPWC 4-4P   | 1/4       | 6.35  | 1/4            | 13.70 | 4.82  | 9/16              | 14.28 | 9/16  | 14.28 | 15.24 | 17.78 | 30.48 | 14.22 | 37.84  |
| GMPWC 5-2P   | 5/16      | 7.93  | 1/8            | 10.30 | 5.08  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 26.67 | 9.65  | 34.03  |
| GMPWC 5-4P   | 5/16      | 7.93  | 1/4            | 13.70 | 6.35  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 31.24 | 14.22 | 38.60  |
| GMPWC 6-4P   | 3/8       | 9.52  | 1/4            | 13.70 | 7.11  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 32.51 | 14.22 | 39.87  |
| GMPWC 6-6P   | 3/8       | 9.52  | 3/8            | 17.10 | 7.11  | 11/16             | 17.46 | 11/16 | 17.46 | 16.76 | 19.30 | 32.51 | 14.22 | 39.87  |
| GMPWC 6-8P   | 3/8       | 9.52  | 1/2            | 21.30 | 7.11  | 7/8               | 22.22 | 11/16 | 17.46 | 16.76 | 19.30 | 38.86 | 19.05 | 43.23  |
| GMPWC 6-12P  | 3/8       | 9.52  | 3/4            | 26.67 | 7.11  | 1-1/16            | 26.98 | 11/16 | 17.46 | 16.76 | 19.30 | 40.38 | 19.05 | 47.75  |
| GMPWC 8-6P   | 1/2       | 12.70 | 3/8            | 17.10 | 10.41 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 33.27 | 14.22 | 43.43  |
| GMPWC 8-8P   | 1/2       | 12.70 | 1/2            | 21.30 | 10.41 | 7/8               | 22.22 | 7/8   | 22.22 | 22.86 | 21.84 | 38.86 | 19.05 | 49.02  |
| GMPWC 8-12P  | 1/2       | 12.70 | 3/4            | 26.67 | 10.41 | 1-1/16            | 26.98 | 7/8   | 22.22 | 22.86 | 21.84 | 40.38 | 19.05 | 50.54  |
| GMPWC 10-8P  | 5/8       | 15.87 | 1/2            | 21.30 | 12.70 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 38.86 | 19.05 | 49.02  |
| GMPWC 12-12P | 3/4       | 19.05 | 3/4            | 26.67 | 15.74 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 40.38 | 19.05 | 50.54  |
| GMPWC 16-16P | 1         | 25.40 | 1              | 33.40 | 22.35 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 50.03 | 23.87 | 62.23  |
| GMPWC 20-20P | 1-1/4     | 31.75 | 1-1/4          | 42.16 | 27.68 | 1-3/4             | 44.45 | 1-7/8 | 47.62 | 41.14 | 38.86 | 55.11 | 23.87 | 77.21  |
| GMPWC 24-24P | 1-1/2     | 38.10 | 1-1/2          | 48.26 | 34.03 | 2-1/8             | 53.97 | 2-1/4 | 57.15 | 50.03 | 45.21 | 61.72 | 26.16 | 88.90  |
| GMPWC 32-32P | 2         | 50.80 | 2              | 60.32 | 45.97 | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 76.20 | 26.92 | 113.53 |

### Connects Metric Tube to Pipe

| Part No.      | Tube O.D.<br>D | Male Pipe Size P |       | d Min | Width across flat |    | A    | B    | ℓ    | ℓ1   | L    |
|---------------|----------------|------------------|-------|-------|-------------------|----|------|------|------|------|------|
|               |                | Nom.             | O.D.  |       | h                 | H  |      |      |      |      |      |
|               |                |                  |       |       |                   |    |      |      |      |      |      |
| GMPWC 3M-2P   | 3              | 1/8              | 10.30 | 2.4   | 12.0              | 12 | 12.9 | 15.3 | 23.9 | 9.7  | 29.7 |
| GMPWC 4M-2P   | 4              | 1/8              | 10.30 | 2.4   | 12.0              | 12 | 13.7 | 16.1 | 24.6 | 9.7  | 30.7 |
| GMPWC 6M-2P   | 6              | 1/8              | 10.30 | 4.8   | 14.0              | 14 | 15.3 | 17.7 | 25.4 | 9.7  | 32.8 |
| GMPWC 6M-4P   | 6              | 1/4              | 13.70 | 4.8   | 14.0              | 14 | 15.3 | 17.7 | 30.2 | 14.2 | 37.6 |
| GMPWC 8M-2P   | 8              | 1/8              | 10.30 | 5.1   | 14.0              | 16 | 16.2 | 18.6 | 26.7 | 9.7  | 34.2 |
| GMPWC 8M-4P   | 8              | 1/4              | 13.70 | 6.3   | 14.0              | 16 | 16.2 | 18.6 | 31.2 | 14.2 | 38.7 |
| GMPWC 8M-8P   | 8              | 1/2              | 21.30 | 6.3   | 22.0              | 16 | 16.2 | 18.6 | 38.1 | 19.1 | 44.8 |
| GMPWC 10M-4P  | 10             | 1/4              | 13.70 | 7.1   | 17.0              | 19 | 17.2 | 19.5 | 33.3 | 14.2 | 40.9 |
| GMPWC 10M-6P  | 10             | 3/8              | 17.10 | 7.9   | 19.0              | 19 | 17.2 | 19.5 | 33.3 | 14.2 | 40.1 |
| GMPWC 10M-8P  | 10             | 1/2              | 21.30 | 7.9   | 22.0              | 19 | 17.2 | 19.5 | 38.1 | 19.1 | 45.7 |
| GMPWC 12M-4P  | 12             | 1/4              | 13.70 | 7.1   | 22.0              | 22 | 22.8 | 22.0 | 33.3 | 14.2 | 43.4 |
| GMPWC 12M-6P  | 12             | 3/8              | 17.10 | 9.5   | 22.0              | 22 | 22.8 | 22.0 | 33.3 | 14.2 | 43.4 |
| GMPWC 12M-8P  | 12             | 1/2              | 21.30 | 9.5   | 22.0              | 22 | 22.8 | 22.0 | 38.1 | 19.1 | 48.2 |
| GMPWC 14M-6P  | 14             | 3/8              | 17.10 | 10.3  | 24.0              | 25 | 24.4 | 22.0 | 34.0 | 14.2 | 44.1 |
| GMPWC 15M-8P  | 15             | 1/2              | 21.30 | 11.9  | 24.0              | 25 | 24.4 | 22.0 | 38.9 | 19.0 | 49.0 |
| GMPWC 16M-8P  | 16             | 1/2              | 21.30 | 12.7  | 24.0              | 25 | 24.4 | 22.0 | 38.9 | 19.0 | 49.0 |
| GMPWC 18M-8P  | 18             | 1/2              | 21.30 | 13.5  | 27.0              | 30 | 24.4 | 22.0 | 40.4 | 19.0 | 50.5 |
| GMPWC 32M-20P | 32             | 1-1/4            | 42.20 | 28.6  | 46.0              | 50 | 42.0 | 41.6 | 56.6 | 23.9 | 79.6 |
| GMPWC 38M-24P | 38             | 1-1/2            | 48.30 | 33.7  | 55.0              | 60 | 49.4 | 47.9 | 64.0 | 26.2 | 91.6 |

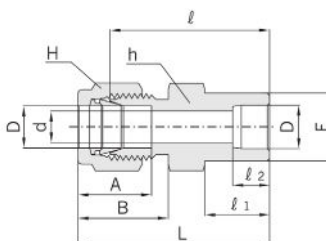
## Male Pipe Weld Elbow Mod. GMPWL



Connects Fractional Tube to Pipe

| Part No.    | Tube O.D. |       | Male Pipe Size |       | d<br>Min | Width across flat |       |       |       | A     | B     | ℓ     | ℓ <sub>1</sub> | L     | L <sub>1</sub> |
|-------------|-----------|-------|----------------|-------|----------|-------------------|-------|-------|-------|-------|-------|-------|----------------|-------|----------------|
|             | D         |       | P              |       |          | h                 |       |       |       |       |       |       |                |       |                |
|             |           |       |                |       |          |                   |       | H     |       |       |       |       |                |       |                |
|             | in        | mm    | Nom.           | O.D.  |          | in                | mm    | in    | mm    |       |       |       |                |       |                |
| GMPWL 2-2P  | 1/8       | 3.17  | 1/8            | 10.29 | 4.82     | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 9.65           | 26.92 | 18.79          |
| GMPWL 4-4P  | 1/4       | 6.35  | 1/4            | 13.72 | 4.82     | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 14.22          | 26.92 | 23.36          |
| GMPWL 6-4P  | 3/8       | 9.52  | 1/4            | 13.72 | 7.11     | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 14.22          | 30.48 | 25.40          |
| GMPWL 8-8P  | 1/2       | 12.70 | 1/2            | 21.34 | 10.41    | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 19.05          | 36.06 | 33.02          |
| GMPWL12-12P | 3/4       | 19.05 | 3/4            | 26.67 | 15.74    | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 29.71 | 19.05          | 39.87 | 36.83          |

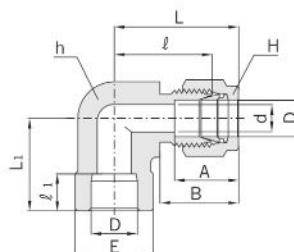
## Tube Socket Weld Connector Mod. GTSWC



Connects Fractional Tube

| Part No.    | Tube O.D. |       | d Min | E     | Width across flat |       |       |       | A     | B     | ℓ     | ℓ <sub>1</sub> | ℓ <sub>2</sub> | L     |
|-------------|-----------|-------|-------|-------|-------------------|-------|-------|-------|-------|-------|-------|----------------|----------------|-------|
|             | D         |       |       |       | h                 |       | H     |       |       |       |       |                |                |       |
|             |           |       |       |       | in                | mm    | in    | mm    |       |       |       |                |                |       |
|             | in        | mm    |       |       | in                | mm    | in    | mm    |       |       |       |                |                |       |
| GTSWC 2-2   | 1/8       | 3.17  | 2.28  | 7.87  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 22.35 | 8.63           | 6.35           | 28.95 |
| GTSWC 4-4   | 1/4       | 6.35  | 4.82  | 11.17 | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 26.16 | 10.41          | 7.87           | 33.52 |
| GTSWC 6-6   | 3/8       | 9.52  | 7.11  | 15.74 | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 30.22 | 11.93          | 9.65           | 37.59 |
| GTSWC 8-8   | 1/2       | 12.70 | 10.41 | 19.05 | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 30.98 | 11.93          | 12.70          | 41.14 |
| GTSWC 12-12 | 3/4       | 19.05 | 15.74 | 26.67 | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 33.27 | 11.93          | 14.22          | 43.43 |
| GTSWC 16-16 | 1         | 25.40 | 22.35 | 33.27 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 40.38 | 14.22          | 19.05          | 52.57 |

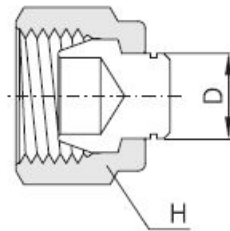
## Tube Socket Weld Elbow Mod. GTSWL



Connects Fractional Tube

| Part No.    | Tube O.D. |       | d Min | E     | Width across flat |       |       |       | A     | B     | ℓ     | ℓ <sub>1</sub> | L     | L <sub>1</sub> |
|-------------|-----------|-------|-------|-------|-------------------|-------|-------|-------|-------|-------|-------|----------------|-------|----------------|
|             | D         |       |       |       | h                 |       | H     |       |       |       |       |                |       |                |
|             |           |       |       |       | in                |       | mm    |       |       |       |       |                |       |                |
|             |           |       |       |       | in                | mm    | in    | mm    |       |       |       |                |       |                |
| GTSWL 4-4   | 1/4       | 6.35  | 4.82  | 12.70 | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 19.55 | 7.87           | 26.92 | 19.55          |
| GTSWL 6-6   | 3/8       | 9.52  | 7.11  | 15.74 | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 23.11 | 9.65           | 30.48 | 23.11          |
| GTSWL 8-8   | 1/2       | 12.70 | 10.41 | 20.57 | 13/16             | 20.64 | 7/8   | 22.22 | 22.86 | 21.84 | 25.90 | 12.70          | 36.06 | 25.90          |
| GTSWL 12-12 | 3/4       | 19.05 | 15.74 | 26.92 | 1-1/16            | 26.98 | 1-1/8 | 28.58 | 24.38 | 21.84 | 29.71 | 14.22          | 39.87 | 29.71          |
| GTSWL 16-16 | 1         | 25.40 | 22.35 | 35.05 | 1-3/8             | 34.93 | 1-1/2 | 38.10 | 31.24 | 26.41 | 36.83 | 19.05          | 49.02 | 36.83          |

## Plug Mod. GP



| Part No. | Fractional |       | Width across flat |       |
|----------|------------|-------|-------------------|-------|
|          | Tube O.D.  |       | h                 |       |
|          | D          |       | H                 |       |
|          | in         | mm    | in                | mm    |
| GP-1     | 1/16       | 1.59  | 5/16              | 7.93  |
| GP-2     | 1/8        | 3.17  | 7/16              | 11.11 |
| GP-3     | 3/16       | 4.76  | 1/2               | 12.70 |
| GP-4     | 1/4        | 6.35  | 9/16              | 14.28 |
| GP-5     | 5/16       | 7.93  | 5/8               | 15.87 |
| GP-6     | 3/8        | 9.52  | 11/16             | 17.46 |
| GP-8     | 1/2        | 12.70 | 7/8               | 22.22 |
| GP-10    | 5/8        | 15.87 | 1                 | 25.40 |
| GP-12    | 3/4        | 19.05 | 1-1/8             | 28.58 |
| GP-14    | 7/8        | 22.22 | 1-1/4             | 31.75 |
| GP-16    | 1          | 25.40 | 1-1/2             | 38.10 |
| GP-20    | 1-1/4      | 31.75 | 1-7/8             | 47.63 |
| GP-24    | 1-1/2      | 38.10 | 2-1/4             | 57.15 |
| GP-32    | 2          | 50.80 | 3                 | 76.20 |

| Part No. | Metric    |  | Width across flat |  |
|----------|-----------|--|-------------------|--|
|          | Tube O.D. |  | H                 |  |
|          | D         |  | H                 |  |
|          | mm        |  | mm                |  |
| GP-2M    | 2         |  | 12                |  |
| GP-3M    | 3         |  | 12                |  |
| GP-4M    | 4         |  | 12                |  |
| GP-6M    | 6         |  | 14                |  |
| GP-8M    | 8         |  | 16                |  |
| GP-10M   | 10        |  | 19                |  |
| GP-12M   | 12        |  | 22                |  |
| GP-15M   | 15        |  | 25                |  |
| GP-16M   | 16        |  | 25                |  |
| GP-18M   | 18        |  | 30                |  |
| GP-20M   | 20        |  | 32                |  |
| GP-22M   | 22        |  | 32                |  |
| GP-25M   | 25        |  | 38                |  |
| GP-28M   | 28        |  | 46                |  |
| GP-32M   | 32        |  | 50                |  |
| GP-38M   | 38        |  | 60                |  |



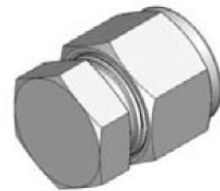
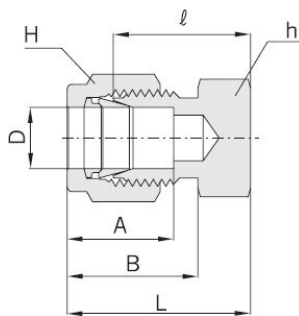
### Installation Instructions

- 1) Remove the nut and ferrules from the body
- 2) With a wrench, 1/4 turn from the finger-tight position, (1/8 turn for 1/8", 3/16" and 2mm, 3mm and 4mm)

### Note

Do not tighten 1-1/4 turns as this has machined ferrule not the standard ferrules.  
Tighten 1/8 turn for 1/16, 1/8, and 3/16 inch and 2, 3, and 4 mm size plug, 1/2 turn turnover 1 and 25mm size plug.

## Cap Mod. GC

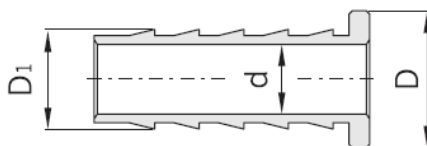


1. Inert the tube end into the Cap
2. With a wrench, 1-1/4 turns from the finger-tight position, (3/4 turn for 1/8", 3/16" 3mm and 4mm)

| Cap end of Frantional Tube |           |       |                   |       |       |       |       |       |       |       |
|----------------------------|-----------|-------|-------------------|-------|-------|-------|-------|-------|-------|-------|
| Part No.                   | Tube O.D. |       | Width across flat |       |       |       | A     | B     | ℓ     | L     |
|                            | D         |       | h                 |       | H     |       |       |       |       |       |
|                            | in        | mm    | in                | mm    | in    | mm    |       |       |       |       |
| GC-1                       | 1/16      | 1.58  | 5/16              | 7.93  | 5/16  | 7.93  | 8.63  | 10.92 | 11.20 | 14.18 |
| GC-2                       | 1/8       | 3.17  | 7/16              | 11.11 | 7/16  | 11.11 | 12.70 | 15.24 | 13.46 | 20.06 |
| GC-3                       | 3/16      | 4.76  | 7/16              | 11.11 | 1/2   | 12.70 | 13.71 | 16.00 | 14.73 | 21.33 |
| GC-4                       | 1/4       | 6.35  | 1/2               | 12.70 | 9/16  | 14.28 | 15.24 | 17.78 | 16.00 | 23.26 |
| GC-5                       | 5/16      | 7.93  | 9/16              | 14.28 | 5/8   | 15.87 | 16.25 | 18.54 | 17.01 | 24.38 |
| GC-6                       | 3/8       | 9.52  | 5/8               | 15.87 | 11/16 | 17.46 | 16.76 | 19.30 | 18.28 | 25.65 |
| GC-8                       | 1/2       | 12.70 | 13/16             | 20.63 | 7/8   | 22.22 | 22.86 | 21.84 | 19.05 | 29.21 |
| GC-10                      | 5/8       | 15.87 | 15/16             | 23.81 | 1     | 25.40 | 24.38 | 21.84 | 19.81 | 29.97 |
| GC-12                      | 3/4       | 19.05 | 1-1/16            | 26.98 | 1-1/8 | 28.57 | 24.38 | 21.84 | 21.33 | 31.49 |
| GC-14                      | 7/8       | 22.22 | 1-3/16            | 30.16 | 1-1/4 | 31.75 | 25.90 | 21.84 | 23.87 | 34.03 |
| GC-16                      | 1         | 25.40 | 1-3/8             | 34.92 | 1-1/2 | 38.10 | 31.24 | 26.41 | 26.16 | 38.35 |
| GC-20                      | 1-1/4     | 31.75 | 1-3/4             | 44.45 | 1-7/8 | 47.63 | 41.14 | 38.86 | 31.24 | 53.34 |
| GC-24                      | 1-1/2     | 38.10 | 2-1/8             | 53.98 | 2-1/4 | 57.15 | 50.15 | 45.21 | 37.33 | 64.51 |
| GC-32                      | 2         | 50.80 | 2-3/4             | 69.85 | 3     | 76.20 | 67.56 | 62.73 | 49.27 | 86.61 |

| Cap end of Metric Tube |                |                   |    |      |      |      |      |
|------------------------|----------------|-------------------|----|------|------|------|------|
| Part No.               | Tube O.D.<br>D | Width across flat |    | A    | B    | ℓ    | L    |
|                        |                | h                 | H  |      |      |      |      |
| GC-2M                  | 2              | 12                | 12 | 12.9 | 15.3 | 13.5 | 20.1 |
| GC-3M                  | 3              | 12                | 12 | 12.9 | 15.3 | 13.5 | 20.1 |
| GC-4M                  | 4              | 12                | 12 | 13.7 | 16.1 | 14.7 | 21.3 |
| GC-6M                  | 6              | 14                | 14 | 15.3 | 17.7 | 15.7 | 23.1 |
| GC-8M                  | 8              | 15                | 16 | 16.2 | 18.6 | 17.0 | 24.5 |
| GC-10M                 | 10             | 18                | 19 | 17.2 | 19.5 | 19.0 | 26.6 |
| GC-12M                 | 12             | 22                | 22 | 22.8 | 22.0 | 19.0 | 29.1 |
| GC-15M                 | 15             | 24                | 25 | 24.4 | 22.0 | 19.8 | 29.9 |
| GC-16M                 | 16             | 24                | 25 | 24.4 | 22.0 | 19.8 | 29.9 |
| GC-18M                 | 18             | 27                | 30 | 24.4 | 22.0 | 21.3 | 31.4 |
| GC-20M                 | 20             | 30                | 32 | 26.0 | 22.0 | 23.9 | 34.0 |
| GC-22M                 | 22             | 30                | 32 | 26.0 | 22.0 | 23.9 | 34.0 |
| GC-25M                 | 25             | 35                | 38 | 31.3 | 26.5 | 26.2 | 38.5 |
| GC-28M                 | 28             | 41                | 46 | 36.6 | 36.6 | 27.7 | 48.5 |
| GC-32M                 | 32             | 46                | 50 | 42.0 | 41.6 | 32.8 | 55.8 |
| GC-38M                 | 38             | 55                | 60 | 49.4 | 47.9 | 37.8 | 65.4 |

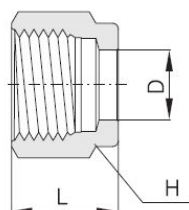
## Tube Insert Mod. GI



| Fractional |           |       |           |       |           |       |
|------------|-----------|-------|-----------|-------|-----------|-------|
| Part No.   | Tube O.D. |       | Tube I.D. |       | Bore I.D. |       |
|            | D         |       | D1        |       | d         |       |
|            | in        | mm    | in        | mm    | in        | mm    |
| GI-0302    | 3/16      | 4.76  | 1/8       | 3.17  | 0.09      | 1.70  |
| GI-0402    | 1/4       | 6.35  | 1/8       | 3.17  | 0.09      | 1.70  |
| GI-0403    | 1/4       | 6.35  | 3/16      | 4.76  | 0.14      | 3.56  |
| GI-0502    | 5/16      | 7.93  | 1/8       | 3.17  | 0.09      | 2.29  |
| GI-0503    | 5/16      | 7.93  | 3/16      | 4.76  | 0.12      | 3.50  |
| GI-0504    | 5/16      | 7.93  | 1/4       | 6.35  | 0.19      | 4.83  |
| GI-0603    | 3/8       | 9.52  | 3/16      | 4.76  | 0.12      | 3.05  |
| GI-0604    | 3/8       | 9.52  | 1/4       | 6.35  | 0.19      | 4.83  |
| GI-0804    | 1/2       | 12.70 | 1/4       | 6.35  | 0.19      | 4.83  |
| GI-0806    | 1/2       | 12.70 | 3/8       | 9.52  | 0.31      | 7.87  |
| GI-1006    | 5/8       | 15.87 | 3/8       | 9.52  | 0.31      | 7.87  |
| GI-1008    | 5/8       | 15.87 | 1/2       | 12.7  | 0.44      | 11.00 |
| GI-1208    | 3/4       | 19.05 | 1/2       | 12.7  | 0.44      | 11.00 |
| GI-1210    | 3/4       | 19.05 | 5/8       | 15.87 | 0.56      | 14.22 |
| GI-1612    | 1         | 25.40 | 3/4       | 19.05 | 0.69      | 17.53 |

| Metric    |           |           |           |
|-----------|-----------|-----------|-----------|
| Part No.  | Tube O.D. | Tube I.D. | Bore I.D. |
|           | D         | D1        | d         |
| GI-M06M04 | 6         | 4         | 2.4       |
| GI-M08M06 | 8         | 6         | 4.8       |
| GI-M10M08 | 10        | 8         | 6.4       |
| GI-M12M08 | 12        | 8         | 6.4       |
| GI-M12M10 | 12        | 10        | 8.3       |

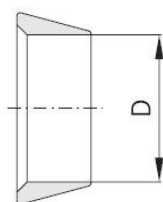
## Nut Mod. GN



| Fractional |                |       |                        |       |      |
|------------|----------------|-------|------------------------|-------|------|
| Part No.   | Tube O.D.<br>D |       | Width across flat<br>H |       | L    |
|            | in             | mm    | in                     | mm    |      |
| GN-01      | 1/16           | 1.58  | 5/16                   | 7.94  | 7.90 |
| GN-02      | 1/8            | 3.17  | 7/16                   | 11.11 | 11.9 |
| GN-03      | 3/16           | 4.76  | 1/2                    | 12.7  | 11.9 |
| GN-04      | 1/4            | 6.35  | 9/16                   | 14.28 | 12.7 |
| GN-05      | 5/16           | 7.93  | 5/8                    | 15.87 | 13.5 |
| GN-06      | 3/8            | 9.52  | 11/16                  | 17.46 | 14.2 |
| GN-08      | 1/2            | 12.70 | 7/8                    | 22.22 | 17.5 |
| GN-10      | 5/8            | 15.87 | 1                      | 25.4  | 17.5 |
| GN-12      | 3/4            | 19.05 | 1-1/8                  | 28.57 | 17.5 |
| GN-14      | 7/8            | 22.22 | 1-1/4                  | 31.75 | 17.5 |
| GN-16      | 1              | 25.40 | 1-1/2                  | 38.1  | 20.6 |
| GN-20      | 1-1/4          | 31.75 | 1-7/8                  | 47.63 | 31.7 |
| GN-24      | 1-1/2          | 38.10 | 2-1/4                  | 57.15 | 38.1 |
| GN-32      | 2              | 50.80 | 3                      | 76.2  | 52.3 |

| Metric   |           |                   |      |
|----------|-----------|-------------------|------|
| Part No. | Tube O.D. | Width across flat | L    |
|          | D         | H                 |      |
| GN-M02   | 2         | 12                | 11.9 |
| GN-M03   | 3         | 12                | 11.9 |
| GN-M04   | 4         | 12                | 11.9 |
| GN-M06   | 6         | 14                | 12.7 |
| GN-M08   | 8         | 16                | 13.5 |
| GN-M10   | 10        | 19                | 15.1 |
| GN-M12   | 12        | 22                | 17.4 |
| GN-M15   | 15        | 25                | 17.4 |
| GN-M16   | 16        | 25                | 17.4 |
| GN-M18   | 18        | 30                | 17.4 |
| GN-M20   | 20        | 32                | 17.4 |
| GN-M22   | 22        | 32                | 17.4 |
| GN-M25   | 25        | 38                | 20.6 |
| GN-M28   | 28        | 46                | 30.6 |
| GN-M32   | 32        | 50                | 34.4 |
| GN-M38   | 38        | 60                | 40.6 |
| GN-M42   | 42        | 65                | 44.7 |

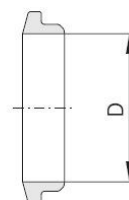
## Front Ferrules Mod. GFF



| Fractional |             |       |
|------------|-------------|-------|
| Part No.   | Tube O.D. D |       |
|            | inch        | mm    |
| GFF-01     | 1/16        | 1.58  |
| GFF-02     | 1/8         | 3.17  |
| GFF-03     | 3/16        | 4.76  |
| GFF-04     | 1/4         | 6.35  |
| GFF-05     | 5/16        | 7.93  |
| GFF-06     | 3/8         | 9.52  |
| GFF-08     | 1/2         | 12.70 |
| GFF-10     | 5/8         | 15.87 |
| GFF-12     | 3/4         | 19.05 |
| GFF-14     | 7/8         | 22.22 |
| GFF-16     | 1           | 25.40 |
| GFF-20     | 1-1/4       | 31.75 |
| GFF-24     | 1-1/2       | 38.10 |
| GFF-32     | 2           | 50.80 |

| Metric   |             |
|----------|-------------|
| Part No. | Tube O.D. D |
| GFF-M02  | 2           |
| GFF-M03  | 3           |
| GFF-M04  | 4           |
| GFF-M06  | 6           |
| GFF-M08  | 8           |
| GFF-M10  | 10          |
| GFF-M12  | 12          |
| GFF-M15  | 15          |
| GFF-M16  | 16          |
| GFF-M18  | 18          |
| GFF-M20  | 20          |
| GFF-M22  | 22          |
| GFF-M25  | 25          |
| GFF-M28  | 28          |
| GFF-M32  | 32          |
| GFF-M38  | 38          |
| GFF-M42  | 42          |

## Back Ferrules Mod. GBF



| Fractional |             |       |
|------------|-------------|-------|
| Part No.   | Tube O.D. D |       |
|            | inch        | mm    |
| GBF-01     | 1/16        | 1.58  |
| GBF-02     | 1/8         | 3.17  |
| GBF-03     | 3/16        | 4.76  |
| GBF-04     | 1/4         | 6.35  |
| GBF-05     | 5/16        | 7.93  |
| GBF-06     | 3/8         | 9.52  |
| GBF-08     | 1/2         | 12.70 |
| GBF-10     | 5/8         | 15.87 |
| GBF-12     | 3/4         | 19.05 |
| GBF-14     | 7/8         | 22.22 |
| GBF-16     | 1           | 25.40 |
| GBF-20     | 1-1/4       | 31.75 |
| GBF-24     | 1-1/2       | 38.10 |
| GBF-32     | 2           | 50.80 |

| Metric   |             |
|----------|-------------|
| Part No. | Tube O.D. D |
| GBF-M02  | 2           |
| GBF-M03  | 3           |
| GBF-M04  | 4           |
| GBF-M06  | 6           |
| GBF-M08  | 8           |
| GBF-M10  | 10          |
| GBF-M12  | 12          |
| GBF-M15  | 15          |
| GBF-M16  | 16          |
| GBF-M18  | 18          |
| GBF-M20  | 20          |
| GBF-M22  | 22          |
| GBF-M25  | 25          |
| GBF-M28  | 28          |
| GBF-M32  | 32          |
| GBF-M38  | 38          |
| GBF-M42  | 42          |

## Ferrules Set Mod. GFS

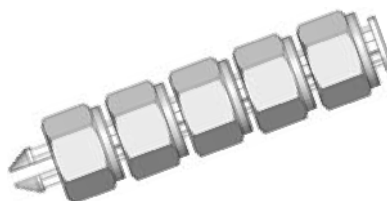


Ferrules can be ordered as a set with an arbor.  
Each arbor holds 10 ferrule sets.

| Fractional |           |       |
|------------|-----------|-------|
| Part No.   | Tube O.D. |       |
|            | inch      | mm    |
| GFS-01     | 1/16      | 1.58  |
| GFS-02     | 1/8       | 3.17  |
| GFS-03     | 3/16      | 4.76  |
| GFS-04     | 1/4       | 6.35  |
| GFS-05     | 5/16      | 7.93  |
| GFS-06     | 3/8       | 9.52  |
| GFS-08     | 1/2       | 12.70 |
| GFS-10     | 5/8       | 15.87 |
| GFS-12     | 3/4       | 19.05 |
| GFS-14     | 7/8       | 22.22 |
| GFS-16     | 1         | 25.40 |

| Metric   |                 |
|----------|-----------------|
| Part No. | Tube O.D.<br>mm |
| GFS-M02  | 2               |
| GFS-M03  | 3               |
| GFS-M04  | 4               |
| GFS-M06  | 6               |
| GFS-M08  | 8               |
| GFS-M10  | 10              |
| GFS-M12  | 12              |
| GFS-M15  | 15              |
| GFS-M16  | 16              |
| GFS-M18  | 18              |
| GFS-M20  | 20              |
| GFS-M22  | 22              |
| GFS-M25  | 25              |

## Ferrules & Nut Set Mod. GFNS



Ferrules and nut can be ordered as a set with an arbor.  
Each arbor holds 5 ferrule and nut sets.

| Fractional |           |       |
|------------|-----------|-------|
| Part No.   | Tube O.D. |       |
|            | inch      | mm    |
| GFNS-01    | 1/16      | 1.58  |
| GFNS-02    | 1/8       | 3.17  |
| GFNS-03    | 3/16      | 4.76  |
| GFNS-04    | 1/4       | 6.35  |
| GFNS-05    | 5/16      | 7.93  |
| GFNS-06    | 3/8       | 9.52  |
| GFNS-08    | 1/2       | 12.70 |
| GFNS-10    | 5/8       | 15.87 |
| GFNS-12    | 3/4       | 19.05 |
| GFNS-14    | 7/8       | 22.22 |
| GFNS-16    | 1         | 25.40 |

| Metric   |                 |
|----------|-----------------|
| Part No. | Tube O.D.<br>mm |
| GFNS-M02 | 2               |
| GFNS-M03 | 3               |
| GFNS-M04 | 4               |
| GFNS-M06 | 6               |
| GFNS-M08 | 8               |
| GFNS-M10 | 10              |
| GFNS-M12 | 12              |
| GFNS-M15 | 15              |
| GFNS-M16 | 16              |
| GFNS-M18 | 18              |
| GFNS-M20 | 20              |
| GFNS-M22 | 22              |
| GFNS-M25 | 25              |