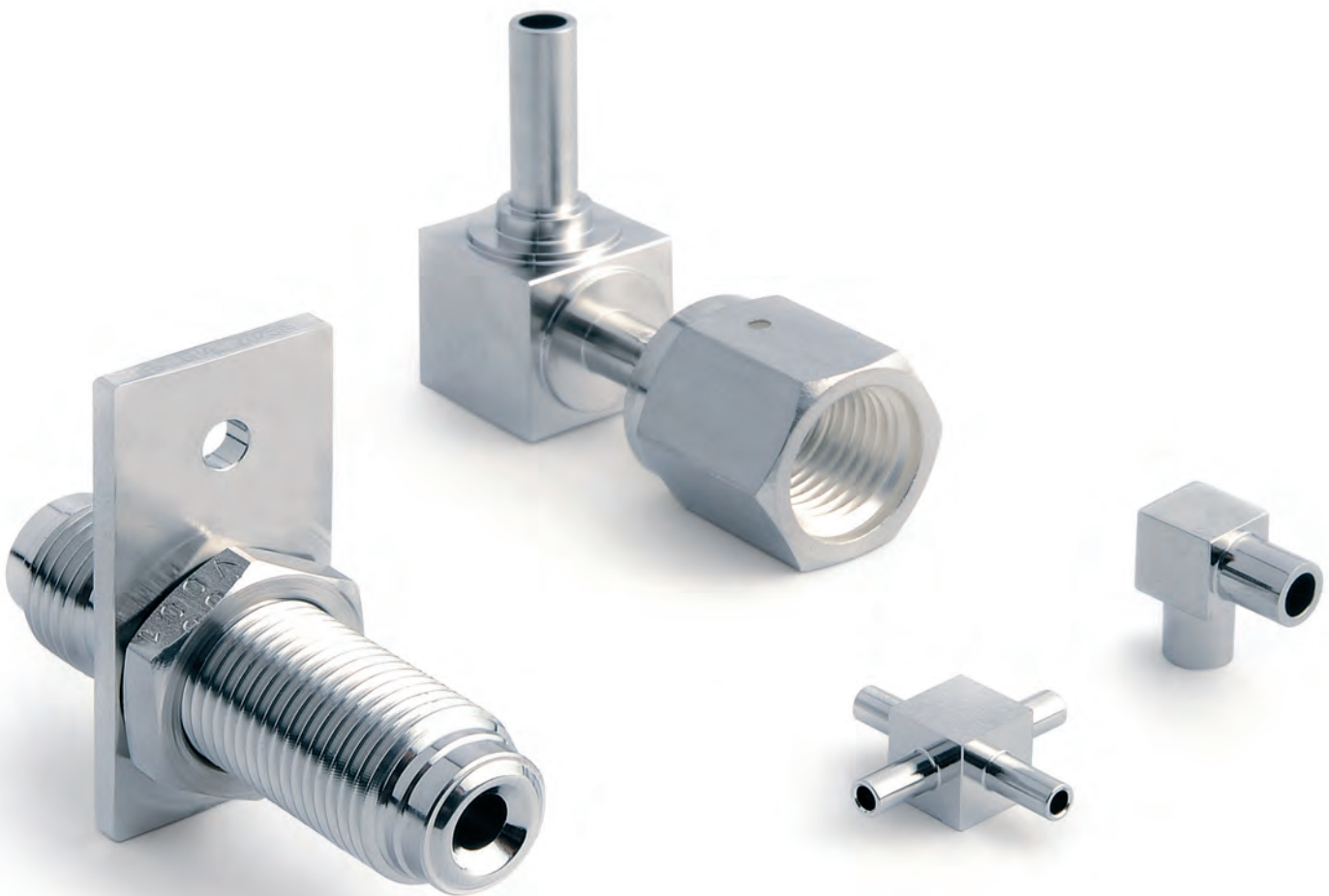




**ROTAREX**  
VALVES - FITTINGS - REGULATORS



**ULTRA HIGH PURITY FITTINGS**



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## METAL GASKET FACE SEAL FITTINGS



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**DNI/JSS** P. 016



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**MN** P. 017



**SMN** P. 017



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**EF-AB** P. 025



**UM** P. 026



**DMRU** P. 026



**STMC** P. 026



**RA** P. 027



**RB** P. 027



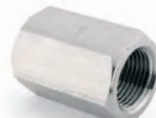
**U-FM** P. 027



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# METAL GASKET FACE SEAL FITTINGS (continued)

|                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| <b>UF-DB</b> P. 031                                                               | <b>BUP</b> P. 032                                                                 | <b>TC</b> P. 032                                                                  | <b>BU</b> P. 032                                                                   | <b>BU-ABW</b> P. 033                                                                |
|  |  |  |  |  |
| <b>BU-NPT</b> P. 033                                                              | <b>BU-DB</b> P. 033                                                               | <b>E-NPT</b> P. 034                                                               | <b>E</b> P. 034                                                                    | <b>T</b> P. 035                                                                     |
|  |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| <b>C</b> P. 035                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |

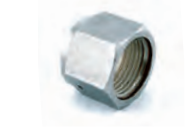
# SPACE SAVER FITTINGS

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| <b>ED-2M</b> P. 036                                                                 | <b>ED-FM</b> P. 036                                                                 | <b>ED-2F</b> P. 036                                                                 | <b>EX M-</b> P. 037                                                                 | <b>MG. EX M.-</b> P. 037                                                              | <b>EX F.-</b> P. 037                                                                  |
|  |  |  |  |  |  |
| <b>MG.EX F.-</b> P. 037                                                             | <b>TD-3M</b> P. 038                                                                 | <b>TD-F.2M</b> P. 038                                                               | <b>TD-MFM</b> P. 038                                                                | <b>TD-FMF</b> P. 039                                                                  | <b>TD-M.2F</b> P. 039                                                                 |
|  |  |  |  |  |  |
| <b>TD-3F</b> P. 039                                                                 | <b>TX-.M.-</b> P. 040                                                               | <b>MG.TX-.M.-</b> P. 040                                                            | <b>TX-.F.-</b> P. 040                                                               | <b>MG.TX-.F.-</b> P. 040                                                              | <b>TX2-.M</b> P. 041                                                                  |
|  |  |  |  |  |  |
| <b>MG.TX2-.M</b> P. 041                                                             | <b>TX2-.F</b> P. 041                                                                | <b>MG.TX2-.F</b> P. 041                                                             | <b>TX-.2M</b> P. 042                                                                | <b>MG.TX-.2M</b> P. 042                                                               | <b>TX-.FM</b> P. 042                                                                  |

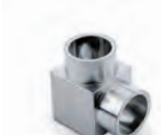
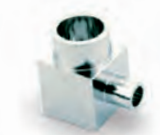
## SPACE SAVER FITTINGS (continued)

|                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                     |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|   |   |   |   |  |  |
| <b>MG.TX-.FM</b> P. 042                                                            | <b>TX-.MF</b> P. 043                                                               | <b>MG.TX-.MF</b> P. 043                                                            | <b>TX-.2F</b> P. 043                                                               | <b>MG.TX-.2F</b> P. 043                                                             | <b>TX M.-.M</b> P. 044                                                              |
|   |   |   |   |  |  |
| <b>MG.TX M.-M</b> P. 044                                                           | <b>TX F.-.M</b> P. 044                                                             | <b>MG.TX F.-M</b> P. 045                                                           | <b>TX-F.-F</b> P. 045                                                              | <b>MG.TX F.-.F</b> P. 045                                                           | <b>CD-4M</b> P. 046                                                                 |
|   |   |   |   |  |  |
| <b>CD-F.3M</b> P. 046                                                              | <b>CD-2M.2F</b> P. 046                                                             | <b>CD-FMFM</b> P. 047                                                              | <b>CD-4F</b> P. 047                                                                | <b>CX M.-.M.-</b> P. 048                                                            | <b>MG.CX M.-.M.-</b> P. 048                                                         |
|  |  |  |  |                                                                                     |                                                                                     |
| <b>CX F.-.M.-</b> P. 048                                                           | <b>MG.CX F.-.M.-</b> P. 049                                                        | <b>CX F.-F.-</b> P. 049                                                            | <b>MG.CX F.-F.-</b> P. 049                                                         |                                                                                     |                                                                                     |

## HIGH FLOW FITTINGS

|                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |
| <b>FN-HF</b> P. 050                                                                 | <b>MN-HF</b> P. 050                                                                 | <b>EM-HF</b> P. 050                                                                 | <b>UM-ABW HF</b> P. 051                                                              | <b>UM-AB HF</b> P. 051                                                                |
|  |  |  |                                                                                      |                                                                                       |
| <b>BU-HF</b> P. 051                                                                 | <b>E-HF</b> P. 052                                                                  | <b>T-HF</b> P. 052                                                                  |                                                                                      |                                                                                       |

# MICRO FITTINGS

|                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| <b>MG.RU-</b> P. 053                                                              | <b>MG.E-</b> P. 053                                                               | <b>MG.FE-</b> P. 053                                                              | <b>MG.EL-</b> P. 054                                                               | <b>MG.E5-</b> P. 054                                                                |
|  |  |  |  |  |
| <b>MG.RE-</b> P. 055                                                              | <b>-/MG.E-</b> P. 055                                                             | <b>MG.T-</b> P. 056                                                               | <b>MG.FT-</b> P. 056                                                               | <b>MG.TL-</b> P. 057                                                                |
|  |  |  |                                                                                    |                                                                                     |
| <b>MG.TUL</b> P. 057                                                              | <b>MG.RT-</b> P. 058                                                              | <b>MG.C-</b> P. 058                                                               |                                                                                    |                                                                                     |

# WELD FITTINGS

|                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |
| <b>EB-AB</b> P. 059                                                                 | <b>EB-ABW</b> P. 059                                                                | <b>US-AB</b> P. 059                                                                 | <b>RU-ABW</b> P. 060                                                                 | <b>RU-AB</b> P. 060                                                                   |
|  |  |  |  |  |
| <b>E-ABW</b> P. 060                                                                 | <b>RE-ABW</b> P. 061                                                                | <b>E-AB</b> P. 061                                                                  | <b>RE-AB</b> P. 061                                                                  | <b>T-ABW</b> P. 062                                                                   |
|  |  |  |  |  |
| <b>RT-ABW</b> P. 062                                                                | <b>RTCA-W</b> P. 063                                                                | <b>MTCA-AB</b> P. 063                                                               | <b>T-AB</b> P. 064                                                                   | <b>RT-AB</b> P. 064                                                                   |
|  |  |                                                                                     |                                                                                      |                                                                                       |
| <b>C-ABW</b> P. 065                                                                 | <b>C-AB</b> P. 065                                                                  |                                                                                     |                                                                                      |                                                                                       |

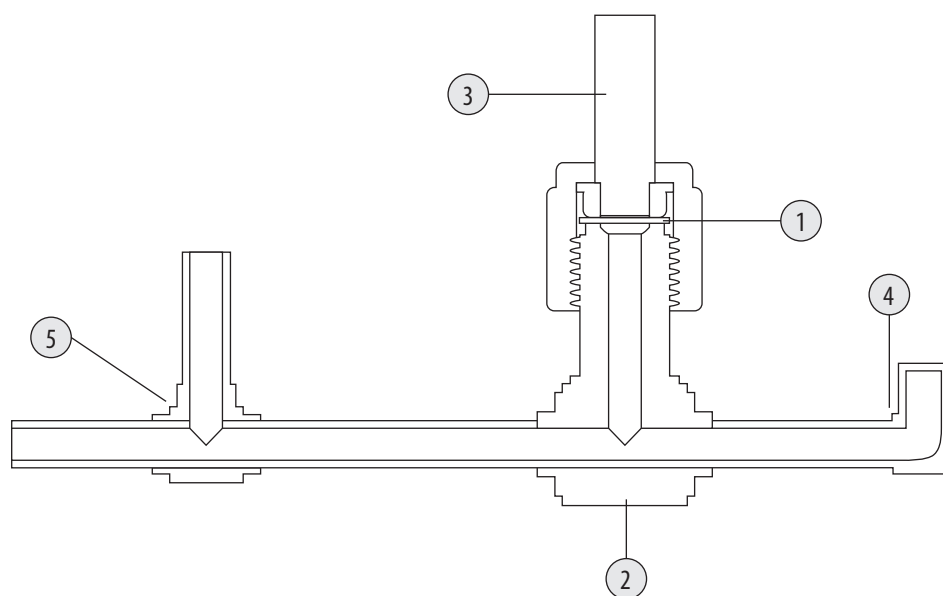
# INFORMATION

### GAZEL® FITTINGS HAVE BEEN INTRODUCED OVER THE WORLD TO MEET FIVE MAIN REQUIREMENTS:

- Provide quick assembly and dismantling of components and tubing.
- Guarantee perfect leak free service under vacuum and pressure.
- Achieve high quality butt welding between tube and fittings.
- Reduce dead volumes and measurements.
- Answer to highest advanced specifications.

### OUR RANGE IS SPLIT UP INTO FIVE LARGE FAMILIES OF FITTINGS:

- 1 Metal gasket Face Seal Fittings
- 2 Space savers fittings (combination of detachable and orbital weld ends)
- 3 High-Flow fittings
- 4 Micro fittings
- 5 Weld fittings

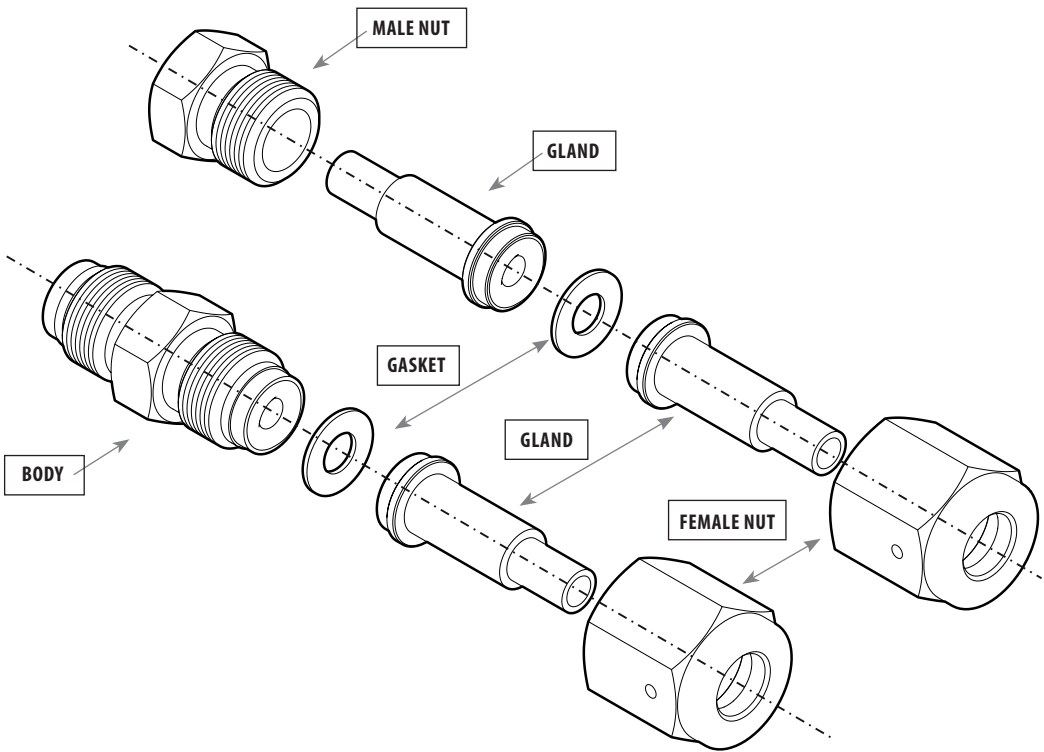
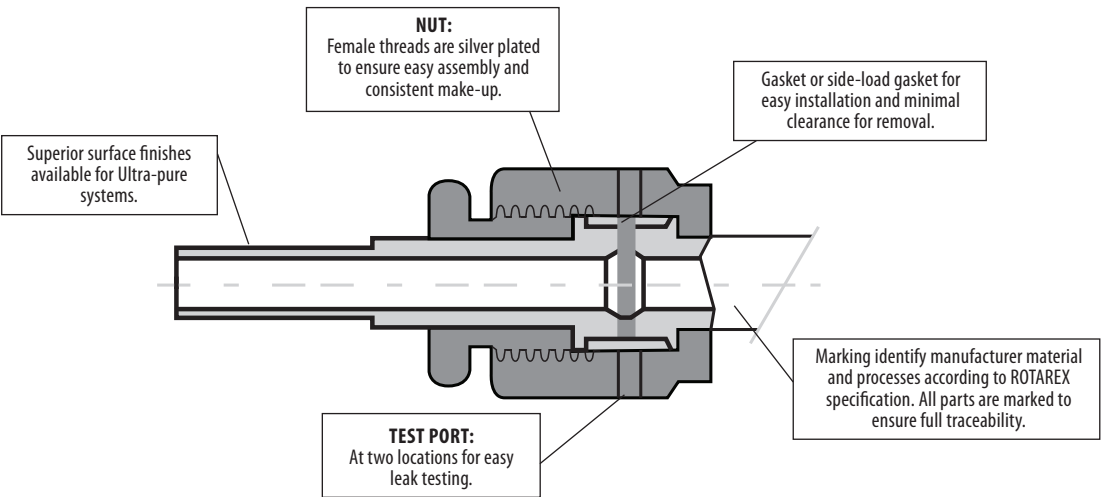


# DESCRIPTION

## GAZEL® METAL GASKET FACE SEAL FITTING

GAZEL® components offer the high purity of a metal to metal seal, providing leak-free service from critical vacuum to high pressure.

The seal on a GAZEL® assembly is made when the gasket is compressed by two highly polished beads during the engagement of a male nut or body hex and a female nut.



# ASSEMBLY

When using an original style gasket, place it into the female nut whenever possible. No special positioning is needed, because the gasket is self-aligning. (see picture 1)

When using a gasket retainer assembly, press the assembly onto the gland as shown. The retainer assembly will locate the gasket over the bead and hold it in place. Be careful not to scratch or nick the bead as this may affect fitting performance. (see picture 2)

To assemble the connection, hold the male nut or body hex stationary. Tighten the female nut finger-tight. (see picture 3)

Hold the male nut or body hex stationary with a backup wrench. Tighten the female nut 1/8 turn past finger-tight for 316L stainless steel and nickel gaskets. (see picture 4)

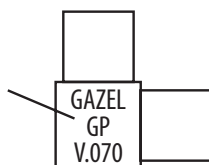


Excessive over-tightening will damage the sealing beads and possibly cause system leakage. The using of a new gasket is necessary for each assembly (the gasket is of single use).

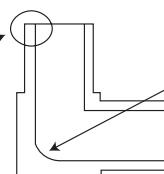
## MICRO FITTINGS

A variety of Micro fittings is available with controlled surface finishes, electropolishing and optimal cleaning according to the ROTAREX Specification and SEMASPEC to meet U.H.P system requirements.

Laser marking identifies manufacturer, material and processes according to the ROTAREX Specification. All parts are laser marked to ensure full traceability.



Square, sharp, burr-free tube weld ends enhance alignment maintain tube wall uniformity, and promote weld repeatability.



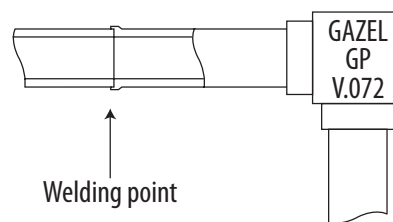
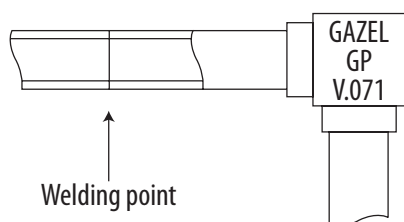
Radius junction allows for a smooth flow transition and is designed to eliminate pockets and entrapment zones.

These Micro fittings provide compact U.H.P designs for use with orbital weld equipment.

## WELD FITTINGS

We provide two types of configurations for the welding section:

- Without shoulder
- With shoulder



### WITHOUT SHOULDER

This is the optimal configuration for butt welding using an automatic TIG welding machine.

### WITH SHOULDER

Automatic welding configuration with shoulder to facilitate meeting under difficult welding conditions such as not easily accessible or outside piping.

## TECHNICAL DATA

### MATERIALS

| Products          | Material             | Specifications                    |
|-------------------|----------------------|-----------------------------------|
| Gasket            | Nickel               | ASTM B-162                        |
|                   | 316L Stainless steel | ASTM A-167                        |
| Nuts              | 316L Stainless steel | ASME SA-479, ASTM A-276           |
| Glands,<br>Bodies | 316L Stainless steel | Barstock: ASME SA-479, ASTM A-276 |
|                   | low sulfur           | Forgings: ASTM A-182              |

### DIMENSIONS

Dimensions are in millimeters and in inches.  
Dimensions are only for reference and are subject to change.

| Size                   |      | Fractional |       |       |       |       |       | Metric |       |       |       |       | Jis   |       |
|------------------------|------|------------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|
|                        |      | 1/8"       | 1/4"  | 3/8"  | 1/2"  | 3/4"  | 1"    | 6 mm   | 8 mm  | 10 mm | 12 mm | 18 mm | 1/4"  | 3/8"  |
| Nominal wall thickness | mm   | 0,71       | 0,89  | 0,89  | 1,25  | 1,25  | 1,65  | 1      | 1     | 1     | 1     | 1,5   | 1     | 1     |
|                        | inch | 0,028      | 0,035 | 0,035 | 0,049 | 0,049 | 0,065 | 0,039  | 0,039 | 0,039 | 0,039 | 0,059 | 0,039 | 0,039 |
| Pressure ratings       | psig | 5100       | 5100  | 3300  | 3500  | 2400  | 2400  | 6800   | 4800  | 3500  | 3100  | 3000  | 5600  | 3300  |
|                        | Bar  | 350        | 350   | 220   | 240   | 160   | 160   | 460    | 330   | 240   | 210   | 200   | 380   | 240   |

### INTERNAL SURFACE FINISH

| Grade | Surface finish |          | Electropolishing                   |
|-------|----------------|----------|------------------------------------|
|       | Ra µm          | Ra µinch |                                    |
| GS    | 0,40           | 16       | Ext.                               |
| GP    | 0,15           | 5        | Int. / Ext. not available for 1/8" |

### FULL TRACEABILITY

Laser marking identifies manufacturer, batch number, material, processes and surface finish.



# TECHNICAL DATA (continued)

## TESTING

Gazel fittings has been helium leak tested to a rate of  $10^{-10}$  std cm<sup>3</sup>/sec.

## PRESSURE RATINGS

Pressure ratings are calculated in accordance with power piping code following ASNE B31.1 for stainless steel fittings at ambient temperature.

## MAX. TEMPERATURE

| Material                        | Temperature |      |
|---------------------------------|-------------|------|
|                                 | °C          | °F   |
| Nickel                          | 315         | 600  |
| 316L Stainless steel low sulfur | 537         | 1000 |

## PRODUCT INSPECTION AND TEST

### Product inspection

- Dimensional inspection
- Internal and external visual
- Inspection
- Internal roughness measurement

The following tests are carried out at the request of customers:

- ESCA: Electron Spectroscopy for Chemical Analyses
- AES: Argon Electron Spectroscopy
- Corrosion test
- Internal fitting measurement

## THREE STAR QUALITY PROCESS

- ISO 9001 Certification  
N°:DE-062832 Q1.
- Fully integrated processing  
(machining, electropolishing, decontamination, packaging, orbital welding).
- Fully traceability at all steps (SPC CAQS).
- Continuous monitoring of key process parameters.

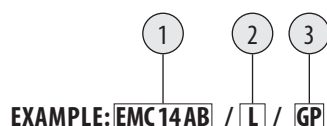
# NOMENCLATURE

## HOW TO ORDER

- The part number on the fittings data sheets designate the type and the size.
- Just add the material and the surface finish composition symbols shown below.

### EXAMPLE:

- For material composition add A, L, V, M, N or H.
- For surface finish add GS or GP.



- ① Write the reference of the selected fittings (according to tables on each product version)

- ② A = 316L Standard  
 L = 316L Low Sulfur (av. S: 0.005%)  
 M = Low Manganese (on request)  
 N = NICKEL  
 H = Hastelloy® C-22 (on request)

③

| Grade | Surface finish   |                     | Electropolishing                   |
|-------|------------------|---------------------|------------------------------------|
|       | Ra $\mu\text{m}$ | Ra $\mu\text{inch}$ |                                    |
| GS    | 0,40             | 16                  | Ext.                               |
| GP    | 0,15             | 5                   | Int. / Ext. not available for 1/8" |

|                  | Fractional |      |      |      |      |      |     | Metric |      |       |       |       | Jis  |      |
|------------------|------------|------|------|------|------|------|-----|--------|------|-------|-------|-------|------|------|
| Diameter         | 1/16"      | 1/8" | 1/4" | 3/8" | 1/2" | 3/4" | 1"  | 6 mm   | 8 mm | 10 mm | 12 mm | 18 mm | 1/4" | 3/8" |
| Size Part Number | 116        | 18   | 14   | 38   | 12   | 34   | 100 | 6M     | 8M   | 10M   | 12M   | 18M   | 14J  | 38J  |

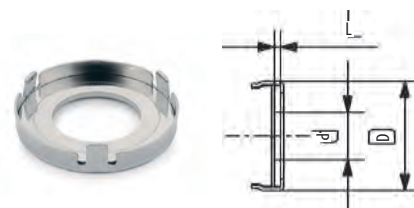
## NOTES

[illegible]

## GASKET | NICKEL GASKET & RETAINER

### TUBE SIZE

| Tube O.D.            | Part number           | L   |      | d    |      | D    |      |
|----------------------|-----------------------|-----|------|------|------|------|------|
|                      |                       | mm  | inch | mm   | inch | mm   | inch |
| ¼", 6 mm, 8 mm       | DNI 14 R <sup>3</sup> | 0,7 | 0,03 | 6,1  | 0,24 | 12,7 | 0,50 |
| ⅜", ½", 10 mm, 12 mm | DNI 12 R <sup>3</sup> | 0,7 | 0,03 | 11,2 | 0,44 | 20,1 | 0,79 |
| ¾", 18 mm            | DNI 34 R              | 0,7 | 0,03 | 16,8 | 0,66 | 29,0 | 1,14 |
| 1"                   | DNI 100 R             | 0,7 | 0,03 | 22,6 | 0,89 | 25,6 | 1,40 |



## GASKET | NICKEL

### TUBE SIZE

| Tube O.D.            | Part number          | L   |      | d    |      | D    |      |
|----------------------|----------------------|-----|------|------|------|------|------|
|                      |                      | mm  | inch | mm   | inch | mm   | inch |
| ⅛"                   | DNI 18 <sup>1</sup>  | 0,5 | 0,02 | 2,3  | 0,09 | 6,6  | 0,26 |
| ¼", 6 mm, 8 mm       | DNI 14 <sup>1</sup>  | 0,7 | 0,03 | 6,1  | 0,24 | 11,9 | 0,47 |
| ⅜", ½", 10 mm, 12 mm | DNI 12 <sup>1</sup>  | 0,7 | 0,03 | 11,2 | 0,44 | 19,8 | 1,78 |
| ¾", 18 mm            | DNI 34 <sup>1</sup>  | 0,7 | 0,03 | 16,8 | 0,66 | 29,0 | 1,14 |
| 1"                   | DNI 100 <sup>1</sup> | 0,7 | 0,03 | 22,6 | 0,89 | 35,6 | 1,40 |



## GASKET | SILVER PLATED 316L

### TUBE SIZE

| Tube O.D.            | Part number           | L   |      | d    |      | D    |      |
|----------------------|-----------------------|-----|------|------|------|------|------|
|                      |                       | mm  | inch | mm   | inch | mm   | inch |
| ⅛"                   | JSS 18                | 0,5 | 0,02 | 2,3  | 0,09 | 6,6  | 0,26 |
| ¼", 6 mm, 8 mm       | JSS 14 <sup>1,2</sup> | 0,7 | 0,03 | 6,1  | 0,24 | 11,9 | 0,47 |
| ⅜", ½", 10 mm, 12 mm | JSS 12 <sup>1</sup>   | 0,7 | 0,03 | 11,2 | 0,44 | 19,8 | 1,78 |
| ¾", 18 mm            | JSS 34 <sup>1</sup>   | 0,7 | 0,03 | 16,8 | 0,66 | 29,0 | 1,14 |
| 1"                   | JSS 100 <sup>1</sup>  | 0,7 | 0,03 | 22,6 | 0,89 | 35,6 | 1,40 |



<sup>1</sup> On request: for silver plated Nickel, use the prefix JNI (Example: JNI 14)

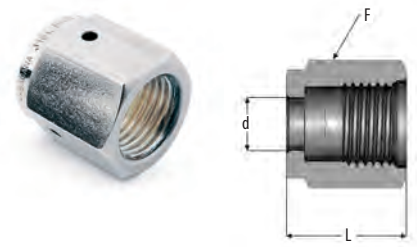
<sup>2</sup> On request: blind gasket, use part number JSS 14 EB

<sup>3</sup> On request in stainless steel, use the prefix JSS (Example: JSS 14 R)

## NUTS | FEMALE NUT

### TUBE SIZE

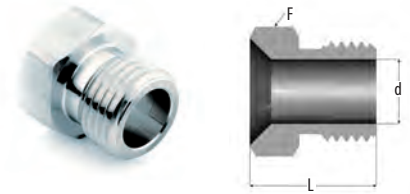
| Tube O.D.                | Part number | L    |      | d    |      | F    |
|--------------------------|-------------|------|------|------|------|------|
|                          |             | mm   | inch | mm   | inch |      |
| 1/8"                     | FN 18       | 13,5 | 0,53 | 5,3  | 0,21 | 11,1 |
| 1/4", 6 mm, 8 mm         | FN 14       | 20,6 | 0,81 | 9,1  | 0,36 | 19,1 |
| 3/8", 1/2", 10 mm, 12 mm | FN 12       | 22,4 | 0,88 | 15,5 | 0,61 | 27,0 |
| 3/4", 18 mm              | FN 34       | 28,4 | 1,12 | 22,6 | 0,89 | 38,1 |
| 1"                       | FN 100      | 34,0 | 1,34 | 30,5 | 1,20 | 44,5 |



## NUTS | MALE NUT

### TUBE SIZE

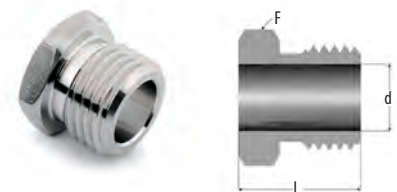
| Tube O.D.                | Part number        | L    |      | d    |      | F    |
|--------------------------|--------------------|------|------|------|------|------|
|                          |                    | mm   | inch | mm   | inch |      |
| 1/8"                     | MN 18              | 12,7 | 0,50 | 5,3  | 0,21 | 9,5  |
| 1/4", 6 mm, 8 mm         | MN 14 <sup>1</sup> | 18,0 | 0,71 | 9,1  | 0,36 | 15,9 |
| 3/8", 1/2", 10 mm, 12 mm | MN 12              | 20,6 | 0,81 | 15,5 | 0,61 | 23,8 |
| 3/4", 18 mm              | MN 34              | 25,4 | 1,00 | 22,6 | 0,89 | 33,3 |
| 1"                       | MN 100             | 30,2 | 1,19 | 30,5 | 1,20 | 41,3 |



## NUTS | SHORT MALE NUT

### TUBE SIZE

| Tube O.D.        | Part number | L    |      | d   |      | F    |
|------------------|-------------|------|------|-----|------|------|
|                  |             | mm   | inch | mm  | inch |      |
| 1/4", 6 mm, 8 mm | SMN 14      | 13,7 | 0,54 | 9,1 | 0,36 | 15,9 |
| 1/4", 6 mm, 8 mm | SMN 14.6    | 16,5 | 0,65 | 9,1 | 0,36 | 15,9 |



<sup>1</sup> A taper at the hex allows the nut to move around 90° tube bends

## PLUGS | FEMALE CAP

### TUBE SIZE

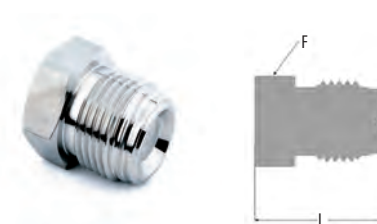
| Tube O.D.                | Part number         | L    |      | L1   |      | F    |
|--------------------------|---------------------|------|------|------|------|------|
|                          |                     | mm   | inch | mm   | inch |      |
| 1/8", 6 mm, 8 mm         | EBF 14 <sup>1</sup> | 23,9 | 0,94 | 11,2 | 0,44 | 19,1 |
| 3/8", 1/2", 10 mm, 12 mm | EBF 12 <sup>1</sup> | 25,6 | 1,01 | 11,4 | 0,45 | 27,0 |
| 3/4", 18 mm              | EBF 34              | 32,8 | 1,29 | 13,7 | 0,54 | 38,1 |
| 1"                       | EBF 100             | 39,1 | 1,54 | 16,0 | 0,63 | 44,5 |



## PLUGS | MALE PLUG

### TUBE SIZE

| Tube O.D.                | Part number           | L    |      | F    |
|--------------------------|-----------------------|------|------|------|
|                          |                       | mm   | inch |      |
| 1/8"                     | EBM 18                | 17,3 | 0,68 | 9,5  |
| 1/4", 6 mm, 8 mm         | EBM 14 <sup>2,3</sup> | 23,4 | 0,92 | 15,9 |
| 3/8", 1/2", 10 mm, 12 mm | EBM 12 <sup>3</sup>   | 27,4 | 1,08 | 23,8 |
| 3/4", 18 mm              | EBM 34                | 36,3 | 1,43 | 33,3 |
| 1"                       | EBM 100               | 38,6 | 1,52 | 41,3 |



## PLUGS | GLAND PLUG

### TUBE SIZE

| Tube O.D.                | Part number         | L    |      |
|--------------------------|---------------------|------|------|
|                          |                     | mm   | inch |
| 1/8"                     | ELB 18              | 17,8 | 0,70 |
| 1/4", 6 mm, 8 mm         | ELB 14 <sup>4</sup> | 33,3 | 1,31 |
| 3/8", 1/2", 10 mm, 12 mm | ELB 12              | 38,1 | 1,50 |
| 3/4", 18 mm              | ELB 34              | 50,8 | 2,00 |
| 1"                       | ELB 100             | 56,4 | 2,22 |



<sup>1</sup> On request with lanyard, use EBF1 as a part number (Example: EBF1 14)

<sup>2</sup> Also available as a rotatable plug. Ordering number: EBM1 14

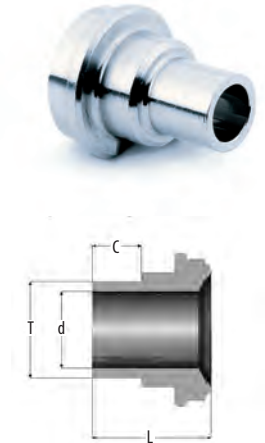
<sup>3</sup> On request with lanyard, use EBM1 as a part number (Example: EBM1 14)

<sup>4</sup> On request it can be delivered with L = 19.0 (0.75") Part number: EB 14

## GLANDS | MINI SHORT FEMALE GLAND

### TUBE SIZE

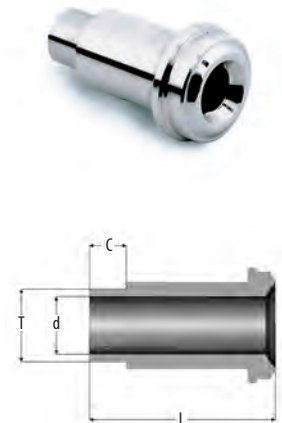
| Tube O.D.  | Part number | L    |      | d    |      | C   |      | Nominal Wall Thickness |       | Working Pressure |     |
|------------|-------------|------|------|------|------|-----|------|------------------------|-------|------------------|-----|
|            |             | mm   | inch | mm   | inch | mm  | inch | mm                     | inch  | psig             | bar |
| FRACTIONAL |             |      |      |      |      |     |      |                        |       |                  |     |
| ¼"         | MG.EMC 14   | 15,2 | 0,60 | 4,6  | 0,18 | 6,4 | 0,25 | 0,89                   | 0,035 | 5100             | 350 |
| ⅜"         | MG.EMC 38   | 15,7 | 0,62 | 7,7  | 0,30 | 6,4 | 0,25 | 0,89                   | 0,035 | 3300             | 220 |
| ½"         | MG.EMC 12   | 15,7 | 0,62 | 10,2 | 0,40 | 6,4 | 0,25 | 1,25                   | 0,049 | 3500             | 240 |
| METRIC     |             |      |      |      |      |     |      |                        |       |                  |     |
| 6 mm       | MG.EMC 6M   | 15,2 | 0,60 | 4,0  | 0,16 | 6,4 | 0,25 | 1,0                    | 0,039 | 6800             | 460 |
| 8 mm       | MG.EMC 8M   | 15,7 | 0,62 | 6,0  | 0,24 | 6,4 | 0,25 | 1,0                    | 0,039 | 4800             | 330 |
| JIS        |             |      |      |      |      |     |      |                        |       |                  |     |
| ¼"         | MG.EMC 14J  | 15,2 | 0,60 | 4,4  | 0,17 | 6,4 | 0,25 | 1,0                    | 0,039 | 5600             | 380 |
| ⅜"         | MG.EMC 38J  | 15,7 | 0,62 | 7,5  | 0,39 | 6,4 | 0,25 | 1,0                    | 0,039 | 3500             | 240 |



## GLANDS | MINI MALE GLAND

### TUBE SIZE

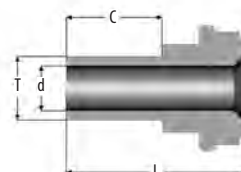
| Tube O.D.  | Part number | L    |      | d    |      | C   |      | Nominal Wall Thickness |       | Working Pressure |     |
|------------|-------------|------|------|------|------|-----|------|------------------------|-------|------------------|-----|
|            |             | mm   | inch | mm   | inch | mm  | inch | mm                     | inch  | psig             | bar |
| FRACTIONAL |             |      |      |      |      |     |      |                        |       |                  |     |
| 1/8"       | MG.EM 18    | 23,4 | 0,92 | 2,1  | 0,08 | 6,4 | 0,25 | 0,71                   | 0,028 | 5100             | 350 |
| 1/4"       | MG.EM 14    | 30,5 | 1,20 | 4,6  | 0,18 | 6,4 | 0,25 | 0,89                   | 0,035 | 3300             | 220 |
| 3/8"       | MG.EM 38    | 32,8 | 1,29 | 7,7  | 0,30 | 6,4 | 0,25 | 0,89                   | 0,035 | 3300             | 240 |
| 1/2"       | MG.EM 12    | 32,8 | 1,29 | 10,2 | 0,40 | 6,4 | 0,25 | 1,25                   | 0,049 | 3500             | 240 |
| METRIC     |             |      |      |      |      |     |      |                        |       |                  |     |
| 6 mm       | MG.EM 6M    | 30,5 | 1,20 | 4,0  | 0,16 | 6,4 | 0,25 | 1,0                    | 0,039 | 6800             | 460 |
| JIS        |             |      |      |      |      |     |      |                        |       |                  |     |
| 1/4"       | MG.EM 14J   | 30,5 | 1,20 | 4,4  | 0,17 | 6,4 | 0,25 | 1,0                    | 0,039 | 5600             | 380 |
| 3/8"       | MG.EM 38J   | 32,8 | 1,29 | 7,5  | 0,29 | 6,4 | 0,25 | 1,0                    | 0,039 | 3500             | 240 |



## GLANDS | AUTOMATIC TUBE WELD SHORT FEMALE GLAND

### TUBE SIZE

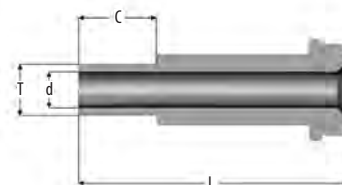
| Tube O.D.  | Part number | L    |      | d    |      | C   |      | Nominal Wall Thickness |       | Working Pressure |     |
|------------|-------------|------|------|------|------|-----|------|------------------------|-------|------------------|-----|
|            |             | mm   | inch | mm   | inch | mm  | inch | mm                     | inch  | psig             | bar |
| FRACTIONAL |             |      |      |      |      |     |      |                        |       |                  |     |
| ¼"         | EMCS 14 AB  | 18,3 | 0,72 | 4,6  | 0,18 | 9,6 | 0,38 | 0,89                   | 0,035 | 5100             | 350 |
| ½"         | EMCS 12 AB  | 18,8 | 0,74 | 10,2 | 0,40 | 9,6 | 0,38 | 1,25                   | 0,049 | 3500             | 240 |
| JIS        |             |      |      |      |      |     |      |                        |       |                  |     |
| ¼"         | EMCS 14J AB | 18,3 | 0,72 | 4,4  | 0,17 | 9,6 | 0,38 | 1,0                    | 0,039 | 5600             | 380 |
| ⅜"         | EMCS 38J AB | 18,8 | 0,74 | 7,5  | 0,29 | 9,6 | 0,38 | 1,0                    | 0,039 | 3500             | 240 |



## GLANDS | AUTOMATIC TUBE WELD MALE GLAND

### TUBE SIZE

| Tube O.D.  | Part number | L    |      | d    |      | C   |      | Nominal Wall Thickness |       | Working Pressure |     |
|------------|-------------|------|------|------|------|-----|------|------------------------|-------|------------------|-----|
|            |             | mm   | inch | mm   | inch | mm  | inch | mm                     | inch  | psig             | bar |
| FRACTIONAL |             |      |      |      |      |     |      |                        |       |                  |     |
| ¼"         | EMCA 14 AB  | 33,3 | 1,31 | 4,6  | 0,18 | 9,1 | 0,36 | 0,89                   | 0,035 | 5100             | 350 |
| ¼"         | EMS 14 AB   | 33,5 | 1,32 | 4,6  | 0,18 | 9,6 | 0,38 | 0,89                   | 0,035 | 5100             | 350 |
| ½"         | EMS 12 AB   | 33,8 | 1,33 | 10,2 | 0,40 | 9,6 | 0,38 | 1,25                   | 0,049 | 3500             | 240 |
| JIS        |             |      |      |      |      |     |      |                        |       |                  |     |
| ¼"         | EMS 14J AB  | 33,5 | 1,32 | 4,4  | 0,17 | 9,6 | 0,38 | 1,0                    | 0,039 | 5600             | 380 |
| ⅜"         | EMS 38J AB  | 35,8 | 1,41 | 7,5  | 0,29 | 9,6 | 0,38 | 1,0                    | 0,039 | 3500             | 240 |





## GLANDS | AUTOMATIC TUBE WELD SHORT FEMALE GLAND

### TUBE SIZE

| Tube O.D.  | Part number | L    |      | d    |      | C    |      | Nominal Wall Thickness |       | Working Pressure |     |
|------------|-------------|------|------|------|------|------|------|------------------------|-------|------------------|-----|
|            |             | mm   | inch | mm   | inch | mm   | inch | mm                     | inch  | psig             | bar |
| FRACTIONAL |             |      |      |      |      |      |      |                        |       |                  |     |
| ½"         | EMC 18 AB   | 27,4 | 1,08 | 2,1  | 0,08 | 19,1 | 0,75 | 0,71                   | 0,028 | 5100             | 350 |
| ¼"         | EMC 14 AB   | 27,9 | 1,10 | 4,6  | 0,18 | 19,1 | 0,75 | 0,89                   | 0,035 | 5100             | 350 |
| ⅜"         | EMC 38 AB   | 28,4 | 1,12 | 7,7  | 0,30 | 19,1 | 0,75 | 0,89                   | 0,035 | 3300             | 220 |
| ½"         | EMC 12 AB   | 28,4 | 1,12 | 10,2 | 0,40 | 19,1 | 0,75 | 1,25                   | 0,049 | 3500             | 240 |
| METRIC     |             |      |      |      |      |      |      |                        |       |                  |     |
| 6 mm       | EMC 6M AB   | 29,5 | 1,16 | 4,0  | 0,16 | 19,1 | 0,75 | 1,0                    | 0,039 | 6800             | 460 |
| 8 mm       | EMC 8M AB   | 29,5 | 1,16 | 6,0  | 0,24 | 19,1 | 0,75 | 1,0                    | 0,039 | 4800             | 330 |
| 10 mm      | EMC 10M AB  | 29,5 | 1,16 | 8,0  | 0,31 | 19,1 | 0,75 | 1,0                    | 0,039 | 3500             | 240 |
| 12 mm      | EMC 12M AB  | 29,5 | 1,16 | 10,0 | 0,39 | 19,1 | 0,75 | 1,0                    | 0,039 | 3100             | 210 |
| 18 mm      | EMC 18M AB  | 31,0 | 1,22 | 15,0 | 0,59 | 19,1 | 0,75 | 1,5                    | 0,059 | 3000             | 200 |
| JIS        |             |      |      |      |      |      |      |                        |       |                  |     |
| ¼"         | EMC 14J AB  | 27,9 | 1,10 | 4,4  | 0,17 | 19,1 | 0,75 | 1,0                    | 0,039 | 5600             | 380 |
| ⅜"         | EMC 38J AB  | 28,4 | 1,12 | 7,5  | 0,29 | 19,1 | 0,75 | 1,0                    | 0,039 | 3300             | 240 |



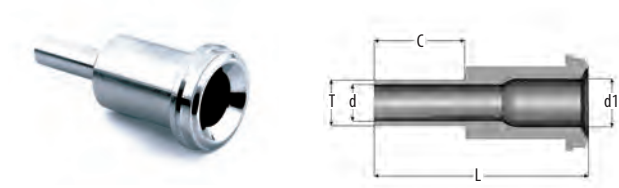
## GLANDS | AUTOMATIC TUBE WELD MALE GLAND

### TUBE SIZE

| Tube O.D.  | Part number | L    |      | d    |      | C    |      | Nominal Wall Thickness |       | Working Pressure |     |
|------------|-------------|------|------|------|------|------|------|------------------------|-------|------------------|-----|
|            |             | mm   | inch | mm   | inch | mm   | inch | mm                     | inch  | psig             | bar |
| FRACTIONAL |             |      |      |      |      |      |      |                        |       |                  |     |
| 1/8"       | EM 18 AB    | 36,1 | 1,42 | 2,1  | 0,08 | 19,1 | 0,75 | 0,71                   | 0,028 | 5100             | 350 |
| 1/4"       | EM 14 AB    | 43,2 | 1,70 | 4,6  | 0,18 | 19,1 | 0,75 | 0,89                   | 0,035 | 5100             | 350 |
| 3/8"       | EM 38 AB    | 45,5 | 1,79 | 7,7  | 0,30 | 19,1 | 0,75 | 0,89                   | 0,035 | 3300             | 220 |
| 1/2"       | EM 12 AB    | 45,5 | 1,79 | 10,2 | 0,40 | 19,1 | 0,75 | 1,25                   | 0,049 | 3500             | 240 |
| 3/4"       | EM 34 AB    | 51,6 | 2,03 | 16,5 | 0,65 | 19,1 | 0,75 | 1,25                   | 0,049 | 2400             | 160 |
| 1"         | EM 100 AB   | 58,9 | 2,32 | 22,1 | 0,87 | 19,1 | 0,75 | 1,65                   | 0,065 | 2400             | 160 |
| METRIC     |             |      |      |      |      |      |      |                        |       |                  |     |
| 6 mm       | EM 6M AB    | 43,1 | 1,70 | 4,0  | 0,16 | 19,1 | 0,75 | 1,0                    | 0,039 | 6800             | 460 |
| 8 mm       | EM 8M AB    | 43,1 | 1,70 | 6,0  | 0,24 | 19,1 | 0,75 | 1,0                    | 0,039 | 4800             | 330 |
| 10 mm      | EM 10M AB   | 45,5 | 1,79 | 8,0  | 0,31 | 19,1 | 0,75 | 1,0                    | 0,039 | 3500             | 240 |
| 12 mm      | EM 12M AB   | 45,5 | 1,79 | 10,0 | 0,39 | 19,1 | 0,75 | 1,0                    | 0,039 | 3100             | 210 |
| 18 mm      | EM 18M AB   | 51,6 | 2,03 | 15,0 | 0,59 | 19,1 | 0,75 | 2,5                    | 0,059 | 3100             | 200 |
| JIS        |             |      |      |      |      |      |      |                        |       |                  |     |
| 1/4"       | EM 14J AB   | 43,2 | 1,70 | 4,4  | 0,17 | 19,1 | 0,75 | 1,0                    | 0,039 | 5600             | 380 |
| 3/8"       | EM 38J AB   | 45,5 | 1,79 | 7,5  | 0,29 | 19,1 | 0,75 | 1,0                    | 0,039 | 3300             | 240 |



## GLANDS | AUTOMATIC TUBE WELD REDUCING MALE GLAND



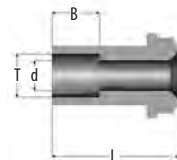
TUBE SIZE - FRACTIONAL

| T1<br>Tube O.D. | T<br>Tube O.D. | Part number   | L    |      | d1   |      | d   |      | C    |      | Nominal Wall Thickness |       | Working Pressure |     |
|-----------------|----------------|---------------|------|------|------|------|-----|------|------|------|------------------------|-------|------------------|-----|
|                 |                |               | mm   | inch | mm   | inch | mm  | inch | mm   | inch | mm                     | inch  | psig             | bar |
| 1/2"            | 1/4"           | EMR 12 14 AB  | 45,5 | 1,79 | 10,2 | 0,40 | 4,6 | 0,18 | 19,1 | 0,75 | 0,89                   | 0,035 | 3500             | 240 |
| 1/2"            | 3/8"           | EMR 12 38 AB  | 45,5 | 1,79 | 10,2 | 0,40 | 7,7 | 0,30 | 19,1 | 0,75 | 0,89                   | 0,035 | 3300             | 220 |
| 1/2"            | 1/4"           | EMCR 12 14 AB | 28,4 | 1,12 | 10,2 | 0,40 | 4,6 | 0,18 | 19,1 | 0,75 | 0,89                   | 0,035 | 3500             | 240 |
| 1/2"            | 3/8"           | EMCR 12 38 AB | 28,4 | 1,12 | 10,2 | 0,40 | 7,7 | 0,30 | 19,1 | 0,75 | 0,89                   | 0,035 | 3300             | 220 |

## GLANDS | SHORT SOCKET WELD GLAND

TUBE SIZE - FRACTIONAL

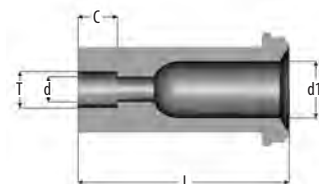
| T<br>Tube O.D. | Part number | L    |      | d   |      | B   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|-----|------------------|-----|
|                |             | mm   | inch | mm  | inch |     | psig             | bar |
| 1/4"           | EFCS 14     | 12,7 | 0,50 | 4,6 | 0,18 | 7,9 | 5500             | 370 |
| 1/4"           | EFC 14      | 19,1 | 0,75 | 4,6 | 0,18 | 7,1 | 5500             | 370 |



## GLANDS | REDUCING SOCKET WELD GLAND

TUBE SIZE - FRACTIONAL

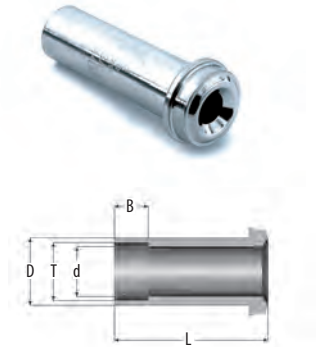
| T1<br>Tube O.D. | T<br>Tube O.D. | Part number | L    |      | d1   |      | d   |      | B   | Working Pressure |     |
|-----------------|----------------|-------------|------|------|------|------|-----|------|-----|------------------|-----|
|                 |                |             | mm   | inch | mm   | inch | mm  | inch |     | psig             | bar |
| 1/4"            | 1/8"           | RSW 14 18   | 33,3 | 1,31 | 4,6  | 0,18 | 2,1 | 0,08 | 2,5 | 8000             | 550 |
| 1/2"            | 1/4"           | RSW 12 14   | 38,0 | 1,50 | 10,2 | 0,40 | 4,6 | 0,18 | 7,1 | 3500             | 240 |



## GLANDS | SOCKET WELD GLAND

### TUBE SIZE - FRACTIONAL

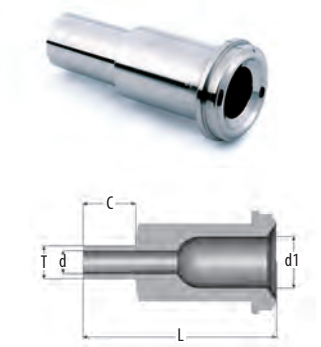
| T<br>Tube O.D. | Part number           | L    |      | d    |      | D    | B    | Working Pressure |     |
|----------------|-----------------------|------|------|------|------|------|------|------------------|-----|
|                |                       | mm   | inch | mm   | inch | mm   | mm   | psig             | bar |
| 1/16"          | EF 116 <sup>1,2</sup> | 17,8 | 0,70 | 1,5  | 0,06 | 3,3  | 2,5  | 9000             | 620 |
| 1/8"           | EF 18                 | 17,8 | 0,70 | 2,1  | 0,08 | 5,1  | 2,5  | 7100             | 480 |
| 1/4"           | EF 14                 | 33,3 | 1,31 | 4,6  | 0,18 | 8,9  | 7,1  | 5500             | 370 |
| 3/8"           | EF 38                 | 38,1 | 1,50 | 7,7  | 0,30 | 15,2 | 8,0  | 3500             | 240 |
| 1/2"           | EF 12                 | 38,1 | 1,50 | 10,2 | 0,40 | 15,2 | 9,6  | 3000             | 200 |
| 3/4"           | EF 34                 | 50,8 | 2,00 | 16,5 | 0,65 | 22,4 | 11,2 | 2800             | 190 |
| 1"             | EF 100                | 56,4 | 2,22 | 22,1 | 0,87 | 30,2 | 15,7 | 2400             | 160 |



## GLANDS | MALE WELD GLAND

### TUBE SIZE - FRACTIONAL

| T 1<br>Tube O.D. | T<br>Tube O.D. | Part number | L    |      | d    |      | d1   |      | C    |      | Working Pressure |     |
|------------------|----------------|-------------|------|------|------|------|------|------|------|------|------------------|-----|
|                  |                |             | mm   | inch | mm   | inch | mm   | inch | mm   | inch | psig             | bar |
| 1/8"             | 1/8"           | EM 18       | 17,8 | 0,70 | 1,5  | 0,06 | 2,1  | 0,08 | 7,1  | 0,28 | 9000             | 620 |
| 1/4"             | 1/8"           | EMR 14 18   | 33,3 | 1,31 | 1,5  | 0,06 | 2,1  | 0,08 | 7,1  | 0,28 | 8000             | 550 |
| 1/4"             | 1/4"           | EM 14       | 33,3 | 1,31 | 3,0  | 0,12 | 4,6  | 0,18 | 10,4 | 0,41 | 8000             | 550 |
| 1/2"             | 1/4"           | EMR 12 14   | 38,1 | 1,50 | 3,0  | 0,12 | 4,6  | 0,18 | 10,4 | 0,41 | 3500             | 240 |
| 1/2"             | 3/8"           | EM 38       | 38,1 | 1,50 | 7,7  | 0,28 | 7,7  | 0,30 | 10,4 | 0,41 | 3500             | 240 |
| 1/2"             | 1/2"           | EM 12       | 38,1 | 1,50 | 10,2 | 0,40 | 10,2 | 0,40 | 12,7 | 0,50 | 3500             | 240 |
| 3/4"             | 3/4"           | EM 34       | 50,8 | 2,00 | 13,5 | 0,53 | 16,5 | 0,65 | 15,7 | 0,62 | 3000             | 200 |
| 1"               | 1"             | EM 100      | 56,4 | 2,22 | 19,1 | 0,75 | 22,1 | 0,87 | 20,6 | 0,81 | 2400             | 160 |



## GLANDS | TUBE ADAPTER

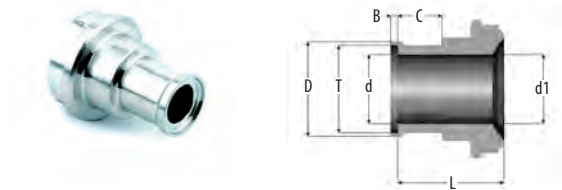
### TUBE SIZE - FRACTIONAL

| T 1<br>Tube O.D. | Part number | L    |      | d    |      | C    |      | Working Pressure |     |
|------------------|-------------|------|------|------|------|------|------|------------------|-----|
|                  |             | mm   | inch | mm   | inch | mm   | inch | psig             | bar |
| 1/4"             | TA 14       | 41,0 | 1,61 | 4,6  | 0,18 | 16,2 | 0,64 | 2400             | 160 |
| 3/8"             | TA 38       | 46,0 | 1,81 | 7,7  | 0,30 | 17,8 | 0,70 | 1500             | 100 |
| 1/2"             | TA 12       | 49,3 | 1,94 | 10,2 | 0,40 | 24,4 | 0,96 | 1500             | 100 |



1) Use DNI 18 and FN 18 or MN 18  
2) Minimum quantity

## GLANDS | MINI SHORT FEMALE GLAND



### TUBE SIZE - FRACTIONAL

| T 1<br>Tube O.D. | T<br>Tube O.D. | Part number  | L    |      | d1   |      | d    |      | D    | B   | C   |      | Nominal Wall Thickness |       | Working Pressure |     |
|------------------|----------------|--------------|------|------|------|------|------|------|------|-----|-----|------|------------------------|-------|------------------|-----|
|                  |                |              | mm   | inch | mm   | inch | mm   | inch |      |     | mm  | inch | mm                     | inch  | psig             | bar |
| 1/4"             | 1/8"           | MG.EFC 14 18 | 15,6 | 0,61 | 4,6  | 0,18 | 2,1  | 0,08 | 3,8  | 0,3 | 6,4 | 0,25 | 0,71                   | 0,028 | 5100             | 350 |
| 1/4"             | 1/4"           | MG.EFC 14    | 15,7 | 0,62 | 4,6  | 0,18 | 4,6  | 0,18 | 7,4  | 0,5 | 6,4 | 0,25 | 0,89                   | 0,035 | 5100             | 350 |
| 3/8"             | 3/8"           | MG.EFC 38    | 16,5 | 0,65 | 7,7  | 0,30 | 7,7  | 0,30 | 10,5 | 0,8 | 6,4 | 0,25 | 0,89                   | 0,035 | 3300             | 220 |
| 1/2"             | 1/2"           | MG.EFC 12    | 16,7 | 0,66 | 10,2 | 0,40 | 10,2 | 0,40 | 14,0 | 1,0 | 6,4 | 0,25 | 1,25                   | 0,049 | 3500             | 240 |

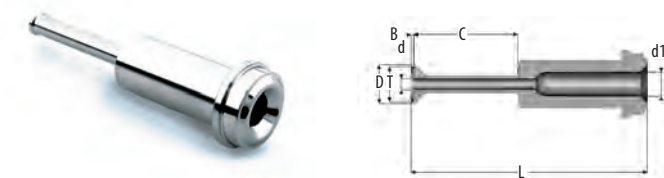
## GLANDS | MINI MALE GLAND

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | d    |      | D    | B   | C   |      | Nominal Wall Thickness |       | Working Pressure |     |
|----------------|-------------|------|------|------|------|------|-----|-----|------|------------------------|-------|------------------|-----|
|                |             | mm   | inch | mm   | inch |      |     | mm  | inch | mm                     | inch  | psig             | bar |
| 1/8"           | MG.EF 18    | 23,8 | 0,94 | 2,1  | 0,08 | 3,8  | 0,5 | 6,4 | 0,25 | 0,71                   | 0,028 | 5100             | 350 |
| 1/4"           | MG.EF 14    | 31,0 | 1,22 | 4,6  | 0,18 | 7,4  | 0,5 | 6,4 | 0,25 | 0,89                   | 0,035 | 5100             | 350 |
| 1/2"           | MG.EF 12    | 33,8 | 1,33 | 10,2 | 0,40 | 14,0 | 1,0 | 6,4 | 0,25 | 1,3                    | 0,049 | 3500             | 240 |



## GLANDS | AUTOMATIC TUBE WELD REDUCING GLAND



### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number   | L    |      | d1   |      | d   |      | D    | B   | C    |      | Nominal Wall Thickness |       | Working Pressure |     |
|----------------|---------------|------|------|------|------|-----|------|------|-----|------|------|------------------------|-------|------------------|-----|
|                |               | mm   | inch | mm   | inch | mm  | inch |      |     | mm   | inch | mm                     | inch  | psig             | bar |
| 1/4"           | EFR 14 18 AB  | 43,5 | 1,71 | 4,6  | 0,18 | 2,1 | 0,08 | 3,8  | 0,5 | 19,1 | 0,75 | 0,71                   | 0,028 | 5100             | 350 |
| 1/4"           | EFCR 14 18 AB | 28,2 | 1,11 | 4,6  | 0,18 | 2,1 | 0,08 | 3,8  | 0,5 | 19,1 | 0,75 | 0,71                   | 0,028 | 5100             | 350 |
| 1/2"           | EFR 12 14 AB  | 46,2 | 1,82 | 10,2 | 0,40 | 4,6 | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 0,89                   | 0,035 | 3500             | 240 |
| 1/2"           | EFR 12 38 AB  | 46,2 | 1,82 | 10,2 | 0,40 | 7,7 | 0,30 | 14,0 | 0,8 | 19,1 | 0,75 | 0,89                   | 0,035 | 3500             | 240 |

## GLANDS | AUTOMATIC TUBE WELD SHORT FEMALE GLAND

### TUBE SIZE

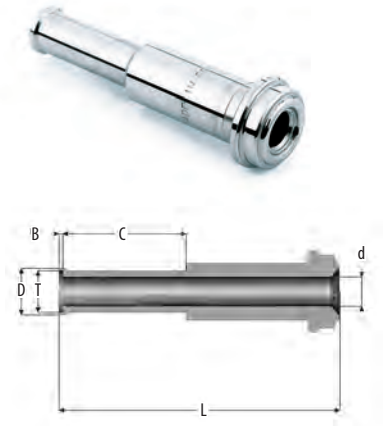
| T<br>Tube O.D. | Part number | L    |      | d    |      | D    | B   | C    |      | Nominal Wall Thickness |       | Working Pressure |     |
|----------------|-------------|------|------|------|------|------|-----|------|------|------------------------|-------|------------------|-----|
|                |             | mm   | inch | mm   | inch | mm   | mm  | mm   | inch | mm                     | inch  | psig             | bar |
| FRACTIONAL     |             |      |      |      |      |      |     |      |      |                        |       |                  |     |
| ¼"             | EFC 14 AB   | 28,4 | 1,12 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 0,89                   | 0,035 | 5100             | 350 |
| ⅜"             | EFC 38 AB   | 29,2 | 1,15 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 0,89                   | 0,035 | 3300             | 220 |
| ½"             | EFC 12 AB   | 29,5 | 1,16 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 1,25                   | 0,049 | 3500             | 240 |
| METRIC         |             |      |      |      |      |      |     |      |      |                        |       |                  |     |
| 6 mm           | EFC 6M AB   | 30,0 | 1,18 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 1,0                    | 0,039 | 6800             | 460 |
| 8 mm           | EFC 8M AB   | 30,2 | 1,19 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 1,0                    | 0,039 | 4800             | 330 |
| 10 mm          | EFC 10M AB  | 31,0 | 1,22 | 8,0  | 0,31 | 10,9 | 0,8 | 19,1 | 0,75 | 1,0                    | 0,039 | 3500             | 240 |
| 12 mm          | EFC 12M AB  | 30,5 | 1,20 | 10,0 | 0,39 | 13,2 | 1,0 | 19,1 | 0,75 | 1,0                    | 0,039 | 3100             | 210 |
| JIS            |             |      |      |      |      |      |     |      |      |                        |       |                  |     |
| ¼"             | EFC 14J AB  | 43,7 | 1,72 | 4,4  | 0,17 | 7,4  | 0,5 | 19,1 | 0,75 | 1,0                    | 0,039 | 5600             | 380 |
| ⅜"             | EFC 38J AB  | 46,2 | 1,82 | 7,5  | 0,29 | 10,5 | 0,8 | 19,1 | 0,75 | 1,0                    | 0,039 | 3500             | 240 |



## GLANDS | AUTOMATIC TUBE WELD MALE GLAND

### TUBE SIZE

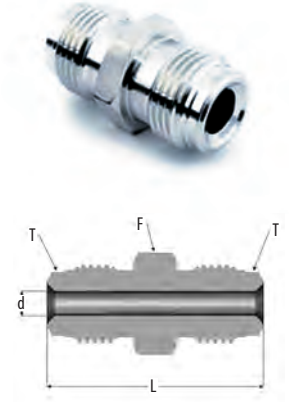
| T<br>Tube O.D. | Part number | L    |      | d    |      | D    | B   | C    |      | Nominal Wall<br>Thickness |       | Working<br>Pressure |     |
|----------------|-------------|------|------|------|------|------|-----|------|------|---------------------------|-------|---------------------|-----|
|                |             | mm   | inch | mm   | inch | mm   | mm  | mm   | inch | mm                        | inch  | psig                | bar |
| FRACTIONAL     |             |      |      |      |      |      |     |      |      |                           |       |                     |     |
| ¼"             | EF 14 AB    | 43,7 | 1,72 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 0,89                      | 0,035 | 5100                | 350 |
| ⅜"             | EF 38 AB    | 46,2 | 1,82 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 0,89                      | 0,035 | 3300                | 220 |
| ½"             | EF 12 AB    | 46,5 | 1,83 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 1,25                      | 0,049 | 3500                | 240 |
| ¾"             | EF 34 AB    | 52,6 | 2,07 | 16,5 | 0,65 | 20,3 | 1,0 | 19,1 | 0,75 | 1,25                      | 0,049 | 2400                | 160 |
| ½"             | EF 100 AB   | 65,3 | 2,57 | 22,1 | 0,87 | 26,9 | 1,0 | 24,4 | 0,75 | 1,65                      | 0,065 | 2400                | 160 |
| METRIC         |             |      |      |      |      |      |     |      |      |                           |       |                     |     |
| 6 mm           | EF 6M AB    | 43,7 | 1,72 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 1,0                       | 0,039 | 6800                | 460 |
| 8 mm           | EF 8M AB    | 44,0 | 1,73 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 1,0                       | 0,039 | 4800                | 330 |
| 12 mm          | EF 12M AB   | 46,5 | 1,83 | 10,0 | 0,39 | 13,2 | 1,0 | 19,1 | 0,75 | 1,0                       | 0,039 | 3500                | 240 |
| 18 mm          | EF 18M AB   | 52,6 | 2,07 | 15,0 | 0,59 | 19,2 | 1,0 | 19,1 | 0,75 | 1,5                       | 0,059 | 3100                | 210 |
| JIS            |             |      |      |      |      |      |     |      |      |                           |       |                     |     |
| ¼"             | EF 14J AB   | 43,7 | 1,72 | 4,4  | 0,17 | 7,4  | 0,5 | 19,1 | 0,75 | 1,0                       | 0,039 | 5600                | 380 |
| ⅜"             | EF 38J AB   | 46,2 | 1,83 | 7,5  | 0,29 | 10,5 | 0,8 | 19,1 | 0,75 | 1,0                       | 0,039 | 3500                | 240 |



## UNIONS | DOUBLE MALE UNION

### TUBE SIZE - FRACTIONAL

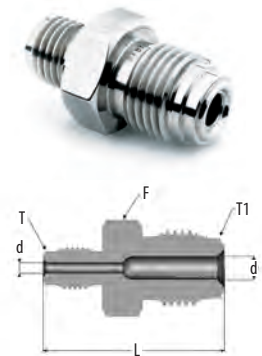
| T<br>Tube O.D. | Part number         | L    |      | d    |      | F    | Working Pressure |     |
|----------------|---------------------|------|------|------|------|------|------------------|-----|
|                |                     | mm   | inch | mm   | inch |      | psig             | bar |
| 1/8"           | UM 18 <sup>1</sup>  | 28,7 | 1,13 | 2,1  | 0,08 | 9,5  | 9000             | 620 |
| 1/4"           | UM 14 <sup>1</sup>  | 39,4 | 1,55 | 4,6  | 0,18 | 15,9 | 8000             | 550 |
| 1/2"           | UM 12 <sup>1</sup>  | 46,7 | 1,84 | 10,2 | 0,40 | 23,8 | 3500             | 240 |
| 3/4"           | UM 34 <sup>1</sup>  | 62,0 | 2,44 | 16,5 | 0,65 | 33,3 | 3000             | 200 |
| 1"             | UM 100 <sup>1</sup> | 65,8 | 2,59 | 22,1 | 0,87 | 41,3 | 2400             | 160 |



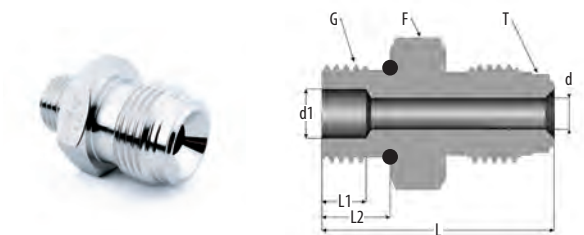
## UNIONS | DOUBLE MALE REDUCING UNION

### TUBE SIZE - FRACTIONAL

| T1<br>Tube O.D. | T<br>Tube O.D. | Part number             | L    |      | d1  |      | d    |      | F    | Working Pressure |     |
|-----------------|----------------|-------------------------|------|------|-----|------|------|------|------|------------------|-----|
|                 |                |                         | mm   | inch | mm  | inch | mm   | inch |      | psig             | bar |
| 1/4"            | 1/8"           | DMRU 14 18 <sup>1</sup> | 34,8 | 1,37 | 2,1 | 0,08 | 4,6  | 0,18 | 15,9 | 8000             | 550 |
| 1/2"            | 1/4"           | DMRU 12 14 <sup>1</sup> | 43,4 | 1,71 | 4,6 | 0,18 | 10,2 | 0,40 | 23,8 | 3500             | 240 |



## UNIONS | STRAIGHT THREAD MALE CONNECTOR, O-RING



### TUBE SIZE - FRACTIONAL

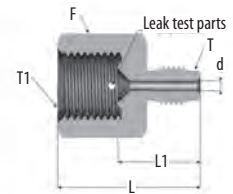
| T<br>Tube O.D. | Part number               | L    |      | L1   | L2   | d1  |      | d   |      | F    | G        | O-ring Size N°   | Working Pressure |     |
|----------------|---------------------------|------|------|------|------|-----|------|-----|------|------|----------|------------------|------------------|-----|
|                |                           | mm   | inch |      |      | mm  | inch | mm  | inch |      |          |                  | psig             | bar |
| 1/4"           | STMC 14 <sup>1,2</sup>    | 33,8 | 1,33 | 6,4  | 9,9  | 7,1 | 0,28 | 4,6 | 0,18 | 19,1 | 9-16"-18 | FLUOROCARBON 906 | 4500             | 310 |
| 1/2"           | STMC 12 12 <sup>1,2</sup> | 42,2 | 1,66 | 10,2 | 12,7 | 15  | 0,59 | 7,1 | 0,28 | 25,4 | 7/8"-14  | FLUOROCARBON 910 | 3500             | 240 |
| 1/2"           | STMC 12 14 <sup>1,2</sup> | 37,6 | 1,48 | 6,4  | 9,9  | 7,1 | 0,28 | 7,1 | 0,28 | 23,8 | 3/4"-18  | FLUOROCARBON 906 | 3500             | 240 |

1) These fittings should be assembled only with rotating male or female nuts  
2) O-rings fluorocarbon FKM standard, other materials on request

## UNIONS | REDUCING ADAPTER

### TUBE SIZE - FRACTIONAL

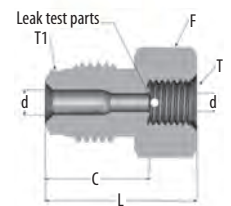
| T1<br>Tube O.D. | T<br>Tube O.D. | Part number           | L    |      | L1   |     | d    |      | F    |      | Working<br>Pressure |
|-----------------|----------------|-----------------------|------|------|------|-----|------|------|------|------|---------------------|
|                 |                |                       | mm   | inch | mm   | mm  | inch | mm   | mm   | psig | bar                 |
| 1/4"            | 1/8"           | RA 14 18 <sup>1</sup> | 30,2 | 1,19 | 17,5 | 2,1 | 0,08 | 19,1 | 8000 | 550  |                     |
| 1/2"            | 1/4"           | RA 12 14 <sup>1</sup> | 35,8 | 1,41 | 21,6 | 4,6 | 0,18 | 27,0 | 3500 | 240  |                     |



## UNIONS | REDUCING ADAPTER

### TUBE SIZE - FRACTIONAL

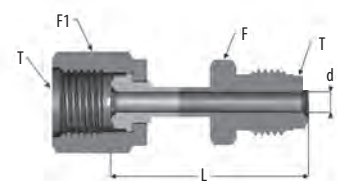
| T1<br>Tube O.D. | T<br>Tube O.D. | Part number           | L    |      | L1   |     | d    |      | F    |      | Working<br>Pressure |
|-----------------|----------------|-----------------------|------|------|------|-----|------|------|------|------|---------------------|
|                 |                |                       | mm   | inch | mm   | mm  | inch | mm   | mm   | psig | bar                 |
| 1/4"            | 1/8"           | RB 14 18 <sup>1</sup> | 36,9 | 1,06 | 19,3 | 3,6 | 0,14 | 15,9 | 8000 | 550  |                     |
| 1/2"            | 1/4"           | RB 12 14 <sup>1</sup> | 35,8 | 1,41 | 23,1 | 6,3 | 0,25 | 23,8 | 3500 | 240  |                     |



## UNIONS | MALE FEMALE UNION

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number          | L    |      | d   |      | F    |      | F1   |     | Working<br>Pressure |
|----------------|----------------------|------|------|-----|------|------|------|------|-----|---------------------|
|                |                      | mm   | inch | mm  | inch | mm   | mm   | mm   | mm  |                     |
| 1/4"           | U 14 FM <sup>1</sup> | 43,4 | 1,71 | 4,6 | 0,18 | 15,9 | 19,1 | 5100 | 350 |                     |

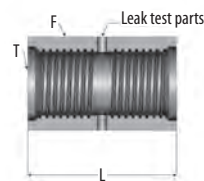


<sup>1)</sup> These fittings should be assembled only with rotating male or female nuts

## UNIONS | COUPLING

### TUBE SIZE - FRACTIONAL

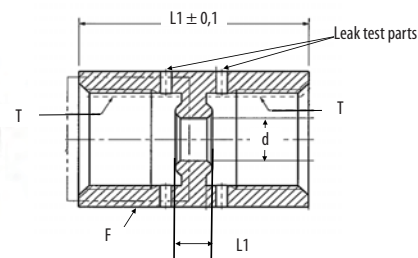
| T<br>Tube O.D. | Part number         | L    |      | F    |
|----------------|---------------------|------|------|------|
|                |                     | mm   | inch |      |
| 1/8"           | CG 18 <sup>1</sup>  | 16,8 | 0,66 | 11,1 |
| 1/4"           | CG 14 <sup>1</sup>  | 30,2 | 1,19 | 19,1 |
| 1/2"           | CG 12 <sup>1</sup>  | 33,3 | 1,31 | 27,0 |
| 3/4"           | CG 34 <sup>1</sup>  | 42,7 | 1,68 | 38,1 |
| 1"             | CG 100 <sup>1</sup> | 51,8 | 2,04 | 44,5 |



## UNIONS | DOUBLE FEMALE UNION

### TUBE SIZE - FRACTIONAL

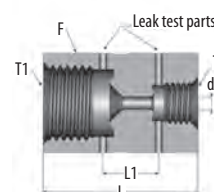
| T<br>Tube O.D. | Part number | L    |      | L1  | d    | F  | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------------------|-----|
|                |             | mm   | inch |     |      |    | psig             | bar |
| 1/4"           | UDF 14      | 30,2 | 1,19 | 4,9 | 5,9  | 19 | 8000             | 550 |
| 1/4"           | UDF 14 HF   | 30,2 | 1,19 | 4,9 | 6,4  | 19 | 8000             | 550 |
| 1/2"           | UDF 12      | 33,3 | 1,31 | 4,9 | 10,2 | 27 | 3500             | 240 |



## UNIONS | DOUBLE FEMALE REDUCING UNION

### TUBE SIZE - FRACTIONAL

| T1<br>Tube O.D. | T<br>Tube O.D. | Part number             | L    |      | L1  | d   |      | F    | Working Pressure |     |
|-----------------|----------------|-------------------------|------|------|-----|-----|------|------|------------------|-----|
|                 |                |                         | mm   | inch |     | mm  | inch |      | psig             | bar |
| 1/4"            | 1/8"           | DFRU 14 18 <sup>1</sup> | 29,5 | 1,16 | 9,1 | 3,3 | 0,13 | 19,1 | 8000             | 550 |
| 1/2"            | 1/4"           | DFRU 12 14 <sup>1</sup> | 35,8 | 1,41 | 8,9 | 6,3 | 0,25 | 27,0 | 3500             | 240 |



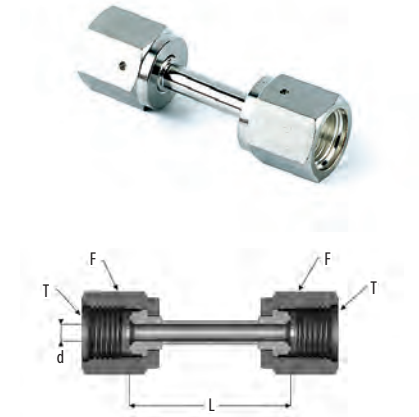
1) These fittings should be assembled only with rotating male or female nuts  
2) On request it can be delivered with a double female, reducing union 1/2" F and 1/4" F (Part number UR 12 14 F)



## UNIONS | DOUBLE FEMALE UNION

### TUBE SIZE - FRACTIONAL

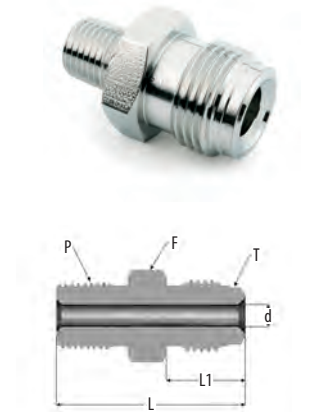
| T<br>Tube O.D. | Part number         | L    |      | d    |      | F    | Working Pressure |     |
|----------------|---------------------|------|------|------|------|------|------------------|-----|
|                |                     | mm   | inch | mm   | inch |      | psig             | bar |
| 1/4"           | U 14 F <sup>2</sup> | 43,4 | 1,71 | 4,6  | 0,18 | 19,1 | 5100             | 350 |
| 1/2"           | U 12 F <sup>2</sup> | 46,7 | 1,84 | 10,2 | 0,40 | 27,0 | 3500             | 240 |



## UNIONS | MALE CONNECTOR

### TUBE SIZE - FRACTIONAL

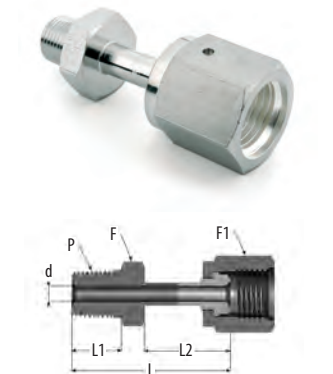
| T<br>Tube O.D. | P<br>NPT | Part number                  | L    |      | L1   | d    |      | F    | Working Pressure |     |
|----------------|----------|------------------------------|------|------|------|------|------|------|------------------|-----|
|                |          |                              | mm   | inch |      | mm   | inch |      | psig             | bar |
| 1/8"           | 1/16"    | UM 18 NPT 116 <sup>1,2</sup> | 27,2 | 1,07 | 9,6  | 2,1  | 0,08 | 9,5  | 9000             | 620 |
| 1/8"           | 1/8"     | NPT 18 <sup>1</sup>          | 27,2 | 1,07 | 9,6  | 2,1  | 0,08 | 9,5  | 9000             | 620 |
| 1/4"           | 1/8"     | UM 14 NPT 18 <sup>1</sup>    | 33,3 | 1,31 | 9,6  | 4,6  | 0,18 | 15,9 | 8000             | 550 |
| 1/4"           | 1/4"     | NPT 14 <sup>1</sup>          | 37,8 | 1,49 | 14,2 | 4,6  | 0,18 | 15,9 | 8000             | 550 |
| 1/2"           | 3/8"     | UM 12 NPT 38 <sup>1</sup>    | 41,9 | 1,65 | 14,2 | 9,7  | 0,38 | 23,8 | 3500             | 240 |
| 1/2"           | 1/2"     | NPT 12 <sup>1</sup>          | 46,7 | 1,84 | 19,1 | 10,2 | 0,40 | 23,8 | 3500             | 240 |
| 3/4"           | 3/4"     | NPT 34 <sup>1</sup>          | 55,6 | 2,19 | 19,1 | 15,8 | 0,62 | 33,3 | 3000             | 200 |
| 1"             | 1"       | NPT 100 <sup>1</sup>         | 62,7 | 2,47 | 22,3 | 22,3 | 0,88 | 41,3 | 2400             | 160 |



## UNIONS | FEMALE CONNECTOR

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | T<br>Tube O.D. | Part number  | L    |      | L1   | L2   | d   |      | F    | F1   | Working Pressure |     |
|----------------|----------------|--------------|------|------|------|------|-----|------|------|------|------------------|-----|
|                |                |              | mm   | inch |      |      | mm  | inch |      |      | psig             | bar |
| 1/4"           | 1/8"           | UF 14 NPT 18 | 40,1 | 1,58 | 9,6  | 24,1 | 4,6 | 0,18 | 15,9 | 19,1 | 5100             | 350 |
| 1/4"           | 1/4"           | NPT 14 F     | 45,5 | 1,79 | 14,2 | 23,4 | 4,6 | 0,18 | 15,9 | 19,1 | 5100             | 350 |
| 1/2"           | 3/8"           | UF 12 NPT 38 | 48,0 | 1,89 | 14,2 | 25,4 | 9,9 | 0,39 | 23,8 | 27,0 | 3500             | 240 |
| 1/2"           | 1/2"           | NPT 12 F     | 53,1 | 2,09 | 19,1 | 25,6 | 9,9 | 0,39 | 23,8 | 27,0 | 3500             | 240 |

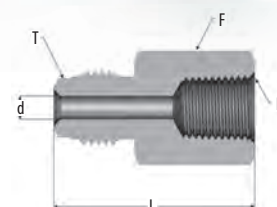


1) These fittings should be assembled only with rotating male or female nuts  
2) Minimum quantity

## UNIONS | FEMALE CONNECTOR

### TUBE SIZE - FRACTIONAL

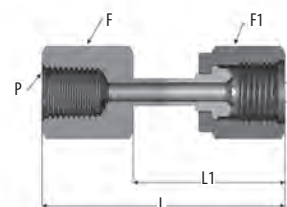
| T<br>Tube O.D. | P<br>NPT | Part number                  | L    |      | d    |      | F    | Working Pressure |     |
|----------------|----------|------------------------------|------|------|------|------|------|------------------|-----|
|                |          |                              | mm   | inch | mm   | inch |      | psig             | bar |
| 1/8"           | 1/16"    | UM 18 NPTF 116 <sup>1</sup>  | 27,9 | 1,10 | 2,3  | 0,09 | 11,1 | 6700             | 460 |
| 1/8"           | 1/8"     | UM 18 NPTF 18 <sup>1</sup>   | 30,2 | 1,19 | 2,3  | 0,09 | 14,3 | 6500             | 440 |
| 1/4"           | 1/8"     | UM 14 NPTF 18 <sup>1</sup>   | 35,8 | 1,41 | 4,6  | 0,18 | 15,9 | 8000             | 550 |
| 1/4"           | 1/4"     | UM 14 NPTF 14 <sup>1</sup>   | 39,1 | 1,54 | 4,6  | 0,18 | 19,1 | 6600             | 450 |
| 1/2"           | 3/8"     | UM 12 NPTF 38 <sup>1</sup>   | 44,7 | 1,76 | 10,2 | 0,40 | 23,8 | 3500             | 240 |
| 1/2"           | 1/2"     | UM 12 NPTF 12 <sup>1</sup>   | 50,5 | 1,99 | 10,2 | 0,40 | 27,0 | 3500             | 240 |
| 3/4"           | 3/4"     | UM 34 NPTF 34 <sup>1</sup>   | 59,7 | 2,36 | 15,7 | 0,62 | 33,3 | 3000             | 200 |
| 1"             | 1"       | UM 100 NPTF 100 <sup>1</sup> | 63,8 | 2,51 | 22,1 | 0,87 | 41,3 | 2400             | 160 |



## UNIONS | FEMALE CONNECTOR

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | P<br>NPT | Part number   | L    |      | L1   | d    |      | F    | F1   | Working Pressure |     |
|----------------|----------|---------------|------|------|------|------|------|------|------|------------------|-----|
|                |          |               | mm   | inch |      | mm   | inch |      |      | psig             | bar |
| 1/4"           | 1/4"     | UF 14 NPTF 14 | 45,2 | 1,78 | 23,4 | 4,6  | 0,18 | 19,1 | 19,1 | 5100             | 350 |
| 1/2"           | 3/8"     | UF 12 NPTF 38 | 49,5 | 1,95 | 26,9 | 10,2 | 0,40 | 27,0 | 27,0 | 3300             | 220 |
| 1/2"           | 1/2"     | UF 12 NPTF 12 | 55,4 | 2,18 | 26,4 | 10,2 | 0,40 | 27,0 | 27,0 | 3500             | 240 |

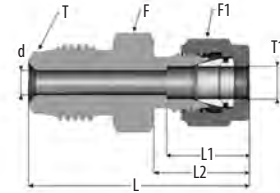


1) These fittings should be assembled only with rotating male or female nuts

## UNIONS | TUBE FITTING MALE CONNECTOR

### TUBE SIZE

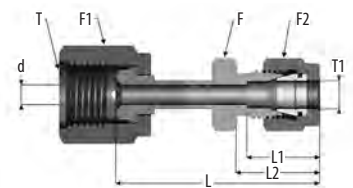
| T<br>Tube O.D. | T1<br>Tube O.D. | Part number   | L    |      | L1   | L2   | d    |      | F    | F1 | Working Pressure |     |
|----------------|-----------------|---------------|------|------|------|------|------|------|------|----|------------------|-----|
|                |                 |               | mm   | inch | mm   | mm   | mm   | inch | mm   | mm | psig             | bar |
| FRACTIONAL     |                 |               |      |      |      |      |      |      |      |    |                  |     |
| ¼"             | ⅛"              | UM 14 18 DB ¹ | 39,2 | 1,54 | 13,2 | 15,6 | 2,4  | 0,08 | 15,9 | 12 | 8000             | 550 |
| ¼"             | ¼"              | UM 14 14 DB ¹ | 41,7 | 1,64 | 15,9 | 18,3 | 4,5  | 0,18 | 15,9 | 14 | 8000             | 550 |
| ½"             | ⅜"              | UM 12 38 DB ¹ | 47   | 1,85 | 17,2 | 19,6 | 7,7  | 0,30 | 23,8 | 19 | 3500             | 240 |
| ½"             | ½"              | UM 12 12 DB ¹ | 49,7 | 1,96 | 23,1 | 22,3 | 10,1 | 0,40 | 23,8 | 22 | 3500             | 240 |
| METRIC         |                 |               |      |      |      |      |      |      |      |    |                  |     |
| ¼"             | 6 mm            | UM 14 6M DB   | 41,3 | 1,63 | 15,5 | 17,9 | 4,5  | 0,18 | 15,9 | 14 | 6800             | 460 |
| ¼"             | 8 mm            | UM 14 8M DB   | 42,9 | 1,69 | 16,1 | 18,5 | 4,5  | 0,18 | 15,9 | 17 | 4800             | 330 |
| ½"             | 10 mm           | UM 12 10M DB  | 46,7 | 1,84 | 16,9 | 19,3 | 8    | 0,32 | 23,8 | 19 | 3500             | 240 |



## UNIONS | TUBE FITTING FEMALE CONNECTOR

### TUBE SIZE

| T1<br>Tube O.D. | T<br>Tube O.D. | Part number  | L    |      | L1   | L2   | d    |      | F    | F1   | F2 | Working Pressure |     |
|-----------------|----------------|--------------|------|------|------|------|------|------|------|------|----|------------------|-----|
|                 |                |              | mm   | inch | mm   | mm   | mm   | inch | mm   | mm   | mm | psig             | bar |
| FRACTIONAL      |                |              |      |      |      |      |      |      |      |      |    |                  |     |
| ¼"              | ¼"             | UF 14 14 DB  | 49,9 | 1,94 | 15,9 | 18,3 | 4,5  | 0,18 | 15,9 | 19,1 | 14 | 5100             | 350 |
| ½"              | ⅜"             | UF 12 38 DB  | 50,0 | 1,97 | 17,2 | 19,6 | 7,1  | 0,28 | 23,8 | 27   | 19 | 3300             | 220 |
| ½"              | ½"             | UF 12 12 DB  | 56,6 | 2,23 | 23,1 | 22,3 | 10,1 | 0,4  | 23,8 | 27   | 22 | 3500             | 240 |
| METRIC          |                |              |      |      |      |      |      |      |      |      |    |                  |     |
| ¼"              | 6 mm           | UF 14 6M DB  | 49,3 | 1,94 | 15,7 | 18,0 | 4,5  | 0,18 | 14   | 19,1 | 14 | 5100             | 350 |
| ¼"              | 8 mm           | UF 14 8M DB  | 49,3 | 1,94 | 16,1 | 18,5 | 4,5  | 0,18 | 14   | 19,1 | 17 | 4800             | 330 |
| ½"              | 10 mm          | UF 12 10M DB | 56,6 | 2,23 | 16,9 | 19,3 | 8    | 0,31 | 17   | 27   | 19 | 3500             | 240 |
| ½"              | 12 mm          | UF 12 12M DB | 56,6 | 2,23 | 22,7 | 21,9 | 10,1 | 0,4  | 22   | 27   | 22 | 3100             | 210 |

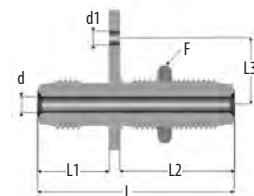


1) These fittings should be assembled only with rotating male or female nuts

## BULKHEAD UNIONS | BULKHEAD UNION

### TUBE SIZE - FRACTIONAL

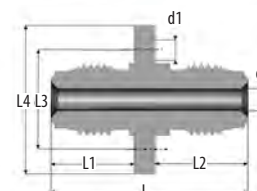
| T<br>Tube O.D. | Part number         | L    |      | L1   | L2   | L3   | d   |      | dt  | F    | Panel<br>hole size | Working<br>Pressure |     |
|----------------|---------------------|------|------|------|------|------|-----|------|-----|------|--------------------|---------------------|-----|
|                |                     | mm   | inch | mm   | mm   | mm   | mm  | inch | mm  | mm   | mm                 | psig                | bar |
| ¼"             | BUP 14 <sup>1</sup> | 56,6 | 2,23 | 20,5 | 33,0 | 19,0 | 4,6 | 0,18 | 4,0 | 19,1 | 15,1               | 8000                | 550 |



## BULKHEAD UNIONS | BULKHEAD UNION

### TUBE SIZE - FRACTIONAL

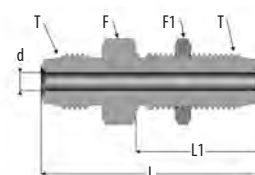
| T<br>Tube O.D. | Part number        | L    |      | L1   | L2   | L3   | L4   | d   |      | d1  | Working<br>Pressure |     |
|----------------|--------------------|------|------|------|------|------|------|-----|------|-----|---------------------|-----|
|                |                    | mm   | inch | mm   | mm   | mm   | mm   | mm  | inch | mm  | psig                | bar |
| ¼"             | TC 14 <sup>1</sup> | 39,8 | 1,57 | 16,8 | 18,8 | 30,0 | 20,0 | 4,6 | 0,18 | 3,5 | 8000                | 550 |



## BULKHEAD UNIONS | BULKHEAD UNION

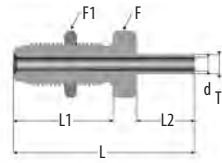
### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number         | L    |      | L1   | d    |      | F    | F1   | Panel<br>hole size | Max panel<br>thickness |      | Working<br>Pressure |     |
|----------------|---------------------|------|------|------|------|------|------|------|--------------------|------------------------|------|---------------------|-----|
|                |                     | mm   | inch | mm   | mm   | inch | mm   | mm   | inch               | mm                     | inch | psig                | bar |
| ¼"             | BU 14 <sup>1</sup>  | 56,6 | 2,23 | 33,0 | 4,6  | 0,18 | 19,1 | 19,1 | 15,1               | 11,1                   | 0,44 | 8000                | 550 |
| ¼"             | BUS 14 <sup>1</sup> | 46,2 | 1,82 | 25,1 | 4,6  | 0,18 | 19,1 | 19,1 | 15,1               | 3,3                    | 0,13 | 8000                | 550 |
| ½"             | BU 12 <sup>1</sup>  | 66,3 | 2,61 | 37,6 | 10,2 | 0,40 | 27,0 | 27,0 | 23,0               | 12,7                   | 0,50 | 3500                | 240 |
| ½"             | BUS 12 <sup>1</sup> | 54,4 | 2,14 | 28,2 | 10,2 | 0,40 | 27,0 | 27,0 | 23,0               | 3,3                    | 0,13 | 3500                | 240 |



1) These fittings should be assembled only with rotating male or female nuts

## BULKHEAD UNIONS | BUTTWELD BULKHEAD UNION

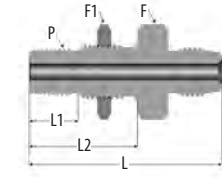


**TUBE SIZE - FRACTIONAL**

| T<br>Tube O.D. | Part number             | L    |      | L1   | d   |      | C    |      | F    | F1   | Panel<br>hole size | Max panel<br>thickness | Working Pressure |     |
|----------------|-------------------------|------|------|------|-----|------|------|------|------|------|--------------------|------------------------|------------------|-----|
|                |                         | mm   | inch |      | mm  | inch | mm   | inch |      |      |                    |                        | psig             | bar |
| 1/4"           | BU 14 ABW <sup>1</sup>  | 59,9 | 2,36 | 33,0 | 4,6 | 0,18 | 19,1 | 0,75 | 19,1 | 19,1 | 15,1               | 11,1                   | 5100             | 350 |
| 1/4"           | BUS 14 ABW <sup>1</sup> | 49,5 | 1,95 | 25,1 | 4,6 | 0,18 | 19,1 | 0,75 | 19,1 | 19,1 | 15,1               | 3,3                    | 5100             | 350 |

<sup>1)</sup> These fittings should be assembled only with rotating male or female nuts

## BULKHEAD UNIONS | BULKHEAD NPT UNION

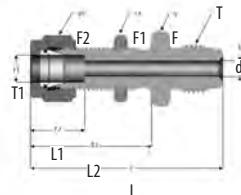


**TUBE SIZE - FRACTIONAL**

| T<br>Tube O.D. | P<br>NPT | Part number               | L    |      | d    |      | L1   | L2   | F    | F1   | Panel<br>hole size | Max panel<br>thickness | Working Pressure |     |
|----------------|----------|---------------------------|------|------|------|------|------|------|------|------|--------------------|------------------------|------------------|-----|
|                |          |                           | mm   | inch | mm   | inch |      |      |      |      |                    |                        | psig             | bar |
| 1/4"           | 1/4"     | BU 14 NPT 14 <sup>1</sup> | 56,1 | 2,21 | 4,6  | 0,18 | 14,2 | 31,5 | 23,8 | 23,8 | 16,7               | 9,7                    | 8000             | 550 |
| 1/2"           | 1/4"     | BU 12 NPT 14 <sup>1</sup> | 59,4 | 2,34 | 10,2 | 0,40 | 14,2 | 31,5 | 23,8 | 23,8 | 16,7               | 9,7                    | 3500             | 240 |

<sup>1)</sup> These fittings should be assembled only with rotating male or female nuts

## BULKHEAD UNIONS | TUBE FITTING BULKHEAD CONNECTOR



**TUBE SIZE**

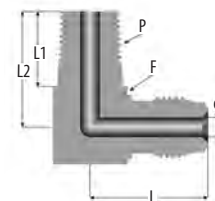
| T<br>Tube O.D. | T1<br>Tube O.D. | Part number    | L    |      | L1   | L2   | d    |      | F    | F1   | F2   | Working Pressure |     |
|----------------|-----------------|----------------|------|------|------|------|------|------|------|------|------|------------------|-----|
|                |                 |                | mm   | inch | mm   | inch | mm   | inch | mm   | mm   | mm   | psig             | bar |
| FRACTIONAL     |                 |                |      |      |      |      |      |      |      |      |      |                  |     |
| ¼"             | ¼"              | BU 14 14 DB ¹  | 57,2 | 2,25 | 15,2 | 33,5 | 4,6  | 0,18 | 19,1 | 19,1 | 14,3 | 5100             | 350 |
| ¼"             | ¼"              | BUS 14 14 DB ¹ | 47,8 | 1,88 | 15,2 | 26,7 | 4,6  | 0,18 | 19,1 | 19,1 | 14,3 | 5100             | 350 |
| ½"             | ⅜"              | BU 12 38 DB ¹  | 64,5 | 2,54 | 16,8 | 36,8 | 7,7  | 0,30 | 23,8 | 23,8 | 17,5 | 3300             | 220 |
| ½"             | ½"              | BU 12 12 DB ¹  | 69,6 | 2,74 | 22,9 | 41,9 | 10,2 | 0,40 | 23,8 | 23,8 | 22,2 | 3500             | 240 |
| METRIC         |                 |                |      |      |      |      |      |      |      |      |      |                  |     |
| ¼"             | 6 mm            | BU 14 6M DB    | 57,3 | 2,26 | 15,5 | 33,6 | 4,5  | 0,18 | 19,1 | 17   | 14   | 6800             | 460 |
| ¼"             | 8 mm            | BU 14 8M DB    | 57,2 | 2,25 | 15,3 | 33,4 | 4,5  | 0,18 | 19,1 | 17   | 17   | 4800             | 330 |

<sup>1)</sup> These fittings should be assembled only with rotating male or female nuts

## ELBOWS | MALE NPT ELBOW

### TUBE SIZE - FRACTIONAL

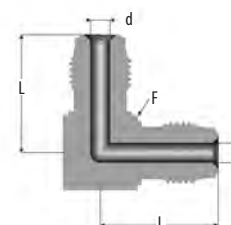
| T<br>Tube O.D. | P<br>NPT | Part number              | L    |      | L1   | L2   | d    |      | F    | Working Pressure |     |
|----------------|----------|--------------------------|------|------|------|------|------|------|------|------------------|-----|
|                |          |                          | mm   | inch | mm   | mm   | mm   | inch | mm   | psig             | bar |
| 1/4"           | 1/8"     | E 14 NPT 18 <sup>1</sup> | 27,2 | 1,07 | 9,6  | 22,1 | 4,6  | 0,18 | 17,0 | 80000            | 550 |
| 1/4"           | 1/4"     | E 14 NPT 14 <sup>1</sup> | 27,2 | 1,02 | 14,2 | 26,7 | 4,6  | 0,18 | 17,0 | 80000            | 550 |
| 1/2"           | 3/8"     | E 12 NPT 14 <sup>1</sup> | 36,8 | 1,45 | 14,2 | 32,0 | 10,2 | 0,40 | 24,0 | 3500             | 240 |
| 1/2"           | 1/2"     | E 12 NPT 12 <sup>1</sup> | 36,8 | 1,45 | 19,1 | 36,8 | 10,2 | 0,40 | 24,0 | 3500             | 240 |



## ELBOWS | UNION ELBOW

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number        | L    |      | d    |      | F  | Working Pressure |     |
|----------------|--------------------|------|------|------|------|----|------------------|-----|
|                |                    | mm   | inch | mm   | inch | mm | psig             | bar |
| 1/8"           | E 18 <sup>1</sup>  | 22,6 | 0,89 | 2,1  | 0,08 | 12 | 9000             | 620 |
| 1/4"           | E 14 <sup>1</sup>  | 27,2 | 1,07 | 4,6  | 0,18 | 17 | 8000             | 550 |
| 1/2"           | E 12 <sup>1</sup>  | 36,8 | 1,45 | 10,2 | 0,40 | 24 | 3500             | 240 |
| 3/4"           | E 34 <sup>1</sup>  | 48,8 | 1,92 | 16,5 | 0,65 | 35 | 3000             | 200 |
| 1"             | E 100 <sup>1</sup> | 50,8 | 2,00 | 22,1 | 0,87 | 41 | 2400             | 160 |

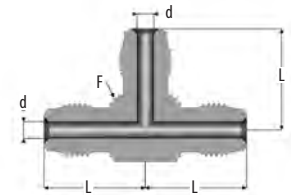


1) These fittings should be assembled only with rotating male or female nuts

## TEES | UNION TEE

### TUBE SIZE - FRACTIONAL

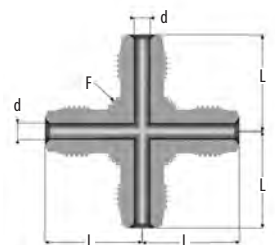
| T<br>Tube O.D. | Part number        | L    |      | d    |      | F  | Working Pressure |     |
|----------------|--------------------|------|------|------|------|----|------------------|-----|
|                |                    | mm   | inch | mm   | inch |    | psig             | bar |
| 1/8"           | T 18 <sup>1</sup>  | 22,6 | 0,89 | 2,1  | 0,08 | 12 | 9000             | 620 |
| 1/4"           | T 14 <sup>1</sup>  | 27,2 | 1,07 | 4,6  | 0,18 | 17 | 8000             | 550 |
| 1/2"           | T 12 <sup>1</sup>  | 36,8 | 1,45 | 10,2 | 0,40 | 24 | 3500             | 240 |
| 3/4"           | T 34 <sup>1</sup>  | 48,8 | 1,92 | 16,5 | 0,65 | 35 | 3000             | 200 |
| 1"             | T 100 <sup>1</sup> | 50,8 | 2,00 | 22,1 | 0,87 | 41 | 2400             | 160 |



## CROSSES | UNION CROSS

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number        | L    |      | d    |      | F  | Working Pressure |     |
|----------------|--------------------|------|------|------|------|----|------------------|-----|
|                |                    | mm   | inch | mm   | inch |    | psig             | bar |
| 1/8"           | C 18 <sup>1</sup>  | 22,6 | 0,89 | 2,1  | 0,08 | 12 | 9000             | 620 |
| 1/4"           | C 14 <sup>1</sup>  | 27,2 | 1,07 | 4,6  | 0,18 | 17 | 8000             | 550 |
| 1/2"           | C 12 <sup>1</sup>  | 36,8 | 1,45 | 10,2 | 0,40 | 24 | 3500             | 240 |
| 3/4"           | C 34 <sup>1</sup>  | 48,8 | 1,92 | 16,5 | 0,65 | 35 | 3000             | 200 |
| 1"             | C 100 <sup>1</sup> | 50,8 | 2,00 | 22,1 | 0,87 | 41 | 2400             | 160 |

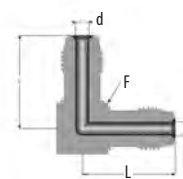


1) These fittings should be assembled only with rotating male or female nuts

## TEES | ELBOW SERIE ED

## TUBE SIZE - FRACTIONAL

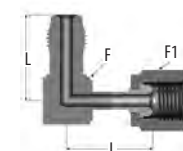
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | psig             | bar |
| 1/4"           | ED 14 2M    | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 8000             | 550 |



## TEES | ELBOW SERIE ED

## TUBE SIZE - FRACTIONAL

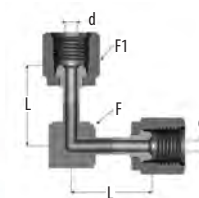
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | ED 14 FM    | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## TEES | ELBOW SERIE ED

## TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | d   |      | F   | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|-----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm  | mm   | psig             | bar |
| 1/4"           | ED 14 2F    | 31,0 | 1,22 | 4,6 | 0,18 | 17  | 19,1 | 5100             | 350 |
| 1/4"           | EDCA 14 2F  | 25,4 | 1,00 | 4,6 | 0,18 | 7,9 | 19,1 | 5100             | 350 |

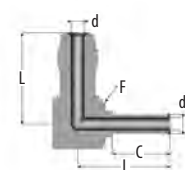




## TEES | ELBOW SERIE EX

### TUBE SIZE - FRACTIONAL

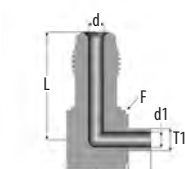
| T<br>Tube O.D. | Part number            | L    |      | d   | C    |      | F    | Working Pressure |     |
|----------------|------------------------|------|------|-----|------|------|------|------------------|-----|
|                |                        | mm   | inch | mm  | mm   | inch | mm   | psig             | bar |
| 1/4"           | EX M. 14W <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17,0 | 5100             | 350 |



## TEES | MINI ELBOW SERIE MG.EX

### TUBE SIZE - FRACTIONAL

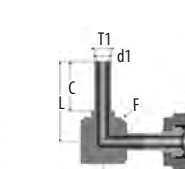
| T1<br>Tube O.D. | T<br>Tube O.D. | Part number | L    |      | L1   | d1   | d   | C   |      | F    | Working Pressure |     |
|-----------------|----------------|-------------|------|------|------|------|-----|-----|------|------|------------------|-----|
|                 |                |             | mm   | inch | mm   | mm   | mm  | mm  | inch | mm   | psig             | bar |
| 1/4"            | 1/4"           | MG. EX M.14 | 31,0 | 1,22 | 15,9 | 4,6  | 4,6 | 6,4 | 0,25 | 17,0 | 5100             | 350 |
| 3/8"            | 1/4"           | MG. EX M.38 | 31,0 | 1,22 | 15,9 | 7,7  | 4,6 | 6,4 | 0,25 | 17,0 | 3300             | 220 |
| 1/2"            | 1/4"           | MG. EX M.12 | 31,0 | 1,22 | 15,9 | 10,2 | 4,6 | 6,4 | 0,25 | 17,0 | 3500             | 240 |



## TEES | ELBOW SERIES EX

### TUBE SIZE - FRACTIONAL

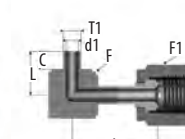
| T<br>Tube O.D. | Part number           | L    |      | d   | C    |      | F    | F1   | Working Pressure |     |
|----------------|-----------------------|------|------|-----|------|------|------|------|------------------|-----|
|                |                       | mm   | inch | mm  | mm   | inch | mm   | mm   | psig             | bar |
| 1/4"           | EX F.14W <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17,0 | 19,1 | 5100             | 350 |



## TEES | ELBOW SERIES EX

### TUBE SIZE - FRACTIONAL

| T1<br>Tube O.D. | T<br>Tube O.D. | Part number | L    |      | L1   | d1   | d   | C   |      | F    | F1   | Working Pressure |     |
|-----------------|----------------|-------------|------|------|------|------|-----|-----|------|------|------|------------------|-----|
|                 |                |             | mm   | inch | mm   | mm   | mm  | mm  | inch | mm   | mm   | psig             | bar |
| 1/4"            | 1/4"           | MG.EX F.14  | 31,0 | 1,22 | 15,9 | 4,6  | 4,6 | 6,4 | 0,25 | 17,0 | 19,1 | 5100             | 350 |
| 3/8"            | 1/4"           | MG.EX F.38  | 31,0 | 1,22 | 15,9 | 7,7  | 4,6 | 6,4 | 0,25 | 17,0 | 19,1 | 3300             | 220 |
| 1/2"            | 1/4"           | MG.EX F.12  | 31,0 | 1,22 | 15,9 | 10,2 | 4,6 | 6,4 | 0,25 | 17,0 | 19,1 | 3500             | 240 |

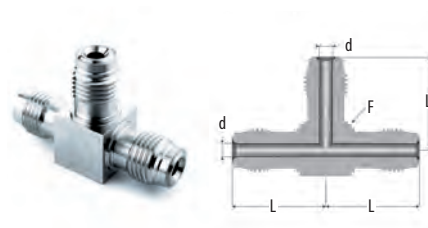


<sup>1)</sup> On request: it can be delivered with shoulder (Example: EX M.14)

## TEES | TEE SERIE TD

## TUBE SIZE - FRACTIONAL

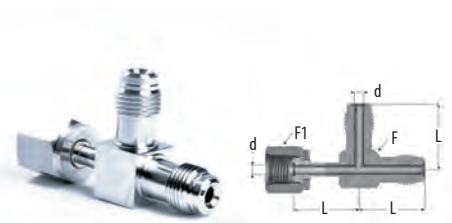
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------------------|-----|
|                |             | mm   | inch | mm  | inch |    | psig             | bar |
| 1/4"           | TD 14 3M    | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 8000             | 550 |



## TEES | TEE SERIE TD

## TUBE SIZE - FRACTIONAL

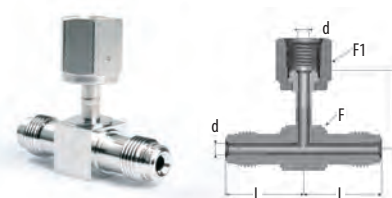
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch |    |      | psig             | bar |
| 1/4"           | TD 14 F.2M  | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## TEES | TEE SERIE TD

## TUBE SIZE - FRACTIONAL

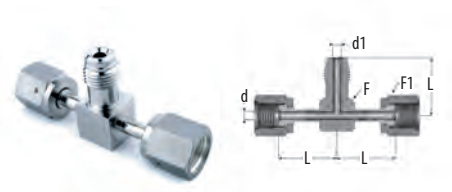
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch |    |      | psig             | bar |
| 1/4"           | TD 14 MFM   | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## TEES | TEE SERIE TD

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | TD 14 FMF   | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## TEES | TEE SERIE TD

### TUBE SIZE - FRACTIONAL

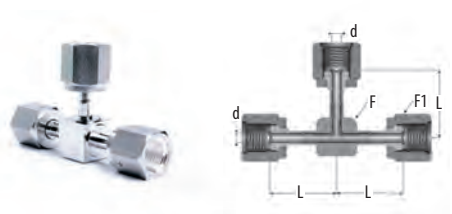
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | TD 14 M.2F  | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## TEES | TEE SERIE TD

### TUBE SIZE - FRACTIONAL

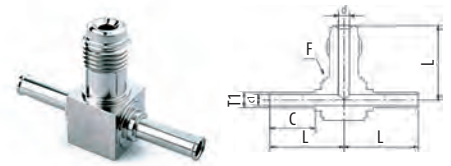
| T<br>Tube O.D. | Part number | L    |      | d   |      | F   | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|-----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm  | mm   | psig             | bar |
| 1/4"           | TD 14 3F    | 31,0 | 1,22 | 4,6 | 0,18 | 17  | 19,1 | 5100             | 350 |
| 1/4"           | TDCA 14 3F  | 25,4 | 1,00 | 4,6 | 0,18 | 7,9 | 19,1 | 5100             | 350 |



## TEES | TEE SERIE TX

## TUBE SIZE - FRACTIONAL

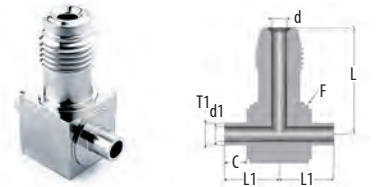
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number                | L    |      | L1   | d   | C    |      | F    | Working Pressure |     |
|--------------------|-------------------|----------------------------|------|------|------|-----|------|------|------|------------------|-----|
|                    |                   |                            | mm   | inch | mm   | mm  | mm   | inch | mm   | psig             | bar |
| 1/4"               | 1/4"              | TX 14 W.M.14W <sup>1</sup> | 31,0 | 1,22 | 4,6  | 4,6 | 19,1 | 0,75 | 17,0 | 5100             | 350 |
| 3/8"               | 1/4"              | TX 38 W.M.38W <sup>1</sup> | 31,0 | 1,22 | 7,7  | 4,6 | 19,1 | 0,75 | 17,0 | 3300             | 220 |
| 1/2"               | 1/4"              | TX 12 W.M.12W <sup>1</sup> | 31,0 | 1,22 | 10,2 | 4,6 | 19,1 | 0,75 | 17,0 | 3500             | 240 |



## TEES | MINI TEE SERIE MG.TX

## TUBE SIZE - FRACTIONAL

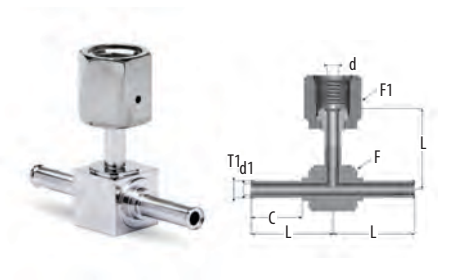
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number    | L    |      | L1   | d1  | d   | C   |      | F    | Working Pressure |     |
|--------------------|-------------------|----------------|------|------|------|-----|-----|-----|------|------|------------------|-----|
|                    |                   |                | mm   | inch | mm   | mm  | mm  | mm  | inch | mm   | psig             | bar |
| 1/4"               | 1/4"              | MG. TX 14.M.14 | 31,0 | 1,22 | 15,9 | 4,6 | 4,6 | 6,4 | 0,25 | 17,0 | 5100             | 350 |
| 3/8"               | 1/4"              | MG. TX 38.M.38 | 31,0 | 1,22 | 15,9 | 7,7 | 4,6 | 6,4 | 0,25 | 17,0 | 3300             | 220 |



## TEES | TEE SERIE TX

## TUBE SIZE - FRACTIONAL

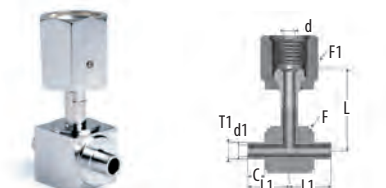
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number               | L    |      | d1  | d   | C    |      | F    | F1   | Working Pressure |     |
|--------------------|-------------------|---------------------------|------|------|-----|-----|------|------|------|------|------------------|-----|
|                    |                   |                           | mm   | inch | mm  | mm  | mm   | inch | mm   | mm   | psig             | bar |
| 1/4"               | 1/4"              | TX 14W.F.14W <sup>1</sup> | 31,0 | 1,22 | 4,6 | 4,6 | 19,1 | 0,75 | 17,0 | 19,1 | 5100             | 350 |
| 3/8"               | 1/4"              | TX 38W.F.38W <sup>1</sup> | 31,0 | 1,22 | 7,7 | 4,6 | 19,1 | 0,75 | 17,0 | 19,1 | 3300             | 220 |



## TEES | TEE SERIE MG.TX

## TUBE SIZE - FRACTIONAL

| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number    | L    |      | L1   | d1  | d   | C   |      | F    | F1   | Working Pressure |     |
|--------------------|-------------------|----------------|------|------|------|-----|-----|-----|------|------|------|------------------|-----|
|                    |                   |                | mm   | inch | mm   | mm  | mm  | mm  | inch | mm   | mm   | psig             | bar |
| 1/4"               | 1/4"              | MG. TX 14.F.14 | 31,0 | 1,22 | 15,9 | 4,6 | 4,6 | 6,4 | 0,25 | 17,0 | 19,1 | 5100             | 350 |
| 3/8"               | 1/4"              | MG. TX 38.F.38 | 31,0 | 1,22 | 15,9 | 7,7 | 4,6 | 6,4 | 0,25 | 17,0 | 19,1 | 3300             | 220 |

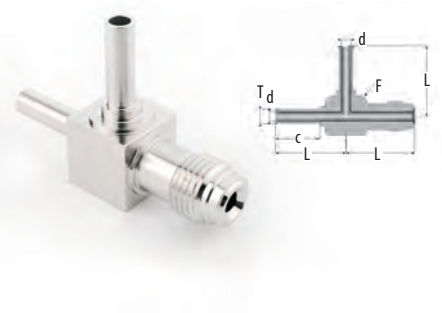


1) On request: it can be delivered with shoulder (Example: TX 14.M.14)

## TEES | TEE SERIE TX

### TUBE SIZE - FRACTIONAL

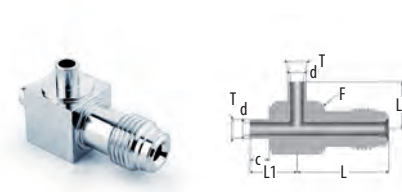
| T<br>Tube O.D. | Part number            | L    |      | C    |      | d   | F  | Working Pressure |     |
|----------------|------------------------|------|------|------|------|-----|----|------------------|-----|
|                |                        | mm   | inch | mm   | inch | mm  | mm | psig             | bar |
| 1/4"           | TX 214W.M <sup>1</sup> | 31,0 | 1,22 | 19,1 | 0,75 | 4,6 | 17 | 5100             | 350 |



## TEES | MINI TEE SERIE MG.TX

### TUBE SIZE - FRACTIONAL

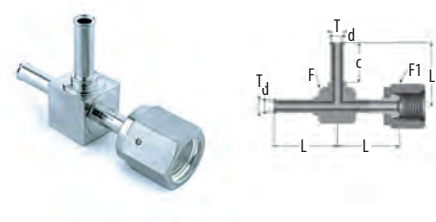
| T<br>Tube O.D. | Part number | L    |      | L1   | d   | C   |      | F    | Working Pressure |     |
|----------------|-------------|------|------|------|-----|-----|------|------|------------------|-----|
|                |             | mm   | inch | mm   | mm  | mm  | inch | mm   | psig             | bar |
| 1/4"           | MG.TX 214.M | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17,0 | 5100             | 350 |



## TEES | TEE SERIE TX

### TUBE SIZE - FRACTIONAL

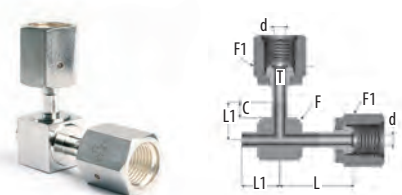
| T<br>Tube O.D. | Part number | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | TX 214W.F   | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |



## TEES | MINI TEE SERIE MG.TX

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | L1   | d   | C   |      | F    | F1   | Working Pressure |     |
|----------------|-------------|------|------|------|-----|-----|------|------|------|------------------|-----|
|                |             | mm   | inch | mm   | mm  | mm  | inch | mm   | mm   | psig             | bar |
| 1/4"           | MG.TX 214.F | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17,0 | 19,1 | 5100             | 350 |

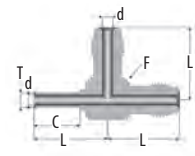


<sup>1)</sup> On request: it can be delivered with shoulder (Example: TX 214.M)

## TEES | TEE SERIE TX

## TUBE SIZE - FRACTIONAL

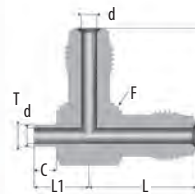
| T<br>Tube O.D. | Part number            | L    |      | d   | C    |      | F  | Working Pressure |     |
|----------------|------------------------|------|------|-----|------|------|----|------------------|-----|
|                |                        | mm   | inch | mm  | mm   | inch | mm | psig             | bar |
| 1/4"           | TX 14W.2M <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 5100             | 350 |



## TEES | MINI TEE SERIE MG.TX

## TUBE SIZE - FRACTIONAL

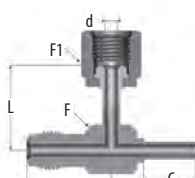
| T<br>Tube O.D. | Part number | L    |      | L1   | d   | C   |      | F1 | Working Pressure |     |
|----------------|-------------|------|------|------|-----|-----|------|----|------------------|-----|
|                |             | mm   | inch | mm   | mm  | mm  | inch | mm | psig             | bar |
| 1/4"           | MG.TX 14.2M | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 5100             | 350 |



## TEES | TEE SERIE TX

## TUBE SIZE - FRACTIONAL

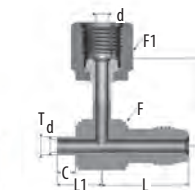
| T<br>Tube O.D. | Part number            | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|------------------------|------|------|-----|------|------|----|------|------------------|-----|
|                |                        | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | TX 14W.FM <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |



## TEES | TEE SERIE MG.TX

## TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | L1   | d   | C   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|------|-----|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm   | mm  | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | MG.TX 14.FM | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 19,1 | 5100             | 350 |

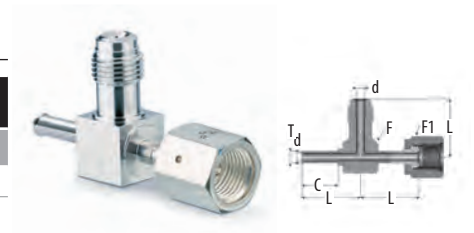


<sup>1)</sup> On request: it can be delivered with shoulder (Example: TX 14.2M)

## TEES | TEE SERIE TX

### TUBE SIZE - FRACTIONAL

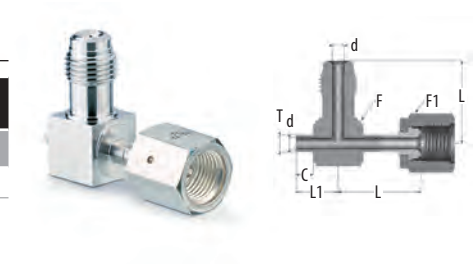
| T<br>Tube O.D. | Part number            | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|------------------------|------|------|-----|------|------|----|------|------------------|-----|
|                |                        | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | TX 14W.MF <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |



## TEES | MINI TEE SERIE MG.TX

### TUBE SIZE - FRACTIONAL

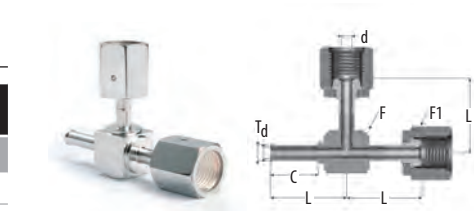
| T<br>Tube O.D. | Part number | L    |      | L1   | d   | C   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|------|-----|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm   | mm  | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | MG.TX 14.MF | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 19,1 | 5100             | 350 |



## TEES | TEE SERIE TX

### TUBE SIZE - FRACTIONAL

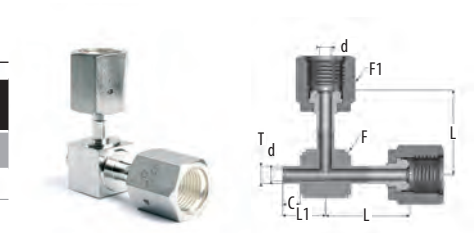
| T<br>Tube O.D. | Part number            | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|------------------------|------|------|-----|------|------|----|------|------------------|-----|
|                |                        | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | TX 14W.2F <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |



## TEES | MINI TEE SERIE MG.TX

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number              | L    |      | L1   | d   | C   |      | F  | F1   | Working Pressure |     |
|----------------|--------------------------|------|------|------|-----|-----|------|----|------|------------------|-----|
|                |                          | mm   | inch | mm   | mm  | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | MG.TX 14.2F <sup>1</sup> | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 19,1 | 5100             | 350 |

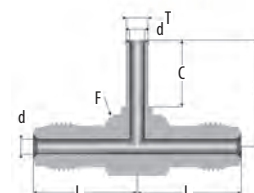


<sup>1)</sup> On request: it can be delivered with shoulder (Example: TX 14.MF)

## TEES | TEE SERIE TX

### TUBE SIZE - FRACTIONAL

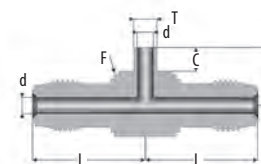
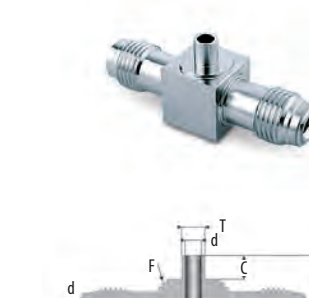
| T<br>Tube O.D. | Part number             | L    |      | d   | C    |      | F  | Working Pressure |     |
|----------------|-------------------------|------|------|-----|------|------|----|------------------|-----|
|                |                         | mm   | inch | mm  | mm   | inch | mm | psig             | bar |
| 1/4"           | TX M.14W.M <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 5100             | 350 |



## TEES | MINI TEE SERIE MG.TX

### TUBE SIZE - FRACTIONAL

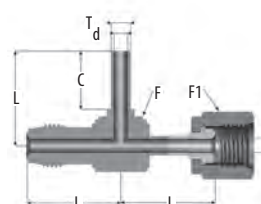
| T<br>Tube O.D. | Part number  | L    |      | L1   | d   | C   |      | F  | Working Pressure |     |
|----------------|--------------|------|------|------|-----|-----|------|----|------------------|-----|
|                |              | mm   | inch | mm   | mm  | mm  | inch | mm | psig             | bar |
| 1/4"           | MG.TX M.14.M | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 5100             | 350 |



## TEES | TEE SERIE TX

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number             | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|-------------------------|------|------|-----|------|------|----|------|------------------|-----|
|                |                         | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | TX F.14W.M <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |



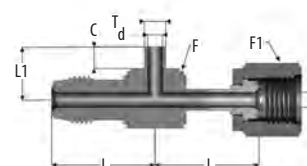
1) On request: it can be delivered with shoulder (Example: TX M.14.M)



## TEES | MINI TEE SERIE MG.TX

### TUBE SIZE - FRACTIONAL

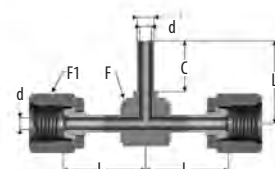
| T<br>Tube O.D. | Part number  | L    |      | L1   | d   | C   |      | F  | F1   | Working Pressure |     |
|----------------|--------------|------|------|------|-----|-----|------|----|------|------------------|-----|
|                |              | mm   | inch | mm   | mm  | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | MG.TX F.14.M | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 19,1 | 5100             | 350 |



## TEES | MINI TEE SERIE TX

### TUBE SIZE - FRACTIONAL

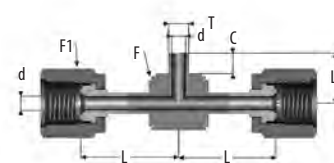
| T<br>Tube O.D. | Part number             | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|-------------------------|------|------|-----|------|------|----|------|------------------|-----|
|                |                         | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | TX F.14W.F <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |



## TEES | MINI TEE SERIES MG.TX

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number  | L    |      | L1   | d   | C   |      | F  | F1   | Working Pressure |     |
|----------------|--------------|------|------|------|-----|-----|------|----|------|------------------|-----|
|                |              | mm   | inch | mm   | mm  | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | MG.TX F.14.F | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 19,1 | 5100             | 350 |

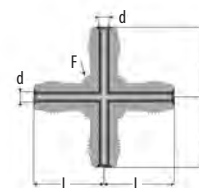


1) On request: it can be delivered with shoulder (Example: TX F.14.F)

## CROSSES | CROSS SERIE CD

### TUBE SIZE - FRACTIONAL

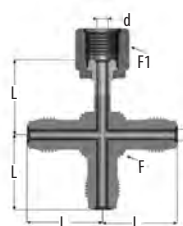
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | psig             | bar |
| 1/4"           | CD 14 4M    | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 8000             | 550 |



## CROSSES | CROSS SERIE CD

### TUBE SIZE - FRACTIONAL

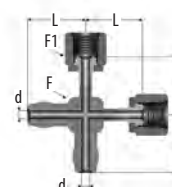
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | CD 14 F.3M  | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## CROSSES | CROSS SERIE CD

### TUBE SIZE - FRACTIONAL

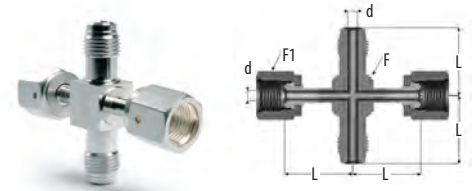
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | CD 14 2M.2F | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## CROSSES | CROSS SERIE CD

### TUBE SIZE - FRACTIONAL

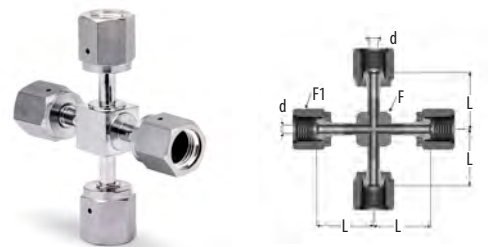
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | CD 14 FMFM  | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## CROSSES | CROSS SERIE CD

### TUBE SIZE - FRACTIONAL

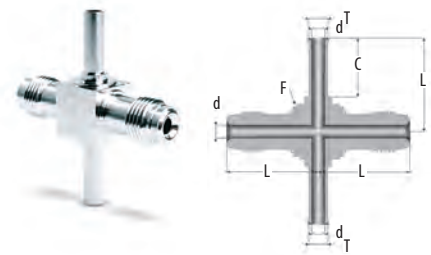
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | F1   | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | CD 14 4F    | 31,0 | 1,22 | 4,6 | 0,18 | 17 | 19,1 | 5100             | 350 |



## CROSSES | CROSS SERIE CX

### TUBE SIZE - FRACTIONAL

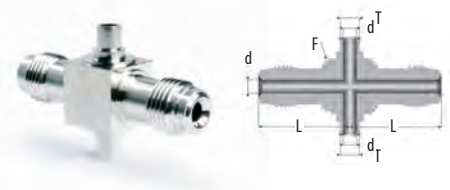
| T<br>Tube O.D. | Part number    | L    |      | d   | C    |      | F  | Working Pressure |     |
|----------------|----------------|------|------|-----|------|------|----|------------------|-----|
|                |                | mm   | inch | mm  | mm   | inch | mm | psig             | bar |
| 1/4"           | CX M.14W.M.14W | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 5100             | 350 |



## CROSSES | MINI CROSS SERIE MG.CX

### TUBE SIZE - FRACTIONAL

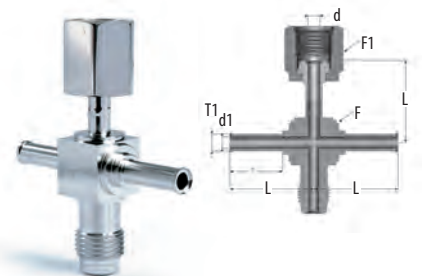
| T<br>Tube O.D. | Part number     | L    |      | L1   | d   | C   |      | F  | Working Pressure |     |
|----------------|-----------------|------|------|------|-----|-----|------|----|------------------|-----|
|                |                 | mm   | inch | mm   | mm  | mm  | inch | mm | psig             | bar |
| 1/4"           | MG.CX M.14.M.14 | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 5100             | 350 |



## CROSSES | CROSS SERIE CX

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number    | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|----------------|------|------|-----|------|------|----|------|------------------|-----|
|                |                | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | CX F.14W.M.14W | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |

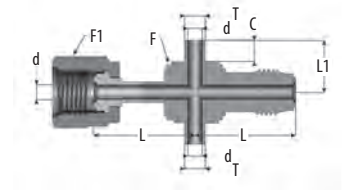


1) On request: it can be delivered with shoulder (Example: CX M.14.M.14)

## CROSSES | MINI CROSS SERIE MG.CX

### TUBE SIZE - FRACTIONAL

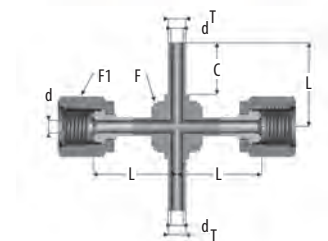
| T<br>Tube O.D. | Part number     | L    |      | L1   | d   | C   |      | F  | F1   | Working Pressure |     |
|----------------|-----------------|------|------|------|-----|-----|------|----|------|------------------|-----|
|                |                 | mm   | inch |      | mm  | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | MG.CX F.14.M.14 | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 19,1 | 5100             | 350 |



## CROSSES | CROSS SERIE CX

### TUBE SIZE - FRACTIONAL

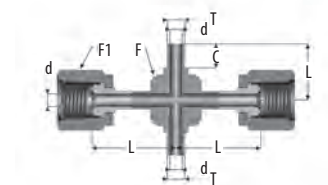
| T<br>Tube O.D. | Part number                 | L    |      | d   | C    |      | F  | F1   | Working Pressure |     |
|----------------|-----------------------------|------|------|-----|------|------|----|------|------------------|-----|
|                |                             | mm   | inch | mm  | mm   | inch | mm | mm   | psig             | bar |
| 1/4"           | CX F.14W.F.14W <sup>1</sup> | 31,0 | 1,22 | 4,6 | 19,1 | 0,75 | 17 | 19,1 | 5100             | 350 |



## CROSSES | MINI CROSS SERIE MG.CX

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number     | L    |      | L1   | d   | C   |      | F  | F1   | Working Pressure |     |
|----------------|-----------------|------|------|------|-----|-----|------|----|------|------------------|-----|
|                |                 | mm   | inch | mm   | mm  | mm  | inch | mm | mm   | psig             | bar |
| 1/4"           | MG.CX F.14.F.14 | 31,0 | 1,22 | 15,9 | 4,6 | 6,4 | 0,25 | 17 | 19,1 | 5100             | 350 |



1) On request: it can be delivered with shoulder (Example: CX F.14.F.14)

## NUTS | FEMALE NUT FOR HIGH FLOW APPLICATIONS

### TUBE SIZE - FRACTIONAL

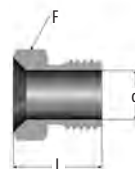
| T<br>Tube O.D. | Part number | L    |      | d    |      | Thread size | F    |
|----------------|-------------|------|------|------|------|-------------|------|
|                |             | mm   | inch | mm   | inch |             |      |
| 3/8"           | FN 14 HF    | 20,6 | 0,81 | 19,1 | 0,75 | 1/16"-18    | 19,1 |



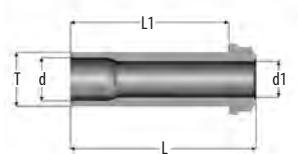
## NUTS | MALE NUT FOR HIGH FLOW APPLICATIONS

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | d   |      | Thread size | F  |
|----------------|-------------|------|------|-----|------|-------------|----|
|                |             | mm   | inch | mm  | inch |             |    |
| 3/8"           | MN 14 HF    | 18,3 | 0,72 | 9,9 | 0,39 | 1/16"-18    | 17 |



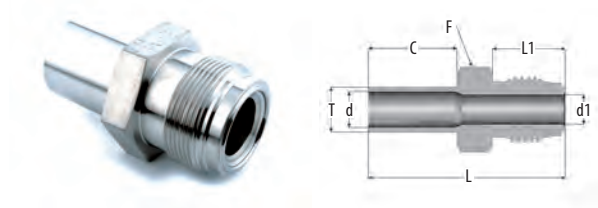
## GLANDS | SHORT MALE GLAND FOR HIGH FLOW APPLICATIONS



### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number  | L    |      | L1   |      | d1  |      | d   |      | Nominal Wall Thickness |       | Working Pressure |     |
|----------------|--------------|------|------|------|------|-----|------|-----|------|------------------------|-------|------------------|-----|
|                |              | mm   | inch | mm   | inch | mm  | inch | mm  | inch | mm                     | inch  | psig             | bar |
| 3/8"           | EMC 14 38 HF | 15,2 | 0,60 | 10,4 | 0,41 | 6,4 | 0,25 | 7,7 | 0,30 | 0,89                   | 0,035 | 3300             | 220 |
| 3/8"           | EMS 14 38 HF | 30,2 | 1,19 | 25,4 | 1,00 | 6,4 | 0,25 | 7,7 | 0,30 | 0,89                   | 0,035 | 3300             | 220 |
| 3/8"           | EM 14 38 HF  | 33,3 | 1,31 | 28,4 | 1,12 | 6,4 | 0,25 | 7,7 | 0,30 | 0,89                   | 0,035 | 3300             | 220 |

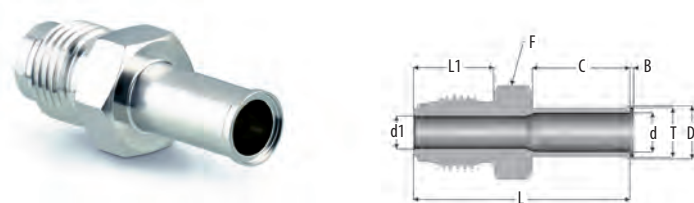
## GLANDS | AUTOMATIC BUTTWELD BODY FOR HIGH FLOW APPLICATIONS



### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number     | L    |      | L1   | d1  |      | d   |      | C    |      | F    | Working Pressure |     |
|----------------|-----------------|------|------|------|-----|------|-----|------|------|------|------|------------------|-----|
|                |                 | mm   | inch | mm   | mm  | inch | mm  | inch | mm   | inch | mm   | psig             | bar |
| 3/8"           | UM 14 38 ABW HF | 42,7 | 1,68 | 15,7 | 6,4 | 0,25 | 7,7 | 0,30 | 19,1 | 0,30 | 19,1 | 3300             | 220 |

## GLANDS | AUTOMATIC BUTTWELD BODY FOR HIGH FLOW APPLICATIONS



### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number    | L    |      | L1   | d1  |      | d   |      | D    | B   | C    |      | F    | Working Pressure |     |
|----------------|----------------|------|------|------|-----|------|-----|------|------|-----|------|------|------|------------------|-----|
|                |                | mm   | inch | mm   | mm  | inch | mm  | inch | mm   | mm  | mm   | inch | mm   | psig             | bar |
| 3/8"           | UM 14 38 AB HF | 43.4 | 1.71 | 15.7 | 6.4 | 0.25 | 7.7 | 0.30 | 10.5 | 0.8 | 19.1 | 0.75 | 15.7 | 3300             | 220 |

## BULKHEAD UNIONS | BUTTWELD BULKHEAD UNION FOR HIGH FLOW APPLICATIONS



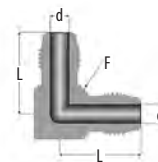
### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | L1   | d1  |      | d   |      | C    | F    | F1 | Panel Hole Size | Max Panel Thickness | Working Pressure |     |
|----------------|-------------|------|------|------|-----|------|-----|------|------|------|----|-----------------|---------------------|------------------|-----|
|                |             | mm   | inch | mm   | mm  | inch | mm  | inch | mm   | inch | mm |                 |                     | psig             | bar |
| 3/8"           | BU 14 38 HF | 59,9 | 2,36 | 33,0 | 6,4 | 0,25 | 7,7 | 0,30 | 19,2 | 0,76 | 19 | 15,1            | 11,2                | 3300             | 220 |

## ELBOWS & TEES | ELBOW FOR HIGH FLOW APPLICATIONS

### TUBE SIZE - FRACTIONAL

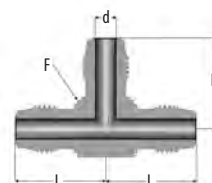
| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | psig             | bar |
| 1/4"           | E 14 HF     | 27,2 | 1,07 | 6,4 | 0,25 | 17 | 8000             | 550 |



## ELBOWS & TEES | TEE FOR HIGH FLOW APPLICATIONS

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | d   |      | F  | Working Pressure |     |
|----------------|-------------|------|------|-----|------|----|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm | psig             | bar |
| 1/4"           | T 14 HF     | 27,2 | 1,07 | 6,4 | 0,25 | 17 | 8000             | 550 |

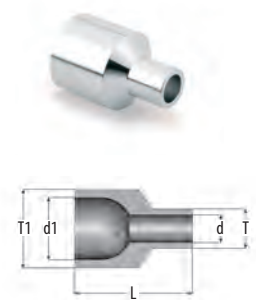




## REDUCER | MINI REDUCING UNION WITHOUT SHOULDER

### TUBE SIZE

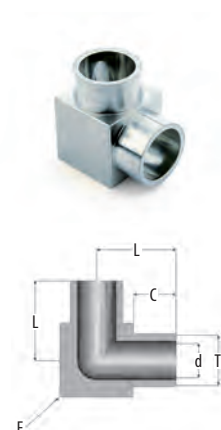
| T1<br>Tube O.D. | T<br>Tube O.D. | Part number     | L    |      | d1   | d   | Working Pressure |     |
|-----------------|----------------|-----------------|------|------|------|-----|------------------|-----|
|                 |                |                 | mm   | inch | mm   | mm  | psig             | bar |
| FRACTIONAL      |                |                 |      |      |      |     |                  |     |
| ¼"              | ⅛"             | MG.RU 14 18 1,2 | 19,1 | 0,75 | 4,5  | 2,1 | 5100             | 350 |
| ⅜"              | ¼"             | MG.RU 38 14 2   | 19,1 | 0,75 | 7,7  | 4,5 | 3300             | 220 |
| ½"              | ¼"             | MG. RU 12 14 2  | 19,1 | 0,75 | 10,1 | 4,5 | 3500             | 240 |
| ½"              | ⅜"             | MG.RU 12 38 2   | 19,1 | 0,75 | 10,1 | 7,7 | 3300             | 220 |
| JIS             |                |                 |      |      |      |     |                  |     |
| ⅜"              | ¼"             | MG.RU 38J 14J 2 | 19,1 | 0,75 | 7,5  | 4,3 | 3500             | 240 |
| ½"              | ¼"             | MG.RU 12 14J 2  | 19,1 | 0,75 | 10,2 | 4,3 | 3500             | 240 |
| ½"              | ⅜"             | MG.RU 12 38J 2  | 19,1 | 0,75 | 10,2 | 7,5 | 3500             | 240 |
| METRIC          |                |                 |      |      |      |     |                  |     |
| 8               | 6              | MG.RU 8M 6M     | 19,1 | 0,75 | 6    | 4   | 4800             | 330 |
| 12              | 6              | MG.RU 12M 6M    | 19,1 | 0,75 | 10   | 4   | 3100             | 210 |
| 12              | 8              | MG.RU 12M 8M    | 19,1 | 0,75 | 10   | 6   | 3100             | 210 |
| 12              | 10             | MG.RU 12M 10M   | 19,1 | 0,75 | 10   | 8   | 3100             | 210 |



## ELBOWS | MINI ELBOW WITHOUT SHOULDER

### TUBE SIZE

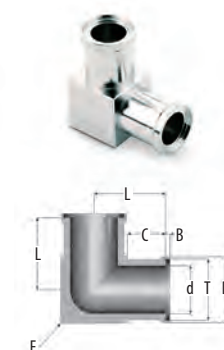
| T<br>Tube O.D. | Part number | L    |      | d    |      | C   |      | F    | Working Pressure |     |
|----------------|-------------|------|------|------|------|-----|------|------|------------------|-----|
|                |             | mm   | inch | mm   | inch | mm  | inch | mm   | psig             | bar |
| FRACTIONAL     |             |      |      |      |      |     |      |      |                  |     |
| 1/8"           | MG.E 18     | 10,4 | 0,41 | 1,5  | 0,06 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 1/4"           | MG.E 14     | 10,4 | 0,41 | 4,6  | 0,18 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 3/8"           | MG.E 38     | 11,9 | 0,47 | 7,7  | 0,30 | 6,4 | 0,25 | 11,1 | 3300             | 220 |
| 1/2"           | MG.E 12     | 13,5 | 0,53 | 10,2 | 0,40 | 6,4 | 0,25 | 14,3 | 3500             | 240 |
| METRIC         |             |      |      |      |      |     |      |      |                  |     |
| 6 mm           | MG.E 6M     | 10,4 | 0,41 | 4,0  | 0,16 | 6,4 | 0,25 | 7,9  | 5600             | 380 |
| 10 mm          | MG.E 10M    | 11,9 | 0,47 | 8,0  | 0,31 | 6,4 | 0,25 | 11,1 | 3500             | 240 |
| 12 mm          | MG.E 12M    | 13,5 | 0,53 | 10,0 | 0,39 | 6,4 | 0,25 | 14,3 | 3100             | 210 |
| JIS            |             |      |      |      |      |     |      |      |                  |     |
| 1/4"           | MG.E 14J    | 10,4 | 0,41 | 4,4  | 0,17 | 6,4 | 0,25 | 7,9  | 5600             | 380 |
| 3/8"           | MG.E 38J    | 11,9 | 0,47 | 7,5  | 0,29 | 6,4 | 0,25 | 11,1 | 3500             | 240 |



## ELBOWS | MINI ELBOW WITH SHOULDERS

### TUBE SIZE - FRACTIONAL

| T<br>Tube O.D. | Part number | L    |      | d   |      | D    |      | B   | C   |      | F    | Working Pressure |     |
|----------------|-------------|------|------|-----|------|------|------|-----|-----|------|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm   | inch | mm  | mm  | inch | mm   | psig             | bar |
| 1/8"           | MG.FE 18    | 10,4 | 0,41 | 1,5 | 0,06 | 3,8  | 0,15 | 0,5 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 1/4"           | MG.FE 14    | 10,4 | 0,41 | 4,6 | 0,18 | 7,4  | 0,29 | 0,5 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 3/8"           | MG.FE 38    | 11,9 | 0,47 | 7,7 | 0,30 | 10,5 | 0,41 | 0,8 | 6,4 | 0,25 | 11,1 | 3300             | 220 |

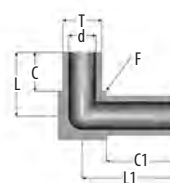


1) On request: it can be delivered with shoulder (Example: MG.FRU 14.18)

## ELBOWS | MINI ELBOW WITHOUT SHOULDER

### TUBE SIZE

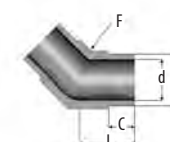
| T<br>Tube O.D. | Part number | L    |      | L1   |      | d   |      | C    |      | C1   |      | F   | Working Pressure |     |
|----------------|-------------|------|------|------|------|-----|------|------|------|------|------|-----|------------------|-----|
|                |             | mm   | inch | mm   | inch | mm  | inch | mm   | inch | mm   | inch | mm  | psig             | bar |
| FRACTIONAL     |             |      |      |      |      |     |      |      |      |      |      |     |                  |     |
| ¼"             | MG.EL 14.2  | 10,4 | 0,41 | 15,5 | 0,61 | 4,6 | 0,18 | 6,4  | 0,25 | 11,4 | 0,45 | 7,9 | 5100             | 350 |
| ¼"             | MG.EL 14.3  | 10,4 | 0,41 | 16,8 | 0,66 | 4,6 | 0,18 | 6,4  | 0,25 | 12,7 | 0,50 | 7,9 | 5100             | 350 |
| ¼"             | MG.EL 14.4  | 15,5 | 0,61 | 15,5 | 0,61 | 4,6 | 0,18 | 11,4 | 0,45 | 11,4 | 0,45 | 7,9 | 5100             | 350 |
| ¼"             | MG.EL 14.5  | 16,8 | 0,66 | 16,8 | 0,66 | 4,6 | 0,18 | 12,7 | 0,50 | 12,7 | 0,50 | 7,9 | 5100             | 350 |
| JIS            |             |      |      |      |      |     |      |      |      |      |      |     |                  |     |
| ¼"             | MG.EL 14J.2 | 10,4 | 0,41 | 15,5 | 0,61 | 4,4 | 0,17 | 6,4  | 0,25 | 11,4 | 0,45 | 7,9 | 5600             | 380 |
| ¼"             | MG.EL 14J.3 | 10,4 | 0,41 | 16,8 | 0,66 | 4,4 | 0,17 | 6,4  | 0,25 | 12,7 | 0,50 | 7,9 | 5600             | 380 |
| ¼"             | MG.EL 14J.4 | 15,5 | 0,61 | 15,5 | 0,61 | 4,4 | 0,17 | 6,4  | 0,25 | 12,7 | 0,50 | 7,9 | 5600             | 380 |
| ¼"             | MG.EL 14J.5 | 16,8 | 0,66 | 16,8 | 0,66 | 4,4 | 0,17 | 12,7 | 0,50 | 12,7 | 0,50 | 7,9 | 5100             | 380 |



## ELBOWS | MINI ELBOW 45° WITHOUT SHOULDER

### TUBE SIZE

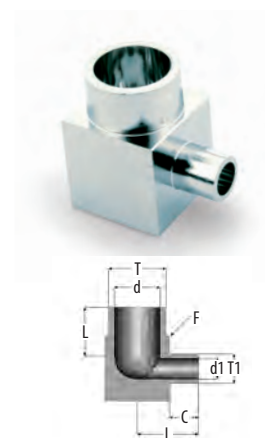
| T<br>Tube O.D. | Part number | L    |      | d    |      | C   |      | F    | Working Pressure |     |
|----------------|-------------|------|------|------|------|-----|------|------|------------------|-----|
|                |             | mm   | inch | mm   | inch | mm  | inch | mm   | psig             | bar |
| FRACTIONAL     |             |      |      |      |      |     |      |      |                  |     |
| ¼"             | MG.ES 14    | 10,4 | 0,41 | 4,6  | 0,18 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| ⅜"             | MG.ES 38    | 11,9 | 0,47 | 7,7  | 0,30 | 6,4 | 0,25 | 11,1 | 3300             | 220 |
| ½"             | MG.ES 12    | 13,5 | 0,53 | 10,2 | 0,40 | 6,4 | 0,25 | 14,3 | 3500             | 240 |
| JIS            |             |      |      |      |      |     |      |      |                  |     |
| ¼"             | MG.E5 14J   | 10,4 | 0,41 | 4,4  | 0,17 | 6,4 | 0,25 | 7,9  | 5600             | 380 |
| ⅜"             | MG.ES 38J   | 11,9 | 0,47 | 7,5  | 0,29 | 6,4 | 0,25 | 11,1 | 3500             | 240 |



## ELBOWS | MINI REDUCING ELBOW WITHOUT SHOULDER

### TUBE SIZE

| T<br>Tube O.D. | Part number   | L    |      | C   |      | d1   | d   | F    | Working Pressure |     |
|----------------|---------------|------|------|-----|------|------|-----|------|------------------|-----|
|                |               | mm   | inch | mm  | inch | mm   | mm  | mm   | psig             | bar |
| FRACTIONAL     |               |      |      |     |      |      |     |      |                  |     |
| 3/8"           | MG.RE 38 14   | 11,9 | 0,47 | 6,4 | 0,25 | 7,7  | 4,6 | 11,1 | 3300             | 220 |
| 1/2"           | MG.RE 12 14   | 13,5 | 0,53 | 6,4 | 0,25 | 10,2 | 4,6 | 14,3 | 3500             | 240 |
| 1/2"           | MG.RE 12 38   | 13,5 | 0,53 | 6,4 | 0,25 | 10,2 | 7,7 | 14,3 | 3300             | 220 |
| METRIC         |               |      |      |     |      |      |     |      |                  |     |
| 10 mm          | MG.RE 10M 6M  | 11,9 | 0,47 | 6,4 | 0,25 | 8,0  | 4,0 | 11,1 | 3500             | 240 |
| 12 mm          | MG.RE 12M 10M | 13,5 | 0,53 | 6,4 | 0,25 | 10,0 | 4,0 | 14,3 | 3500             | 240 |
| JIS            |               |      |      |     |      |      |     |      |                  |     |
| 3/8"           | MG.RE 38J 14J | 11,9 | 0,47 | 6,4 | 0,25 | 7,5  | 4,4 | 11,1 | 3500             | 240 |
| 1/2"           | MG.RE 12 14J  | 13,5 | 0,53 | 6,4 | 0,25 | 10,2 | 4,4 | 14,3 | 3500             | 240 |
| 1/2"           | MG.RE 12 38J  | 13,5 | 0,53 | 6,4 | 0,25 | 10,2 | 7,5 | 14,3 | 3500             | 240 |



## ELBOWS | MINI 3 DIMENSIONAL ELBOW WITHOUT SHOULDER

### TUBE SIZE

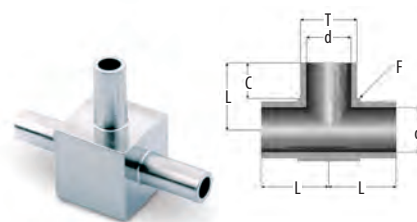
| T<br>Tube O.D. | Part number  | L    |      | d    |      | C   |      | F    | Working Pressure |     |
|----------------|--------------|------|------|------|------|-----|------|------|------------------|-----|
|                |              | mm   | inch | mm   | inch | mm  | inch | mm   | psig             | bar |
| FRACTIONAL     |              |      |      |      |      |     |      |      |                  |     |
| 1/4"           | 14/MG.E 14   | 10,4 | 0,41 | 4,6  | 0,18 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 3/8"           | 38/MG.E 38   | 11,9 | 0,47 | 7,7  | 0,30 | 6,4 | 0,25 | 11,1 | 3300             | 220 |
| 1/2"           | 12/MG.E 38   | 13,5 | 0,53 | 10,2 | 0,40 | 6,4 | 0,25 | 14,3 | 3100             | 210 |
| JIS            |              |      |      |      |      |     |      |      |                  |     |
| 1/4"           | 14J/MG.E 14J | 10,4 | 0,41 | 4,4  | 0,17 | 6,4 | 0,25 | 7,9  | 5600             | 380 |
| 3/8"           | 38J/MG.E 38J | 13,5 | 0,53 | 7,5  | 0,30 | 6,4 | 0,25 | 11,1 | 3500             | 240 |



## TEES | MINI TEE WITHOUT SHOULDER

### TUBE SIZE

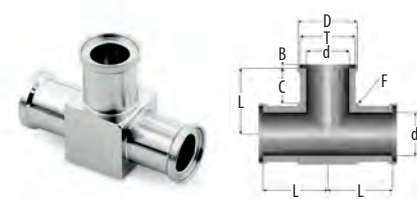
| T<br>Tube O.D. | Part number          | L    |      | d    |      | C   |      | F    | Working Pressure |     |
|----------------|----------------------|------|------|------|------|-----|------|------|------------------|-----|
|                |                      | mm   | inch | mm   | inch | mm  | inch | mm   | psig             | bar |
| FRACTIONAL     |                      |      |      |      |      |     |      |      |                  |     |
| 1/8"           | MG.T 18              | 10,4 | 0,41 | 1,5  | 0,06 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 1/4"           | MG.T 14 <sup>1</sup> | 10,4 | 0,41 | 4,6  | 0,18 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 3/8"           | MG.T 38 <sup>1</sup> | 11,9 | 0,47 | 7,7  | 0,30 | 6,4 | 0,25 | 11,1 | 3300             | 220 |
| 1/2"           | MG.T 12              | 13,5 | 0,53 | 10,2 | 0,40 | 6,4 | 0,25 | 14,3 | 3500             | 240 |
| METRIC         |                      |      |      |      |      |     |      |      |                  |     |
| 6 mm           | M.G.T 6M             | 10,3 | 0,41 | 4,0  | 0,16 | 6,4 | 0,25 | 7,9  | 6800             | 460 |
| 10 mm          | MG.T 10M             | 11,9 | 0,47 | 8,0  | 0,31 | 6,4 | 0,25 | 11,1 | 3500             | 240 |
| 12 mm          | MG.T 12M             | 13,5 | 0,53 | 10,0 | 0,39 | 6,4 | 0,25 | 14,3 | 3500             | 240 |
| JIS            |                      |      |      |      |      |     |      |      |                  |     |
| 3/8"           | MG.FT 18             | 10,4 | 0,41 | 4,4  | 0,17 | 6,4 | 0,25 | 7,9  | 5600             | 380 |
| 1/2"           | MG.T 38J             | 11,9 | 0,47 | 7,5  | 0,30 | 6,4 | 0,25 | 11,1 | 3300             | 220 |



## TEES | MINI TEE WITH SHOULDERS

### TUBE SIZE - FRACTIONAL

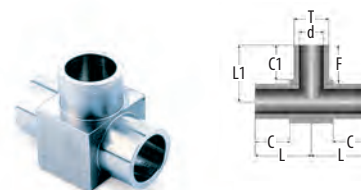
| T<br>Tube O.D. | Part number | L    |      | d   |      | D    | B   | C   |      | F    | Working Pressure |     |
|----------------|-------------|------|------|-----|------|------|-----|-----|------|------|------------------|-----|
|                |             | mm   | inch | mm  | inch | mm   | mm  | mm  | inch |      | psig             | bar |
| 1/8"           | MG.FT 18    | 10,4 | 0,41 | 1,5 | 0,06 | 3,8  | 0,5 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 1/4"           | MG.FT 14    | 10,4 | 0,41 | 4,6 | 0,18 | 7,4  | 0,5 | 6,4 | 0,25 | 7,9  | 5100             | 350 |
| 3/8"           | MG.FT 38    | 11,9 | 0,47 | 7,7 | 0,30 | 10,5 | 0,8 | 6,4 | 0,25 | 11,1 | 3300             | 220 |



## TEES | MINI TEE WITHOUT SHOULDER

### TUBE SIZE

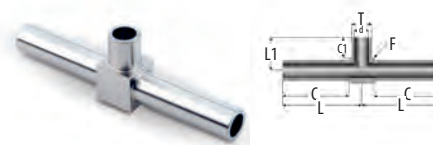
| T<br>Tube O.D. | Part<br>number | L    |      | L1   |      | d   |      | C   |      | C1   |      | F   | Working<br>Pressure |      |
|----------------|----------------|------|------|------|------|-----|------|-----|------|------|------|-----|---------------------|------|
|                |                | mm   | inch | mm   | inch | mm  | inch | mm  | inch | mm   | inch |     | mm                  | psig |
| FRACTIONAL     |                |      |      |      |      |     |      |     |      |      |      |     |                     |      |
| ¼"             | MG.TL 14.6     | 10,4 | 0,41 | 15,5 | 0,61 | 4,6 | 0,18 | 6,4 | 0,25 | 11,4 | 0,45 | 7,9 | 5100                | 350  |
| JIS            |                |      |      |      |      |     |      |     |      |      |      |     |                     |      |
| ¼"             | MG.TL 14J.6    | 10,4 | 0,41 | 15,5 | 0,61 | 4,4 | 0,17 | 6,4 | 0,25 | 11,4 | 0,45 | 7,9 | 5600                | 380  |



## TEES | MINI TEE WITHOUT SHOULDER

### TUBE SIZE

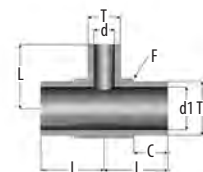
| T<br>Tube O.D. | Part<br>number | L    |      | L1   |      | d   |      | C    |      | C1  |      | F   | Working<br>Pressure |     |
|----------------|----------------|------|------|------|------|-----|------|------|------|-----|------|-----|---------------------|-----|
|                |                | mm   | inch | mm   | inch | mm  | inch | mm   | inch | mm  | inch |     | psig                | bar |
| FRACTIONAL     |                |      |      |      |      |     |      |      |      |     |      |     |                     |     |
| ¼"             | MG.TUL 14.1    | 24,9 | 0,98 | 10,4 | 0,41 | 4,6 | 0,18 | 21,1 | 0,83 | 6,4 | 0,25 | 7,9 | 5100                | 350 |
| JIS            |                |      |      |      |      |     |      |      |      |     |      |     |                     |     |
| ¼"             | MG.TUL 14J.1   | 24,9 | 0,98 | 10,4 | 0,41 | 4,4 | 0,17 | 21,1 | 0,83 | 6,4 | 0,25 | 7,9 | 5600                | 380 |



## TEES | MINI REDUCING TEE WITHOUT SHOULDER

### TUBE SIZE

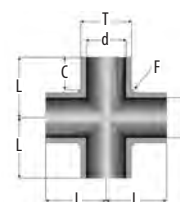
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number   | L    |      | d1   | d   | C   |      | F    | Working<br>Pressure |     |
|--------------------|-------------------|---------------|------|------|------|-----|-----|------|------|---------------------|-----|
|                    |                   |               | mm   | inch | mm   | mm  | mm  | inch | mm   | psig                | bar |
| FRACTIONAL         |                   |               |      |      |      |     |     |      |      |                     |     |
| 3/8"               | 1/4"              | MG.RT 38 14   | 11,9 | 0,47 | 7,7  | 4,6 | 6,4 | 0,25 | 11,1 | 3300                | 220 |
| 1/2"               | 1/4"              | MG.RT 12 14   | 13,5 | 0,53 | 10,2 | 4,6 | 6,4 | 0,25 | 14,3 | 3500                | 240 |
| 1/2"               | 3/8"              | MG.RT 12 38   | 13,5 | 0,53 | 10,2 | 7,7 | 6,4 | 0,25 | 14,3 | 3300                | 220 |
| METRIC             |                   |               |      |      |      |     |     |      |      |                     |     |
| 6 mm               | 6 mm              | MG.RT 10M 6M  | 11,9 | 0,47 | 8,0  | 4,0 | 6,4 | 0,25 | 11,1 | 3500                | 240 |
| 10 mm              | 6 mm              | MG.RT 12M 6M  | 13,5 | 0,53 | 10,0 | 4,0 | 6,4 | 0,25 | 14,3 | 3500                | 240 |
| JIS                |                   |               |      |      |      |     |     |      |      |                     |     |
| 3/8"               | 1/4"              | MG.RT 38J 14J | 11,9 | 0,47 | 7,5  | 4,4 | 6,4 | 0,25 | 11,1 | 3500                | 240 |
| 1/2"               | 1/4"              | MG.RT 12 14J  | 13,5 | 0,53 | 10,2 | 4,4 | 6,4 | 0,25 | 14,3 | 3500                | 240 |
| 1/2"               | 3/8"              | MG.RT 12 38J  | 13,5 | 0,53 | 10,2 | 7,5 | 6,4 | 0,25 | 14,3 | 3500                | 240 |



## CROSSES | MINI CROSS WITHOUT SHOULDER

### TUBE SIZE

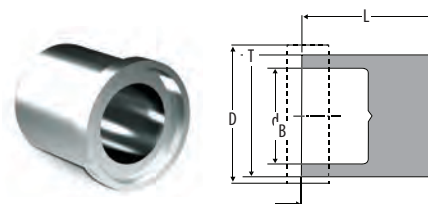
| T<br>Tube O.D. | Part number          | L    |      | d    |      | C   |      | F    | Working Pressure |     |  |
|----------------|----------------------|------|------|------|------|-----|------|------|------------------|-----|--|
|                |                      | mm   | inch | mm   | inch | mm  | inch | mm   | psig             | bar |  |
| FRACTIONAL     |                      |      |      |      |      |     |      |      |                  |     |  |
| 1/8"           | MG.C 18              | 10,4 | 0,41 | 1,5  | 0,06 | 6,4 | 0,25 | 7,9  | 5100             | 350 |  |
| 1/4"           | MG.C 14 <sup>1</sup> | 10,4 | 0,41 | 4,6  | 0,18 | 6,4 | 0,25 | 7,9  | 5100             | 350 |  |
| 3/8"           | MG.C 38 <sup>1</sup> | 11,9 | 0,47 | 7,7  | 0,30 | 6,4 | 0,25 | 11,1 | 3300             | 220 |  |
| 1/2"           | MG.C 12              | 13,5 | 0,53 | 10,2 | 0,40 | 6,4 | 0,25 | 14,3 | 3500             | 240 |  |
| METRIC         |                      |      |      |      |      |     |      |      |                  |     |  |
| 6 mm           | MG.C 6M              | 10,3 | 0,41 | 4,0  | 0,16 | 6,4 | 0,25 | 7,9  | 6800             | 460 |  |
| 10 mm          | MG.C 10M             | 11,9 | 0,47 | 8,0  | 0,31 | 6,4 | 0,25 | 11,1 | 3300             | 240 |  |
| 12 mm          | MG.C 12M             | 13,5 | 0,53 | 10,2 | 0,40 | 6,4 | 0,25 | 14,3 | 3500             | 210 |  |
| JIS            |                      |      |      |      |      |     |      |      |                  |     |  |
| 1/4"           | MG.C 14J             | 10,3 | 0,41 | 4,4  | 0,17 | 6,4 | 0,25 | 7,9  | 5600             | 380 |  |
| 3/8"           | MG.C 38J             | 11,9 | 0,47 | 7,5  | 0,29 | 6,4 | 0,25 | 11,1 | 3500             | 240 |  |



## UNIONS | EB-AB

### TUBE SIZE

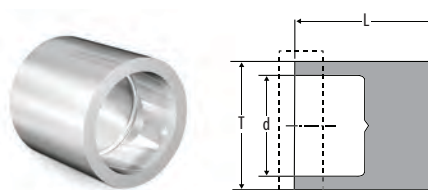
| T<br>Tube O.D. | Part number | L   |      | d    |      | D    |      | B   | Working Pressure |     |
|----------------|-------------|-----|------|------|------|------|------|-----|------------------|-----|
|                |             | mm  | inch | mm   | inch | mm   | inch | mm  | psig             | bar |
| FRACTIONAL     |             |     |      |      |      |      |      |     |                  |     |
| ¼"             | EB 14 AB    | 6,9 | 0,27 | 4,5  | 0,18 | 7,2  | 0,6  | 0,6 | 5100             | 350 |
| ⅜"             | EB 38 AB    | 6,9 | 0,27 | 7,7  | 0,3  | 10,4 | 0,8  | 0,8 | 3300             | 220 |
| ½"             | EB 12 AB    | 6,9 | 0,27 | 10,1 | 0,4  | 13,9 | 1,1  | 1,1 | 3500             | 240 |
| ¾"             | EB 34 AB    | 9,1 | 0,36 | 16,5 | 0,65 | 20,3 | 1,1  | 1,1 | 2400             | 160 |



## UNIONS | EB-ABW

### TUBE SIZE

| T<br>Tube O.D. | Part number | L     |       | d     |       | Working Pressure |       |
|----------------|-------------|-------|-------|-------|-------|------------------|-------|
|                |             | mm    | inch  | mm    | inch  | psig             | bar   |
| FRACTIONAL     |             |       |       |       |       |                  |       |
| ¼"             | EB 14 ABW   | 4,8   | 0,19  | 4,5   | 0,18  | 5100             | 350   |
| ⅜"             | EB 38 ABW   | 5,6   | 0,22  | 7,7   | 0,30  | 3300             | 220   |
| ½"             | EB 12 ABW   | 6,9   | 0,27  | 10,1  | 0,40  | 3500             | 240   |
| METRIC         |             |       |       |       |       |                  |       |
| 12 mm          | 13 mm       | 14 mm | 15 mm | 16 mm | 17 mm | 18 mm            | 19 mm |



## UNIONS | AUTOMATIC BUTTWELD SHORT UNION WITH SHOULDERS

### TUBE SIZE

| T<br>Tube O.D. | Part number | L   |      | d    |      | D    | B    | Working Pressure |     |
|----------------|-------------|-----|------|------|------|------|------|------------------|-----|
|                |             | mm  | inch | mm   | inch | mm   | mm   | psig             | bar |
| FRACTIONAL     |             |     |      |      |      |      |      |                  |     |
| ¼"             | US 14 AB    | 1,2 | 0,05 | 4,6  | 0,18 | 7,3  | 0,30 | 5100             | 350 |
| ⅜"             | US 38 AB    | 1,6 | 0,06 | 7,7  | 0,30 | 10,4 | 0,50 | 3300             | 220 |
| ½"             | US 12 AB    | 2.0 | 0.08 | 10.2 | 0.40 | 13.9 | 0.60 | 3500             | 240 |



## UNIONS | AUTOMATIC BUTTWELD REDUCING UNION WITHOUT SHOULDER

### TUBE SIZE

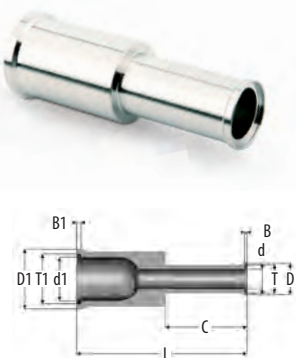
| T1<br>Tube O.D. | T<br>Tube O.D. | Part number                 | L    |      | d1   | d    | C    |      | Working Pressure |     |
|-----------------|----------------|-----------------------------|------|------|------|------|------|------|------------------|-----|
|                 |                |                             | mm   | inch | mm   | mm   | mm   | inch | psig             | bar |
| FRACTIONAL      |                |                             |      |      |      |      |      |      |                  |     |
| 3/8"            | 1/4"           | RU 38 14 ABW                | 38,1 | 1,50 | 7,7  | 4,6  | 19,1 | 0,75 | 3300             | 220 |
| 1/2"            | 1/4"           | RU 12 14 ABW                | 38,1 | 1,50 | 10,2 | 4,6  | 19,1 | 0,75 | 3500             | 240 |
| 1/2"            | 3/8"           | RU 12 38 ABW                | 38,1 | 1,50 | 10,2 | 7,7  | 19,1 | 0,75 | 3300             | 220 |
| 3/4"            | 1/2"           | RU 34 12 ABW                | 38,1 | 1,50 | 16,5 | 10,2 | 19,1 | 0,75 | 2400             | 160 |
| METRIC          |                |                             |      |      |      |      |      |      |                  |     |
| 8 mm            | 6 mm           | RU 8M 6M ABW                | 38,1 | 1,50 | 6,0  | 4,0  | 19,1 | 0,75 | 4800             | 330 |
| 12 mm           | 6 mm           | RU 12M 6M ABW               | 38,1 | 1,50 | 10,0 | 4,0  | 19,1 | 0,75 | 3100             | 210 |
| 12 mm           | 8 mm           | RU 12M 8M ABW               | 38,1 | 1,50 | 10,0 | 6,0  | 19,1 | 0,75 | 3100             | 210 |
| 18 mm           | 6 mm           | RU 18M 6M ABW               | 38,1 | 1,50 | 15,0 | 4,0  | 19,1 | 0,75 | 3100             | 210 |
| 18 mm           | 12 mm          | RU 18M 12M ABW              | 38,1 | 1,50 | 15,0 | 10,0 | 19,1 | 0,75 | 3100             | 210 |
| JIS             |                |                             |      |      |      |      |      |      |                  |     |
| 3/8"            | 1/4"           | RU 38J 14J ABW <sup>1</sup> | 38,1 | 1,50 | 7,5  | 4,4  | 19,1 | 0,75 | 3500             | 240 |
| 1/2"            | 1/4"           | RU 12 14J ABW <sup>1</sup>  | 38,1 | 1,50 | 10,2 | 4,4  | 19,1 | 0,75 | 3500             | 240 |
| 1/2"            | 3/8"           | RU 12 38J ABW <sup>1</sup>  | 38,1 | 1,50 | 10,2 | 7,5  | 19,1 | 0,75 | 3500             | 240 |



## UNIONS | AUTOMATIC BUTTWELD REDUCING UNION WITH SHOUDERS

### TUBE SIZE

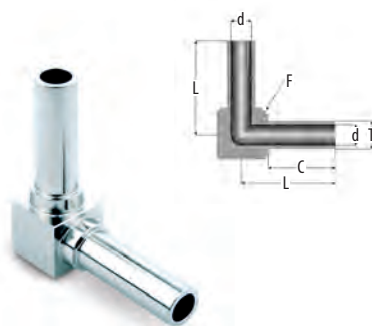
| T1<br>O.D. | T<br>Tube<br>O.D. | Part number   | L    |      | d1   | d    | D1   | D    | B1  | B   | C    |      | Working<br>Pressure |     |
|------------|-------------------|---------------|------|------|------|------|------|------|-----|-----|------|------|---------------------|-----|
|            |                   |               | mm   | inch | mm   | mm   | mm   | mm   | mm  | mm  | mm   | inch | psig                | bar |
| FRACTIONAL |                   |               |      |      |      |      |      |      |     |     |      |      |                     |     |
| 3/8"       | 1/4"              | RU 38 14 AB   | 40,1 | 1,58 | 7,7  | 4,6  | 10,5 | 7,4  | 0,8 | 0,5 | 19,1 | 0,75 | 3300                | 220 |
| 1/2"       | 1/4"              | RU 12 14 AB   | 40,1 | 1,58 | 10,2 | 7,7  | 14,0 | 7,4  | 1,0 | 0,5 | 19,1 | 0,75 | 3500                | 240 |
| 1/2"       | 3/8"              | RU 12 38 AB   | 40,4 | 1,59 | 10,2 | 4,0  | 14,0 | 10,5 | 1,0 | 0,8 | 19,1 | 0,75 | 3300                | 220 |
| 3/4"       | 1/2"              | RU 34 12 AB   | 40,6 | 1,60 | 16,5 | 10,2 | 20,3 | 14,0 | 1,0 | 1,0 | 19,1 | 0,75 | 2400                | 160 |
| METRIC     |                   |               |      |      |      |      |      |      |     |     |      |      |                     |     |
| 8 mm       | 6 mm              | RU 8M 6M AB   | 39,9 | 1,57 | 6,0  | 4,0  | 8,9  | 6,9  | 0,8 | 0,5 | 19,1 | 0,75 | 4800                | 330 |
| 12 mm      | 6 mm              | RU 12M 6M AB  | 40,1 | 1,58 | 10,0 | 6,0  | 13,2 | 6,9  | 1,0 | 0,5 | 19,1 | 0,75 | 3100                | 210 |
| 12 mm      | 8 mm              | RU 12M 8M AB  | 40,4 | 1,59 | 10,0 | 10,0 | 13,2 | 8,9  | 1,0 | 0,8 | 19,1 | 0,75 | 3100                | 210 |
| JIS        |                   |               |      |      |      |      |      |      |     |     |      |      |                     |     |
| 3/8"       | 1/4"              | RU 38J 14J AB | 40,1 | 1,58 | 7,5  | 4,4  | 10,3 | 7,2  | 0,8 | 0,5 | 19,1 | 0,75 | 3500                | 240 |
| 1/2"       | 1/4"              | RU 12 14J AB  | 40,1 | 1,58 | 10,2 | 4,4  | 14,0 | 7,2  | 1,0 | 0,5 | 19,1 | 0,75 | 3500                | 240 |
| 1/2"       | 3/8"              | RU 12 38J AB  | 40,4 | 1,59 | 10,2 | 7,5  | 14,0 | 10,3 | 1,0 | 0,8 | 19,1 | 0,75 | 3500                | 240 |



## ELBOWS | AUTOMATIC BUTTWELD ELBOW WITHOUT SHOULDER

### TUBE SIZE

| T<br>Tube O.D. | Part number            | L    |      | d    |      | C    |      | F  | Working Pressure |     |
|----------------|------------------------|------|------|------|------|------|------|----|------------------|-----|
|                |                        | mm   | inch | mm   | inch | mm   | inch | mm | psig             | bar |
| FRACTIONAL     |                        |      |      |      |      |      |      |    |                  |     |
| 1/4"           | E 14 ABW               | 27,0 | 1,06 | 4,6  | 0,18 | 19,1 | 0,75 | 10 | 5100             | 350 |
| 1/4"           | ECA 14 ABW             | 31,2 | 1,23 | 4,6  | 0,18 | 19,1 | 0,75 | 10 | 5100             | 350 |
| 3/8"           | E 38 ABW               | 27,0 | 1,06 | 7,7  | 0,30 | 19,1 | 0,75 | 14 | 3300             | 220 |
| 3/8"           | ECA 38 ABW             | 30,5 | 1,20 | 7,7  | 0,30 | 19,1 | 0,75 | 14 | 3300             | 220 |
| 1/2"           | E 12 ABW               | 30,0 | 1,18 | 10,2 | 0,40 | 19,1 | 0,75 | 17 | 3500             | 240 |
| 1/2"           | ECA 12 ABW             | 34,0 | 1,34 | 10,2 | 0,40 | 19,1 | 0,75 | 17 | 3500             | 240 |
| 3/4"           | E 34 ABW               | 35,0 | 1,38 | 16,5 | 0,65 | 19,1 | 0,75 | 24 | 2400             | 160 |
| 1"             | E 100 ABW              | 40,0 | 1,57 | 22,1 | 0,87 | 24,4 | 0,96 | 35 | 2400             | 160 |
| METRIC         |                        |      |      |      |      |      |      |    |                  |     |
| 6 mm           | E 6M ABW               | 27,0 | 1,06 | 4,0  | 0,16 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 8 mm           | E 8M ABW               | 27,0 | 1,06 | 6,0  | 0,24 | 19,1 | 0,75 | 14 | 4800             | 330 |
| 10 mm          | E 10M ABW              | 27,0 | 1,06 | 8,0  | 0,31 | 19,1 | 0,75 | 14 | 3500             | 240 |
| 12 mm          | E 12M ABW              | 30,0 | 1,18 | 10,0 | 0,39 | 19,1 | 0,75 | 17 | 3100             | 210 |
| JIS            |                        |      |      |      |      |      |      |    |                  |     |
| 1/4"           | E 14J ABW <sup>1</sup> | 27,0 | 1,06 | 4,4  | 0,17 | 19,1 | 0,75 | 10 | 5600             | 380 |
| 3/8"           | E 38J ABW <sup>1</sup> | 27,0 | 1,06 | 7,5  | 0,29 | 19,1 | 0,75 | 14 | 3500             | 240 |



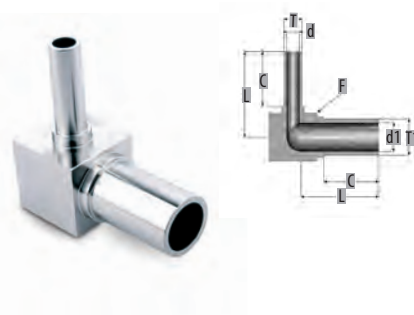
<sup>1)</sup> On request, it can be delivered with C=10mm (Example: ES 14J ABW)



## ELBOWS | AUTOMATIC BUTTWELD REDUCING ELBOW WITHOUT SHOULDER

### TUBE SIZE

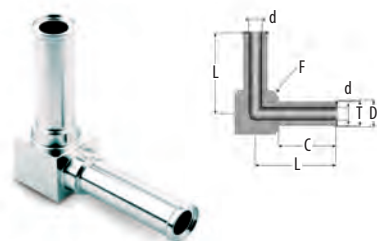
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number    | L    |      | d1   |      | d   |      | C    |      | F  | Working<br>Pressure |      |
|--------------------|-------------------|----------------|------|------|------|------|-----|------|------|------|----|---------------------|------|
|                    |                   |                | mm   | inch | mm   | inch | mm  | inch | mm   | inch |    | mm                  | psig |
| FRACTIONAL         |                   |                |      |      |      |      |     |      |      |      |    |                     |      |
| 3/8"               | 1/4"              | RE 38 14 ABW   | 27,0 | 1,06 | 7,7  | 0,30 | 4,6 | 0,18 | 19,1 | 0,75 | 14 | 3300                | 220  |
| 1/2"               | 1/4"              | RE 12 14 ABW   | 30,0 | 1,18 | 10,2 | 0,40 | 4,6 | 0,18 | 19,1 | 0,75 | 17 | 3500                | 240  |
| 1/2"               | 3/8"              | RE 12 38 ABW   | 30,0 | 1,18 | 10,2 | 0,40 | 7,7 | 0,30 | 19,1 | 0,75 | 17 | 3300                | 220  |
| JIS                |                   |                |      |      |      |      |     |      |      |      |    |                     |      |
| 3/8"               | 1/4"              | RE 38J 14J ABW | 27,0 | 1,06 | 7,5  | 0,29 | 4,4 | 0,17 | 19,1 | 0,75 | 14 | 3500                | 240  |
| 1/2"               | 1/4"              | RE 12 14J ABW  | 30,0 | 1,18 | 10,2 | 0,40 | 4,4 | 0,17 | 19,1 | 0,75 | 17 | 3500                | 240  |
| 1/2"               | 3/8"              | RE 12 38J AB W | 30,0 | 1,18 | 10,2 | 0,40 | 7,5 | 0,29 | 19,1 | 0,75 | 17 | 3500                | 240  |



## ELBOWS | AUTOMATIC BUTTWELD ELBOW WITH SHOULDERS

### TUBE SIZE

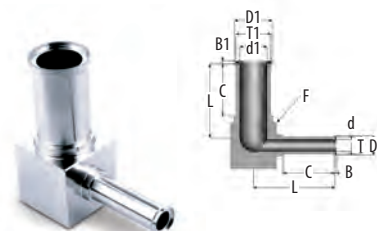
| T<br>Tube O.D. | Part number | L    |      | d    |      | D    | B   | C    |      | F  | Working<br>Pressure |     |
|----------------|-------------|------|------|------|------|------|-----|------|------|----|---------------------|-----|
|                |             | mm   | inch | mm   | inch | mm   | mm  | mm   | inch | mm | psig                | bar |
| FRACTIONAL     |             |      |      |      |      |      |     |      |      |    |                     |     |
| ¼"             | E 14 AB     | 27,0 | 1,06 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 10 | 5100                | 350 |
| ¼"             | ECA 14 AB   | 31,7 | 1,25 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 10 | 5100                | 350 |
| ⅜"             | E 38 AB     | 27,0 | 1,06 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 14 | 3300                | 220 |
| ⅜"             | ECA 38 AB   | 31,2 | 1,23 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 14 | 3300                | 220 |
| ½"             | E 12 AB     | 30,0 | 1,18 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 17 | 3500                | 240 |
| ½"             | ECA 12 AB   | 35,0 | 1,38 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 17 | 3500                | 240 |
| ¾"             | E 34 AB     | 35,0 | 1,38 | 16,5 | 0,65 | 20,3 | 1,0 | 19,1 | 0,75 | 24 | 2400                | 160 |
| 1"             | E100 AB     | 40,0 | 1,57 | 22,1 | 0,87 | 26,9 | 1,0 | 24,4 | 0,96 | 35 | 2400                | 160 |
| METRIC         |             |      |      |      |      |      |     |      |      |    |                     |     |
| 6 mm           | E 6M AB     | 27,0 | 1,06 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 10 | 6800                | 460 |
| 6 mm           | ECA 6M AB   | 31,8 | 1,25 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 10 | 6800                | 460 |
| 8 mm           | E 8M AB     | 27,0 | 1,06 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 14 | 4800                | 330 |
| 8 mm           | ECA 8M AB   | 32,0 | 1,26 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 14 | 4800                | 330 |
| 10 mm          | E 10M AB    | 27,0 | 1,06 | 8,0  | 0,31 | 10,9 | 0,8 | 19,1 | 0,75 | 14 | 3500                | 240 |
| 10 mm          | ECA 10M AB  | 34,8 | 1,37 | 8,0  | 0,31 | 11,0 | 0,8 | 19,1 | 0,75 | 14 | 3500                | 240 |
| 12 mm          | E 12M AB    | 30,0 | 1,18 | 10,0 | 0,39 | 13,2 | 1,0 | 19,1 | 0,75 | 17 | 3100                | 210 |
| 12 mm          | ECA 12M AB  | 35,0 | 1,38 | 10,0 | 0,39 | 13,2 | 1,0 | 19,1 | 0,75 | 17 | 3100                | 210 |
| 18 mm          | ECA 18M AB  | 38,6 | 1,52 | 15,0 | 0,59 | 19,2 | 1,0 | 19,1 | 0,75 | 24 | 3000                | 200 |
| JIS            |             |      |      |      |      |      |     |      |      |    |                     |     |
| ¼"             | E 14J AB    | 27,0 | 1,06 | 4,4  | 0,17 | 7,2  | 1,0 | 19,1 | 0,75 | 10 | 5600                | 380 |
| ⅜"             | E 38J AB    | 27,0 | 1,06 | 7,7  | 0,30 | 10,3 | 1,0 | 19,1 | 0,75 | 14 | 3500                | 240 |



## ELBOWS | AUTOMATIC BUTTWELD REDUCING ELBOW WITH SHOULDERS

### TUBE SIZE

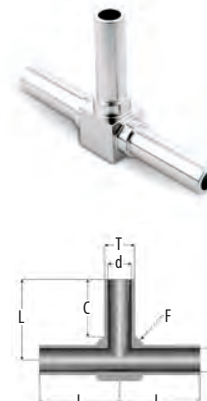
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number | L    |      | d1   | D1   | B1  | d   | D   | B   | C    |      | F  | Working<br>Pressure |     |
|--------------------|-------------------|-------------|------|------|------|------|-----|-----|-----|-----|------|------|----|---------------------|-----|
|                    |                   |             | mm   | inch | mm   | mm   | mm  | mm  | mm  | mm  | mm   | inch | mm | psig                | bar |
| FRACTIONAL         |                   |             |      |      |      |      |     |     |     |     |      |      |    |                     |     |
| 3/8"               | 1/4"              | RE 38 14 AB | 27,0 | 1,06 | 7,7  | 10,5 | 0,8 | 4,6 | 7,4 | 0,5 | 19,1 | 0,75 | 14 | 3300                | 220 |
| 1/2"               | 1/4"              | RE 12 14 AB | 30.0 | 1.18 | 10.2 | 14.0 | 1.0 | 4.6 | 7.4 | 0.5 | 19.1 | 0.75 | 17 | 3500                | 240 |



## TEES | AUTOMATIC BUTTWELD TEE WITHOUT SHOULDER

### TUBE SIZE

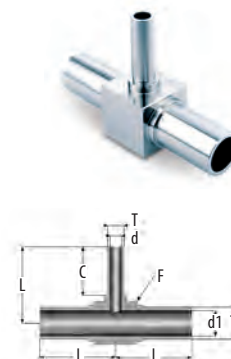
| T<br>Tube O.D. | Part number            | L    |      | d    |      | C    |      | F  | Working Pressure |     |
|----------------|------------------------|------|------|------|------|------|------|----|------------------|-----|
|                |                        | mm   | inch | mm   | inch | mm   | inch | mm | psig             | bar |
| FRACTIONAL     |                        |      |      |      |      |      |      |    |                  |     |
| ¼"             | T 14 ABW               | 27,0 | 1,06 | 4,6  | 0,18 | 19,1 | 0,75 | 10 | 5100             | 350 |
| ¼"             | TCA 14 ABW             | 31,2 | 1,23 | 4,6  | 0,18 | 19,1 | 0,75 | 10 | 5100             | 350 |
| ⅜"             | T 38 ABW               | 27,0 | 1,06 | 7,7  | 0,30 | 19,1 | 0,75 | 14 | 3300             | 220 |
| ⅜"             | TCA 38 ABW             | 30,5 | 1,20 | 7,7  | 0,30 | 19,1 | 0,75 | 14 | 3300             | 220 |
| ½"             | T 12 ABW               | 30,0 | 1,18 | 10,2 | 0,40 | 19,1 | 0,75 | 17 | 3500             | 240 |
| ½"             | TCA 12 ABW             | 34,0 | 1,34 | 10,2 | 0,40 | 19,1 | 0,75 | 17 | 3500             | 240 |
| ¾"             | T 34 ABW               | 35,0 | 1,38 | 16,5 | 0,65 | 19,1 | 0,75 | 24 | 2400             | 160 |
| 1"             | T 100 ABW              | 40,0 | 1,57 | 22,1 | 0,87 | 24,4 | 0,96 | 35 | 2400             | 160 |
| METRIC         |                        |      |      |      |      |      |      |    |                  |     |
| 6 mm           | T 6M ABW               | 27,0 | 1,06 | 4,0  | 0,16 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 6 mm           | TCA 6M ABW             | 31,2 | 1,06 | 4,0  | 0,16 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 8 mm           | T 8M ABW               | 27,0 | 1,06 | 6,0  | 0,24 | 19,1 | 0,75 | 14 | 4800             | 330 |
| 10 mm          | T 10M ABW              | 27,0 | 1,06 | 8,0  | 0,31 | 19,1 | 0,75 | 14 | 3500             | 240 |
| 12 mm          | T 12M ABW              | 30,0 | 1,18 | 10,0 | 0,39 | 19,1 | 0,75 | 17 | 3100             | 210 |
| 12 mm          | TCA 12M ABW            | 34,0 | 1,34 | 10,0 | 0,39 | 19,1 | 0,75 | 17 | 3100             | 210 |
| JIS            |                        |      |      |      |      |      |      |    |                  |     |
| ¼"             | T 14J ABW <sup>1</sup> | 27,0 | 1,06 | 4,4  | 0,17 | 19,1 | 0,75 | 10 | 5600             | 380 |
| ⅜"             | T 38J ABW <sup>1</sup> | 27,0 | 1,06 | 7,5  | 0,29 | 19,1 | 0,75 | 14 | 3500             | 240 |



## TEES | AUTOMATIC BUTTWELD REDUCING TEE WITHOUT SHOULDER

### TUBE SIZE

| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number                 | L    |      | d1   |      | d    |      | C    |      | F  | Working<br>Pressure |     |
|--------------------|-------------------|-----------------------------|------|------|------|------|------|------|------|------|----|---------------------|-----|
|                    |                   |                             | mm   | inch | mm   | inch | mm   | inch | mm   | inch |    | psig                | bar |
| FRACTIONAL         |                   |                             |      |      |      |      |      |      |      |      |    |                     |     |
| 3/8"               | 1/4"              | RT 38 14 ABW                | 27,0 | 1,06 | 7,7  | 0,30 | 4,6  | 0,18 | 19,1 | 0,75 | 14 | 3300                | 220 |
| 1/2"               | 1/4"              | RT 12 14 ABW                | 30,0 | 1,18 | 10,2 | 0,40 | 4,6  | 0,18 | 19,1 | 0,75 | 17 | 3500                | 240 |
| 1/2"               | 3/8"              | RT 12 38 ABW                | 30,0 | 1,18 | 10,2 | 0,40 | 7,7  | 0,30 | 19,1 | 0,75 | 17 | 3300                | 220 |
| METRIC             |                   |                             |      |      |      |      |      |      |      |      |    |                     |     |
| 8 mm               | 6 mm              | RT 8M 6M ABW                | 27,0 | 1,06 | 6,0  | 0,24 | 4,0  | 0,16 | 19,1 | 0,75 | 14 | 4800                | 330 |
| 12 mm              | 6 mm              | RT 12M 6M ABW               | 30,0 | 1,18 | 10,0 | 0,39 | 4,0  | 0,16 | 19,1 | 0,75 | 17 | 3100                | 210 |
| 12 mm              | 8 mm              | RT 12M 8M ABW               | 30,0 | 1,18 | 10,0 | 0,39 | 6,0  | 0,24 | 19,1 | 0,75 | 17 | 3100                | 210 |
| 18 mm              | 6 mm              | RT 18M 6M ABW               | 35,0 | 1,38 | 15,0 | 0,59 | 4,0  | 0,16 | 19,1 | 0,75 | 24 | 3000                | 200 |
| 18 mm              | 12 mm             | RT 18M 12M ABW              | 35,0 | 1,38 | 15,0 | 0,59 | 10,0 | 0,39 | 19,1 | 0,75 | 24 | 3000                | 200 |
| JIS                |                   |                             |      |      |      |      |      |      |      |      |    |                     |     |
| 3/8"               | 1/4"              | RE 38J 14J ABW <sup>1</sup> | 27,0 | 1,06 | 7,5  | 0,29 | 4,4  | 0,17 | 19,1 | 0,75 | 14 | 3500                | 240 |
| 1/2"               | 1/4"              | RE 12 14J ABW <sup>1</sup>  | 30,0 | 1,18 | 10,2 | 0,40 | 4,4  | 0,17 | 19,1 | 0,75 | 17 | 3500                | 240 |
| 1/2"               | 3/8"              | RE 12 38J ABW <sup>1</sup>  | 30,0 | 1,18 | 10,2 | 0,40 | 7,5  | 0,29 | 19,1 | 0,75 | 17 | 3500                | 240 |

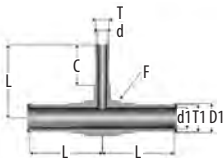


1) On request, it can be delivered with C=10mm (Example: TS 14J ABW)

# TEES | AUTOMATIC BUTTWELD REDUCING TEE

## TUBE SIZE

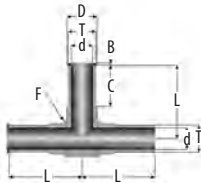
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number   | L    |      | d1   | D1   | B1  | d   | C    |      | F  | Working<br>Pressure |     |
|--------------------|-------------------|---------------|------|------|------|------|-----|-----|------|------|----|---------------------|-----|
|                    |                   |               | mm   | inch | mm   | mm   | mm  | mm  | mm   | inch | mm | psig                | bar |
| FRACTIONAL         |                   |               |      |      |      |      |     |     |      |      |    |                     |     |
| ⅜"                 | ¼"                | RTCA 38 14 W  | 31,2 | 1,23 | 31,2 | 10,5 | 0,8 | 4,6 | 19,1 | 0,75 | 14 | 3300                | 220 |
| ½"                 | ¼"                | RTCA 12 14 W  | 34,5 | 1,36 | 35,0 | 14,0 | 1,0 | 4,6 | 19,1 | 0,75 | 17 | 3500                | 240 |
| ½"                 | ⅜"                | RTCA 12 38 W  | 34,3 | 1,35 | 35,0 | 14,0 | 1,0 | 7,7 | 19,1 | 0,75 | 17 | 3500                | 240 |
| METRIC             |                   |               |      |      |      |      |     |     |      |      |    |                     |     |
| 12 mm              | 6 mm              | RTCA 12M 6M W | 34,5 | 1,36 | 35,0 | 13,2 | 1,0 | 4,0 | 19,1 | 0,75 | 17 | 3100                | 210 |



# TEES | AUTOMATIC BUTTWELD TEE

## TUBE SIZE

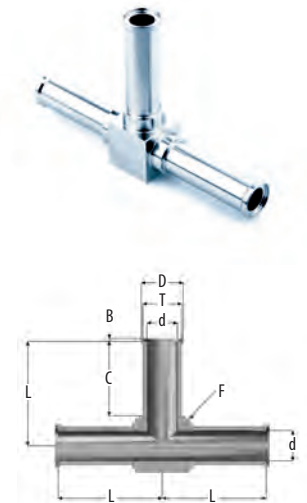
| T<br>Tube O.D. | Part number | L    |      | d    |      | D    | B   | C    |      | F  | Working<br>Pressure |     |
|----------------|-------------|------|------|------|------|------|-----|------|------|----|---------------------|-----|
|                |             | mm   | inch | mm   | mm   | mm   | mm  | mm   | inch | mm | psig                | bar |
| FRACTIONAL     |             |      |      |      |      |      |     |      |      |    |                     |     |
| ¼"             | MTCA 14 AB  | 31,2 | 1,23 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 10 | 5100                | 350 |
| ⅜"             | MTCA 38 AB  | 30,5 | 1,20 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 14 | 3300                | 220 |
| ½"             | MTCA12 AB   | 34,0 | 1,34 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 17 | 3500                | 240 |



## TEES | AUTOMATIC BUTTWELD TEE WITH SHOULDERS

### TUBE SIZE

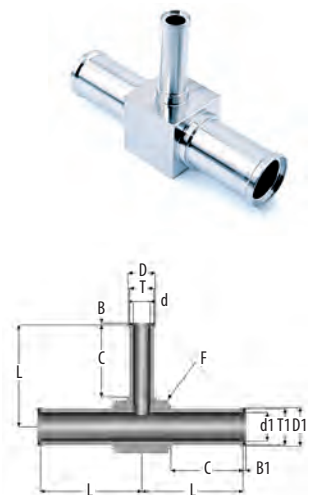
| T<br>Tube O.D. | Part number | L    |      | d    |      | D    | B   | C    |      | F  | Working Pressure |     |
|----------------|-------------|------|------|------|------|------|-----|------|------|----|------------------|-----|
|                |             | mm   | inch | mm   | inch |      |     | mm   | inch | mm | psig             | bar |
| FRACTIONAL     |             |      |      |      |      |      |     |      |      |    |                  |     |
| ¼"             | T 14 AB     | 27,0 | 1,06 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 10 | 5100             | 350 |
| ¼"             | TCA 14 AB   | 31,7 | 1,25 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 10 | 5100             | 350 |
| ⅜"             | T 38 AB     | 27,0 | 1,06 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 14 | 3300             | 220 |
| ⅜"             | TCA 38 AB   | 31,2 | 1,23 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 14 | 3300             | 220 |
| ½"             | T 12 AB     | 30,0 | 1,18 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 17 | 3500             | 240 |
| ½"             | TCA 12 AB   | 35,0 | 1,38 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 17 | 3500             | 240 |
| ¾"             | T 34 AB     | 35,0 | 1,38 | 16,5 | 0,65 | 20,3 | 1,0 | 19,1 | 0,75 | 24 | 2400             | 160 |
| 1"             | T 100 AB    | 40,0 | 1,57 | 22,1 | 0,87 | 26,9 | 1,0 | 24,4 | 0,96 | 35 | 2400             | 160 |
| METRIC         |             |      |      |      |      |      |     |      |      |    |                  |     |
| 6 mm           | T 6M AB     | 27,0 | 1,06 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 6 mm           | TCA 6M AB   | 31,8 | 1,25 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 8 mm           | T 8M AB     | 27,0 | 1,06 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 14 | 4800             | 330 |
| 8 mm           | TCA 8M AB   | 32,0 | 1,26 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 14 | 4800             | 330 |
| 10 mm          | T 10M AB    | 27,0 | 1,06 | 8,0  | 0,31 | 10,9 | 0,8 | 19,1 | 0,75 | 14 | 3500             | 240 |
| 10 mm          | TCA 10M AB  | 34,8 | 1,37 | 8,0  | 0,31 | 10,9 | 0,8 | 19,1 | 0,75 | 14 | 3500             | 240 |
| 12 mm          | T 12M AB    | 30,0 | 1,18 | 10,0 | 0,39 | 13,2 | 1,0 | 19,1 | 0,75 | 17 | 3100             | 210 |
| 12 mm          | TCA 12M AB  | 35,0 | 1,38 | 10,0 | 0,39 | 13,2 | 1,0 | 19,1 | 0,75 | 17 | 3100             | 210 |
| 18 mm          | TCA 18M AB  | 38,6 | 1,52 | 15,0 | 0,59 | 19,2 | 1,0 | 19,1 | 0,75 | 24 | 3000             | 200 |
| JIS            |             |      |      |      |      |      |     |      |      |    |                  |     |
| ¼"             | T 14J AB    | 27,0 | 1,06 | 4,4  | 0,17 | 7,2  | 0,5 | 19,1 | 0,75 | 10 | 5600             | 380 |
| ⅜"             | T 38J AB    | 27,0 | 1,06 | 7,5  | 0,30 | 10,3 | 0,8 | 19,1 | 0,75 | 14 | 3500             | 240 |



## TEES | AUTOMATIC BUTTWELD REDUCING TEE WITH SHOULDERS

### TUBE SIZE

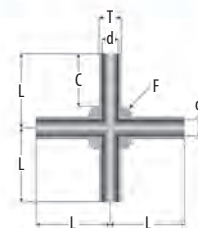
| T1<br>Tube<br>O.D. | T<br>Tube<br>O.D. | Part number    | L    |      | d1   | D1   | B1  | d    | D    | B   | C    |      | F  | Working<br>Pressure |     |
|--------------------|-------------------|----------------|------|------|------|------|-----|------|------|-----|------|------|----|---------------------|-----|
|                    |                   |                | mm   | inch | mm   | mm   | mm  | mm   | mm   | mm  | mm   | inch | mm | psig                | bar |
| FRACTIONAL         |                   |                |      |      |      |      |     |      |      |     |      |      |    |                     |     |
| ⅜"                 | ¼"                | RT 38 14 AB    | 27,0 | 1,06 | 7,7  | 7,4  | 0,8 | 4,6  | 7,4  | 0,5 | 19,1 | 0,75 | 14 | 3300                | 220 |
| ⅜"                 | ¼"                | RTCA 38 14 AB  | 31,8 | 1,25 | 7,7  | 10,5 | 0,8 | 4,6  | 7,4  | 0,5 | 19,1 | 0,75 | 14 | 3300                | 220 |
| ½"                 | ¼"                | RT 12 14 AB    | 30,0 | 1,18 | 10,2 | 14,0 | 1,0 | 4,6  | 7,4  | 0,5 | 19,1 | 0,75 | 17 | 3500                | 240 |
| ½"                 | ¼"                | RTCA 12 14 AB  | 35,0 | 1,38 | 10,5 | 14,0 | 1,0 | 4,6  | 7,4  | 0,5 | 19,1 | 0,75 | 17 | 3500                | 240 |
| ½"                 | ⅜"                | RT 12 38 AB    | 30,0 | 1,18 | 10,2 | 14,0 | 1,0 | 7,7  | 10,5 | 0,8 | 19,1 | 0,75 | 17 | 3300                | 220 |
| ½"                 | ⅜"                | RTCA 12 38 AB  | 35,0 | 1,38 | 10,5 | 20,3 | 1,0 | 7,7  | 10,5 | 0,8 | 19,1 | 0,75 | 17 | 3300                | 220 |
| ¾"                 | ⅜"                | RT 34 38 AB    | 35,0 | 1,38 | 16,5 | 20,3 | 1,0 | 7,7  | 10,5 | 0,8 | 19,1 | 0,75 | 24 | 2400                | 160 |
| ¾"                 | ⅜"                | RTCA 34 38 AB  | 35,0 | 1,38 | 16,5 | 20,3 | 1,0 | 10,2 | 14,0 | 1,0 | 19,1 | 0,75 | 24 | 2400                | 160 |
| METRIC             |                   |                |      |      |      |      |     |      |      |     |      |      |    |                     |     |
| 12 mm              | 6mm               | RT 12M 6M AB   | 30,0 | 1,18 | 10,0 | 13,2 | 1,0 | 4,0  | 6,9  | 0,5 | 19,1 | 0,75 | 17 | 3100                | 210 |
| 12 mm              | 6mm               | RTCA 12M 6M AB | 34,0 | 1,34 | 10,0 | 13,2 | 1,0 | 4,0  | 6,9  | 0,5 | 19,1 | 0,75 | 17 | 3100                | 210 |
| 12 mm              | 8mm               | RT 12M 8M AB   | 30,0 | 1,18 | 10,0 | 13,2 | 1,0 | 6,0  | 6,9  | 0,5 | 19,1 | 0,75 | 17 | 3100                | 210 |
| JIS                |                   |                |      |      |      |      |     |      |      |     |      |      |    |                     |     |
| ⅜"                 | ¼"                | RT 38J 14J AB  | 27,0 | 1,06 | 7,7  | 10,3 | 0,8 | 4,4  | 7,2  | 0,5 | 19,1 | 0,75 | 14 | 3500                | 240 |
| ½"                 | ¼"                | RT 12 14J AB   | 30,0 | 1,18 | 10,2 | 14   | 1,0 | 4,4  | 7,2  | 0,5 | 19,1 | 0,75 | 17 | 3500                | 240 |
| ½"                 | ⅜"                | RT 12 38J AB   | 30,0 | 1,18 | 10,2 | 14   | 1,0 | 7,5  | 10,3 | 0,8 | 19,1 | 0,75 | 17 | 3500                | 240 |



## TEES | AUTOMATIC BUTTWELD CROSS WITHOUT SHOULDER

### TUBE SIZE

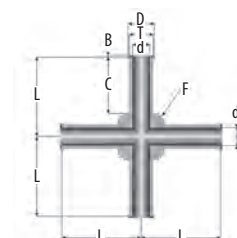
| T<br>Tube O.D. | Part number | L    |      | d    |      | C    |      | F  | Working Pressure |     |
|----------------|-------------|------|------|------|------|------|------|----|------------------|-----|
|                |             | mm   | inch | mm   | inch | mm   | inch | mm | psig             | bar |
| FRACTIONAL     |             |      |      |      |      |      |      |    |                  |     |
| ¼"             | C 14 ABW    | 27,0 | 1,06 | 4,6  | 0,18 | 19,1 | 0,75 | 10 | 5100             | 350 |
| ⅜"             | C 38 ABW    | 27,0 | 1,06 | 7,7  | 0,30 | 19,1 | 0,75 | 14 | 3300             | 220 |
| ½"             | C 12 ABW    | 30,0 | 1,18 | 10,2 | 0,40 | 19,1 | 0,75 | 17 | 3500             | 240 |
| METRIC         |             |      |      |      |      |      |      |    |                  |     |
| 6 mm           | C 6M ABW    | 27,0 | 1,06 | 4,0  | 0,16 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 8 mm           | C 8M ABW    | 27,0 | 1,06 | 6,0  | 0,24 | 19,1 | 0,75 | 14 | 4800             | 330 |
| 12 mm          | C 12M ABW   | 30.0 | 1.18 | 10.0 | 0.39 | 19.1 | 0.75 | 17 | 3100             | 210 |



## TEES | AUTOMATIC BUTTWELD CROSS WITH SHOULDERS

### TUBE SIZE

| T<br>Tube O.D. | Part number | L    |      | d    |      | D    | B   | C    |      | F  | Working Pressure |     |
|----------------|-------------|------|------|------|------|------|-----|------|------|----|------------------|-----|
|                |             | mm   | inch | mm   | inch |      |     | mm   | inch | mm | psig             | bar |
| FRACTIONAL     |             |      |      |      |      |      |     |      |      |    |                  |     |
| 1/4"           | C 14 AB     | 27,0 | 1,06 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 10 | 5100             | 350 |
| 1/4"           | CCA 14 AB   | 31,8 | 1,25 | 4,6  | 0,18 | 7,4  | 0,5 | 19,1 | 0,75 | 10 | 5100             | 350 |
| 3/8"           | C 38 AB     | 27,0 | 1,06 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 14 | 3300             | 220 |
| 3/8"           | CCA 38 AB   | 31,2 | 1,23 | 7,7  | 0,30 | 10,5 | 0,8 | 19,1 | 0,75 | 14 | 3300             | 220 |
| 1/2"           | C 12 AB     | 30,0 | 1,18 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 17 | 3500             | 240 |
| 1/2"           | CCA 12 AB   | 34,3 | 1,35 | 10,2 | 0,40 | 14,0 | 1,0 | 19,1 | 0,75 | 17 | 3500             | 240 |
| METRIC         |             |      |      |      |      |      |     |      |      |    |                  |     |
| 6 mm           | C 6M AB     | 27,0 | 1,06 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 6 mm           | CCA 6M AB   | 31,2 | 1,23 | 4,0  | 0,16 | 6,9  | 0,5 | 19,1 | 0,75 | 10 | 6800             | 460 |
| 8 mm           | C 8M AB     | 27,0 | 1,06 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 14 | 4800             | 330 |
| 8 mm           | CCA 8M AB   | 31,2 | 1,23 | 6,0  | 0,24 | 8,9  | 0,8 | 19,1 | 0,75 | 14 | 4800             | 330 |
| 10 mm          | CCA 10M AB  | 32,5 | 1,28 | 8,0  | 0,31 | 10,9 | 0,8 | 19,1 | 0,75 | 14 | 3500             | 240 |
| 12 mm          | CCA 12M AB  | 32,5 | 1,28 | 10,0 | 0,39 | 13,2 | 1,0 | 19,1 | 0,75 | 17 | 3100             | 210 |



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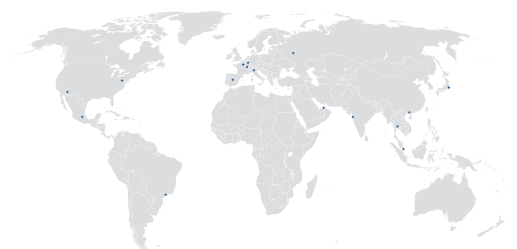
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