

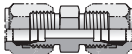
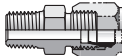
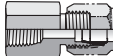
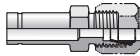
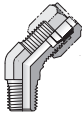
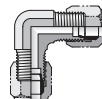
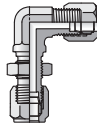
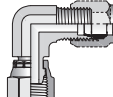
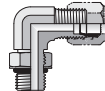
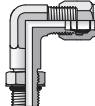
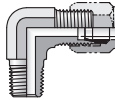
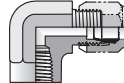
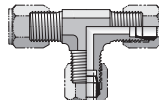
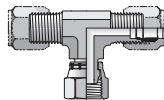
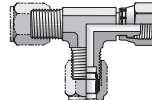
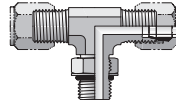
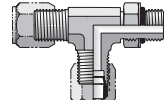
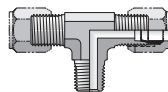
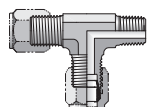
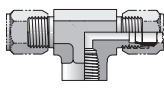
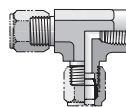
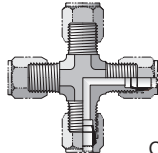
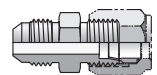
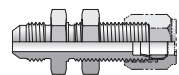
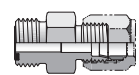
|                                                                                            |                                                                                            |                                                                                            |                                                                                            |                                                                                              |                                                                                              |
|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Nuts,<br>Ferrules,<br>Locknuts                                                             | <b>BU</b><br>Nut                                                                           | <b>TU</b><br>Ferrules                                                                      | <b>WLN</b><br>Bulkhead Locknut                                                             | Straights                                                                                    | <b>HBU</b><br>Union                                                                          |
|                                                                                            | <br>C7    | <br>C7    | <br>C7    |                                                                                              | <br>C7    |
| <b>WBU</b><br>Bulkhead Union                                                               | <b>F5BU</b><br>SAE-ORB / Flareless                                                         | <b>FBU</b><br>NPTF / Flareless                                                             | <b>GBU</b><br>NPTF / Flareless                                                             | <b>TRBU</b><br>Tube End Reducer                                                              |                                                                                              |
| <br>C8    | <br>C8    | <br>C8    | <br>C9    | <br>C9    |                                                                                              |
| 45° Elbows                                                                                 | <b>V5BU</b><br>SAE-ORB / Flareless                                                         | <b>VBU</b><br>NPTF / Flareless                                                             | 90° Elbows                                                                                 | <b>EBU</b><br>Union Elbow                                                                    | <b>WEBU</b><br>Bulkhead Union Elbow                                                          |
|                                                                                            | <br>C9    | <br>C9    |                                                                                            | <br>C10   | <br>C10   |
| <b>C6BU</b><br>Flareless Swivel/Flareless                                                  | <b>C5BU</b><br>SAE-ORB / Flareless                                                         | <b>CC5BU</b><br>SAE-ORB / Flareless                                                        | <b>CBU</b><br>NPTF / Flareless                                                             | <b>DBU</b><br>NPTF / Flareless                                                               |                                                                                              |
| <br>C10  | <br>C10   | <br>C11   | <br>C11   | <br>C11   |                                                                                              |
| Tees                                                                                       | <b>JBW</b><br>Union Tee                                                                    | <b>S6BU</b><br>Swivel Branch Tee                                                           | <b>R6BU</b><br>Swivel Run Tee                                                              | <b>S5BU</b><br>SAE-ORB Branch Tee                                                            | <b>R5BU</b><br>SAE-ORB Run Tee                                                               |
|                                                                                            | <br>C12 | <br>C12 | <br>C12 | <br>C12 | <br>C13 |
| <b>SBU</b><br>NPTF Branch Tee                                                              | <b>RBU</b><br>NPTF Run Tee                                                                 | <b>OBW</b><br>NPTF Branch Tee                                                              | <b>MBU</b><br>NPTF Run Tee                                                                 | Cross                                                                                        | <b>KBU</b><br>Union Cross                                                                    |
| <br>C13 | <br>C13 | <br>C13 | <br>C14 |                                                                                              | <br>C14 |
| Plugs and<br>Caps                                                                          | <b>PNU</b><br>Plug                                                                         | <b>FNU</b><br>Cap                                                                          |                                                                                            |                                                                                              |                                                                                              |
|                                                                                            | <br>C14 | <br>C14 |                                                                                            |                                                                                              |                                                                                              |

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Dimensions and pressures for reference only, subject to change.

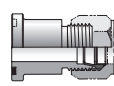
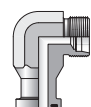
## Conversion Adapters (Shown in Section J)

|                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  | <b>XHBU</b><br>37° Flare / Flareless                                              | <b>XHBU2</b><br>37° / Flareless Bulkhead                                          | <b>BUHLO</b><br>ORFS / 24° Flareless                                              |
|                                                                                   |  |  |  |
|                                                                                   | J4                                                                                | J4                                                                                | J4                                                                                |
|                                                                                   |                                                                                   |                                                                                   |                                                                                   |

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## Flange Adapters (Shown in Section K)

|                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  | <b>BUHQ1</b><br>Code 61 / Flareless                                               | <b>BUVQ1</b><br>Code 61 / Flareless                                               | <b>BUEQ1</b><br>Code 61 / Flareless                                               |
|                                                                                   |  |  |  |
|                                                                                   | K12                                                                               | K32                                                                               | K33                                                                               |
|                                                                                   |                                                                                   |                                                                                   |                                                                                   |

## O-Rings and Seals (Shown in Section M)

|                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  | <b>SAE O-Ring</b>                                                                   |
|                                                                                     |  |
|                                                                                     | M4                                                                                  |
|                                                                                     |                                                                                     |

Dimensions and pressures for reference only, subject to change.

## Introduction

The Ferulok fitting design and performance capabilities far exceed the strict requirements of SAE J514. The Ferulok fitting is a flareless fitting that consists of a body, a one-piece ferrule, and a nut. On assembly, the ferrule “bites” into the outer surface of the tube with sufficient strength to hold the tube against pressure and seal the fluid, without considerable distortion of the inside tube diameter. Ferulok fittings have a visible bite, allowing the fitting assembler to visually inspect the bite quality, thus significantly minimizing the risk of improper assembly and related service problems. Ferulok fittings are especially suitable for use with tube wall thickness ranging from medium to extra heavy.

## How Ferulok Fittings Work

The ferrule in the Ferulok fitting forms pressure tight seals with the tube and the fitting body. These seals are the result of several key characteristics graphically shown in Fig. C1. Below are detailed explanations of each of these key features.

- A. When properly assembled, the wedging action of the Ferulok design will cause the end of the tube to press firmly against the seat in the body. This action will cause the tube to develop a small indentation circumferentially on the bottom of the tube. This indentation serves as a good post assembly inspection criterion.
- B. As the ferrule moves forward, it contacts the tapered seat of the body, which causes the ferrule to move inward into the tube. The leading edge of the hardened ferrule makes a clean 360° cut into the outside diameter of the tube. This cut is often termed a “bite” and thus “bite type fitting”. As the ferrule makes its bite, a small ridge of material is plowed up in front of the ferrule. This intimate contact of the tube ridge with the ferrule’s front face and bite edge gives the fitting its ability to retain high pressure without leaking or blowing off. A second seal point is also created between the now bowed ferrule and the fitting body seat.
- C. As the ferrule bites into the tube, the mid section will bow and the inside diameter of the back area firmly grips the tube. This action keeps the stresses, caused by flexural and vibration loading, from being concentrated in the bite area. The “compression grip” at the back end is a key factor for long life in rigorous applications.

All Ferulok parts come with the ferrule, and nut. However, Ferulok fittings can be purchased without nuts and sleeves for use with hose crimp fittings (Fig. C2). This can be done by dropping the ‘B’ from the part number. For example, (4 CBU-S, 4 CU-S). When used with a hose crimp fitting, sealing occurs between the 24° cone of the fitting body and the hose swivel as shown.

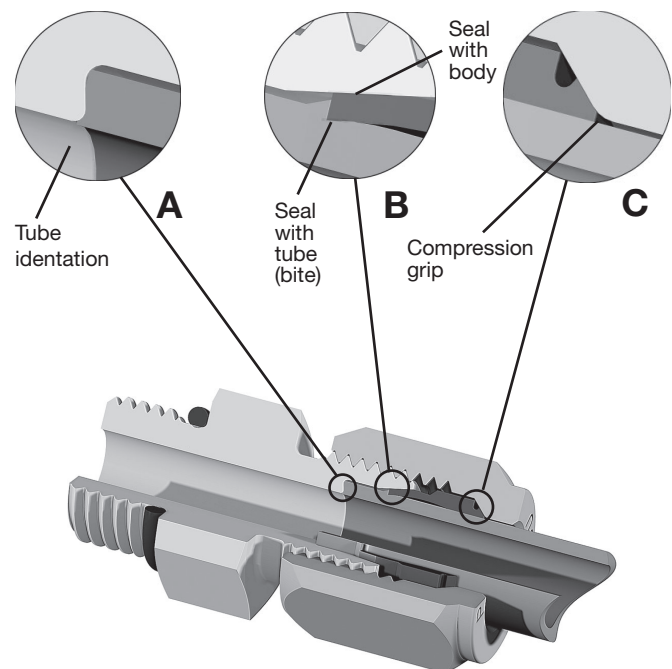


Fig. C1 – Assembled Ferulok Fitting with Tube

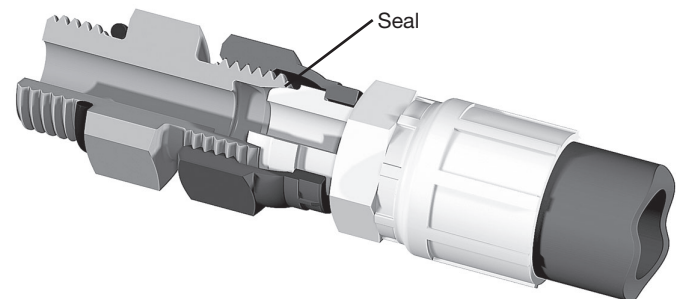


Fig. C2 – Ferulok Fitting with Hose Assembly

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## The Parker Advantage

**Robust Port Stud:** The adjustable port stud is manufactured with a longer locknut designed to cover the uppermost threads completely. Since the backup washer is never exposed to the upper threads, it cannot be damaged during assembly. During assembly, exposed upper threads, as common with fittings from other fitting manufacturers, can lead to a deformed backup washer that can pinch the o-ring and create an o-ring extrusion gap that has the potential to leak. The longer locknut also provides a greater grip area for the wrench.

**Visible bite:** The style A (SAE 080115A) ferrule design allows for an easy inspection of the bite in the tubing. A verification can quickly be achieved which reduces time and assures proper assembly. This assurance also eliminates the risk of leaks and catastrophic failures.

**Rear compression grip:** The ferrule is also designed with a rear bevel to firmly hold the nut and tubing. This enhancement dampens the effects of vibration in the connection; thus extending the life of the joint.

**Metal-to-metal sealing:** The metal to metal sealing function broadens the range of both temperatures and media types. The temperature and media range of Ferulok is not limited by an elastomeric seal, but by the range of steel and stainless steel (see page S17 of the General Technical section for material temperature and media compatibility).

**Superior Plating:** Parker's Ferulok steel fittings come standard with ToughShield™ Plus zinc-nickel plating, giving them unmatched protection against red rust. In ASTM B117 / ISO 9227 neutral salt spray testing, fittings and adapters with ToughShield Plus plating remained rust free for up to 3,000 hours. This performance far exceeds the SAE industry requirement, even on post plating deformed parts like crimp nuts and back-up washers where SAE allows for large exceptions. Learn more and see the difference at [toughshield.com](http://toughshield.com).

**No special tooling required:** Neither flaring nor flanging tools are required to make a Ferulok connection. Smaller sizes of Ferulok can be assembled by a wrench thus reducing tooling costs and assembly time. However, portable presetting equipment is available for larger sizes and/or high production (see Section Q of the catalog for equipment available).

## Reference locations

**Standard Material Specifications:** Refer to Table S34 in General Technical Section page S46.

**Assembly and Installation:** Please refer to Ferulok Assembly located within the Assembly/Installation section of this catalog.

**Recommended Tube Wall Thickness:** Please refer to Table S14 located in the General Technical section.

**Dynamic Pressure Ratings:** Please refer to the last column of the part number tables located on the following pages of this section for the appropriate dynamic pressure ratings.

**Seal Material Selection:** Please refer to Table S10 in the General Technical section of this catalog for elastomeric seal information.

## Tube Recommendation

Maximum tube wall thickness is based on the pressure holding capability of Ferulok fittings. Tubes above the recommended range can be used. However, the pressure holding capability of the assembly will be limited to the fitting capacity. The proper Ferulok assembly procedures as outlined on pages R30 - R33 of this catalog are critical to the performance of the fitting. Steel Ferulok works best with seamless or welded and drawn fully annealed tube, SAE J356, SAE J524, SAE J525 (max. hardness, RB72) or equivalent specification steel tube. For stainless steel Ferulok fittings, types 304 and 316 of ASTM A269, ASTM A213 (max. hardness, RB90) or equivalent stainless steel tube is recommended.

Ferulok fittings are also suitable for use with soft metal tube and various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, it is strongly recommended that a tube insert, such as T23UI, be used to reduce tube collapse and prevent tube pull out due to tensile loading.

See Table U3 in Appendix on Page U6. Consult the Parker Hannifin Tube Fittings Division for other combinations of tube and tube fitting materials not shown.

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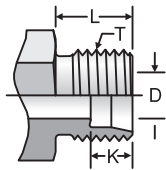
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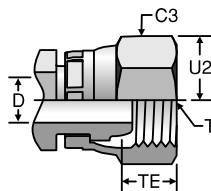


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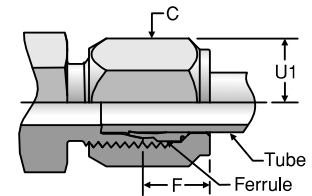
## Ferulok Flareless Tube Ends



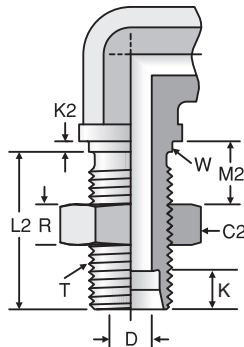
**Ferulok Male  
Stud Tube End**



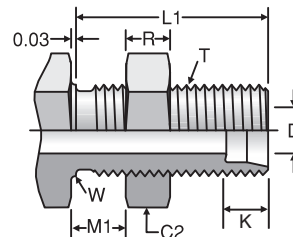
**Ferulok Female Swivel End**



**Ferulok Tube End  
Assembly**



**Ferulok Shape  
Bulkhead**



**Ferulok Straight  
Bulkhead**

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| SAE<br>Dash<br>Size | Tube<br>O.D.<br>(in.) | T<br>UN/UNF<br>(in.) | C<br>(in.) | C2<br>(in.) | C3<br>(in.) | D<br>(in.) | Allowance             |           | Male<br>Turn<br>Back | Bulkhead                  |                       |                    |                      |                         | Max Bulkhead<br>Thickness |            | Thread<br>Engage-<br>ment | Across Corners     |                      |
|---------------------|-----------------------|----------------------|------------|-------------|-------------|------------|-----------------------|-----------|----------------------|---------------------------|-----------------------|--------------------|----------------------|-------------------------|---------------------------|------------|---------------------------|--------------------|----------------------|
|                     |                       |                      |            |             |             |            | Tube Nut<br>Assembled | Tube      |                      | Pilot<br>Length<br>Shapes | Length -<br>Straights | Length -<br>Shapes | Locknut<br>Thickness | Pilot<br>Dia            | Straights                 | Shapes     |                           | Tube<br>Nut<br>Hex | Swivel<br>Nut<br>Hex |
|                     |                       |                      |            |             |             |            | F<br>(in)             | K<br>(in) | L<br>(in)            | K2<br>(in)                | L1<br>(in)            | L2<br>(in)         | R<br>(in)            | W <sup>1)</sup><br>(in) | M1<br>(in)                | M2<br>(in) | TE<br>(in)                | U1<br>(in)         | U2<br>(in)           |
| 2                   | 1/8                   | 5/16-24              | 3/8        | 9/16        | 7/16        | 0.093      | 0.31                  | 0.19      | 0.375                | 0.09                      | 1.02                  | 0.83               | 0.22                 | 0.31                    | 0.28                      | 0.38       | 0.22                      | 0.22               | 0.25                 |
| 3                   | 3/16                  | 3/8-24               | 7/16       | 5/8         | 1/2         | 0.125      | 0.34                  | 0.24      | 0.422                | 0.09                      | 1.06                  | 0.88               | 0.22                 | 0.37                    | 0.28                      | 0.38       | 0.25                      | 0.25               | 0.29                 |
| 4                   | 1/4                   | 7/16-20              | 9/16       | 11/16       | 9/16        | 0.203      | 0.42                  | 0.24      | 0.453                | 0.09                      | 1.12                  | 0.94               | 0.28                 | 0.44                    | 0.38                      | 0.28       | 0.29                      | 0.33               | 0.33                 |
| 5                   | 5/16                  | 1/2-20               | 5/8        | 3/4         | 5/8         | 0.234      | 0.42                  | 0.26      | 0.453                | 0.09                      | 1.12                  | 0.94               | 0.28                 | 0.50                    | 0.28                      | 0.38       | 0.31                      | 0.36               | 0.36                 |
| 6                   | 3/8                   | 9/16-18              | 11/16      | 13/16       | 11/16       | 0.281      | 0.47                  | 0.26      | 0.469                | 0.09                      | 1.17                  | 0.98               | 0.27                 | 0.56                    | 0.40                      | 0.31       | 0.34                      | 0.40               | 0.40                 |
| 8                   | 1/2                   | 3/4-16               | 7/8        | 1           | 7/8         | 0.422      | 0.50                  | 0.31      | 0.562                | 0.13                      | 1.31                  | 1.12               | 0.31                 | 0.75                    | 0.40                      | 0.31       | 0.32                      | 0.51               | 0.51                 |
| 10                  | 5/8                   | 7/8-14               | 1          | 1 1/8       | 1           | 0.500      | 0.53                  | 0.36      | 0.625                | 0.13                      | 1.45                  | 1.27               | 0.36                 | 0.88                    | 0.44                      | 0.38       | 0.37                      | 0.58               | 0.59                 |
| 12                  | 3/4                   | 1 1/16-12            | 1 1/4      | 1 3/8       | 1 1/4       | 0.656      | 0.56                  | 0.36      | 0.688                | 0.13                      | 1.56                  | 1.38               | 0.41                 | 1.06                    | 0.44                      | 0.38       | 0.42                      | 0.72               | 0.73                 |
| 14                  | 7/8                   | 1 3/16-12            | 1 3/8      | 1 1/2       | 1 3/8       | 0.719      | 0.53                  | 0.36      | 0.688                | 0.13                      | 1.56                  | 1.38               | 0.41                 | 1.19                    | 0.44                      | 0.38       | 0.34                      | 0.79               | 0.79                 |
| 16                  | 1                     | 1 5/16-12            | 1 1/2      | 1 5/8       | 1 1/2       | 0.875      | 0.66                  | 0.42      | 0.688                | 0.13                      | 1.56                  | 1.38               | 0.41                 | 1.31                    | 0.44                      | 0.38       | 0.32                      | 0.87               | 0.88                 |
| 20                  | 1 1/4                 | 1 5/8-12             | 2          | 1 7/8       | 2           | 1.094      | 0.72                  | 0.42      | 0.688                | 0.13                      | 1.56                  | 1.38               | 0.41                 | 1.62                    | 0.44                      | 0.38       | 0.33                      | 1.15               | 1.17                 |
| 24                  | 1 1/2                 | 1 7/8-12             | 2 1/4      | 2 1/8       | 2 1/4       | 1.344      | 0.72                  | 0.49      | 0.688                | 0.13                      | 1.56                  | 1.38               | 0.41                 | 1.87                    | 0.44                      | 0.38       | 0.34                      | 1.30               | 1.29                 |
| 32                  | 2                     | 2 1/2-12             | 2 7/8      | 2 3/4       | 2 7/8       | 1.813      | 0.84                  | 0.49      | 0.688                | 0.13                      | 1.77                  | 1.58               | 0.41                 | 2.50                    | 0.63                      | 0.56       | 0.34                      | 1.66               | 1.64                 |

1) Recommended clearance hole +0.015 over W dia.

Note: For port and stud end dimensions reference Section E: Pipe Fittings and Port Adapters.

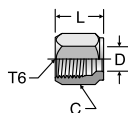
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## BU

Nut  
Flareless

SAE 080110



| TUBE<br>FITTING<br>PART # | TUBE<br>O.D.<br>(in.) | T6<br>UN/UNF-2B | C<br>HEX<br>(in.) | D<br>DRILL<br>(in.) | L<br>(in.) | Material |     |
|---------------------------|-----------------------|-----------------|-------------------|---------------------|------------|----------|-----|
|                           |                       |                 |                   |                     |            | -S       | -SS |
| 2 BU                      | 1/8                   | 5/16 - 24       | 3/8               | 0.130               | 0.53       | •        | •   |
| 3 BU                      | 3/16                  | 3/8 - 24        | 7/16              | 0.193               | 0.61       | •        | •   |
| 4 BU                      | 1/4                   | 7/16 - 20       | 9/16              | 0.255               | 0.70       | •        | •   |
| 5 BU                      | 5/16                  | 1/2 - 20        | 5/8               | 0.318               | 0.72       | •        | •   |
| 6 BU                      | 3/8                   | 9/16 - 18       | 11/16             | 0.380               | 0.75       | •        | •   |
| 8 BU                      | 1/2                   | 3/4 - 16        | 7/8               | 0.505               | 0.84       | •        | •   |
| 10 BU                     | 5/8                   | 7/8 - 14        | 1                 | 0.631               | 0.92       | •        | •   |
| 12 BU                     | 3/4                   | 1 1/16 - 12     | 1 1/4             | 0.756               | 0.97       | •        | •   |
| 14 BU                     | 7/8                   | 1 3/16 - 12     | 1 3/8             | 0.881               | 1.00       | •        | •   |
| 16 BU                     | 1                     | 1 5/16 - 12     | 1 1/2             | 1.006               | 1.05       | •        | •   |
| 20 BU                     | 1 1/4                 | 1 5/8 - 12      | 2                 | 1.260               | 1.05       | •        | •   |
| 24 BU                     | 1 1/2                 | 1 7/8 - 12      | 2 1/4             | 1.510               | 1.03       | •        | •   |
| 32 BU                     | 2                     | 2 1/2 - 12      | 2 7/8             | 2.014               | 1.12       | •        | •   |

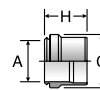
Note: All stainless steel nuts are coated to prevent galling at assembly.

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## TU

Ferrule  
Flareless

SAE 080115A



| TUBE<br>FITTING<br>PART # | TUBE<br>O.D.<br>(in.) | A<br>(in.) | C<br>(in.) | H<br>(in.) | Material |     |
|---------------------------|-----------------------|------------|------------|------------|----------|-----|
|                           |                       |            |            |            | -S       | -SS |
| 2 TU                      | 1/8                   | 0.13       | 0.24       | 0.29       | •        | •   |
| 3 TU                      | 3/16                  | 0.19       | 0.31       | 0.33       | •        | •   |
| 4 TU                      | 1/4                   | 0.26       | 0.37       | 0.36       | •        | •   |
| 5 TU                      | 5/16                  | 0.32       | 0.43       | 0.37       | •        | •   |
| 6 TU                      | 3/8                   | 0.38       | 0.50       | 0.39       | •        | •   |
| 8 TU                      | 1/2                   | 0.51       | 0.66       | 0.43       | •        | •   |
| 10 TU                     | 5/8                   | 0.63       | 0.78       | 0.44       | •        | •   |
| 12 TU                     | 3/4                   | 0.76       | 0.93       | 0.48       | •        | •   |
| 14 TU                     | 7/8                   | 0.88       | 1.06       | 0.48       | •        | •   |
| 16 TU                     | 1                     | 1.01       | 1.19       | 0.48       | •        | •   |
| 20 TU                     | 1 1/4                 | 1.26       | 1.45       | 0.48       | •        | •   |
| 24 TU                     | 1 1/2                 | 1.51       | 1.69       | 0.48       | •        | •   |
| 32 TU                     | 2                     | 2.01       | 2.21       | 0.51       | •        | •   |

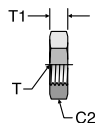
Steel TU sleeves are plated with a zinc phos.

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## WLN

Bulkhead Locknut  
Flareless

SAE 080118 and 070118



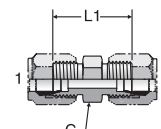
| TUBE<br>FITTING<br>PART # | TUBE<br>O.D.<br>(in.) | T<br>UN/UNF-2B | C2<br>HEX<br>(in.) | T1<br>(in.) | Material |     |
|---------------------------|-----------------------|----------------|--------------------|-------------|----------|-----|
|                           |                       |                |                    |             | -S       | -SS |
| 3 WLN                     | 3/16                  | 3/8 - 24       | 5/8                | 0.22        | •        | •   |
| 4 WLN                     | 1/4                   | 7/16 - 20      | 11/16              | 0.28        | •        | •   |
| 5 WLN                     | 5/16                  | 1/2 - 20       | 3/4                | 0.28        | •        | •   |
| 6 WLN                     | 3/8                   | 9/16 - 18      | 13/16              | 0.27        | •        | •   |
| 8 WLN                     | 1/2                   | 3/4 - 16       | 1                  | 0.31        | •        | •   |
| 10 WLN                    | 5/8                   | 7/8 - 14       | 1 1/8              | 0.36        | •        | •   |
| 12 WLN                    | 3/4                   | 1 1/16 - 12    | 1 3/8              | 0.41        | •        | •   |
| 14 WLN                    | 7/8                   | 1 3/16 - 12    | 1 1/2              | 0.41        | •        | •   |
| 16 WLN                    | 1                     | 1 5/16 - 12    | 1 5/8              | 0.41        | •        | •   |
| 20 WLN                    | 1 1/4                 | 1 5/8 - 12     | 1 7/8              | 0.41        | •        | •   |
| 24 WLN                    | 1 1/2                 | 1 7/8 - 12     | 2 1/8              | 0.41        | •        | •   |
| 32 WLN                    | 2                     | 2 1/2 - 12     | 2 3/4              | 0.41        | •        | •   |

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## HBU

Union  
Flareless / Flareless

SAE 080101



| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>HEX<br>(in.) | L1<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|-------------------|-------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>(in.) |                   |             | -S                                   | -SS |
| 2 HBU                     | 1/8        | 1/8        | 7/16              | 1.02        | 6.0                                  | 6.0 |
| 3 HBU                     | 3/16       | 3/16       | 7/16              | 1.11        | 6.0                                  | 6.0 |
| 4 HBU                     | 1/4        | 1/4        | 1/2               | 1.19        | 6.0                                  | 6.0 |
| 5 HBU                     | 5/16       | 5/16       | 9/16              | 1.19        | 6.0                                  | 6.0 |
| 6 HBU                     | 3/8        | 3/8        | 5/8               | 1.24        | 6.0                                  | 6.0 |
| 6-4 HBU                   | 3/8        | 1/4        | 5/8               | 1.22        | 6.0                                  | 6.0 |
| 8 HBU                     | 1/2        | 1/2        | 13/16             | 1.42        | 5.0                                  | 5.0 |
| 8-6 HBU                   | 1/2        | 3/8        | 13/16             | 1.33        | 5.0                                  | 5.0 |
| 10 HBU                    | 5/8        | 5/8        | 15/16             | 1.61        | 5.0                                  | 5.0 |
| 10-8 HBU                  | 5/8        | 1/2        | 15/16             | 1.55        | 5.0                                  | 5.0 |
| 12 HBU                    | 3/4        | 3/4        | 1 1/8             | 1.81        | 4.5                                  | 4.5 |
| 14 HBU                    | 7/8        | 7/8        | 1 1/4             | 1.81        | 4.0                                  | 4.0 |
| 16 HBU                    | 1          | 1          | 1 3/8             | 1.81        | 4.0                                  | 4.0 |
| 20 HBU                    | 1 1/4      | 1 1/4      | 1 11/16           | 1.89        | 3.0                                  | 3.0 |
| 24 HBU                    | 1 1/2      | 1 1/2      | 2                 | 1.96        | 2.0                                  | 2.0 |
| 32 HBU                    | 2          | 2          | 2 5/8             | 2.11        | 1.5                                  | 1.5 |

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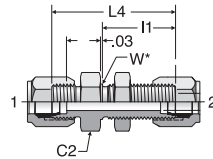
Dimensions and pressures for reference only, subject to change.

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## WBU

Bulkhead Union  
Flareless / Flareless Bulkhead

SAE 080601



\* W – Bulkhead pilot dia.  
recommended clearance  
hole is +.015 over W dia.

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C2<br>HEX<br>(in.) | I1<br>(in.) | L4<br>(in.) | W<br>(in.) | Max.<br>Bulkhead<br>Thickness | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|--------------------|-------------|-------------|------------|-------------------------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>(in.) |                    |             |             |            |                               | -S                                   | -SS |
| 4 WBU                     | 1/4        | 1/4        | 11/16              | 1.12        | 1.89        | 0.44       | 0.38                          | 6.0                                  | 6.0 |
| 6 WBU                     | 3/8        | 3/8        | 13/16              | 1.17        | 1.98        | 0.56       | 0.40                          | 6.0                                  | 6.0 |
| 8 WBU                     | 1/2        | 1/2        | 1                  | 1.31        | 2.22        | 0.75       | 0.40                          | 5.0                                  | 5.0 |
| 10 WBU                    | 5/8        | 5/8        | 1 1/8              | 1.45        | 2.48        | 0.88       | 0.44                          | 5.0                                  | 5.0 |
| 12 WBU                    | 3/4        | 3/4        | 1 3/8              | 1.56        | 2.72        | 1.06       | 0.44                          | 4.5                                  | 4.5 |
| 16 WBU                    | 1          | 1          | 1 5/8              | 1.56        | 2.72        | 1.31       | 0.44                          | 4.0                                  | 4.0 |

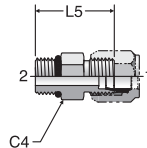
Part comes with the WLN locknut.

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## F5BU

Straight Thread Connector  
Flareless / SAE-ORB

SAE 080120



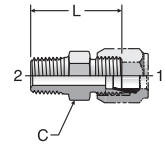
| TUBE<br>FITTING<br>PART # | END SIZE   |                | C4<br>HEX<br>(in.) | L5<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|----------------|--------------------|-------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>UN/UNF-2A |                    |             | -S                                   | -SS |
| 2 F5BU                    | 1/8        | 5/16 - 24      | 7/16               | 0.99        | 6.0                                  | 6.0 |
| 3 F5BU                    | 3/16       | 3/8 - 24       | 1/2                | 1.05        | 6.0                                  | 6.0 |
| 4 F5BU                    | 1/4        | 7/16 - 20      | 9/16               | 1.13        | 6.0                                  | 6.0 |
| 4-5 F5BU                  | 1/4        | 1/2 - 20       | 5/8                | 1.13        | 6.0                                  | 6.0 |
| 4-6 F5BU                  | 1/4        | 9/16 - 18      | 11/16              | 1.20        | 6.0                                  | 6.0 |
| 5 F5BU                    | 5/16       | 1/2 - 20       | 5/8                | 1.13        | 6.0                                  | 6.0 |
| 6 F5BU                    | 3/8        | 9/16 - 18      | 11/16              | 1.22        | 6.0                                  | 6.0 |
| 6-4 F5BU                  | 3/8        | 7/16 - 20      | 5/8                | 1.19        | 6.0                                  | 6.0 |
| 6-8 F5BU                  | 3/8        | 3/4 - 16       | 7/8                | 1.28        | 6.0                                  | 6.0 |
| 8 F5BU                    | 1/2        | 3/4 - 16       | 7/8                | 1.38        | 5.0                                  | 5.0 |
| 8-6 F5BU                  | 1/2        | 9/16 - 18      | 13/16              | 1.28        | 5.0                                  | 5.0 |
| 8-10 F5BU                 | 1/2        | 7/8 - 14       | 1                  | 1.50        | 5.0                                  | 5.0 |
| 8-12 F5BU                 | 1/2        | 1 1/16 - 12    | 1 1/4              | 1.67        | 4.5                                  | 4.5 |
| 10 F5BU                   | 5/8        | 7/8 - 14       | 1                  | 1.56        | 5.0                                  | 5.0 |
| 10-12 F5BU                | 5/8        | 1 1/16 - 12    | 1 1/4              | 1.73        | 4.5                                  | 4.5 |
| 12 F5BU                   | 3/4        | 1 1/16 - 12    | 1 1/4              | 1.78        | 4.5                                  | 4.5 |
| 12-8 F5BU                 | 3/4        | 3/4 - 16       | 1 1/8              | 1.75        | 4.5                                  | 4.5 |
| 12-16 F5BU                | 3/4        | 1 5/16 - 12    | 1 1/2              | 1.81        | 4.0                                  | 4.0 |
| 16 F5BU                   | 1          | 1 5/16 - 12    | 1 1/2              | 1.81        | 4.0                                  | 4.0 |
| 16-12 F5BU                | 1          | 1 1/16 - 12    | 1 3/8              | 1.81        | 4.0                                  | 4.0 |
| 16-20 F5BU                | 1          | 1 5/8 - 12     | 1 7/8              | 1.91        | 3.0                                  | 3.0 |
| 20 F5BU                   | 1 1/4      | 1 5/8 - 12     | 1 7/8              | 1.91        | 3.0                                  | 3.0 |
| 24 F5BU                   | 1 1/2      | 1 7/8 - 12     | 2 1/8              | 1.97        | 3.0                                  | 3.0 |
| 32 F5BU                   | 2          | 2 1/2 - 12     | 2 3/4              | 2.13        | 2.0                                  | 2.0 |

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## FBU

Male Connector  
Flareless / NPTF

SAE 080102



| TUBE<br>FITTING<br>PART # | END SIZE   |                | C<br>HEX<br>(in.) | L<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|----------------|-------------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>NPTF      |                   |            | -S                                   | -SS |
| 2 FBU                     | 1/8        | 1/8 - 27       | 7/16              | 1.04       | 6.0                                  | 6.0 |
| 2-4 FBU                   | 1/8        | 1/4 - 18       | 9/16              | 1.24       | 6.0                                  | 6.0 |
| 3 FBU                     | 3/16       | 1/8 - 27       | 7/16              | 1.09       | 6.0                                  | 6.0 |
| 4 FBU                     | 1/4        | 1/8 - 27       | 1/2               | 1.12       | 6.0                                  | 6.0 |
| 4-4 FBU                   | 1/4        | 1/4 - 18       | 9/16              | 1.32       | 6.0                                  | 6.0 |
| 4-6 FBU                   | 1/4        | 3/8 - 18       | 3/4               | 1.33       | 6.0                                  | 6.0 |
| 4-8 FBU                   | 1/4        | 1/2 - 14       | 7/8               | 1.58       | 6.0                                  | 6.0 |
| 5 FBU                     | 5/16       | 1/8 - 27       | 9/16              | 1.12       | 6.0                                  | 6.0 |
| 5-4 FBU                   | 5/16       | 1/4 - 18       | 9/16              | 1.32       | 6.0                                  | 6.0 |
| 6 FBU                     | 3/8        | 1/4 - 18       | 5/8               | 1.34       | 6.0                                  | 6.0 |
| 6-2 FBU                   | 3/8        | 1/8 - 27       | 5/8               | 1.15       | 6.0                                  | 6.0 |
| 6-6 FBU                   | 3/8        | 3/8 - 18       | 3/4               | 1.35       | 6.0                                  | 6.0 |
| 6-8 FBU                   | 3/8        | 1/2 - 14       | 15/16             | 1.60       | 6.0                                  | 6.0 |
| 8 FBU                     | 1/2        | 3/8 - 18       | 13/16             | 1.44       | 5.0                                  | 5.0 |
| 8-4 FBU                   | 1/2        | 1/4 - 18       | 13/16             | 1.44       | 5.0                                  | 5.0 |
| 8-8 FBU                   | 1/2        | 1/2 - 14       | 7/8               | 1.69       | 5.0                                  | 5.0 |
| 8-12 FBU                  | 1/2        | 3/4 - 14       | 1 1/8             | 1.76       | 4.0                                  | 4.0 |
| 10 FBU                    | 5/8        | 1/2 - 14       | 15/16             | 1.75       | 4.5                                  | 4.5 |
| 10-6 FBU                  | 5/8        | 3/8 - 18       | 15/16             | 1.56       | 4.5                                  | 4.5 |
| 10-12 FBU                 | 5/8        | 3/4 - 14       | 1 1/8             | 1.82       | 4.0                                  | 4.0 |
| 12 FBU                    | 3/4        | 3/4 - 14       | 1 1/8             | 1.88       | 4.0                                  | 4.0 |
| 12-8 FBU                  | 3/4        | 1/2 - 14       | 1 1/8             | 1.88       | 4.0                                  | 4.0 |
| 14 FBU                    | 7/8        | 3/4 - 14       | 1 1/4             | 1.88       | 3.0                                  | 3.0 |
| 16 FBU                    | 1          | 1 - 11 1/2     | 1 3/8             | 2.07       | 3.0                                  | 3.0 |
| 16-12 FBU                 | 1          | 3/4 - 14       | 1 3/8             | 1.88       | 3.0                                  | 3.0 |
| 20 FBU                    | 1 1/4      | 1 1/4 - 11 1/2 | 1 11/16           | 2.18       | 2.5                                  | 2.5 |
| 24 FBU                    | 1 1/2      | 1 1/2 - 11 1/2 | 2                 | 2.28       | 2.5                                  | 2.5 |
| 32 FBU                    | 2          | 2 - 11 1/2     | 2 3/4             | 2.46       | 2.0                                  | 2.0 |

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ASSEMBLY

TUBE FAB  
EQUIP

GEN TECH

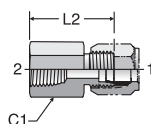
Dimensions and pressures for reference only, subject to change.

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## GBU

Female Connector  
Flareless / NPTF

SAE 080103



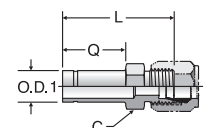
| TUBE<br>FITTING<br>PART # | END SIZE |                | C1<br>HEX<br>(in.) | L2<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|----------------|--------------------|-------------|--------------------------------------|-----|
|                           | 1        | 2              |                    |             | -S                                   | -SS |
|                           | (in.)    | NPTF           |                    |             |                                      |     |
| 2 GBU                     | 1/8      | 1/8 - 27       | 9/16               | 1.05        | 5.0                                  | 5.0 |
| 4 GBU                     | 1/4      | 1/8 - 27       | 9/16               | 1.09        | 5.0                                  | 5.0 |
| 4-4 GBU                   | 1/4      | 1/4 - 18       | 3/4                | 1.29        | 5.0                                  | 5.0 |
| 5 GBU                     | 5/16     | 1/8 - 27       | 9/16               | 1.08        | 5.0                                  | 5.0 |
| 6 GBU                     | 3/8      | 1/4 - 18       | 3/4                | 1.31        | 5.0                                  | 5.0 |
| 6-6 GBU                   | 3/8      | 3/8 - 18       | 7/8                | 1.34        | 5.0                                  | 5.0 |
| 6-8 GBU                   | 3/8      | 1/2 - 14       | 1 1/8              | 1.59        | 5.0                                  | 5.0 |
| 8 GBU                     | 1/2      | 3/8 - 18       | 7/8                | 1.47        | 5.0                                  | 5.0 |
| 8-4 GBU                   | 1/2      | 1/4 - 18       | 7/8                | 1.46        | 5.0                                  | 5.0 |
| 8-8 GBU                   | 1/2      | 1/2 - 14       | 1 1/8              | 1.69        | 5.0                                  | 5.0 |
| 10 GBU                    | 5/8      | 1/2 - 14       | 1 1/8              | 1.77        | 4.5                                  | 4.5 |
| 12 GBU                    | 3/4      | 3/4 - 14       | 1 3/8              | 1.89        | 4.0                                  | 4.0 |
| 14 GBU                    | 7/8      | 3/4 - 14       | 1 3/8              | 1.86        | 3.0                                  | 3.0 |
| 16 GBU                    | 1        | 1 - 11 1/2     | 1 5/8              | 2.13        | 3.0                                  | 3.0 |
| 20 GBU                    | 1 1/4    | 1 1/4 - 11 1/2 | 2                  | 2.22        | 2.5                                  | 2.5 |
| 24 GBU                    | 1 1/2    | 1 1/2 - 11 1/2 | 2 3/8              | 2.23        | 2.5                                  | 2.5 |

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## TRBU

Tube End Reducer  
Tube / Flareless

SAE 080123



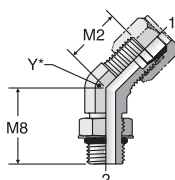
| TUBE<br>FITTING<br>PART # | END SIZE |       | C<br>HEX<br>(in.) | L<br>(in.) | Q<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|-------------------|------------|------------|--------------------------------------|-----|
|                           | 1        | 2     |                   |            |            | -S                                   | -SS |
|                           | (in.)    | (in.) |                   |            |            |                                      |     |
| 6-4 TRBU                  | 3/8      | 1/4   | 1/2               | 1.61       | 0.88       | 6.0                                  | 6.0 |
| 8-4 TRBU                  | 1/2      | 1/4   | 9/16              | 1.73       | 1.00       | 5.0                                  | 5.0 |
| 8-6 TRBU                  | 1/2      | 3/8   | 5/8               | 1.77       | 1.00       | 5.0                                  | 5.0 |
| 10-6 TRBU                 | 5/8      | 3/8   | 11/16             | 1.86       | 1.09       | 5.0                                  | 5.0 |
| 10-8 TRBU                 | 5/8      | 1/2   | 13/16             | 1.95       | 1.09       | 4.5                                  | 4.5 |
| 12-6 TRBU                 | 3/4      | 3/8   | 13/16             | 1.94       | 1.16       | 4.5                                  | 4.5 |
| 12-8 TRBU                 | 3/4      | 1/2   | 13/16             | 2.03       | 1.16       | 4.5                                  | 4.5 |
| 12-10 TRBU                | 3/4      | 5/8   | 15/16             | 2.16       | 1.16       | 4.5                                  | 4.5 |
| 14-10 TRBU                | 7/8      | 5/8   | 15/16             | 2.14       | 1.16       | 4.0                                  | 4.0 |
| 16-8 TRBU                 | 1        | 1/2   | 1 1/16            | 2.05       | 1.13       | 4.0                                  | 4.0 |
| 16-10 TRBU                | 1        | 5/8   | 1 1/16            | 2.11       | 1.13       | 4.0                                  | 4.0 |
| 16-12 TRBU                | 1        | 3/4   | 1 1/8             | 2.25       | 1.13       | 4.0                                  | 4.0 |
| 20-16 TRBU                | 1 1/4    | 1     | 1 3/8             | 2.28       | 1.16       | 3.0                                  | 3.0 |
| 24-12 TRBU                | 1 1/2    | 3/4   | 1 5/8             | 2.45       | 1.25       | 2.0                                  | 2.0 |
| 24-16 TRBU                | 1 1/2    | 1     | 1 5/8             | 2.45       | 1.25       | 2.0                                  | 2.0 |
| 24-20 TRBU                | 1 1/2    | 1 1/4 | 1 7/8             | 2.45       | 1.25       | 2.0                                  | 2.0 |

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## V5BU

45° Straight Thread Elbow  
Flareless / SAE-ORB

SAE 080320



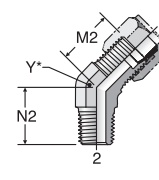
\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE |             | M2<br>(in.) | M8<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------------|-------------|-------------|------------|--------------------------------------|-----|
|                           | 1        | 2           |             |             |            | -S                                   | -SS |
|                           | (in.)    | UN/UNF-2A   |             |             |            |                                      |     |
| 4 V5BU                    | 1/4      | 7/16 - 20   | 0.70        | 1.05        | 7/16       | 5.0                                  | 5.0 |
| 6 V5BU                    | 3/8      | 9/16 - 18   | 0.83        | 1.14        | 9/16       | 5.0                                  | 5.0 |
| 8 V5BU                    | 1/2      | 3/4 - 16    | 0.98        | 1.30        | 3/4        | 5.0                                  | 5.0 |
| 12 V5BU                   | 3/4      | 1 1/16 - 12 | 1.27        | 1.73        | 1 1/16     | 4.0                                  | 4.0 |
| 16 V5BU                   | 1        | 1 5/16 - 12 | 1.36        | 1.86        | 1 5/16     | 3.0                                  | 3.0 |

## VBU

45° Male Elbow  
Flareless / NPTF

SAE 080302



\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE |                | M2<br>(in.) | N2<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|----------------|-------------|-------------|------------|--------------------------------------|-----|
|                           | 1        | 2              |             |             |            | -S                                   | -SS |
|                           | (in.)    | NPTF           |             |             |            |                                      |     |
| 3 VBU                     | 3/16     | 1/8 - 27       | 0.64        | 0.52        | 7/16       | 5.0                                  | 5.0 |
| 4 VBU                     | 1/4      | 1/8 - 27       | 0.70        | 0.64        | 7/16       | 5.0                                  | 5.0 |
| 4-4 VBU                   | 1/4      | 1/4 - 18       | 0.81        | 0.86        | 9/16       | 5.0                                  | 5.0 |
| 5 VBU                     | 5/16     | 1/8 - 27       | 0.75        | 0.66        | 9/16       | 5.0                                  | 5.0 |
| 6 VBU                     | 3/8      | 1/4 - 18       | 0.83        | 0.86        | 9/16       | 5.0                                  | 5.0 |
| 8 VBU                     | 1/2      | 3/8 - 18       | 0.98        | 0.95        | 3/4        | 5.0                                  | 5.0 |
| 10 VBU                    | 5/8      | 1/2 - 14       | 1.08        | 1.17        | 7/8        | 4.5                                  | 4.5 |
| 12 VBU                    | 3/4      | 3/4 - 14       | 1.27        | 1.20        | 1 1/16     | 4.0                                  | 4.0 |
| 14 VBU                    | 7/8      | 3/4 - 14       | 1.34        | 1.30        | 1 5/16     | 3.0                                  | 3.0 |
| 16 VBU                    | 1        | 1 - 11 1/2     | 1.36        | 1.48        | 1 5/16     | 3.0                                  | 3.0 |
| 20 VBU                    | 1 1/4    | 1 1/4 - 11 1/2 | 1.45        | 1.67        | 1 5/8      | 2.5                                  | 2.5 |

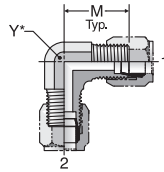
Dimensions and pressures for reference only, subject to change.

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## EBU

Union Elbow  
Flareless / Flareless

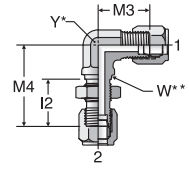
SAE 080201



\* Y – Across wrench flats

## WEBU

Bulkhead Union Elbow  
Flareless / Flareless Bulkhead



\* Y – Across wrench flats.  
W\*\* – Bulkhead pilot dia. recommended clearance hole is +.015 over W dia.

| TUBE<br>FITTING<br>PART # | END SIZE   |            | M<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>(in.) |            |            | -S                                   | -SS |
|                           |            |            |            |            |                                      |     |
| 2 EBU                     | 1/8        | 1/8        | 0.78       | 7/16       | 5.0                                  | 5.0 |
| 4 EBU                     | 1/4        | 1/4        | 0.89       | 7/16       | 5.0                                  | 5.0 |
| 5 EBU                     | 5/16       | 5/16       | 0.95       | 9/16       | 5.0                                  | 5.0 |
| 6 EBU                     | 3/8        | 3/8        | 1.05       | 9/16       | 5.0                                  | 5.0 |
| 8 EBU                     | 1/2        | 1/2        | 1.25       | 3/4        | 5.0                                  | 5.0 |
| 10 EBU                    | 5/8        | 5/8        | 1.42       | 7/8        | 4.5                                  | 4.5 |
| 12 EBU                    | 3/4        | 3/4        | 1.58       | 1 1/16     | 4.0                                  | 4.0 |
| 14 EBU                    | 7/8        | 7/8        | 1.66       | 1 5/16     | 3.0                                  | 3.0 |
| 16 EBU                    | 1          | 1          | 1.73       | 1 5/16     | 3.0                                  | 3.0 |
| 20 EBU                    | 1 1/4      | 1 1/4      | 1.89       | 1 5/8      | 2.5                                  | 2.5 |
| 24 EBU                    | 1 1/2      | 1 1/2      | 2.02       | 1 7/8      | 2.0                                  | 2.0 |
| 32 EBU                    | 2          | 2          | 2.45       | 2 1/2      | 1.5                                  | 1.5 |

| TUBE<br>FITTING<br>PART # | END SIZE   |            | I2<br>(in.) | M3<br>(in.) | M4<br>(in.) | W<br>DIA<br>(in.) | Y<br>(in.) | Max.<br>Bulkhead<br>Thickness | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|-------------|-------------|-------------|-------------------|------------|-------------------------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>(in.) |             |             |             |                   |            |                               | -S                                   | -SS |
|                           |            |            |             |             |             |                   |            |                               |                                      |     |
| 4 WEBU                    | 1/4        | 1/4        | 0.94        | 0.95        | 1.52        | 0.44              | 7/16       | 0.28                          | 5.0                                  | 5.0 |
| 6 WEBU                    | 3/8        | 3/8        | 0.98        | 1.08        | 1.70        | 0.56              | 9/16       | 0.26                          | 5.0                                  | 5.0 |
| 8 WEBU                    | 1/2        | 1/2        | 1.12        | 1.33        | 1.97        | 0.75              | 3/4        | 0.30                          | 5.0                                  | 5.0 |
| 10 WEBU                   | 5/8        | 5/8        | 1.27        | 1.52        | 2.27        | 0.88              | 7/8        | 0.38                          | 4.5                                  | 4.5 |
| 12 WEBU                   | 3/4        | 3/4        | 1.38        | 1.64        | 2.48        | 1.06              | 1 1/16     | 0.38                          | 4.0                                  | 4.0 |
| 16 WEBU                   | 1          | 1          | 1.38        | 1.73        | 2.61        | 1.31              | 1 5/16     | 0.38                          | 3.0                                  | 3.0 |

Includes WLN locknut.

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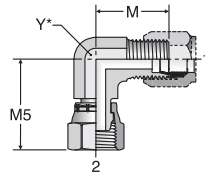
TUBE FAB  
EQUIP

GEN TECH

## C6BU

Swivel Nut Elbow  
Flareless / Flareless Swivel

SAE 080221



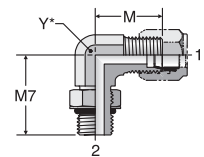
\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | M<br>(in.) | M5<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>(in.) |            |             |            | -S                                   | -SS |
|                           |            |            |            |             |            |                                      |     |
| 4 C6BU                    | 1/4        | 1/4        | 0.89       | 1.00        | 7/16       | 5.0                                  | 5.0 |
| 6 C6BU                    | 3/8        | 3/8        | 1.05       | 1.25        | 9/16       | 5.0                                  | 5.0 |
| 8 C6BU                    | 1/2        | 1/2        | 1.25       | 1.38        | 3/4        | 5.0                                  | 5.0 |
| 10 C6BU                   | 5/8        | 5/8        | 1.42       | 1.62        | 7/8        | 4.5                                  | 4.5 |
| 12 C6BU                   | 3/4        | 3/4        | 1.58       | 1.75        | 1 1/16     | 4.0                                  | 4.0 |
| 16 C6BU                   | 1          | 1          | 1.73       | 2.00        | 1 5/16     | 3.0                                  | 3.0 |
| 20 C6BU                   | 1 1/4      | 1 1/4      | 1.89       | 2.31        | 1 5/8      | 2.5                                  | 2.5 |

## C5BU

Straight Thread Elbow  
Flareless / SAE-ORB

SAE 080220



\* Y – Across wrench flats

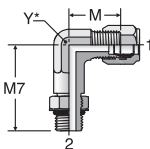
| TUBE<br>FITTING<br>PART # | END SIZE   |                | M<br>(in.) | M7<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|----------------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>UN/UNF-2A |            |             |            | -S                                   | -SS |
|                           |            |                |            |             |            |                                      |     |
| 3 C5BU                    | 3/16       | 3/8 - 24       | 0.84       | 0.94        | 7/16       | 5.0                                  | 5.0 |
| 4 C5BU                    | 1/4        | 7/16 - 20      | 0.89       | 1.03        | 7/16       | 5.0                                  | 5.0 |
| 5 C5BU                    | 5/16       | 1/2 - 20       | 0.95       | 1.13        | 9/16       | 5.0                                  | 5.0 |
| 6 C5BU                    | 3/8        | 9/16 - 18      | 1.05       | 1.25        | 9/16       | 5.0                                  | 5.0 |
| 6-8 C5BU                  | 3/8        | 3/4 - 16       | 1.14       | 1.45        | 3/4        | 5.0                                  | 5.0 |
| 8 C5BU                    | 1/2        | 3/4 - 16       | 1.25       | 1.45        | 3/4        | 5.0                                  | 5.0 |
| 8-6 C5BU                  | 1/2        | 9/16 - 18      | 1.27       | 1.33        | 3/4        | 5.0                                  | 5.0 |
| 8-10 C5BU                 | 1/2        | 7/8 - 14       | 1.34       | 1.70        | 7/8        | 4.5                                  | 4.5 |
| 8-12 C5BU                 | 1/2        | 1 1/16 - 12    | 1.43       | 1.94        | 1 1/16     | 4.0                                  | 4.0 |
| 10 C5BU                   | 5/8        | 7/8 - 14       | 1.42       | 1.70        | 7/8        | 4.5                                  | 4.5 |
| 12 C5BU                   | 3/4        | 1 1/16 - 12    | 1.58       | 1.94        | 1 1/16     | 4.0                                  | 4.0 |
| 12-8 C5BU                 | 3/4        | 3/4 - 16       | 1.58       | 1.63        | 1 1/16     | 4.0                                  | 4.0 |
| 12-10 C5BU                | 3/4        | 7/8 - 14       | 1.58       | 1.78        | 1 1/16     | 4.0                                  | 4.0 |
| 12-16 C5BU                | 3/4        | 1 5/16 - 12    | 1.73       | 2.05        | 1 5/16     | 3.0                                  | 3.0 |
| 16 C5BU                   | 1          | 1 5/16 - 12    | 1.73       | 2.05        | 1 5/16     | 3.0                                  | 3.0 |
| 16-12 C5BU                | 1          | 1 1/16 - 12    | 1.73       | 2.05        | 1 5/16     | 3.0                                  | 3.0 |
| 20 C5BU                   | 1 1/4      | 1 5/8 - 12     | 1.89       | 2.25        | 1 5/8      | 2.5                                  | 2.5 |
| 24 C5BU                   | 1 1/2      | 1 7/8 - 12     | 2.02       | 2.39        | 1 7/8      | 2.0                                  | 2.0 |
| 32 C5BU                   | 2          | 2 1/2 - 12     | 2.45       | 2.89        | 2 1/2      | 1.5                                  | 1.5 |

Dimensions and pressures for reference only, subject to change.

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## CC5BU

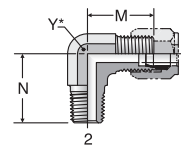
Straight Thread Elbow  
Flareless / SAE-ORB Long



\* Y – Across wrench flats

## CBU

Male Elbow  
Flareless / NPTF



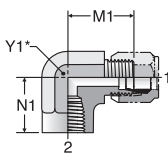
\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE   |                | M<br>(in.) | M7<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|----------------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>UN/UNF-2A |            |             |            | -S                                   | -SS |
| 4 CC5BU                   | 1/4        | 7/16 - 20      | 0.89       | 1.43        | 7/16       | 5.0                                  | 5.0 |
| 6 CC5BU                   | 3/8        | 9/16 - 18      | 1.05       | 1.72        | 9/16       | 5.0                                  | 5.0 |
| 8 CC5BU                   | 1/2        | 3/4 - 16       | 1.25       | 2.02        | 3/4        | 5.0                                  | 5.0 |
| 10 CC5BU                  | 5/8        | 7/8 - 14       | 1.42       | 2.39        | 7/8        | 4.5                                  | 4.5 |
| 12 CC5BU                  | 3/4        | 1 1/16 - 12    | 1.58       | 2.69        | 1 1/16     | 4.0                                  | 4.0 |
| 16 CC5BU                  | 1          | 1 5/16 - 12    | 1.73       | 3.13        | 1 5/16     | 3.0                                  | 3.0 |

| TUBE<br>FITTING<br>PART # | END SIZE   |                | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|----------------|------------|------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>NPTF      |            |            |            | -S                                   | -SS |
| 2 CBU                     | 1/8        | 1/8 - 27       | 0.77       | 0.72       | 7/16       | 5.0                                  | 5.0 |
| 3 CBU                     | 3/16       | 1/8 - 27       | 0.83       | 0.72       | 7/16       | 5.0                                  | 5.0 |
| 4 CBU                     | 1/4        | 1/8 - 27       | 0.89       | 0.78       | 7/16       | 5.0                                  | 5.0 |
| 4-4 CBU                   | 1/4        | 1/4 - 18       | 1.03       | 1.09       | 9/16       | 5.0                                  | 5.0 |
| 4-6 CBU                   | 1/4        | 3/8 - 18       | 1.12       | 1.22       | 3/4        | 5.0                                  | 5.0 |
| 5 CBU                     | 5/16       | 1/8 - 27       | 0.95       | 0.81       | 9/16       | 5.0                                  | 5.0 |
| 5-4 CBU                   | 5/16       | 1/4 - 18       | 1.03       | 1.09       | 9/16       | 5.0                                  | 5.0 |
| 6 CBU                     | 3/8        | 1/4 - 18       | 1.05       | 1.09       | 9/16       | 5.0                                  | 5.0 |
| 6-2 CBU                   | 3/8        | 1/8 - 27       | 1.05       | 0.90       | 9/16       | 5.0                                  | 5.0 |
| 6-6 CBU                   | 3/8        | 3/8 - 18       | 1.14       | 1.22       | 3/4        | 5.0                                  | 5.0 |
| 6-8 CBU                   | 3/8        | 1/2 - 14       | 1.24       | 1.47       | 7/8        | 5.0                                  | 5.0 |
| 8 CBU                     | 1/2        | 3/8 - 18       | 1.25       | 1.22       | 3/4        | 5.0                                  | 5.0 |
| 8-4 CBU                   | 1/2        | 1/4 - 18       | 1.25       | 1.16       | 3/4        | 5.0                                  | 5.0 |
| 8-8 CBU                   | 1/2        | 1/2 - 14       | 1.35       | 1.47       | 7/8        | 5.0                                  | 5.0 |
| 8-12 CBU                  | 1/2        | 3/4 - 14       | 1.43       | 1.59       | 1 1/16     | 4.0                                  | 4.0 |
| 10 CBU                    | 5/8        | 1/2 - 14       | 1.42       | 1.47       | 7/8        | 4.5                                  | 4.5 |
| 10-6 CBU                  | 5/8        | 3/8 - 18       | 1.42       | 1.28       | 7/8        | 4.5                                  | 4.5 |
| 12 CBU                    | 3/4        | 3/4 - 14       | 1.58       | 1.59       | 1 1/16     | 4.0                                  | 4.0 |
| 12-8 CBU                  | 3/4        | 1/2 - 14       | 1.58       | 1.59       | 1 1/16     | 4.0                                  | 4.0 |
| 14 CBU                    | 7/8        | 3/4 - 14       | 1.66       | 1.69       | 1 5/16     | 3.0                                  | 3.0 |
| 16 CBU                    | 1          | 1 - 11 1/2     | 1.73       | 1.97       | 1 5/16     | 3.0                                  | 3.0 |
| 16-12 CBU                 | 1          | 3/4 - 14       | 1.73       | 1.78       | 1 5/16     | 3.0                                  | 3.0 |
| 20 CBU                    | 1 1/4      | 1 1/4 - 11 1/2 | 1.89       | 2.38       | 1 5/8      | 2.5                                  | 2.5 |
| 24 CBU                    | 1 1/2      | 1 1/2 - 11 1/2 | 2.02       | 2.64       | 1 7/8      | 2.5                                  | 2.5 |
| 32 CBU                    | 2          | 2 - 11 1/2     | 2.45       | 3.00       | 2 1/2      | 2.0                                  | 2.0 |

## DBU

Female Elbow  
Flareless / NPTF



\* Y1 – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE   |                | M1<br>(in.) | N1<br>(in.) | Y1<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|----------------|-------------|-------------|-------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>NPTF      |             |             |             | -S                                   | -SS |
| 4 DBU                     | 1/4        | 1/8 - 27       | 0.89        | 0.66        | 9/16        | 5.0                                  | 5.0 |
| 4-4 DBU                   | 1/4        | 1/4 - 18       | 1.03        | 0.88        | 3/4         | 5.0                                  | 5.0 |
| 5 DBU                     | 5/16       | 1/8 - 27       | 0.95        | 0.66        | 9/16        | 5.0                                  | 5.0 |
| 6 DBU                     | 3/8        | 1/4 - 18       | 1.05        | 0.88        | 3/4         | 5.0                                  | 5.0 |
| 6-6 DBU                   | 3/8        | 3/8 - 18       | 1.13        | 1.02        | 7/8         | 4.5                                  | 4.5 |
| 8 DBU                     | 1/2        | 3/8 - 18       | 1.23        | 1.02        | 7/8         | 3.0                                  | 3.0 |
| 8-4 DBU                   | 1/2        | 1/4 - 18       | 1.23        | 0.88        | 3/4         | 5.0                                  | 5.0 |
| 8-8 DBU                   | 1/2        | 1/2 - 14       | 1.34        | 1.23        | 1 1/16      | 3.0                                  | 3.0 |
| 10 DBU                    | 5/8        | 1/2 - 14       | 1.42        | 1.23        | 1 1/16      | 3.0                                  | 3.0 |
| 12 DBU                    | 3/4        | 3/4 - 14       | 1.58        | 1.36        | 1 5/16      | 3.0                                  | 3.0 |
| 14 DBU                    | 7/8        | 3/4 - 14       | 1.62        | 1.42        | 1 5/16      | 3.0                                  | 3.0 |
| 16 DBU                    | 1          | 1 - 11 1/2     | 1.73        | 1.63        | 1 5/8       | 1.7                                  | 1.7 |
| 20 DBU                    | 1 1/4      | 1 1/4 - 11 1/2 | 2.08        | 1.70        | 1 7/8       | 1.5                                  | 1.5 |
| 24 DBU                    | 1 1/2      | 1 1/2 - 11 1/2 | 2.58        | 2.08        | 2 1/2       | 1.0                                  | 1.0 |

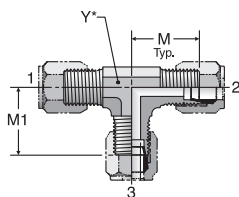
Dimensions and pressures for reference only, subject to change.

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## JBU

Union Tee  
Flareless (all three ends)

SAE 080401



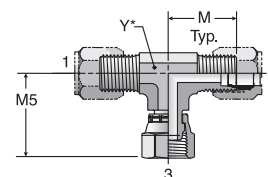
\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE |       |       | M<br>(in.) | M1<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|-------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1        | 2     | 3     |            |             |            | -S                                   | -SS |
|                           | (in.)    | (in.) | (in.) |            |             |            |                                      |     |
| 2 JBU                     | 1/8      | 1/8   | 1/8   | 0.77       | 0.77        | 7/16       | 5.0                                  | 5.0 |
| 3 JBU                     | 3/16     | 3/16  | 3/16  | 0.84       | 0.84        | 7/16       | 5.0                                  | 5.0 |
| 4 JBU                     | 1/4      | 1/4   | 1/4   | 0.89       | 0.89        | 7/16       | 5.0                                  | 5.0 |
| 5 JBU                     | 5/16     | 5/16  | 5/16  | 0.95       | 0.95        | 9/16       | 5.0                                  | 5.0 |
| 6 JBU                     | 3/8      | 3/8   | 3/8   | 1.05       | 1.05        | 9/16       | 5.0                                  | 5.0 |
| 8 JBU                     | 1/2      | 1/2   | 1/2   | 1.25       | 1.25        | 3/4        | 5.0                                  | 5.0 |
| 8-8-6 JBU                 | 1/2      | 1/2   | 3/8   | 1.25       | 1.14        | 3/4        | 5.0                                  | 5.0 |
| 10 JBU                    | 5/8      | 5/8   | 5/8   | 1.42       | 1.42        | 7/8        | 4.5                                  | 4.5 |
| 12 JBU                    | 3/4      | 3/4   | 3/4   | 1.58       | 1.58        | 1 1/16     | 4.0                                  | 4.0 |
| 14 JBU                    | 7/8      | 7/8   | 7/8   | 1.66       | 1.66        | 1 5/16     | 3.0                                  | 3.0 |
| 16 JBU                    | 1        | 1     | 1     | 1.73       | 1.73        | 1 5/16     | 3.0                                  | 3.0 |
| 20 JBU                    | 1 1/4    | 1 1/4 | 1 1/4 | 1.89       | 1.89        | 1 5/8      | 2.5                                  | 2.5 |
| 24 JBU                    | 1 1/2    | 1 1/2 | 1 1/2 | 2.02       | 2.02        | 1 7/8      | 2.0                                  | 2.0 |

## S6BU

Swivel Nut Branch Tee  
Flareless / Flareless  
Swivel

SAE 080433



\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE |       |       | M<br>(in.) | M5<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|-------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1        | 2     | 3     |            |             |            | -S                                   | -SS |
|                           | (in.)    | (in.) | (in.) |            |             |            |                                      |     |
| 4 S6BU                    | 1/4      | 1/4   | 1/4   | 0.89       | 1.00        | 7/16       | 5.0                                  | 5.0 |
| 6 S6BU                    | 3/8      | 3/8   | 3/8   | 1.05       | 1.25        | 9/16       | 5.0                                  | 5.0 |
| 8 S6BU                    | 1/2      | 1/2   | 1/2   | 1.25       | 1.38        | 3/4        | 5.0                                  | 5.0 |
| 12 S6BU                   | 3/4      | 3/4   | 3/4   | 1.58       | 1.75        | 1 1/16     | 4.0                                  | 4.0 |
| 16 S6BU                   | 1        | 1     | 1     | 1.73       | 2.00        | 15/16      | 3.0                                  | 3.0 |

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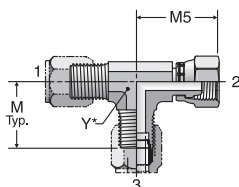
TUBE FAB  
EQUIP

GEN TECH

## R6BU

Swivel Nut Run Tee  
Flareless / Flareless  
Swivel

SAE 080432



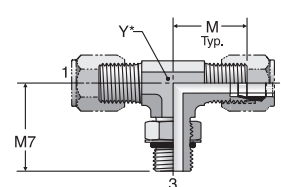
\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE |       |       | M<br>(in.) | M5<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|-------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1        | 2     | 3     |            |             |            | -S                                   | -SS |
|                           | (in.)    | (in.) | (in.) |            |             |            |                                      |     |
| 4 R6BU                    | 1/4      | 1/4   | 1/4   | 0.89       | 1.00        | 7/16       | 5.0                                  | 5.0 |
| 6 R6BU                    | 3/8      | 3/8   | 3/8   | 1.05       | 1.25        | 9/16       | 5.0                                  | 5.0 |
| 8 R6BU                    | 1/2      | 1/2   | 1/2   | 1.25       | 1.38        | 3/4        | 5.0                                  | 5.0 |
| 12 R6BU                   | 3/4      | 3/4   | 3/4   | 1.58       | 1.75        | 1 1/16     | 4.0                                  | 4.0 |
| 16 R6BU                   | 1        | 1     | 1     | 1.73       | 2.00        | 1 5/16     | 3.0                                  | 3.0 |

## S5BU

Straight Thread  
Branch Tee  
Flareless / SAE-ORB

SAE 080429



\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE |       |             | M<br>(in.) | M7<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|-------------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1        | 2     | 3           |            |             |            | -S                                   | -SS |
|                           | (in.)    | (in.) | UN/UNF-2A   |            |             |            |                                      |     |
| 4 S5BU                    | 1/4      | 1/4   | 7/16 - 20   | 0.89       | 1.03        | 7/16       | 5.0                                  | 5.0 |
| 6 S5BU                    | 3/8      | 3/8   | 9/16 - 18   | 1.05       | 1.25        | 9/16       | 5.0                                  | 5.0 |
| 8 S5BU                    | 1/2      | 1/2   | 3/4 - 16    | 1.25       | 1.45        | 3/4        | 5.0                                  | 5.0 |
| 12 S5BU                   | 3/4      | 3/4   | 1 1/16 - 12 | 1.58       | 1.94        | 1 1/16     | 4.0                                  | 4.0 |
| 16 S5BU                   | 1        | 1     | 1 5/16 - 12 | 1.73       | 2.05        | 1 5/16     | 3.0                                  | 3.0 |

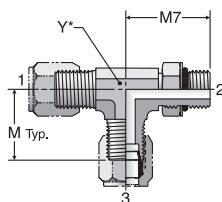
Dimensions and pressures for reference only, subject to change.

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## R5BU

Straight Thread Run Tee  
Flareless / SAE-ORB

SAE 080428

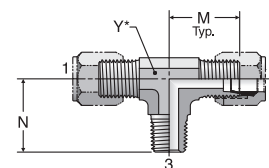


\* Y – Across wrench flats

## SBU

Male Branch Tee  
Flareless / NPTF

SAE 080425



\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE   |                |            | M<br>(in.) | M7<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|----------------|------------|------------|-------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>UN/UNF-2A | 3<br>(in.) |            |             |            | -S                                   | -SS |
| 4 R5BU                    | 1/4        | 7/16 - 20      | 1/4        | 0.89       | 1.03        | 7/16       | 5.0                                  | 5.0 |
| 6 R5BU                    | 3/8        | 9/16 - 18      | 3/8        | 1.05       | 1.25        | 9/16       | 5.0                                  | 5.0 |
| 8 R5BU                    | 1/2        | 3/4 - 16       | 1/2        | 1.25       | 1.45        | 3/4        | 5.0                                  | 5.0 |
| 10 R5BU                   | 5/8        | 7/8 - 14       | 5/8        | 1.42       | 1.70        | 7/8        | 4.5                                  | 4.5 |
| 12 R5BU                   | 3/4        | 1 1/16 - 12    | 3/4        | 1.58       | 1.94        | 1 1/16     | 4.0                                  | 4.0 |
| 16 R5BU                   | 1          | 1 5/16 - 12    | 1          | 1.73       | 2.05        | 1 5/16     | 3.0                                  | 3.0 |

| TUBE<br>FITTING<br>PART # | END SIZE   |            |            | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|------------|------------|------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>(in.) | 3<br>NPTF  |            |            |            | -S                                   | -SS |
| 2 SBU                     | 1/8        | 1/8        | 1/8 - 27   | 0.77       | 0.72       | 7/16       | 5.0                                  | 5.0 |
| 4 SBU                     | 1/4        | 1/4        | 1/8 - 27   | 0.89       | 0.78       | 7/16       | 5.0                                  | 5.0 |
| 4-4-4 SBU                 | 1/4        | 1/4        | 1/4 - 18   | 1.03       | 1.09       | 9/16       | 5.0                                  | 5.0 |
| 5 SBU                     | 5/16       | 5/16       | 1/8 - 27   | 0.95       | 0.81       | 9/16       | 5.0                                  | 5.0 |
| 6 SBU                     | 3/8        | 3/8        | 1/4 - 18   | 1.05       | 1.09       | 9/16       | 5.0                                  | 5.0 |
| 8 SBU                     | 1/2        | 1/2        | 3/8 - 18   | 1.25       | 1.22       | 3/4        | 5.0                                  | 5.0 |
| 8-8-8 SBU                 | 1/2        | 1/2        | 1/2 - 14   | 1.35       | 1.47       | 7/8        | 5.0                                  | 5.0 |
| 10 SBU                    | 5/8        | 5/8        | 1/2 - 14   | 1.42       | 1.47       | 7/8        | 4.5                                  | 4.5 |
| 12 SBU                    | 3/4        | 3/4        | 3/4 - 14   | 1.58       | 1.59       | 1 1/16     | 4.0                                  | 4.0 |
| 14 SBU                    | 7/8        | 7/8        | 3/4 - 14   | 1.66       | 1.69       | 1 5/16     | 3.0                                  | 3.0 |
| 16 SBU                    | 1          | 1          | 1 - 11 1/2 | 1.73       | 1.97       | 1 5/16     | 3.0                                  | 3.0 |

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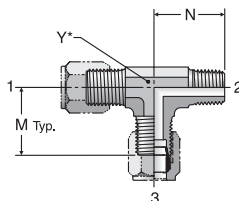
TUBE FAB  
EQUIP

GEN TECH

## RBU

Male Run Tee  
Flareless / NPTF

SAE 080424

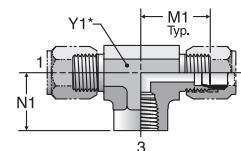


\* Y – Across wrench flats

## OBU

Female Branch Tee  
Flareless / NPTF

SAE 080427



\* Y1 – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            |            | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|------------|------------|------------|------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>NPTF  | 3<br>(in.) |            |            |            | -S                                   | -SS |
| 4 RBU                     | 1/4        | 1/8 - 27   | 1/4        | 0.89       | 0.78       | 7/16       | 5.0                                  | 5.0 |
| 4-4-4 RBU                 | 1/4        | 1/4 - 18   | 1/4        | 1.03       | 1.09       | 9/16       | 5.0                                  | 5.0 |
| 5 RBU                     | 5/16       | 1/8 - 27   | 5/16       | 0.95       | 0.81       | 9/16       | 5.0                                  | 5.0 |
| 6 RBU                     | 3/8        | 1/4 - 18   | 3/8        | 1.05       | 1.09       | 9/16       | 5.0                                  | 5.0 |
| 8 RBU                     | 1/2        | 3/8 - 18   | 1/2        | 1.25       | 1.22       | 3/4        | 5.0                                  | 5.0 |
| 8-8-8 RBU                 | 1/2        | 1/2 - 14   | 1/2        | 1.35       | 1.47       | 7/8        | 5.0                                  | 5.0 |
| 10 RBU                    | 5/8        | 1/2 - 14   | 5/8        | 1.42       | 1.47       | 7/8        | 4.5                                  | 4.5 |
| 12 RBU                    | 3/4        | 3/4 - 14   | 3/4        | 1.58       | 1.59       | 1 1/16     | 4.0                                  | 4.0 |
| 14 RBU                    | 7/8        | 3/4 - 14   | 7/8        | 1.66       | 1.69       | 1 5/16     | 3.0                                  | 3.0 |
| 16 RBU                    | 1          | 1 - 11 1/2 | 1          | 1.73       | 1.97       | 1 5/16     | 3.0                                  | 3.0 |

| TUBE<br>FITTING<br>PART # | END SIZE   |            |                | M1<br>(in.) | N1<br>(in.) | Y1<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|----------------|-------------|-------------|-------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>(in.) | 3<br>NPTF      |             |             |             | -S                                   | -SS |
| 4 OBU                     | 1/4        | 1/4        | 1/8 - 27       | 0.89        | 0.66        | 9/16        | 5.0                                  | 5.0 |
| 4-4-4 OBU                 | 1/4        | 1/4        | 1/4 - 18       | 1.03        | 0.88        | 3/4         | 5.0                                  | 5.0 |
| 6 OBU                     | 3/8        | 3/8        | 1/4 - 18       | 1.05        | 0.88        | 3/4         | 5.0                                  | 5.0 |
| 8 OBU                     | 1/2        | 1/2        | 3/8 - 18       | 1.23        | 1.02        | 7/8         | 3.0                                  | 3.0 |
| 10 OBU                    | 5/8        | 5/8        | 1/2 - 14       | 1.42        | 1.23        | 1 1/16      | 3.0                                  | 3.0 |
| 12 OBU                    | 3/4        | 3/4        | 3/4 - 14       | 1.58        | 1.36        | 1 5/16      | 3.0                                  | 3.0 |
| 14 OBU                    | 7/8        | 7/8        | 3/4 - 14       | 1.62        | 1.42        | 1 5/16      | 3.0                                  | 3.0 |
| 16 OBU                    | 1          | 1          | 1 - 11 1/2     | 1.73        | 1.63        | 1 5/8       | 1.7                                  | 1.7 |
| 20 OBU                    | 1 1/4      | 1 1/4      | 1 1/4 - 11 1/2 | 2.08        | 1.70        | 1 7/8       | 1.5                                  | 1.5 |

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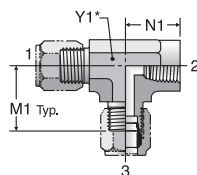
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## MBU

Female Run Tee  
Flareless / NPTF

SAE 080426

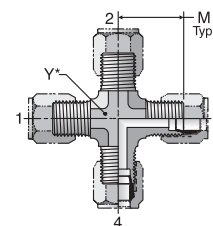


\* Y1 – Across wrench flats

## KBU

Union Cross  
Flareless (all four ends)

SAE 080501



\* Y – Across wrench flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            |            | M1<br>(in.) | N1<br>(in.) | Y1<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|------------|------------|------------|-------------|-------------|-------------|--------------------------------------|-----|
|                           | 1<br>(in.) | 2<br>NPTF  | 3<br>(in.) |             |             |             | -S                                   | -SS |
| 4 MBU                     | 1/4        | 1/8 - 27   | 1/4        | 0.89        | 0.66        | 9/16        | 5.0                                  | 5.0 |
| 6 MBU                     | 3/8        | 1/4 - 18   | 3/8        | 1.05        | 0.88        | 3/4         | 5.0                                  | 5.0 |
| 8 MBU                     | 1/2        | 3/8 - 18   | 1/2        | 1.23        | 1.02        | 7/8         | 3.0                                  | 3.0 |
| 10 MBU                    | 5/8        | 1/2 - 14   | 5/8        | 1.42        | 1.23        | 1 1/16      | 3.0                                  | 3.0 |
| 12 MBU                    | 3/4        | 3/4 - 14   | 3/4        | 1.58        | 1.36        | 1 5/16      | 3.0                                  | 3.0 |
| 16 MBU                    | 1          | 1 - 11 1/2 | 1          | 1.73        | 1.62        | 1 5/8       | 1.7                                  | 1.7 |

| TUBE<br>FITTING<br>PART # | END SIZE     |  | M<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|--------------|--|------------|------------|--------------------------------------|-----|
|                           | 1-4<br>(in.) |  |            |            | -S                                   | -SS |
| 4 KBU                     | 1/4          |  | 0.89       | 7/16       | 5.0                                  | 5.0 |
| 6 KBU                     | 3/8          |  | 1.05       | 9/16       | 5.0                                  | 5.0 |
| 8 KBU                     | 1/2          |  | 1.25       | 3/4        | 5.0                                  | 5.0 |
| 12 KBU                    | 3/4          |  | 1.58       | 1 1/16     | 4.0                                  | 4.0 |

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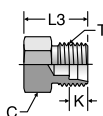
TUBE FAB  
EQUIP

GEN TECH

## PNU

Plug  
Flareless

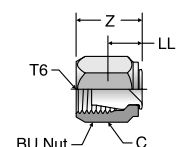
SAE 080109



## FNU

Cap  
Flareless Swivel

SAE 080112



\* LL – Fitting end to rear of plug

| TUBE<br>FITTING<br>PART # | TUBE<br>O.D.<br>(in.) | T<br>TUBE END<br>UN/UNF-2A | C<br>HEX<br>(in.) | K<br>(in.) | L3<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|-----------------------|----------------------------|-------------------|------------|-------------|--------------------------------------|-----|
|                           |                       |                            |                   |            |             | -S                                   | -SS |
| 2 PNU                     | 1/8                   | 5/16 - 24                  | 7/16              | 0.19       | 0.63        | 6.0                                  | 6.0 |
| 4 PNU                     | 1/4                   | 7/16 - 20                  | 1/2               | 0.24       | 0.72        | 6.0                                  | 6.0 |
| 5 PNU                     | 5/16                  | 1/2 - 20                   | 9/16              | 0.26       | 0.72        | 6.0                                  | 6.0 |
| 6 PNU                     | 3/8                   | 9/16 - 18                  | 5/8               | 0.26       | 0.75        | 6.0                                  | 6.0 |
| 8 PNU                     | 1/2                   | 3/4 - 16                   | 13/16             | 0.31       | 0.84        | 5.0                                  | 5.0 |
| 10 PNU                    | 5/8                   | 7/8 - 14                   | 15/16             | 0.36       | 0.97        | 5.0                                  | 5.0 |
| 12 PNU                    | 3/4                   | 1 1/16 - 12                | 1 1/8             | 0.36       | 1.09        | 4.5                                  | 4.5 |
| 16 PNU                    | 1                     | 1 5/16 - 12                | 1 3/8             | 0.42       | 1.09        | 4.0                                  | 4.0 |

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| TUBE<br>FITTING<br>PART # | TUBE<br>O.D.<br>(in.) | T6<br>UN/UNF-2B | C<br>HEX<br>(in.) | LL<br>(in.) | Z<br>(in.) |
|---------------------------|-----------------------|-----------------|-------------------|-------------|------------|
|                           |                       |                 |                   |             |            |
| 2 FNU                     | 1/8                   | 5/16 - 24       | 3/8               | 0.34        | 0.55       |
| 4 FNU                     | 1/4                   | 7/16 - 20       | 9/16              | 0.36        | 0.73       |
| 5 FNU                     | 5/16                  | 1/2 - 20        | 5/8               | 0.40        | 0.77       |
| 6 FNU                     | 3/8                   | 9/16 - 18       | 11/16             | 0.42        | 0.80       |
| 8 FNU                     | 1/2                   | 3/4 - 16        | 7/8               | 0.44        | 0.87       |
| 10 FNU                    | 5/8                   | 7/8 - 14        | 1                 | 0.47        | 0.98       |
| 12 FNU                    | 3/4                   | 1 1/16 - 12     | 1 1/4             | 0.48        | 1.00       |
| 16 FNU                    | 1                     | 1 5/16 - 12     | 1 1/2             | 0.58        | 1.08       |
| 20 FNU                    | 1 1/4                 | 1 5/8 - 12      | 2                 | 0.64        | 1.11       |

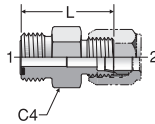
**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

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## BUHLO

Ferulok Male Adapter  
ORFS / SAE Flareless

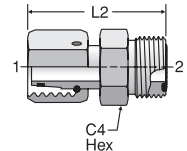


| TUBE<br>FITTING<br>PART # | END SIZE |       | C4<br>HEX<br>(in.) | L<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|--------------------|------------|--------------------------------------|-----|
|                           | 1        | 2     |                    |            | -S                                   | -SS |
|                           | (in.)    | (in.) |                    |            |                                      |     |
| 6 BUHLO                   | 3/8      | 3/8   | 3/4                | 1.25       | 6.0                                  | 7.2 |
| 8 BUHLO                   | 1/2      | 1/2   | 7/8                | 1.45       | 5.0                                  | 6.0 |
| 10 BUHLO                  | 5/8      | 5/8   | 1 1/16             | 1.70       | 5.0                                  | 6.0 |
| 12 BUHLO                  | 3/4      | 3/4   | 1 1/4              | 1.88       | 4.5                                  | 5.4 |
| 16 BUHLO                  | 1        | 1     | 1 1/2              | 1.94       | 4.0                                  | 4.8 |

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## LOHU86

EO Swivel Adapter  
24° Flareless Metric  
Swivel (EO) / ORFS

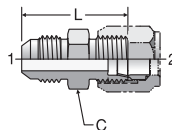


| TUBE<br>FITTING<br>PART # | END SIZE  |       | C4<br>HEX<br>(in.) | L2<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|-----------|-------|--------------------|-------------|--------------------------------------|-----|
|                           | 1         | 2     |                    |             | -S                                   | -SS |
|                           | EO Swivel | (in.) |                    |             |                                      |     |
| L Series                  |           |       |                    |             |                                      |     |
| 4-6L LOHU86               | 6L        | 1/4   | 5/8                | 1.32        | 4.5                                  | 5.4 |
| 4-8L LOHU86               | 8L        | 1/4   | 5/8                | 1.32        | 4.5                                  | 5.4 |
| 6-10L LOHU86              | 10L       | 3/8   | 3/4                | 1.44        | 4.5                                  | 5.4 |
| 8-12L LOHU86              | 12L       | 1/2   | 7/8                | 1.53        | 4.5                                  | 5.4 |
| 10-15L LOHU86             | 15L       | 5/8   | 1 1/16             | 1.82        | 4.5                                  | 5.4 |
| 12-18L LOHU86             | 18L       | 3/4   | 1 1/4              | 1.89        | 4.5                                  | 5.4 |
| 16-22L LOHU86             | 22L       | 1     | 1 1/2              | 2.08        | 2.5                                  | 3.0 |
| S Series                  |           |       |                    |             |                                      |     |
| 4-6S LOHU86               | 6S        | 1/4   | 5/8                | 1.32        | 9.2                                  | 9.2 |
| 4-8S LOHU86               | 8S        | 1/4   | 5/8                | 1.34        | 9.2                                  | 9.2 |
| 6-10S LOHU86              | 10S       | 3/8   | 3/4                | 1.44        | 9.2                                  | 9.2 |
| 8-12S LOHU86              | 12S       | 1/2   | 7/8                | 1.59        | 9.2                                  | 9.2 |
| 10-14S LOHU86             | 14S       | 5/8   | 1 1/16             | 1.84        | 9.2                                  | 9.2 |
| 10-16S LOHU86             | 16S       | 5/8   | 1 1/16             | 1.84        | 5.8                                  | 5.8 |
| 12-20S LOHU86             | 20S       | 3/4   | 1 1/4              | 2.05        | 5.8                                  | 5.8 |
| 16-25S LOHU86             | 25S       | 1     | 1 1/2              | 2.15        | 5.8                                  | 5.8 |

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## XHBU

Union Adapter  
SAE Flareless / 37° Flare

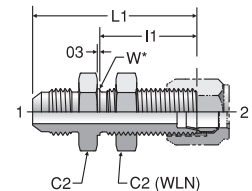


| TUBE<br>FITTING<br>PART # | END SIZE |       | C<br>HEX<br>(in.) | L<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|-------------------|------------|--------------------------------------|-----|
|                           | 1        | 2     |                   |            | -S                                   | -SS |
|                           | (in.)    | (in.) |                   |            |                                      |     |
| 4 XHBU                    | 1/4      | 1/4   | 1/2               | 1.19       | 5.0                                  | 7.7 |
| 6 XHBU                    | 3/8      | 3/8   | 5/8               | 1.28       | 5.0                                  | 7.7 |
| 8 XHBU                    | 1/2      | 1/2   | 13/16             | 1.47       | 5.0                                  | 7.7 |
| 10 XHBU                   | 5/8      | 5/8   | 15/16             | 1.69       | 5.0                                  | 6.0 |
| 12 XHBU                   | 3/4      | 3/4   | 1 1/8             | 1.94       | 4.5                                  | 6.0 |
| 16 XHBU                   | 1        | 1     | 1 5/8             | 1.97       | 4.0                                  | 4.8 |
| 20 XHBU                   | 1 1/4    | 1 1/4 | 1 3/4             | 2.00       | 3.0                                  | 3.6 |
| 24 XHBU                   | 1 1/2    | 1 1/2 | 2 1/8             | 2.16       | 2.0                                  | 2.4 |

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## XHBU2

Bulkhead Union Adapter  
SAE Flareless Bulkhead /  
37° Flare



\*W – Bulkhead pilot dia. recommended clearance hole is +.015 over W dia.

| TUBE<br>FITTING<br>PART # | END SIZE |       | C2<br>HEX<br>(in.) | I1<br>(in.) | L1<br>(in.) | W<br>(in.) | Max.<br>Bulkhead<br>Thickness | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|--------------------|-------------|-------------|------------|-------------------------------|--------------------------------------|-----|
|                           | 1        | 2     |                    |             |             |            |                               | -S                                   | -SS |
|                           | (in.)    | (in.) |                    |             |             |            |                               |                                      |     |
| 4 XHBU2                   | 1/4      | 1/4   | 11/16              | 1.13        | 1.94        | 0.44       | 0.38                          | 5.0                                  | 7.7 |
| 6 XHBU2                   | 3/8      | 3/8   | 13/16              | 1.17        | 2.08        | 0.56       | 0.40                          | 5.0                                  | 7.7 |
| 8 XHBU2                   | 1/2      | 1/2   | 1                  | 1.31        | 2.31        | 0.75       | 0.40                          | 5.0                                  | 7.7 |
| 10 XHBU2                  | 5/8      | 5/8   | 1 1/8              | 1.45        | 2.56        | 0.88       | 0.37                          | 5.0                                  | 7.7 |
| 12 XHBU2                  | 3/4      | 3/4   | 1 3/8              | 1.56        | 2.94        | 1.06       | 0.43                          | 4.5                                  | 5.4 |
| 16 XHBU2                  | 1        | 1     | 1 5/8              | 1.56        | 2.95        | 1.31       | 0.43                          | 4.0                                  | 4.8 |

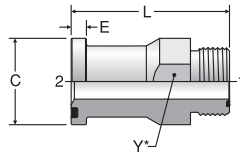
**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

Dimensions and pressures for reference only, subject to change.

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## LOHQ1

Code 61 Flange Connector  
Code 61 / ORFS



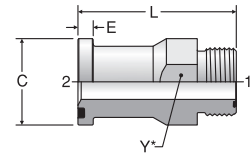
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |              | C<br>(in.) | E<br>(in.) | L<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|--------------|------------|------------|------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>Code 61 |            |            |            |            |                                            |
| 12 LOHQ1                  | 3/4        | 3/4          | 1.500      | 0.265      | 2.79       | 1 3/8      | 5.0                                        |
| 16 LOHQ1                  | 1          | 1            | 1.750      | 0.315      | 2.81       | 1 5/8      | 5.0                                        |
| 20 LOHQ1                  | 1 1/4      | 1 1/4        | 2.000      | 0.315      | 3.21       | 1 7/8      | 4.0                                        |
| 24 LOHQ1                  | 1 1/2      | 1 1/2        | 2.375      | 0.315      | 3.29       | 2 1/8      | 3.0                                        |

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## LOHQ2

Code 62 Flange Connector  
Code 62 / ORFS



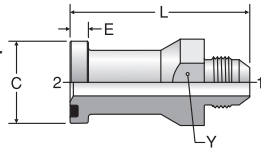
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |              | C<br>(in.) | E<br>(in.) | L<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|--------------|------------|------------|------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>Code 62 |            |            |            |            |                                            |
| 12 LOHQ2                  | 3/4        | 3/4          | 1.625      | 0.345      | 3.02       | 1 3/8      | 6.0                                        |
| 12-16 LOHQ2               | 3/4        | 1            | 1.875      | 0.375      | 3.34       | 1 5/8      | 6.0                                        |
| 16 LOHQ2                  | 1          | 1            | 1.875      | 0.375      | 3.36       | 1 5/8      | 6.0                                        |
| 20 LOHQ2                  | 1 1/4      | 1 1/4        | 2.125      | 0.405      | 3.48       | 1 7/8      | 6.0                                        |
| 24 LOHQ2                  | 1 1/2      | 1 1/2        | 2.500      | 0.495      | 4.14       | 2 1/8      | 5.0                                        |

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## XHQ1

Code 61 Flange Connector  
Code 61 / 37° Flare



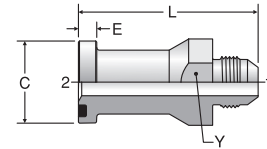
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |              | C<br>(in.) | E<br>(in.) | L<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|--------------|------------|------------|------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>Code 61 |            |            |            |            |                                            |
| 12 XHQ1                   | 3/4        | 3/4          | 1.500      | 0.265      | 2.77       | 1 3/8      | 5.0                                        |
| 16 XHQ1                   | 1          | 1            | 1.750      | 0.315      | 2.91       | 1 5/8      | 5.0                                        |
| 20 XHQ1                   | 1 1/4      | 1 1/4        | 2.000      | 0.315      | 3.36       | 1 7/8      | 4.0                                        |
| 24 XHQ1                   | 1 1/2      | 1 1/2        | 2.375      | 0.315      | 3.57       | 2 1/8      | 3.0                                        |
| 32 XHQ1                   | 2          | 2            | 2.812      | 0.375      | 4.04       | 2 5/8      | 2.0                                        |

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## XHQ2

Code 62 Flange Connector  
Code 62 / 37° Flare



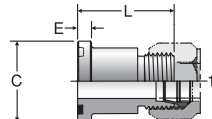
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |              | C<br>(in.) | E<br>(in.) | L<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|--------------|------------|------------|------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>Code 62 |            |            |            |            |                                            |
| 12 XHQ2                   | 3/4        | 3/4          | 1.625      | 0.345      | 3.08       | 1 3/8      | 5.0                                        |
| 16 XHQ2                   | 1          | 1            | 1.875      | 0.375      | 3.43       | 1 5/8      | 5.0                                        |
| 20 XHQ2                   | 1 1/4      | 1 1/4        | 2.125      | 0.405      | 3.60       | 1 7/8      | 4.0                                        |
| 24 XHQ2                   | 1 1/2      | 1 1/2        | 2.500      | 0.495      | 4.34       | 2 1/8      | 3.0                                        |

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## BUHQ1

Code 61 Connector  
Code 61 / Flareless



| TUBE<br>FITTING<br>PART # | END SIZE   |              | C<br>(in.) | E<br>(in.) | L<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|--------------|------------|------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>Code 61 |            |            |            |                                            |
| 12 BUHQ1                  | 3/4        | 3/4          | 1.500      | 0.265      | 1.82       |                                            |
| 16 BUHQ1                  | 1          | 1            | 1.750      | 0.315      | 1.88       |                                            |
| 20 BUHQ1                  | 1 1/4      | 1 1/4        | 2.000      | 0.315      | 1.82       |                                            |
| 24 BUHQ1                  | 1 1/2      | 1 1/2        | 2.375      | 0.315      | 1.94       |                                            |
| 32 BUHQ1                  | 2          | 2            | 2.812      | 0.375      | 1.97       |                                            |

**WARNING:** This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

Dimensions and pressures for reference only, subject to change.

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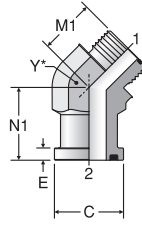
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## LOVQ1

Code 61 Flange 45° Elbow  
Code 61 / ORFS



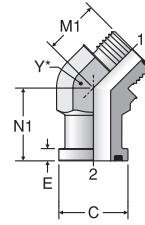
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M1<br>(in.) | N1<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|------------|------------|------------|-------------|-------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |             |             |            |                                            |
| 12 LOVQ1                  | 3/4        | 3/4        | 1.500      | 0.265      | 1.28        | 1.58        | 1 7/16     | 5.0                                        |
| 16 LOVQ1                  | 1          | 1          | 1.750      | 0.315      | 1.47        | 1.85        | 1 5/8      | 5.0                                        |
| 20 LOVQ1                  | 1 1/4      | 1 1/4      | 2.000      | 0.315      | 1.59        | 2.04        | 1 7/8      | 4.0                                        |
| 24 LOVQ1                  | 1 1/2      | 1 1/2      | 2.375      | 0.315      | 1.78        | 2.38        | 2 1/2      | 3.0                                        |

**WARNING:** This product can expose you to chemicals including Diisononyl Phthalate which is known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## LOVQ2

Code 62 Flange 45° Elbow  
Code 62 / ORFS



\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M1<br>(in.) | N1<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|------------|------------|------------|-------------|-------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |             |             |            |                                            |
| 12 LOVQ2                  | 3/4        | 3/4        | 1.625      | 0.345      | 1.28        | 1.58        | 1 7/16     | 6.0                                        |
| 16 LOVQ2                  | 1          | 1          | 1.875      | 0.375      | 1.47        | 1.85        | 1 5/8      | 6.0                                        |
| 20 LOVQ2                  | 1 1/4      | 1 1/4      | 2.125      | 0.405      | 1.59        | 2.04        | 1 7/8      | 5.0                                        |
| 24 LOVQ2                  | 1 1/2      | 1 1/2      | 2.500      | 0.495      | 1.78        | 2.38        | 2 1/2      | 4.5                                        |

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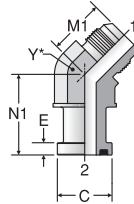
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## XVQ1

Code 61 Flange 45° Elbow  
Code 61 / 37° Flare



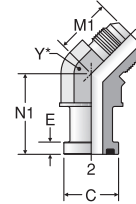
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M1<br>(in.) | N1<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|------------|------------|------------|-------------|-------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |             |             |            |                                            |
| 12 XVQ1                   | 3/4        | 3/4        | 1.500      | 0.265      | 1.28        | 1.58        | 1 7/16     | 5.0                                        |
| 16 XVQ1                   | 1          | 1          | 1.750      | 0.315      | 1.47        | 1.85        | 1 5/8      | 5.0                                        |
| 20 XVQ1                   | 1 1/4      | 1 1/4      | 2.000      | 0.315      | 1.59        | 2.04        | 1 7/8      | 4.0                                        |
| 24 XVQ1                   | 1 1/2      | 1 1/2      | 2.375      | 0.315      | 1.78        | 2.38        | 2 1/2      | 3.0                                        |
| 32 XVQ1                   | 2          | 2          | 2.812      | 0.375      | 2.22        | 3.00        | 2 1/2      | 2.0                                        |

**WARNING:** This product can expose you to chemicals including Diisononyl Phthalate which is known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

## XVQ2

Code 62 Flange 45° Elbow  
Code 62 / 37° Flare

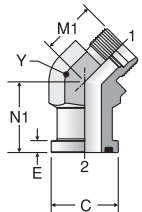


\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M1<br>(in.) | N1<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|------------|------------|------------|-------------|-------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |             |             |            |                                            |
| 12 XVQ2                   | 3/4        | 3/4        | 1.625      | 0.345      | 1.28        | 1.58        | 1 7/16     | 5.0                                        |
| 16 XVQ2                   | 1          | 1          | 1.875      | 0.375      | 1.47        | 1.85        | 1 5/8      | 5.0                                        |
| 20 XVQ2                   | 1 1/4      | 1 1/4      | 2.125      | 0.405      | 1.59        | 2.04        | 1 7/8      | 4.0                                        |
| 24 XVQ2                   | 1 1/2      | 1 1/2      | 2.500      | 0.495      | 1.78        | 2.38        | 2 1/2      | 3.0                                        |

## BUVQ1

Code 61 45° Elbow  
Code 61 / Flareless



\* Y – Across Wrench Flats

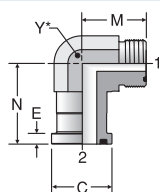
| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M1<br>(in.) | N1<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI)<br>-S |
|---------------------------|------------|------------|------------|------------|-------------|-------------|------------|--------------------------------------------|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |             |             |            |                                            |
| 12 BUVQ1                  | 3/4        | 3/4        | 1.500      | 0.265      | 1.27        | 1.58        | 1 7/16     |                                            |
| 16 BUVQ1                  | 1          | 1          | 1.750      | 0.315      | 1.36        | 1.85        | 1 5/8      |                                            |
| 20 BUVQ1                  | 1 1/4      | 1 1/4      | 2.000      | 0.315      | 1.45        | 2.40        | 1 7/8      |                                            |
| 24 BUVQ1                  | 1 1/2      | 1 1/2      | 2.375      | 0.315      | 1.52        | 2.90        | 2 1/2      |                                            |
| 32 BUVQ1                  | 2          | 2          | 2.812      | 0.375      | 1.83        | 3.00        | 2 1/2      |                                            |

Dimensions and pressures for reference only, subject to change.

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## LOEQ1

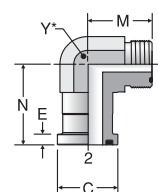
Code 61 Flange 90° Elbow  
Code 61 / ORFS



\* Y – Across Wrench Flats

## LOEQ2

Code 62 Flange 90° Elbow  
Code 62 / ORFS



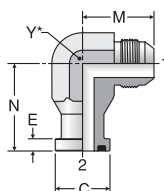
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |    |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|--------------------------------------|----|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |            |            |            | -S                                   | -B |
| 12 LOEQ1                  | 3/4        | 3/4        | 1.500      | 0.265      | 1.66       | 2.13       | 1 3/16     | 5.0                                  |    |
| 16 LOEQ1                  | 1          | 1          | 1.750      | 0.315      | 1.81       | 2.37       | 1 7/16     | 5.0                                  |    |
| 20 LOEQ1                  | 1 1/4      | 1 1/4      | 2.000      | 0.315      | 2.06       | 2.62       | 1 5/8      | 4.0                                  |    |
| 24 LOEQ1                  | 1 1/2      | 1 1/2      | 2.375      | 0.315      | 2.54       | 2.64       | 2          | 3.0                                  |    |

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |    |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|--------------------------------------|----|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |            |            |            | -S                                   | -B |
| 12 LOEQ2                  | 3/4        | 3/4        | 1.625      | 0.345      | 1.66       | 2.13       | 1 3/16     | 6.0                                  |    |
| 16 LOEQ2                  | 1          | 1          | 1.875      | 0.375      | 1.81       | 2.37       | 1 7/16     | 6.0                                  |    |
| 20 LOEQ2                  | 1 1/4      | 1 1/4      | 2.125      | 0.405      | 2.06       | 2.76       | 1 5/8      | 5.0                                  |    |
| 24 LOEQ2                  | 1 1/2      | 1 1/2      | 2.500      | 0.495      | 2.33       | 3.15       | 2          | 4.5                                  |    |

## XEQ1

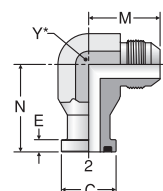
Code 61 Flange 90° Elbow  
Code 61 / 37° Flare



\* Y – Across Wrench Flats

## XEQ2

Code 62 Flange 90° Elbow  
Code 62 / 37° Flare



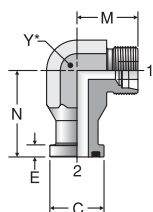
\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |    |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|--------------------------------------|-----|----|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |            |            |            | -S                                   | -SS | -B |
| 12 XEQ1                   | 3/4        | 3/4        | 1.500      | 0.265      | 1.66       | 2.13       | 1 3/16     | 5.0                                  |     |    |
| 16 XEQ1                   | 1          | 1          | 1.750      | 0.315      | 1.81       | 2.37       | 1 7/16     | 5.0                                  |     |    |
| 20 XEQ1                   | 1 1/4      | 1 1/4      | 2.000      | 0.315      | 2.06       | 2.62       | 1 5/8      | 4.0                                  |     |    |
| 24 XEQ1                   | 1 1/2      | 1 1/2      | 2.375      | 0.315      | 2.33       | 3.15       | 2          | 3.0                                  |     |    |
| 32 XEQ1                   | 2          | 2          | 2.812      | 0.375      | 3.06       | 4.25       | 2 1/2      | 2.0                                  |     |    |

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |    |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|--------------------------------------|-----|----|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |            |            |            | -S                                   | -SS | -B |
| 12 XEQ2                   | 3/4        | 3/4        | 1.625      | 0.345      | 1.66       | 2.13       | 1 3/16     | 5.0                                  |     |    |
| 16 XEQ2                   | 1          | 1          | 1.875      | 0.375      | 1.81       | 2.57       | 1 7/16     | 5.0                                  |     |    |
| 20 XEQ2                   | 1 1/4      | 1 1/4      | 2.125      | 0.405      | 2.06       | 2.76       | 1 5/8      | 4.0                                  |     |    |
| 24 XEQ2                   | 1 1/2      | 1 1/2      | 2.500      | 0.495      | 2.33       | 3.15       | 2          | 3.0                                  |     |    |

## BUEQ1

Code 61 90° Elbow  
Code 61 / Flareless



\* Y – Across Wrench Flats

| TUBE<br>FITTING<br>PART # | END SIZE   |            | C<br>(in.) | E<br>(in.) | M<br>(in.) | N<br>(in.) | Y<br>(in.) | Dynamic<br>Pressure<br>(x 1,000 PSI) |     |    |
|---------------------------|------------|------------|------------|------------|------------|------------|------------|--------------------------------------|-----|----|
|                           | 1<br>(in.) | 2<br>(in.) |            |            |            |            |            | -S                                   | -SS | -B |
| 12 BUEQ1                  | 3/4        | 3/4        | 1.500      | 0.265      | 1.73       | 1.81       | 1 3/16     |                                      |     |    |
| 16 BUEQ1                  | 1          | 1          | 1.750      | 0.315      | 1.99       | 2.13       | 1 7/16     |                                      |     |    |
| 20 BUEQ1                  | 1 1/4      | 1 1/4      | 2.000      | 0.315      | 1.99       | 2.26       | 1 5/8      |                                      |     |    |
| 24 BUEQ1                  | 1 1/2      | 1 1/2      | 2.375      | 0.315      | 2.33       | 2.64       | 2          |                                      |     |    |
| 32 BUEQ1                  | 2          | 2          | 2.812      | 0.375      | 2.45       | 4.25       | 2 1/2      |                                      |     |    |

**WARNING:** This product can expose you to chemicals including Diisononyl Phthalate which is known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

Dimensions and pressures for reference only, subject to change.



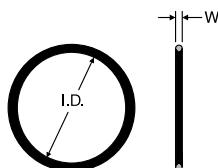
[Click here for Support Resources or to Configure Parts Online](#)

## ORFS O-Ring

ORFS Tube End O-Ring

Specify size and compound

Example: 2-018 NBR (standard NBR)

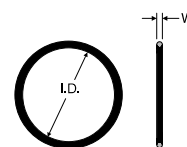


## XO O-Ring

Triple-Lok 2 O-Ring

Specify size and compound

Example: 2-019 NBR (standard NBR)



| TUBE<br>FITTING<br>PART # | FITTING<br>DASH<br>SIZE | END SIZE |            | I.D.  |      | W     |      | Material |       |        |
|---------------------------|-------------------------|----------|------------|-------|------|-------|------|----------|-------|--------|
|                           |                         | (in.)    | (mm)       | (in.) | (mm) | (in.) | (mm) | NBR*     | FKM** | CNG*** |
| 2-011                     | 4                       | 1/4      | 6          | 0.30  | 7.7  | 0.07  | 1.78 | •        | •     | •      |
| 2-012                     | 6                       | 3/8      | 8, 10      | 0.36  | 9.3  | 0.07  | 1.78 | •        | •     | •      |
| 2-014                     | 8                       | 1/2      | 12         | 0.49  | 12.4 | 0.07  | 1.78 | •        | •     | •      |
| 2-016                     | 10                      | 5/8      | 14, 15, 16 | 0.61  | 15.6 | 0.07  | 1.78 | •        | •     | •      |
| 2-018                     | 12                      | 3/4      | 18, 20     | 0.74  | 18.8 | 0.07  | 1.78 | •        | •     | •      |
| 2-020                     | 14                      | 7/8      | 22         | 0.86  | 21.8 | 0.07  | 1.78 | •        | •     | •      |
| 2-021                     | 16                      | 1        | 25         | 0.93  | 23.5 | 0.07  | 1.78 | •        | •     | •      |
| 2-025                     | 20                      | 1 1/4    | 28, 30, 32 | 1.18  | 29.9 | 0.07  | 1.78 | •        | •     | •      |
| 2-029                     | 24                      | 1 1/2    | 35, 38     | 1.49  | 37.8 | 0.07  | 1.78 | •        | •     | •      |
| 2-135                     | 32                      | 2        | 50         | 1.93  | 49.0 | 0.10  | 2.54 | •        | •     | •      |

\* NBR is the standard compound — 90-durometer Nitrile.

\*\* FKM is an optional 90-durometer fluorocarbon compound.

\*\*\* CNG is an optional 85 durometer HNBR compound for CNG applications

See page M3 for O-ring Material Selection and data.

| TUBE<br>FITTING<br>PART # | TUBE<br>O.D.<br>(in.) | I.D.<br>(in.) | W<br>(in.) | Material<br>NBR |
|---------------------------|-----------------------|---------------|------------|-----------------|
| 5-193                     | 1/4                   | 0.18          | 0.04       | •               |
| 5-179                     | 5/16                  | 0.24          | 0.04       | •               |
| 5-056                     | 3/8                   | 0.30          | 0.04       | •               |
| 5-058                     | 1/2                   | 0.43          | 0.05       | •               |
| 2-013                     | 5/8                   | 0.43          | 0.07       | •               |
| 2-016                     | 3/4                   | 0.61          | 0.07       | •               |
| 2-017                     | 7/8                   | 0.68          | 0.07       | •               |
| 2-019                     | 1                     | 0.80          | 0.07       | •               |
| 2-023                     | 1 1/4                 | 1.05          | 0.07       | •               |
| 2-026                     | 1 1/2                 | 1.24          | 0.07       | •               |
| 2-133                     | 2                     | 1.80          | 0.10       | •               |

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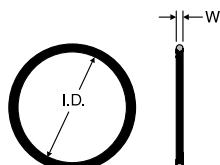
FAQs

## SAE O-Ring

SAE Straight Thread Port O-Ring

Specify size and compound

Example: 3-906 NBR (standard NBR)



| TUBE<br>FITTING<br>PART # | FITTING<br>DASH<br>SIZE | I.D.<br>(in.) | W<br>(in.) | Material |       |        |
|---------------------------|-------------------------|---------------|------------|----------|-------|--------|
|                           |                         |               |            | NBR*     | FKM** | CNG*** |
| 3-902                     | 2                       | 0.24          | 0.06       | •        | •     |        |
| 3-903                     | 3                       | 0.30          | 0.06       | •        | •     |        |
| 3-904                     | 4                       | 0.35          | 0.07       | •        | •     | •      |
| 3-905                     | 5                       | 0.41          | 0.07       | •        | •     |        |
| 3-906                     | 6                       | 0.47          | 0.08       | •        | •     | •      |
| 3-908                     | 8                       | 0.64          | 0.09       | •        | •     | •      |
| 3-910                     | 10                      | 0.76          | 0.10       | •        | •     |        |
| 3-912                     | 12                      | 0.92          | 0.12       | •        | •     |        |
| 3-914                     | 14                      | 1.05          | 0.12       | •        | •     |        |
| 3-916                     | 16                      | 1.17          | 0.12       | •        | •     |        |
| 3-920                     | 20                      | 1.48          | 0.12       | •        | •     |        |
| 3-924                     | 24                      | 1.72          | 0.12       | •        | •     |        |
| 3-932                     | 32                      | 2.34          | 0.12       | •        | •     |        |

\* NBR is the standard compound — 90-durometer Nitrile.

\*\* FKM is an optional 90-durometer fluorocarbon compound.

\*\*\* CNG is an optional 85 durometer HNBR compound for CNG applications

See page M3 for O-ring Material Selection and data.

Dimensions for reference only, subject to change.