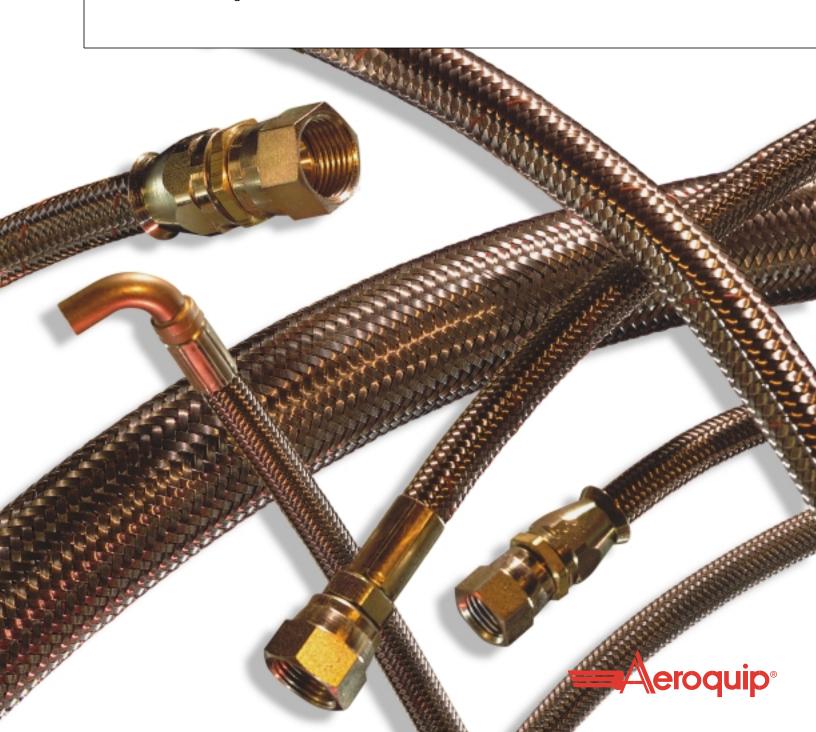
# F-T-N Aeroquip

PTFE Hose and Fittings Technical Catalog



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Eaton is a global diversified industrial manufacturer of highly engineered products that serve industrial, vehicle, construction, commercial, and aerospace markets. Principal products include hydraulic products and fluid connectors, electrical power distribution and control equipment, truck drivetrain systems, engine components, and a wide variety of controls. The company has 59,000 employees and 195 manufacturing sites in 24 countries. The Internet address for Eaton is: http://www.eaton.com/

# The PTFE Advantage

Aeroquip PTFE hose is ideally suited for applications requiring maximum flexibility, high-pressure ratings, chemical and temperature resistance, and extremely long life. Aeroquip PTFE hose offers the following advantages:

**Flexible**–The flexibility of Aeroquip PTFE hose provides excellent resistance to failure in fatigue and flexing applications.

**Chemical Resistant**–PTFE is inert, thus creating a nearly "universal" hose capable of handling the broadest range of applications.

Temperature Resistant-It even handles steam-up to +388°F.

**Non-Stick**–PTFE hose is easily cleaned to maintain batch purity when using one hose for several services.

**Low Friction**-PTFE hose exhibits low-pressure drop that remains constant because no deposits accumulate on the inside wall of the hose.

**Moisture Resistant**-Ideal for pneumatic systems requiring lowdew point.

**Non-Aging**–Properties of PTFE hose do not change with age or exposure to weather.

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# Introduction

**Manufacturing Experience**–Since 1963, Eaton has been producing industrial hose and fittings at modern manufacturing plants that employ exacting standards. By manufacturing our own PTFE hose and fittings, we control product quality and provide you with the kind of reliability you have come to expect from Eaton.

**Quality Control/Testing**–Extensive laboratory testing is the cornerstone of Eaton quality. Both smooth-bore and convoluted PTFE hose styles are subjected to vacuum, impulse, burst, oven aging, and cold flex tests to ensure that quality has been designed into every hose. Along with lab testing, PTFE hose is also field tested before it is released to manufacturing. Samples of Aeroquip PTFE hose are regularly field tested to the same rigid standards developed in engineering and initial product testing. These quality control checks along the way help to ensure that Aeroquip PTFE hose and fittings provide the reliability you require.

**In-Stock Availability**–Eaton operates a worldwide network of stocking distributors that can supply any customer the right PTFE hose, fitting, assembly, and related accessory or assembly equipment necessary to handle practically any industrial application. This distributor network is backed by Eaton's com-

# **Example of PTFE Applications**

**Molding**–PTFE hose handles steam up to 388°F @ 200 psi steam pressure for heating of plastic and rubber molding presses.

**Urethane Foam Manufacturing**-PTFE hose handles isocynates and other activators at the high pressures in foam manufacturing processes.

Gas Transfer/Breathing Apparatus – PTFE hose exhibits low permeability to  $O_2$ ,  $N_2$ , & Argon under high pressure.

**Marine Hydraulic Control & Power Systems**-PTFE hose is resistant to fire resistant and water emulsion hydraulic fluids used in marine systems.

**Steam Applications**-PTFE hose is ideal for use on heating lines on dryers in processing plants and as lines that provide steam to laundry garment presses.

plete inventory of virtually any size or style of PTFE hose, fittings, and adapters. From distributor to manufacturer, Eaton can get the right materials to your operation quickly and efficiently.

**Field Service Capability**–Eaton employs highly-trained field personnel to help our distributors and customers troubleshoot virtually any fluid and/or pneumatic application using Aeroquip smooth bore or convoluted PTFE hose and fittings. If it's a problem that can't be handled over the phone, Eaton can dispatch a field service engineer to handle the problem on the spot. Our trained distributors and field service engineers provide assistance on routing, assembly, or any related hydraulic problem.

**Proven Product Performance** – Aeroquip smooth bore and convoluted PTFE hose styles have been proven in a wide range of industrial, aerospace, and defense applications. In applications where steam, chemicals, or other exotic fluids are involved, Aeroquip PTFE hose provides reliable fluid conveyance with excellent resistance to corrosion or chemical attack within an extreme temperature range. Aeroquip PTFE hose has been used on professional race cars, naval ships, aircraft, and in a myriad of industrial applications.

**Fuel Lines**–PTFE, when used as a fuel hose, is resistant to the blending of additives in fuels. Aeroquip FC465 and FC469 hose styles have conductive inner tubes that decrease the occurrence of the buildup of static charge.

**Compressor Discharge Hose**–With most compressor discharge applications operating above 300°F, PTFE hose is the obvious choice over rubber hose. Less carbon particles deposit on PTFE due to its inherent release properties.

**Chemical Handling**–PTFE hose solves chemical handling problems – whether its low permeability or low buildup–in leading stations, on flexible connections between chemical pipework, and in laboratories.

**Adhesives**–PTFE hose handles the adhesives that are present in shoe manufacturing, canning operations, and carbon manufacturing.

# Why Use Aeroquip Convoluted Hose?

- Increased flexibility
- Tighter bend radius:

|           | Convoluted  | Conventional |
|-----------|-------------|--------------|
|           | Minimum     | Smooth-      |
|           | Bend Radius | Bore PTFE    |
| Hose Size | (Inches)    | (Inches)     |
| -8        | 2.88        | 5.25         |
| -12       | 3.75        | 7.75         |
| -16       | 5.00        | 9.00         |
| -20       | 6.25        | 16.00        |
| -24       | 7.50        | -            |
| -32       | 10.00       | -            |

- Operating temperature -65°F (-54°C) to +400°F (+204°C)
- Available in a wide size range (-8 to -32) when compared to smooth-bore hose.
- Spun polyester hose with advanced abrasion resistance is available.
- Conductive tube to dissipate electric charge buildup is available.

This page is part of a complete catalog which contains technical and safety data that must be reviewed when selecting a product.



## How to Order

Accurate processing and prompt delivery of your order depend on easy identification of your requirements. Please order Aeroquip parts using correct part numbers as described in this catalog. Inquiries and orders should be directed to your Aeroquip Products Distributor.

### Part Numbers and Dash Sizes

Dash size designates the nominal size in 16ths of an inch. This number immediately follows the part number and is separated from it with a dash.

#### Dimensions

Dimensions given in this catalog for Aeroquip products are approximate and should be used for reference only. Exact dimensional information for a given product is subject to change and varying tolerances; contact Eaton directly for full current information.

### **Cut Length Hose**

For alpha-numeric part numbers:

Hose dash size -

Cut length (in inches) -

Hose type

last digit is in 1/8ths of an inch 00484 =  $481/_2$  inches

### **Bulk Hose**

Bulk hose should be ordered by specifying length in feet as shown below.

Complete number

500 ft.- 2807-4

2807-4-00484

Quantity (in feet) \_

Hose type -

Hose size (in 16ths of an inch) -

**Note:** Length tolerance for hose, assemblies and sleeves is: Up to and including 12 inches:  $\pm \frac{1}{6}$ " Above 12 inches to and including 18 inches:  $\pm \frac{3}{16}$ " Above 18 inches to and including 36 inches:  $\pm \frac{1}{4}$ " Above 36 inches:  $\pm 1\%$  of length

### **Fittings**

Fittings are ordered as complete assemblies.

Complete number Basic part number FJ9587-08 08 S

Pipe or port size (in 16ths of an inch) -

Mating hose size -

Material designation suffix-

("S" designates plated carbon steel)

### WARNING

Aeroquip manufactures the terminal ends of our hose fittings to the appropriate requirements established by the SAE. Therefore, the performance ratings of these hose fittings meet the SAE requirements. It is possible to order a hose assembly with a fitting terminal end that has a performance rating lower than the hose rating. When ordering hose assemblies, please keep the terminal end performance rating in mind since this may affect overall hose assembly performance.

Many hose assembly components (hose and fittings) are easily assembled in the field. However, factory assembled swaged, crimped and reusable hose assemblies are available. For complete information, contact Aeroquip.

#### MIXING/MATCHING

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AEROQUIP FITTING TOLERANCES ARE ENGINEERED TO MATCH AEROQUIP HOSE TOLERANCES. THE USE OF AEROQUIP FIT-TINGS ON HOSE SUPPLIED BY OTHER MANUFACTURERS AND/OR THE USE OF AEROQUIP HOSE WITH FITTINGS SUP- PLIED BY OTHER MANUFACTURERS MAY RESULT IN THE PRO-DUCTION OF UNRELIABLE AND UNSAFE HOSE ASSEMBLIES AND IS NEITHER RECOMMENDED NOR AUTHORIZED BY AEROQUIP.

AEROQUIP SHALL NOT BE SUBJECT TO AND DISCLAIMS ANY OBLIGATIONS OR LIABILITIES (INCLUDING BUT NOT LIMITED TO ALL CONSEQUENTIAL, INCIDENTAL AND CONTINGENT DAMAGES) ARISING OUT OF BREACH OF CONTACT OR OF WARRANTY OR ARISING FROM TORT CLAIMS (INCLUDING WITHOUT LIMITATION NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORIES OF LAW WITH RESPECT TO ANY HOSE ASSEMBLIES NOT PRO-DUCED FROM GENUINE AEROQUIP HOSE FITTINGS, HOSE AND AEROQUIP APPROVED EQUIPMENT, AND IN CONFORMANCE WITH AEROQUIP PROCESS AND PRODUCT INSTRUCTIONS FOR EACH SPECIFIC HOSE ASSEMBLY.

FAILURE TO FOLLOW AEROQUIP PROCESS AND PRODUCT INSTRUCTIONS AND LIMITATIONS COULD LEAD TO PREMATURE HOSE ASSEMBLY FAILURES RESULTING IN PROPERTY DAM-AGE, SERIOUS INJURY OR DEATH.

# **Average Length Patterns of PTFE Hoses**

| Part<br>Number | Minimum<br>Length | Average<br>Length | Maximum<br>Length |  |
|----------------|-------------------|-------------------|-------------------|--|
|                | FEET              | FEET              | FEET              |  |
| 2807-3         | 5                 | 125               | 300               |  |
| 2807-4         | 5                 | 180               | 300               |  |
| 2807-5         | 5                 | 133               | 200               |  |
| 2807-6         | 5                 | 88                | 200               |  |
| 2807-8         | 5                 | 60                | 100               |  |
| 2807-10        | 5                 | 105               | 200               |  |
| 2807-12        | 5                 | 73                | 100               |  |
| 2807-16        | 5                 | 26                | 60                |  |
| 2807-20        | 5                 | 22                | 50                |  |
| 2808-8         | 5                 | 63                | 100               |  |
| 2808-10        | 5                 | 75                | 150               |  |
| 2808-12        | 5                 | 33                | 60                |  |
| 2808-16        | 5                 | 28                | 50                |  |
| 2808-20        | 5                 | 23                | 50                |  |
| 2808-24        | 5                 | 23                | 40                |  |
| FC363-12       | 5                 | 22                | 30                |  |
| FC363-16       | 5                 | 28                | 50                |  |
| FC363-20       | 5                 | 36                | 60                |  |
| FC363-24       | 5                 | 33                | 50                |  |
| FC363-32       | 5                 | 25                | 30                |  |
| FC364-12       | 5                 | 22                | 30                |  |
| FC364-16       | 5                 | 36                | 50                |  |
| FC364-20       | 5                 | 36                | 60                |  |
| FC364-24       | 5                 | 33                | 50                |  |
| FC364-32       | 5                 | 25                | 30                |  |
| FC465-04       | 5                 | 145               | 300               |  |
| FC465-06       | 5                 | 88                | 200               |  |
| FC465-08       | 5                 | 63                | 100               |  |
| FC465-10       | 5                 | 75                | 150               |  |
| FC465-12       | 5                 | 58                | 100               |  |
| FC469-06       | 5                 | 54                | 100               |  |
| FC469-08       | 5                 | 37                | 50                |  |
| FC469-10       | 5                 | 35                | 60                |  |
| FC563-12       | 5                 | 24                | 60                |  |
| FC563-16       | 5                 | 24                | 60                |  |
| FC563-20       | 5                 | 28                | 60                |  |
| FC807-04       | 5                 | 180               | 300               |  |
| FC807-05       | 5                 | 133               | 200               |  |
| FC807-06       | 5                 | 88                | 200               |  |
| FC807-08       | 5                 | 60                | 100               |  |
| FC807-10       | 5                 | 105               | 200               |  |
| FC807-10       | 5                 | 73                | 100               |  |
| FC807-12       | 5                 | 26                | 60                |  |



# Agency Approvals for 2807

|         | SAE J1942-1<br>Marine<br>Applications | Lloyd's<br>Register<br>of<br>Shipping<br>(UK) | Germanischer<br>Lloyd<br>(Deutschland) | Det<br>Norske<br>Veritas<br>(DNV) | American<br>Bureau of<br>Shipping<br>(ABS) | Nippon<br>Kaiji<br>Kyokai | Registro<br>Italiano<br>Navale |
|---------|---------------------------------------|---|--|-----------------------------------|--|---------------------------|--------------------------------|
| 2807-3  | Χ^*                                   | X*‡   | X*‡                                    |                                   | X*‡  | X*‡                       | X*‡                            |
| 2807-4  | Χ^*                                   | X*‡   | X*‡                                    | Χ*^                               | X*‡  | X*‡                       | X*‡                            |
| 2807-5  | Χ^*                                   | X*‡   | X*‡                                    | Χ*^                               | X*‡  | X*‡                       | X*‡                            |
| 2807-6  | Χ^*                                   | X*‡   | X*‡                                    | X*^                               | X*‡  | X*‡                       | X*‡                            |
| 2807-8  | Χ^*                                   | X*‡   | X*‡                                    | X*^                               | X*‡  | X*‡                       | X*‡                            |
| 2807-10 | Χ^*                                   | X*‡   | X*‡                                    | Χ*^                               | X*‡  | X*‡                       | X*‡                            |
| 2807-12 | Χ^*                                   | X*‡   | X*‡                                    | Χ*^                               | X*‡  | X*‡                       | X*‡                            |
| 2807-16 | X^*                                   | X*‡   | X*‡                                    | Χ*^                               | X*‡  | X*‡                       | X*‡                            |
| 2807-20 | X^†                                   | X*‡   | X*‡                                    | Х*^                               | X*‡  | X*‡                       | X*‡                            |

\* Qualification with both Aeroquip PTFE reusable and crimp fittings
^ Qualification with Aeroquip 624 Fire Sleeve and without Fire Sleeve
‡ Qualification with 624 Fire Sleeve only

† Qualification with only Aeroquip PTFÉ reusable fittings

# Agency Approvals for 2808

|         | SAE J1942-1<br>Marine<br>Applications | Lloyd's<br>Register<br>of<br>Shipping<br>(UK) | Germanischer<br>Lloyd<br>(Deutschland) | American<br>Bureau of<br>Shipping<br>(ABS) | Nippon<br>Kaiji<br>Kyokai | Registro<br>Italiano<br>Navale |
|---------|---------------------------------------|---|--|--|---------------------------|--------------------------------|
| 2808-8  | X*^                                   | X*‡   | X*‡                                    | X*‡  | X*‡                       | X*‡                            |
| 2808-10 | X*^                                   | X*‡   | X*‡                                    | X*‡  | X*‡                       | X*‡                            |
| 2808-12 | X*^                                   | X*‡   | X*‡                                    | X*‡  | X*‡                       | X*‡                            |
| 2808-16 | X*^                                   | X*‡   | X*‡                                    | X*‡  | X*‡                       | X*‡                            |
| 2808-20 | X*^                                   | X*‡   | X*‡                                    | X*‡  | X*‡                       | X*‡                            |
| 2808-24 | X*^                                   | X*‡   | X*‡                                    | X*‡  | X*‡                       | X*‡*                           |

Qualification with only Aeroquip PTFE reusable fittings

<sup>^</sup> Qualification with Aeroquip 624 Fire Sleeve and without Fire Sleeve
<sup>‡</sup> Qualification with 624 Fire Sleeve only

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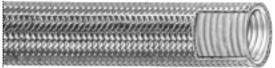
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### FC363 Convoluted PTFE hose

#### Nonconductive tube



| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Minimum<br>Kink<br>Radius | Vacuum<br>Service |
|----------------|--------------|--------------|----------------------------------|------------------------------|---------------------------|---------------------------|-------------------|
|                | INCHES       | INCHES       | PSI                              | PSI                          | INCHES                    | INCHES                    | INCH/Hg           |
| (#)            | O            | $\bigcirc$   | $\bigcirc$                       | $\bigcirc$                   | $\bigcirc$                | Q                         | $\bigcirc$        |
| FC363-12       | .81          | 1.06         | 1100†                            | 4400                         | 3.75                      | 2.00                      | 28                |
| FC363-16       | 1.00         | 1.28         | 1000†                            | 4000                         | 5.00                      | 2.50                      | 24                |
| FC363-20       | 1.24         | 1.53         | 1000†                            | 4000                         | 6.25                      | 3.50                      | 20                |
| FC363-24       | 1.52         | 1.81         | 750†                             | 3000                         | 7.50                      | 4.50                      | 12                |
| FC363-32       | 2.00         | 2.31         | 500†                             | 2000                         | 10.00                     | 6.00                      | 5                 |

Construction: Convoluted PTFE tube with stainless steel single wire braid cover.

Application: Chemical, food, water and waste handling, and various transfer applications. Not recommended for steam-cold water cycling.

Operating Temperature Range: -65°F to +400°F (-54°C to +204°C).

†Steam 200 psi at +388°F max. Engineering information is available for specific critical temperature requirements, contact Eaton Aeroquip.

## FC364 Convoluted PTFE hose Conductive

| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum†<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Minimum<br>Kink<br>Radius | Vacuum<br>Service                 |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|---------------------------|-----------------------------------|
|                | INCHES       | INCHES       | PSI                               | PSI                          | INCHES                    | INCHES                    | INCH/Hg                           |
| #              | O            | $\bigcirc$   | $\odot$                           | $\bigcirc$                   | $\odot$                   | Q                         | $\begin{array}{c} \\ \end{array}$ |
| FC364-12       | .81          | 1.06         | 1100†                             | 4400                         | 3.75                      | 2.00                      | 28                                |
| FC364-16       | 1.00         | 1.27         | 1000†                             | 4000                         | 5.00                      | 2.50                      | 24                                |
| FC364-20       | 1.24         | 1.53         | 1000†                             | 4000                         | 6.25                      | 3.50                      | 20                                |
| FC364-24       | 1.52         | 1.81         | 750†                              | 3000                         | 7.50                      | 4.50                      | 12                                |
| FC364-32       | 2.00         | 2.31         | 500†                              | 2000                         | 10.00                     | 6.00                      | 5                                 |

Construction: Convoluted conductive PTFE tube with stainless steel wire braid cover.

**Application:** Steam lines and fuel transfer applications where static dissipation is required. Not recommended for steam-cold water cycling.

Operating Temperature Range: -65°F to +400°F (-54°C to +204°C).

†Steam 200 psi at +388°F max. Engineering information is available for specific critical temperature requirements, contact Eaton Aeroquip.

CONVOLUTED PTFE HOSE



# FC563

Convoluted PTFE hose – Abrasion Resistant Nonconductive tube



| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum†<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Minimum<br>Kink<br>Radius | Vacuum<br>Service |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|---------------------------|-------------------|
|                | INCHES       | INCHES       | PSI                               | PSI                          | INCHES                    | INCH/Hg                   | INCH/Hg           |
| (#)            | Ô            | $\bigcirc$   | $\odot$                           | $\bigcirc$                   | $\odot$                   | Ø                         | $\bigcirc$        |
| FC563-12       | .81          | 1.06         | 1100                              | 4400                         | 3.75                      | 2.00                      | 28                |
| FC563-16       | 1.00         | 1.28         | 1000                              | 4000                         | 5.00                      | 2.50                      | 24                |
| FC563-20       | 1.24         | 1.53         | 1000                              | 4000                         | 6.25                      | 3.50                      | 20                |
| FC563-24       | 1.52         | 1.81         | 750                               | 3000                         | 7.50                      | 4.50                      | 10                |
| FC563-32       | 2.00         | 2.31         | 500                               | 2000                         | 10.00                     | 6.00                      | 7                 |

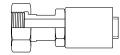
**Construction:** Convoluted PTFE tube with stainless steel single wire braid reinforcement and integral black polyester overbraid cover.

**Application:** Chemical transfer and various chemical processing applications. Not recommended for steam or steam-cold water cycling.

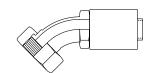
Operating Temperature Range: -65°F to +300°F (-54°C to +150°C).

# FC363, FC364 and FC563 Assembly Products

### FC363, FC364 and FC563 Fittings



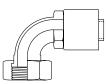
| Straight ORS Female Swivel–Carbon Steel |  |  |  |  |  |  |
|---|--|--|--|--|--|--|
| Nipple Part #                           | Hose Size  |  |  |  |  |  |
| FJ6482-1616S                            | -16  |  |  |  |  |  |
| FJ6482-2020S                            | -20  |  |  |  |  |  |
| FJ6482-2424S                            | -24  |  |  |  |  |  |
|   | <b>Nipple Part #</b><br>FJ6482-1616S<br>FJ6482-2020S |  |  |  |  |  |



#### 45° Elbow, ORS Female Swivel–Carbon Steel

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| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC1347-16S    | FJ6515-1616S  | -16       |
| FC1347-20S    | FJ6515-2020S  | -20       |
| FC1348-24S    | FJ6515-2424S  | -24       |



90° Elbow, ORS Female Swivel-Carbon Steel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC1347-16S    | FJ6578-1616S  | -16       |
| FC1347-20S    | FJ6578-2020S  | -20       |



HOSE

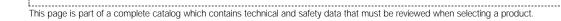
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## FLAT CRIMP FITTINGS

| for use with Hose<br>FC363, FC364,<br>FC563 | Male Pipe<br>FJ9588                | SAE 37°<br>(JIC) swivel<br>FJ9587 | <u>н</u><br>Е<br>Т<br>К<br>-<br>Г                             | •A<br>•<br> <br> |              | with<br>coated | Retainer<br>PTFE<br>d nipple<br>9656 | <u>+</u><br>⊑<br> <br>K<br>↓<br>L |      |            |
|---|------------------------------------|-----------------------------------|---|---|--------------|----------------|--------------------------------------|-----------------------------------|------|------------|
| Complete Fitting                            | Component Pa                       | rt Numbers                        |   |   |              |                |                                      |                                   |      |            |
| Part Number                                 | Nipple Assy.                       | Socket                            |   | Hose  |              |                |                                      |                                   |      |            |
| Stainless Steel                             | Stainless Steel                    | Stainless Steel                   | Thread  | Size  | Α            | D              | EØ                                   | КØ                                | 1    | $\sqrt{2}$ |
| Male pipe stainless                         | steel                              |                                   |   |   |              |                |                                      |                                   |      |            |
| FJ9588-0808-341                             | FC1349-0808-259                    | FC1347-08-329                     | <sup>1</sup> / <sub>2</sub> -14                               | -08   | 2.54         | 1.30           | .41                                  |                                   |      | .88        |
| FJ9588-1212-341 <sup>†</sup>                | FC1349-1212-259                    | FC1347-12-329                     | <sup>3</sup> /4-14  | -12   | 2.61         | 1.37           | .61                                  |                                   |      | 1.12       |
| FJ9588-1616-341 <sup>†</sup>                | FC1349-1616-259                    | FC1347-16-329                     | 1-11 <sup>1</sup> /2  | -16   | 2.80         | 1.55           | .81                                  |                                   |      | 1.38       |
| FJ9588-2020-341 <sup>+</sup>                | FC1349-2020-259                    | FC1347-20-329                     | 1 <sup>1</sup> / <sub>4</sub> -11 <sup>1</sup> / <sub>2</sub> | -20   | 2.95         | 1.70           | 1.05                                 |                                   |      | 1.75       |
| FJ9588-2424-341 <sup>+</sup>                | FC1349-2424-259                    | FC1347-24-329                     | 1 <sup>1</sup> / <sub>2</sub> -11 <sup>1</sup> / <sub>2</sub> | -24   | 3.20         | 1.74           | 1.28                                 |                                   |      | 2.00       |
| FJ9588-3232-341 <sup>+</sup>                | FC1349-3232-259                    | FC1347-32-329                     | 2-11 <sup>1</sup> / <sub>2</sub>                              | -32   | 3.46         | 1.96           | 1.75                                 |                                   |      | 2.50       |
| SAE 37° (JIC) swiv                          | el stainless steel                 |                                   |   |   |              |                |                                      |                                   |      |            |
| FJ9587-0808-331 <sup>†</sup>                | FJ8587-0808-331                    | FC1347-08-329                     | <sup>3</sup> /4-16  | -08   | 2.52         | 1.10           | .38                                  |                                   | .88  |            |
| FJ9587-1212-331 <sup>†</sup>                | FJ8587-1212-331                    | FC1347-12-329                     | 1 <sup>1</sup> / <sub>16</sub> -12                            | -12   | 2.55         | 1.23           | .61                                  |                                   | 1.25 |            |
| FJ9587-1616-331 <sup>+</sup>                | FJ8587-1616-331                    | FC1347-16-329                     | 15/16-12  | -16   | 2.69         | 1.37           | .81                                  |                                   | 1.50 |            |
| FJ9587-2020-331 <sup>†</sup>                | FJ8587-2020-331                    | FC1347-20-329                     | 15/8-12   | -20   | 2.84         | 1.52           | 1.05                                 |                                   | 2.00 |            |
| FJ9587-2424-331 <sup>+</sup>                | FJ8587-2424-331                    | FC1347-24-329                     | 1 <sup>7</sup> /8-12  | -24   | 3.21         | 1.67           | 1.28                                 |                                   | 2.25 |            |
| FJ9587-3232-331 <sup>+</sup>                | FJ8587-3232-331                    | FC1347-32-329                     | 2 <sup>1</sup> / <sub>2</sub> -12                             | -32   | 3.50         | 1.92           | 1.75                                 |                                   | 2.88 |            |
| Flange retainer sta                         |                                    |                                   |   |   |              |                |                                      |                                   |      |            |
| FJ9656-0808-331                             | FC1373-0808-259                    | FC1347-08-329                     |   | -08   | 2.56         | 1.24           | .41                                  | 1.38                              |      |            |
| FJ9656-1212-331                             | FC1373-1212-259                    | FC1347-12-329                     |   | -12   | 2.56         | 1.24           | .61                                  | 1.69                              |      |            |
| FJ9656-1616-331                             | FC1373-1616-259                    | FC1347-16-329                     |   | -16   | 2.62         | 1.30           | .81                                  | 2.00                              |      |            |
| FJ9656-2020-331                             | FC1373-2020-259                    | FC1347-20-329                     |   | -20   | 2.62         | 1.30           | 1.05                                 | 2.50                              |      |            |
| FJ9656-2424-331                             | FC1373-2424-259                    | FC1347-24-329                     |   | -24   | 3.01         | 1.48           | 1.28                                 | 2.87                              |      |            |
| FJ9656-3232-331                             | FC1373-3232-259                    | FC1347-32-329                     |   | -32   | 3.05         | 1.48           | 1.75                                 | 3.62                              |      |            |
|   | h PTFE coated nipp                 |                                   |   | 00  | 254          | 1.04           | 4.4                                  | 1.00                              |      |            |
| FJ9656-0808-338<br>FJ9656-1212-338          | FC1373-0808-337                    | FC1347-08-329                     |   | -08<br>-12  | 2.56<br>2.56 | 1.24<br>1.24   | .41                                  | 1.38                              |      |            |
|   | FC1373-1212-337                    | FC1347-12-329                     |   |   |              |                | .61                                  | 1.69                              |      |            |
| FJ9656-1616-338                             | FC1373-1616-337                    | FC1347-16-329                     |   | -16   | 2.62         | 1.30           | .81                                  | 2.00                              |      |            |
| FJ9656-2020-338<br>FJ9656-2424-338          | FC1373-2020-337<br>FC1373-2424-337 | FC1347-20-329<br>FC1347-24-329    |   | -20<br>-24  | 2.62<br>3.01 | 1.30<br>1.48   | 1.05<br>1.28                         | 2.50<br>2.87                      |      |            |
| FJ9656-2424-338<br>FJ9656-3232-338          | FC1373-2424-337<br>FC1373-3232-337 | FC1347-24-329<br>FC1347-32-329    |   | -24   | 3.01         | 1.48           | 1.28                                 | 3.62                              |      |            |
| Ladish Tri-Clamp*                           | 1013/3-3232-33/                    | 101347-32-329                     |   | –ა∠   | 3.05         | 1.40           | 1.75                                 | <u>ა.0</u> ∠                      |      |            |
| FJ7041-2416-331                             | FC1531-2416-259                    | FC1347-16-329                     |   | -16   | 1.98         | .76            | .81                                  | 1.98                              |      |            |
| FJ7041-2424-331                             | FC1531-2424-259                    | FC1347-10-329                     |   | -10   | 2.24         | .76            | 1.27                                 | 1.98                              |      |            |
| FJ7041-2424-331                             | FC1531-2424-259                    | FC1347-24-329<br>FC1347-32-329    |   | -24   | 2.24         | .76            | 1.27                                 | 2.51                              |      |            |
|   | ed trademark of the Lad            |                                   | sion  | -32   | 2.24         | .70            | 1.75                                 | 2.31                              | 1    | 1          |

†Also supplied in Carbon Steel – remove suffix and replace with "s".

| M"DIA.               | Part Number<br>Stainless<br>Steel | Hose<br>Size | Number<br>Bolt<br>Holes | J    | L    | м   |  |
|----------------------|-----------------------------------|--------------|-------------------------|------|------|-----|--|
|                      | FC1389-0808C                      | -08          | 4                       | 3.50 | 2.38 | .62 |  |
|                      | FC1389-1212C                      | -12          | 4                       | 3.88 | 2.75 | .62 |  |
|                      | FC1389-1616C                      | -16          | 4                       | 4.25 | 3.12 | .62 |  |
|                      | FC1389-2020C                      | -20          | 4                       | 4.62 | 3.50 | .62 |  |
| Flange <b>FC1389</b> | FC1389-2424C                      | -24          | 4                       | 5.00 | 3.88 | .62 |  |
| 5                    | FC1389-3232C                      | -32          | 4                       | 6.00 | 4.75 | .75 |  |



### **FC807 Lower-Cost Solution** PTFE Hose SAE 100R14A



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| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum⁺<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Vacuum<br>Service | Weight      |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|-------------------|-------------|
|                | INCHES       | INCHES       | INCHES                            | PSI                          | PSI                       | INCH/HG           | POUNDS/FOOT |
| (#)            | Ô            | $\bigcirc$   | $\odot$                           | $\bigcirc$                   | $\bigcirc$                | $\bigcirc$        |             |
| FC807-04       | .19          | .30          | 3000                              | 12000                        | 2.00                      | 28                | .06         |
| FC807-05       | .26          | .37          | 3000                              | 12000                        | 3.00                      | 28                | .08         |
| FC807-06       | .32          | .43          | 2500                              | 10000                        | 4.00                      | 28‡               | .10         |
| FC807-08       | .42          | .54          | 2000                              | 8000                         | 5.25                      | 28‡               | .12         |
| FC807-10       | .51          | .63          | 1500                              | 6000                         | 6.50                      | 28‡               | .16         |
| FC807-12       | .64          | .76          | 1200                              | 4800                         | 7.75                      | 28‡               | .18         |
| FC807-16       | .88          | 1.03         | 1000                              | 4000                         | 9.00                      | 12‡               | .26         |

Construction: Extruded PTFE tube with a single layer of stainless steel wire braid reinforcement and one end red Nomex'

Application: Medium pressure use for steam, compressor discharge and virtually all chemical applications. Not recommended for steam-cold water cycling. For more specific information, consult Eaton Aeroquip.

Operating Temperature Range: -65° F to +450° F (-54°C to +204°C). Steam, 200 psi at +388°F maximum. Engineering information is available for specific critical temperature requirements.

Fittings: "super gem" reusable and crimp fittings see pages 12-17.

t Steam 200 psi at +388°F max. Engineering information is available for specific critical temperature requirements. Contact Eaton Aeroquip. #Maximum negative pressure for -16 and larger are suitable for hose which has suffered no external damage or kinking. If greater negative pressures are required for -16 and larger hoses, the use of an internal support coil is recommended. Use of an internal support coil in -06 and larger PTFE hose is recommended for tube support where extended or continuous service at high temperature together with low or negative pressure is expected. \*Nomex is a DuPont trademark.

### 2807 **PTFE** hose **SAE 100R14A**

|                | ******       |              | 22222                             |                              |                           |                   |                    |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|-------------------|--------------------|
| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum†<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Vacuum<br>Service | Weight<br>Per Foot |
|                | INCHES       | INCHES       | PSI                               | PSI                          | INCHES                    | INCH/Hg           | POUNDS             |
| (#)            | O            | $\bigcirc$   | $\odot$                           | $\bigcirc$                   | $\odot$                   | $\overline{}$     |                    |
| 2807-03        | .14          | .25          | 3000                              | 12000                        | 1.50                      | 28                | .04                |
| 2807-04        | .19          | .30          | 3000                              | 12000                        | 2.00                      | 28                | .06                |
| 2807-05        | .26          | .37          | 3000                              | 12000                        | 3.00                      | 28                | .08                |
| 2807-06        | .32          | .43          | 2500                              | 10000                        | 4.00                      | 28‡               | .10                |
| 2807-08        | .42          | .54          | 2000                              | 8000                         | 5.25                      | 28‡               | .12                |
| 2807-10        | .51          | .63          | 1500                              | 6000                         | 6.50                      | 28‡               | .16                |
| 2807-12        | .64          | .76          | 1200                              | 4800                         | 7.75                      | 28‡               | .18                |
| 2807-16        | .88          | 1.03         | 1000                              | 4000                         | 9.00                      | 12‡               | .26                |
| 2807-20        | 1.12         | 1.29         | 625                               | 2500                         | 16.00                     | 12‡               | .34                |

Construction: Extruded PTFE tube with a single layer of stainless steel wire braid reinforcement.

Application: Medium pressure use for steam, compressor discharge and virtually all chemical applications. Not recommended for steam-cold water cycling. For more specific information, consult Eaton Aeroquip.

Operating Temperature Range: -100° F to +500° F (-73°C to +260°C). Steam, 200 psi at +388°F

maximum. Engineering information is available for specific critical temperature requirements.

Fittings: "super gem" reusable and crimp fittings see pages 12-17.

† Steam 200 psi at +388°F max. Engineering information is available for specific critical temperature requirements. Contact Eaton Aeroquip. †Maximum negative pressure for -16 and larger are suitable for hose which has suffered no external damage or kinking. If greater negative pressures are required for -16 and larger hoses, the use of an internal support coil is recommended. Use of an internal support coil is support coil is recommended. Use of an internal support coil in -06 and larger PTFE hose is recommended for tube support where extended or continuous service at high temperature together with low or negative pressure is expected. "Nomex is a DuPont trademark."



This page is part of a complete catalog which contains technical and safety data that must be reviewed when selecting a product.

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### FC465 PTFE hose Conductive SAE 100R14B



| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum†<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Vacuum<br>Service | Weight<br>Per Foot |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|-------------------|--------------------|
|                | INCHES       | INCHES       | PSI                               | PSI                          | INCHES                    | INCH/Hg           | POUNDS             |
| (#)            | Ô            | $\bigcirc$   | $\odot$                           | Ø                            | <b>O</b>                  | $\bigcirc$        |                    |
| FC465-04       | .19          | .30          | 3000                              | 12000                        | 2.00                      | 28                | .06                |
| FC465-05       | .26          | .37          | 3000                              | 12000                        | 3.00                      | 28                | .08                |
| FC465-06       | .32          | .43          | 2500                              | 10000                        | 4.00                      | 28‡               | .10                |
| FC465-08       | .42          | .54          | 2000                              | 8000                         | 5.25                      | 28‡               | .12                |
| FC465-10       | .51          | .63          | 1500                              | 6000                         | 6.50                      | 28‡               | .16                |
| FC465-12       | .64          | .76          | 1200                              | 4800                         | 7.75                      | 28‡               | .18                |
| FC465-16       | .88          | 1.03         | 1000                              | 4000                         | 9.00                      | 12‡               | .26                |

**Construction:** Conductive extruded black PTFE tube with a single layer stainless steel wire braid reinforcement. **Application:** Steam, compressor discharge and virtually all chemical applications. Not recommended for steam-cold water cycling. For more specific information, consult Eaton Aeroquip.

**Operating Temperature Range:** -100°F to +450°F (-73°C to +260°C). Steam, 200 psi at +388°F maximum. Engineering information is available for specific critical temperature requirements.

Fittings: "super gem" reusable and crimp fittings, see pages 12-17.

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### 2808 PTFE hose

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| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum†<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Vacuum<br>Service | Weight<br>Per Foot |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|-------------------|--------------------|
|                | INCHES       | INCHES       | PSI                               | PSI                          | INCHES                    | INCH/Hg           | POUNDS             |
| (#)            | 0            | $\bigcirc$   | $\odot$                           | $\bigcirc$                   | $\odot$                   | $\bigcirc$        |                    |
| 2808-08        | .42          | .58          | 2750                              | 11000                        | 4.62                      | 28‡               | .19                |
| 2808-10        | .51          | .68          | 2500                              | 10000                        | 5.50                      | 28‡               | .26                |
| 2808-12        | .64          | .82          | 1750                              | 7000                         | 6.50                      | 20‡               | .30                |
| 2808-16        | .88          | 1.09         | 1500                              | 6000                         | 7.38                      | 15‡               | .44                |
| 2808-20        | 1.12         | 1.35         | 1125                              | 4500                         | 11.00                     | 15‡               | .57                |
| 2808-24        | 1.38         | 1.62         | 800                               | 3200                         | 14.00                     | 15‡               | .70                |

Construction: Extruded PTFE tube with two layers of stainless steel braid reinforcement.

**Application:** For use where higher pressures or a tighter bend radius is required. Not recommended for steam-cold water cycling. For more specific information, contact Eaton Aeroquip.

**Operating Temperature Range:** -100°F to +500°F (-73°C to +232°C). Steam, 200 psi at +388°F maximum. Engineering information is available for specific critical temperature requirements.

Fittings: "super gem" reusable fittings, see page 18.

† Steam 200 psi at +388°F max. Engineering information is available for specific critical temperature requirements. Contact Eaton Aeroquip. †Maximum negative pressure for -16 and larger are suitable for hose which has suffered no external damage or kinking. If greater negative pressures are required for -16 and larger hoses, the use of an internal support coil is recommended. Use of an internal support coil in -08 and larger PTFE hose is recommended for tube support where extended or continuous service at high temperature together with low or negative pressure is expected.

This page is part of a complete catalog which contains technical and safety data that must be reviewed when selecting a product.

### FC469 PTFE hose – Hi-Pac<sup>®</sup> Conductive



| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum†<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Vacuum<br>Service | Weight<br>Per Foot |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|-------------------|--------------------|
|                | INCHES       | INCHES       | PSI                               | PSI                          | INCHES                    | INCH/Hg           | POUNDS             |
| #              | O            | $\bigcirc$   | $\odot$                           | $\bigcirc$                   | $\bigcirc$                | $\bigcirc$        |                    |
| FC469-06       | .30          | .48          | 4000                              | 16000                        | 2.50                      | 28‡               | .17                |
| FC469-08       | .39          | .61          | 4000                              | 16000                        | 2.88                      | 28‡               | .24                |
| FC469-10       | .49          | .72          | 4000                              | 16000                        | 3.25                      | 28‡               | .29                |

**Construction:** A thin wall, PTFE inner tube and a Hi-Pac outer braid consisting of densely packed small diameter stainless steel wires braided in a uniform pattern.

**Application:** High pressure and high temperature service. Superior vibration resistance, low volumetric expansion and high temperature resistance makes it ideal for hydraulic systems. Not recommended for steam-cold water cycling. For more specific information, consult Eaton Aeroquip.

**Operating Temperature Range:** -65°F to +400°F (-54°C to +204°C).

Fittings: Contact Eaton Aeroquip for fitting information.

† Steam 200 psi at +388°F max. Engineering information is available for specific critical temperature requirements. Contact Eaton Aeroquip. ‡ Use of an internal support coil in -06 and larger PTFE hose is recommended for tube support where extended or continuous service at high temperature together with low or negative pressure is expected.

### FC645 PTFE hose – Abrasion Resistant Conductive SAE 100R14B performance

| eroquip FC645 | E A |
|---------------|-----|
|               |     |

| Part<br>Number | Hose<br>I.D. | Hose<br>O.D. | Maximum†<br>Operating<br>Pressure | Minimum<br>Burst<br>Pressure | Minimum<br>Bend<br>Radius | Vacuum<br>Service | Weight<br>Per Foot |
|----------------|--------------|--------------|-----------------------------------|------------------------------|---------------------------|-------------------|--------------------|
|                | INCHES       | INCHES       | PSI                               | PSI                          | INCHES                    | INCH/Hg           | POUNDS             |
| <b>(#</b>      | O            | $\bigcirc$   | $\odot$                           | $\bigcirc$                   | $\odot$                   |                   |                    |
| FC645-06       | .32          | .51          | 2500                              | 10000                        | 4.00                      | 28‡               | .10                |

**Construction:** Conductive extruded black PTFE tube with stainless steel single black wire braid abrasion resistant engine hose.

Application: Steam, compressor discharge and most chemical applications. Not recommended for steam-cold water cycling.

Operating Temperature Range: -100°F to +300°F (-73°C to +150°C).

Fittings: Contact Eaton Aeroquip for fitting and crimp information.

†Steam 200 psi at +388°F max. Engineering information is available for specific critical temperature requirements. Contact Aeroquip. ‡Use of an internal support coil in -06 PTFE hose is recommended for tube support where extended or continuous service at high temperature together with low or negative pressure is expected.

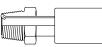
### For use with hose: FC807, FC465, 2807 and FC645



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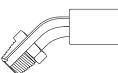
#### SAE 45° Swivel

| Socket Part # | Nipple Part #             | Hose Size |
|---------------|---------------------------|-----------|
| FC3596-03S    | FC6216-0403S1             | -03       |
| FC3596-04S    | FC6216-0404S <sup>1</sup> | -04       |
| FC3443-04S    | FC6216-0505S              | -05       |
| FC3443-05S    | FC6216-0606S1             | -06       |
| FC3596-08S    | FC6216-0808S              | -08       |
| FC3596-08S    | FC6216-1008S              | -08       |
| FC3443-08S    | FC6216-1010S <sup>1</sup> | -10       |
| FC3596-12S    | FC6216-1212S              | -12       |



#### Straight SAE Male Inverted Flare—Long Tube

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FC6262-0404S  | -04       |
| FC3443-05S    | FC6262-0606S  | -06       |



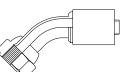
#### 45° Elbow, SAE Male Inverted Flare

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FC6261-0404S  | -04       |
| FC3443-05S    | FC6261-0606S  | -06       |
| FC3596-08S    | FC6261-0808S  | -08       |



#### 90° Elbow, SAE Male Inverted Flare

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FC6263-0404S  | -04       |
| FC3443-05S    | FC6263-0606S  | -06       |



#### SAE 45° Elbow, SAE 45° Swivel/Universal Swivel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FC6220-0404S  | -04       |
| FC3443-04S    | FC6220-0505S  | -05       |
| FC3443-05S    | FC8341-0606S  | -06       |
| FC3596-08S    | FC6220-0808S  | -08       |
| FC3596-12S    | FC8341-1212S  | -12       |



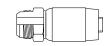
#### 90° Elbow, SAE 45° Swivel/Universal Swivel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-03S    | FC4098-0403S  | -03       |
| FC3596-04S    | FC4098-0404S  | -04       |
| FC3443-04S    | FC4098-0405S  | -05       |
| FC3443-04S    | FC4098-0505S  | -05       |
| FC3443-05S    | FC6217-0606S  | -06       |
| FC3596-08S    | FC4098-0808S  | -08       |
| FC3443-08S    | FC4098-1010S  | -10       |
|               |               |           |



#### 90° Elbow, SAE 37° Swivel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-03S    | FC8780-0303S  | -03       |
| FC3443-05S    | FC8780-0606S  | -06       |
| FC3596-12S    | FC8780-1212S  | -12       |
| FC3596-16S    | FC8780-1616S  | -16       |



#### SAE 37° JIC Male Flare

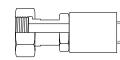
| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3443-05S    | FC2786-0806S  | -06       |

<sup>1</sup>For brass, drop "S" suffix; replace with -63.



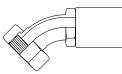
# FC807, FC465, 2807 and FC645 FITTINGS

For use with hose: FC807, FC465, 2807 and FC645



#### Straight ORS Female Swivel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FJ6737-0404S  | -04       |
| FC3596-04S    | FJ6737-0604S  | -04       |
| FC3443-04S    | FJ6737-0605S  | -05       |
| FC3443-05S    | FJ6737-0606S  | -06       |
| FC3596-08S    | FJ6737-0808S  | -08       |
| FC3596-12S    | FJ6737-1012S  | -12       |



#### 45° Elbow, ORS Female Swivel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FJ4750-0404S  | -04       |
| FC3443-05S    | FJ4441-0606S  | -06       |
| FC3596-08S    | FJ4441-0808S  | -08       |

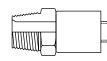


#### 90° Elbow, ORS Female Swivel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FJ4613-0604S  | -04       |
| FC3443-05S    | FJ4613-0606S  | -06       |
| FC3596-08S    | FJ4613-0808S  | -08       |
| FC3443-08S    | FJ2010-1010S  | -10       |

'Nipple available in brass. For brass, drop "S" suffix; replace with "-B." \*Crimp full length of socket.

#### For use with hose: FC807, FC465, 2807 and FC645



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#### Male Pipe

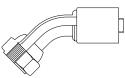
| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04S    | FC3680-0204S  | -04       |
| FC3596-04S    | FC3680-0404S1 | -04       |
| FC3443-04S    | FC3680-0205S  | -05       |
| FC3443-04S    | FC3680-0405S  | -05       |
| FC3443-05S    | FC3680-0406S1 | -06       |
| FC3443-05S    | FC3680-0606S1 | -06       |
| FC3596-08S    | FC3680-0608S1 | -08       |
| FC3596-08S    | FC3680-0808S1 | -08       |
| FC3443-08S    | FC3680-0810S1 | -10       |
| FC3596-1212S  | FC3680-1212S1 | -12       |
| FC3596-1616S  | FC3680-1616S1 | -16       |



Male Pipe — Stainless Steel

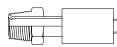
| Socket Part # | Nipple Part #   | Hose Size |
|---------------|-----------------|-----------|
| FC3596-04C    | FC3680-0404-329 | -04       |
| FC3443-04C    | FC3680-0405-329 | -05       |
| FC3443-05C    | FC3680-0406-329 | -06       |
| FC3443-05C    | FC3680-0606-329 | -06       |
| FC3443-08C    | FC3680-0810-329 | -10       |
| FC3596-1212C  | FC3680-1212-329 | -12       |
| FC3596-1616C  | FC3680-1616-329 | -16       |

Note: Brass nipples for steam applications are available. Contact Eaton Aeroquip for details. <sup>1</sup>For brass, drop "S" suffix; replace with "B."



#### 45° Elbow, SAE 37° Swivel

| ,             |               |           |
|---------------|---------------|-----------|
| Socket Part # | Nipple Part # | Hose Size |
| FC3596-03S    | FJ8605-0303S  | -03       |



#### Power Trim Straight SAE Inverted Flare– Stainless Steel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04C    | FJ8356-0304C  | -04       |

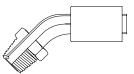


| SAE 37° (JIC) Swiv | el            |           |
|--------------------|---------------|-----------|
| Socket Part #      | Nipple Part # | Hose Size |
| FC3596-03S         | FC8779-0303S  | -03       |
| FC3596-03S         | FC8779-0403S  | -03       |
| FC3596-04S         | FC8779-0404S  | -04       |
| FC3443-04S         | FC8779-0505S  | -05       |
| FC3443-05S         | FC8779-0606S  | -06       |
| FC3443-05S         | FC8779-0806S  | -06       |
| FC3596-08S         | FC8779-0808S  | -08       |
| FC3443-08S         | FC8779-1010S  | -10       |
| FC3596-12S         | FC8779-1212S  | -12       |
| FC3596-16S         | FC8779-1616S  | -16       |



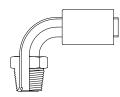
#### SAE 37° (JIC) Swivel—Stainless Steel

| Socket Part # | Nipple Part #   | Hose Size |
|---------------|-----------------|-----------|
| FC3596-03S    | FC8779-0303-333 | -03       |
| FC3596-04C    | FC8779-0404-333 | -04       |
| FC3443-04C    | FC8779-0505-333 | -05       |
| FC3443-05C    | FC8779-0606-333 | -06       |
| FC3443-05C    | FC8779-0806-333 | -06       |
| FC3596-08C    | FC8779-0808-333 | -08       |
| FC3443-08C    | FC8779-1010-333 | -10       |
| FC3596-12C    | FC8779-1212-333 | -12       |
| FC3596-16C    | FC8779-1616-333 | -16       |



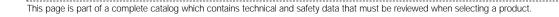
#### Power Trim 45° SAE Inverted Flare-Stainless Steel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04C    | FJ8357-0304C  | -04       |



#### Power Trim 90° SAE Inverted Flare-Stainless Steel

| Socket Part # | Nipple Part # | Hose Size |
|---------------|---------------|-----------|
| FC3596-04C    | FJ8358-0304C  | -04       |





R E

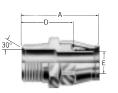
PTFE

TTING

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### *"super gem"* fittings

for use with PTFE Hose FC807, FC465 and 2807



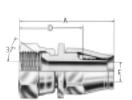
#### Male Pipe 38-190627-

| Dash<br>Size | Thread  | Hose<br>Size | Α    | D    | Εφ   |
|--------------|---|--------------|------|------|------|
| 38–190627–   |   |              |      |      |      |
| 2–4*         | <sup>1</sup> /8-27  | -04          | 1.35 | .89  | .16  |
| 4–4*         | 1/4-18  | -04          | 1.54 | 1.08 | .16  |
| 4–5*         | <sup>1</sup> /4-18  | -05          | 1.58 | 1.07 | .23  |
| 4–6*         | 1/4-18  | -06          | 1.66 | 1.13 | .28  |
| 6–6*         | <sup>3</sup> /8-18  | -06          | 1.66 | 1.13 | .28  |
| 6–8*         | <sup>3</sup> /8-18  | -08          | 1.79 | 1.16 | .38  |
| 8–10*        | <sup>1</sup> / <sub>2</sub> -14                               | -10          | 2.13 | 1.46 | .47  |
| 12–12*       | <sup>3</sup> /4-14  | -12          | 2.26 | 1.61 | .59  |
| 16–16*       | 1-11 <sup>1</sup> / <sub>2</sub>                              | -16          | 2.48 | 1.86 | .83  |
| 20–20*       | 1 <sup>1</sup> / <sub>4</sub> -11 <sup>1</sup> / <sub>2</sub> | -20          | 2.83 | 2.17 | 1.06 |



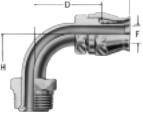
#### 2-bolt swivel flange 63-190626

| Dash<br>Size | Flange<br>Head<br>Dia. | Hose<br>Size | А    | D    | <b>Ε</b> φ |
|--------------|------------------------|--------------|------|------|------------|
| 63–190       | 63-190626-             |              |      |      |            |
| 6            | 2.88                   | -06          | 1.78 | 1.26 | .28        |
| 12           | 2.88                   | -12          | 2.07 | 1.42 | .56        |
| 16           | 2.88                   | -16          | 2.18 | 1.49 | .19        |



#### SAE 37° (JIC) swivel 63-190600-

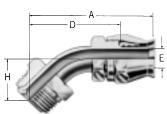
| Dash<br>Size | Thread                             | Hose<br>Size | А    | D    | Εφ   |
|--------------|------------------------------------|--------------|------|------|------|
| 63–190600–   |                                    |              |      |      |      |
| 3*           | 3/8-24                             | -03          | 1.38 | 1.04 | .09  |
| 4*           | 7/16-20                            | -04          | 1.58 | 1.13 | .16  |
| 5*           | <sup>1</sup> / <sub>2</sub> -20    | -05          | 1.68 | 1.17 | .23  |
| 6*           | <sup>9</sup> /16-18                | -06          | 1.74 | 1.22 | .26  |
| 8*           | <sup>3</sup> /4-16                 | -08          | 1.98 | 1.35 | .38  |
| 10*          | 7/8-14                             | -10          | 2.22 | 1.54 | .47  |
| 12*          | 1 <sup>1</sup> / <sub>16</sub> -12 | -12          | 2.33 | 1.67 | .59  |
| 16*          | 15/16-12                           | -16          | 2.52 | 1.91 | .83  |
| 20*          | 15/8-12                            | -20          | 2.92 | 2.27 | 1.06 |



#### SAE male inverted flare 90° elbow **190950–**

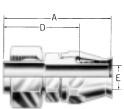
| Thread                          | Hose<br>Size  | Α   | D   | Εφ   | н  |
|---------------------------------|---|---|---|--|--|
|                                 |   |   |   |  |  |
| 7/16-24                         | -04   | 2.04  | 1.57  | .16  | 1.69   |
| 1/2-20                          | -05   | 2.08  | 1.57  | .23  | 1.69   |
| <sup>1</sup> / <sub>2</sub> -20 | -06   | 2.12  | 1.60  | .21  | 1.69   |
| <sup>5</sup> /8-18              | -06   | 2.12  | 1.60  | .28  | 1.73   |
| <sup>3</sup> /4-18              | -08   | 2.32  | 1.69  | .38  | 1.74   |
| <sup>7</sup> /8-18              | -10   | 2.66  | 1.99  | .47  | 2.21   |
| 11/16-16                        | -12   | 2.73  | 2.07  | .59  | 2.35   |
|                                 | <sup>7</sup> / <sub>16</sub> -24<br><sup>1</sup> / <sub>2</sub> -20<br><sup>1</sup> / <sub>2</sub> -20<br><sup>5</sup> / <sub>8</sub> -18<br><sup>3</sup> / <sub>4</sub> -18<br><sup>7</sup> / <sub>8</sub> -18 | Thread     Size       1/10-24     -04       1/2-20     -05       1/2-20     -06       5/6-18     -06       3/4-18     -08       7/8-18     -101 | Thread     Size     A       /1/a     -04     2.04       1/2-20     -05     2.08       1/2-20     -06     2.12       5/6-18     -06     2.12       3/4-18     -08     2.32       7/8-18     -10     2.66 | Thread     Size     A     D       //10-24     -04     2.04     1.57       1/2-20     -05     2.08     1.57       1/2-20     -06     2.12     1.60       5/6-18     -06     2.12     1.60       3/4-18     -08     2.32     1.69       7/8-18     -10     2.66     1.99 | Thread     Size     A     D     Eφ       /1/a-24     -04     2.04     1.57     .16       1/2-20     -05     2.08     1.57     .23       1/2-20     -06     2.12     1.60     .21       1/2-20     -06     2.12     1.60     .21       5/g-18     -06     2.12     1.60     .28       3/A-18     -08     2.32     1.69     .38       7/g-8-18     -10     2.66     1.99     .47 |

NOTE: Sleeve part number is 900568-(size)



SAE male inverted flare 45° elbow FC9063–

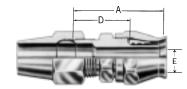
| Dash<br>Size | Thread                          | Hose<br>Size | A    | D    | Εφ  | н    |
|--------------|---------------------------------|--------------|------|------|-----|------|
| FC9063-      |                                 |              |      |      |     |      |
| 0404         |                                 |              |      |      |     |      |
| 0505         |                                 |              |      |      |     |      |
| 0505S        | 1/2-20                          | -05          | 2.46 | 1.94 | .23 | .96  |
| 0506S        | <sup>1</sup> / <sub>2</sub> -20 | -06          | 2.50 | 1.97 | .21 | .96  |
| 0606S        | <sup>5</sup> /8-18              | -06          | 2.50 | 1.97 | .28 | .96  |
| 0808S        | <sup>3</sup> / <sub>4</sub> -18 | -08          | 2.66 | 2.04 | .38 | .93  |
| 1010S        | <sup>7</sup> /8-18              | -10          | 2.96 | 2.29 | .47 | 1.03 |
| 1212S        | 11/16-16                        | -12          | 3.10 | 2.44 | .59 | 1.10 |



SAE ball sleeve<sup>†</sup> 190718-

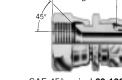
| Dash<br>Size | Thread   | Hose<br>Size | А    | D    | Εφ  |
|--------------|----------|--------------|------|------|-----|
| 190718-      |          |              |      |      |     |
| 8S           | 11/16-20 | -08          | 2.07 | 1.44 | .38 |
| 10-8S        | 13/16-18 | -08          | 2.07 | 1.44 | .38 |
| 10S          | 13/16-18 | -10          | 2.16 | 1.49 | .48 |
| 12S          | 1-18     | -12          | 2.42 | 1.76 | .59 |

<code>†Some B-W</code> compressor adapters require special mating nuts. For <sup>13</sup>/<sub>16</sub>"–18 thread size for <sup>1</sup>/<sub>2</sub>" O.D. Tubing, using fitting 190718–10–8S with 2807-8 Hose. For special thread size <sup>1</sup>/<sub>6</sub>"–18, use fitting 190742–10S with 2807–10 Hose.



Compression ball sleeve 38–191074–

| Tube<br>Size | Hose<br>Size               | A  | D  | Εφ                                   |
|--------------|----------------------------|--|--|--------------------------------------|
| 38–191074–   |                            |  |  |                                      |
| -08          | -08                        | 1.66   | 1.04   | .38                                  |
| -10          | -10                        | 1.85   | 1.18   | .47                                  |
| -12          | -12                        | 2.08   | 1.41   | .59                                  |
|              | Size<br>)74–<br>-08<br>-10 | Size     Size       074-     -08       -08     -08       -10     -10 | Size     Size     A       074-     -08     1.66       -00     -00     1.85 | Size     Size     A     D       074- |



SAE 45° swivel 63-190990-

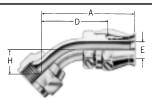
| Dash<br>Size | Thread                          | Hose<br>Size | A    | D    | Εφ  |
|--------------|---------------------------------|--------------|------|------|-----|
| 63–190990–   |                                 |              |      |      |     |
| 4            | 7/16-20                         | -04          | 1.58 | 1.12 | .16 |
| 5            | <sup>1</sup> / <sub>2</sub> -20 | -05          | 1.68 | 1.17 | .23 |
| 6            | <sup>5</sup> /8-18              | -06          | 1.77 | 1.25 | .28 |
| 8            | <sup>3</sup> /4-16              | -08          | 1.98 | 1.36 | .38 |
| 10           | 7/8-14                          | -10          | 2.22 | 1.54 | .47 |
| 12           | 11/16-14                        | -12          | 2.33 | 1.67 | .59 |

NOTE: Sleeve part number is 900568–(size). \*Also supplied in Stainless Steel. Add suffix "C" to part number and delete prefix "63-" or "38-". All dimensions in inches.

This page is part of a complete catalog which contains technical and safety data that must be reviewed when selecting a product.

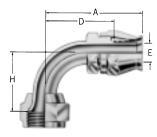
## **"super gem**" fittings

for use with PTFE Hose FC807, FC465, and 2807



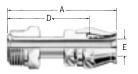
45° elbow 190773– Universal FC9341–SAE 45° swivel

| Dash<br>Size | Thread                             | Hose<br>size | Α    | D    | Εφ   | н    |
|--------------|------------------------------------|--------------|------|------|------|------|
| 190773-      |                                    |              |      |      |      |      |
| 3S           | <sup>3</sup> / <sub>8</sub> -24    | -03          | 1.50 | 1.17 | .09  | .46  |
| 4S           | 7/16-20                            | -04          | 1.51 | 1.05 | .16  | .33  |
| 5S           | <sup>1</sup> / <sub>2</sub> -20    | -05          | 1.62 | 1.11 | .23  | .36  |
| 6S†          | <sup>9</sup> / <sub>16</sub> -18   | -06          | 1.72 | 1.20 | .28  | .39  |
| 8S           | 3/4-16                             | -08          | 2.27 | 1.64 | .38  | .55  |
| 10S          | <sup>7</sup> /8-14                 | -10          | 2.46 | 1.79 | .47  | .64  |
| 12S†         | 1 <sup>1</sup> / <sub>16</sub> -12 | -12          | 2.86 | 2.21 | .59  | .78  |
| 16S†         | 15/16-12                           | -16          | 3.30 | 2.68 | .83  | 1.07 |
| 20S          | 15/8-12                            | -20          | 3.80 | 3.14 | 1.06 | 1.22 |
| FC9341       | -                                  |              |      |      |      |      |
| 0606S        | <sup>5</sup> /8-18                 | -06          | 1.72 | 1.20 | .28  | .39  |
| 1212S        | 11/16-14                           | -12          | 2.86 | 2.21 | .59  | .78  |



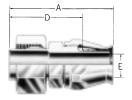
90° Elbow 190772– Universal FC9171– SAE 45° swivel

| Dash<br>Size | Thread                           | Hose<br>Size | Α    | D    | Еφ  | н    |
|--------------|----------------------------------|--------------|------|------|-----|------|
| 190772       | -                                |              |      |      |     |      |
| 3S           | <sup>3</sup> /8-24               | -03          | 1.27 | .93  | .09 | .87  |
| 4S           | 7/16-20                          | -04          | 1.41 | .95  | .16 | .68  |
| 5S           | 1/2-20                           | -05          | 1.52 | 1.00 | .23 | .77  |
| 6S†          | <sup>9</sup> / <sub>16</sub> -18 | -06          | 1.62 | 1.10 | .28 | .85  |
| 8S           | <sup>3</sup> /4-16               | -08          | 2.03 | 1.41 | .38 | 1.09 |
| 10S          | 7/8-14                           | -10          | 2.16 | 1.49 | .47 | 1.23 |
| 10-12S       | <sup>7</sup> /8-14               | -12          | 2.23 | 1.57 | .46 | 1.23 |
| 12S†         | 11/16-12                         | -12          | 2.82 | 2.17 | .59 | 1.82 |
| 12-16S†      | 11/16-14                         | -16          | 2.87 | 2.22 | .58 | 1.82 |
| 16S†         | 15/16-12                         | -16          | 3.10 | 2.49 | .82 | 2.39 |
| 20S          |                                  |              |      |      |     |      |
| FC9171       | _                                |              |      |      |     |      |
| 0606S        | <sup>5</sup> /8-18               | -06          | 1.62 | 1.10 | .28 | .85  |
| 1212S        | 11/16-14                         | -12          | 2.80 | 2.19 | .59 | 1.82 |



SAE male inverted flare Straight **FC9062–** 

| Dash<br>Size | Thread                             | Hose<br>Size | A    | D    | Εφ  |
|--------------|------------------------------------|--------------|------|------|-----|
| FC9062-      |                                    |              |      |      |     |
| 0404S        | 7/16-24                            | -04          | 2.13 | 1.66 | .16 |
| 0505S        | <sup>1</sup> / <sub>2</sub> -20    | -05          | 2.17 | 1.66 | .23 |
| 0506S        | <sup>1</sup> / <sub>2</sub> -20    | -06          | 2.21 | 1.69 | .21 |
| 0606S        | <sup>5</sup> /8-18                 | -06          | 2.21 | 1.69 | .28 |
| 0808S        | <sup>3</sup> /4-18                 | -08          | 2.47 | 1.84 | .38 |
| 1010S        | 7/8-18                             | -10          | 2.78 | 2.11 | .47 |
| 1212S        | 1 <sup>1</sup> / <sub>16</sub> -16 | -12          | 3.02 | 2.37 | .59 |



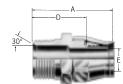
Special ball sleevet 190742-

| Dash<br>Size | Thread             | Hose<br>Size | A    | D    | Εφ  |
|--------------|--------------------|--------------|------|------|-----|
| 190742-      |                    |              |      |      |     |
| 10S          | <sup>7</sup> /8-18 | -10          | 2.16 | 1.49 | .48 |

1 Some B-W compressor adapters require special mating nuts. For <sup>13</sup>/<sub>16</sub>"-18 thread size for <sup>1</sup>/<sub>2</sub>" O.D. Tubing, using fitting 190718-10-8S with 2807-8 Hose. For special thread size <sup>1</sup>/<sub>8</sub>"-18, use fitting 190742-10S with 2807-10 Hose.

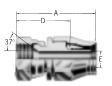
### "super gem" fittings

#### for use with PTFE Hose 2808



#### Male pipe 38-190628-

| Dash<br>Size | Thread  | Hose<br>Size | Α    | D    | Εφ   |
|--------------|---|--------------|------|------|------|
| 38-190628-   |   |              |      |      |      |
| 6–8*         | <sup>3</sup> /8-18  | -08          | 1.91 | 1.32 | .35  |
| 8–10*        | <sup>1</sup> / <sub>2</sub> -14                               | -10          | 2.12 | 1.55 | .44  |
| 12–12*       | <sup>3</sup> / <sub>4</sub> -14                               | -12          | 2.40 | 1.63 | .56  |
| 16–16*       | 1-11 <sup>1</sup> / <sub>2</sub>                              | -16          | 2.63 | 1.86 | .83  |
| 20–20*       | 1 <sup>1</sup> /4-11 <sup>1</sup> /2                          | -20          | 3.05 | 2.09 | 1.06 |
| 24–24*       | 1 <sup>1</sup> / <sub>2</sub> -11 <sup>1</sup> / <sub>2</sub> | -24          | 3.16 | 2.20 | 1.28 |



#### SAE 37° (JIC) swivel 63-190535-

| Dash<br>Size | Thread                             | Hose<br>Size | А    | D    | Εφ   |
|--------------|------------------------------------|--------------|------|------|------|
| 63–190535–   | •                                  |              |      |      |      |
| 8*           | 3/4-16                             | -08          | 2.07 | 1.48 | .35  |
| 10*          | <sup>7</sup> /8-14                 | -10          | 2.22 | 1.64 | .44  |
| 12*          | 1 <sup>1</sup> / <sub>16</sub> -12 | -12          | 2.46 | 1.70 | .56  |
| 16*          | 15/16-12                           | -16          | 2.66 | 1.90 | .83  |
| 20*          | 15/8-12                            | -20          | 3.14 | 2.19 | 1.06 |
| 24*          | 17/8-12                            | -24          | 3.38 | 2.42 | 1.28 |

NOTE: Sleeve part number is 900515-(size).

\*Also supplied in Stainless Steel. Add suffix "C" to part number and delete prefix "63-" or "38-"



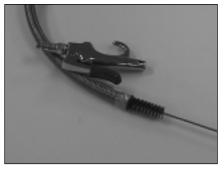
# Flat Crimp Style Fittings (PTFE)

(Convoluted: FC363, FC364, FC563 and Smooth Bore: FC807, 2807, FC465), FC469 and FC645 - Contact Eaton Aeroquip



### Step 1 Cut the Hose

Place  $1^{1/2}$  wraps of filament tape around area to be cut. In the center of the taped area, cut the hose squarely and to the proper length using a suitable cut-off saw. Aeroquip recommends using a saw similar to the S1104. When complete, the angle of cut must not exceed 5° and a thin band of tape must be left on the hose to keep the wires in place. Read the saw operation manual for cutting instructions and blade applications.



### Step 2

#### **Clean the Hose Bore**

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Using a hose compatible solvent, bottlebrush, or compressed air, flush contaminants from the hose bore. Follow shop safety rules.



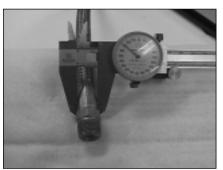
#### Step 3a Insert the Fitting into the Hose– Convoluted PTFE

Push the crimp socket over the hose until the hose bottoms out inside the socket. Place a mark on the outside of the hose at the bottom of the socket. Remove the socket from the hose. Carefully remove the tape from the hose. Once the tape is removed, push the hose completely into the socket, making sure the bottom of the socket lines up with the aforementioned mark. Insert the nipple into the hose, turning it inward, until the shoulder comes in contact with the hose. Slide the socket up over the shoulder and flush with the hex. To ensure the fitting does not move during crimping, mark the hose at the bottom of the socket. Swivel Type Fittings: Screw a plug or adapter into the swivel threads and secure the fitting in vise. Thread the hose onto the nipple until it is snug against nipple assembly shoulder. Male pipe and flange fittings may be secured in vise without an adapter.

### Step 3b

#### Insert the Fitting into the Hose– Smooth Bore PTFE

Place socket over taped hose end until the socket retaining shoulder contacts the hose end. Insert the nipple into the socketed hose until the nipple should or bottoms against the hose tube. Slide the socket up against the nipple shoulder and hex and mark the hose cover



### Step 4 Crimp the Fitting

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Crimp the fitting and check the crimp diameter, ovality dimension, and inspect the nipple/socket position. If hose mark is not within 1/8 inch of the socket skirt, reject the assembly. PTFE hose requires a crimp machine with a positive backstop. Refer to Bulletin JA55 Crimp Specifications and your crimp machine owner's manual for die selection, finished crimp diameter, ovality measurements and operating and crimping instructions.



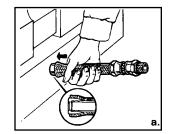
### Step 5 Plug or Cap the Fitting Ends

Use 23055 dust plugs and caps to protect the fitting threads and seal out contamination until hose assembly is installed.

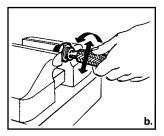
# *"super gem"*<sup>®</sup> Fittings with PTFE hose FC807, FC465, 2807, 2808

#### Step 1

Wrap hose with masking tape at cut-off point using Aeroquip's S1104 cutting machine. Remove tape and trim any loose wires flush with tube stock. Any burrs on the bore of the tube stock should be removed with a knife. Clean the hose bore. Sometimes wire braid will tend to "neck down" on one end and flare out, on the opposite end. This is a characteristic of wire braid hose and can be used to an advantage in the assembly of the "super gem" sockets. Slip two sockets back to back over the "necked down" end of the hose.



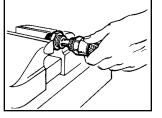
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#### Step 2

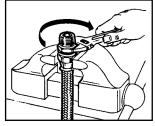
**a.** Push the sleeve over the end of the tube and under the wire braid by hand. Complete positioning of the sleeve by pushing the hose end against a flat surface. Visually inspect to see that tube stock butts against the inside shoulder of the sleeve.

**b.** Set the sleeve barbs into the PTFE tube by using assembly tool FT1038A or working the hose bore over the nipple into the end of the sleeve and tube. Assembly kit FT1081 is also available.



#### Step 3

Lubricate nipple and socket threads. For stainless steel fittings, use a molydisulfide base lubricant (e.g., Molykote\* Type G), **lubricants containing chloride are not recommended.** Other material combinations use standard petroleum lubricants. Hold the nipple with hex in vise. Push hose over nipple with twisting motion until seated against nipple chamfer. Push socket forward and hand start threading of socket to nipple.



### Step 4

Wrench tighten nipple hex until clearance with socket hex is  $1/_{32}$ " or less. Tighten further to align corners of nipple and socket hexes.

To disassemble: Unscrew and remove nipple; slide socket back on hose by tapping against flat surface; remove sleeve with pliers. New sleeves are recommended upon reuse of the fitting.

\*Molykote Type G is a registered trademark of the Alpha Molykote Corporation.

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### ASSEMBLY EQUIPMENT



# ProCrimp<sup>®</sup> 1380P

Perfect for maintenance and repair of all your hose needs and designed to be used in remote or portable stations, the *Pro*Crimp 1380P will handle through -20 SAE100R12 hose and fittings. All die cages, crimp diameters and approved hose and fitting combinations are identical to Aeroquip's popular FT1380 crimper. Crimp diameters are controlled using a micrometer and specially designed hydraulic circuit that allows for precise and adjustable finished crimp diameters.

The *Pro*Crimp 1380P may be ordered separately or with your choice of three power options, including a new high volume hand pump, an Air/Hydraulic power unit or a 12-volt DC power unit.

#### **Ordering Instructions**

| FT1380P-1-1   | Machine with hand pump                          |
|---------------|---|
| FT1380P-1-1-5 | Machine with hand pump and 5 die cages          |
| FT1380P-1-1-8 | Machine with hand pump and 8 die cages          |
| FT1380P-1-2   | Machine with Air/Hydraulic pump                 |
| FT1380P-1-2-5 | Machine with Air/Hydraulic pump and 5 die cages |
| FT1380P-1-2-8 | Machine with Air/Hydraulic pump and 8 die cages |
| FT1380P-1-3   | Machine only                                    |
| FT1380P-1-3-5 | Machine with 5 die cages                        |
| FT1380P-1-3-8 | Machine with 8 die cages                        |
| FT1380P-1-4   | Machine with 12 volt DC pump                    |
| FT1380P-1-4-5 | Machine with 12 volt DC pump and 5 die cages    |
| FT1380P-1-4-8 | Machine with 12 volt DC pump and 8 die cages    |
|               |   |

#### 5 die cages

FT1380-200-M150 FT1380-200-M210 FT1380-200-M240 FT1380-200-M320 FT1380-275-M370

#### 8 die cages

Include the 5 die cages plus: FT1380-200-M180 FT1380-200-M280 FT1380-275-M465



The ProCrimp 1380 crimp machine from Aeroquip crimps all your hose needs up to and including -20 SAE100R12 hose styles and the popular MatchMate Plus hose and fittings program (shown with optional die holder kit FT1380-2-4). The ProCrimp 1380 is electronically controlled to give fast, accurate crimps the first time and every time you need a hose assembly. The electronic keypad is easy to adjust, with up to 10 programmable crimp settings. For hose styles and sizes used less frequently simply enter the 3 digit code of that hose. The ProCrimp 1380 comes complete with a standard power unit from ENERPAC®, a name, like Aeroquip, which is synonymous with quality, worldwide.

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# **Pro**Crimp<sup>®</sup> **1380**

#### **Ordering Instructions**

| FT1380-115     | 115V crimp machine 60 Hz   |
|----------------|--|
| FT1380-115-5   | 2-Wire braid hose package FT1380–115 with the 5 die cages<br>needed to crimp the 5 most popular GH793 or GH781 2-wire<br>hose sizes: -4, -6, -8, -12 and -16<br>Die Cages<br>FT1380-200-M150 FT1380-200-M210<br>FT1380-200-M240 FT1380-200-M320<br>FT1380-275-M370 |
| FT1380-115-8   | Braided and spiral hose package<br>FT1380–115–5 with the 3 additional die cages — capable of<br>crimping all MatchMate Plus hoses through –20<br>Die Cages<br>FT1380–200–M180 FT1380–200–M280<br>FT1380–275–M465   |
| FT1380-2-3     | FT1330 to FT1380 Die Cage conversion kit — back plate, bolts<br>and instructions necessary to convert an FT1330 die cage to an<br>FT1380 die cage. Simply remove the FT1330 back plate and<br>replace it with the new FT1380 back plate.                           |
| FT1380-2-4     | Optional die holder kit — Kit includes 4 die holder plates each<br>of which will hold 2 die cages. Holes are pre-drilled on base of<br>ProCrimp machine to accept these 4 plates.  |
| Electrical Des |  |

#### **Electrical Requirements**

**USA:** FT1380–115 standard machine uses 115V, 60 Hz, 1 hp **Brazil:** FT1380–1–2 standard machine uses 230V, 60 Hz, 1 hp **Australia:** FT1380–230 standard machine uses 230V, 50 Hz, 1 hp **Canada:** FT1380–115 standard machine. Requires CSA (Canadian Standards Association) approval. The FT1380–115 is CSA approved and is so noted on the nameplate.



### FT1380 Crimp Machine Backstop

The FT1380 Backstop provides added versatility to one of Eaton Aeroquip's most widely used crimp machines, the FT1380. Featuring both "spring-loaded" and "positive-stop" options, this backstop simplifies crimping for a wide range of fitting styles including thru-the-cover, PTFE and others. The FT1380 Backstop can also be used with Eaton Aeroquip's FT1380P Crimp Machine.

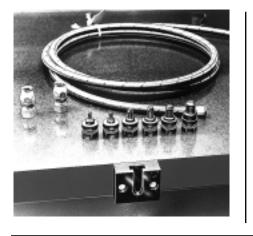
#### Features

- Magnetic mount
- "Spring-Loaded" backstop
- "Positive-Stop" option
- 2.5 inches of travel

#### **Order Instructions**

FT1380-4 Backstop and 5/32" hex wrench





### FT1081 PTFE hose assembly tool kit

#### **Hose Specifications**

Smooth Bore PTFE Hose, -03, -04, -05, -06, -08, -10 and -12 hose. FT1090-3-10-4 and FT1090-3-10-5 are useful wire flare tools to use in conjunction with kit FT1081.

#### Features

- Inexpensive
- Easy to use
- Seats PTFE tube against sleeve

### **Ordering Instructions**

FT1081 Complete tool kit. Includes: FT1081-3-1 mandrel holder FT1081-3-2-3 mandrel -3 hose FT1081-3-2-4 mandrel -4 hose FT1081-3-3-5 mandrel -5 hose FT1081-3-4-6 mandrel -5 hose FT1081-3-5-8 mandrel -6 hose FT1081-3-6-10 mandrel -10 hose FT1081-3-7-12 mandrel -12 hose



### FT1038A PTFE hose tool

#### **Hose Specifications**

• Smooth bore PTFE Hose, -03, -04, -05, -06, -08, -10 and -12

#### Features

- Small
- Hand held tool



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### Protective coils, sleeves & clamps

222005, 222022 Stainless steel internal support coils



Recommended for vacuum service with most hose.

| Part Number | Coil O.D.<br>(inches) |
|-------------|-----------------------|
| 222005-23C  | .34                   |
| 222005-10C  | .42                   |
| 222005-21C  | .51                   |
| 222005-11C  | .60                   |
| 222022-12C  | .70                   |
| 222005-13C  | .73                   |
| 222005-14C  | .94                   |
| 222022-16C  | .97                   |
| 222005-15C  | 1.19                  |
| 222022-20C  | 1.25                  |
| 222005-17C  | 1.44                  |
| 222022-24C  | 1.50                  |
| 222005-18C  | 1.88                  |
| 222022-32C  | 1.97                  |
| 222005-19C  | 2.44                  |
| 222022-40C  | 2.67                  |
| 222022-48C  | 3.27                  |
| 222022-60C  | 4.28                  |
| 222022-80C  | 5.28                  |

900705 Steel protective coil sleeve



Recommended for use where hose lines are subjected to excessive abrasion, kinking or accidental damage. Construction: spring steel, rust resistant.

This coil should fit snugly to the hose O.D. expanding the coil I.D. (unwind the coil) may be necessary for proper installation.

| Sleeve Dash No. | Sleeve I.D. (inches) |
|-----------------|----------------------|
| -17S            | .44                  |
| -1S             | .50                  |
| -13S            | .57                  |
| -2S             | .63                  |
| -3S             | .75                  |
| -4S             | .88                  |
| -5S             | 1.03                 |
| -14S            | 1.13                 |
| -6S             | 1.22                 |
| -7S             | 1.47                 |
| -9S             | 1.69                 |
| -8S             | 1.91                 |
| -15S            | 2.00                 |
| -10S            | 2.13                 |
| -16S            | 2.44                 |
| -11S            | 2.56                 |
| -12S            | 2.75                 |

### 900564 Steel protective coil spring

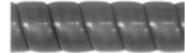


Protects hose cover and reinforcement from abrasion and accidental damage. Construction; steel wire, rust resistant.

This coil should fit snugly to the hose O.D. expanding the coil I.D. (unwind the coil) may be necessary for proper installation.

| Spring Dash No. | Spring I.D. (inches) |
|-----------------|----------------------|
| -1S             | .61                  |
| -12S            | .67                  |
| -2S             | .75                  |
| -15S            | .81                  |
| -14S            | .85                  |
| -3S             | .91                  |
| -4S             | 1.04                 |
| -5S             | 1.18                 |
| -6S             | 1.34                 |
| -7S             | 1.66                 |
| -9S             | 1.87                 |
| -8S             | 2.13                 |
| -10S            | 2.38                 |
| -13S            | 2.75                 |
| -11S            | 2.88                 |

### 900952 Plastic protective coil sleeve



Recommended to protect hose from abrasion, this light weight plastic sleeve is unaffected by air, water, oil, gasoline, hydraulic and most other fluids. This coil can also be used for group bundling of hose lines. Temperature range of  $0^{\circ}$ F to +180°F.

| Sleeve Dash No. | Sleeve I.D. (inches) |
|-----------------|----------------------|
| -4              | .25                  |
| -6              | .38                  |
| -8              | .50                  |
| -10             | .63                  |
| -12             | .75                  |
| -16             | 1.00                 |
| -22             | 1.38                 |
| -30             | 1.88                 |

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#### 624 Firesleeve



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Firesleeve will protect hose from direct flame. Firesleeve is constructed of a uniform single layer of braided fiberglass tubing impregnated with flame resistant silicone rubber. Temperature range of  $-65^{\circ}$ F to  $+500^{\circ}$ F.

| Part Number | I.D.<br>(inches) | Clamp Number<br>(2 required) |
|-------------|------------------|------------------------------|
| 624-5       | .31              | FF9217-0622S                 |
| 624-7       | .44              | FF9217-0622S                 |
| 624-8       | .50              | FF9217-0622S                 |
| 624-9       | .56              | FF9217-0622S                 |
| 624-10      | .62              | FF9217-0622S                 |
| 624-11      | .69              | FF9217-0622S                 |
| 624-12      | .75              | FF9217-0622S                 |
| 624-13      | .81              | FF9217-0622S                 |
| 624-14      | .88              | FF9217-0622S                 |
| 624-16      | 1.00             | FF9217-0622S                 |
| 624-18      | 1.12             | FF9217-0622S                 |
| 624-20      | 1.25             | FF9217-0648S                 |
| 624-22      | 1.38             | FF9217-0648S                 |
| 624-24      | 1.50             | FF9217-0648S                 |
| 624-26      | 1.62             | FF9217-0648S                 |
| 624-28      | 1.75             | FF9217-0648S                 |
| 624-30      | 1.88             | FF9217-0648S                 |
| 624-32      | 2.00             | FF9217-0648S                 |
| 624-38      | 2.38             | FF9217-0648S                 |
| 624-42      | 2.62             | FF9217-0648S                 |
| 624-46      | 2.88             | FF9217-0664C                 |
| 624-50      | 3.12             | FF9217-0664C                 |
| 624-54      | 3.38             | FF9217-0664C                 |
| 624-60      | 3.75             | FF9217-0664C                 |

### FF9217 Firesleeve clamp



Recommended for attaching 624 Firesleeve to hose lines.

Clamp numbers: FF9217-0622S, FF9217-0648S;  ${}^{3}\!\!{}_{\prime_{8}}$  inch wide, FF9217-0664C;  ${}^{1}\!\!{}_{\prime_{2}}$  inch wide.

### FC425 Nylon abrasion sleeve Meets MSHA requirements

Nylon sleeve protects hose from abrasion and allows bundling of hose lines.

| Nominal<br>Sleeve I.D.*<br>"B" (inches) |
|---|
| .71                                     |
| .92                                     |
| 1.00                                    |
| 1.13                                    |
| 1.25                                    |
| 1.59                                    |
| 1.75                                    |
| 2.07                                    |
| 2.38                                    |
| 2.54                                    |
| 2.86                                    |
| 3.34                                    |
| 3.66                                    |
|   |

\* The maximum O.D. of hose fittings must be allowed for if fittings are to be covered.

### 900729 Support clamp



These light weight vinyl-coated steel support clamps are designed to support hose where long runs are necessary.

This clamp not only furnishes a cleaner installation, but prevents damage, exposure and chafing.

The lining will withstand high ambient temperatures.

Bolt hole dia: Clamp dash no. -01 thru -8, -18 thru -23 is .406; -9 thru -17, -24 thru -31 is .531.

| Clamp Dash No. | Clamp I.D. (inches)<br>Closed |
|----------------|-------------------------------|
| -18            | .25                           |
| -19            | .38                           |
| -01            | .44                           |
| -1             | .50                           |
| -2             | .56                           |
| -21            | .63                           |
| -3             | .69                           |
| -4             | .75                           |
| -5             | .81                           |
| -6             | .94                           |
| -23            | 1.00                          |
| -8             | 1.06                          |
| _9             | 1.13                          |
| -27            | 1.19                          |
| -24            | 1.25                          |
| -25            | 1.31                          |
| -10            | 1.50                          |
| -11            | 1.56                          |
| -12            | 1.75                          |
| -28            | 1.81                          |
| -13            | 2.00                          |
| -29            | 2.06                          |
| -14            | 2.25                          |
| -30            | 2.50                          |
| -31            | 2.63                          |
| -15            | 2.75                          |
| -16            | 2.88                          |
| -17            | 3.56                          |

ACCESSORIES

Aleroquip

### ACCESSORIES TO HOSE CHART

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| Part<br>Number | Steel Prot.<br>Coil Spring*<br>900564<br>(dash size) | Plastic<br>Coil Sleeve<br>900952<br>(dash size) | Steel Prot.<br>Coil Sleeve*<br>900705<br>(dash size) | Support<br>Clamp<br>900729<br>(dash size) | Internal<br>Support<br>Coil | Nylon<br>Sleeve*<br>FC425<br>(dash size) | Firesleeve*<br>624<br>(dash size) | Firesleeve<br>Clamp<br>FF9217<br>(dash size) | Heavy Duty<br>Support Clamp<br>FF9031<br>(dash size) |
|----------------|--|---|--|---|-----------------------------|--|-----------------------------------|--|--|
| 2807-3         |  | -4  |  | -18                                       |                             |  | -7                                | -0622S                                       |  |
| 2807-4         |  | -4  |  | -18                                       |                             |  | -8                                | -0622S                                       |  |
| 2807-5         |  | -4  |  | -19                                       |                             |  | -9                                | -0622S                                       |  |
| 2807-6         |  | -6  | -17S   | -01                                       | 222005-23C                  |  | -10                               | -0622S                                       |  |
| 2807-8         | -1S  | -8  | -1S  | -1  | 222005-10C                  | -12                                      | -12                               | -0622S                                       | -137   |
| 2807-10        | -2S  | -8  | -3S  | -21                                       | 222005-21C                  | -16                                      | -14                               | -0630S                                       | -160   |
| 2807-12        | -2S  | -10   | -3S  | -4  | 222005-13C                  | -16                                      | -16                               | -0630S                                       | -190   |
| 2807-16        | -3S  | -12   | -5S  | -23                                       | 222005-14C                  | -20                                      | -20                               | -0630S                                       | -266   |
| 2807-20        | -5S  | -16   | -6S  | -24                                       | 222005-15C                  | -24                                      | -24                               | -0648S                                       | -320   |
| 2808-08        | -12S   | -6  | -1S  | -2  | 222005-10C                  | -12                                      | -16                               | -0622S                                       | -150   |
| 2808-10        | -2S  | -8  | -2S  | -3  | 222005-21C                  | -16                                      | -18                               | -0630S                                       | -174   |
| 2808-12        | -14S   | -10   | -3S  | -5  | 222005-13C                  | -16                                      | -20                               | -0630S                                       | -205   |
| 2808-16        | -5S  | -16   | -5S  | -8  | 222005-14C                  | -20                                      | -26                               | -0648S                                       | -280   |
| 2808-20        | -7S  | -16   | -6S  | -25                                       | 222005-15C                  | -24                                      | -32                               | -0648S                                       | -334   |
| 2808-24        | -7S  | -22   | -7S  | -11                                       | 222005-17C                  | -28                                      | -38                               | -0648S                                       | -422   |
| FC363-12       | -5S  | -16   | -6S  | -8  |                             | -20                                      | -20                               | -0630S                                       | -266   |
| FC363-16       | -6S  | -16   | -7S  | -10                                       |                             | -24                                      | -22                               | -0630S                                       | -320   |
| FC363-20       | -7S  | -22   | -9S  | -11                                       |                             | -28                                      | -26                               | -0648S                                       | -381   |
| FC363-24       | -9S  | -22   | -8S  | -2S                                       |                             | -32                                      | -30                               | -0648S                                       | -445   |
| FC363-32       | -10S   |   | -16S   | -30                                       |                             | -59                                      | -42                               | -0648S                                       | -572   |
| FC364-12       | -5S  | -16   | -6S  | -8  |                             | -20                                      | -20                               | -0630S                                       | -266   |
| FC364-16       | -6S  | -22   | -7S  | -10                                       |                             | -24                                      | -22                               | -0630S                                       | -320   |
| FC364-20       | -7S  | -30   | -9S  | -11                                       |                             | -28                                      | -26                               | -0648S                                       | -381   |
| FC364-24       | -9S  | -30   | -8S  | -28                                       |                             | -32                                      | -30                               | -0648S                                       | -445   |
| FC364-32       | -10S   |   | -16S   | -30                                       |                             | -59                                      | -42                               | -0648S                                       | -572   |
| FC364-40       | -11S   | -30   | -12S   | -16                                       |                             | -54                                      | -50                               | -06664S                                      | -635   |
| FC364-48       |  |   |  |   |                             |  |                                   |  |  |
| FC465-04       |  | -4  |  | -18                                       |                             |  | -9                                | -0622S                                       |  |
| FC465-05       |  | -4  |  | -19                                       |                             |  | -10                               | -0622S                                       |  |
| FC465-06       |  | -6  |  | -01                                       | 222005-23C                  | -12                                      | -11                               | -0622S                                       |  |
| FC465-08       | -1S  | -8  | -1S  | -1  | 222005-21C                  | -12                                      | -13                               | -0622S                                       | -137   |
| FC465-10       | -1S  | -8  | -13S   | -21                                       | 222005-21C                  | -16                                      | -14                               | -0622S                                       | -160   |
| FC465-12       | -2S  | -10   | -3S  | -4  | 222005-13C                  | -16                                      | -16                               | -0622S                                       | -190   |
| FC465-16       | -3S  | -12   | -5S  | -23                                       | 222005-14C                  | -20                                      | -20                               | -0648S                                       | -266   |
| FC469-06       | -1S  | -6  | -1S  | -1  | 222005-23C                  | -12                                      | -12                               | -0622S                                       |  |
| FC469-08       | -1S  | -8  | -13S   | -21                                       | 222005-10C                  | -16                                      | -14                               | -0622S                                       |  |
| FC469-10       | -12S   | -10   | -2S  | -4  | 222005-21C                  | -16                                      | -16                               | -0622S                                       | -150   |
| FC563-12       | -5S  | -16   | -14S   | -9  |                             | -20                                      | -22                               | -0648S                                       | -280   |
| FC563-16       | -6S  | -16   | -6S  | -2S                                       |                             | -24                                      | -26                               | -0648S                                       | -334   |
| FC563-20       | -7S  | -22   | -7S  | -11                                       |                             | -28                                      | -30                               | -0648S                                       |  |
| FC563-24       | -9S  | -22   | -9S  | -28                                       |                             | -32                                      | -32                               | -0648S                                       |  |
| FC563-32       | -10S   | -30   | -10S   | -14                                       |                             | -40                                      | -42                               | -0648S                                       |  |
| FC645-06       |  | -6  | -17S   | -01                                       | 222005-23C                  |  | -10                               | -0622S                                       |  |
| FC807-3        |  | -4  |  | -18                                       |                             | -7                                       | -7                                | -0622S                                       |  |
| FC807-4        |  | -4  |  | -18                                       |                             |  | -8                                | -0622S                                       |  |
| FC807-5        |  | -4  |  | -19                                       |                             |  | -9                                | -0622S                                       |  |
| FC807-6        |  | -6  | -17S   | -01                                       | 222005-23C                  |  | -10                               | -0622S                                       |  |
| FC807-8        | -1S  | -8  | -1S  | -1  | 222005-10C                  | -12                                      | -12                               | -0622S                                       | -137   |
| FC807-10       | -2S  | -8  | -3S  | -21                                       | 222005-21C                  | -16                                      | -14                               | -0630S                                       | -160   |
| FC807-12       | -2S  | -10   | -3S  | -4  | 222005-13C                  | -16                                      | -16                               | -0630S                                       | -190   |
| FC807-16       | -3S  | -12   | -5S  | -23                                       | 222005-14C                  | -20                                      | -20                               | -0630S                                       | -266   |

\*Sizes indicated are based on Hose O.D. only. If sleeve is to be placed over fittings, a larger sleeve size may be required, depending on type of fitting used.

## FLUID COMPATIBILITY

# Fluid Compatibility Chart For Aeroquip PTFE Hose

This chart indicates the fitting material and inner tube suitability for the fluid/agent to be conveyed. It is intended for use as a guide only and is not a guarantee. Final selection is further dependent on pressure, fluid and ambient temperature, concentration of fluid/agent, intermittent or continuous exposure, etc. For further details on a specific hose style, consult your Eaton field sales manager or Eaton Aeroquip at 419-867-2600.

**CAUTION:** These recommendations are intended as a guide only. Many factors such as concentration, fluid and ambient temperature, pressure, duration of exposure, etc., have a bearing on the suitability of any hose or end fitting material for a specific application.

#### Use the charts as follows:

- 1. Locate the fluid/agent to be carried
- 2. Select suitability of hose style and fitting material.

### **Resistance Rating Key**

- S = SATISFACTORY
- C = CONDITIONAL (Service condition must be outlined to Aeroquip for approval of hose suitability for applications.)
- U = UNSATISFACTORY

#### **Electro Static Discharge**

With installation involving higher flow rates and fuel, other petrochemicals or steam, the possibility exists for static charge accumulation and the consequent discharge. This may occur when a fluid, such as gasoline, is traveling through a white, non-conductive PTFE hose. The fluid will deposit electrons along the wall of the hose causing a static buildup. If they are not dissipated, an electric field will accumulate which may discharge an arc of sufficient energy to pierce, or pinhole, the wall of a PTFE hose.

To overcome this phenomenon, a black carbon liner has been added to certain Aeroquip PTFE hose. This conducts the electrostatic charge down the hose to the metal fitting, thus preventing the arcing.

|  | PTFE  | Carbon Steel                                  | Stainless Steel   | Brass  |
|--|---|---|---|--|
| C = CONDITIONAL<br>S = SATISFACTORY<br>U = UNSATISFACTORY  | 1   | 2   | 3   | 4  |
| FLUID  | HOSE  |   | FITTINGS  |  |
| Acetate Solvents, Crude<br>Acetate Solvents, Pure<br>Acetate Acid, Dilute (10%)<br>Acetic Acid, Glacial<br>Acetice Acid, Vapors<br>Acetone<br>Acetylene<br>Air<br>Air (Hot) (to +160°F)<br>Air (Hot) (to +200°F)<br>Air (Wet)<br>Alcohols<br>Aluminum Chloride<br>Aluminum Sulfate<br>Aluminum Sulfate<br>Alums<br>Ammonia, Gas, Cold<br>Ammonia, Gas, Hot<br>Ammonia, Chloride<br>Ammonia, Chloride<br>Ammonia, Chloride<br>Ammonia, Chloride<br>Ammonium Hydroxide<br>Ammonium Nitrate   | \$ \$ \$ \$ U S S S S S S S S U U U U U U U   | U U U U S S S S S C C U U U U S S S S U S S U | \$ \$ \$ U \$ \$ \$ \$ \$ \$ \$ \$ \$ U \$ \$ \$ \$ \$ \$ | U U U U S S S S S S S U U C C U U U U U                            |
| Ammonium Sulfate<br>Amyl Acetate<br>Amyl Alcohol<br>Aniline, Aniline Oil<br>Aniline Dyes<br>Asphalt (up to +180°F)<br><b>Barium Chloride</b><br>Barium Sulfide<br>Barium Sulfide<br>Berzine (Petroleum Ether)<br>Benzine (Petroleum Ether)<br>Benzine (Petroleum Naphtha)<br>Black Sulfate Liquor<br>Black Furnace Gas<br>Borax<br>Boric Acid<br>Brine<br>Bromine<br>Butyle Acetate<br>Butyle Alcohol, Butanol   | ร รรรร รรรรรรรรรรร                            | S   | C   | U<br>S S U C S<br>S U U S S S S C S S C S S<br>S C S S S S S S S S |
| Calcium Bisulfite<br>Calcium Hydroxide<br>Calcium Hydroxide<br>Calcium Hydroxide<br>Calcium Hypochlorite<br>Calcium Eliquors<br>Carbon Sugar Liquors<br>Carbon Dioxide<br>Carbon Dioxide<br>Carbon Dioxide<br>Carbon Tetrachloride<br>Carbon Tetrachloride<br>Carbonic Acid<br>Castor Oil<br>Cellosolve Acetate<br>China Wood Oil (Tung)<br>Chlorinated Solvents<br>Chlorine (Dry)<br>Chlorine (Wet)<br>Chloracetic Acid<br>Chloroform<br>Chlorosulphonic Acid<br>Chromic Acid 30%<br>Citric Acid 10%<br>Copper Chloride<br>Copper Sulfate | S S S S S S S S S S S S S S S S C D D S S S S | U S S C S S U S S S U U S S S S S U U U U     | υ   | U S S C S S S S C S U S S S S S U U S U U C U U                    |

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### FLUID COMPATIBILITY

|   |  | 1   | <u> </u>                   | I  |
|---|--|---|----------------------------|--|
|   | PTFE   | Carbon Steel  | Stainless Steel            | Brass  |
| C = CONDITIONAL<br>S = SATISFACTORY<br>U = UNSATISFACTORY   | 1  | 2   | 3                          | 4  |
| FLUID   | HOSE   |   | FITTINGS                   | 5  |
| Cottonseed Oil<br>Creosote  | S<br>S   | S<br>S  | S<br>S                     | S<br>C   |
| Diesel Oil Light<br>Dowtherm A and E  | S<br>S   | S<br>S  | S<br>S                     | S<br>S   |
| Ethers<br>Ethyl Acetate<br>Ethyl Alcohol<br>Ethyl Cellulose<br>Ethyl Chloride<br>Ethylene Dichloride<br>Ethylene Glycol   | S<br>S<br>S<br>S<br>S<br>S                               | S<br>S<br>S<br>S<br>U<br>S  | S<br>S<br>S<br>C<br>U<br>S | S<br>S<br>S<br>S<br>S<br>S   |
| Ferric Chloride<br>Ferric Sulfate<br>Ferrous Salt Solutions<br>Formaldehyde<br>Formic Acid<br>Freon (see Refrigerant)   | U<br>S<br>U<br>S<br>S                                    | U<br>U<br>U<br>U<br>U   | U<br>S<br>U<br>S<br>U      | U<br>U<br>S<br>C   |
| Fuel Oil<br>Fuel Oil<br>Furfural  | S<br>S   | S<br>S  | S<br>S                     | S<br>S   |
| Gasoline<br>Glue<br>Glycerine, Glycerol<br>Grease Petro<br>Green Sulfate Liquor   | S<br>S<br>S<br>S   | S<br>S<br>S<br>S  | S<br>S<br>S<br>S           | S<br>C<br>S<br>U   |
| Heptane<br>Hexane<br>Straight Petroleum Base<br>Water & Petroleum Oil Emulsion (FR)<br>Water & Glycol Solution<br>Straight Phosphate–Ester (FR)   | S<br>S<br>S<br>S<br>S<br>S                               | S<br>S<br>C<br>S<br>S   | S<br>S<br>S<br>S<br>S<br>S | S<br>S<br>S<br>S<br>S  |
| Phosphate-Ester & Petroleum<br>Oil Blend (FR)<br>Ester Blend (MIL-L-7808)<br>Silicon Oils<br>Hydrochloric Acid, Cold<br>Hydrochloric Acid, Cold<br>Hydrochloric Acid, Hot<br>Hydrofluoric Acid, Cold<br>Hydrofluoric Acid, Hot<br>Hydrofluoric Acid, Hot<br>Hydrofluoric Acid, Hot<br>Hydrofluosilic Acid<br>Hydrogen<br>Hydrogen Peroxide (Dilute)<br>Hydrogen Peroxide (Concentrated)<br>Hydrogen Sulfide | S<br>S<br>U<br>U<br>U<br>S<br>U<br>U<br>C<br>S<br>S<br>S | S S S U U U S U U S U U U S U U U S U U U S U U U S U U U S U U U S U | S S S U U C U U U S S S C  | S<br>S<br>C<br>C<br>C<br>U<br>C<br>C<br>U<br>C<br>C<br>U<br>S<br>U<br>U<br>U |
| Kerosene  | S  | S   | S                          | S  |
| Lacquer<br>Lacquer Solvents<br>Lactic Acid<br>Linseed Oil   | S<br>S<br>S<br>S   | U<br>U<br>U<br>S  | S<br>S<br>S<br>S           | S<br>S<br>C<br>S   |
| Magnesium Chloride<br>Magnesium Hydroxide<br>Magnesium Sulfate<br>Mercuric Chloride<br>Mercury<br>Methyl Alcohol, Methanol<br>Methyl Chloride, Cold<br>Methyl Ethyl Ketone<br>Methyl Isopropyl Ketone<br>Mineral Oil  | S<br>S<br>U<br>S<br>S<br>S<br>U<br>S                     | S<br>S<br>U<br>S<br>S<br>S<br>S<br>C<br>S   | C S S C S S S S C S        | S<br>S<br>U<br>U<br>S<br>S<br>C<br>S   |
| Naphtha<br>Naphthalene<br>Nickel Chloride<br>Nickel Sulfate<br>Nitrice Acide, Crude<br>Nitric Acid 10%  | S<br>S<br>U<br>S<br>S<br>S                               | S<br>S<br>U<br>U<br>U<br>U  | S<br>S<br>C<br>S<br>S<br>S | S<br>U<br>C<br>U<br>U  |

|  | PTFE                                    | Carbon Steel  | Stainless Steel       | Brass                        |
|--|---|---|-----------------------|------------------------------|
| C = CONDITIONAL<br>S = SATISFACTORY<br>U = UNSATISFACTORY  | 1                                       | 2   | 3                     | 4                            |
| FLUID  | HOSE                                    |   | FITTINGS              | ;                            |
| Nitric Acid 70%<br>Nitrobenzene<br>Nitrous Oxide   | S<br>S<br>S                             | U<br>S<br>S   | S<br>S<br>S           | U<br>S<br>S                  |
| <b>Oleic Acid</b><br>Oleum Spirits<br>Oxalic Acid<br>Oxygen  | S<br>S<br>C                             | S<br>U<br>U<br>S  | C<br>S<br>C<br>S      | C<br>S<br>C<br>S             |
| Paint<br>Palmitic Acid<br>Perchlorethylene<br>Phosphoric Acid (Commercial)<br>Picric Acid, Molten<br>Picric Acid, Solution<br>Potassium Chloride<br>Potassium Cyanide<br>Potassium Hydroxide<br>Potassium Sulfate<br>Prestone  | S S S S S S S S S S S                   | S S U U C S S C S S   | S S S S U S U S S S S | S U S U U U U U U S S        |
| Sewage<br>Soap Solution<br>Soda Ash, Sodium Carbonate<br>Sodium Bisulfate<br>Sodium Chloride<br>Sodium Cyanide<br>Sodium Hydroxide 50%<br>Sodium Hypochlorite<br>Sodium Pypochlorite<br>Sodium Perborate<br>Sodium Perborate<br>Sodium Perborate<br>Sodium Sulfate<br>Sodium Sulfate<br>Sodium Sulfide<br>Sodium Sulfide<br>Sodium Sulfide<br>Sodium Sulfide<br>Sodium Sulfate "Hypo"<br>Soybean Oil<br>Stannic Chloride<br>Stannic Chloride<br>Stannic Chloride<br>Stannic Chloride<br>Sulfur Chloride<br>Sulfur Dioxide<br>Sulfur Dioxide<br>Sulfur Trioxide<br>Sulfur Trioxide<br>Sulfur Acid–10% Cold<br>Sulfuric Acid–10% Hot<br>Sulfuric Acid–75% Hot<br>Sulfuric Acid–75% Hot<br>Sulfuric Acid–95% Cold<br>Sulfuric Acid–95% Cold<br>Sulfuric Acid–95% Hot<br>Sulfuric Acid–95% Hot | ~ | \$ | U                     | 888088 CCCCCCCCCCCC8C8C80080 |
| Varnish  | S                                       | S   | S                     | S                            |
| <b>Water</b><br>Water (over +150°F)  | S<br>S                                  | C<br>C  | S<br>S                | S<br>S                       |
| Xylene   | S                                       | S   | s                     | S                            |
| Zinc Chloride<br>Zinc Sulfate  | U<br>S                                  | U<br>C  | U<br>S                | U<br>C                       |

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