



# **Parflex®**

## **Thermoplastic Hose, Tubing, Fittings and Accessories**

Chassin Conexiones  
Tel. (461) 615 59 10  
Attn Ing. Alberto Hernández Chasin

Catalog 4660  
April 2005



**The World Standard**



Mansfield, Texas



Wissenburg, France



Ravenna, Ohio



Hüttenfeld, Germany



Stafford, Texas

**New Facility**  
Atlantic Tubing  
Chestnut Ridge, NY

**New Facility**  
Hybrid Thermoplastic  
(Former Dayco Manufacturing Plant)  
Manitowoc, WI

# What's new in the 4660 catalog?

- Index bleed tabs with product /section names (replaces letter designations)
- Specific page references for selected products and information
- Predator® Hoses and complete Hybrid Hose offering
- Hose Products Division section listing HY fittings (for reference purposes only)
- Soft metric conversions shown for metal hose fittings, hydraulic and PTFE hoses
- Separated hydraulic and PTFE fittings sections
- Visual indexes for all metal fittings
- Navigation / tutorials assist user in locating product (select product lines)
- Hose descriptions and tabular information simplified / reformatted
- Larger and easier- to- read hose tables
- Dies and series of fittings indicated in individual hose tables
- Quick reference pages for selecting hydraulic hoses
- Quick reference pages for thermoplastic tubing (includes BPD)
- New hose and fitting nomenclature tables
- Plus signs replaces shading for non-standards (non standard clearly defined)
- Updated and enhanced technical section
- Condensed and easy-to-follow hose assembly guide for all hoses
- Separated tooling/equipment and hose accessories sections
- Divisional references for additional products, information, and accessories
- New HTC hose and tubing cutter
- New MiniKrimp® Stand
- Updated Air-Over-Hydraulic MiniKrimp

Extra care is taken in the preparation of this literature but Parker is not responsible for any inadvertent typographical errors or omissions. Information subject to change without notice. The information in this catalog is only accurate as of the date of publication. For a more current information base, please consult the Parker Parflex Division web site at [www.parker.com/parflex](http://www.parker.com/parflex).

## **WARNING**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

## **Offer of Sale**

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale".

© Copyright 1998, 2000, 2002, 2004 Parker Hannifin Corporation, All Rights Reserved



**Parker Hannifin Corporation**  
Parflex Division  
Ravenna, Ohio

## Welcome to ... The Parflex Division

The Parflex Division, part of the Fluid Connectors Group, includes the Ravenna facility in Ohio, a hose assembly facility in Stafford, Texas, a hose manufacturing plant in Manitowoc, Wisconsin, and a fluoropolymer manufacturing plant in Chestnut Ridge, N.Y. The Parflex Division is responsible for the manufacture of thermoplastic hose, tubing, hose bundles, harnesses, and high pressure hose assemblies and fluoropolymer tubing.

The Charter of the Parflex Division is:

"To be the global leader in engineered polymer-based products, and to provide system solutions for the conveyance and control of fluids."

- 1969** Parker acquired D&G Plastics, manufacturers of: tubing, plastic tube fittings, & sporting goods
- 1970** Started R & D- airbrake tubing, freon hose, thermoplastic hydraulic hose
- 1973** Broke ground on Ravenna, Ohio hose plant
- 1975-1978** Initiated some rubber hose development-acquired Multitube from TRW- expanded operation
- 1979** Developed special air-conditioning hose- introduced first wire reinforced thermoplastic hose- moved rubber hose to new Manhattan, Kansas plant
- 1982** Parflex is formed as profit center- started airbrake harness production
- 1985** Expanded Ravenna facility- developed metal cutting in Mooresville, N.C.
- 1994** Acquired Polyflex GmbH (Germany)- 60,000 PSI hose manufacturer
- 1995** Expanded plant and lab in Ravenna
- 2000** Acquired Dayco Manitowoc, Wisconsin- manufacturer of thermoplastic and hybrid hoses
- 2003** Acquired Atlantic Tubing Chestnut Ridge, N.Y.- manufacturer of fluoropolymer tubing



Catalog 4150



Catalog 4690-MH1

For information on products not contained in this catalog please contact Catalog Services at 440.205.7799 for copies of these additional Parflex products.



Parker Hannifin Corporation  
Parflex Division  
Ravenna, Ohio

# **Thermoplastic Hose, Tubing, Fittings and Accessories**

|   |         |  |   |
|---|---------|--|---|
| Hydraulic & Pneumatic Hose & Fittings .....   | 1-128   | Hydraulic & Pneumatic Hose & Fit.<br>PTFE Hose & Fittings<br>Thermoplastic Tubing<br>Coiled Air Hose, Fittings & Accessories<br>Truck (Fleet) Products<br>Tooling & Equipment<br>Hose Accessories<br>Technical & Design Information<br>Approvals & Guides<br>Alphanumeric Part Number Index<br>Offer of Sale ..... | 1-128<br>129-170<br>171-194<br>195-206<br>207-214<br>215-226<br>227-232<br>233-296<br>297-301<br>303-305<br>306 |
| PTFE Hose & Fittings .....                    | 129-170 |  |   |
| Thermoplastic Tubing .....                    | 171-194 |  |   |
| Coiled Air Hose, Fittings & Accessories ..... | 195-206 |  |   |
| Truck (Fleet) Products .....                  | 207-214 |  |   |
| Tooling & Equipment .....                     | 215-226 |  |   |
| Hose Accessories .....                        | 227-232 |  |   |
| Technical & Design Information .....          | 233-296 |  |   |
| Approvals & Guides .....                      | 297-301 |  |   |
| Alphanumeric Part Number Index .....          | 303-305 |  |   |
| Offer of Sale .....                           | 306     |  |   |

# Definition of Symbols Used in Tables

| Symbol | Definition          | Symbol | Definition               |
|--------|---------------------|--------|--------------------------|
| #      | Part Number         |        | Minimum Burst Pressure   |
|        | Hose Inner Diameter |        | Weight                   |
|        | Hose Outer Diameter |        | Vacuum Rating            |
|        | Working Pressure    |        | Thread Size              |
|        | Crimp Die           |        | Hex Size                 |
|        | Minimum Bend Radius |        | Diameter                 |
|        | Crimp Fitting       |        | Field Attachable Fitting |
| (+)    | Non-Standard        |        |                          |

## (+) Non-Standard

- Non-standards are not typically stocked.
- Minimum buys, runs, costs, lead times, and pricing will be quoted
- Overruns or excess inventories may exist – in-stock pricing will be quoted
- In-stock pricing levels are sensitive to products available and are subject to prior sale
- Delivery or lead times quoted begin A. R. O (after receipt of order)

The Part # column for hydraulic fittings indicates material type. Where applicable, “B” indicates Brass and “C” indicates Stainless Steel. See the “How To Order” section for more information.

For detailed ordering information, please consult price list or contact Parflex Division.

# Hydraulic & Pneumatic Hoses

| Hose   | Description | Page |
|--|-------------|------|
| Hydraulic Tutorial and Information .....                               |             | 3-5  |
| Hose Selection Guide .....   |             | 6    |
| Hose Rated Pressures PSI .....   |             | 7    |
| Hose Assembly & Fittings Nomenclature .....                            |             | 8    |
| B9 - General Purpose Fuel Transfer .....                               |             | 9    |
| D6 - Constant Pressure Hybrid 3000 PSI.....                            |             | 9    |
| H6 - Constant Pressure Low Temperature 3000 PSI.....                   |             | 10   |
| HFS - Firescreen® Hybrid .....   |             | 11   |
| HFS2 - Firescreen II® Hybrid .....                                     |             | 11   |
| HTB - Eliminator® Compact Hybrid .....                                 |             | 12   |
| M8 - E-Z Flex® Hybrid Constant Pressure 4000 PSI .....                 |             | 12   |
| R6 - Abrasion King® Constant Pressure 3000 PSI .....                   |             | 13   |
| 560 - General Hydraulic .....  |             | 14   |
| 563 - General Hydraulic .....  |             | 14   |
| 590 - General Hydraulic .....  |             | 15   |
| 593 - General Hydraulic .....  |             | 15   |
| 510A - Refrigerant .....   |             | 16   |
| 510C - General Hydraulic .....   |             | 17   |
| 515H - Compact/Lightweight.....  |             | 17   |
| 518C - Non-conductive Hydraulic .....                                  |             | 18   |
| 520N - General Hydraulic .....   |             | 19   |
| 528N - Non-conductive Hydraulic .....                                  |             | 19   |
| 53LT - Low Temperature Constant Pressure 3000 PSI.....                 |             | 20   |
| 538LT - Non-conductive Low Temperature Constant Pressure 3000 PSI..... |             | 21   |
| 540N - General Hydraulic .....   |             | 22   |
| 55LT - Low Temperature .....   |             | 23   |
| 573X - Fast Response 3000 PSI.....                                     |             | 23   |
| 575X - Fast Response 5000 PSI.....                                     |             | 24   |
| 580N - High Pressure Hose 2000 to 5000 PSI Range .....                 |             | 24   |
| H580N - High Pressure Hose 2000 to 5000 PSI Range .....                |             | 24   |
| 588N - High Pressure, Non-Conductive Hose 2000 to 5000 PSI Range.....  |             | 25   |
| 83FR - General Purpose Air & Water, Flame Resistant .....              |             | 26   |

## Specialty Hoses

|                                      |  |    |
|--------------------------------------|--|----|
| HJK - Highjack® Jackline Hybrid..... |  | 27 |
| HLB - Grease Line.....               |  | 27 |
| HPS - Paint Spray .....              |  | 28 |
| MSH - Marine Steering.....           |  | 28 |



## Specialty Hoses

|   |  |    |
|---|--|----|
| MTH   | - DOT Marine Trailer Hose .....                                | 29 |
| PTH   | - Marine Power Tilt.....                                       | 29 |
| S4  | - Predator® Water Jetting/Lateral Cleaning Hose 4000 PSI ..... | 30 |
| S5  | - Predator® Water Jetting/Lateral Cleaning Hose 4000 PSI ..... | 30 |
| S6  | - Predator® Sewer Cleaning Hose 2500 PSI.....                  | 31 |
| S9  | - Predator® Sewer Cleaning Hose 3000 PSI.....                  | 31 |
| 3CNG  | - Compressed Natural Gas 3600 PSI .....                        | 32 |
| 4CNG  | - Compressed Natural Gas 4000 PSI .....                        | 32 |
| 5CNG  | - Compressed Natural Gas 5000 PSI .....                        | 32 |
| 526BA                                       | - Breathing Air Refill Hose .....                              | 33 |
| 540P  | - Specialty Water .....  | 33 |
| 56DH/568DH                                  | - Diagnostic Hose .....  | 34 |
| 1035A                                       | - Power Cleaning.....  | 35 |
| 1035HT                                      | - Power Cleaning.....  | 35 |
| Twin-Line and Multi-Line                    | .....  | 36 |
| Retractable Coiled Hose                     | .....  | 36 |
| Hose Bundles, Harnesses, & Pre-formed Hoses | .....  | 36 |

## Permanent & Field Attachable Hose Fittings

|   |       |         |
|---|-------|---------|
| Visual Index Permanent Fittings                   | ..... | 37-38   |
| Visual Index Field Attachable Fittings            | ..... | 39      |
| Hose Fitting Selection Guide                      | ..... | 40      |
| LV Series   | ..... | 41      |
| MS Series   | ..... | 42      |
| Mender/Splicers Series                            | ..... | 43      |
| 51 Series Field Attachable.                       | ..... | 44-46   |
| 51 Series Metric Field Attachable                 | ..... | 47-52   |
| 55 Series   | ..... | 53-69   |
| 55 Series Metric                                  | ..... | 70-77   |
| 58/58H Series                                     | ..... | 78-94   |
| 58 Series Metric                                  | ..... | 95-102  |
| 92 Series   | ..... | 103-104 |
| BA Series   | ..... | 105-107 |
| BG Series   | ..... | 108-109 |
| SQ Series   | ..... | 110     |
| HY Visual Index —for reference only (HPD Product) | ..... | 112-113 |
| HY Series —for reference only (HPD Product)       | ..... | 114-128 |



## Hydraulic Hose Tutorial

How to navigate the Hydraulic Hose portion of this section

- Familiarize yourself with the basics on thermoplastic and hybrid hoses below
- Use the **STAMPED guide** (Size, Temperature, Application, Media, Pressure, End Configuration, and Delivered Preferences) **on page 5** to help narrow your search for the desired product
- Review the **symbols on page ii** and **nomenclature information on page 8** - this will clear up any questions on assemblies, component call outs, and general definitions - examples are provided
- The **Parflex Hose Quick Guide** will help pinpoint the hose you require. It will help you identify individual hoses by:
  - 1) Brief general description
  - 2) Specific size with corresponding working pressure
  - 3) Industry specification (eg. SAE)
  - 4) Core tube material
  - 5) Reinforcement/ type of construction
  - 6) Cover Material
  - 7) Specific page number where further detailed product information can be found
- A **visual index of fittings** follows the hose portion of this section **on page 37**. This will quickly help you identify the configurations you are looking for

**General Construction-** Construction standards may vary between specific thermoplastic hoses. All hose layers however, are bonded to provide maximum kink resistance and flexibility through a wide range of applications. Tightly packed fiber braided reinforcement provides strength for optimum performance. Specific braid materials, wire reinforcements, spiral reinforcements, and distinguishing features are clearly called out in this section. Perforated and non-perforated hoses are available based on application.

**WITH NOTED EXCEPTIONS, Parflex hoses are engineered and manufactured to a 4:1 burst pressure to working pressure ratio that follows SAE design standards. Never operate a hose beyond its published working pressure.**

(Working Pressure x 4 =Minimum Burst)

## Why you should choose and use Parflex® Thermoplastic and Hybrid Hoses

Listed on the following pages are the many reasons why you should consider Parflex thermoplastic hoses for your next hydraulic or pneumatic application. This summary gives an overview of the features, advantages, and benefits, in general, to our fine and extensive line of thermoplastic hoses. Each hose is described in detail within this catalog. **We urge you to review this section** before you proceed with your selection.

For additional information regarding Hose Products Division fittings, equipment or accessories please consult Catalog 4400 or [www.parkerhose.com](http://www.parkerhose.com).

# Thermoplastic Hoses

**Specialty Hose Capability** - Parflex offers many unique specialty hoses such as electrically non-conductive, breathing air, and CNG hoses to name just a few. Let us custom design and build a solution for you.

**Superior Abrasion Resistance** - Urethane and nylon style covers provide the industry's highest level of abrasion resistance today. They can outlast standard rubber hoses in lab tests by up to 10:1.

**Long Continuous Lengths** - Long length hoses reduce the number of short unusable hose lengths and thereby save money in the long run.

**Clean Core Tubes** - Unlike rubber core tubes, thermoplastic core tubes are clean when cut and greatly reduce the chance of contamination in today's state-of-the-art hydraulic systems.

**Wide Chemical Range** - Thermoplastic hoses offer a superior range of chemical resistance. Tough outer covers also resist degradation by UV rays, water and harsh wash down chemicals.

**Lightweight by Design** - Lightweight designed equipment is routinely being requested by leading manufacturers today. Thermoplastic hoses are considerably lighter than rubber hoses (e.g. 100R8 hose can weigh up to 40% less than a comparable 100R2 hose).

**Smaller OD** - Compact designs allow tighter bend radius characteristics and work well in small enveloped areas.

**Easy Routing** - Smooth outer covers offer ease in routing multiple hoses in tight or confined areas such as booms, lifts, and tracks.

**Lower Volumetric Expansion** - This means less energy loss and faster reaction time in hydraulic circuits.

**UV Resistant** - Parflex thermoplastic hose jackets are UV stabilized for optimal weather resistance.

**Long Shelf Life** - Thermoplastic hoses do not continuously cure, and won't degrade when stored under proper conditions.

**Easy To Cut** - Fabric reinforced hoses do not require high power saws to be cut. Simple hand or blade cutters can be used.

**Crimpable, Swageable, Field Attachable** - Some Parflex thermoplastic hoses can be assembled utilizing any of these three methods of fitting attachment for added convenience.

**Bonded Components** - Some Parflex thermoplastic hoses can be bonded together from 2 to 10 hoses, in multiple sizes and products. Similar cover materials must always be used in the bonding process.

**Coiled/Retractable Capability** - Many Parflex thermoplastic hoses can be coiled for retractable capability for easy, compact storage.

**Bundling** - Parflex offers the ability to bundle hose and tubing in a variety of combinations.

**Custom Printed Lines** - Custom printed lines build brand identity and differentiate products for end users. Simple ink jetting provides a cost effective way to provide crisp clean text, or in some cases, logos.

**Colors** - Parflex thermoplastic hoses can be manufactured in almost any conceivable color. Colors can offer brand identity, color coding and traceability.

# Hybrid Hoses

**Patented Manufacturing Process** - Robust design and materials minimize in-service problems and maximize service life.

**Elastomeric Tube** - Provides a clean tube excellent for fluid/chemical compatibility and minimizes the need for expensive cleaning of hose assemblies.

**Wire Braided Reinforcement** - Wire braids increase pressure ratings, create tight bend radii – excellent cut through resistance.

**Synthetic Rubber Cover** - Hybrid hoses have a smooth cover that looks like traditional hydraulic hose. Additionally, these hoses complement the look of OEM equipment.

**Smaller OD** - Compact designs allow tighter bend radius characteristics and work well in small enveloped areas.

**Long Lengths** - Long length hybrid hoses reduce the number of short unusable hose lengths and thereby save money in the long run.

**2-Braid Construction** - The 2-braid hybrid hose construction takes the place of traditional 4-spiral wire hose and offers a slimmer profile, lighter weight, and longer lengths.

**Widely Accepted** - Proven performance over many years.



## How To Select A Hose (STAMPED)

|                    |  |
|--------------------|--|
| <b>Size</b>        | The appropriate inside and outside diameters and length of the hose should be determined   |
| <b>Temperature</b> | The maximum temperature of the material being conveyed   |
| <b>Application</b> | External conditions including abrasion, climate, heat, flexing, crushing, kinking, and degrees of bending                                |
| <b>Media</b>       | The composition of the substance being conveyed and chemical compatibility with the hose inner core and, if applicable, the outer jacket |
| <b>Pressure</b>    | The maximum pressure of the system, including pressure spikes  |
| <b>Ends</b>        | The appropriate end connection and attachment method for the application   |
| <b>Delivery</b>    | Testing, quality, packaging, and delivery requirements   |

# Hydraulic & Pneumatic Hose Selection

| Hose       | General Description                              | SAE Perf. or Equiv. | Core Tube | Reinforcement | Cover | Page |
|------------|--|---------------------|-----------|---------------|-------|------|
| B9         | General Purpose Fuel Transfer                    | N/A                 | U         | Fiber         | U     | 9    |
| D6         | Constant Pressure Hybrid                         | 100R17              | P         | Wire Braid    | R     | 9    |
| H6         | Constant Pressure                                | 100R17              | P         | Wire Braid    | P     | 10   |
| HFS        | General Hydraulic Hybrid                         | 100R1               | P         | Wire Braid    | R     | 11   |
| HFS2       | General Hydraulic Hybrid                         | 100R2               | P         | Wire Braid    | R     | 11   |
| HTB        | Compact High Pressure Hydraulic Hybrid           | N/A                 | P         | Wire Braid    | R     | 12   |
| M8         | General Hydraulic Hybrid                         | 100R12              | P         | Wire Braid    | R     | 12   |
| R6         | Constant Pressure                                | 100R17              | P         | Wire Braid    | Fiber | 13   |
| 560        | General Hydraulic                                | 100R1               | P         | Wire Braid    | U     | 14   |
| 563        | General Hydraulic                                | 100R17              | P         | Wire Braid    | U     | 14   |
| 590        | General Hydraulic                                | 100R2               | P         | Wire Braid    | U     | 15   |
| 593        | General Hydraulic                                | 100R17              | P         | Wire Braid    | U     | 15   |
| 510A       | Air Conditioning                                 | 100R7               | N         | Fiber         | U     | 16   |
| 510C       | General Hydraulic                                | 100R7               | P         | Fiber         | U     | 17   |
| 515H       | Compact/Lightweight                              | N/A                 | P         | Fiber         | U     | 17   |
| 518C       | Non-conductive Hydraulic                         | 100R7               | P         | Fiber         | U     | 18   |
| 520N       | General Hydraulic                                | 100R8               | N         | Fiber         | U     | 19   |
| 528N       | Non-conductive Hydraulic                         | 100R8               | N         | Fiber         | U     | 19   |
| 53LT       | Low Temperature Constant Pressure                | 100R18              | P         | Fiber         | P     | 20   |
| 538LT      | Non-conductive Low Temperature Constant Pressure | 100R18              | P         | Fiber         | P     | 21   |
| 540N       | General Hydraulic                                | 100R7               | N         | Fiber         | U     | 22   |
| 55LT       | Low Temperature                                  | 100R7               | P         | Fiber         | P     | 23   |
| 573X       | Fast Response                                    | N/A                 | N         | Fiber         | U     | 23   |
| 575X       | Fast Response                                    | N/A                 | N         | Fiber         | U     | 24   |
| 580N/H580N | High Pressure Hose                               | 100R8               | N         | Fiber         | U     | 24   |
| 588N       | High Pressure, Non-conductive Hose               | 100R8               | N         | Fiber         | U     | 25   |
| 83FR       | General Purpose Air & Water, Flame Resistant     | N/A                 | U         | Fiber         | U     | 26   |

| Specialty Hose | General Description            | SAE Perf. or Equiv. | Core Tube | Reinforcement    | Cover | Page |
|----------------|--------------------------------|---------------------|-----------|------------------|-------|------|
| HJK            | Jackline Hybrid                | N/A                 | P         | Wire Braid       | R     | 27   |
| HLB            | Grease Line                    | N/A                 | P         | Fiber            | U     | 27   |
| HPS            | Paint Spray                    | N/A                 | N         | Fiber            | U     | 28   |
| MSH            | Marine Steering                | N/A                 | N         | Fiber            | U     | 28   |
| MTH            | DOT Marine Trailer Hose        | N/A                 | N         | Fiber            | U     | 29   |
| PTH            | Marine Power Tilt              | N/A                 | N         | Fiber/Wire Braid | U     | 29   |
| S4             | Water Jetting/Lateral Cleaning | N/A                 | P         | Fiber            | U     | 30   |
| S5             | Water Jetting/Lateral Cleaning | N/A                 | P         | Fiber            | U     | 30   |
| S6             | Sewer Cleaning                 | N/A                 | P         | Fiber            | U     | 31   |
| S9             | Sewer Cleaning                 | N/A                 | P         | Fiber            | U     | 31   |
| 3CNG           | Compressed Natural Gas         | N/A                 | N         | Fiber            | U     | 32   |
| 4CNG           | Compressed Natural Gas         | N/A                 | N         | Fiber            | U     | 32   |
| 5CNG           | Compressed Natural Gas         | N/A                 | N         | Fiber            | U     | 32   |
| 526BA          | Breathing Air Refill           | N/A                 | N         | Fiber            | U     | 33   |
| 540P           | Specialty Water                | N/A                 | PE        | Fiber            | U     | 33   |
| 56DH/568DH     | Diagnostic                     | N/A                 | N         | Fiber            | U     | 34   |
| 1035A          | Power Cleaning                 | N/A                 | PFX       | Fiber            | U     | 35   |
| 1035HT         | Power Cleaning                 | N/A                 | PFX       | Fiber            | U     | 35   |

N = Nylon    P = Polyester    PE = Polyethylene    PFX = Proprietary Material    PVC = Polyvinyl Chloride    R = Rubber    U = Urethane

Use this page to quickly locate hoses based upon SAE/DIN specifications, equivalents or specialty categories listed. Use the Parflex Quick Guide on the opposing page when general hose size and pressure requirement are known. Locate the size and pressure required, determine applicable hoses in the left column, and use this page to locate additional product information within this section.



# Hydraulic & Pneumatic Hose PSI (MPa)

| Fractional Size | 1/8        | 3/16       | 1/4        | 5/16        | 3/8        | 1/2        | 5/8        | 3/4        | 1          |
|-----------------|------------|------------|------------|-------------|------------|------------|------------|------------|------------|
| Dash Size       | -2         | -3         | -4         | -5          | -6         | -8         | -10        | -12        | -16        |
| B9              |            | 250(1.7)   | 250(1.7)   | 250(1.7)    | 250(1.7)   | 250(1.7)   | 250(1.7)   |            |            |
| D6              |            |            | 3000(20.7) | 3000(20.7)  | 3000(20.7) | 3000(20.7) | 3000(20.7) | 3000(20.7) | 3000(20.7) |
| H6              |            |            | 3000(20.7) | 3000(20.7)  | 3000(20.7) | 3000(20.7) | 3000(20.7) | 3000(20.7) |            |
| HFS             |            |            | 3000(20.7) | 3000(20.7)  | 2500(17.3) | 2500(17.3) |            | 1500(10.4) | 1250(8.6)  |
| HFS2            |            |            | 5000(34.5) |             | 4000(27.6) | 3500(24.2) | 2750(19.0) | 2250(15.5) | 2000(13.8) |
| HTB             |            |            | 7000(48.3) |             | 5500(38.0) | 5000(34.5) | 4000(27.6) | 4000(27.6) | 3500(24.2) |
| M8              |            |            |            |             | 4000(27.6) | 4000(27.6) | 4000(27.6) |            |            |
| R6              |            |            | 3000(20.7) |             | 3000(20.7) | 3000(20.7) | 3000(20.7) | 3000(20.7) | 3000(20.7) |
| 560             |            | 3500(24.2) | 3250(22.4) | 3000(20.7)  | 2750(19.0) | 2500(17.3) | 2000(13.8) | 1750(12.1) |            |
| 563             |            |            | 3000(20.7) |             | 3000(20.7) | 3000(20.7) |            |            |            |
| 590             |            | 5000(34.5) | 5000(34.5) |             | 4000(27.6) | 3500(24.2) | 3000(20.7) | 2250(15.5) | 2000(13.8) |
| 593             |            |            |            |             |            |            |            | 3000(20.7) | 3250(22.4) |
| 510A            | 2500(17.3) | 3000(20.7) | 2750(19.0) | 2500(17.3)  | 2250(15.5) | 2000(13.8) |            | 1250(8.6)  | 1000(6.9)  |
| 510C            | 2500(17.3) | 3250(22.4) | 3000(20.7) | 2500(17.3)  | 2250(15.5) | 2250(15.5) | 1500(10.4) | 1250(8.6)  | 1000(6.9)  |
| 515H            |            | 2175(15.0) | 2000(13.8) | 1750(12.1)  | 1500(10.4) | 1500(10.4) |            |            |            |
| 518C            | 2500(17.3) | 3250(22.4) | 3000(20.7) | 2500(17.3)  | 2250(15.5) | 2250(15.5) | 1500(10.4) | 1250(8.6)  | 1000(6.9)  |
| 520N            |            | 5000(34.5) | 5000(34.5) | 4500(31.05) | 4000(27.6) | 3500(24.2) |            |            |            |
| 528N            |            | 5000(34.5) | 5000(34.5) | 4500(31.05) | 4000(27.6) | 3500(24.2) |            |            |            |
| 53LT            |            | 3000(20.7) | 3000(20.7) | 3000(20.7)  | 3000(20.7) | 3000(20.7) | 3000(20.7) | 3000(20.7) |            |
| 538LT           |            | 3000(20.7) | 3000(20.7) | 3000(20.7)  | 3000(20.7) | 3000(20.7) | 3000(20.7) | 3000(20.7) |            |
| 540N            | 2500(17.3) | 3000(20.7) | 2750(19.0) | 2500(17.3)  | 2250(15.5) | 2000(13.8) |            | 1250(8.6)  |            |
| 55LT            | 3000(20.7) | 3250(22.4) | 3000(20.7) | 2500(17.3)  | 2250(15.5) | 2000(13.8) |            | 1250(8.6)  |            |
| 573X            |            | 3000(20.7) |            |             |            |            |            |            | 3000(20.7) |
| 575X            |            | 5000(34.5) | 5000(34.5) |             | 5000(34.5) | 5000(34.5) |            | 5000(34.5) | 5000(34.5) |
| 580N            |            |            | 5000(34.5) |             | 4000(27.6) | 3500(24.2) | 2750(19.0) | 2250(15.5) | 2000(13.8) |
| H580N           |            |            |            |             |            |            |            |            | 3000(20.7) |
| 588N            |            |            | 5000(34.5) |             | 4000(27.6) | 3500(24.2) | 2750(19.0) | 2250(15.5) | 2000(13.8) |
| 83FR            |            |            | 1750(12.1) | 1500(10.4)  |            |            |            |            |            |

Hydraulic &amp; Pneumatic Hose &amp; Fit.

## Specialty Hoses

| Fractional Size | 3/32       | 1/8        | 3/16       | 1/4        | 5/16       | 3/8        | 1/2        | 5/8        | 3/4        | 1          | 1-1/4      | 1-1/2      |
|-----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Dash Size       | -1.5       | -2         | -3         | -4         | -5         | -6         | -8         | -10        | -12        | -16        | -20        | -24        |
| HJK             |            |            |            | 10,000(69) |            |            |            |            |            |            |            |            |
| HLB             |            | 3000(20.7) | 3000(20.7) |            |            |            |            |            |            |            |            |            |
| HPS             |            |            |            | 3000(20.7) |            |            |            |            |            |            |            |            |
| MSH             |            |            |            |            | 1000(6.9)  | 1000(6.9)  |            |            |            |            |            |            |
| MTH             |            |            |            | 1000(6.9)  |            |            |            |            |            |            |            |            |
| PTH             |            |            | 3000(20.7) |            |            |            |            |            |            |            |            |            |
| S4              |            |            |            |            |            |            | 4000(27.6) | 4000(27.6) |            |            |            |            |
| S5              |            |            |            |            |            |            | 4000(27.6) | 4000(27.6) |            |            |            |            |
| S6              |            |            |            |            |            |            |            |            | 2500(17.3) | 2500(17.3) | 2500(17.3) | 2500(17.3) |
| S9              |            |            |            |            |            |            |            |            | 3000(20.7) | 3000(20.7) |            |            |
| 3CNG            |            |            | 3600(24.8) |            | 3600(24.8) |            |            |            |            |            |            |            |
| 4CNG            |            |            |            |            |            | 4000(27.6) |            |            |            |            |            |            |
| 5CNG            |            |            | 5000(34.5) | 5000(34.5) |            | 5000(34.5) | 5000(34.5) |            | 5000(34.5) |            |            |            |
| 526BA           |            |            | 6000(41.4) | 6000(41.4) |            | 6000(41.4) |            |            |            |            |            |            |
| 540P            |            |            |            | 2750(19.0) |            | 2250(15.5) | 2000(13.8) | 1500(10.4) | 1250(8.6)  | 5000(34.5) |            |            |
| 56DH/568DH      | 6000(41.1) | 6000(41.1) |            |            |            |            |            |            |            |            |            |            |
| 1035A           |            |            |            | 1500(10.4) |            | 1200(8.3)  |            |            |            |            |            |            |
| 1035HT          |            |            | 2000(15.8) | 1750(12.1) |            | 1500(10.4) |            |            |            |            |            |            |

Technical &amp; Design Information

Approvals &amp; Guides

Alphanumeric Index

Hose Accessories

Truck (Fleet) Products

Thermoplastic Tubing

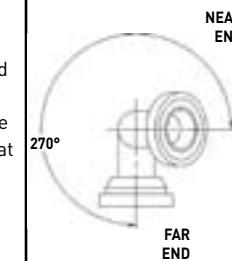
PTFE Hose &amp; Fittings

Hydraulic &amp; Pneumatic Hose &amp; Fit.

## Hose Assembly Nomenclature



| F   | 540N      | 06                             | 39                             | 08           | 08           | 08                 | C  | 30  | N/A   |
|---|-----------|--------------------------------|--------------------------------|--------------|--------------|--------------------|--|---|---|
| Prefix  | Hose Type | Fitting 1st End Con-figuration | Fitting 2nd End Con-figuration | Size 1st End | Size 2nd End | Hose End Dash Size | Fitting Matl                             | Length  | Displacement Angle  |
| F= Crimp<br>R= Field Attachable Ftg<br>A= 54 Series Factory |           |                                |                                |              |              |                    | Blank= Steel<br>C= Stainless<br>B= Brass | Overall Length always expressed in inches<br>If elbow fittings are used, overall length is measured from the centerline or the seat | Specified only if two elbow fittings are used. Starting with either end as the far end, measure the angle clockwise to describe the displacement of the near end. |



This assembly example reflects a 1/2" ID 540N hose with an SAE 1/2" female JIC 37° straight fitting on the first end and an SAE 1/2" 90° female JIC 37° elbow fitting on the other. The fittings are crimped (permanently attached) and stainless steel. The overall length is 30".

The callout for this completed hose assembly would be: **F540N0639080808C-30"**

The first fitting configuration callout is 10655-8-8  
The second fitting configuration callout is 13955-8-8

### Special Notes

Seal-Lok™ fittings are always measured to the sealing surface

## Hose Fittings Nomenclature

| 1                             | 03                     | 55                | 8        | 6         | N/A   |
|-------------------------------|------------------------|-------------------|----------|-----------|---|
| Type                          | End Configuration Code | Series of Fitting | End Size | Hose Size | Material  |
| 1=Crimp<br>2=Field Attachable |                        |                   |          |           | Blank=Steel<br>B=All Brass<br>C=Stainless Steel<br>S= All Carbon Steel-Used only with PTFE fittings |

This example describes a permanent crimp 1/2" Male SAE JIC 37° hose end with a 3/8" hose end-this commonly referred to as a "jump size". This fitting is constructed from carbon steel since the designated material is blank.

The callout is: **10355-8-6**

Other end configuration codes found on page 37.

## B9 - General Purpose Fuel Transfer Hose

### 250 PSI Constant Pressure



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |       | Weight |       | Crimp Fitting |       | Field Attachable Fitting |    |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-------|--------|-------|---------------|-------|--------------------------|----|
| #           |       |    |            |    |                       |      |                  |       |        |       |               |       |                          |    |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm    | lbs/ft | kg/m  | series        | pg    | re                       | pg |
| B903        | 3/16  | 5  | 0.38       | 10 | 250                   | 1.72 | 1                | 25.4  | 0.04   | 0.059 | 55            | 53-69 |                          |    |
| B904        | 1/4   | 6  | 0.45       | 11 | 250                   | 1.72 | 1-1/2            | 38.1  | 0.05   | 0.074 |               |       | 82                       | *  |
| B905        | 5/16  | 8  | 0.54       | 14 | 250                   | 1.72 | 2                | 50.8  | 0.08   | 0.118 | 55            | 53-69 |                          |    |
| B906        | 3/8   | 10 | 0.63       | 16 | 250                   | 1.72 | 3                | 76.2  | 0.09   | 0.133 |               |       | 82                       | *  |
| B908        | 1/2   | 13 | 0.77       | 20 | 250                   | 1.72 | 3                | 76.2  | 0.13   | 0.192 |               |       | 82                       | *  |
| B910        | 5/8   | 16 | 0.92       | 23 | 250                   | 1.72 | 4                | 101.6 | 0.2    | 0.296 |               |       | 82                       | *  |

Min. Burst Pressure is 4x Max. Working Pressure

\*Available from Hose Products Division

N/A = Not Available

**Tube:** Specially formulated fuel resistant Urethane  
**Reinforcement:** Fiber  
**Cover:** Same as Core  
**Cover Color:** Red  
**Temperature Range:** -40°F to +200°F  
 -40°C to +93°C  
**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2%

**Note:** 82 series push-on coupling is not recommended where pressure and/or temperature exceeds +100F and 100 PSI.  
 Use 660-T ferrule vise or 670-T air-operated vise available from Hose Products Division.

**Applications/Markets:**

Low pressure transmission of gasoline, oil, air, water and coolants where operation pressures do not exceed 250 PSI.

**Special Features:**

Highly flexible

## D6 - Hybrid Hose

### Exceeds SAE 100R17

### 3000 PSI Constant Pressure



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting |         | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|---------|---------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |         |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | pg      | crimp die     |
| D604        | 1/4   | 6  | .50        | 13 | 3000                  | 20.7 | 2.0              | 51  | .12    | .18  | HY*           | 112-128 | P0580         |
| D606        | 3/8   | 10 | .66        | 17 | 3000                  | 20.7 | 2.5              | 64  | .23    | .34  | HY*           | 112-128 | P0740         |
| D608        | 1/2   | 13 | .80        | 20 | 3000                  | 20.7 | 3.5              | 89  | .29    | .43  | HY*           | 112-128 | P0870         |
| D610**      | 5/8   | 16 | 1.00       | 25 | 3000                  | 20.7 | 4.0              | 102 | .47    | .70  | HY*           | 112-128 | P1405         |
| D612**      | 3/4   | 19 | 1.18       | 30 | 3000                  | 20.7 | 4.8              | 122 | .73    | 1.08 | HY*           | 112-128 | P1220         |
| D616**      | 1     | 25 | 1.48       | 38 | 3000                  | 20.7 | 6.0              | 152 | 1.01   | 1.49 | HY*           | 112-128 | P1525         |

Min. Burst Pressure is 4x Max. Working Pressure

\*Available from Hose Products Division

**Tube:** Polyester  
**Reinforcement:** 1 or 2\*\* braids of high tensile steel wire  
**Cover:** Smooth synthetic rubber-MSHA approved  
**Cover Color:** Black  
**Temperature Range:** -40°F to +250°F\*  
 -40°C to +121°C\*

**Applications/Markets:**

Industrial medium pressure hydraulic applications where a maximum 3000 PSI working pressure is required.

**Special Features:**

Ideally suited for inventory consolidations to cover all SAE 100R1 pressure and many SAE 100R2 pressure requirements.

\*Limited to +135°F (+57°C) for synthetic hydraulic fluids and water-based fluids

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** +2% / -4%

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## H6 - Hydraulic Hose

### SAE 100R17 Performance

### 3000 PSI Constant Pressure

PARFLEX H6

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |      | Weight |      | Crimp Fitting | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|------|--------|------|---------------|---------------|
| #           |       |    |            |    |                       |      |                  |      |        |      |               |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm   | lbs/ft | kg/m | series        | pg            |
| H604        | 1/4   | 6  | .48        | 12 | 3000                  | 20.7 | 2.0              | 51   | .12    | .18  | HY*           | 112-128       |
| H605        | 5/16  | 8  | .55        | 14 | 3000                  | 20.7 | 2.3              | 58.4 | .14    | .21  | HY*           | 112-128       |
| H606        | 3/8   | 10 | .64        | 16 | 3000                  | 20.7 | 2.5              | 64   | .19    | .28  | HY*           | 112-128       |
| H608        | 1/2   | 13 | .77        | 20 | 3000                  | 20.7 | 3.5              | 89   | .29    | .43  | HY*           | 112-128       |
| H610**      | 5/8   | 16 | .99        | 25 | 3000                  | 20.7 | 4.0              | 102  | .47    | .70  | HY*           | 112-128       |
| H612**      | 3/4   | 19 | 1.16       | 30 | 3000                  | 20.7 | 4.8              | 122  | .69    | 1.03 | HY*           | 112-128       |
|             |       |    |            |    |                       |      |                  |      |        |      |               | P1195         |

Min. Burst Pressure is 4x Max. Working Pressure

\*Available from Hose Products Division

**Tube:**

Polyester

**Reinforcement:**

1 or 2\*\* braid of high tensile steel wire

**Cover:**

Polyester

**Cover Color:**

Black

**Temperature Range:**

-70°F to +250°F (H604 thru H608)

-56°C to +120°C

-50°F to +250°F (H610 thru H612)

-45°C to +120°C

**Vacuum Rating:**

28 inch Hg

**(Delta) Working Length @ Rated WPSI: +2% / -4%****Applications/Markets:**

Industrial medium pressure hydraulic applications where a maximum 3000 PSI working pressure is required

Ideally suited for inventory consolidations to cover all SAE 100R1 pressure and many SAE 100R2 pressure and abrasion requirements

**Special Features:**

Excellent abrasion resistance over rough surfaces

Excellent hose to hose abrasion properties

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.



## HFS - Firescreen® Hybrid Hose

### Exceeds SAE 100R1AT

### 1250-3000 PSI

PARFLEX HFS



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |      | Weight |      | Crimp Fitting |         | 80C Crimp Die | Field Attachable Fitting |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|------|--------|------|---------------|---------|---------------|--------------------------|
| #           |       |    |            |    |                       |       |                  |      |        |      |               |         |               |                          |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm   | lbs/ft | kg/m | series        | pg      | crimp die     | re pg                    |
| HFS04       | 1/4   | 6  | .50        | 13 | 3000                  | 20.7  | 2.0              | 51   | .12    | .18  | HY*           | 112-128 | P0580         | BA 105-107               |
| HFS05       | 5/16  | 8  | .58        | 15 | 3000                  | 20.7  | 2.3              | 58.4 | .17    | .25  | HY*           | 112-128 | P0665         | N/A                      |
| HFS06       | 3/8   | 10 | .66        | 17 | 2500                  | 17.24 | 2.5              | 64   | .19    | .28  | HY*           | 112-128 | P0740         | BA 105-107               |
| HFS08       | 1/2   | 13 | .77        | 20 | 2500                  | 17.24 | 3.5              | 89   | .25    | .37  | HY*           | 112-128 | P0845         | BA 105-107               |
| HFS12       | 3/4   | 19 | 1.05       | 27 | 1500                  | 10.34 | 5.0              | 127  | .37    | .55  | HY*           | 112-128 | P1130         | N/A                      |
| HFS16       | 1     | 25 | 1.35       | 34 | 1250                  | 8.6   | 10.0             | 254  | .53    | .79  | HY*           | 112-128 | P1395         | N/A                      |

**Min. Burst Pressure is 4x Max. Working Pressure****Tube:** Polyester**Reinforcement:** One braid of high tensile steel wire**Cover:** Smooth synthetic rubber-MSHA approved**Cover Color:** Black**Temperature Range:** -40°F to +250°F\*

-40°C to +121°C\*

\*Limited to +135°F (+57°C) for synthetic hydraulic fluids and water-based fluids

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** +2%/-4%

\*Available from Hose Products Division

N/A = Not Available

**Applications/Markets:**

High temperature (to +250°F), medium pressure hydraulic lines on mobile equipment, machine tools, farm machinery, and other industrial applications

**Special Features:**Pressures and temperatures above comparable SAE 100R1 requirements  
Compact design

## HFS2 - Firescreen II® Hybrid Hose

### SAE 100R16 Performance

### 2000-5000 PSI

PARFLEX HFS2



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |       | Weight |      | Crimp Fitting |         | 80C Crimp Die | Field Attachable Fitting |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-------|--------|------|---------------|---------|---------------|--------------------------|
| #           |       |    |            |    |                       |      |                  |       |        |      |               |         |               |                          |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm    | lbs/ft | kg/m | series        | pg      | crimp die     | re pg                    |
| HFS204**    | 1/4   | 6  | .56        | 14 | 5000                  | 34.5 | 2.0              | 50.8  | .21    | .31  | HY*           | 112-128 | P0625         | BA 105-107               |
| HFS206      | 3/8   | 10 | .66        | 17 | 4000                  | 27.6 | 2.5              | 63.5  | .23    | .34  | HY*           | 112-128 | P0740         | BA 105-107               |
| HFS208      | 1/2   | 13 | .80        | 20 | 3500                  | 24.1 | 3.5              | 88.9  | .29    | .43  | HY*           | 112-128 | P0870         | BA 105-107               |
| HFS210      | 5/8   | 16 | .95        | 24 | 2750                  | 19.0 | 4.0              | 101.6 | .38    | .57  | HY*           | 112-128 | P01015        | N/A                      |
| HFS212      | 3/4   | 19 | 1.08       | 27 | 2250                  | 15.5 | 4.8              | 121.9 | .45    | .67  | HY*           | 112-128 | P1150         | BA 105-107               |
| HFS216**    | 1     | 25 | 1.43       | 36 | 2000                  | 13.8 | 6.0              | 152.4 | .80    | 1.19 | HY*           | 112-128 | P1450         | BA 105-107               |

**Min. Burst Pressure is 4x Max. Working Pressure****Tube:** Polyester**Reinforcement:** 1 or 2\*\* braids of high tensile steel wire**Cover:** Smooth synthetic rubber-MSHA approved**Cover Color:** Black**Temperature Range:** -40°F to +212°F\*

-40°C to +100°C\*

\*Limited to +135°F (+57°C) for synthetic hydraulic fluids and water-based fluids

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** +2% / -4%

\*Available from Hose Products Division

N/A = Not Available

**Applications/Markets:**

High pressure (similar to SAE 100R2) hydraulic lines on off-road construction equipment, machine tools, mining equipment, and other industrial applications

**Special Features:**

Light Weight

Compact

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## HTB - Eliminator® Hybrid Hose 4-Spiral Wire Performance 3500-7000 PSI



PARFLEX HTB

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|---------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | crimp die     |
| HTB04       | 1/4   | 6  | .60        | 15 | 7000                  | 48.3 | 4.0              | 102 | .27    | .40  | BW            | P0745 †       |
| HTB06       | 3/8   | 10 | .74        | 19 | 5500                  | 37.9 | 6.0              | 152 | .37    | .55  | 43*           | A06           |
| HTB08       | 1/2   | 13 | .88        | 22 | 5000                  | 34.5 | 7.0              | 178 | .46    | .69  | 43*           | A08           |
| HTB10       | 5/8   | 16 | 1.01       | 26 | 4000                  | 27.6 | 8.0              | 203 | .52    | .77  | 43*           | A10           |
| HTB12       | 3/4   | 20 | 1.18       | 30 | 4000                  | 27.6 | 9.5              | 241 | .73    | 1.1  | 43*           | A12           |
| HTB16       | 1     | 25 | 1.48       | 38 | 3500                  | 24.0 | 12.0             | 305 | 1.01   | 1.5  | 43*           | A16           |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester**Reinforcement:** Two braids of high tensile steel wire**Cover:** Smooth synthetic rubber-MSHA approved**Cover Color:** Black**Temperature Range:** -40°F to +212°F

-40°C to +100°C

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** +2% / -4%**Applications/Markets:**

High pressure hydraulic applications where spiral wire reinforced hose might normally be used.

**Special Features:**

Eliminator offers 4-spiral wire hose performance in a high tensile two-wire braid construction.

Provides excellent flexibility, light weight, consistent long length patterns, and excellent value versus comparable SAE 100R9 and SAE 100R12 spiral reinforced hoses.

**\*HTB HOSE REQUIRES "A" SERIES PARKER DIES AND BLACK DIE RING**

Series 43 fittings, dies and black die ring available from Parker Hose Products Division

† Note: HTB04 requires silver die ring

## M8 - E-Z FLEX® Hybrid Hose SAE 100R12 Performance 4000 PSI Constant Pressure

PARFLEX M8

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|---------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | crimp die     |
| M806        | 3/8   | 10 | .74        | 19 | 4000                  | 27.6 | 2.5              | 64  | .37    | .55  | 43*           | M0850         |
| M808        | 1/2   | 13 | .88        | 22 | 4000                  | 27.6 | 3.5              | 89  | .46    | .69  | 43*           | M1010         |
| M810        | 5/8   | 16 | 1.05       | 27 | 4000                  | 27.6 | 4.0              | 102 | .63    | .94  | 43*           | M1170         |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester**Reinforcement:** Two braids of high tensile steel wire**Cover:** Smooth synthetic rubber-MSHA approved**Cover Color:** Black**Temperature Range:** -40°F to +250°F

-40°C to +121°C

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** +2% / -4%**Applications/Markets:**

High pressure hydraulic applications where spiral wire reinforced hose might normally be used.

**Special Features:**

4-spiral wire pressures with two wire construction

Provides excellent flexibility, consistent long length patterns, and excellent value versus comparable SAE 100R9 and SAE 100R12 4-spiral wire reinforced hoses

\*Series 43 fittings available from Parker Hose Products Division  
Silver Die Ring Required & Available from Parker Parflex

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

# R6 - Abrasion King® Hose

## SAE 100R17 Performance

### 3000 PSI Constant Pressure

PARFLEX R6



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die |           |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|---------------|-----------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |               |           |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | pg            | crimp die |
| R604        | 1/4   | 6  | .51        | 13 | 3000                  | 20.7 | 2.0              | 51  | .11    | .16  | HY*           | 112-128       | P0570     |
| R606        | 3/8   | 10 | .69        | 17 | 3000                  | 20.7 | 2.5              | 64  | .20    | .30  | HY*           | 112-128       | P0740     |
| R608        | 1/2   | 13 | .82        | 21 | 3000                  | 20.7 | 3.5              | 89  | .27    | .40  | HY*           | 112-128       | P0870     |
| R610**      | 5/8   | 16 | 1.07       | 27 | 3000                  | 20.7 | 4.0              | 102 | .51    | .76  | HY*           | 112-128       | P1100     |
| R612***#    | 3/4   | 19 | 1.23       | 31 | 3000                  | 20.7 | 4.8              | 122 | .71    | 1.1  | HY*           | 112-128       | P1245     |
| R616***#    | 1     | 25 | 1.53       | 39 | 3000                  | 20.7 | 6.0              | 152 | 1.00   | 1.49 | 43*           |               | M1600     |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester**Reinforcement:** 1 or 2\*\* braids of high tensile steel wire**Cover:** Abrasion resistant nylon**Cover Color:** Black with blue plait**Temperature Range:** -50°F to +250°F

-10°C to +121°C

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±3%**Applications/Markets:**

Industrial medium pressure hydraulic applications where a maximum 3000 PSI working pressure required

Covers all SAE 100R1 pressure and many SAE 100R2 pressure and abrasion requirements

**Special Features:**

Excellent abrasion resistance, especially over irregular surfaces or hose-to-hose, and the blue plait provides easy identification

Old part numbers were R612A/ R616A—no change in performance or product design.

\*Series HY &amp; 43 fittings available from Parker Hose Products Division

**Note:** The above hose is not intended for use in static discharge applications; i.e., airless paint spray.

## 560 - General Hydraulic Hose

Meets or Exceeds SAE 100R1  
1750 to 3500 PSI

PARFLEX 560

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die |           |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|---------------|-----------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |               |           |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg            | crimp die |
| 560-3       | 3/16  | 5  | 0.42       | 11 | 3500                  | 24.13 | 3/4              | 19  | .071   | .106 | 55            | 53-77         | P03       |
| 560-4       | 1/4   | 6  | 0.51       | 13 | 3250                  | 22.41 | 1-3/4            | 44  | .098   | .146 | 55            | 53-77         | P04       |
| 560-5       | 5/16  | 8  | 0.57       | 14 | 3000                  | 20.68 | 2                | 51  | .124   | .185 | 55            | 53-77         | P05       |
| 560-6       | 3/8   | 10 | 0.64       | 16 | 2750                  | 18.96 | 2-1/4            | 57  | .150   | .224 | 55            | 53-77         | P06       |
| 560-8       | 1/2   | 13 | 0.80       | 20 | 2500                  | 17.24 | 3-1/4            | 83  | .202   | .301 | 55            | 53-77         | P08J      |
| 560-10      | 5/8   | 16 | 0.93       | 24 | 2000                  | 13.79 | 6                | 152 | .298   | .444 | 55            | 53-77         | P10       |
| 560-12      | 3/4   | 19 | 1.12       | 28 | 1750                  | 12.07 | 7                | 178 | .406   | .605 | 58            | 78-102        | P12H      |

Min. Burst Pressure is 4x Max. Working Pressure

Tube: Polyester

Reinforcement: Wire braid

Cover: Urethane

Cover Color: Black non perforated

Temperature Range: -40°F to +250°F\*

-40°C to +121°C\*

\*Limited to +135°F (+57°C) for synthetic hydraulic fluids and water-based fluids

Vacuum Rating: 28 inch Hg

(Delta) Working Length @ Rated WPSI: ±2% Max

**Applications/Markets:**

Hydraulic circuits and systems wherever 100R1 hose is specified. Most synthetic hydraulic fluids, water and wide range of chemicals, industrial equipment, machine tools

**Special Features:**

Twin or multi-line available. Lighter and smaller than 100R1 with longer lengths

Fast response hose

## 563 - General Hydraulic Hose

3000 PSI Constant Pressure

PARFLEX 563

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |      | Weight |       | Crimp Fitting | 80C Crimp Die |           |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|------|--------|-------|---------------|---------------|-----------|
| #           |       |    |            |    |                       |       |                  |      |        |       |               |               |           |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm   | lbs/ft | kg/m  | series        | pg            | crimp die |
| 563-4       | 1/4   | 6  | 0.49       | 12 | 3000                  | 20.68 | 2                | 50.8 | 0.121  | 0.179 | HY*           | 112-128       | P04J      |
| 563-6       | 3/8   | 10 | 0.65       | 17 | 3000                  | 20.68 | 2-1/2            | 63.5 | 0.19   | 0.281 | HY*           | 112-128       | P0705     |
| 563-8       | 1/2   | 13 | 0.78       | 20 | 3000                  | 20.68 | 3-1/2            | 88.9 | 0.29   | 0.429 | HY*           | 112-128       | P0845     |

Min. Burst Pressure is 4x Max. Working Pressure

Tube: Polyester

Reinforcement: High Tensile Steel Wire Braid

Cover: Urethane

Cover Color: Black

Temperature Range: -40°F to +250°F (212°F for size -8)

-40°C to +121°C (100°C for size -8)

\*Limited to +135°F (+57°C) for synthetic hydraulic fluids and water-based fluids

Vacuum Rating: 28 inch Hg

(Delta) Working Length @ Rated WPSI: ±2%

**Applications/Markets:**

Industrial medium pressure hydraulic applications where a maximum 3000 PSI wp is required

**Special Features:**

Covers all SAE 100R1 and many SAE 100R2 pressure requirements

\*Series HY fittings available from Parker Hose Products Division

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.



## 590 - General Hydraulic Hose

Meets or Exceeds SAE 100R2  
2000 to 5000 PSI



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |        | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|--------|---------------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |        |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg     | crimp die     |
| 590-3       | 3/16  | 5  | 0.43       | 11 | 5000                  | 34.47 | 1-1/2            | 38  | .102   | .152 | 55            | 53-77  | P03           |
| 590-4       | 1/4   | 6  | 0.51       | 13 | 5000                  | 34.47 | 1-3/4            | 44  | .138   | .206 | 55            | 53-77  | P04           |
| 590-6       | 3/8   | 10 | 0.64       | 16 | 4000                  | 27.58 | 2-1/4            | 57  | .194   | .289 | 55            | 53-77  | P06           |
| 590-8       | 1/2   | 13 | 0.80       | 20 | 3500                  | 24.13 | 3-1/4            | 82  | .250   | .373 | 55            | 53-77  | P08J          |
| 590-10      | 5/8   | 16 | 0.97       | 25 | 3000                  | 20.68 | 6                | 152 | .386   | .575 | 58            | 78-102 | P10H          |
| 590-12      | 3/4   | 19 | 1.11       | 28 | 2500                  | 17.24 | 7                | 178 | .446   | .665 | 58            | 78-102 | P12H          |
| 590-16      | 1     | 25 | 1.42       | 36 | 2000                  | 13.79 | 8                | 203 | .592   | .882 | 58            | 78-102 | P16J          |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester

**Reinforcement:** Aramid fiber, high tensile wire braid

**Cover:** Urethane

**Cover Color:** Black

**Temperature Range:** -40°F to +250°F  
-40°C to +121°C

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max

#### Applications/Markets:

Construction equipment, machine tools, hydrostatic transmissions, refuse vehicles and agriculture equipment.

#### Special Features:

Two wire strength, one wire construction, improved bend radius results

Twin and multi-line available.

## 593 - General Hydraulic Hose

Meets or Exceeds SAE 100R2  
3000 to 3250 PSI



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |       | Weight |       | Crimp Fitting |    | Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-------|--------|-------|---------------|----|-----------|
| #           |       |    |            |    |                       |       |                  |       |        |       |               |    |           |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm    | lbs/ft | kg/m  | series        | pg | crimp die |
| 593-12      | 3/4   | 20 | 1.12       | 29 | 3000                  | 20.68 | 7                | 177.8 | .470   | .700  | LV            | 41 | 80C-P12L  |
| 593-16      | 1     | 25 | 1.45       | 37 | 3250                  | 22.41 | 8                | 203.2 | .687   | 1.024 | LV            | 41 | 83C-P16L  |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester- 16 Nylon- 12 Polyester

**Reinforcement:** Wire braid

**Cover:** Urethane

**Cover Color:** Black (non perforated)

**Temperature Range:** -40°F to +212°F  
-40°C to +100°C

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max

#### Applications/Markets:

General hydraulic service

#### Special Features:

Works with synthetic hydraulic fluids, water and a range of chemicals

Two wire strength with one braid flexibility

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## 510A - Refrigerant Hose

### Meets or Exceeds SAE100R7

### 1000 to 3000 PSI



PARFLEX 510A

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |       | 80C Crimp Die | Field Attachable Fitting |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|-------|---------------|--------------------------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |       |               |                          |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg    | crimp die     | re pg                    |
| 510A-2 (+)  | 1/8   | 3  | 0.34       | 9  | 2500                  | 17.24 | 1/2              | 13  | .034   | .051 | 57            | 53-77 | P02H          | N/A                      |
| 510A-3      | 3/16  | 5  | 0.43       | 11 | 3000                  | 20.68 | 2                | 51  | .049   | .077 | 55            | 53-77 | P03           | 51 44-52                 |
| 510A-4*     | 1/4   | 6  | 0.47       | 12 | 2750                  | 18.96 | 2-1/2            | 64  | .052   | .077 | 55            | 53-77 | P04J          | 51 44-52                 |
| 510A-5      | 5/16  | 10 | 0.57       | 20 | 2500                  | 17.24 | 3                | 76  | .077   | .115 | N/A           |       | N/A           | 51 44-52                 |
| 510A-6      | 3/8   | 13 | 0.63       | 16 | 2250                  | 15.51 | 4                | 102 | .084   | .125 | 55            | 53-77 | P06           | 51 44-52                 |
| 510A-8      | 1/2   | 16 | 0.81       | 21 | 2000                  | 13.79 | 5-1/2            | 140 | .131   | .195 | 55            | 53-77 | P08           | 51 44-52                 |
| 510A-12     | 3/4   | 19 | 1.10       | 28 | 1250                  | 8.62  | 7-1/2            | 191 | .192   | .286 | N/A           |       | N/A           | 51 44-52                 |
| 510A-16 (+) | 1     | 25 | 1.37       | 40 | 1000                  | 6.90  | 10               | 254 | .275   | .410 | N/A           |       | N/A           | 51 44-52                 |

Min. Burst Pressure is 4x Max. Working Pressure

N/A = Not Available

**Tube:** Proprietary nylon blend

Medium pressure service for both field attachable and permanent fittings

**Reinforcement:** Fiber

Refrigerants: R12, R22, R134A and R502.

**Cover:** Urethane**Special Features:****Cover Color:** Black Perforated

Excellent impulse life

**Temperature Range:** -40°F to +212°F

Compatible with most common hydraulic and refrigeration fluids

-40°C to +100°C

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±3% Max.**Applications/Markets:**

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## 510C - General Hydraulic Hose

Meets or Exceeds SAE 100R7  
1000 to 3000 PSI

PARFLEX 510C

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |        | 80C Crimp Die | Field Attachable Fitting |       |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|--------|---------------|--------------------------|-------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |        |               |                          |       |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg     | crimp die     | re                       | pg    |
| 510C-2 (+)  | 1/8   | 3  | 0.34       | 9  | 2500                  | 17.24 | 1/2              | 13  | .031   | .046 | 57            | 53-77  | P02H          | N/A                      |       |
| 510C-3      | 3/16  | 5  | 0.42       | 11 | 3000                  | 20.68 | 3/4              | 19  | .046   | .069 | 55            | 53-77  | P03           | **                       |       |
| 510C-4      | 1/4   | 6  | 0.47       | 12 | 3000                  | 20.68 | 1-1/2            | 38  | .052   | .077 | 55            | 53-77  | P04J          | **                       |       |
| 510C-5      | 5/16  | 8  | 0.57       | 14 | 2500                  | 17.24 | 1-3/4            | 44  | .075   | .112 | 55            | 53-77  | P05           | 51                       | 44-52 |
| 510C-6      | 3/8   | 10 | 0.63       | 16 | 2250                  | 15.51 | 2                | 51  | .096   | .143 | 55            | 53-77  | P06           | 51                       | 44-52 |
| 510C-8      | 1/2   | 13 | 0.81       | 21 | 2250                  | 15.51 | 3                | 76  | .148   | .221 | 55            | 53-77  | P08           | 51                       | 44-52 |
| 510C-10     | 5/8   | 16 | 0.98       | 25 | 1500                  | 10.34 | 4                | 102 | .200   | .298 | 58            | 78-102 | P10H          | N/A                      |       |
| 510C-12     | 3/4   | 19 | 1.08       | 27 | 1250                  | 8.62  | 6                | 152 | .188   | .280 | 55            | 53-77  | P12           | 51                       | 44-52 |
| 510C-16     | 1     | 25 | 1.32       | 34 | 1000                  | 6.90  | 8                | 203 | .269   | .401 | 55            | 53-77  | P16           | 51                       | 44-52 |

Min. Burst Pressure is 4x Max. Working Pressure

N/A = Not Available

**Tube:** Polyester**Reinforcement:** Fiber**Cover:** Proprietary Blend (PFX)**Cover Color:** Black, perforated**Temperature Range:** -40°F to +212°F

-40°C to +100°C

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±2% Max.**Applications/Markets:**

Medium pressure service for permanent and field attachable fittings.

**Special Features:**

Superior abrasion resistance

\*\* 3/16" and 1/4" working pressure reduced to 3,000 and 2,750 psi respectively when using field attachable couplings

## 515H - Compact/Light Weight Hose

1500 to 2175 PSI

PARFLEX 515H

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |    | Weight |      | Crimp Fitting |  |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|----|--------|------|---------------|--|
| #           |       |    |            |    |                       |       |                  |    |        |      |               |  |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm | lbs/ft | kg/m | series        |  |
| 515H-3      | 3/16  | 5  | 0.33       | 8  | 2175 (150)            | 15.00 | 3/4              | 19 | .029   | .043 | 54*           |  |
| 515H-4      | 1/4   | 6  | 0.41       | 10 | 2000 (135)            | 13.79 | 1-1/2            | 38 | .035   | .052 | 54*           |  |
| 515H-5      | 5/16  | 8  | 0.49       | 12 | 1750 (120)            | 12.07 | 1-3/4            | 44 | .049   | .073 | 54*           |  |
| 515H-6      | 3/8   | 10 | 0.56       | 14 | 1500 (103)            | 10.34 | 2                | 51 | .052   | .077 | 54*           |  |
| 515H-8      | 1/2   | 13 | 0.71       | 18 | 1500 (103)            | 10.34 | 3                | 76 | .106   | .158 | 54*           |  |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester**Reinforcement:** Fiber**Cover:** Urethane**Cover Color:** Black Perforated**Temperature Range:** -40°F to +212°F

-40°C to +100°C

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±2% Max.**Applications/Markets:**

Hydraulic and pneumatic systems where a small O.D. hose is necessary. Pilot lines and joystick controls

**Special Features:**

Lightweight, flexible, special order colors

Twin or multi-line available

\*Factory only assemblies

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## 518C - Non-Conductive Hose

### SAE J517 ANSI A92.2

### Meets or Exceeds SAE 100R7

### 1000 to 3000 PSI



PARFLEX 518C

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure ANSI A92.2 |       | Max. Working Pressure SAE 100R7 |       | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die | Field Attachable Fitting |     |       |
|-------------|-------|----|------------|----|----------------------------------|-------|---------------------------------|-------|------------------|-----|--------|------|---------------|---------------|--------------------------|-----|-------|
| #           |       |    |            |    |                                  |       |                                 |       |                  |     |        |      |               |               |                          |     |       |
| hose        | inch  | mm | inch       | mm | wpsi                             | MPa   | wpsi                            | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg            | crimp die                | re  | pg    |
| 518C-2      | 1/8   | 3  | 0.34       | 9  | 3000                             | 20.68 | 2500                            | 17.24 | 1/2              | 13  | .031   | .046 | 57            | 53-77         | P02H                     | N/A |       |
| 518C-3      | 3/16  | 5  | 0.42       | 11 | 3000                             | 20.68 | 3250                            | 20.68 | 3/4              | 19  | .046   | .069 | 55            | 53-77         | P03                      | **  |       |
| 518C-4      | 1/4   | 6  | 0.47       | 12 | 3000                             | 20.68 | 3000                            | 18.96 | 1-1/2            | 38  | .052   | .077 | 55            | 53-77         | P04J                     | **  |       |
| 518C-5      | 5/16  | 8  | 0.57       | 14 | 3000                             | 20.68 | 2500                            | 17.24 | 1-3/4            | 44  | .075   | .112 | 55            | 53-77         | P05                      | 51  | 42-50 |
| 518C-6      | 3/8   | 10 | 0.63       | 16 | 3000                             | 20.68 | 2250                            | 15.51 | 2                | 51  | .096   | .143 | 55            | 53-77         | P06                      | 51  | 42-50 |
| 518C-8      | 1/2   | 13 | 0.81       | 21 | 3000                             | 20.68 | 2250                            | 15.51 | 3                | 76  | .148   | .221 | 55            | 53-77         | P08                      | 51  | 42-50 |
| 518C-10 (+) | 5/8   | 16 | 0.98       | 25 | 2000                             | 13.8  | 1500                            | 10.34 | 4                | 102 | .200   | .298 | 58            | 78-102        | P10H                     | N/A |       |
| 518C-12     | 3/4   | 19 | 1.08       | 27 | 1660                             | 11.4  | 1250                            | 8.62  | 6                | 152 | .188   | .280 | 55            | 53-77         | P12                      | 51  | 42-50 |
| 518C-16     | 1     | 25 | 1.32       | 34 | 1330                             | 9.2   | 1000                            | 6.90  | 8                | 203 | .269   | .401 | 55            | 53-77         | P16                      | 51  | 42-50 |

N/A = Not Available

**Tube:** Polyester**Reinforcement:** Fiber**Cover:** Proprietary Blend (PFX)**Cover Color:** Orange, non-perforated**Temperature Range:** -40°F to +212°F (-40°C to +100°C)

(Limited to +135°F [+57°C] for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** N/A**(Delta) Working Length @ Rated WPSI:** ±2% Max.**Applications/Markets:**

Medium pressure hydraulic service where both field attachable and permanent hydraulic circuit exposure and contact with high voltage may be encountered

**Special Features:**

Twin or multi-line constructions available

Meets SAE J517 for less than 50 micro-amps leakage under 75,000 volts per ft. Meets or exceeds SAE 100R7 specifications and Ontario Hydro electrical standards

Complies with ANSI A92.2 for vehicle-mounted aerial devices. High density braid for maximum impulse life without loss of flexibility

**Note:** Lay lines on this hose will have both ANSI and SAE maximum working pressures listed. ANSI A92.2-1990 "Vehicle Mounted Elevating and Rotating Aerial Devices."

\*\* 3/16" and 1/4" working pressure reduced to 3,000 and 2,750 respectively when using field attachable (51 series) couplings.

**Min. Burst Pressure:**

4:1 Design Factor is required if hose failure will result in movement of aerial device.

3:1 Design Factor is acceptable if hose failure will not result in movement of aerial device.

SAE requires 4:1 Design Factor.

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.  
 (+) Non Standard. See page ii for information on non-standard products.

## 520N - General Hydraulic Hose

**Meets or Exceeds SAE 100R8**

**2750 to 5000 PSI**

PARFLEX 520N



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|---------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | pg            |
| 520N-3      | 3/16  | 5  | 0.43       | 11 | 5000                  | 34.5 | 1-1/2            | 38  | .05    | .07  | 55            | 53-77         |
| 520N-4      | 1/4   | 6  | 0.51       | 13 | 5000                  | 34.5 | 2                | 51  | .06    | .09  | 55            | 53-77         |
| 520N-5      | 5/16  | 8  | 0.57       | 14 | 4500                  | 31.0 | 2-1/2            | 64  | .07    | .10  | 55            | 53-77         |
| 520N-6      | 3/8   | 10 | 0.65       | 16 | 4000                  | 27.6 | 2-1/2            | 64  | .08    | .12  | 55            | 53-77         |
| 520N-8      | 1/2   | 13 | 0.81       | 21 | 3500                  | 24.1 | 4                | 102 | .13    | .19  | 55            | 53-77         |
| 520N-10     | 5/8   | 16 | 0.92       | 23 | 2750                  | 19.0 | 6                | 152 | .17    | .25  | 55            | 53-77         |
|             |       |    |            |    |                       |      |                  |     |        |      |               | P10           |

**Min. Burst Pressure is 4x Max. Working Pressure**

**Tube:** Nylon

**Reinforcement:** Aramid fiber

**Cover:** Urethane

**Cover Color:** Black, perforated

**Temperature Range:** -40°F to +212°F

-40°C to +100°C

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max.

### Applications/Markets:

Hydraulic and pneumatic circuits and systems

Ideal in hot water applications

Not recommended for use in over-the-sheave (pulley system) applications

### Special Features:

Twin and multi-line available

Fast response, lighter and smaller O.D. than 100R2 hose.

## 528N - Non-Conductive Hose

**2750 to 5000 PSI**

PARFLEX 528N



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|---------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | pg            |
| 528N-3      | 3/16  | 5  | 0.43       | 11 | 5000                  | 34.5 | 1-1/2            | 38  | .05    | .07  | 55            | 53-77         |
| 528N-4      | 1/4   | 6  | 0.51       | 13 | 5000                  | 34.5 | 2                | 51  | .06    | .09  | 55            | 53-77         |
| 528N-5      | 5/16  | 8  | 0.57       | 14 | 4500                  | 31.0 | 2-1/2            | 64  | .07    | .10  | 55            | 53-77         |
| 528N-6      | 3/8   | 10 | 0.65       | 16 | 4000                  | 27.6 | 2-1/2            | 64  | .08    | .12  | 55            | 53-77         |
| 528N-8      | 1/2   | 13 | 0.81       | 21 | 3500                  | 24.1 | 4                | 102 | .13    | .19  | 55            | 53-77         |
| 528N-10     | 5/8   | 16 | 0.92       | 23 | 2750                  | 19.0 | 6                | 152 | .17    | .25  | 55            | 53-77         |
|             |       |    |            |    |                       |      |                  |     |        |      |               | P10           |

**Min. Burst Pressure is 4x Max. Working Pressure**

**Tube:** Nylon

**Reinforcement:** Aramid fiber

**Cover:** Urethane

**Cover Color:** Orange, non-perforated

**Temperature Range:** -40°F to +212°F

-40°C to +100°C

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±3% Max.

### Applications/Markets:

Hydraulic circuits and systems

Ideal in hot water applications

Not recommended for use in over-the-sheave (pulley system) applications

### Special Features:

Twin and multi-line available

Fast response, lighter and smaller O.D. than 100R2 hose.

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## 53LT - Low Temperature

### Meets or Exceeds SAE 100R18

### 3000 PSI Constant Pressure



PARFLEX 53LT

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |        | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|--------|---------------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |        |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg     | crimp die     |
| 53LT-3      | 3/16  | 5  | 0.43       | 11 | 3000                  | 20.68 | 1-1/4            | 32  | .049   | .073 | 55            | 53-77  | P03           |
| 53LT-4      | 1/4   | 6  | 0.51       | 13 | 3000                  | 20.68 | 1-3/4            | 44  | .067   | .100 | 55            | 53-77  | P04           |
| 53LT-5      | 5/16  | 8  | 0.61       | 16 | 3000                  | 20.68 | 2.0              | 51  | .104   | .155 | 58            | 78-102 | P05R          |
| 53LT-6      | 3/8   | 10 | 0.72       | 18 | 3000                  | 20.68 | 3.0              | 76  | .132   | .197 | 58            | 78-102 | P06FR         |
| 53LT-8      | 1/2   | 13 | 0.89       | 23 | 3000                  | 20.68 | 3.5              | 89  | .193   | .288 | 58            | 78-102 | P08H          |
| 53LT-10     | 5/8   | 16 | 1.00       | 25 | 3000                  | 20.68 | 4.0              | 102 | .242   | .361 | 58            | 78-102 | P10H          |
| 53LT-12     | 3/4   | 19 | 1.24       | 32 | 3000                  | 20.68 | 5.0              | 127 | .354   | .527 | 58H           | 78-102 | 83C-P1258K    |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester  
**Reinforcement:** Fiber  
**Cover:** Special Polyester Blend  
**Cover Color:** Black Perforated  
**Temperature Range:** -70°F to +212°F  
                           -57°C to +100°C  
**Vacuum Rating:** 28 inch Hg  
**(Delta) Working Length @ Rated WPSI:** ±2% Max.

**Applications/Markets:**

Excellent over-the-sheave (pulley systems), lift truck  
 Cold storage or refrigerated areas  
 Construction and agriculture equipment in cold climates

**Special Features:**

Superior flexibility in cold temperature applications

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

**538LT - Low Temperature  
Non-Conductive Meets or  
Exceeds ANSI A92.2  
Specifications 3000 PSI Constant Pressure**

Meets SAE J517 for less than 50 micro-amps leakage under 75000 volts per ft.

PARFLEX 538LT

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |       | Weight |       | Crimp Fitting |        | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-------|--------|-------|---------------|--------|---------------|
| #           |       |    |            |    |                       |       |                  |       |        |       |               |        |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm    | lbs/ft | kg/m  | series        | pg     | crimp die     |
| 538LT-3 (+) | 1/5   | 5  | 0.43       | 11 | 3000                  | 20.68 | 1-1/4            | 31.8  | 0.049  | 0.073 | 55            | 53-77  | P03           |
| 538LT-4 (+) | 1/4   | 6  | 0.51       | 13 | 3000                  | 20.68 | 1-3/4            | 44.5  | 0.067  | 0.099 | 55            | 53-77  | P04           |
| 538LT-5 (+) | 1/3   | 8  | 0.61       | 16 | 3000                  | 20.68 | 2                | 50.8  | 0.104  | 0.154 | 58            | 78-102 | P05FR         |
| 538LT-6 (+) | 3/8   | 10 | 0.71       | 18 | 3000                  | 20.68 | 3                | 76.2  | 0.132  | 0.195 | 58            | 78-102 | P06FR         |
| 538LT-8     | 1/2   | 13 | 0.89       | 23 | 3000                  | 20.68 | 3-1/2            | 88.9  | 0.193  | 0.286 | 58            | 78-102 | P08H          |
| 538LT-10    | 5/8   | 16 | 1.00       | 25 | 3000                  | 20.68 | 4                | 101.6 | 0.141  | 0.358 | 58            | 78-102 | P10H          |
| 538LT-12    | 3/4   | 19 | 1.24       | 32 | 3000                  | 20.68 | 5                | 127.0 | 0.354  | 0.524 | 58H           | 78-102 | 83C-P1258K    |

**Min. Burst Pressure is 4x Max. Working Pressure**

**Tube:** Polyester

**Reinforcement:** Fiber

**Cover:** Special Polyester Blend

**Cover Color:** Orange, non-perforated

**Temperature Range:** -70°F to +212°F

-57°C to +100°C

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max.

**Applications/Markets:**

Hydraulic systems on utility vehicles and equipment for constant working pressures. For locations around and in contact with high voltage.

**Special Features:**

Twin and multi-line available

Optimum kink resistance

Superior flexibility in cold temperature applications

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

(+) Non Standard. See page ii for information on non-standard products.



## 540N - General Hydraulic Hose

Meets or Exceeds SAE 100R7  
1250 to 3000 PSI



PARFLEX 540N

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |       | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|-------|---------------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |       |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg    | crimp die     |
| 540N-2      | 1/8   | 3  | 0.34       | 9  | 2500                  | 17.24 | 1/2              | 13  | .031   | .046 | 57            | 53-77 | P02H          |
| 540N-3      | 3/16  | 5  | 0.43       | 11 | 3000                  | 20.68 | 3/4              | 19  | .043   | .064 | 55            | 53-77 | P03           |
| 540N-4      | 1/4   | 6  | 0.51       | 13 | 2750                  | 18.96 | 1-1/2            | 38  | .057   | .085 | 55            | 53-77 | P04           |
| 540N-5      | 5/16  | 8  | 0.57       | 14 | 2500                  | 17.24 | 1-3/4            | 44  | .068   | .101 | 55            | 53-77 | P05           |
| 540N-6      | 3/8   | 10 | 0.65       | 16 | 2250                  | 15.51 | 2                | 51  | .086   | .128 | 55            | 53-77 | P06           |
| 540N-8      | 1/2   | 13 | 0.81       | 21 | 2000                  | 13.79 | 3                | 76  | .126   | .188 | 55            | 53-77 | P08           |
| 540N-12     | 3/4   | 19 | 1.06       | 27 | 1250                  | 8.62  | 6                | 152 | .168   | .250 | 55            | 53-77 | P12           |

Min. Burst Pressure is 4x Max. Working Pressure

Tube: Nylon

Reinforcement: Fiber

Cover: Matte finish urethane

Cover Color: Black, perforated

Temperature Range: -40°F to +212°F  
-40°C to +100°C

Vacuum Rating: 28 inch Hg

(Delta) Working Length @ Rated WPSI: ±2% Max.

**Applications/Markets:**

Hydraulic and pneumatic systems. Excellent chemical compatibility, wide temperature range, agricultural spraying, urethane foam mixers, robotics, fire resistant fluid and hot water.

**Special Features:**

Special order colors. Twin or multi-line available. Greater range of fluid compatibility than SAE 100R1 hose.

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## 55LT - Low Temperature Hose

**Meets or Exceeds SAE 100R7**

**1250 to 3250 PSI**



PARFLEX 55LT

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |       | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|-------|---------------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |       |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg    | crimp die     |
| 55LT-2      | 1/8   | 3  | 0.34       | 9  | 3000                  | 20.68 | 1/2              | 13  | .031   | .046 | 57            | 53-77 | P02H          |
| 55LT-3      | 3/16  | 5  | 0.43       | 11 | 3250                  | 22.41 | 3/4              | 19  | .053   | .079 | 55            | 53-77 | P03           |
| 55LT-4      | 1/4   | 6  | 0.51       | 13 | 3000                  | 20.68 | 1-1/4            | 32  | .067   | .100 | 55            | 53-77 | P04           |
| 55LT-5      | 5/16  | 8  | 0.57       | 14 | 2500                  | 17.24 | 1-3/4            | 44  | .085   | .127 | 55            | 53-77 | P05           |
| 55LT-6      | 3/8   | 10 | 0.65       | 16 | 2250                  | 15.51 | 2                | 51  | .096   | .143 | 55            | 53-77 | P06           |
| 55LT-8      | 1/2   | 13 | 0.81       | 21 | 2000                  | 13.79 | 3                | 76  | .143   | .213 | 55            | 53-77 | P08           |
| 55LT-12     | 3/4   | 19 | 1.09       | 28 | 1250                  | 8.62  | 5                | 127 | .206   | .307 | 55            | 53-77 | P12           |

**Min. Burst Pressure is 4x Max. Working Pressure****Tube:** Polyester**Reinforcement:** Fiber**Cover:** Special Polyester Blend**Cover Color:** Black, perforated**Temperature Range:** -70°F to +212°F

-57°C to +100°C

(Limited to +135°F (+57°C) for synthetic hydraulic fluids and water based fluids.)

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±2% Max.**Applications/Markets:**

Hydraulic systems exposed to very low temperatures

Excellent over-the-sheave (pulley systems), lift truck

Cold storage or refrigerated areas

Construction and agriculture equipment in cold climates

**Special Features:**

Twin and multi-line available

Superior flexibility in cold temperature applications

## 573X - Fast Response Hose

**3000 PSI Constant Pressure**



PARFLEX 573X

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |    | Weight |      | Crimp Fitting |    |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|----|--------|------|---------------|----|
| #           |       |    |            |    |                       |       |                  |    |        |      |               |    |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm | lbs/ft | kg/m | series        | pg |
| 573X-3      | 3/16  | 5  | 0.35       | 9  | 3000                  | 20.68 | 2                | 51 | .030   | .045 | LV            | 41 |
| 573X-16     | 1     | 25 | 1.47       | 37 | 3000                  | 20.68 | 10               | 25 | .405   | .603 | LV            | 41 |

**Min. Burst Pressure is 4x Max. Working Pressure****Tube:** Nylon**Reinforcement:** Aramid fiber**Cover:** Urethane**Cover Color:** Black non-perforated**Temperature Range:** -40°F to +212°F

-40°C to +100°C

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±2% Max.**Applications/Markets:**

Marine, offshore drilling

Anywhere fast, accurate response time is required

**Special Features:**

Fast response even over longer lengths

**Factory made assemblies only****Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## 575X - Fast Response Hose 5000 PSI Constant Pressure

PARFLEX 575X



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |        | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|--------|---------------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |        |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg     | crimp die     |
| 575X-3      | 3/16  | 5  | 0.43       | 11 | 5000                  | 34.47 | 1.5              | 38  | .050   | .075 | 55            | 53-77  | P03           |
| 575X-4      | 1/4   | 6  | 0.51       | 13 | 5000                  | 34.47 | 2.0              | 51  | .068   | .101 | 55            | 53-77  | P04           |
| 575X-6      | 3/8   | 10 | 0.65       | 16 | 5000                  | 34.47 | 3.0              | 76  | .090   | .134 | 55            | 53-77  | P06           |
| 575X-8      | 1/2   | 13 | 0.81       | 21 | 5000                  | 34.47 | 4.0              | 102 | .139   | .207 | 55            | 53-77  | P08           |
| 575X-12     | 3/4   | 19 | 1.15       | 29 | 5000                  | 34.47 | 8.0              | 203 | .241   | .359 | 58H           | 78-102 | 83C-P1258H    |
| 575X-16     | 1     | 25 | 1.59       | 40 | 5000                  | 34.47 | 10.0             | 254 | .360   | .536 | 58H           | 78-102 | 83C-P1658H    |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Nylon  
**Reinforcement:** Fiber  
**Cover:** Urethane  
**Cover Color:** Black, non-perforated  
**Temperature Range:** -40°F to +212°F  
 -40°C to +100°C  
**Vacuum Rating:** 28 inch Hg  
**(Delta) Working Length @ Rated WPSI:** ±2% Max.

**Applications/Markets:**

Marine, offshore drilling  
 Anywhere fast, accurate response time is required  
**Special Features:**  
 Fast response even over longer lengths

## 580N/H580N - High Pressure Hose 2000 to 5000 PSI Pressure Range

PARFLEX 580N



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |        |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|--------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |        |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg     |
| 580N-4      | 1/4   | 6  | 0.62       | 13 | 5000                  | 34.47 | 2.0              | 51  | .118   | .101 | 58            | 78-102 |
| 580N-6      | 3/8   | 10 | 0.77       | 16 | 4000                  | 34.47 | 2.5              | 76  | .15    | .134 | 58            | 78-102 |
| 580N-8      | 1/2   | 13 | 0.89       | 21 | 3500                  | 34.47 | 4.0              | 102 | .206   | .207 | 58            | 78-102 |
| 580N-10     | 5/8   | 16 | 0.98       | 25 | 2750                  | 18.96 | 6.0              | 152 | .21    | .31  | 58            | 78-102 |
| 580N-12     | 3/4   | 19 | 1.16       | 29 | 2250                  | 34.47 | 8.0              | 203 | .232   | .359 | 58            | 78-102 |
| 580N-16     | 1     | 25 | 1.48       | 40 | 2000                  | 34.47 | 10.0             | 254 | .376   | .536 | 58            | 78-102 |
| H580N-16    | 1     | 25 | 1.58       | 40 | 3000                  | 34.47 | 10.0             |     | .529   |      | 58H           | 78-102 |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Nylon  
**Reinforcement:** Fiber  
**Cover:** Abrasion resistant urethane  
**Cover Color:** Black, perforated  
**Temperature Range:** -40°F to +212°F (-40°C to +100°C)  
**Vacuum Rating:** 28 inch Hg  
**(Delta) Working Length @ Rated WPSI:** ±2%

**Applications/Markets:**

Hydraulic circuits and systems. Replaces 100R2 hose wherever greater flexibility, fluid compatibility, electrical nonconductivity, and cover durability are required. For hydraulic circuits and systems found on utility vehicles and equipment where exposure and contact with high voltage may be encountered.

**Special Features:**

Meets SAEJ517 for less than 50 micro-amps leakage under 75000 volts per ft. Meets or exceeds SAE 100R8 specifications, and Ontario Hydro electrical standards.

**588N - High Pressure,  
Non-Conductive Hose  
2000 to 5000 PSI Pressure Range**

PARFLEX 588N



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |     | Min. Bend Radius |      | Weight |      | Crimp Fitting |        |
|-------------|-------|----|------------|----|-----------------------|-----|------------------|------|--------|------|---------------|--------|
| #           |       |    |            |    |                       |     |                  |      |        |      |               |        |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa | inch             | mm   | lbs/ft | kg/m | series        | pg     |
| 588N-4      | .25   | 6  | .62        | 12 | 5000                  | 2.1 | 2.0              | 25.4 | .118   | .07  | 58            | 78-102 |
| 588N-6      | .375  | 10 | .77        | 15 | 4000                  | 2.1 | 2.5              | 50.8 | .150   | .12  | 58            | 78-102 |
| 588N-8      | .5    | 13 | .89        | 19 | 3500                  | 2.1 | 4                | 63.5 | .206   | .18  | 58            | 78-102 |
| 588N-10     | .625  |    | .98        |    | 2750                  |     | 6                |      | .210   |      | 58            | 78-102 |
| 588N-12     | .75   |    | 1.16       |    | 2250                  |     | 8                |      | .232   |      | 58            | 78-102 |
| 588N-16     | 1     |    | 1.48       |    | 2000                  |     | 10               |      | .376   |      | 58            | 78-102 |

**Min. Burst Pressure is 4x Max. Working Pressure**

**Tube:** Nylon

**Reinforcement:** Fiber

**Cover:** Abrasion resistant urethane

**Cover Color:** Orange, non-perforated

**Temperature Range:** -40°F to +212°F (-40°C to +100°C)

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2%

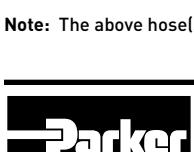
**Special Features:**

Meets SAEJ517 for less than 50 micro-amps leakage under 75000 volts per ft. Meets or exceeds SAE 100R8 specifications, and Ontario Hydro electrical standards.

Twin-line or multi-line constructions available.

**Applications/Markets:**

Hydraulic circuits and systems. Replaces 100R2 hose wherever greater flexibility, fluid compatibility, electrical nonconductivity, and cover durability are required. For hydraulic circuits and systems found on utility vehicles and equipment where exposure and contact with high voltage may be encountered.



## 83FR - DuraGard™ General Purpose Urethane 300 PSI



PARFLEX 83FR

| Part Number | I. D. |      | Max. O. D. |    | Max. Working Pressure |     | Min. Bend Radius |      | Weight |      | Crimp Fitting | 80C Crimp Die | Push-Lok Fitting* |
|-------------|-------|------|------------|----|-----------------------|-----|------------------|------|--------|------|---------------|---------------|-------------------|
| #           |       |      |            |    |                       |     |                  |      |        |      |               |               |                   |
| hose        | inch  | mm   | inch       | mm | wpsi                  | MPa | inch             | mm   | lbs/ft | kg/m | series        | pg            | crimp die         |
| 83FR-4      | .125  | 3.2  | .47        | 12 | 300                   | 2.1 | 1.0              | 25.4 | .05    | .07  | HY*/55        | 112-128/53-77 | P04J              |
| 83FR-6      | .375  | 9.5  | .59        | 15 | 300                   | 2.1 | 2.0              | 50.8 | .08    | .12  | HY*/55        | 112-128/53-77 | P06               |
| 83FR-8      | .500  | 12.7 | .75        | 19 | 300                   | 2.1 | 2.5              | 63.5 | .12    | .18  | HY*/55        | 112-128/53-77 | P08J              |
| 83FR-12     | .625  | 16.0 | 1.03       | 26 | 300                   | 2.1 | 3.5              | 88.9 | .19    | .28  | HY*/55        | 112-128/53-77 | P12               |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Specially formulated urethane**Reinforcement:** Fiber**Cover:** Urethane MSHA approved**Cover Color:** Blue, Green

Black, Gray, Brown, Red

**Temperature Range:** -20°F to +200°F

-29°C to +93°C

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±2%**Special Features:**

Weld spatter resistance

Extreme flexibility

Non-conductive (SAEJ343)

Excellent abrasion resistance

Small bend radius

\* Series HY &amp; 82 fittings available from Hose Products Division

**Applications/Markets:**

General purpose air and water hose often used in robotic welding applications

## HJK - Highjack® Jackline Hybrid Hose 10,000 PSI



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |     | Min. Bend Radius |       | Weight |      |
|-------------|-------|----|------------|----|-----------------------|-----|------------------|-------|--------|------|
| #           |       |    |            |    |                       |     |                  |       |        |      |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa | inch             | mm    | lbs/ft | kg/m |
| HJK04       | .25   | 6  | .60        | 15 | 10000                 | 69  | 9.0              | 101.6 | .27    | .40  |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester

**Reinforcement:** 2 braids of high tensile wire

**Cover:** Smooth synthetic rubber-MSHA approved

**Cover Color:** Black

**Temperature Range:** -40°F to +150°F

-40°C to +65°C

(Limited to +135°F (+57°C) for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** +2% / -4%

### Applications/Markets:

High pressure hydraulic lines on jack hammers, machine tools and other high impulse types of industrial equipment

### Special Features:

Meets IJ-100 requirements

**Factory made assemblies only**

## HLB - Grease Line Hose 3000 PSI



| Part Number | I. D. |     | Max. O. D. |      | Max. Working Pressure |      | Min. Bend Radius |    | Weight |      | Crimp Fitting |
|-------------|-------|-----|------------|------|-----------------------|------|------------------|----|--------|------|---------------|
| #           |       |     |            |      |                       |      |                  |    |        |      |               |
| hose        | inch  | mm  | inch       | mm   | wpsi                  | MPa  | inch             | mm | lbs/ft | kg/m |               |
| HLB02       | .125  | 3.2 | .32        | 8.0  | 3000                  | 20.7 | 1.5              | 38 | .03    | .04  | CY            |
| HLB03       | .1875 | 4.8 | .41        | 10.4 | 3000                  | 20.7 | 3.5              | 89 | .06    | .08  | CY            |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Polyester

**Reinforcement:** Polyester

**Cover:** Urethane

**Cover Color:** Black

**Temperature Range:** -40°F to +120°F

-40°C to +98°C

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max

### Applications/Markets:

Grease and lubrication lines.

### Special Features:

Light weight

**Note: Factory made assemblies only**

**Not for use with pneumatic or other mechanically powered hand operated grease guns**

**Hand powered grease gun lines require spring guards for strain relief**

**Note:** The HLB hose is not intended for use in static discharge applications; i.e., airless paint spray.



## HPS - Paint Spray 3000 PSI



PARFLEX HPS

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |     | Min. Bend Radius |    | Weight |      | Crimp Fitting |    |
|-------------|-------|----|------------|----|-----------------------|-----|------------------|----|--------|------|---------------|----|
| #           |       |    |            |    |                       |     |                  |    |        |      |               |    |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa | inch             | mm | lbs/ft | kg/m | series        | pg |

HPS04 1/4 .50 13 3000 20.68 2.0 50.8 .07 .10 HY\* 112-128

Min. Burst Pressure is 4x Max. Working Pressure

\*Available from Hose Products Division

**Tube:** Nylon  
**Reinforcement:** Fiber  
**Cover:** Urethane  
**Cover Color:** Black, non-perforated  
**Temperature Range:** -40°F to +180°F  
                   -40°C to +82°C  
**Vacuum Rating:** 28 inch Hg  
**(Delta) Working Length @ Rated WPSI:** +2% / -4%

**Applications/Markets:**  
 Static conductive airless paint spray hose  
**Special Features:**  
 Tube resists paints, lacquers and thinners  
**Factory made assemblies only**

## MSH - Marine Steering Fast Response Hose 1000 PSI Constant Pressure



PARFLEX MSH

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |     | Min. Bend Radius |    | Weight |      | Crimp Fitting |    | 80C Crimp Die | Field Attachable Fitting |
|-------------|-------|----|------------|----|-----------------------|-----|------------------|----|--------|------|---------------|----|---------------|--------------------------|
| #           |       |    |            |    |                       |     |                  |    |        |      |               |    |               |                          |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa | inch             | mm | lbs/ft | kg/m | series        | pg | crimp die     | re pg                    |

MSH-5 5/16 8 0.48 12 1000 6.89 2-1/4 57 .049 .073 108MS 40 M05 208MS 40

MSH-6 3/8 10 0.59 15 1000 6.89 3 76 .072 .107 108MS 40 M06 208MS 40

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Nylon  
**Reinforcement:** Fiber  
**Cover:** Urethane  
**Cover Color:** Black, non-perforated  
**Temperature Range:** -40°F to +212°F  
                   -40°C to +100°C  
(Limited to +135°F (+57°C) for synthetic hydraulic fluids and water-based fluids)

**Vacuum Rating:** 28 inch Hg**(Delta) Working Length @ Rated WPSI:** ±2% Max.

**Applications/Markets:**  
 Wide range of marine applications  
**Special Features:**  
 Fast accurate response  
 Factory or field attachable, swageable  
 Salt water, corrosion resistant

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.



## MTH - DOT Marine Trailer Hose 1000 PSI



| Part Number | ID    |    | OD    |    | Max. Working Pressure |     | Min. Bend Radius |    | Weight |      | Crimp Fittings |         |
|-------------|-------|----|-------|----|-----------------------|-----|------------------|----|--------|------|----------------|---------|
| #           |       |    |       |    |                       |     |                  |    |        |      |                |         |
| hose        | inch  | mm | inch  | mm | wpsi                  | MPa | inch             | mm | lbs/ft | kg/m | series         | pg      |
| MTH-4-DOT   | 0.200 | 5  | 0.365 | 9  | 1,000                 | 6.9 | 3/4              | 19 | 0.032  | .047 | 91N            | 150-164 |
| 80C-MTH4    |       |    |       |    |                       |     |                  |    |        |      |                |         |
| CRIMP DIE   |       |    |       |    |                       |     |                  |    |        |      |                |         |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Nylon

**Reinforcement:** Fiber

**Cover:** Abrasion resistant

non-perforated

black urethane

**Temperature Range:** -40°F to +212°F (-40°C to +100°C)  
[+212°F (+100° C) per SAE J1401]

### Fast response hose

- Recreational Trailer Brake Systems Only
- Lightweight thermoplastic hose
- Specifically designed for tow-behind trailers
- Easy and flexible for routing
- Corrosion resistant
- Replaces expensive steel or stainless steel tubing.
- Simplified installation
- Meets or exceeds SAE J1401

## PTH - Marine Power Tilt Hose 3000 PSI



| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |    | Weight |      | Crimp Fitting |         | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|----|--------|------|---------------|---------|---------------|
| #           |       |    |            |    |                       |       |                  |    |        |      |               |         |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm | lbs/ft | kg/m | series        | pg      | crimp die     |
| PTH-3       | 3/16  | 5  | 0.43       | 11 | 3000                  | 20.68 | 3/4              | 19 | .075   | .112 | 92            | 103-104 | T05           |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Nylon

**Reinforcement:** Fiber & stainless steel braid

**Cover:** Urethane

**Cover Color:** Clear non-perforated

**Temperature Range:** -40°F to +212°F  
-40°C to +100°C

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max.

### Applications/Markets:

Power tilt mechanisms for outboard & stern drive engines

### Special Features:

Also available in bubble packed assembly

Corrosion resistant

**Note:** The above hose is not intended for use in static discharge applications; i.e., airless paint spray.

## S4 - Predator® Hose

### Water Jetting/Lateral Cleaning

### 4000 PSI Constant Pressure



PARFLEX S4

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting |                | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|----------------|---------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |                |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | pg             | crimp die     |
| S408        | 1/2   | 13 | .89        | 23 | 4000                  | 27.6 | 4                | 102 | .20    | .30  | HY*/58        | 112-128/78-102 | P08H          |
| S410        | 5/8   | 16 | 1.06       | 27 | 4000                  | 27.6 | 5                | 127 | .32    | .48  | 43            | -              | P1130         |

Min. Burst Pressure is 2.5x Max. Working Pressure

**Tube:** Gray Polyester**Reinforcement:** Fiber**Cover:** Abrasion Resistant Urethane**Cover Color:** Green**Temperature Range:** -40°F to +135°F for water**Applications/Markets:**

High pressure water equipment for cleaning or debris removal in lateral sewer lines. These lines provide connection from commercial, industrial or residential structure to the main sewer line located under the streets. The lateral lines are smaller in diameter than the main lines, and rely more on water pressure than water volume to clear residue and obstructions. For water/slurry applications, contact Parflex for chemical compatibility/recommendations. Not for use in hydraulic applications.

\*HY Series Available from Hose Products Division

ameter than the main lines, and rely more on water pressure than water volume to clear residue and obstructions. For water/slurry applications, contact Parflex for chemical compatibility/recommendations. Not for use in hydraulic applications.

**Special Features:**

Meets NSWMA (National Solid Waste Management Association) and WASTEC (Waste Equipment Technology Association), WEMI (Waste Equipment Management Institute), and specifications for repair/inspection procedures for high pressure hose used in conjunction with sewer/catch basin cleaning equipment

Easily identified lime green cover signifies 4000 psiw

Factory assemblies feature rigid male x rigid male fittings

## S5 - Predator® Hose

### Water Jetting/Lateral Cleaning

### 4000 PSI Constant Pressure



PARFLEX S5

| Part Number | I. D. |     | Max. O. D. |      | Max. Working Pressure |      | Min. Bend Radius |      | Weight |       | Crimp Fitting |               | 80C Crimp Die |
|-------------|-------|-----|------------|------|-----------------------|------|------------------|------|--------|-------|---------------|---------------|---------------|
| #           |       |     |            |      |                       |      |                  |      |        |       |               |               |               |
| hose        | inch  | mm  | inch       | mm   | wpsi                  | MPa  | inch             | mm   | lbs/ft | kg/m  | series        | pg            | crimp die     |
| S506        | 3/8   | 9.5 | 0.64       | 16.2 | 4000                  | 276  | 2.5              | 63.5 | 0.11   | 0.165 | HY*           | 112-128       | t             |
| S508        | 1/2   | 13  | .80        | 20   | 4000                  | 27.6 | 4                | 102  | .16    | .24   | 55/HY         | 53-77/112-128 | P08/t         |
| S510        | 5/8   | 16  | 1.06       | 27   | 4000                  | 27.6 | 5                | 127  | .32    | .48   | 43            | -             | P1130         |

\*HY Series Available from Hose Products Division

**Tube:** Gray Polyester**Reinforcement:** Aramid Fiber (S506 & S508)  
Fiber (S510)**Cover:** Abrasion Resistant Urethane, perforated**Cover Color:** Green**Temperature Range:** -40°F to +135°F for water**Applications/Markets:**

High pressure water equipment for cleaning or debris removal in lateral sewer lines. These lines provide connection from commercial, industrial or residential structure to the main sewer line located under the streets. The lateral lines are smaller in diameter than the main lines, and rely more on water pressure than water volume to clear residue and obstructions. For water/slurry applications, contact Parflex for chemical compatibility/recommendations. Not for use in hydraulic applications.

**Special Features:**

Meets NSWMA (National Solid Waste Management Association) and WASTEC (Waste Equipment Technology Association), WEMI (Waste Equipment Management Institute), and specifications for repair/inspection procedures for high pressure hose used in conjunction with sewer/catch basin cleaning equipment

Easily identified lime green cover signifies 4000 psiw

Factory assemblies feature rigid male x rigid male fittings

Slim profile and light weight provide easy handling and routing

**Min. Burst Pressure:**

3/8 = 4:1 (16,000 PSI)

1/2 = 4:1 (16,000 PSI)

5/8 = 3:1 (12,000 PSI)

†See crimp source online for HY on S5 hose

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

(+/-) Non Standard. See page ii for information on non-standard products.

## S6 - Predator® Hose Sewer Cleaning 2500 PSI Constant Pressure

PARFLEX S6

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die  |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|----------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |                |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | pg             |
| S612        | 3/4   | 19 | 1.14       | 29 | 2500                  | 17.2 | 4                | 102 | .290   | .33  | HY/58         | 112-128/78-102 |
| S616        | 1     | 25 | 1.41       | 36 | 2500                  | 17.2 | 6                | 152 | .380   | .57  | HY/58         | 112-128/78-102 |
| S620        | 1-1/4 | 32 | 1.78       | 45 | 2500                  | 17.2 | 12               | 305 | .610   | .91  | *SQ           | 110            |
| S624 **(+)  | 1-1/2 | 38 | 2.10       | 53 | 2500                  | 17.2 | 15               | 381 | .830   | 1.24 | 71            | ***            |

Min. Burst Pressure is 2.5x Max. Working Pressure

\*\*\*Available from Hose Products Division

**Tube:** Gray Polyester**Reinforcement:** Fiber**Cover:** Abrasion Resistant Perforated Polyurethane**Cover Color:** Orange**Temperature Range:** -40°F to +135°F for water**Applications/Markets:**

High pressure and high volume water equipment for cleaning or debris removal in large sewer lines. For water/slurry applications, contact Parflex for chemical compatibility/recommendations. Not for use in hydraulic applications.

**Special Features:**

Meets NSWMA (National Solid Waste Management Association) and WASTEC (Waste Equipment Technology Association), WEMI (Waste Equipment Management Institute), and specifications for repair/inspection procedures for high pressure hose used in conjunction with sewer/catch basin cleaning equipment

Easily identified orange cover signifies 2500 psiw

Bonded construction provides excellent kink resistance and flexibility

Factory assemblies feature rigid male x rigid male fittings

\*Swaged - Factory made assemblies only

\*\*Nylon

**Note:** SQ, HY, 58 Series approved for field repair

## S9 - Predator® Hose Sewer Cleaning 3000 PSI Constant Pressure

PARFLEX S9

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |     | Weight |      | Crimp Fitting | 80C Crimp Die  |
|-------------|-------|----|------------|----|-----------------------|------|------------------|-----|--------|------|---------------|----------------|
| #           |       |    |            |    |                       |      |                  |     |        |      |               |                |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm  | lbs/ft | kg/m | series        | pg             |
| S912        | 3/4   | 19 | 1.15       | 29 | 3000                  | 20.7 | 4                | 102 | .30    | .45  | HY/58         | 112-128/78-102 |
| S916        | 1     | 25 | 1.47       | 37 | 3000                  | 20.7 | 8                | 203 | .46    | .69  | HY/58         | 112-128/78-102 |

Min. Burst Pressure is 2.5x Max. Working Pressure

**Tube:** Gray Polyester**Reinforcement:** Fiber**Cover:** Abrasion Resistant Perforated Polyurethane**Cover Color:** Blue**Temperature Range:** -40°F to +135°F for water**Applications/Markets:**

High pressure and high volume water equipment for cleaning or debris removal in large sewer lines. For water/slurry applications, contact Parflex for chemical compatibility/recommendations. Not for use in hydraulic applications.

**Note:** SQ, HY, 58 Series approved for field repair**Special Features:**

Meets NSWMA (National Solid Waste Management Association) and WASTEC (Waste Equipment Technology Association), WEMI (Waste Equipment Management Institute), and specifications for repair/inspection procedures for high pressure hose used in conjunction with sewer/catch basin cleaning equipment

Easily identified blue cover signifies 3000 psiw

Bonded construction provides excellent kink resistance and flexibility

Factory assemblies feature rigid male x rigid male fittings

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

(+) Non Standard. See page ii for information on non-standard products.

# CNG - Electrically Conductive Compressed Natural Gas Hose

## 3600 to 5000 PSI

Conforms to NFPA 52, ANSI/IAS NGV 4.2-1999 • CSA 12.52-M99



**PARFLEX CNG**

| Part Number | I. D. | Max. O. D. | Max. Working Pressure | Min. Bend Radius | Weight | Wire Spring Guard Part Number* | Vinyl Guard Part Number | Crimp Fitting |        |      |        |          |     |        |
|-------------|-------|------------|-----------------------|------------------|--------|--------------------------------|-------------------------|---------------|--------|------|--------|----------|-----|--------|
| #           | (O)   | (O)        | (↑)                   | (↗)              | (kg)   | #                              | #                       | (---)         |        |      |        |          |     |        |
| hose        | inch  | mm         | inch                  | mm               | wpsi   | MPa                            | inch                    | mm            | lbs/ft | kg/m | series | pg       |     |        |
| 3CNG-4      | 1/4   | 6          | 0.52                  | 13               | 3600   | 248                            | 2                       | 50.8          | .62    | 9.2  | 3PSG-4 | CNGG3-4  | 55  | 53-77  |
| 3CNG-6      | 3/8   | 10         | 0.77                  | 20               | 3600   | 248                            | 2-1/2                   | 63.5          | .150   | 22.4 | 5PSG-6 | CNGG3-6  | 58  | 78-102 |
| 4CNG-6      | 3/8   | 10         | 0.77                  | 20               | 4000   | 276                            | 2-1/2                   | 63.5          | .150   | 22.4 | 5PSG-6 | CNGG3-6  | 58  | 78-102 |
| 5CNG-3      | 3/16  | 5          | 0.43                  | 11               | 5000   | 345                            | 1-1/2                   | 38.1          | .50    | 7.4  | 3PSG-3 | CNGG5-3  | 55  | 53-77  |
| 5CNG-4      | 1/4   | 6          | 0.62                  | 16               | 5000   | 345                            | 2                       | 50.8          | .110   | 16.4 | 5PSG-4 | CNGG5-4  | 58  | 78-102 |
| 5CNG-6      | 3/8   | 10         | 0.77                  | 20               | 5000   | 345                            | 3                       | 76.2          | .170   | 25.3 | 5PSG-6 | CNGG3-6  | 58  | 78-102 |
| 5CNG-8      | 1/2   | 13         | 0.89                  | 23               | 5000   | 345                            | 4                       | 101.6         | .205   | 30.5 | 5PSG-8 | CNGG5-8  | 58  | 78-102 |
| 5CNG-12     | 3/4   | 19         | 1.15                  | 28               | 5000   | 345                            | 7-1/2                   | 191           | .241   | 35.9 | -      | CNGG5-12 | 58H | 78-102 |

\*Wire spring guards must be used on ANSI/CSA design certified CNG dispenser fill hose assemblies. Hose sizes -3 through -8; single and multi-line bonded assemblies. Vinyl guards are used on hose sizes -12 and -16.

### Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Electrically Conductive Nylon  
**Reinforcement:** Fiber  
**Cover:** Urethane, perforated  
**Cover Color:** Red  
**Temperature Range:** -40°F to +180°F  
                           -40°C to +82°C  
**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** N/A

**Note:** CNG hose must be assembled at the factory or by a Parflex-

approved facility

### Applications/Markets:

Refueling hose specially designed for conveying compressed natural gas. Dissipates static build-up.

### Special Features:

Twin and multi-line available

Optional green cover for 5CNG-X-GRN

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.



## 526BA- Breathing Air Refill Hose 6000 PSI Constant Pressure

PARFLEX 526BA

Complies with CGA G7.1-1997 Grade E Breathing Air Standards NFPA 1901

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |    | Weight |      | Crimp Fitting |       | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|----|--------|------|---------------|-------|---------------|
| #           |       |    |            |    |                       |       |                  |    |        |      |               |       |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm | lbs/ft | kg/m | series        | pg    | crimp die     |
| 526BA-3 (+) | 3/16  | 5  | 0.42       | 11 | 6000                  | 41.37 | 1-1/2            | 38 | .050   | .075 | 55            | 53-77 | P03           |
| 526BA-4     | 1/4   | 6  | 0.50       | 13 | 6000                  | 41.37 | 2                | 51 | .065   | .097 | 55            | 53-77 | P04           |
| 526BA-6     | 3/8   | 10 | 0.64       | 16 | 6000                  | 41.37 | 3                | 76 | .090   | .134 | 55            | 53-77 | P06           |

Min. Burst Pressure is 4x Max. Working Pressure

Tube: Nylon

Reinforcement: Aramid Fiber

Cover: Urethane

Cover Color: Gray perforated

Temperature Range: -40°F to +180°F

-40°C to +82°C

Vacuum Rating: 28 inch Hg

(Delta) Working Length @ Rated WPSI: ±2% Max.

## Applications/Markets:

Air compressor stations

SCUBA tank refilling stations, mobile air wagons

Cascade systems

## Special Features:

Spring guards available and recommended for abusive applications

Twin and multi-line available

Note: Not for use as part of SCBA systems

Lubricate only with water or water (soap) for fitting attachment if needed

Do not use oil lubricants

Note: This hose is not for use between a pressure reducing regulator and breathing masks. This hose does not contain a conductive element; therefore, it should not be used with explosive gases such as pure oxygen and hydrogen.

## 540P - Specialty Water Hose 1250 to 2750 PSI

PARFLEX 540P

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |       | Min. Bend Radius |     | Weight |      | Crimp Fitting |       | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|-------|------------------|-----|--------|------|---------------|-------|---------------|
| #           |       |    |            |    |                       |       |                  |     |        |      |               |       |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa   | inch             | mm  | lbs/ft | kg/m | series        | pg    | crimp die     |
| 540P-4      | 1/4   | 6  | 0.50       | 13 | 2750                  | 18.96 | 1-1/4            | 32  | .052   | .077 | 55            | 53-77 | P04           |
| 540P-6      | 3/8   | 10 | 0.65       | 16 | 2250                  | 15.51 | 2.00             | 51  | .086   | .128 | 55            | 53-77 | P06           |
| 540P-8      | 1/2   | 13 | 0.81       | 21 | 2000                  | 13.79 | 3.00             | 76  | .126   | .188 | 55            | 53-77 | P08           |
| 540P-10 (+) | 5.8   | 16 | 0.98       | 25 | 1500                  | 10.34 | 4.00             | 102 | .165   | .246 | 55            | 53-77 | P10           |
| 540P-12 (+) | 3/4   | 19 | 1.06       | 27 | 1250                  | 8.62  | 6.00             | 152 | .170   | .253 | 55            | 53-77 | P12           |

Min. Burst Pressure is 4x Max. Working Pressure

Tube: Polyethylene

Reinforcement: Fiber

Cover: Polyurethane

Cover Color: Aqua perforated

Temperature Range: -10°F to +150°F

-23°C to +66°C

Vacuum Rating: 28 inch Hg

(Delta) Working Length @ Rated WPSI: ±2% Max.

## Applications/Markets:

Potable water delivery to remote sites

Distilled and de-ionized water

Low moisture permeability

## Special Features:

Custom colors

Long lengths

Plasticizer free non-leaching core tube

Note: The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

(+ Non Standard. See page ii for information on non-standard products.

**56DH/568DH - Diagnostic Hose****PARFLEX 56DH/568DH**

| Part Number | I. D. | Max. O. D. | Max. Working Pressure | Min. Bend Radius | Weight | Crimp Fitting | 80C Crimp Die |      |        |      |        |    |           |
|-------------|-------|------------|-----------------------|------------------|--------|---------------|---------------|------|--------|------|--------|----|-----------|
| #           |       |            |                       |                  |        |               |               |      |        |      |        |    |           |
| hose        | inch  | mm         | inch                  | mm               | wpsi   | MPa           | inch          | mm   | lbs/ft | kg/m | series | pg | crimp die |
| 56DH-1.5    | .090  | 2.3        | .21                   | 5.3              | 6000   | 41.37         | 1/4           | 6.4  | .011   | .016 | SF     | -  | T03       |
| 568DH-1.5   | .090  | 2.3        | .21                   | 5.3              | 6000   | 41.37         | 1/4           | 6.4  | .011   | .016 | SF     | -  | T03       |
| 56DH-2      | .142  | 3.6        | .32                   | 8.13             | 6000   | 41.37         | 1/2           | 12.7 | .034   | .051 | CY     | -  | P0368     |
| 568DH-2     | .142  | 3.6        | .32                   | 8.13             | 6000   | 41.37         | 1/2           | 12.7 | .034   | .051 | CY     | -  | P0368     |

**Min. Burst Pressure is 4x Max. Working Pressure****Tube:** Nylon**(Delta) Working Length @ Rated WPSI:** ±2% Max.**Reinforcement:** Aramid Fiber**Applications/Markets:****Cover:** Urethane

Hydraulic test equipment for lab and field use

**Cover Color:** Black (56DH) perforated standard**Special Features:**Orange (568DH) non-perforated,  
non-conductive standard

Fast response

Other colors available upon request

Consult Parflex for fitting configurations

**Temperature Range:** -40°F to +212°F (-40°C to +100°C)

## 1035A - Power Cleaning 1200 to 1500 PSI

PARFLEX 1035A

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |      | Weight |      | Crimp Fitting |       | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|------|--------|------|---------------|-------|---------------|
| #           |       |    |            |    |                       |      |                  |      |        |      |               |       |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm   | lbs/ft | kg/m | series        | pg    | crimp die     |
| 1035A-4     | 1/4   | 6  | 0.52       | 13 | 1500                  | 10.3 | 5/8              | 15.9 | .084   | .12  | 55            | 53-77 | P04           |
| 1035A-6     | 3/8   | 10 | 0.65       | 17 | 1200                  | 8.3  | 7/8              | 22.2 | .100   | .15  | 55            | 53-77 | P06           |

\*HBR (Hose Bend Restrictor) suggested for carpet cleaning applications. See hose guard in Hose Accessories section.

**Min. Burst Pressure is 4x Max. Working Pressure**

**Tube:** Special PFX Compound

**Reinforcement:** Fiber

**Cover:** Urethane, perforated

**Cover Color:** Blue

**Temperature Range:** -25°F to +212°F

-32°C to +100°C

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max.

### Applications/Markets:

Water applications

Carpet cleaning

**Note:** No chlorinated solvents should be used

### Special Features:

Optional colors

Non-marring

## 1035HT - Power Cleaning 1500 to 1750 PSI

PARFLEX 1035HT

| Part Number | I. D. |    | Max. O. D. |    | Max. Working Pressure |      | Min. Bend Radius |      | Weight |      | Crimp Fitting |       | 80C Crimp Die |
|-------------|-------|----|------------|----|-----------------------|------|------------------|------|--------|------|---------------|-------|---------------|
| #           |       |    |            |    |                       |      |                  |      |        |      |               |       |               |
| hose        | inch  | mm | inch       | mm | wpsi                  | MPa  | inch             | mm   | lbs/ft | kg/m | series        | pg    | crimp die     |
| 1035HT-3    | 3/16  | 5  | 0.43       | 11 | 2000                  | 15.8 | 3/4              | 19.1 | .043   | .06  | 55            | 53-77 | P03           |
| 1035HT-4    | 1/4   | 6  | 0.51       | 13 | 1750                  | 12.1 | 1-1/2            | 38.1 | .057   | .08  | 55            | 53-77 | P04           |
| 1035HT-6    | 3/8   | 10 | 0.65       | 17 | 1500                  | 10.4 | 2                | 50.8 | .086   | .13  | 55            | 53-77 | P06           |

\*HBR (Hose Bend Restrictor) suggested for carpet cleaning applications. See hose guard in Hose Accessories section.

**Min. Burst Pressure is 4x Max. Working Pressure**

**Tube:** Special PFX Compound

**Reinforcement:** Fiber

**Cover:** Urethane, perforated

**Cover Color:** Yellow

**Temperature Range:** -40°F to +230°F

-40°C to +110°C

**Vacuum Rating:** 28 inch Hg

**(Delta) Working Length @ Rated WPSI:** ±2% Max.

### Applications/Markets:

Water applications

Carpet cleaning

**Note:** No chlorinated solvents should be used

### Special Features:

Optional colors

Non-marring

Broad temperature range

**Note:** The above hose(s) are not intended for use in static discharge applications; i.e., airless paint spray.

## Twin-Line and Multi-Line Hose Constructors

**Parflex Twin-Line** consists of two identical hoses permanently joined the entire length, offering a compact system for easy installation and smooth operation.



**Parflex Multi-Line** consists of two or more hoses in various combinations of sizes and types.

### Successful Applications:

- Lift Trucks
- Hydraulic Cranes
- Aerial Lifts
- Limited to a max width of 10" & up to 10 hoses.

### Separating Bonded Hoses:

For separating instructions and tooling see:  
Twin/Multi-Line Separation Instructions on page 267.

**Other hose and hose/tubing configurations available. Contact factory for details.**

### Orange Cover Non-Conductive

| Single Hose Part Number | Two Hoses Bonded Together | Single Hose Part Number | Two Hoses Bonded Together |
|-------------------------|---------------------------|-------------------------|---------------------------|
| #                       | #                         | #                       | #                         |
| 540N-4                  | 540N-4-4                  | 518C-4                  | 518C-4-4                  |
| 540N-5                  | 540N-5-5                  | 518C-5                  | 518C-5-5                  |
| 540N-6                  | 540N-6-6                  | 518C-6                  | 518C-6-6                  |
| 540N-8                  | 540N-8-8                  | 518C-8                  | 518C-8-8                  |

## Retractable Coiled Hose



540N -3, -4, -5, -6, -8  
520N -3, -4, -5  
1035HT -4, -6

Parflex retractable coiled hose is designed to meet a customer's unique application needs. Contact factory for details.

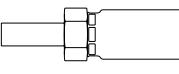
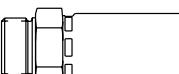
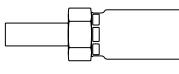
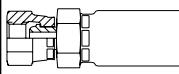
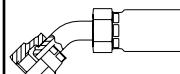
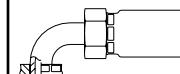
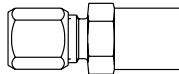
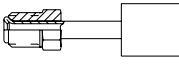
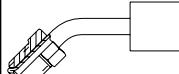
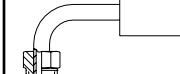
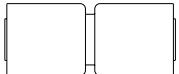
## Hose Bundles, Harnesses, Pre-formed Hoses

- Parflex hose bundles are designed for compact size, but optimal performance.
  - Parflex harnesses are designed for customer's application to eliminate scrap, reduce part numbers and streamline installation.
  - Parflex pre-formed hoses are designed to a customer's application, often replacing expensive metal hoses or adapters in tight spaces.
- \* ALL ARE CUSTOM-DESIGNED TO CUSTOMER NEED.  
CONTACT FACTORY FOR DETAILS.



| Permanent Hose Fittings  |  |  |  |   |   |
|--|--|--|--|---|---|
| <b>LV Series</b><br>Hose<br>Fittings                           | <b>106</b><br>(JIC) 37° Swivel                                 | <b>1JS</b><br>Seal-Lok™ Straight                                   | <b>MS Series</b><br>Hose<br>Fittings                             | <b>108</b><br>SAE 45° Swivel (Brass)                      | <b>134</b><br>Straight Tube (Brass)                           |
| LV - pg. 41  | LV - pg. 41  | LV - pg. 41  | MS - pg. 42  | MS - pg. 42   | PTFE<br>Hose &<br>Fittings                                    |
| <b>55, 58,<br/>58H,<br/>Hose<br/>Fittings</b>                  | <b>158</b><br>Permanent Hose Splicer                           | <b>155</b><br>Permanent Hose Splicer                               | <b>101</b><br>Male Taper Pipe Rigid                              | <b>102</b><br>Female Taper Pipe Rigid                     | <b>103</b><br>Male (JIC) 37°                                  |
| 58 - pg. 43  | 58 - pg. 43  | 55 - pg. 43  | 55, 57 - pg. 53,<br>58/58H - pg. 78                              | 55 - pg. 53, 58 - pg. 78                                  | 55 - pg. 54, 58 - pg. 79                                      |
| <b>13E</b><br>Male (JIC) 37° Long                              | <b>104</b><br>Male SAE 45°                                     | <b>105</b><br>Straight Thread O-Ring                               | <b>106</b><br>SAE (JIC) 37° Swivel                               | <b>107</b><br>Female Pipe Swivel                          | <b>108</b><br>SAE 45° Swivel                                  |
| 55 - pg. 54, 58 - pg. 79                                       | 55 - pg. 55, 58 - pg. 80                                       | 55 - pg. 55, 58 - pg. 80   | 55, 57 - pg. 56,<br>58/58H - pg. 81                              | 55 - pg. 57, 58 - pg. 82                                  | 55 - pg. 57, 58 - pg. 82                                      |
| <b>111</b><br>Ferrul-Fix                                       | <b>112</b><br>SAE Flareless Swivel                             | <b>113</b><br>Male Pipe Swivel                                     | <b>11L</b><br>Male Pipe Swivel 90° Elbow                         | <b>137</b><br>SAE (JIC) 37° Swivel 45°<br>Elbow           | <b>139</b><br>Female SAE (JIC) 37° Swivel<br>90° Elbow        |
| 55 - pg. 58, 58 - pg. 83                                       | 55 - pg. 58, 58 - pg. 83                                       | 55, 57 - pg. 59,<br>58/58H - pg. 84                                | 55 - pg. 59, 58 - pg. 84   | 55, 57 - pg. 60,<br>58/58H - pg. 85                       | 55, 57 - pg. 61,<br>58/58H - pg. 86                           |
| <b>141</b><br>Female SAE (JIC) 37° Swivel<br>90° Long Elbow    | <b>1L9</b><br>Female SAE (JIC) 37° Swivel<br>90° Elbow Special | <b>167</b><br>SAE Male Inverted Swivel<br>45° Elbow                | <b>169</b><br>SAE Male Inverted Swivel<br>90° Elbow              | <b>1JS</b><br>Seal-Lok™ Straight                          | <b>1JC</b><br>Seal-Lok™ Straight-Short                        |
| 55 - pg. 62, 58 - pg. 88                                       | 55 - pg. 63, 58 - pg. 87                                       | 55 - pg. 63, 58 - pg. 88   | 55 - pg. 64, 58 - pg. 89   | 55, 57 - pg. 64,<br>58/58H - pg. 89                       | 55, 57 - pg. 65,<br>58/58H - pg. 90                           |
| <b>1J0</b><br>Male Seal-Lok™ - Rigid<br>Straight (with O-Ring) | <b>1J1</b><br>Seal-Lok™ 90° Elbow (Long)                       | <b>1J7</b><br>Seal-Lok™ 45° Elbow                                  | <b>1J9</b><br>Seal-Lok™ 90° Elbow                                | <b>1TU</b><br>Universal Tube Stub End                     | <b>1AL</b><br>A-LOK® Compression<br>(without Nut and Ferules) |
| 55 - pg. 65, 58 - pg. 92                                       | 55 - pg. 66,<br>58/58H - pg. 91                                | 55, 57 - pg. 67,<br>58/58H - pg. 91                                | 55, 57 - pg. 67,<br>58/58H - pg. 92                              | 55 - pg. 68, 58 - pg. 93                                  | 55N - pg. 68, 58N - pg. 93                                    |
| <b>1AL</b><br>A-LOK® Compression<br>(with Nut and Ferules)     | <b>1P6</b><br>CPI Compression<br>(with Nut and Ferrule)        | <b>1UT</b><br>Male (JIS)/BSP                                       | <b>1FU</b><br>(JIS)/BSP 30° Flare Female<br>Swivel               | <b>1MU</b><br>(JIS)/BSP Metric 30° Flare<br>Female Swivel | <b>1GU</b><br>(JIS)/BSP 60° Cone Female<br>Swivel             |
| 55 - pg. 69, 58 - pg. 94                                       | 55 - pg. 69, 58 - pg. 94                                       | 55 - pg. 70, 58 - pg. 95   | 55 - pg. 70, 58 - pg. 95   | 55 - pg. 71, 58 - pg. 96                                  | 55 - pg. 71, 58 - pg. 96                                      |
| <b>1G1</b><br>(JIS)/BSP 60° Cone Female<br>Swivel 45° Elbow    | <b>1G2</b><br>(JIS)/BSP 60° Cone Female<br>Swivel 90° Elbow    | <b>1C6</b><br>Metric Swivel DIN 20078<br>Heavy Series (w/o O-Ring) | <b>1C9</b><br>Metric Swivel DIN 20078<br>Heavy Series (w O-Ring) | <b>1D0</b><br>Male Stud Din 20078 Light<br>Series         | <b>1D2</b><br>Male Stud DIN 20078<br>Heavy Series             |
| 55 - pg. 72, 58 - pg. 97                                       | 55 - pg. 72, 58 - pg. 97                                       | 55 - pg. 73, 58 - pg. 98   | 55 - pg. 73, 58 - pg. 98   | 55 - pg. 73, 58 - pg. 98                                  | 55 - pg. 74, 58 - pg. 99                                      |

## Permanent Hose Fittings

|  |   |   |   |  |  |
|--|---|---|---|--|--|
| <b>11D</b><br>Metric Standpipe Light Series<br> | <b>1D9</b><br>Male BSP<br>   | <b>13D</b><br>Metric Standpipe Heavy Series<br>        | <b>192</b><br>BSP Swivel Female, Ballnose<br>           | <b>1B1</b><br>BSP Female Swivel 45° Elbow, Ballnose<br> | <b>1B2</b><br>BSP Female Swivel 90° Elbow, Ballnose<br> |
| 55 - pg. 74, 58 - pg. 99   | 55 - pg. 75, 58 - pg. 101   | 55 - pg. 75, 58 - pg. 102   | 55 - pg. 76, 58 - pg. 100   | 55 - pg. 76, 58 - pg. 100  | 55 - pg. 77, 58 - pg. 101  |
| <b>92 Series</b><br>Hose<br>Fittings<br>        | <b>111</b><br>Ferrul-Fix<br> | <b>128</b><br>SAE Male Inverted Swivel<br>Straight<br> | <b>167</b><br>SAE Male Inverted Swivel<br>45° Elbow<br> | <b>169</b><br>SAE Male Inverted Swivel<br>90° Elbow<br> | <b>SQ Series</b><br>Hose<br>Fittings<br>                |
| <b>SQ Mender</b><br>                            | <b>101</b><br>               |   |   |  |  |
| SQ - pg. 110   | SQ - pg. 110  |   |   |  |  |

Please refer to the Hose Fitting Thread Guide.

**Note:** Fittings 43, HY (pages 112-128) and 82 are all Hose Product Division Fittings and must be purchased through HPD. HY fittings have been added to this catalog for reference purposes only.

**Note:** Brass or stainless steel fittings are recommended for use with water-based fluids to avoid potential corrosion.

# Visual Index

## Field Attachable Hose Fittings

Hydraulic &  
Pneumatic  
Hose & Fit.

| Field Attachable Hose Fittings                                 |   |  |   |   |   |
|--|---|--|---|---|---|
| <b>51 Series</b><br>Standard & Metric Field Attachable         | <b>208</b><br>SAE 45° Swivel (Brass)                | <b>201</b><br>Male Taper Pipe Rigid                      | <b>203</b><br>Male (JIC) 37°                                    | <b>206</b><br>SAE (JIC) 37° Swivel                      | <b>208</b><br>SAE 45° Swivel                                    |
| <br>MS - pg. 42  | <br>51 - pg. 44                                     | <br>51 - pg. 44  | <br>51 - pg. 44   | <br>51 - pg. 45   | <br>51 - pg. 45   |
| <b>211</b><br>Ferrul-Fix (Nut and Sleeve Included)             | <b>239</b><br>(JIC) 37° Swivel 90° Elbow            | <b>2C3</b><br>Swivel DIN 20078 Light Series              | <b>2C4</b><br>Swivel DIN 20078 Light Series 45° Elbow           | <b>2C5</b><br>Swivel DIN 20078 Light Series 90° Elbow   | <b>2C6</b><br>Metric Swivel DIN 20078 Heavy Series (w/o O-Ring) |
| <br>51 - pg. 46  | <br>51 - pg. 46                                     | <br>51 - pg. 47  | <br>51 - pg. 47   | <br>51 - pg. 48   | <br>51 - pg. 48   |
| <b>2C9</b><br>Metric Swivel DIN 20078 Heavy Series (w/ O-Ring) | <b>2D0</b><br>Stud DIN 20078 Light Series           | <b>2D2</b><br>Stud DIN 20078 Heavy Series                | <b>21D</b><br>Standpipe Light Series                            | <b>23D</b><br>Standpipe Heavy Series                    | <b>2D9</b><br>BSP Male  |
| <br>51 - pg. 48  | <br>51 - pg. 49                                     | <br>51 - pg. 49  | <br>51 - pg. 50   | <br>51 - pg. 50   | <br>51 - pg. 51   |
| <b>292</b><br>BSP Swivel Female, Ballnose                      | <b>2B1</b><br>BSP Swivel Female 45° Elbow, Ballnose | <b>2B2</b><br>BSP Swivel Female 90° Elbow, Ballnose      | <b>BA Series</b><br>Hose Fittings                               | <b>201</b><br>Male NPTF Rigid Straight                  | <b>203</b><br>Male JIC 37° Rigid Straight                       |
| <br>51 - pg. 51  | <br>51 - pg. 52                                     | <br>51 - pg. 52  |   | <br>BA - pg. 105  | <br>BA - pg. 105  |
| <b>206</b><br>Female JIC 37° Swivel Straight                   | <b>208</b><br>Female SAE 45° Swivel Straight        | <b>237</b><br>Female JIC 37° Swivel 45° Elbow Short Drop | <b>239</b><br>Female JIC 37° Swivel 90° Elbow Short Drop        | <b>241</b><br>Female JIC 37° Swivel 90° Elbow Long Drop | <b>BG Series</b><br>Hose Fittings                               |
| <br>BA - pg. 106   | <br>BA - pg. 106                                    | <br>BA - pg. 106   | <br>BA - pg. 107  | <br>BA - pg. 107  |   |
| <b>201</b><br>Male NPTF Rigid Straight                         | <b>203</b><br>Male JIC 37° Rigid Straight           | <b>206</b><br>Female JIC 37° Swivel Straight             | <b>213</b><br>Male NPTF Pipe - Swivel Under Pressure - Straight |   |   |
| <br>BG - pg. 108   | <br>BG - pg. 108                                    | <br>BG - pg. 109   | <br>BG - pg. 109  |   |   |

Please refer to the Hose Fitting Thread Guide.

**Note: Fittings 43, HY (pages 112-128) and 82 are all Hose Product Division Fittings and must be purchased through HPD. HY fittings have been added to this catalog for reference only purposes.**

Approvals & Guides

Alphanumeric Index

Truck (Fleet) Products

Tooling & Equipment

Hose Accessories

Technical & Design Information

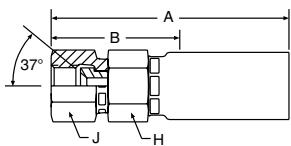
PTFE Hose & Fittings

Thermoplastic Tubing

| Description  | End Code |
|--|----------|
| Male Pipe Thread NPTF  | 01       |
| Female Pipe Thread NPTF  | 02       |
| Male SAE (JIC) 37° flare   | 03       |
| Male SAE 45° Flare   | 04       |
| Male straight Thread with O-Ring   | 05       |
| Female SAE (JIC) 37° Swivel  | 06       |
| Female Pipe Swivel - NPSM  | 07       |
| Female SAE 45° Swivel  | 08       |
| Ferrul-Fix (SAE Flareless)   | 11       |
| SAE Flareless Swivel   | 12       |
| Male Pipe NPTF Swivel  | 13       |
| SAE Flange Head Straight (Code 61) - Standard Pressure                     | 15       |
| SAE Flange Head - 22-1/2° Elbow (Code 61) - Standard Pressure              | 16       |
| SAE Flange Head - 45° Elbow (Code 61) - Standard Pressure                  | 17       |
| SAE Flange Head - 67-1/2° Elbow (Code 61) - Standard Pressure              | 18       |
| SAE Flange Head - 90° Elbow (Code 61) - Standard Pressure                  | 19       |
| Male Pipe Swivel NPTF 90° Elbow  | 1L       |
| Male Inverted Swivel-STR   | 28       |
| Straight Tube, Inch Sized  | 34       |
| Female SAE (JIC) 37° Swivel - 45° Elbow                                    | 37       |
| Female SAE (JIC) 37° Swivel - 90° Elbow                                    | 39       |
| Female SAE (JIC) 37° Swivel - 90° Long Elbow                               | 41       |
| SAE Compression Air Brake  | 61       |
| SAE Male Inverted Swivel - 45° Elbow                                       | 67       |
| SAE Male Inverted Swivel - 90° Elbow                                       | 69       |
| SAE Male Inverted Swivel - 90° Long Elbow                                  | 71       |
| SAE 45° Female Swivel - 45° Elbow  | 77       |
| SAE 45° Female Swivel - 90° Elbow  | 79       |
| SAE 45° Female Swivel - 90° Long Elbow                                     | 81       |
| Laundry Flange   | LF       |
| Female Seal-Lok Swivel-STR-Short   | JC       |
| Female JIS/BSP 30° Flare-Swivel  | FU       |
| Metric Female JIS 30° Flare-Swivel   | MU       |
| Male JIS/BSP Taper Pipe-Rigid-STR (60° cone)                               | UT       |
| Male Seal-Lok-Rigid-STR (W/ peroxide cured O-Ring & captive O-Ring groove) | J0       |
| Female JIS/BSP Parallel Pipe-Swivel (60° cone)                             | GU       |
| Female JIS/BSPP - Swivel 45° Elbow (60° cone)                              | G1       |
| Female JIS/BSPP - Swivel 90° Elbow (60° cone)                              | G2       |
| ANSI B16.5 Flange  | 4K       |
| Seal-Lok (O-Ring Face Seal), Female STR                                    | JS       |
| Seal-Lok (O-Ring Face Seal), Female 45° Elbow                              | J7       |
| Seal-Lok (O-Ring Face Seal), Female 90° Elbow                              | J9       |
| Seal-Lok (O-Ring Face Seal), Female 90° Long Elbow                         | J1       |
| Female SAE (JIC) 37° Swivel - 90° Elbow Special Drop                       | L9       |
| Metric Swivel Female DIN 20078 Light Series                                | C3       |
| Metric Swivel Female DIN 20078 Light Series - 45° Elbow                    | C4       |
| Metric Swivel Female DIN 20078 Light Series - 90° Elbow                    | C5       |
| Metric Swivel Female DIN 20078 Heavy Series W/O-Ring                       | C6       |
| Metric Swivel Female DIN 20078 Heavy Series W/O-Ring                       | C9       |
| Metric Male Stud DIN 20078 Light Series                                    | D0       |
| Metric Male Stud DIN 20078 Heavy Series                                    | D2       |
| Metric Standpipe - Light Series  | 1D       |
| Metric Standpipe - Heavy Series  | 3D       |
| Male BSPP  | D9       |
| BSP Swivel Female  | 92       |
| BSP Swivel Female - 45° Elbow  | B1       |
| BSP Swivel Female - 90° Elbow  | B2       |
| Metric French Swivel Female  | F9       |
| Metric French Male Stud - GAS Series                                       | F6       |
| Metric French Swivel Female - GAS Series                                   | F4       |
| Metric French Standpipe - GAS Series                                       | GE       |
| Universal Tube Stub End  | TU       |
| Ultra Seal   | Q1       |
| A-LOK® Compression   | AL       |
| CPI Compression  | P6       |
| Sanitary Flange  | FN       |
| Mini Sanitary Flange   | FV       |
| Male VacuSeal  | HV       |
| Female VacuSeal  | VH       |
| Male (JIC) 37° Long  | 3E       |

Contact Parflex Division for non-standard end configurations.

## 106LV (JIC) 37° Swivel

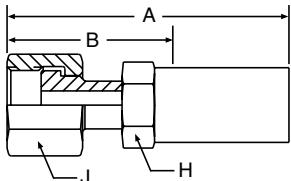


### LV Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A        | Cutoff Allow. B |    | H Hex  | J Hex  | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|----------|-----------------|----|--------|--------|---------------|
| #                 |   |   | ~~~~~       |           |           |          |                 |    |        |        |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch mm  | inch            | mm | inch   | inch   |               |
| 106LV-4-3         | + |   | 7/16-20     | 1/4       | 3/16      | 1.90 48  | 0.94            | 24 | 9/16   | 9/16   | PUF 017       |
| 106LV-8-8 (+)     | + | + | 3/4-16      | 1/2       | 1/2       | 3.75 95  | 1.69            | 43 | 15/16  | 15/16  | PUF 016       |
| 106LV-10-10 (+)   | + | + | 7/8-14      | 5/8       | 5/8       | 3.93 100 | 1.75            | 44 | 1-1/16 | 1-1/16 | PUF 006       |
| 106LV-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.12 105 | 1.81            | 46 | 1-1/8  | 1-1/4  | PUF 008       |
| 106LV-16-16       | + |   | 1-5/16-12   | 1         | 1         | 4.77 121 | 1.72            | 44 | 1-3/8  | 1-1/2  | PUF 009       |

\*316 Stainless steel nipple, nut and shell

## 1JSLV Seal-Lok™ Straight



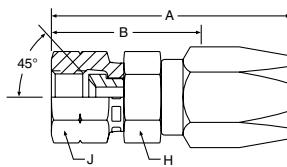
### LV Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A       | Cutoff Allow. B |    | H Hex | J Hex |
|-------------------|---|---|-------------|-----------|-----------|---------|-----------------|----|-------|-------|
| #                 |   |   | ~~~~~       |           |           |         |                 |    |       |       |
| Hose Fitting      |   |   |             | inch      | inch      | inch mm | inch            | mm | inch  | inch  |
| 1JSLV-4-3 (+)     | + | + | 9/16-18     | 3/16      | 1/4       | 1.90 49 | 0.94            | 24 | 9/16  | 11/16 |

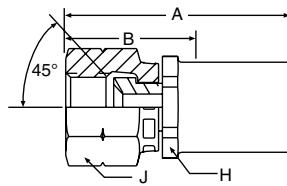
\*316 Stainless steel nipple, nut and shell

When swaging stainless steel fittings, lubricate dies with Parker-type 702 oil.

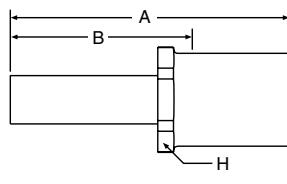
(+) Non Standard. See page ii for information on non-standard products.

**208MS SAE 45° Swivel (Brass)****MS Series Field Attachable**

| Brass Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B | H Hex  | J Hex |
|-------------------|---|---|-------------|-----------|-----------|------|-----------------|--------|-------|
| #                 |   |   |             |           |           |      |                 |        |       |
| Hose Fitting      |   |   |             |           |           |      |                 |        |       |
| 208MS-6-5 (+)     | + |   | 5/8-18      | 3/8       | 5/16      | 2.06 | 52              | 1 5/16 | 33    |
| 208MS-6-6 (+)     | + |   | 5/8-18      | 3/8       | 3/8       | 2.37 | 60              | 1 7/16 | 37    |

**108MS SAE 45° Swivel (Brass)****MS Series Permanent**

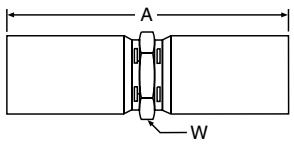
| Brass Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----------------|-------|-------|---------------|
| #                 |   |   |             |           |           |      |                 |       |       |               |
| Hose Fitting      |   |   |             |           |           |      |                 |       |       |               |
| 108MS-6-5 (+)     | + |   | 5/8-18      | 3/8       | 5/16      | 1.68 | 43              | 1     | 25    | 5/8           |
| 108MS-6-6 (+)     | + |   | 5/8-18      | 3/8       | 3/8       | 1.68 | 43              | 1     | 25    | 3/4           |

**134MS Straight Tube (Brass)****MS Series Permanent**

| Brass Part Number | B | C | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B | H Hex | Pusher Number |
|-------------------|---|---|-----------|-----------|------|-----------------|-------|---------------|
| #                 |   |   |           |           |      |                 |       |               |
| Hose Fitting      |   |   |           |           |      |                 |       |               |
| 134MS-6-5 (+)     | + |   | 3/8       | 5/16      | 2.00 | 51              | 1.38  | 35            |
| 134MS-6-6 (+)     | + |   | 3/8       | 3/8       | 2.00 | 51              | 1.38  | 35            |

(+)= Non Standard. See page ii for information on non-standard products.

## 15858 Permanent Hose Splicer

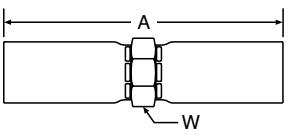


### 58 Series Permanent

| Steel Part Number | C | Hose I.D. | A        | W Hex  |
|-------------------|---|-----------|----------|--------|
| #                 |   | (O)       |          | Hex    |
| Hose Fitting      |   | inch      | inch mm  | inch   |
| 15858-4-4 (+)     | + | 1/4       | 3.25 83  | 11/16  |
| 15858-5-5 (+)     | + | 5/16      | 3.25 83  | 3/4    |
| 15858-6-6 (+)     | + | 3/8       | 3.62 92  | 13/16  |
| 15858-8-8 (+)     | + | 1/2       | 4 102    | 1      |
| 15858-12-12       | + | 3/4       | 4.5 114  | 1-5/16 |
| 15858-16-16       | + | 1         | 5.54 141 | 1-9/16 |

Hydraulic &  
Pneumatic  
Hose & Fit.

## 15555 Permanent Hose Splicer



### 55 Series Permanent

| Steel Part Number | C | Hose I.D. | A        | W Hex  |
|-------------------|---|-----------|----------|--------|
| #                 |   | (O)       |          | Hex    |
| Hose Fitting      |   | inch      | inch mm  | inch   |
| 15555-3-3 (+)     | + | 3/16      | 3.00 76  | 5/8    |
| 15555-4-4         |   | 1/4       | 3.25 83  | 11/16  |
| 15555-5-5         | + | 5/16      | 3.25 83  | 3/4    |
| 15555-6-6         |   | 3/8       | 3.62 92  | 13/16  |
| 15555-8-8         |   | 1/2       | 4.00 102 | 1      |
| 15555-12-12       | + | 3/4       | 4.50 114 | 1-5/16 |
| 15555-16-16       | + | 1         | 5.54 141 | 1-9/16 |

Coiled Air Hose,  
Fittings  
& Accessories

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

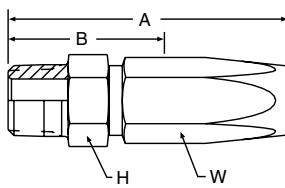
Approvals &  
Guides

Alphanumeric  
Index

(+) Non Standard. See page ii for information on non-standard products.



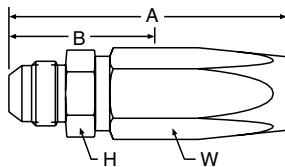
## 20151 Male Taper Pipe Rigid



### 51 Series Field Attachable

| Steel Part Number | B | C | NPTF Pipe Thread | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | W Hex   |
|-------------------|---|---|------------------|-----------|------|----|-----------------|----|-------|---------|
| #                 |   |   | ~~~~~            | ○         |      |    |                 |    | ○     | ○       |
| Hose Fitting      |   |   |                  | inch      | inch | mm | inch            | mm | inch  | inch    |
| 20151-2-3         | + | + | 1/8-27           | 3/16      | 1.71 | 43 | 1               | 25 | 7/16  | 5/8     |
| 20151-4-3         | + | + | 1/4-18           | 3/16      | 1.90 | 48 | 1.13            | 29 | 9/16  | 5/8     |
| 20151-2-4         | + | + | 1/8-27           | 1/4       | 1.90 | 48 | 1               | 25 | 1/2   | 5/8     |
| 20151-4-4         | + | + | 1/4-18           | 1/4       | 2.08 | 53 | 1.19            | 30 | 9/16  | 5/8     |
| 20151-4-5         | + | + | 1/4-18           | 5/16      | 2.17 | 55 | 1.44            | 37 | 9/16  | 3/4     |
| 20151-6-5         | + | + | 3/8-18           | 5/16      | 2.17 | 55 | 1.44            | 37 | 3/4   | 3/4     |
| 20151-4-6         | + | + | 1/4-18           | 3/8       | 2.61 | 66 | 1.44            | 37 | 3/4   | 7/8     |
| 20151-6-6         | + |   | 3/8-18           | 3/8       | 2.61 | 66 | 1.44            | 37 | 3/4   | 7/8     |
| 20151-8-6         | + | + | 1/2-14           | 3/8       | 2.80 | 71 | 1.56            | 40 | 7/8   | 7/8     |
| 20151-6-8         | + | + | 3/8-18           | 1/2       | 2.99 | 76 | 1.50            | 38 | 7/8   | 1-1/16  |
| 20151-8-8         | + | + | 1/2-14           | 1/2       | 3.17 | 81 | 1.69            | 43 | 7/8   | 1-1/16  |
| 20151-12-12       | + | + | 3/4-14           | 3/4       | 3.42 | 87 | 1.75            | 44 | 1-1/8 | 1-3/8   |
| 20151-16-16       | + | + | 1-11-1/2         | 1         | 3.74 | 95 | 2.25            | 57 | 1-3/8 | 1-11/16 |

## 20351 Male (JIC) 37°

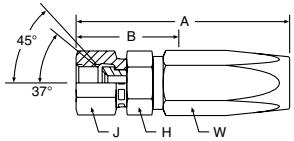


### 51 Series Field Attachable

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | W Hex |
|-------------------|---|---|-------------|------------|-----------|------|----|-----------------|----|-------|-------|
| #                 |   |   | ~~~~~       | ○          | ○         |      |    |                 |    | ○     | ○     |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm | inch            | mm | inch  | inch  |
| 20351-4-3         | + | + | 7/16-20     | 1/4        | 3/16      | 1.88 | 48 | 1.13            | 29 | 1/2   | 5/8   |
| 20351-5-4         | + | + | 1/2-20      | 5/16       | 1/4       | 2.06 | 52 | 1.13            | 29 | 9/16  | 5/8   |
| 20351-6-5         | + | + | 9/16-18     | 3/8        | 5/16      | 2.16 | 55 | 1.31            | 33 | 5/8   | 3/4   |
| 20351-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.61 | 66 | 1.44            | 37 | 3/4   | 7/8   |
| 20351-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 2.71 | 69 | 1.44            | 37 | 13/16 | 7/8   |
| 20351-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 3.08 | 78 | 1.63            | 41 | 7/8   | 7/8   |

(+) Non Standard. See page ii for information on non-standard products.

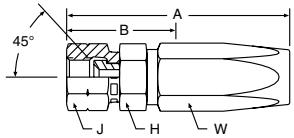
## 20651 SAE (JIC) 37° Swivel



### 51 Series Field Attachable

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H, J Hex | W Hex   |
|-------------------|---|---|-------------|------------|-----------|------|-----|-----------------|----|----------|---------|
| #                 |   |   | ~~~~~       |            |           |      |     |                 |    |          |         |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm  | inch            | mm | inch     | inch    |
| 20651-4-3         | + | + | 7/16-20     | 1/4        | 3/16      | 1.99 | 51  | 1.25            | 32 | 9/16     | 5/8     |
| 20651-4-4         | + | + | 7/16-20     | 1/4        | 1/4       | 2.18 | 55  | 1.25            | 32 | 9/16     | 5/8     |
| 20651-5-4         | + | + | 1/2-20      | 5/16       | 1/4       | 2.24 | 57  | 1.44            | 37 | 5/8      | 5/8     |
| 20651-6-4         | + | + | 9/16-18     | 3/8        | 1/4       | 2.34 | 59  | 1.44            | 37 | 11/16    | 5/8     |
| 20651-6-5         | + | + | 9/16-18     | 3/8        | 5/16      | 2.37 | 60  | 1.50            | 38 | 11/16    | 3/4     |
| 20651-6-6         |   | + | 9/16-18     | 3/8        | 3/8       | 2.74 | 70  | 1.44            | 37 | 11/16    | 7/8     |
| 20651A-6-6        | + | + | 9/16-18     | 3/8        | 3/8       | 2.74 | 70  | 1.44            | 37 | 11/16    | 7/8     |
| 20651-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 2.88 | 73  | 1.63            | 41 | 7/8      | 7/8     |
| 20651-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 3.25 | 83  | 1.75            | 44 | 7/8      | 1-1/16  |
| 20651A-8-8        | + | + | 3/4-16      | 1/2        | 1/2       | 3.25 | 83  | 1.75            | 44 | 7/8      | 1-1/16  |
| 20651-10-8        | + | + | 7/8-14      | 5/8        | 1/2       | 3.37 | 86  | 1.88            | 48 | 1        | 1-1/16  |
| 20651-12-12       | + | + | 1-1/16-12   | 3/4        | 3/4       | 3.75 | 95  | 2.13            | 54 | 1-1/4    | 1-3/8   |
| 20651-16-16       | + | + | 1-5/16-12   | 1          | 1         | 3.93 | 100 | 2.44            | 62 | 1-1/2    | 1-11/16 |

## 20851 SAE 45° Swivel



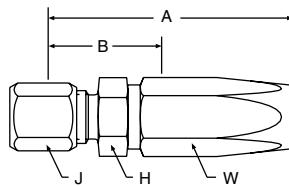
### 51 Series Field Attachable

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H, J Hex | W Hex |
|-------------------|---|---|-------------|------------|-----------|------|----|-----------------|----|----------|-------|
| #                 |   |   | ~~~~~       |            |           |      |    |                 |    |          |       |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm | inch            | mm | inch     | inch  |
| 20851-6-6         | + | + | 5/8-18      | 3/8        | 3/8       | 2.82 | 72 | 1.56            | 40 | 3/4      | 7/8   |

(+) Non Standard. See page ii for information on non-standard products.

## 21151 Ferrul-Fix

(Nut and Sleeve Included)



### 51 Series Field Attachable

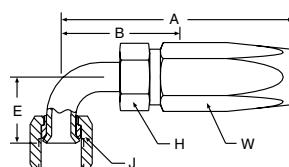
| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    | Cutoff Allow. B | H Hex | J Hex | W Hex  |
|-------------------|---|---|-------------|------------|-----------|------|-----------------|-------|-------|--------|
| #                 |   |   | ~~~~~       |            |           |      |                 |       |       |        |
| Hose Fitting      |   |   |             | inch       | inch      | inch | inch mm         | inch  | inch  | inch   |
| 21151-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.50 | 64 1.25         | 32    | 3/4   | 11/16  |
| 21151-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 2.96 | 75 1.50         | 38    | 7/8   | 7/8    |
|                   |   |   |             |            |           |      |                 |       |       | 1-1/16 |

"Ferrul-Fix" affords salvaging of bent tube section of combination tube-hose assemblies and quick, easy repair on the job.

Note: Nut Part Number is 111-size

Sleeve Part Number is 110-size

## 23951 (JIC) 37° Swivel 90° Elbow

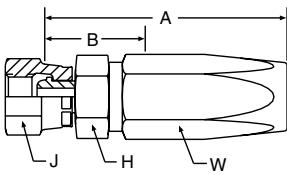


### 51 Series Field Attachable

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A       | Cutoff Allow. B | E       | H Hex | J Hex | W Hex |
|-------------------|---|---|-------------|------------|-----------|---------|-----------------|---------|-------|-------|-------|
| #                 |   |   | ~~~~~       |            |           |         |                 |         |       |       |       |
| Hose Fitting      |   |   |             | inch       | inch      | inch mm | inch mm         | inch mm | inch  | inch  | inch  |
| 23951-4-3         | + | + | 7/18-20     | 1/4        | 3/16      | 1.77    | 45 1            | 25      | 0.68  | 17    | 3/4   |
| 23951-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.70    | 69 1.44         | 37      | 0.85  | 22    | 9/16  |
| 23951-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 2.90    | 74 1.63         | 41      | 1.09  | 28    | 11/16 |
|                   |   |   |             |            |           |         |                 |         |       |       | 7/5   |
|                   |   |   |             |            |           |         |                 |         |       |       | 7/8   |

[+] Non Standard. See page ii for information on non-standard products.

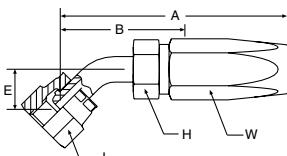
## 2C351 Swivel DIN 20078 Light Series



### 51 Series Field Attachable

| Steel Part Number | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | W Hex |
|-------------------|-------------|-----------|------|----|-----------------|----|-------|-------|-------|
| #                 | ~~~~~       | O         |      |    |                 |    |       |       |       |
| Hose Fitting      |             | inch      | inch | mm | inch            | mm | mm    | mm    | mm    |
| 2C351-6-3         | M12 X 1,5   | 3/16      | 1.69 | 43 | 0.94            | 24 | -     | 14    | 16    |
| 2C351-8-4         | M14 X 1,5   | 1/4       | 1.85 | 47 | 0.98            | 25 | -     | 17    | 17    |
| 2C351-10-5 (+)    | M16 X 1,5   | 5/16      | 1.89 | 48 | 0.87            | 22 | -     | 19    | 19    |
| 2C351-10-6        | M16 X 1,5   | 3/8       | 2.48 | 63 | 1.38            | 35 | 17    | 19    | 22    |
| 2C351-12-6        | M18 X 1,5   | 3/8       | 2.48 | 63 | 1.34            | 34 | 19    | 22    | 22    |
| 2C351-15-8        | M22 X 1,5   | 1/2       | 2.91 | 74 | 1.61            | 41 | 22    | 27    | 27    |
| 2C351-18-12       | M26 X 1,5   | 3/4       | 3.07 | 78 | 1.46            | 37 | 27    | 32    | 35    |
| 2C351-22-12       | M30 X 2     | 3/4       | 3.23 | 82 | 1.61            | 41 | 30    | 36    | 35    |
| 2C351-28-16       | M36 X 2     | 1         | 3.86 | 98 | 2.05            | 52 | 36    | 46    | 43    |

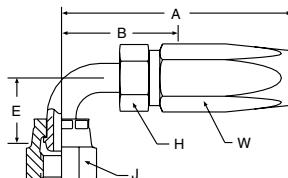
## 2C451 Swivel DIN 20078 Light Series 45° Elbow



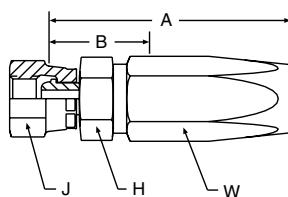
### 51 Series Field Attachable

| Steel Part Number | Thread Size | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | W Hex |
|-------------------|-------------|-----------|------|-----|-----------------|----|------|----|-------|-------|-------|
| #                 | ~~~~~       | O         |      |     |                 |    |      |    |       |       |       |
| Hose Fitting      |             | inch      | inch | mm  | inch            | mm | inch | mm | mm    | mm    | mm    |
| 2C451-6-3 (+)     | M12 X 1,5   | 3/16      | 2.36 | 60  | 1.26            | 32 | 0.51 | 13 | 14    | 17    | 16    |
| 2C451-8-4 (+)     | M14 X 1,5   | 1/4       | 2.32 | 59  | 1.57            | 40 | 0.51 | 13 | 14    | 17    | 17    |
| 2C451-10-5 (+)    | M16 X 1,5   | 5/16      | 2.76 | 70  | 1.61            | 41 | 0.63 | 16 | 17    | 19    | 19    |
| 2C451-12-6        | M18 X 1,5   | 3/8       | 3.50 | 89  | 2.28            | 58 | 0.75 | 19 | 17    | 22    | 22    |
| 2C451-18-12       | M26 X 1,5   | 3/4       | 4.57 | 116 | 2.95            | 75 | 1.02 | 26 | 27    | 36    | 35    |
| 2C451-22-12       | M30 X 2     | 3/4       | 4.69 | 119 | 3.11            | 79 | 1.14 | 29 | 30    | 36    | 35    |
| 2C451-28-16       | M36 X 2     | 1         | 5.00 | 127 | 3.23            | 82 | 1.22 | 31 | 32    | 46    | 43    |

(+) Non Standard. See page ii for information on non-standard products.

**2C551 Swivel DIN 20078 Light Series 90° Elbow****51 Series Field Attachable**

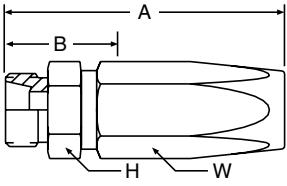
| Steel Part Number | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex | W Hex |
|-------------------|-------------|-----------|------|----|-----------------|----|------|----|-------|-------|-------|
| #                 |             |           |      |    |                 |    |      |    |       |       |       |
| Hose Fitting      |             | inch      | inch | mm | inch            | mm | inch | mm | mm    | mm    | mm    |
| 2C551-6-3 (+)     | M12 X 1,5   | 3/16      | 2.17 | 55 | 1.30            | 33 | 1.02 | 26 | 14    | 17    | 16    |
| 2C551-8-4 (+)     | M14 X 1,5   | 1/4       | 2.09 | 53 | 1.34            | 34 | 0.98 | 25 | 14    | 17    | 17    |
| 2C551-10-5 (+)    | M16 X 1,5   | 5/16      | 2.60 | 66 | 1.57            | 40 | 1.26 | 32 | 17    | 19    | 19    |
| 2C551-10-6        | M16 X 1,5   | 3/8       | 2.95 | 75 | 1.85            | 47 | 1.38 | 35 | 14    | 19    | 22    |
| 2C551-15-8        | M22 X 1,5   | 1/2       | 3.50 | 89 | 2.09            | 53 | 1.65 | 42 | 22    | 27    | 27    |
| 2C551-18-12       | M26 X 1,5   | 3/4       | 2.76 | 70 | 2.76            | 70 | 2.32 | 59 | 27    | 36    | 35    |
| 2C551-22-12       | M30 X 2     | 3/4       | 2.87 | 73 | 2.87            | 73 | 2.52 | 64 | 30    | 36    | 35    |
| 2C551-28-16       | M36 X 2     | 1         | 2.95 | 75 | 2.95            | 75 | 2.64 | 67 | 32    | 46    | 43    |

**2C651 Metric Swivel DIN 20078 Heavy Series (Without O-Ring)  
2C951 (With O-Ring)****51 Series Field Attachable**

| Steel Part Number | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | W Hex |
|-------------------|-------------|-----------|------|----|-----------------|----|-------|-------|-------|
| #                 |             |           |      |    |                 |    |       |       |       |
| Hose Fitting      |             | inch      | inch | mm | inch            | mm | mm    | mm    | mm    |
| 2C651-8-3 (+)     | M16 X 1,5   | 3/16      | 1.93 | 49 | 1.10            | 28 | 17    | 19    | 16    |
| 2C651-10-4 (+)    | M18 X 1,5   | 1/4       | 2.40 | 61 | 1.42            | 36 | 17    | 22    | 17    |
| 2C651-12-5 (+)    | M20 X 1,5   | 5/16      | 2.40 | 61 | 1.38            | 35 | 19    | 24    | 29    |
| 2C651-12-6        | M20 X 1,5   | 3/8       | 2.52 | 64 | 1.42            | 36 | 19    | 24    | 22    |
| 2C651-14-6        | M22 X 1,5   | 3/8       | 2.56 | 65 | 1.46            | 37 | 22    | 27    | 22    |
| 2C651-16-8        | M24 X 1,5   | 1/2       | 2.87 | 73 | 1.57            | 40 | 24    | 30    | 27    |
| 2C651-20-12       | M30 X 2     | 3/4       | 3.19 | 81 | 1.61            | 41 | 30    | 36    | 35    |
| 2C651-25-12       | M36 X 2     | 3/4       | 3.19 | 81 | 1.57            | 40 | 36    | 46    | 35    |
| 2C651-30-16       | M42 X 2     | 1         | 3.70 | 94 | 1.89            | 48 | 41    | 50    | 43    |

(+): Non Standard. See page ii for information on non-standard products.

## 2D051 Stud DIN 20078 Light Series



**51 Series Field Attachable**

| Steel Part Number | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | W Hex |
|-------------------|-------------|-----------|-----------|------|----|-----------------|----|-------|-------|
| #                 |             |           |           |      |    |                 |    |       |       |
| Hose Fitting      |             | mm        | inch      | inch | mm | inch            | mm | mm    | mm    |
| 2D051-6-3         | M12 X 1,5   | 6         | 3/16      | 1.69 | 43 | 0.94            | 24 | 14    | 16    |
| 2D051-8-4         | M14 X 1,5   | 8         | 1/4       | 1.81 | 46 | 0.98            | 25 | 17    | 17    |
| 2D051-10-5        | M16 X 1,5   | 10        | 5/16      | 2.05 | 52 | 1.02            | 26 | 17    | 29    |
| 2D051-10-6        | M16 X 1,5   | 10        | 3/8       | 2.32 | 59 | 1.18            | 30 | 17    | 22    |
| 2D051-12-6        | M18 X 1,5   | 12        | 3/8       | 2.32 | 59 | 1.18            | 30 | 19    | 22    |
| 2D051-15-8        | M22 X 1,5   | 15        | 1/2       | 2.60 | 66 | 1.34            | 34 | 22    | 27    |
| 2D051-18-12       | M26 X 1,5   | 18        | 3/4       | 2.83 | 72 | 1.26            | 32 | 27    | 35    |
| 2D051-22-12       | M30 X 2     | 22        | 3/4       | 2.95 | 75 | 1.38            | 35 | 30    | 35    |
| 2D051-28-16       | M36 X 2     | 28        | 1         | 3.31 | 84 | 1.50            | 38 | 36    | 43    |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

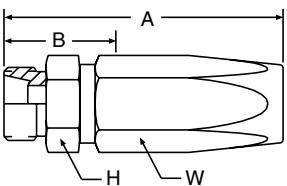
Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

## 2D251 Stud DIN 20078 Heavy Series

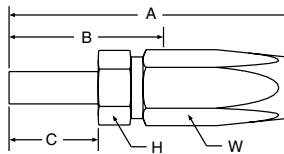


**51 Series Field Attachable**

| Steel Part Number | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | W Hex |
|-------------------|-------------|-----------|-----------|------|----|-----------------|----|-------|-------|
| #                 |             |           |           |      |    |                 |    |       |       |
| Hose Fitting      |             | mm        | inch      | inch | mm | inch            | mm | mm    | mm    |
| 2D251-8-3 (+)     | M16 X 1,5   | 8         | 3/16      | 1.85 | 47 | 1.06            | 27 | 17    | 16    |
| 2D251-10-4 (+)    | M18 X 1,5   | 10        | 1/4       | 2.09 | 53 | 1.10            | 28 | 19    | 17    |
| 2D251-12-5 (+)    | M20 X 1,5   | 12        | 5/16      | 2.17 | 55 | 1.06            | 27 | 22    | 29    |
| 2D251-12-6        | M20 X 1,5   | 12        | 3/8       | 2.48 | 63 | 1.34            | 34 | 22    | 22    |
| 2D251-14-6        | M22 X 1,5   | 14        | 3/8       | 2.52 | 64 | 1.38            | 35 | 22    | 22    |
| 2D251-16-8        | M24 X 1,5   | 16        | 1/2       | 2.83 | 72 | 1.57            | 40 | 24    | 27    |
| 2D251-20-12       | M30 X 2     | 20        | 3/4       | 3.15 | 80 | 1.57            | 40 | 30    | 35    |
| 2D251-25-12       | M36 X 2     | 25        | 3/4       | 3.31 | 84 | 1.73            | 44 | 36    | 35    |
| 2D251-30-16       | M42 X 2     | 30        | 1         | 3.78 | 96 | 1.97            | 50 | 46    | 43    |

(+) Non Standard. See page ii for information on non-standard products.

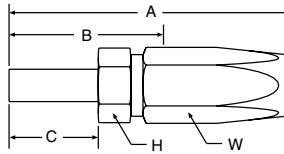
## 21D51 Standpipe Light Series



### 51 Series Field Attachable

| Steel Part Number | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | C    |    | H Hex | W Hex |
|-------------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|
| #                 |           |           |      |     |                 |    |      |    |       |       |
| Hose Fitting      | mm        | inch      | inch | mm  | inch            | mm | inch | mm | mm    | mm    |
| 21D51-6-3         | 6         | 3/16      | 2.17 | 55  | 1.38            | 35 | 0.87 | 22 | 17    | 16    |
| 21D51-6-6         | 6         | 3/8       | 2.64 | 67  | 1.26            | 32 | 0.71 | 18 | 19    | 22    |
| 21D51-8-4         | 8         | 1/4       | 2.28 | 58  | 1.42            | 36 | 0.87 | 22 | 14    | 17    |
| 21D51-10-5        | 10        | 5/16      | 2.52 | 64  | 1.50            | 38 | 0.91 | 23 | 14    | 29    |
| 21D51-10-6        | 10        | 3/8       | 2.80 | 71  | 1.65            | 42 | 0.91 | 23 | 17    | 22    |
| 21D51-15-8        | 15        | 1/2       | 3.15 | 80  | 1.89            | 48 | 0.98 | 25 | 19    | 27    |
| 21D51-22-12       | 22        | 3/4       | 3.46 | 88  | 1.89            | 48 | 1.10 | 28 | 27    | 35    |
| 21D51-28-16       | 28        | 1         | 4.09 | 104 | 2.28            | 58 | 1.18 | 30 | 32    | 43    |

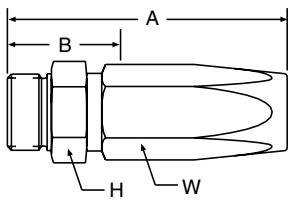
## 23D51 Standpipe Heavy Series



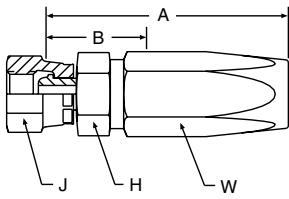
### 51 Series Field Attachable

| Steel Part Number | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | C    |    | H Hex | W Hex |
|-------------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|
| #                 |           |           |      |     |                 |    |      |    |       |       |
| Hose Fitting      | mm        | inch      | inch | mm  | inch            | mm | inch | mm | mm    | mm    |
| 23D51-8-3 (+)     | 8 (+)     | 3/16      | 2.20 | 56  | 1.42            | 36 | 0.94 | 24 | 14    | 16    |
| 23D51-10-4 (+)    | 10 (+)    | 1/4       | 2.28 | 58  | 1.42            | 36 | 1.02 | 26 | 14    | 17    |
| 23D51-12-5 (+)    | 12 (+)    | 5/16      | 2.56 | 65  | 1.54            | 39 | 1.02 | 26 | 14    | 29    |
| 23D51-12-6        | 12        | 3/8       | 2.91 | 74  | 1.81            | 46 | 1.02 | 26 | 17    | 22    |
| 23D51-14-6        | 14        | 3/8       | 3.03 | 77  | 1.89            | 48 | 1.14 | 29 | 17    | 22    |
| 23D51-25-12       | 25        | 3/4       | 4.17 | 106 | 2.56            | 65 | 1.58 | 40 | 27    | 35    |
| 23D51-30-16       | 30        | 1         | 4.65 | 118 | 2.83            | 72 | 1.73 | 44 | 32    | 43    |

(+) Non Standard. See page ii for information on non-standard products.

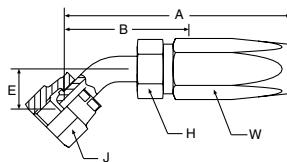
**2D951 BSP Male****51 Series Field Attachable**

| Steel Part Number | Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | W Hex |
|-------------------|-------------|-----------|------|------|-----------------|------|-------|-------|
| #                 |             |           |      |      |                 |      |       |       |
| Hose Fitting      |             |           | inch | inch | mm              | inch | mm    | mm    |
| 2D951-2-3 (+)     | PF 1/8-28   | 3/16      | 1.73 | 44   | 0.94            | 24   | 14    | 16    |
| 2D951-4-3 (+)     | PF 1/4-19   | 3/16      | 1.93 | 49   | 1.14            | 29   | 19    | 16    |
| 2D951-4-4 (+)     | PF 1/4-19   | 1/4       | 2.13 | 54   | 1.14            | 29   | 19    | 17    |
| 2D951-6-5 (+)     | PF 3/8-19   | 5/16      | 2.28 | 58   | 1.18            | 30   | 22    | 19    |
| 2D951-6-6         | PF 3/8-19   | 3/8       | 2.44 | 62   | 1.34            | 34   | 22    | 22    |
| 2D951-8-8         | PF 1/2-14   | 1/2       | 2.87 | 73   | 1.61            | 41   | 27    | 27    |
| 2D951-12-12       | PF 3/4-14   | 3/4       | 3.19 | 81   | 1.61            | 41   | 32    | 35    |
| 2D951-16-16       | PF 1-11     | 1         | 3.74 | 95   | 1.93            | 49   | 41    | 43    |

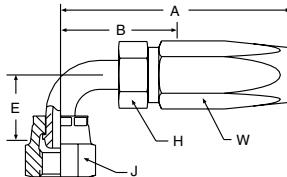
**29251 BSP Swivel Female, Ballnose****51 Series Field Attachable**

| Steel Part Number | BSP Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | J Hex | W Hex |
|-------------------|-----------------|-----------|------|------|-----------------|------|-------|-------|-------|
| #                 |                 |           |      |      |                 |      |       |       |       |
| Hose Fitting      |                 |           | inch | inch | mm              | inch | mm    | mm    | mm    |
| 29251-4-3 (+)     | PF 1/4-19       | 3/16      | 1.77 | 45   | 0.98            | 25   | 17    | 19    | 16    |
| 29251-4-4 (+)     | PF 1/4-19       | 1/4       | 1.85 | 47   | 1.10            | 28   | 17    | 19    | 17    |
| 29251-6-5 (+)     | PF 3/8-19       | 5/16      | 1.89 | 48   | 0.94            | 24   | 19    | 22    | 19    |
| 29251-6-6         | PF 3/8-19       | 3/8       | 2.48 | 63   | 1.38            | 35   | 19    | 22    | 22    |
| 29251-8-8         | PF 1/2-14       | 1/2       | 1.91 | 74   | 1.61            | 41   | 27    | 27    | 27    |
| 29251-12-12       | PF 3/4-14       | 3/4       | 3.07 | 78   | 1.46            | 37   | 36    | 36    | 35    |
| 29251-16-16       | PF 1-11         | 1         | 3.54 | 90   | 1.73            | 44   | 36    | 41    | 43    |

(+) Non Standard. See page ii for information on non-standard products.

**2B151 BSP Swivel Female 45° Elbow, Ballnose****51 Series Field Attachable**

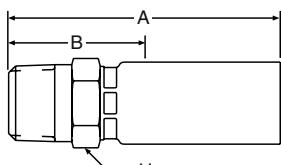
| Steel Part Number | BSP Thread Size | Tube I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | W Hex |
|-------------------|-----------------|-----------|------|-----|-----------------|----|------|----|-------|-------|-------|
| #                 |                 |           |      |     |                 |    |      |    |       |       |       |
| Hose Fitting      |                 | inch      | inch | mm  | inch            | mm | inch | mm | mm    |       | mm    |
| 2B151-4-3 (+)     | PF 1/4-19       | 3/16      | 2.28 | 58  | 1.50            | 38 | 0.55 | 14 | 14    | 17    | 16    |
| 2B151-4-4 (+)     | PF 1/4-19       | 1/4       | 2.32 | 59  | 1.57            | 40 | 0.55 | 14 | 14    | 17    | 17    |
| 2B151-6-5 (+)     | PF 3/8-19       | 5/16      | 2.76 | 70  | 1.76            | 44 | 0.55 | 14 | 14    | 19    | 19    |
| 2B151-12-12 (+)   | PF 3/4-14       | 3/4       | 3.94 | 100 | 2.36            | 60 | 0.79 | 20 | 30    | 32    | 35    |
| 2B151-16-16 (+)   | PF 1-11         | 1         | 4.80 | 122 | 2.99            | 76 | 1.02 | 26 | 32    | 41    | 43    |

**2B251 BSP Swivel Female 90° Elbow, Ballnose****51 Series Field Attachable**

| Steel Part Number | BSP Thread Size | Tube I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | W Hex |
|-------------------|-----------------|-----------|------|-----|-----------------|----|------|----|-------|-------|-------|
| #                 |                 |           |      |     |                 |    |      |    |       |       |       |
| Hose Fitting      |                 | inch      | inch | mm  | inch            | mm | inch | mm | mm    |       | mm    |
| 2B251-4-3         | PF 1/4-19       | 3/16      | 2.28 | 58  | 1.30            | 33 | 0.55 | 14 | 14    | 17    | 16    |
| 2B251-4-4 (+)     | PF 1/4-19       | 1/4       | 2.32 | 59  | 1.30            | 33 | 1.02 | 26 | 14    | 17    | 17    |
| 2B251-6-5 (+)     | PF 3/8-19       | 5/16      | 2.60 | 66  | 1.57            | 40 | 1.34 | 34 | 14    | 19    | 19    |
| 2B251-6-6         | PF 3/8-19       | 3/8       | 2.95 | 75  | 1.73            | 44 | 1.22 | 31 | 17    | 19    | 22    |
| 2B251-8-8         | PF 1/2-14       | 1/2       | 3.50 | 89  | 2.09            | 53 | 1.50 | 38 | 22    | 27    | 27    |
| 2B251-12-12 (+)   | PF 3/4-14       | 3/4       | 4.09 | 104 | 2.52            | 64 | 1.85 | 47 | 30    | 32    | 35    |
| 2B251-16-16 (+)   | PF 1-11         | 1         | 4.72 | 120 | 2.91            | 74 | 2.44 | 62 | 32    | 41    | 43    |

(+): Non Standard. See page ii for information on non-standard products.

## 10155 Male Taper Pipe Rigid

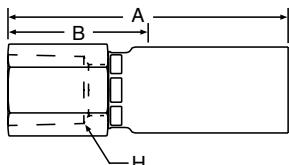


### 55 Series Permanent

| Steel Part Number | B | C | NPTF Pipe Thread | Hose I. D. | A    |     | Cutoff Allow. B | H Hex | Pusher Number   |
|-------------------|---|---|------------------|------------|------|-----|-----------------|-------|-----------------|
| #                 |   |   | ~~~~~            | O          |      |     |                 |       |                 |
| Hose Fitting      |   |   |                  | inch       | inch | mm  | inch            | mm    | inch            |
| 10157-2-2**       | + | + | 1/8-27           | 1/8        | 1.35 | 34  | 0.69            | 17    | 1/2 PUM 001     |
| 10155-2-3         | + | + | 1/8-27           | 3/16       | 1.94 | 49  | 1               | 25    | 9/16 PUM 001    |
| 10155-2-4         | + | + | 1/8-27           | 1/4        | 2.13 | 54  | 1               | 25    | 5/8 PUM 002     |
| 10157-4-2**       | + | + | 1/4-18           | 1/8        | 1.56 | 40  | 0.94            | 24    | 9/16 Crimp Only |
| 10155-4-3         | + | + | 1/4-18           | 3/16       | 2.12 | 54  | 1.19            | 30    | 11/16 PUM 004   |
| 10155-4-4         |   |   | 1/4-18           | 1/4        | 2.31 | 59  | 1.19            | 30    | 11/16 PUM 004   |
| 10155-4-5         | + | + | 1/4-18           | 5/16       | 2.37 | 60  | 1.19            | 30    | 11/16 PUM 004   |
| 10155-4-6         | + | + | 1/4-18           | 3/8        | 2.66 | 68  | 1.31            | 33    | 3/4 PUM 005     |
| 10155-6-3         | + | + | 3/8-18           | 3/16       | 2.21 | 56  | 1.19            | 30    | 3/4 PUM 005     |
| 10155-6-4         | + | + | 3/8-18           | 1/4        | 2.41 | 61  | 1.31            | 33    | 3/4 PUM 005     |
| 10155-6-5         | + | + | 3/8-18           | 5/16       | 2.47 | 63  | 1.31            | 33    | 3/4 PUM 005     |
| 10155-6-6         | + |   | 3/8-18           | 3/8        | 2.66 | 68  | 1.31            | 33    | 3/4 PUM 005     |
| 10155-6-8         | + | + | 3/8-18           | 1/2        | 2.85 | 72  | 1.31            | 33    | 7/8 PUM 008     |
| 10155-8-6         | + | + | 1/2-14           | 3/8        | 2.91 | 74  | 1.56            | 40    | 15/16 PUM 009   |
| 10155-8-8         | + |   | 1/2-14           | 1/2        | 3.09 | 78  | 1.56            | 40    | 15/16 PUM 009   |
| 10155-8-10        | + | + | 1/2-14           | 5/8        | 3.20 | 81  | 1.50            | 38    | 1 PUM 025       |
| 10155-12-10       | + | + | 3/4-14           | 5/8        | 3.20 | 81  | 1.50            | 38    | 1-1/8 PUM 011   |
| 10155-12-12       | + | + | 3/4-14           | 3/4        | 3.28 | 83  | 1.56            | 40    | 1-1/8 PUM 011   |
| 10155-16-16       | + | + | 1-11-1/2         | 1          | 3.96 | 101 | 1.75            | 44    | 1-3/8 PUM 013   |

\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

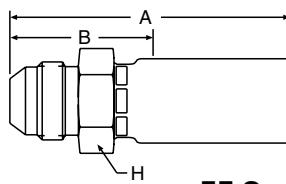
## 10255 Female Taper Pipe Rigid



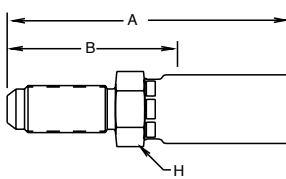
### 55 Series Permanent

| Steel Part Number | B | C | NPTF Pipe Thread | Hose I. D. | A    |    | Cutoff Allow. B | H Hex | Pusher Number  |
|-------------------|---|---|------------------|------------|------|----|-----------------|-------|----------------|
| #                 |   |   | ~~~~~            | O          |      |    |                 |       |                |
| Hose Fitting      |   |   |                  | inch       | inch | mm | inch            | mm    | inch           |
| 10255-4-4         | + |   | 1/4-18           | 1/4        | 2.37 | 60 | 1.25            | 32    | 3/4 PUF 002    |
| 10255-6-4         | + | + | 3/8-18           | 1/4        | 2.58 | 66 | 1.50            | 38    | 7/8 PUF 005    |
| 10255-6-6         | + | + | 3/8-18           | 3/8        | 2.77 | 70 | 1.50            | 38    | 7/8 PUF 005    |
| 10255-8-6         | + | + | 1/2-14           | 3/8        | 2.68 | 68 | 1.38            | 35    | 1-1/16 PUF 007 |
| 10255-8-8         | + | + | 1/2-14           | 1/2        | 2.87 | 73 | 1.38            | 35    | 1-1/16 PUF 007 |

(+) Non Standard. See page ii for information on non-standard products.

**10355 Male (JIC) 37°****55 Series Permanent**

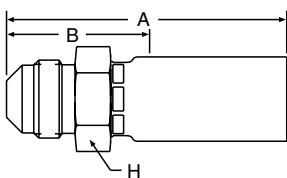
| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|-----|-----------------|----|-------|---------------|
| #                 |   |   | ~~~~~       |            |           |      |     |                 |    |       |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm  | inch            | mm | inch  |               |
| 10355-4-3         | + | + | 7/16-20     | 1/4        | 3/16      | 2.17 | 55  | 1.19            | 30 | 9/16  | PUM 001       |
| 10355-4-4         | + | + | 7/16-20     | 1/4        | 1/4       | 2.30 | 58  | 1.19            | 30 | 5/8   | PUM 002       |
| 10355-5-4         | + | + | 1/2-20      | 5/16       | 1/4       | 2.30 | 58  | 1.19            | 30 | 5/8   | PUM 002       |
| 10355-5-5         | + | + | 1/2-20      | 5/16       | 5/16      | 2.30 | 58  | 1.19            | 30 | 5/8   | PUM 002       |
| 10355-6-4         | + | + | 9/16-18     | 3/8        | 1/4       | 2.30 | 58  | 1.19            | 30 | 11/16 | PUM 004       |
| 10355-6-5         | + | + | 9/16-18     | 3/8        | 5/16      | 2.30 | 58  | 1.19            | 30 | 11/16 | PUM 004       |
| 10355-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.58 | 66  | 1.28            | 33 | 3/4   | PUM 005       |
| 10355-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 2.68 | 68  | 1.38            | 35 | 13/16 | PUM 007       |
| 10355-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 2.87 | 73  | 1.38            | 35 | 7/8   | PUM 008       |
| 10355-8-10        | + | + | 3/4-16      | 1/2        | 5/8       | 3.10 | 79  | 1.44            | 37 | 1     | PUM 025       |
| 10355-10-8        | + | + | 7/8-14      | 5/8        | 1/2       | 3.03 | 77  | 1.56            | 40 | 15/16 | PUM 009       |
| 10355-12-8        | + | + | 1-1/16-12   | 3/4        | 1/2       | 3.14 | 80  | 1.66            | 42 | 1-1/8 | PUM 011       |
| 10355-12-10       | + | + | 1-1/16-12   | 3/4        | 5/8       | 3.30 | 84  | 1.63            | 41 | 1-1/8 | PUM 011       |
| 10355-12-12       | + | + | 1-1/16-12   | 3/4        | 3/4       | 3.32 | 84  | 1.66            | 42 | 1-1/8 | PUM 011       |
| 10355-16-16       | + | + | 1-5/16-12   | 1          | 1         | 3.93 | 100 | 1.72            | 44 | 1-3/8 | PUM 013       |

**13E55 Male (JIC) 37° Long****55 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   |   | ~~~~~       |            |           |      |    |                 |    |       |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm | inch            | mm | inch  |               |
| 13E55-4-4         | + | + | 7/16-20     | 1/4        | 1/4       | 2.93 | 74 | 1.81            | 46 | 11/16 | PUM 002L      |
| 13E55-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 3.38 | 86 | 2               | 51 | 13/16 | PUM 005L      |
| 13E55-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 3.72 | 94 | 2.13            | 54 | 1     | PUM 008L      |

[+] Non Standard. See page ii for information on non-standard products.

## 10455 Male SAE 45°

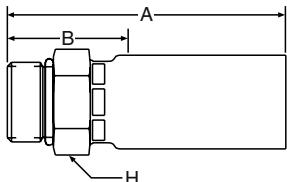


### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   |   |             |           |           |      |    |                 |    |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  |               |
| 10455-4-3         | + | + | 7/16-20     | 1/4       | 3/16      | 2.12 | 54 | 1.13            | 29 | 9/16  | PUM 001       |
| 10455-5-4         | + | + | 1/2-20      | 5/16      | 1/4       | 2.31 | 59 | 1.19            | 30 | 5/8   | PUM 002       |
| 10455-6-5         | + | + | 5/8-18      | 3/8       | 5/16      | 2.46 | 62 | 1.34            | 34 | 3/4   | PUM 005       |
| 10455-6-6         | + | + | 5/8-18      | 3/8       | 3/8       | 2.65 | 67 | 1.34            | 34 | 3/4   | PUM 005       |
| 10455-6-8         | + | + | 5/8-18      | 3/8       | 1/2       | 2.83 | 72 | 1.34            | 34 | 7/8   | PUM 005       |
| 10455-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 2.96 | 75 | 1.47            | 37 | 7/8   | PUM 008       |
| 10455-12-12       | + | + | 1-1/16-14   | 3/4       | 3/4       | 3.46 | 88 | 1.78            | 45 | 1-1/8 | PUM 011       |

## 10555 Straight Thread O-Ring

(BUNA N O-Ring Included)

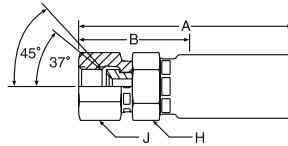


### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   |   |             |           |           |      |    |                 |    |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch |    | inch            | mm | inch  |               |
| 10555-4-3         | + | + | 7/16-20     | 1/4       | 3/16      | 1.98 | 50 | 1.13            | 29 | 9/16  | PUF 020       |
| 10555-4-4         | + | + | 7/16-20     | 1/4       | 1/4       | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10555-4-5         | + | + | 7/16-20     | 1/4       | 5/16      | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10555-5-4         | + | + | 1/2-20      | 5/16      | 1/4       | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10555-5-5         | + | + | 1/2-20      | 5/16      | 5/16      | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10555-6-3         | + | + | 9/16-18     | 1/4       | 3/16      | 1.95 | 50 | 1               | 25 | 11/16 | PUF 022       |
| 10555-6-4         | + | + | 9/16-18     | 3/8       | 1/4       | 2.14 | 54 | 1.06            | 27 | 11/16 | PUF 022       |
| 10555-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.42 | 61 | 1.19            | 30 | 3/4   | PUF 023       |
| 10555-8-6         | + | + | 3/4-16      | 3/8       | 3/8       | 2.46 | 62 | 1.19            | 30 | 7/8   | PUF 024       |
| 10555-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 2.65 | 67 | 1.19            | 30 | 7/8   | PUF 024       |
| 10555-10-8        | + | + | 7/8-14      | 1/2       | 1/2       | 2.77 | 70 | 1.31            | 33 | 1     | PUF 019       |

(+) Non Standard. See page ii for information on non-standard products.

# 10655 SAE (JIC) 37° Swivel



## 55 Series Permanent

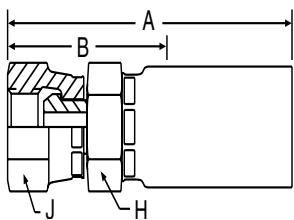
| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex  | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|-----|-----------------|----|-------|--------|---------------|
| #                 |   |   | ~~~~~       |            |           |      |     |                 |    |       |        |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm  | inch            | mm | inch  | inch   |               |
| 10657-2-2**       | + | + | 5/16-24     | 1/8        | 1/8       | 1.66 | 42  | 1               | 25 | 1/2   | 1/2    | PUF 017       |
| 10657-4-2**       | + | + | 7/16-20     | 1/4        | 1/8       | 1.66 | 42  | 1               | 25 | 1/2   | 5/8    | PUF 012       |
| 10655-3-3         | + | + | 3/8-24      | 3/16       | 3/16      | 2.23 | 57  | 1.31            | 33 | 9/16  | 9/16   | PUF 017       |
| 10655-4-3         |   |   | 7/16-20     | 1/4        | 3/16      | 2.20 | 56  | 1.13            | 29 | 5/8   | 5/8    | PUF 011       |
| 10655-5-3         | + | + | 1/2-20      | 5/16       | 3/16      | 2.25 | 57  | 1.25            | 32 | 9/16  | 3/4    | PUF 002       |
| 10655-4-4         |   |   | 7/16-20     | 1/4        | 1/4       | 2.50 | 64  | 1.38            | 35 | 5/8   | 5/8    | PUF 010       |
| 10655-5-4         | + | + | 1/2-20      | 5/16       | 1/4       | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10655-6-4         |   |   | 9/16-18     | 3/8        | 1/4       | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10655-5-5         | + | + | 1/2-20      | 5/16       | 5/16      | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10655-6-5         | + |   | 9/16-18     | 3/8        | 5/16      | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10655-6-6         |   |   | 9/16-18     | 3/8        | 3/8       | 2.78 | 71  | 1.50            | 38 | 3/4   | 3/4    | PUF 015       |
| 10655-8-6         | + |   | 3/4-16      | 1/2        | 3/8       | 2.77 | 70  | 1.47            | 37 | 3/4   | 15/16  | PUF 005       |
| 10655-6-8         | + | + | 9/16-18     | 3/8        | 1/2       | 2.96 | 75  | 1.47            | 37 | 7/8   | 3/4    | PUF 015       |
| 10655-8-8         | + |   | 3/4-16      | 1/2        | 1/2       | 3.12 | 79  | 1.63            | 41 | 7/8   | 15/16  | PUF 016       |
| 10655-8-10        | + |   | 3/4-16      | 1/2        | 5/8       | 3.30 | 84  | 1.63            | 41 | 1     | 15/16  | PUF 016       |
| 10655-10-8        | + | + | 7/8-14      | 5/8        | 1/2       | 3.12 | 79  | 1.63            | 41 | 7/8   | 1-1/16 | PUF 006       |
| 10655-12-8        | + | + | 1-1/16-12   | 3/4        | 1/2       | 3.21 | 82  | 1.72            | 44 | 1     | 1-1/4  | PUF 008       |
| 10655-10-10       | + | + | 7/8-14      | 5/8        | 5/8       | 3.30 | 84  | 1.63            | 41 | 1     | 1-1/16 | PUF 006       |
| 10655-12-10       | + | + | 1-1/16-12   | 3/4        | 5/8       | 3.40 | 86  | 1.75            | 44 | 1-1/8 | 1-5/16 | PUF 008       |
| 10655-10-12       | + | + | 7/8-14      | 5/8        | 3/4       | 3.36 | 85  | 1.69            | 43 | 1-1/8 | 1-1/16 | PUF 006       |
| 10655-12-12       | + |   | 1-1/16-12   | 3/4        | 3/4       | 3.40 | 86  | 1.72            | 44 | 1-1/8 | 1-1/4  | PUF 008       |
| 10655-16-16       | + | + | 1-5/16-12   | 1          | 1         | 4.02 | 102 | 1.78            | 45 | 1-3/8 | 1-1/12 | PUF 009       |

\*316 stainless nipple, nut, shell

\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

[+] Non Standard. See page ii for information on non-standard products.

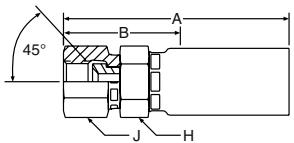
## 10755 Female Pipe Swivel



### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |      | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|------|-----------------|----|-------|-------|---------------|
| #                 |   |   |             |           |           |      |      |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | inch | inch            | mm | inch  | inch  |               |
| 10755-4-4         | + | + | 1/4-18      | 1/4       | 1/4       | 2.37 | 60   | 1.25            | 32 | 5/8   | 3/4   | PUF 002       |
| 10755-4-5         | + | + | 1/4-18      | 1/4       | 5/16      | 2.50 | 64   | 1.38            | 35 | 3/4   | 3/4   | PUF 013       |
| 10755-6-6         | + | + | 3/8-18      | 3/8       | 3/8       | 2.63 | 67   | 1.44            | 37 | 7/8   | 7/8   | PUF 004       |
| 10755-8-8         | + | + | 1/2-14      | 1/2       | 1/2       | 2.97 | 75   | 1.50            | 38 | 1     | 1     | PUF 018       |
| 10755-16-16 (+)   | + | + | 1-11-1/2    | 1         | 1         | 4.00 | 102  | 1.81            | 46 | 1-3/8 | 1-1/2 | PUF 009       |

## 10855 SAE 45° Swivel



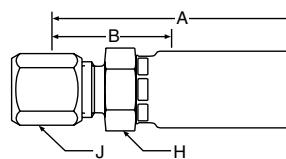
### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   |   |             |           |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 10855-6-4         | + | + | 5/8-18      | 3/8       | 1/4       | 2.50 | 64 | 1.38            | 35 | 5/8   | 13/16 | PUF 003       |
| 10855-6-5         | + | + | 5/8-18      | 3/8       | 5/16      | 2.50 | 64 | 1.38            | 35 | 5/8   | 13/16 | PUF 003       |
| 10855-6-6         | + | + | 5/8-18      | 3/8       | 3/8       | 2.78 | 71 | 1.50            | 38 | 3/4   | 13/16 | PUF 014       |
| 10855-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 2.78 | 71 | 1.44            | 37 | 3/4   | 15/16 | PUF 005       |
| 10855-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 3.19 | 81 | 1.63            | 41 | 15/16 | 15/16 | PUF 016       |
| 10855-12-12       | + | + | 1-1/16-14   | 3/4       | 3/4       | 3.40 | 86 | 1.69            | 43 | 1-1/8 | 1-1/4 | PUF 008       |

(+) Non Standard. See page ii for information on non-standard products.

## 11155 Ferrul-Fix

**Nut and sleeve included**

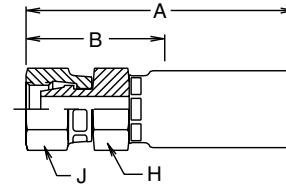


### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    | Cutoff Allow. B | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|-----------------|-------|-------|---------------|
| #                 |   |   | ~~~~~       | ○○         | ○○        |      |                 | ○○    | ○○    |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm              | inch  | inch  | inch          |
| 11155-6-4         | + | + | 9/16-18     | 3/8        | 1/4       | 2.34 | 59              | 1.25  | 32    | 11/16         |
| 11155-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.53 | 64              | 1.25  | 32    | 3/4           |
| 11155-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 2.63 | 67              | 1.31  | 33    | 7/8           |
| 11155-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 2.83 | 72              | 1.31  | 33    | 7/8           |
| 11155-10-6        | + | + | 7/8-14      | 5/8        | 3/8       | 3.68 | 93              | 1.38  | 35    | 1             |
| 11155-10-8 (+)    | + | + | 7/8-14      | 5/8        | 1/2       | 2.88 | 73              | 1.44  | 37    | 1             |
|                   |   |   |             |            |           |      |                 |       |       | PUF 017       |

**Note:** Nut Part Number is 111-size  
Sleeve Part Number is 110-size

## 11255 SAE Flareless Swivel

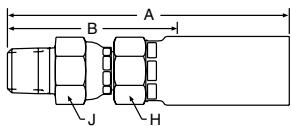


### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    | Cutoff Allow. B | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|-----------------|-------|-------|---------------|
| #                 |   |   | ~~~~~       | ○○         | ○○        |      |                 | ○○    | ○○    |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm              | inch  | inch  | inch          |
| 11255-6-4         | + | + | 9/16-18     | 3/8        | 1/4       | 2.57 | 65              | 1.44  | 37    | 11/16         |
| 11255-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.76 | 70              | 1.44  | 37    | 3/4           |
| 11255-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 2.86 | 73              | 1.56  | 40    | 7/8           |
| 11255-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 3.05 | 77              | 1.06  | 27    | 7/8           |
| 11255-10-8        | + | + | 7/8-14      | 5/8        | 1/2       | 3.16 | 80              | 1.69  | 43    | 1             |
|                   |   |   |             |            |           |      |                 |       |       | PUF 026       |

(+) Non Standard. See page ii for information on non-standard products.

## 11355 Male Pipe Swivel\*



### 55 Series Permanent

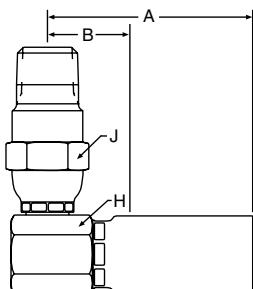
| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |     |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch  | inch  |               |
| 11357-2-2**       | + | + | 1/8-27      | 1/8       | 1/8       | 1.96 | 50  | 1-1/4           | 32 | 1/2   | 1/2   | -             |
| 11355-4-3         | + | + | 1/4-18      | 1/4       | 3/16      | 2.72 | 69  | 1.75            | 44 | 5/8   | 11/16 | PUM 003       |
| 11355-4-4         | + | + | 1/4-18      | 1/4       | 1/4       | 2.84 | 72  | 1.75            | 44 | 5/8   | 11/16 | PUM 003       |
| 11355-4-5         | + | + | 1/4-18      | 1/4       | 5/16      | 2.84 | 72  | 1.75            | 44 | 5/8   | 11/16 | PUM 003       |
| 11355-6-6         | + | + | 3/8-18      | 3/8       | 3/8       | 3.12 | 79  | 1.81            | 46 | 3/4   | 3/4   | PUM 006       |
| 11355-8-6         | + | + | 1/2-14      | 1/2       | 3/8       | 3.37 | 86  | 2.06            | 52 | 3/4   | 15/16 | PUM 010       |
| 11355-8-8         | + | + | 1/2-14      | 1/2       | 1/2       | 3.56 | 90  | 2.06            | 52 | 7/8   | 15/16 | PUM 010       |
| 11355-12-12       | + | + | 3/4-14      | 3/4       | 3/4       | 3.81 | 97  | 2.13            | 54 | 1-1/8 | 1-1/8 | PUM 012       |
| 11355-16-16       | + | + | 1-11-1/2    | 1         | 1         | 5.06 | 129 | 2.81            | 71 | 1-1/2 | 1-1/2 | PUM 030       |

\*For use with petroleum based fluids.

**WARNING:** Fittings allow minor movement to relieve stress on hose but are not recommended for continued or extensive swiveling. Fittings are not recommended for use in CNG applications.

\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

## 11L55 Male Pipe Swivel 90° Elbow\*



### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 11L55-4-4         | + | + | 1/4-18      | 1/4       | 1.94 | 49 | 0.81            | 21 | 11/16 | 11/16 | PUS 001       |

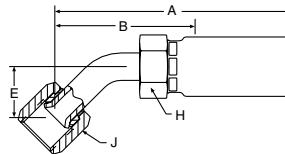
\*For use with petroleum based fluids.

**WARNING:** Fittings allow minor movement under pressure to relieve stress on hose but are not recommended for continued or extensive swiveling. Fittings not recommended for use in CNG applications.

**Note:** Use crimp Die Ring 80C-R1L with Parkrimp 1 Machine; crimp Die Ring 82C-R1L with KarryKrimp. Consult factory for ordering information.

(+) Non Standard. See page ii for information on non-standard products.

# 13755 Female SAE (JIC) 37° Swivel 45° Elbow



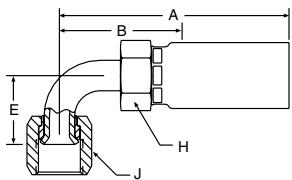
## 55 Series Permanent (SAE Drop Dimensions)

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |   |             |           |           |      |     |                 |    |      |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm | inch  | inch  |               |
| 13757-4-2**       | + | + | 7/16-20     | 1/4       | 1/8       | 1.98 | 50  | 1-9/32          | 33 | 0.33 | 8  | RND   | 9/16  | -             |
| 13755-4-3         | + | + | 7/16-20     | 1/4       | 3/16      | 2.49 | 63  | 1.50            | 38 | 0.33 | 8  | 9/16  | 9/16  | PUT 001       |
| 13755-4-4         | + | + | 7/16-20     | 1/4       | 1/4       | 2.49 | 63  | 1.50            | 38 | 0.33 | 8  | 5/8   | 9/16  | PUT 002       |
| 13755-5-4         | + | + | 1/2-20      | 5/16      | 1/4       | 2.49 | 63  | 1.50            | 38 | 0.36 | 9  | 5/8   | 5/8   | PUT 002       |
| 13755-6-5         | + | + | 9/16-18     | 3/8       | 5/16      | 2.73 | 69  | 1.56            | 40 | 0.39 | 10 | 5/8   | 11/16 | PUT 002       |
| 13755-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.91 | 74  | 1.56            | 40 | 0.39 | 10 | 3/4   | 11/16 | PUT 003       |
| 13755-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 3.18 | 81  | 1.81            | 46 | 0.55 | 14 | 3/4   | 7/8   | PUT 003       |
| 13755-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 3.37 | 86  | 1.81            | 46 | 0.55 | 14 | 7/8   | 7/8   | PUT 004       |
| 13755-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 3.42 | 87  | 1.88            | 48 | 0.63 | 16 | 7/8   | 1     | PUT 004       |
| 13755-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.05 | 103 | 2.38            | 60 | 0.78 | 20 | 1-1/8 | 1-1/4 | PUT 005       |
| 13755-16-16       | + | + | 1-5/16-12   | 1         | 1         | 4.57 | 116 | 2.31            | 59 | 0.89 | 23 | 1-3/8 | 1-1/2 | PUT 007       |

\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

[+] Non Standard. See page ii for information on non-standard products.

# 13955 Female SAE (JIC) 37° Swivel 90° Elbow



## 55 Series Permanent (SAE Drop Dimensions)

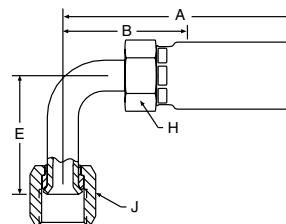
| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A        | Cutoff Allow. B | E       | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|----------|-----------------|---------|-------|-------|---------------|
| #                 |   |   | ~~~~~       | ○○         | ○○        |          |                 |         | ○○    | ○○    |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch mm  | inch mm         | inch mm | inch  | inch  |               |
| 13957-4-2         | + | + | 7/16-20     | 1/4        | 1/8       | 1.87 48  | 1-3/16 30       | 0.68 17 | RND   | 9/16  | -             |
| 13955-4-3         | + | + | 7/16-20     | 1/4        | 3/16      | 2.49 60  | 1.38 35         | 0.68 17 | 9/16  | 9/16  | PUT 001       |
| 13955-4-4         | + | + | 7/16-20     | 1/4        | 1/4       | 2.49 64  | 1.38 35         | 0.68 17 | 5/8   | 9/16  | PUT 002       |
| 13955-5-4         | + | + | 1/2-20      | 5/16       | 1/4       | 2.49 68  | 1.56 40         | 0.77 20 | 5/8   | 5/8   | PUT 002       |
| 13955-6-4         | + | + | 9/16-18     | 3/8        | 1/4       | 2.57 65  | 1.44 37         | 0.85 22 | 5/8   | 11/16 | PUT 002       |
| 13955-6-5         | + | + | 9/16-18     | 3/8        | 5/16      | 2.73 67  | 1.50 38         | 0.85 22 | 5/8   | 11/16 | PUT 002       |
| 13955-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.91 71  | 1.50 38         | 0.85 28 | 3/4   | 11/16 | PUT 003       |
| 13955-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 3.18 75  | 1.63 41         | 1.09 28 | 3/4   | 7/8   | PUT 003       |
| 13955-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 3.37 80  | 1.63 41         | 1.09 28 | 7/8   | 7/8   | PUT 004       |
| 13955-10-8        | + | + | 7/8-14      | 5/8        | 1/2       | 3.42 83  | 1.75 44         | 1.23 31 | 7/8   | 1     | PUT 004       |
| 13955-12-12       | + | + | 1-1/16-12   | 3/4        | 3/4       | 4.05 101 | 2.25 57         | 1.81 46 | 1-1/8 | 1-1/4 | PUT 005       |
| 13955-16-16       | + | + | 1-5/16-12   | 1          | 1         | 4.57 121 | 2.56 65         | 2.14 54 | 1-3/8 | 1-1/2 | PUT 007       |

\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

(+) Non Standard. See page ii for information on non-standard products.



## 14155 Female SAE (JIC) 37° Swivel 90° Long Elbow

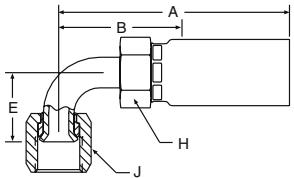


### 55 Series Permanent (SAE Drop Dimensions)

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    | Cutoff Allow. B | E    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|-----------------|------|-------|-------|---------------|
| #                 |   |   | ~~~~~       | ○○         | ○○        |      |                 |      | ○○    | ○○    |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm              | inch | mm    | inch  | inch          |
| 14155-4-3         | + | + | 7/16-20     | 1/4        | 3/16      | 2.37 | 60              | 1.38 | 35    | 1.80  | 46            |
| 14155-4-4         | + | + | 7/16-20     | 1/4        | 1/4       | 2.57 | 65              | 1.44 | 37    | 1.80  | 46            |
| 14155-5-4         | + | + | 1/2-20      | 5/16       | 1/4       | 2.51 | 64              | 1.38 | 35    | 1.80  | 46            |
| 14155-6-5         | + | + | 9/16-18     | 3/8        | 5/16      | 2.73 | 69              | 1.56 | 40    | 2.18  | 55            |
| 14155-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.92 | 74              | 1.56 | 40    | 2.18  | 55            |
| 14155-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 3.00 | 76              | 1.75 | 44    | 2.43  | 62            |
| 14155-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 3.18 | 81              | 1.63 | 41    | 2.43  | 62            |
| 14155-10-8        | + | + | 7/8-14      | 5/8        | 1/2       | 3.39 | 86              | 1.81 | 46    | 2.57  | 65            |
| 14155-12-12       | + | + | 1-1/16-12   | 3/4        | 3/4       | 3.91 | 99              | 2.19 | 56    | 3.73  | 95            |
| 14155-16-16       | + | + | 1-5/16-12   | 1          | 1         | 4.62 | 117             | 2.38 | 60    | 4.33  | 110           |

[+] Non Standard. See page ii for information on non-standard products.

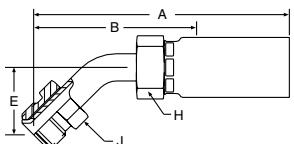
## 1L955 Female (JIC) 37° Swivel 90° Elbow Special



### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|-----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       |            |           |      |     |                 |    |      |    |       |       |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch |     | inch            | mm | inch | mm | inch  | inch  |               |
| 1L955-4-3         | + | + | 7/16-20     | 1/4        | 3/16      | 2.31 | 59  | 1.38            | 35 | 0.88 | 22 | 9/16  | 9/16  | PUT 001       |
| 1L955-4-4         | + | + | 7/16-20     | 1/4        | 1/4       | 2.47 | 63  | 1.38            | 35 | 0.88 | 22 | 5/8   | 9/16  | PUT 002       |
| 1L955-5-4         | + | + | 1/2-20      | 5/16       | 1/4       | 2.53 | 64  | 1.44            | 37 | 0.88 | 22 | 5/8   | 5/8   | PUT 002       |
| 1L955-6-5         | + | + | 9/16-18     | 3/8        | 5/16      | 2.69 | 68  | 1.50            | 38 | 1.12 | 28 | 5/8   | 11/16 | PUT 002       |
| 1L955-6-6         | + | + | 9/16-18     | 3/8        | 3/8       | 2.88 | 73  | 1.50            | 38 | 1.12 | 28 | 3/4   | 11/16 | PUT 003       |
| 1L955-8-6         | + | + | 3/4-16      | 1/2        | 3/8       | 3.00 | 76  | 1.63            | 41 | 1.38 | 35 | 3/4   | 7/8   | PUT 003       |
| 1L955-8-8         | + | + | 3/4-16      | 1/2        | 1/2       | 3.19 | 81  | 1.63            | 41 | 1.38 | 35 | 7/8   | 7/8   | PUT 004       |
| 1L955-10-8        | + | + | 7/8-14      | 5/8        | 1/2       | 3.68 | 93  | 2.13            | 54 | 1.75 | 44 | 7/8   | 1     | PUT 004       |
| 1L955-12-12       | + | + | 1-1/16-12   | 3/4        | 3/4       | 4.29 | 109 | 2.50            | 64 | 2.06 | 52 | 1-1/8 | 1-1/4 | PUT 005       |
| 1L955-16-16       | + | + | 1-5/16-12   | 1          | 1         | 5.14 | 131 | 2.75            | 70 | 2.50 | 64 | 1-3/8 | 1-1/2 | PUT 007       |

## 16755 SAE Male Inverted Swivel 45° Elbow

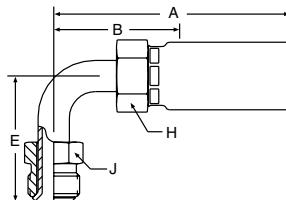


### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       |            |           |      |    |                 |    |      |    |       |       |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm | inch            | mm | inch | mm | inch  | inch  |               |
| 16755-6-6         | + | + | 5/8-18      | 3/8        | 3/8       | 3.48 | 88 | 2.13            | 54 | 0.94 | 24 | 3/4   | 5/8   | PUT 003       |

(+) Non Standard. See page ii for information on non-standard products.

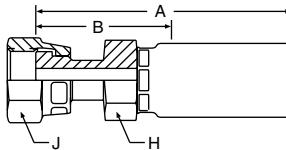
## 16955 SAE Male Inverted Swivel 90° Elbow



### 55 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |    |                 |    |      |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch | mm | inch  | inch  |               |
| 16955-4-4         | + | + | 7/16-24     | 1/4       | 1/4       | 2.75 | 70 | 1.63            | 27 | 1.56 | 40 | 5/8   | 7/16  | PUT 002       |
| 16955-6-6         | + | + | 5/8-18      | 3/8       | 3/8       | 3.48 | 78 | 1.75            | 27 | 1.69 | 43 | 3/4   | 5/8   | PUT 003       |

## 1JS55 Seal-Lok™ Straight

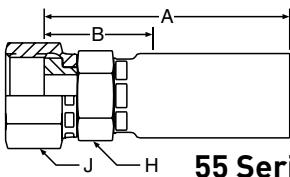


### 55 Series Permanent

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----|-----------------|----|-------|-------|---------------|
| #                 |   | ~~~~~       |           |           |      |     |                 |    |       |       |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm  | inch            | mm | inch  | inch  |               |
| 1JS55-4-2**       | + | 9/16-18     | 1/4       | 1/8       | 1.60 | 41  | 15/16           | 24 | 5/8   | 11/16 | -             |
| 1JS55-4-3 (+)     | + | 9/16-18     | 1/4       | 3/16      | 2.40 | 61  | 1.50            | 38 | 5/8   | 11/16 | PUT 002       |
| 1JS55-4-4         | + | 9/16-18     | 1/4       | 1/4       | 2.59 | 66  | 1.50            | 38 | 5/8   | 11/16 | PUT 002       |
| 1JS55-6-4         | + | 11/16-16    | 3/8       | 1/4       | 2.58 | 66  | 1.50            | 38 | 3/4   | 13/16 | PUT 003       |
| 1JS55-4-5 (+)     | + | 9/16-18     | 1/4       | 5/16      | 2.66 | 68  | 1.50            | 38 | 5/8   | 11/16 | PUT 002       |
| 1JS55-6-5         | + | 11/16-16    | 3/8       | 5/16      | 2.66 | 68  | 1.50            | 38 | 3/4   | 13/16 | PUT 003       |
| 1JS55-6-6         | + | 11/16-16    | 3/8       | 3/8       | 2.86 | 73  | 1.50            | 38 | 3/4   | 13/16 | PUT 003       |
| 1JS55-8-6         | + | 13/16-16    | 1/2       | 3/8       | 3.00 | 76  | 1.63            | 41 | 7/8   | 15/16 | PUT 004       |
| 1JS55-8-8         | + | 13/16-16    | 1/2       | 1/2       | 3.20 | 81  | 1.63            | 41 | 7/8   | 15/16 | PUT 004       |
| 1JS55-10-10 (+)   | + | 1-14        | 5/8       | 5/8       | 3.53 | 90  | 1.88            | 48 | 1-1/8 | 1-1/8 | PUT 005       |
| 1JS55-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.75 | 95  | 2               | 51 | 1-1/4 | 1-3/8 | PUT 005       |
| 1JS55-16-16       | + | 1-7/16-12   | 1         | 1         | 4.28 | 109 | 2.06            | 52 | 1-1/2 | 1-5/8 | PUT015        |

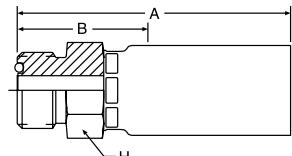
\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

(+) Non Standard. See page ii for information on non-standard products.

**1JC55 Seal-Lok™ Straight-Short****55 Series Permanent**

| Steel Part Number | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|------------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   | ~~~~~       |            |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |             | inch       | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 1JC57-4-2**       | + | 9/16-18     | 1/4        | 1/8       | 1.34 | 34 | 5/8             | 16 | 5/8   | 11/16 | -             |
| 1JC55-4-3         | + | 9/16-18     | 1/4        | 3/16      | 1.97 | 50 | 1.06            | 27 | 5/8   | 11/16 | PUL 001       |
| 1JC55-4-4         |   | 9/16-18     | 1/4        | 1/4       | 2.16 | 55 | 1.06            | 27 | 5/8   | 11/16 | PUL 001       |
| 1JC55-6-4         | + | 11/16-16    | 3/8        | 1/4       | 2.19 | 56 | 1.06            | 27 | 3/4   | 13/16 | PUL 002       |
| 1JC55-4-5         | + | 9/16-18     | 1/4        | 5/16      | 2.22 | 56 | 1.06            | 27 | 5/8   | 11/16 | PUL 001       |
| 1JC55-6-5         | + | 11/16-16    | 3/8        | 5/16      | 2.28 | 58 | 1.06            | 27 | 3/4   | 13/16 | PUL 002       |
| 1JC55-6-6         | + | 11/16-16    | 3/8        | 3/8       | 2.47 | 63 | 1.06            | 27 | 3/4   | 13/16 | PUL 002       |
| 1JC55-8-6         | + | 13/16-16    | 1/2        | 3/8       | 2.56 | 65 | 1.19            | 30 | 7/8   | 15/16 | PUL 003       |
| 1JC55-8-8         | + | 13/16-16    | 1/2        | 1/2       | 2.75 | 70 | 1.19            | 30 | 7/8   | 15/16 | PUL 003       |
| 1JC55-10-8        | + | 1-14        | 5/8        | 1/2       | 2.95 | 75 | 1.38            | 35 | 1-1/8 | 1-1/8 | PUL 004       |
| 1JC55-8-10        | + | 13/16-16    | 1/2        | 5/8       | 2.85 | 72 | 1.19            | 30 | 1     | 15/16 | PUL 010       |
| 1JC55-10-10       | + | 1-14        | 5/8        | 5/8       | 3.05 | 77 | 1.38            | 35 | 1-1/8 | 1-1/8 | PUL 004       |
| 1JC55-10-12       | + | 1-14        | 5/8        | 3/4       | 3.15 | 80 | 1.38            | 35 | 1-1/8 | 1-1/8 | PUL 004       |
| 1JC55-12-8        | + | 1-3/16-12   | 3/4        | 1/2       | 3.00 | 76 | 1.44            | 37 | 1-1/4 | 1-3/8 | PUL 006       |
| 1JC55-12-10       | + | 1-3/16-12   | 3/4        | 5/8       | 3.10 | 79 | 1.44            | 37 | 1-1/4 | 1-3/8 | PUL 006       |
| 1JC55-12-12       | + | 1-3/16-12   | 3/4        | 3/4       | 3.20 | 81 | 1.44            | 37 | 1-1/4 | 1-3/8 | PUL 006       |
| 1JC55-16-16       | + | 1-7/16-12   | 1          | 1         | 3.74 | 95 | 1.50            | 38 | 1-1/2 | 1-5/8 | PUL 008       |

\*\*Note: 57 Series should be used for the following hoses:  
55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

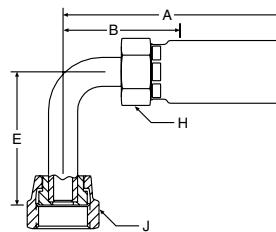
**1J055 Male Seal-Lok™ – Rigid Straight (with O-Ring)****55 Series Permanent**

| Steel Part Number | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|-------------|------------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   | ~~~~~       |            |           |      |    |                 |    |       |               |
| Hose Fitting      |   |             | inch       | inch      | inch |    | inch            |    |       |               |
| 1J055-4-3 (+)     | + | 9/16-18     | 1/4        | 3/16      | 1.95 | 50 | 1.13            | 29 | 5/8   | PUM 004       |
| 1J055-4-4         | + | 9/16-18     | 1/4        | 1/4       | 2.20 | 56 | 1.06            | 27 | 5/8   | PUM 004       |
| 1J055-6-4 (+)     | + | 11/16-16    | 3/8        | 1/4       | 2.28 | 58 | 1.13            | 29 | 3/4   | PUM 005       |
| 1J055-4-5 (+)     | + | 9/16-18     | 1/4        | 5/16      | 2.20 | 56 | 1.06            | 27 | 5/8   | PUM 004       |
| 1J055-6-5 (+)     | + | 11/16-16    | 3/8        | 5/16      | 2.28 | 58 | 1.13            | 29 | 3/4   | PUM 005       |
| 1J055-6-6         | + | 11/16-16    | 3/8        | 3/8       | 2.47 | 63 | 1.13            | 29 | 3/4   | PUM 005       |
| 1J055-8-6 (+)     | + | 13/16-16    | 1/2        | 3/8       | 2.56 | 65 | 1.25            | 32 | 7/8   | PUM 008       |
| 1J055-8-8 (+)     | + | 13/16-16    | 1/2        | 1/2       | 2.75 | 70 | 1.25            | 32 | 15/16 | PUM 009       |
| 1J055-10-10 (+)   | + | 1-14        | 5/8        | 5/8       | 3.10 | 79 | 1.44            | 37 | 1-1/8 | PUM 011       |
| 1J055-12-12 (+)   | + | 1-3/16-12   | 3/4        | 3/4       | 3.25 | 83 | 1.56            | 40 | 1-3/8 | PUM 013       |
| 1J055-16-16 (+)   | + | 1-7/16-12   | 1          | 1         | 3.86 | 98 | 1.63            | 41 | 1-5/8 | PUM 020       |

(+) Non Standard. See page ii for information on non-standard products.



# 1J155 Seal-Lok™ 90° Elbow (Long)

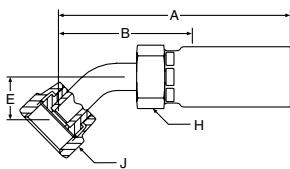


## 55 Series Permanent (SAE Drop Dimensions)

| Steel Part Number | C | Thread Size | Tube O. D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |     | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|------------|-----------|------|-----|-----------------|----|------|-----|-------|-------|---------------|
| #                 |   | ~~~~~       | (O)        | (O)       |      |     |                 |    |      |     | (hex) | (hex) |               |
| Hose Fitting      |   |             | inch       | inch      | inch | mm  | inch            | mm | inch | mm  | inch  | inch  |               |
| 1J157-4-2**       | + | 9/16-18     | 1/4        | 1/8       | 1.82 | 46  | 1-1/8           | 29 | 1.80 | 46  | 1/2   | 11/16 | -             |
| 1J155-4-3         | + | 9/16-18     | 5/16       | 3/16      | 2.30 | 58  | 1.31            | 33 | 1.80 | 46  | 9/16  | 11/16 | PUT 002       |
| 1J155-4-4         | + | 9/16-18     | 5/16       | 1/4       | 2.45 | 62  | 1.31            | 33 | 1.80 | 46  | 9/16  | 11/16 | PUT 002       |
| 1J155-4-5 (+)     | + | 9/16-18     | 5/16       | 5/16      | 2.54 | 65  | 1.31            | 33 | 1.80 | 46  | 5/8   | 11/16 | PUT 002       |
| 1J155-6-5 (+)     | + | 11/16-16    | 3/8        | 5/16      | 2.76 | 70  | 1.63            | 41 | 2.13 | 54  | 5/8   | 13/16 | PUT 003       |
| 1J155-6-6         | + | 11/16-16    | 3/8        | 3/8       | 2.94 | 75  | 1.63            | 41 | 2.13 | 54  | 3/4   | 13/16 | PUT 003       |
| 1J155-8-6         | + | 13/16-16    | 1/2        | 3/8       | 2.94 | 75  | 1.69            | 43 | 2.51 | 64  | 3/4   | 15/16 | PUT 004       |
| 1J155-8-8         | + | 13/16-16    | 1/2        | 1/2       | 3.21 | 82  | 1.69            | 43 | 2.51 | 64  | 7/8   | 15/16 | PUT 004       |
| 1J155-10-10 (+)   | + | 1-14        | 5/8        | 5/8       | 3.35 | 85  | 2.00            | 51 | 2.76 | 70  | 1     | 1-1/8 | PUT 005       |
| 1J155-12-12       | + | 1-3/16-12   | 3/4        | 3/4       | 3.86 | 98  | 2.13            | 54 | 3.78 | 96  | 1-1/8 | 1-3/8 | PUT 005       |
| 1J155-16-16       | + | 1-7/16-12   | 1          | 1         | 4.42 | 112 | 2.38            | 60 | 4.50 | 114 | 1-3/8 | 1-5/8 | PUT 007       |

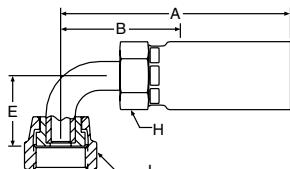
\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

(+) Non Standard. See page ii for information on non-standard products.

**1J755 Seal-Lok™ 45° Elbow****55 Series Permanent (SAE Drop Dimensions)**

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |             |           |           |      |     |                 |    |      |    |       |       |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm | inch  | inch  |               |
| 1J757-4-2**       | + | 9/16-18     | 1/4       | 1/8       | 2.46 | 63  | 1-3/8           | 35 | 0.41 | 10 | 1/2   | 11/16 | -             |
| 1J755-4-4         | + | 9/16-18     | 1/4       | 1/4       | 2.66 | 68  | 1.50            | 38 | 0.41 | 10 | 5/8   | 11/16 | PUT 002       |
| 1J755-6-4         | + | 11/16-16    | 3/8       | 1/4       | 2.74 | 70  | 1.63            | 41 | 0.43 | 11 | 5/8   | 13/16 | PUT 003       |
| 1J755-6-6         | + | 11/16-16    | 3/8       | 3/8       | 2.98 | 76  | 1.69            | 43 | 0.43 | 11 | 3/4   | 13/16 | PUT 003       |
| 1J755-8-6         | + | 13/16-16    | 1/2       | 3/8       | 3.23 | 82  | 1.88            | 48 | 0.59 | 15 | 3/4   | 15/16 | PUT 004       |
| 1J755-8-8         | + | 13/16-16    | 1/2       | 1/2       | 3.43 | 87  | 1.94            | 49 | 0.59 | 15 | 7/8   | 15/16 | PUT 004       |
| 1J755-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.67 | 93  | 2.00            | 51 | 0.81 | 21 | 1-1/8 | 1-3/8 | PUT 005       |
| 1J755-16-16       | + | 1-7/16-12   | 1         | 1         | 5.10 | 130 | 2.88            | 73 | 0.94 | 24 | 1-3/8 | 1-5/8 | PUT 007       |

\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

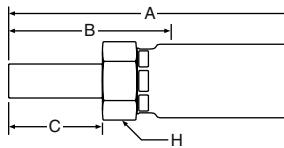
**1J955 Seal-Lok™ 90° Elbow****55 Series Permanent (SAE Drop Dimensions)**

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |             |           |           |      |     |                 |    |      |    |       |       |               |
| Hose Fitting      |   |             | inch      | inch      | inch |     | inch            | mm | inch | mm | inch  | inch  |               |
| 1J957-4-2**       | + | 9/16-18     | 1/4       | 1/8       | 1.82 | 46  | 1-1/8           | 29 | 0.82 | 21 | RND   | 2.02  | -             |
| 1J955-4-4         | + | 9/16-18     | 1/4       | 1/4       | 2.49 | 63  | 1.38            | 35 | 0.82 | 21 | 5/8   | 11/16 | PUT 002       |
| 1J955-6-4         | + | 11/16-16    | 3/8       | 1/4       | 2.59 | 66  | 1.44            | 37 | 0.90 | 23 | 5/8   | 13/16 | PUT 003       |
| 1J955-6-5         | + | 11/16-16    | 3/8       | 5/16      | 2.66 | 68  | 1.50            | 38 | 0.90 | 23 | 5/8   | 13/16 | PUT 003       |
| 1J955-6-6         | + | 11/16-16    | 3/8       | 3/8       | 2.85 | 72  | 1.56            | 40 | 0.90 | 23 | 3/4   | 13/16 | PUT 003       |
| 1J955-8-8         | + | 13/16-16    | 1/2       | 1/2       | 3.15 | 80  | 1.63            | 41 | 1.15 | 30 | 7/8   | 15/16 | PUT 004       |
| 1J955-10-10       | + | 1-14        | 5/8       | 5/8       | 3.26 | 83  | 1.63            | 41 | 1.27 | 32 | 1     | 1-1/4 | PUT 006       |
| 1J955-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.82 | 89  | 2.13            | 54 | 1.85 | 47 | 1-3/8 | 1-3/8 | PUT 005       |
| 1J955-16-16       | + | 1-7/16-12   | 1         | 1         | 5.03 | 128 | 2.94            | 75 | 2.21 | 56 | 1-3/8 | 1-5/8 | PUT 007       |

\*\*Note: 57 Series should be used for the following hoses: 55LT-2, 53LT-2, 510C-2, 518C-2, 540N-2, 549-2.

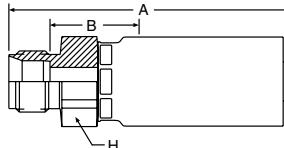
(+) Non Standard. See page ii for information on non-standard products.

## 1TU55 Universal Tube Stub End

**55 Series Permanent**

| Steel Part Number | C | Tube O. D. | Hose I.D. | A    |     | Cutoff Allow. B |    | C    |    | H Hex | Pusher Number |
|-------------------|---|------------|-----------|------|-----|-----------------|----|------|----|-------|---------------|
| #                 |   |            |           |      |     |                 |    |      |    |       |               |
| Hose Fitting      |   | inch       | inch      | inch | mm  | inch            | mm | inch | mm | inch  |               |
| 1TU55-4-4         | + | 1/4        | 1/4       | 2.60 | 66  | 1.50            | 38 | 0.72 | 18 | 5/8   | PUT 001       |
| 1TU55-5-5         |   | 5/16       | 5/16      | 2.69 | 68  | 1.50            | 38 | 0.75 | 19 | 11/16 | PUT 002       |
| 1TU55-6-6         |   | 3/8        | 3/8       | 2.91 | 74  | 1.50            | 38 | 0.78 | 20 | 3/4   | PUT 003       |
| 1TU55-8-8         |   | 1/2        | 1/2       | 3.35 | 85  | 1.81            | 46 | 1.03 | 26 | 7/8   | PUT 004       |
| 1TU55-10-10       |   | 5/8        | 5/8       | 3.45 | 88  | 1.81            | 46 | 1.03 | 26 | 1     | PUT 004       |
| 1TU55-12-12       |   | 3/4        | 3/4       | 3.66 | 93  | 1.94            | 49 | 1.03 | 26 | 1-1/8 | PUT 005       |
| 1TU55-16-16       |   | 1          | 1         | 4.41 | 112 | 2.19            | 56 | 1.29 | 33 | 1-3/8 | PUT 007       |

## 1AL55N A-LOK®/CPI Compression (Without Nut and Ferrule)

**55 Series Permanent**

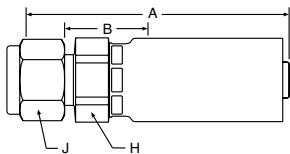
| Steel Part Number | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|-------------|------------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   |             |            |           |      |    |                 |    |       |               |
| Hose Fitting      |   |             | inch       | inch      | inch | mm | inch            | mm | inch  |               |
| 1AL55-4-4N (+)    | + | 7/16-20     | 1/4        | 1/4       | 2.16 | 55 | 0.69            | 17 | 9/16  | PUM 002       |
| 1AL55-6-6N (+)    |   | 9/16-20     | 3/8        | 3/8       | 2.56 | 65 | 0.81            | 21 | 3/4   | PUM 005       |
| 1AL55-8-8N (+)    |   | 3/4-20      | 1/2        | 1/2       | 2.81 | 71 | 0.75            | 19 | 7/8   | PUM 009       |

\*316 Stainless nipple and shell.

Contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

[+] Non Standard. See page ii for information on non-standard products.

## 1AL55 A-LOK® Compression (With Nut and Ferrule)



### 55 Series Permanent

| Steel Part Number | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|------------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   | ~~~~~       |            |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |             | inch       | inch      | inch |    | inch            | mm | inch  | inch  |               |
| 1AL55-4-4 (+)     |   | 7/16-20     | 1/4        | 1/4       | 2.16 | 55 | 0.69            | 17 | 5/8   | 9/16  | PUM 002       |
| 1AL55-6-6 (+)     |   | 9/16-20     | 3/8        | 3/8       | 2.56 | 65 | 0.81            | 21 | 3/4   | 11/16 | PUM 005       |
| 1AL55-8-8 (+)     |   | 3/4-20      | 1/2        | 1/2       | 2.81 | 71 | 0.75            | 19 | 15/16 | 7/8   | PUM 009       |

\*316 Stainless nipple and shell.

Note: Nut part No. is **XNUX** or **XNUX-316** for stainless steel.

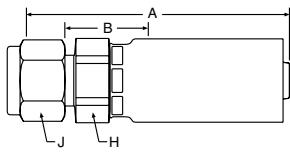
Front ferrule part No. is **XFFX** or **XFFX-316** for stainless steel.

Back ferrule part No. is **XBFX** or **XBFX-316** for stainless steel.

X denotes dash size.

Please reference Instrument Tubing Selection Guide, Bulletin 4200-TS, or contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

## 1P655 CPI Compression (With Nut and Ferrule)



### 55 Series Permanent

| Steel Part Number | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|------------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   | ~~~~~       |            |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |             | inch       | inch      | inch |    | inch            | mm | inch  | inch  |               |
| 1P655-4-4 (+)     |   | 7/16-20     | 1/4        | 1/4       | 2.16 | 55 | 0.69            | 17 | 5/8   | 9/16  | PUM 002       |
| 1P655-6-6 (+)     |   | 9/16-20     | 3/8        | 3/8       | 2.56 | 65 | 0.81            | 21 | 3/4   | 11/16 | PUM 005       |
| 1P655-8-8 (+)     |   | 3/4-20      | 1/2        | 1/2       | 2.81 | 71 | 0.75            | 19 | 15/16 | 7/8   | PUM 009       |

\*316 Stainless nipple and shell.

Note: Nut part No. is **XBZ** or **XBZ-SS** for stainless steel.

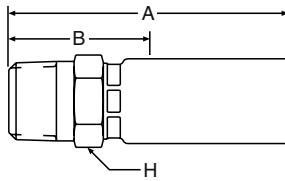
Ferrule part No. is **XTZ** or **XTZ-SS** for stainless steel.

X denotes dash size.

Please reference Instrument Tubing Selection Guide, Bulletin 4200-TS, or contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

(+) Non Standard. See page ii for information on non-standard products.

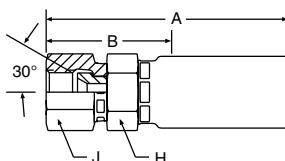
## 1UT55 Male (JIS)/BSPT



### 55 Series Permanent

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|-----|-----------------|----|-------|---------------|
| #                 |   | ~~~~~           | O         |      |     |                 |    | ○     |               |
| Hose Fitting      |   |                 | inch      | inch | mm  | inch            | mm | mm    | mm            |
| 1UT55-4-3 (+)     | + | PT 1/4-19       | 3/16      | 2.20 | 56  | 1.26            | 32 | 19    | PUM 005       |
| 1UT55-4-4         | + | PT 1/4-19       | 1/4       | 2.36 | 60  | 1.26            | 32 | 19    | PUM 005       |
| 1UT55-6-6         | + | PT 3/8-19       | 3/8       | 2.68 | 68  | 1.26            | 32 | 22    | PUM 008       |
| 1UT55-8-8         | + | PT 1/2-14       | 1/2       | 3.03 | 77  | 1.50            | 38 | 27    | PUM 506       |
| 1UT55-12-12       | + | PT 3/4-14       | 3/4       | 3.35 | 85  | 1.57            | 40 | 36    | PUM 510       |
| 1UT55-16-16       | + | PT 1-11         | 1         | 4.06 | 103 | 1.81            | 46 | 41    | PUM 020       |

## 1FU55 (JIS)/BSP 30° Flare Female Swivel

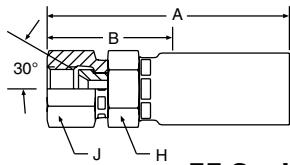


### 55 Series Permanent

| Steel Part Number | B | C | BSP Thread Size | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-----------------|-----------|------|-----|-----------------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~           | O         |      |     |                 |    | ○     | ○     |               |
| Hose Fitting      | + | + |                 | inch      | inch | mm  | inch            | mm | mm    | mm    |               |
| 1FU55-4-4         | + | + | PF 1/4-19       | 1/4       | 2.32 | 59  | 1.26            | 32 | 19    | 19    | PUF 002       |
| 1FU55-6-6         | + | + | PF 3/8-19       | 3/8       | 2.68 | 68  | 1.30            | 33 | 19    | 22    | PUF 004       |
| 1FU55-8-8         | + | + | PF 1/2-14       | 1/2       | 3.19 | 81  | 1.61            | 41 | 27    | 27    | PUF 006       |
| 1FU55-12-12       | + | + | PF 3/4-14       | 3/4       | 3.54 | 90  | 1.73            | 44 | 27    | 36    | PUF 009       |
| 1FU55-16-16       | + | + | PF 1-11         | 1         | 4.09 | 104 | 1.89            | 48 | 41    | 41    | PUF 030       |

(+) Non Standard. See page ii for information on non-standard products.

## 1MU55 (JIS) Metric 30° Flare Female Swivel



55 Series Permanent

| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|------|-----|-----------------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       | O         |      |     |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch | mm  | inch            | mm | mm    | mm    |               |
| 1MU55-4-4 (+)     | + | + | M14 x 1,5   | 1/4       | 2.32 | 59  | 1.26            | 32 | 19    | 19    | PUF 002       |
| 1MU55-6-6 (+)     | + | + | M18 x 1,5   | 3/8       | 2.60 | 66  | 1.30            | 33 | 19    | 22    | PUF 004       |
| 1MU55-8-8 (+)     | + | + | M22 x 1,5   | 1/2       | 3.15 | 80  | 1.61            | 41 | 27    | 27    | PUF 032       |
| 1MU55-8-10 (+)    | + | + | M22 x 1,5   | 5/8       | 3.27 | 83  | 1.61            | 41 | 27    | 27    | PUF 006       |
| 1MU55-12-12 (+)   | + | + | M27 x 1,5   | 3/4       | 3.50 | 89  | 1.73            | 44 | 27    | 36    | PUF 009       |
| 1MU55-16-16 (+)   | + | + | M33 x 1,5   | 1         | 4.06 | 103 | 1.89            | 48 | 41    | 41    | PUF 030       |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

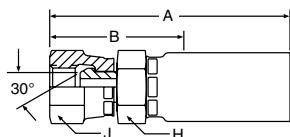
Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

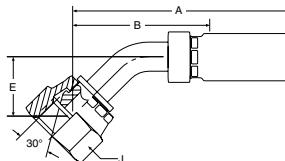
## 1GU55 (JIS)/BSP 60° Cone Female Swivel



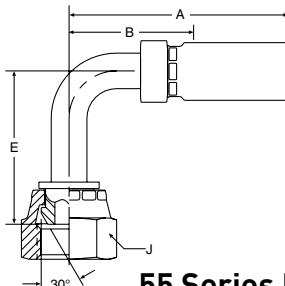
55 Series Permanent

| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|------|-----|-----------------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       | O         |      |     |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch | mm  | inch            | mm | mm    | mm    |               |
| 1GU55-4-4         | + | + | PF 1/4-19   | 1/4       | 2.32 | 59  | 1.26            | 32 | 19    | 19    | PUF 002       |
| 1GU55-6-6         | + | + | PF 3/8-19   | 3/8       | 2.68 | 68  | 1.30            | 33 | 19    | 22    | PUF 004       |
| 1GU55-8-8         | + | + | PF 1/2-14   | 1/2       | 3.24 | 82  | 1.68            | 43 | 27    | 27    | PUF 006       |
| 1GU55-8-10 (+)    | + | + | PF 1/2-14   | 5/8       | 3.34 | 82  | 1.68            | 43 | 27    | 27    | PUF 006       |
| 1GU55-12-12 (+)   | + | + | PF 3/4-14   | 3/4       | 3.54 | 90  | 1.73            | 44 | 27    | 36    | PUF 009       |
| 1GU55-16-16 (+)   | + | + | PF 1-11     | 1         | 4.32 | 110 | 2.06            | 52 | 41    | 41    | PUF 030       |

(+) Non Standard. See page ii for information on non-standard products.

**1G155 (JIS)/BSP 60° Cone Female Swivel 45° Elbow****55 Series Permanent**

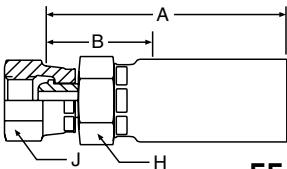
| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | E    |      | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|------|------|-----------------|------|------|------|-------|---------------|
| #                 |   |   | ~~~~~       | O         |      |      |                 |      |      |      | HEX   |               |
| Hose Fitting      |   |   |             |           | inch | inch | mm              | inch | mm   | inch | mm    | mm            |
| 1G155-4-3 (+)     | + | + | PF 1/4-19   | 3/16      | 2.83 | 72   | 1.93            | 49   | 0.79 | 20   | 19    | PUT 001       |
| 1G155-4-4         | + | + | PF 1/4-19   | 1/4       | 2.99 | 76   | 1.93            | 49   | 0.79 | 20   | 19    | PUT 002       |
| 1G155-6-6         | + | + | PF 3/8-19   | 3/8       | 3.39 | 86   | 1.89            | 48   | 0.83 | 21   | 22    | PUT 003       |
| 1G155-8-8 (+)     | + | + | PF 1/2-14   | 1/2       | 3.74 | 95   | 2.05            | 52   | 0.98 | 25   | 27    | PUT 0004      |

**1G255 (JIS)/BSP 60° Cone Female Swivel 90° Elbow****55 Series Permanent**

| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | E    |      | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|------|------|-----------------|------|------|------|-------|---------------|
| #                 |   |   | ~~~~~       | O         |      |      |                 |      |      |      | HEX   |               |
| Hose Fitting      |   |   |             |           | inch | inch | mm              | inch | mm   | inch | mm    | mm            |
| 1G255-4-3 (+)     | + | + | PF 1/4-19   | 3/16      | 2.28 | 58   | 1.34            | 34   | 0.94 | 24   | 19    | PUT 001       |
| 1G255-4-4         | + | + | PF 1/4-19   | 1/4       | 2.44 | 62   | 1.34            | 34   | 0.94 | 24   | 19    | PUT 002       |
| 1G255-6-6         | + | + | PF 3/8-19   | 3/8       | 3.07 | 78   | 1.69            | 43   | 1.50 | 38   | 22    | PUT 003       |
| 1G255-8-8         | + | + | PF 1/2-14   | 1/2       | 3.31 | 84   | 1.77            | 45   | 1.81 | 46   | 27    | PUT 0004      |

[+] Non Standard. See page ii for information on non-standard products.

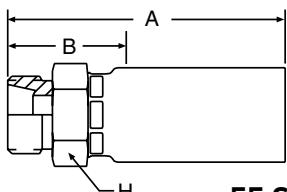
# 1C655 Metric Swivel DIN 20078 Heavy Series (Without O-Ring) 1C955 (With O-Ring)



55 Series Permanent

| Steel Part Number | C | Thread Size | Hose I.D. | A       | Cutoff Allow. B | H Hex | J Hex   | Pusher Number |
|-------------------|---|-------------|-----------|---------|-----------------|-------|---------|---------------|
| #                 |   |             |           |         |                 |       |         |               |
| Hose Fitting      |   |             | inch      | inch mm | inch mm mm      |       |         |               |
| 1C655-8-3         | + | M16 x 1,5   | 3/16      | 2.09 53 | 1.06 27 19      | 22    | PUM 503 |               |
| 1C655-10-4        | + | M18 x 1,5   | 1/4       | 2.28 58 | 1.10 28 22      | 24    | PUM 504 |               |
| 1C655-12-5        | + | M20 x 1,5   | 5/16      | 2.44 62 | 1.18 30 24      | 24    | PUM 505 |               |
| 1C655-14-6        | + | M22 x 1,5   | 3/8       | 2.72 69 | 1.26 32 27      | 27    | PUM 507 |               |
| 1C655-16-8        | + | M24 x 1,5   | 1/2       | 2.87 73 | 1.26 32 27      | 30    | PUM 507 |               |
| 1C655-20-12       | + | M30 x 2     | 3/4       | 3.19 81 | 1.30 33 36      | 36    | PUM 510 |               |
| 1C655-25-12       | + | M36 x 2     | 3/4       | 3.27 83 | 1.38 35 41      | 42    | PUM 511 |               |
| 1C655-30-16       | + | M42 x 2     | 1         | 3.90 99 | 1.38 35 46      | 46    | PUM 512 |               |

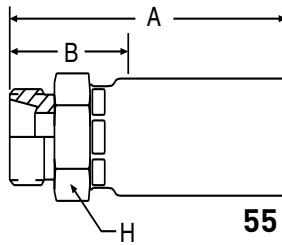
# 1D055 Male Stud DIN 20078 Light Series



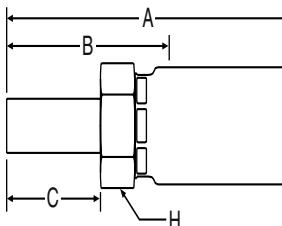
55 Series Permanent

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A       | Cutoff Allow. B | H Hex   | Pusher Number |
|-------------------|---|-------------|-----------|-----------|---------|-----------------|---------|---------------|
| #                 |   |             |           |           |         |                 |         |               |
| Hose Fitting      |   |             |           | inch      | inch mm | inch mm mm      |         |               |
| 1D055-6-3 (+)     | + | M12 x 1,5   | 6         | 3/16      | 2.01 51 | 0.98 25 17      | PUM 502 |               |
| 1D055-8-4 (+)     | + | M14 x 1,5   | 8         | 1/4       | 2.17 55 | 0.98 25 19      | PUM 503 |               |
| 1D055-10-5        | + | M16 x 1,5   | 10        | 5/16      | 2.28 58 | 1.02 26 19      | PUM 503 |               |
| 1D055-12-5        | + | M18 x 1,5   | 12        | 3/8       | 2.32 59 | 1.06 27 22      | PUM 504 |               |
| 1D055-10-6        | + | M16 x 1,5   | 10        | 3/8       | 2.52 64 | 1.02 26 22      | PUM 503 |               |
| 1D055-12-6        | + | M18 x 1,5   | 12        | 3/8       | 2.52 64 | 1.06 27 22      | PUM 504 |               |
| 1D055-15-8        | + | M22 x 1,5   | 15        | 1/2       | 2.80 71 | 1.18 30 27      | PUM 507 |               |
| 1D055-18-12       | + | M26 x 1,5   | 18        | 3/4       | 3.03 77 | 1.18 30 32      | PUM 509 |               |
| 1D055-22-12       | + | M30 x 2     | 22        | 3/4       | 3.11 79 | 1.22 31 26      | PUM 510 |               |
| 1D055-28-16       | + | M36 x 2     | 28        | 1         | 3.54 90 | 1.22 31 41      | PUM 511 |               |

(+) Non Standard. See page ii for information on non-standard products.

**1D255 Male Stud DIN 20078 Heavy Series****55 Series Permanent**

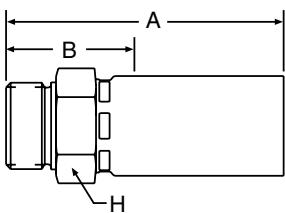
| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   | ~~~~~       |           |           |      |    |                 |    |       |               |
| Hose Fitting      |   |             |           | inch      | inch | mm | inch            | mm |       |               |
| 1D255-8-3         | + | M16 x 1,5   | 8         | 3/16      | 2.09 | 53 | 1.06            | 27 | 19    | PUM 503       |
| 1D255-10-4        | + | M18 x 1,5   | 10        | 1/4       | 2.28 | 58 | 1.10            | 28 | 22    | PUM 504       |
| 1D255-12-5        | + | M20 x 1,5   | 12        | 5/16      | 2.44 | 62 | 1.18            | 30 | 24    | PUM 505       |
| 1D255-12-6        | + | M20 x 1,5   | 12        | 3/8       | 2.64 | 67 | 1.18            | 30 | 24    | PUM 505       |
| 1D255-14-6        | + | M22 x 1,5   | 14        | 3/8       | 2.72 | 69 | 1.26            | 32 | 27    | PUM 507       |
| 1D255-14-8        | + | M22 x 1,5   | 14        | 1/2       | 2.87 | 73 | 1.26            | 32 | 27    | PUM 507       |
| 1D255-16-8        | + | M24 x 1,5   | 16        | 1/2       | 2.87 | 73 | 1.26            | 32 | 27    | PUM 507       |
| 1D255-20-12       | + | M30 x 2     | 20        | 3/4       | 3.19 | 81 | 1.30            | 33 | 36    | PUM 510       |
| 1D255-25-12       | + | M36 x 2     | 25        | 3/4       | 3.27 | 83 | 1.38            | 35 | 41    | PUM 511       |
| 1D255-30-16       | + | M42 x 2     | 30        | 1         | 3.90 | 99 | 1.38            | 35 | 46    | PUM 512       |

**11D55 Metric Standpipe Light Series****55 Series Permanent**

| Steel Part Number | C | O.D. | I.D. | A    |     | Cutoff Allow. B |    | C    |    | H Hex | Pusher Number |
|-------------------|---|------|------|------|-----|-----------------|----|------|----|-------|---------------|
| #                 |   |      |      |      |     |                 |    |      |    |       |               |
| Hose Fitting      |   |      | inch | inch | mm  | inch            | mm | inch | mm |       |               |
| 11D55-6-3         | + | 6    | 3/16 | 2.28 | 58  | 1.26            | 32 | 0.79 | 20 | 14    | PUM 501       |
| 11D55-8-4         | + | 8    | 1/4  | 2.60 | 66  | 1.42            | 36 | 0.87 | 22 | 17    | PUM 502       |
| 11D55-10-5        | + | 10   | 5/16 | 2.76 | 70  | 1.46            | 37 | 0.91 | 23 | 17    | PUM 502       |
| 11D55-10-6        | + | 10   | 3/8  | 2.95 | 75  | 1.46            | 37 | 0.91 | 23 | 19    | PUM 502       |
| 11D55-12-6        | + | 12   | 3/8  | 2.95 | 75  | 1.50            | 38 | 0.91 | 23 | 19    | PUM 503       |
| 11D55-15-8        | + | 15   | 1/2  | 3.23 | 82  | 1.61            | 41 | 0.98 | 25 | 22    | PUM 504       |
| 11D55-18-12       | + | 18   | 3/4  | 3.23 | 82  | 1.54            | 39 | 0.98 | 25 | 30    | PUM 508       |
| 11D55-22-12       | + | 22   | 3/4  | 3.66 | 93  | 1.77            | 45 | 1.10 | 28 | 30    | PUM 508       |
| 11D55-28-16       | + | 28   | 1    | 4.17 | 106 | 1.85            | 47 | 1.18 | 30 | 41    | PUM 511       |

[+] Non Standard. See page ii for information on non-standard products.

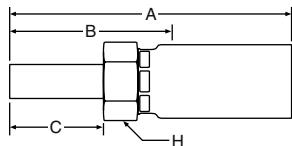
## 1D955 Male BSPP



### 55 Series Permanent

| Steel Part Number | C | Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | Pusher Number |
|-------------------|---|-------------|-----------|------|------|-----------------|------|-------|---------------|
| #                 |   | ~~~~~       | O         |      |      |                 |      |       |               |
| Hose Fitting      |   |             |           | inch | inch | mm              | inch | mm    | mm            |
| 1D955-4-4         | + | PT 1/4-19   | 1/4       | 2.24 | 57   | 1.02            | 26   | 19    | PUM 503       |
| 1D955-6-5         | + | PF 3/8-19   | 5/16      | 2.36 | 60   | 1.06            | 27   | 22    | PUM 504       |
| 1D955-6-6         | + | PT 3/8-19   | 3/8       | 2.52 | 64   | 1.06            | 27   | 22    | PUM 504       |
| 1D955-8-8         | + | PT 1/2-14   | 1/2       | 2.87 | 73   | 1.22            | 31   | 27    | PUM 506       |
| 1D955-12-12       | + | PT 3/4-14   | 3/4       | 3.19 | 81   | 1.34            | 34   | 36    | PUM 509       |
| 1D955-16-16 (+)   | + | PT 1-11     | 1         | 3.74 | 95   | 1.38            | 35   | 41    | PUM 511       |

## 13D55 Metric Standpipe Heavy Series

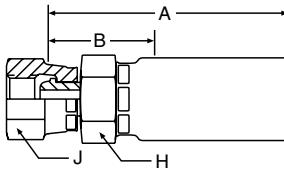


### 55 Series Permanent

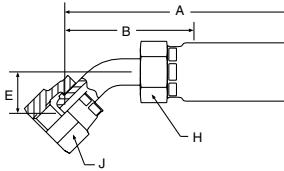
| Steel Part Number | C | Tube O.D. | Hose I.D. | A    |      | Cutoff Allow. B |      | C    | H Hex | Pusher Number |
|-------------------|---|-----------|-----------|------|------|-----------------|------|------|-------|---------------|
| #                 |   | O         | O         |      |      |                 |      |      |       |               |
| Hose Fitting      |   |           |           | inch | inch | mm              | inch | mm   | mm    | mm            |
| 13D55-8-3         | + | 8         | 3/16      | 2.40 | 61   | 1.38            | 35   | 0.94 | 24    | 14            |
| 11D55-10-4        | + | 10        | 1/4       | 2.72 | 69   | 1.54            | 39   | 0.94 | 24    | 17            |
| 13D55-12-5        | + | 12        | 5/16      | 2.91 | 74   | 1.61            | 41   | 1.02 | 26    | 17            |
| 13D55-12-6        | + | 12        | 3/8       | 3.07 | 78   | 1.57            | 40   | 1.02 | 26    | 19            |
| 13D55-14-6        | + | 14        | 3/8       | 3.19 | 81   | 1.73            | 44   | 1.02 | 26    | 19            |
| 13D55-16-8        | + | 16        | 1/2       | 3.43 | 87   | 1.81            | 46   | 1.18 | 30    | 22            |
| 13D55-20-12       | + | 20        | 3/4       | 3.58 | 91   | 1.69            | 43   | 1.57 | 40    | 30            |
| 13D55-25-12       | + | 25        | 3/4       | 3.58 | 91   | 1.69            | 43   | 1.57 | 40    | 30            |
| 13D55-30-16       | + | 30        | 1         | 4.02 | 102  | 2.05            | 52   | 1.73 | 44    | 41            |
| (+)               |   |           |           |      |      |                 |      |      |       |               |

(+) Non Standard. See page ii for information on non-standard products.



**19255 BSP Swivel Female, Ballnose****55 Series Permanent**

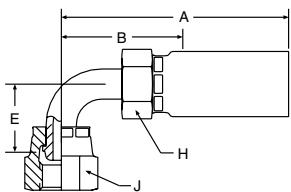
| Steel Part Number | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   |             |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |             | inch      | inch | mm | inch            | mm | mm    | mm    |               |
| 19255-4-3         | + | PF 1/4-19   | 3/16      | 1.73 | 44 | 1.10            | 28 | 17    | 19    | PUF 013       |
| 19255-4-4         | + | PF 1/4-19   | 1/4       | 2.24 | 57 | 1.02            | 26 | 17    | 19    | PUF 013       |
| 19255-6-5         | + | PF 3/8-19   | 5/16      | 2.36 | 60 | 1.06            | 27 | 19    | 22    | PUF 305       |
| 19255-6-6         | + | PF 3/8-19   | 3/8       | 2.56 | 65 | 1.06            | 27 | 19    | 22    | PUF 306       |
| 19255-8-8         | + | PF 1/2-14   | 1/2       | 2.91 | 74 | 1.22            | 31 | 24    | 27    | PUF 308       |
| 19255-10-8        | + | PF 5/8-14   | 1/2       | 3.27 | 83 | 1.34            | 34 | 27    | 30    | PUF 008       |
| 19255-12-12       | + | PF 3/4-14   | 3/4       | 3.27 | 83 | 1.38            | 35 | 32    | 32    | PUF 008       |
| 19255-12-16       | + | PF 1-11     | 1         | 3.86 | 98 | 1.54            | 39 | 36    | 41    | PUF 508       |

**1B155 BSP Female Swivel 45° Elbow, Ballnose****55 Series Permanent**

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |      | Cutoff Allow. B |      | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|------|-----------------|------|------|----|-------|-------|---------------|
| #                 |   |             |           |           |      |      |                 |      |      |    |       |       |               |
| Hose Fitting      |   |             | inch      | inch      | mm   | inch | mm              | inch | mm   | mm | mm    | mm    |               |
| 1B155-4-4         | + | PF 1/4-19   | 1/4       | 1/4       | 2.76 | 70   | 1.54            | 39   | 0.55 | 14 | 17    | 19    | PUT 002       |
| 1B155-6-5         | + | PF 3/8-19   | 3/8       | 5/16      | 2.91 | 74   | 1.61            | 41   | 0.55 | 16 | 17    | 22    | PUT 002       |
| 1B155-6-6         | + | PF 3/8-19   | 3/8       | 3/8       | 3.11 | 79   | 1.61            | 41   | 0.63 | 16 | 19    | 22    | PUT 003       |
| 1B155-8-8         | + | PF 1/2-14   | 1/2       | 1/2       | 3.54 | 90   | 1.85            | 47   | 0.63 | 17 | 22    | 27    | PUT 008       |
| 1B155-10-8        | + | PF 5/8-14   | 1/2       | 1/2       | 3.58 | 91   | 1.89            | 48   | 0.67 | 17 | 22    | 30    | PUT 008       |
| 1B155-12-12       | + | PF 3/4-14   | 3/4       | 3/4       | 4.09 | 104  | 2.20            | 56   | 0.67 | 22 | 30    | 32    | PUT 005       |
| 1B155-16-16 (+)   | + | PF 1-11     | 1         | 1         | 4.80 | 122  | 2.48            | 63   | 0.87 | 25 | 38    | 41    | PUT 007       |

[+] Non Standard. See page ii for information on non-standard products.

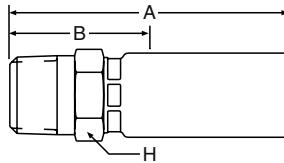
# 1B255 BSP Female Swivel 90° Elbow, Ballnose



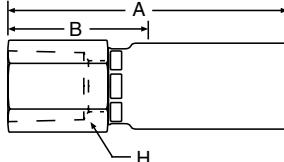
## 55 Series Permanent

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   | ~~~~~       | ○○        | ○○        |      |     |                 |    |      |    | ○○    | ○○    |               |
| Hose Fitting      |   |             |           | inch      | inch | mm  | inch            | mm | inch | mm | mm    | mm    |               |
| 1B255-4-4         | + | PF 1/4-19   | 1/4       | 1/4       | 2.48 | 63  | 1.26            | 32 | 1.14 | 29 | 17    | 19    | PUT 002       |
| 1B255-6-5         | + | PF 3/8-19   | 3/8       | 5/16      | 2.72 | 69  | 1.42            | 35 | 1.34 | 34 | 17    | 22    | PUT 002       |
| 1B255-6-6         | + | PF 3/8-19   | 3/8       | 3/8       | 2.95 | 75  | 1.46            | 37 | 1.50 | 38 | 19    | 22    | PUT 003       |
| 1B255-8-8         | + | PF 1/2-14   | 1/2       | 1/2       | 3.27 | 83  | 1.57            | 40 | 1.57 | 40 | 22    | 27    | PUT 008       |
| 1B255-10-8        | + | PF 5/8-14   | 1/2       | 1/2       | 3.27 | 83  | 1.57            | 40 | 1.54 | 39 | 22    | 30    | PUT 005       |
| 1B255-12-12       | + | PF 3/4-14   | 3/4       | 3/4       | 3.94 | 100 | 2.05            | 52 | 2.20 | 56 | 30    | 32    | PUT 005       |
| 1B255-16-16 (+)   | + | PF1-11      | 1         | 1         | 4.69 | 119 | 2.36            | 60 | 2.28 | 58 | 38    | 41    | PUT 007       |

(+) Non Standard. See page ii for information on non-standard products.

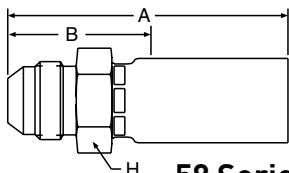
**10158/10158H Male Taper Pipe Rigid****58/58H Series Permanent**

| Steel Part Number | B | C | NPTF Pipe Thread | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|------------------|-----------|------|-----|-----------------|----|-------|---------------|
| #                 |   |   | ~~~~~            | (O)       |      |     |                 |    | (H)   |               |
| Hose Fitting      |   |   |                  | inch      | inch | mm  | inch            | mm | inch  |               |
| 10158-2-2         | + | + | 1/8-27           | 1/8       | 1.35 | 34  | 0.69            | 17 | 1/2   | PUM 001       |
| 10158-2-4         | + | + | 1/8-27           | 1/8       | 2.13 | 54  | 1               | 25 | 5/8   | PUM 001       |
| 10158-4-2         | + | + | 1/4-18           | 1/4       | 1.56 | 40  | 0.94            | 24 | 9/16  | Crimp Only    |
| 10158-4-4         | + |   | 1/4-18           | 1/4       | 2.31 | 59  | 1.19            | 30 | 11/16 | PUM 004       |
| 10158-4-5 (+)     | + | + | 1/4-18           | 5/16      | 2.37 | 60  | 1.19            | 30 | 11/16 | PUM 004       |
| 10158-4-6         | + | + | 1/4-18           | 3/8       | 2.66 | 68  | 1.31            | 33 | 3/4   | PUM 005       |
| 10158-6-4         | + | + | 3/8-18           | 1/4       | 2.41 | 61  | 1.31            | 33 | 3/4   | PUM 005       |
| 10158-6-5 (+)     | + | + | 3/8-18           | 5/16      | 2.47 | 63  | 1.31            | 33 | 3/4   | PUM 005       |
| 10158-6-6         | + |   | 3/8-18           | 3/8       | 2.66 | 68  | 1.31            | 33 | 3/4   | PUM 005       |
| 10158-6-8         | + | + | 3/8-18           | 1/4       | 2.85 | 72  | 1.31            | 33 | 7/8   | PUM 008       |
| 10158-8-6         | + | + | 1/2-14           | 3/8       | 2.91 | 74  | 1.56            | 40 | 15/16 | PUM 009       |
| 10158-8-8         | + | + | 1/2-14           | 1/2       | 3.09 | 78  | 1.56            | 40 | 15/16 | PUM 009       |
| 10158-8-10        | + | + | 1/2-14           | 5/8       | 3.20 | 81  | 1.50            | 38 | 1     | PUM 009       |
| 10158-12-10       | + | + | 3/4-14           | 5/8       | 3.20 | 81  | 1.56            | 40 | 1-1/8 | PUM 011       |
| 10158-12-12       | + | + | 3/4-14           | 3/4       | 3.28 | 83  | 1.56            | 40 | 1-1/8 | PUM 011       |
| 10158-16-16       | + | + | 1-11-1/2         | 1         | 3.96 | 101 | 1.75            | 44 | 1-3/8 | PUM 013       |
| 10158H-12-12      | + | + | 3/4-14           | 3/4       | 3.91 | 99  | 1.69            | 43 | 1-1/4 | Crimp Only    |
| 10158H-12-16      | + | + | 3/4-14           | 1         | 4.58 | 116 | 1.50            | 38 | 1-1/4 | Crimp Only    |
| 10158H-16-16      | + | + | 1-11-1/2         | 1         | 4.76 | 121 | 1.81            | 46 | 1-3/4 | Crimp Only    |

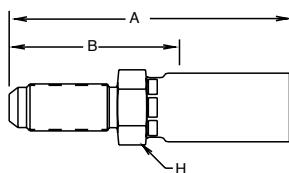
**10258 Female Taper Pipe Rigid****58 Series Permanent**

| Steel Part Number | B | C | NPTF Pipe Thread | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex  | Pusher Number |
|-------------------|---|---|------------------|-----------|------|----|-----------------|----|--------|---------------|
| #                 |   |   | ~~~~~            | (O)       |      |    |                 |    | (H)    |               |
| Hose Fitting      |   |   |                  | inch      | inch | mm | inch            | mm | inch   |               |
| 10258-4-2         | + | + | 1/4-18           | 1/8       | 1.85 | 47 | 1.19            | 30 | 11/16  | PUF 002       |
| 10258-4-4         | + | + | 1/4-18           | 1/4       | 2.37 | 60 | 1.25            | 32 | 3/4    | PUF 002       |
| 10258-6-4 (+)     | + | + | 3/8-18           | 1/4       | 2.58 | 66 | 1.50            | 38 | 7/8    | PUF 005       |
| 10258-6-6         | + | + | 3/8-18           | 3/8       | 2.77 | 70 | 1.50            | 38 | 7/8    | PUF 005       |
| 10258-8-6 (+)     | + | + | 1/2-14           | 3/8       | 2.68 | 68 | 1.38            | 35 | 1-1/16 | PUF 007       |
| 10258-8-8         | + | + | 1/2-14           | 1/2       | 2.87 | 73 | 1.38            | 35 | 1-1/16 | PUF 007       |

(+): Non Standard. See page ii for information on non-standard products.

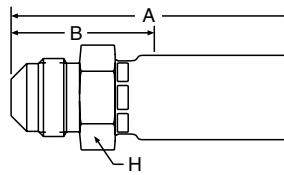
**10358 Male (JIC) 37°****58 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |     |                 |    |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch  |               |
| 10358-4-2         |   |   | 1/2-18      | 1/4       | 1/8       | 1.55 | 39  | 0.81            | 21 | 1/2   | PUM 001       |
| 10358-4-4         | + | + | 7/16-20     | 1/4       | 1/4       | 2.30 | 58  | 1.19            | 30 | 5/8   | PUM 002       |
| 10358-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.31 | 59  | 1.19            | 30 | 5/8   | PUM 002       |
| 10358-5-5 (+)     | + | + | 1/2-20      | 5/16      | 5/16      | 2.32 | 59  | 1.19            | 30 | 5/8   | PUM 002       |
| 10358-6-4 (+)     | + | + | 9/16-18     | 3/8       | 1/4       | 2.33 | 59  | 1.19            | 30 | 11/16 | PUM 004       |
| 10358-6-5 (+)     | + | + | 9/16-18     | 3/8       | 5/16      | 2.34 | 59  | 1.19            | 30 | 11/16 | PUM 004       |
| 10358-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.58 | 66  | 1.28            | 33 | 3/4   | PUM 005       |
| 10358-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 2.68 | 68  | 1.38            | 35 | 13/16 | PUM 007       |
| 10358-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 2.87 | 73  | 1.38            | 35 | 7/8   | PUM 008       |
| 10358-8-10        | + | + | 3/4-16      | 1/2       | 5/8       | 3.05 | 77  | 1.38            | 35 | 7/8   | PUM 008       |
| 10358-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 3.03 | 77  | 1.56            | 40 | 15/16 | PUM 009       |
| 10358-10-10       | + | + | 7/8-14      | 5/8       | 5/8       | 3.20 | 81  | 1.56            | 40 | 1     | PUM 014       |
| 10358-12-8 (+)    | + | + | 1-1/16-12   | 3/4       | 1/2       | 3.14 | 80  | 1.66            | 42 | 1-1/8 | PUM 011       |
| 10358-12-10       | + | + | 1-1/16-12   | 3/4       | 5/8       | 3.30 | 84  | 1.63            | 41 | 1-1/8 | PUM 011       |
| 10358-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 3.32 | 84  | 1.66            | 42 | 1-1/8 | PUM 011       |
| 10358-16-16       | + | + | 1-5/16-12   | 1         | 1         | 3.93 | 100 | 1.72            | 44 | 1-3/8 | PUM 013       |

**13E58 Male (JIC) 37° Long****58 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |     |                 |    |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch  |               |
| 13E58-10-10       | + | + | 7/8-14      | 5/8       | 5/8       | 4.03 | 102 | 1.25            | 57 | 1-1/8 | PUM 014L      |
| 13E58-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.29 | 109 | 1.44            | 62 | 1-3/8 | PUM 011L      |

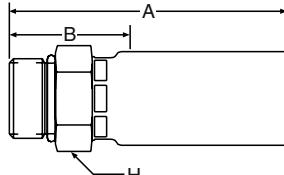
(+) Non Standard. See page ii for information on non-standard products.

**10458 Male SAE 45°****58 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |    |                 |    |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  |               |
| 10458-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.31 | 59 | 1.19            | 30 | 5/8   | PUM 002       |
| 10458-6-5 (+)     | + | + | 5/8-18      | 3/8       | 5/16      | 2.46 | 62 | 1.34            | 34 | 3/4   | PUM 005       |
| 10458-6-6         | + | + | 5/8-18      | 3/8       | 3/8       | 2.65 | 67 | 1.34            | 34 | 3/4   | PUM 005       |
| 10458-6-8 (+)     | + | + | 5/8-18      | 3/8       | 1/2       | 2.83 | 72 | 1.34            | 34 | 7/8   | PUM 005       |
| 10458-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 2.96 | 75 | 1.47            | 37 | 7/8   | PUM 008       |
| 10458-12-12       | + | + | 1-1/16-14   | 3/4       | 3/4       | 3.46 | 88 | 1.78            | 45 | 1-1/8 | PUM 011       |

**10558 Straight Thread O-Ring**

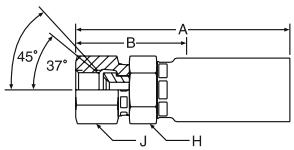
(Buna N O-Ring Included)

**58 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |    |                 |    |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  |               |
| 10558-4-4 (+)     | + | + | 7/16-20     | 1/4       | 1/4       | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10558-4-5 (+)     | + | + | 7/16-20     | 1/4       | 5/16      | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10558-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10558-5-5 (+)     | + | + | 1/2-20      | 5/16      | 5/16      | 2.11 | 54 | 1               | 25 | 5/8   | PUF 021       |
| 10558-6-4         | + | + | 9/16-18     | 3/8       | 1/4       | 2.14 | 54 | 1.06            | 27 | 11/16 | PUF 022       |
| 10558-6-6 (+)     | + | + | 9/16-18     | 3/8       | 3/8       | 2.42 | 61 | 1.19            | 30 | 3/4   | PUF 023       |
| 10558-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 2.46 | 62 | 1.19            | 30 | 7/8   | PUF 024       |
| 10558-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 2.65 | 67 | 1.19            | 30 | 7/8   | PUF 024       |
| 10558-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 2.77 | 70 | 1.31            | 33 | 1     | PUF 019       |
| 10558-12-10       | + | + | 1-1/16-12   | 3/4       | 5/8       | 2.95 | 75 | 1.19            | 30 | 1-1/4 | PUF 019       |

(+): Non Standard. See page ii for information on non-standard products.

# 10658/10658H SAE (JIC) 37° Swivel



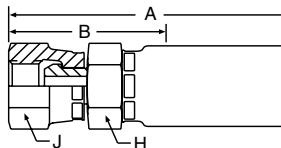
## 58/58H Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex  | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|-------|--------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |     |                 |    |       |        |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch  | inch   |               |
| 10658-2-2         | + | + | 5/16-24     | 1/8       | 1/8       | 1.66 | 42  | 1               | 25 | 1/2   | 1/2    | PUF 017       |
| 10658-3-2         | + |   | 3/8-24      | 3/16      | 1/8       | 1.66 | 42  | 1               | 25 | 1/2   | 9/16   | PUF 017       |
| 10658-4-2         | + | + | 7/16-20     | 1/4       | 1/8       | 1.66 | 42  | 1               | 25 | 1/2   | 5/8    | PUF 012       |
| 10658-4-4         | + |   | 7/16-20     | 1/4       | 1/4       | 2.50 | 64  | 1.38            | 35 | 5/8   | 5/8    | PUF 010       |
| 10658-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10658-6-4         | + | + | 9/16-18     | 3/8       | 1/4       | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10658-5-5         | + | + | 1/2-20      | 5/16      | 5/16      | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10658-6-5         | + | + | 9/16-18     | 3/8       | 5/16      | 2.50 | 64  | 1.38            | 35 | 5/8   | 3/4    | PUF 013       |
| 10658-6-6         | + |   | 9/16-18     | 3/8       | 3/8       | 2.78 | 71  | 1.50            | 38 | 3/4   | 3/4    | PUF 015       |
| 10658-8-6         | + |   | 3/4-16      | 1/2       | 3/8       | 2.78 | 71  | 1.44            | 37 | 3/4   | 15/16  | PUF 005       |
| 10658-6-8 (+)     | + | + | 9/16-18     | 3/8       | 1/2       | 2.96 | 75  | 1.44            | 37 | 7/8   | 3/4    | PUF 015       |
| 10658-8-8         | + |   | 3/4-16      | 1/2       | 1/2       | 3.12 | 79  | 1.63            | 41 | 15/16 | 15/16  | PUF 016       |
| 10658-8-10        | + | + | 3/4-16      | 1/2       | 5/8       | 3.30 | 84  | 1.63            | 41 | 1     | 15/16  | PUF 005       |
| 10658-10-8        | + |   | 7/8-14      | 5/8       | 1/2       | 3.12 | 79  | 1.63            | 41 | 15/16 | 1-1/16 | PUF 006       |
| 10658-10-10       | + | + | 7/8-14      | 5/8       | 5/8       | 3.28 | 83  | 1.50            | 38 | 1     | 1-1/16 | PUF 006       |
| 10658-10-12       | + | + | 7/8-14      | 5/8       | 3/4       | 3.36 | 85  | 1.69            | 43 | 1-1/8 | 1-1/16 | PUF 006       |
| 10658-12-8        | + |   | 1-1/16-12   | 3/4       | 1/2       | 3.21 | 82  | 1.75            | 44 | 1-1/4 | 1-1/4  | PUF 008       |
| 10658-12-10       | + |   | 1-1/16-12   | 3/4       | 5/8       | 3.40 | 86  | 1.75            | 44 | 1-1/8 | 1-1/4  | PUF 006       |
| 10658-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 3.40 | 86  | 1.75            | 44 | 1-1/8 | 1-1/4  | PUF 008       |
| 10658-16-12       | + |   | 1-5/16-12   | 1         | 3/4       | 3.55 | 90  | 1.81            | 46 | 1-3/8 | 1-1/2  | PUF 009       |
| 10658-16-16       | + | + | 1-5/16-12   | 1         | 1         | 4.02 | 102 | 1.75            | 44 | 1-3/8 | 1-1/2  | PUF 009       |
| 10658H-8-12       | + | + | 3/4-16      | 1/2       | 3/4       | 3.95 | 100 | 1.63            | 41 | 1-1/4 | 15/16  | Crimp Only    |
| 10658H-12-12      | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.14 | 105 | 1.81            | 46 | 1-1/4 | 1-5/16 | Crimp Only    |
| 10658H-16-16      | + |   | 1-5/16-12   | 1         | 1         | 4.89 | 124 | 1.94            | 49 | 1-3/4 | 1-5/8  | Crimp Only    |

\*316 stainless nipple, nut, shell

(+) Non Standard. See page ii for information on non-standard products.

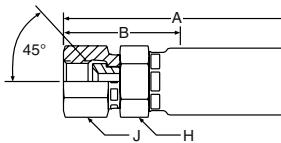
## 10758 Female Pipe Swivel



### 58 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----------------|-------|-------|---------------|
| #                 |   |   | ~~~~~       | (O)       | (O)       |      |                 | (H)   | (J)   |               |
| Hose Fitting      |   |   |             | inch      | inch      | mm   | inch            | mm    | inch  | inch          |
| 10758-4-2         | + | + | 1/2-18      | 1/4       | 1/8       | 1.66 | 42              | 1     | 25    | 1/2           |
| 10758-4-4         | + | + | 1/4-18      | 1/4       | 1/4       | 2.37 | 60              | 1.25  | 32    | 5/8           |
| 10758-4-5 (+)     | + | + | 1/4-18      | 1/4       | 5/16      | 2.50 | 64              | 1.38  | 35    | 3/4           |
| 10758-6-6         | + | + | 3/8-18      | 3/8       | 3/8       | 2.63 | 67              | 1.38  | 35    | 7/8           |
| 10758-8-8         | + | + | 1/2-14      | 1/2       | 1/2       | 2.97 | 75              | 1.50  | 38    | 1             |
| 10758-12-12       | + | + | 3/4-14      | 3/4       | 3/4       | 3.48 | 88              | 1.75  | 44    | 1-1/8         |
| 10758-16-16       | + | + | 1-11-1/2    | 1         | 1         | 4.00 | 102             | 1.81  | 46    | 1-3/8         |
|                   |   |   |             |           |           |      |                 |       |       | 1-1/2         |
|                   |   |   |             |           |           |      |                 |       |       | PUF 009       |

## 10858 SAE 45° Swivel

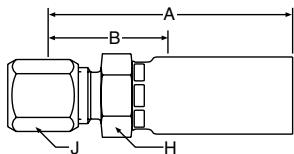


### 58 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----------------|-------|-------|---------------|
| #                 |   |   | ~~~~~       | (O)       | (O)       |      |                 | (H)   | (J)   |               |
| Hose Fitting      |   |   |             | inch      | inch      | mm   | inch            | mm    | inch  | inch          |
| 10858-6-4 (+)     | + | + | 5/8-18      | 3/8       | 1/4       | 2.50 | 64              | 1.38  | 35    | 5/8           |
| 10858-6-5 (+)     | + | + | 5/8-18      | 3/8       | 5/16      | 2.50 | 64              | 1.38  | 35    | 5/8           |
| 10858-6-6         | + | + | 5/8-18      | 3/8       | 3/8       | 2.78 | 71              | 1.50  | 38    | 3/4           |
| 10858-12-12       | + | + | 1-1/16-14   | 3/4       | 3/4       | 3.40 | 86              | 1.69  | 43    | 1-1/8         |
|                   |   |   |             |           |           |      |                 |       |       | 1-1/4         |
|                   |   |   |             |           |           |      |                 |       |       | PUF 008       |

(+) Non Standard. See page ii for information on non-standard products.

## 11158 Ferrul-Fix



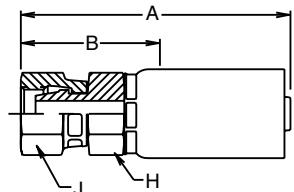
### 58 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   |   |             |           |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 11158-6-4 (+)     | + | + | 9/16-18     | 3/8       | 1/4       | 2.34 | 59 | 1.25            | 32 | 11/16 | 11/16 | PUF 015       |
| 11158-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.53 | 64 | 1.25            | 32 | 3/4   | 11/16 | PUF 015       |
| 11158-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 2.62 | 67 | 1.31            | 33 | 7/8   | 7/8   | PUF 016       |
| 11158-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 2.82 | 72 | 1.38            | 35 | 7/8   | 7/8   | PUF 016       |
| 11158-10-6        | + | + | 7/8-14      | 5/8       | 3/8       | 3.68 | 93 | 1.38            | 35 | 1     | 1     | PUF 017       |
| 11158-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 2.88 | 73 | 1.44            | 37 | 1     | 1     | PUF 017       |

NOTE: Nut Part Number is 111 - size

Sleeve Part Number is 110-size

## 11258 SAE Flareless Swivel

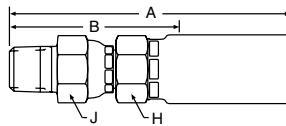


### 58 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|--------|---------------|
| #                 |   |   |             |           |           |      |    |                 |    |       |        |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  | inch   |               |
| 11258-6-4 (+)     | + | + | 9/16-18     | 3/8       | 1/4       | 2.57 | 65 | 1.44            | 37 | 11/16 | 3/4    | PUF 015       |
| 11258-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.76 | 70 | 1.44            | 37 | 3/4   | 3/4    | PUF 015       |
| 11258-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 2.86 | 72 | 1.56            | 40 | 7/8   | 15/16  | PUF 025       |
| 11258-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 3.05 | 77 | 1.06            | 27 | 7/8   | 15/16  | PUF 025       |
| 11258-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 3.16 | 80 | 1.69            | 43 | 1     | 1-1/16 | PUF 026       |
| 11258-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 3.48 | 88 | 1.75            | 44 | 1-1/4 | 1-1/4  | PUF 027       |

(+) Non Standard. See page ii for information on non-standard products.

## 11358/11358H Male Pipe Swivel\*



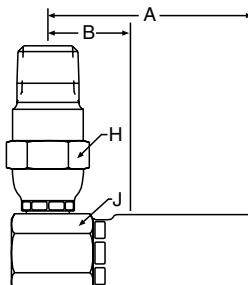
### 58/58H Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       | ○         | ○         |      |     |                 |    | ○     | ○     |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch  | inch  |               |
| 11358-4-4         | + | + | 1/4-18      | 1/4       | 1/4       | 2.84 | 72  | 1.69            | 43 | 5/8   | 11/16 | PUM 003       |
| 11358-4-5 (+)     | + | + | 1/4-18      | 1/4       | 5/16      | 2.84 | 72  | 1.69            | 43 | 5/8   | 11/16 | PUM 003       |
| 11358-6-6         | + | + | 3/8-18      | 3/8       | 3/8       | 3.12 | 79  | 1.81            | 46 | 3/4   | 3/4   | PUM 006       |
| 11358-8-6 (+)     | + | + | 1/2-14      | 1/2       | 3/8       | 3.37 | 86  | 2.06            | 52 | 3/4   | 15/16 | PUM 010       |
| 11358-8-8         | + | + | 1/2-14      | 1/2       | 1/2       | 3.56 | 90  | 2.06            | 52 | 7/8   | 15/16 | PUM 010       |
| 11358-12-12       | + | + | 3/4-14      | 3/4       | 3/4       | 3.81 | 97  | 2.13            | 54 | 1-1/8 | 1-1/8 | PUM 012       |
| 11358-16-16       | + | + | 1-11-1/2    | 1         | 1         | 5.06 | 129 | 2.81            | 71 | 1-1/2 | 1-1/2 | PUM 030       |
| 11358H-12-12      | + | + | 3/4-14      | 3/4       | 3/4       | 4.69 | 119 | 2.50            | 64 | 1-1/4 | 1-1/8 | Crimp Only    |
| 11358H-16-16      | + | + | 1-11-1/2    | 1         | 1         | 5.60 | 142 | 2.63            | 67 | 1-3/4 | 1-1/2 | Crimp Only    |

\*For use with petroleum based fluids with o-ring supplied.

**WARNING:** Fittings allow minor movement to relieve stress on hose but are not recommended for continued or extensive swiveling. Fittings not recommended for use in CNG applications.

## 11L58 Male Pipe Swivel 90° Elbow\*



### 58 Series Permanent

| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       | ○         |      |    |                 |    | ○     | ○     |               |
| Hose Fitting      |   |   |             | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 11L58-4-4 (+)     | + | + | 1/4-18      | 1/4       | 1.94 | 49 | 0.81            | 21 | 11/16 | 11/16 | PUS 001       |

\*For use with petroleum based fluids.

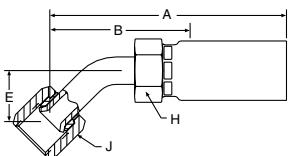
**WARNING:** Fittings allow minor movement under pressure to relieve stress on hose but are not recommended for continued or extensive swiveling. Fittings not recommended for use in CNG applications.

**Note:** Use Crimp Die Ring 80C-R1L with ParKrimp 1 Machine; Crimp Die Ring 82C-R1L with KarryKrimp.

Consult factory for ordering information.

(+) Non Standard. See page ii for information on non-standard products.

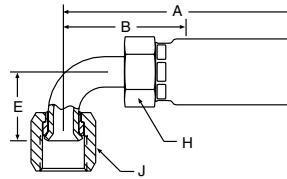
# 13758/13758H Female SAE (JIC) 37° Swivel 45° Elbow



## 58/58H Series Permanent (SAE Drop Dimensions)

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B |      | E  |      | H Hex | J Hex  | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----------------|------|----|------|-------|--------|---------------|
| #                 |   |   |             |           |           |      |                 |      |    |      |       |        |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm              | inch | mm | inch | mm    | inch   | inch          |
| 13758-4-4 (+)     | + | + | 7/16-20     | 1/4       | 1/4       | 2.49 | 63              | 1.50 | 38 | 0.33 | 8     | 5/8    | 9/16          |
| 13758-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.49 | 63              | 1.50 | 38 | 0.36 | 9     | 5/8    | 5/8           |
| 13758-6-5 (+)     | + | + | 9/16-18     | 3/8       | 5/16      | 2.73 | 69              | 1.56 | 40 | 0.39 | 10    | 5/8    | 11/16         |
| 13758-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.91 | 74              | 1.56 | 40 | 0.39 | 10    | 3/4    | 11/16         |
| 13758-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 3.18 | 81              | 1.88 | 48 | 0.55 | 14    | 3/4    | 7/8           |
| 13758-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 3.37 | 86              | 1.88 | 48 | 0.55 | 14    | 7/8    | 7/8           |
| 13758-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 3.42 | 87              | 1.94 | 49 | 0.63 | 16    | 7/8    | 1             |
| 13758-10-10       | + | + | 7/8-14      | 5/8       | 5/8       | 3.44 | 87              | 1.75 | 44 | 0.64 | 16    | 1-1/16 | 1             |
| 13758-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.05 | 103             | 2.39 | 60 | 0.78 | 20    | 1-1/8  | 1-1/4         |
| 13758-16-16       | + | + | 1-5/16-12   | 1         | 1         | 4.57 | 116             | 2.31 | 59 | 0.89 | 23    | 1-1/2  | 1-3/8         |
| 13758H-12-12      | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.64 | 118             | 2.44 | 62 | 0.78 | 20    | 1-1/4  | 1-1/4         |
| 13758H-16-16      | + | + | 1-5/16-12   | 1         | 1         | 5.46 | 139             | 2.50 | 64 | 0.90 | 23    | 1-3/4  | 1-1/2         |

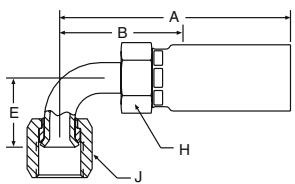
(+) Non Standard. See page ii for information on non-standard products.

**13958/13958H Female SAE (JIC) 37° Swivel - 90° Elbow****58/58H Series Permanent (SAE Drop Dimensions)**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex  | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|--------|-------|---------------|
| #                 |   |   |             |           |           |      |     |                 |    |      |    |        |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm | inch   | inch  |               |
| 13958-4-4         | + | + | 7/16-20     | 1/4       | 1/4       | 2.50 | 64  | 1.38            | 35 | 0.68 | 17 | 5/8    | 9/16  | PUT 002       |
| 13958-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.67 | 68  | 1.56            | 40 | 0.77 | 20 | 5/8    | 5/8   | PUT 002       |
| 13958-6-5 (+)     | + | + | 9/16-18     | 3/8       | 5/16      | 2.63 | 67  | 1.50            | 38 | 0.85 | 22 | 5/8    | 11/16 | PUT 002       |
| 13958-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.81 | 71  | 1.50            | 38 | 0.85 | 22 | 3/4    | 11/16 | PUT 003       |
| 13958-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 2.94 | 75  | 1.63            | 41 | 1.09 | 28 | 3/4    | 7/8   | PUT 003       |
| 13958-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 3.13 | 80  | 1.63            | 41 | 1.09 | 28 | 7/8    | 7/8   | PUT 004       |
| 13958-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 3.27 | 83  | 1.75            | 44 | 1.23 | 31 | 7/8    | 1     | PUT 004       |
| 13958-10-10       | + | + | 7/8-14      | 5/8       | 5/8       | 3.28 | 83  | 1.63            | 41 | 1.23 | 31 | 1-1/16 | 1     | PUT 004       |
| 13958-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 3.97 | 101 | 2.25            | 57 | 1.81 | 46 | 1-1/8  | 1-1/4 | PUT 005       |
| 13958-16-16       | + | + | 1-5/16-12   | 1         | 1         | 4.77 | 121 | 2.56            | 65 | 2.14 | 54 | 1-3/8  | 1-1/2 | PUT 007       |
| 13958H-12-12      | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.57 | 116 | 2.38            | 60 | 1.81 | 46 | 1-1/4  | 1-1/4 | Crimp Only    |
| 13958H-16-16      | + | + | 1-5/16-12   | 1         | 1         | 5.42 | 138 | 2.50            | 64 | 2.14 | 54 | 1-3/4  | 1-1/2 | Crimp Only    |

(+): Non Standard. See page ii for information on non-standard products.

# 1L958 Female (JIC) 37° Swivel 90° Elbow Special



## 58 Series Permanent

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |   |             |           |           |      |     |                 |    |      |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm | inch  | inch  |               |
| 1L958-4-4         | + | + | 7/16-20     | 1/4       | 1/4       | 2.47 | 63  | 1.38            | 35 | 0.88 | 22 | 5/8   | 9/16  | PUT 002       |
| 1L958-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.53 | 64  | 1.44            | 37 | 0.88 | 22 | 5/8   | 5/8   | PUT 002       |
| 1L958-6-5 (+)     | + | + | 9/16-18     | 3/8       | 5/16      | 2.69 | 68  | 1.50            | 38 | 1.12 | 28 | 5/8   | 11/16 | PUT 002       |
| 1L958-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.88 | 73  | 1.50            | 38 | 1.12 | 28 | 3/4   | 13/16 | PUT 003       |
| 1L958-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 3.00 | 76  | 1.63            | 41 | 1.38 | 35 | 3/4   | 7/8   | PUT 003       |
| 1L958-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 3.19 | 81  | 1.63            | 41 | 1.38 | 35 | 7/8   | 7/8   | PUT 004       |
| 1L958-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 3.68 | 93  | 2.13            | 54 | 1.75 | 44 | 7/8   | 1     | PUT 004       |
| 1L958-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 4.29 | 109 | 2.56            | 65 | 2.06 | 52 | 1-1/8 | 1-1/4 | PUT 005       |
| 1L958-16-16       | + | + | 1-5/16-12   | 1         | 1         | 5.14 | 131 | 2.88            | 73 | 2.50 | 64 | 1-3/8 | 1-1/2 | PUT 007       |

Hydraulic &amp; Pneumatic Hose &amp; Fit.

PTFE Hose &amp; Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings &amp; Accessories

Tooling &amp; Equipment

Hose Accessories

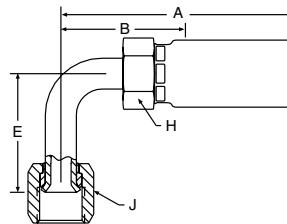
Technical &amp; Design Information

Approvals &amp; Guides

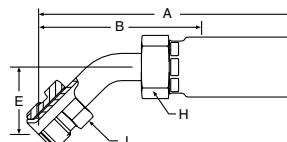
Alphanumeric Index

(+) Non Standard. See page ii for information on non-standard products.



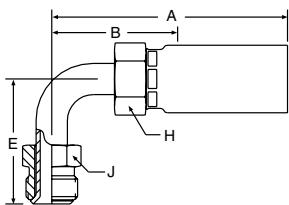
**14158 Female SAE (JIC) 37° Swivel 90° Long Elbow****58 Series Permanent (SAE Drop Dimensions)**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |     | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|------|-----|-------|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |     |                 |    |      |     |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm  | inch  | inch  |               |
| 14158-4-4 (+)     | + | + | 7/16-20     | 1/4       | 1/4       | 2.57 | 65  | 1.44            | 37 | 1.80 | 46  | 5/8   | 9/16  | PUT 002       |
| 14158-5-4 (+)     | + | + | 1/2-20      | 5/16      | 1/4       | 2.51 | 64  | 1.38            | 35 | 1.80 | 46  | 5/8   | 5/8   | PUT 002       |
| 14158-6-5 (+)     | + | + | 9/16-18     | 3/8       | 5/16      | 2.73 | 69  | 1.56            | 40 | 2.18 | 55  | 5/8   | 11/16 | PUT 002       |
| 14158-6-6         | + | + | 9/16-18     | 3/8       | 3/8       | 2.92 | 74  | 1.56            | 40 | 2.18 | 55  | 3/4   | 11/16 | PUT 003       |
| 14158-8-6         | + | + | 3/4-16      | 1/2       | 3/8       | 3.00 | 76  | 1.75            | 44 | 2.43 | 62  | 3/4   | 7/8   | PUT 003       |
| 14158-8-8         | + | + | 3/4-16      | 1/2       | 1/2       | 3.18 | 81  | 1.63            | 41 | 2.43 | 62  | 7/8   | 7/8   | PUT 004       |
| 14158-10-8        | + | + | 7/8-14      | 5/8       | 1/2       | 3.39 | 86  | 1.81            | 46 | 2.57 | 65  | 7/8   | 1     | PUT 004       |
| 14158-12-12       | + | + | 1-1/16-12   | 3/4       | 3/4       | 3.91 | 99  | 2.19            | 56 | 3.73 | 95  | 1-1/8 | 1-1/4 | PUT 005       |
| 14158-16-16       | + | + | 1-5/16-12   | 1         | 1         | 4.62 | 117 | 2.38            | 60 | 4.33 | 110 | 1-3/8 | 1-1/2 | PUT 007       |

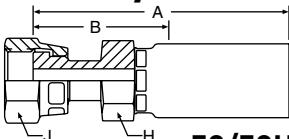
**16758 SAE Male Inverted Swivel - 45° Elbow****58 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|------|----|-------|-------|---------------|
| #                 |   |   | ~~~~~       |           |           |      |    |                 |    |      |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch | mm | inch  | inch  |               |
| 16758-6-6 (+)     | + | + | 5/8-18      | 3/8       | 3/8       | 3.48 | 88 | 2.13            | 54 | 0.94 | 24 | 3/4   | 5/8   | PUT 003       |

(+): Non Standard. See page ii for information on non-standard products.

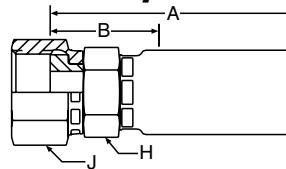
**16958 SAE Male Inverted Swivel - 90° Elbow****58 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B |      | E  | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|-----------------|------|----|-------|-------|---------------|
| #                 |   |   |             |           |           |      |                 |      |    |       |       |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm              | inch | mm | inch  | mm    | inch          |
| 16958-4-4 (+)     | + | + | 7/16-24     | 1/4       | 1/4       | 2.75 | 70              | 1.63 | 41 | 1.56  | 40    | 5/8           |
| 16958-6-6 (+)     | + | + | 5/8-18      | 3/8       | 3/8       | 3.08 | 78              | 1.75 | 44 | 1.69  | 43    | 3/4           |
|                   |   |   |             |           |           |      |                 |      |    |       |       | PUT 002       |
|                   |   |   |             |           |           |      |                 |      |    |       |       | PUT 003       |

**1JS58/1JS58H Seal-Lok™ Straight****58/58H Series Permanent**

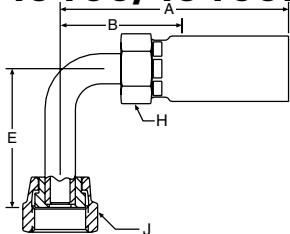
| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B |      | H Hex | J Hex | Pusher Number |            |
|-------------------|---|-------------|-----------|-----------|------|-----------------|------|-------|-------|---------------|------------|
| #                 |   |             |           |           |      |                 |      |       |       |               |            |
| Hose Fitting      |   |             | inch      | inch      | inch | mm              | inch | mm    | inch  | inch          |            |
| 1JS58-4-4 (+)     | + | 9/16-18     | 1/4       | 1/4       | 2.59 | 66              | 1.50 | 38    | 5/8   | 11/16         |            |
| 1JS58-6-4 (+)     | + | 11/16-16    | 3/8       | 1/4       | 2.58 | 66              | 1.50 | 38    | 3/4   | 13/16         |            |
| 1JS58-4-5 (+)     | + | 9/16-18     | 1/4       | 5/16      | 2.66 | 68              | 1.50 | 38    | 5/8   | 11/16         |            |
| 1JS58-6-5 (+)     | + | 11/16-16    | 3/8       | 5/16      | 2.66 | 68              | 1.50 | 38    | 3/4   | 13/16         |            |
| 1JS58-6-6         | + | 11/16-16    | 3/8       | 3/8       | 2.86 | 73              | 1.50 | 38    | 3/4   | 13/16         |            |
| 1JS58-8-6 (+)     | + | 13/16-16    | 1/2       | 3/8       | 3.00 | 76              | 1.63 | 41    | 7/8   | 15/16         |            |
| 1JS58-8-8         | + | 13/16-16    | 1/2       | 1/2       | 3.20 | 81              | 1.63 | 41    | 7/8   | 15/16         |            |
| 1JS58-10-10       | + | 1-14        | 5/8       | 5/8       | 3.53 | 90              | 1.88 | 48    | 1-1/8 | 1-1/8         |            |
| 1JS58-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.75 | 95              | 2.00 | 51    | 1-1/4 | 1-3/8         |            |
| 1JS58-16-16       | + | 1-7/16-12   | 1         | 1         | 4.28 | 109             | 2.06 | 52    | 1-1/2 | 1-5/8         |            |
| 1JS58H-12-12      | + | 1-3/16-12   | 3/4       | 3/4       | 4.29 | 109             | 2.06 | 52    | 1-1/4 | 1-3/8         |            |
| 1JS58H-16-16      | + | 1-7/16-12   | 1         | 1         | 4.97 | 126             | 1.94 | 49    | 1-3/4 | 1-5/8         |            |
|                   |   |             |           |           |      |                 |      |       |       |               | Crimp Only |
|                   |   |             |           |           |      |                 |      |       |       |               | Crimp Only |

(+) Non Standard. See page ii for information on non-standard products.

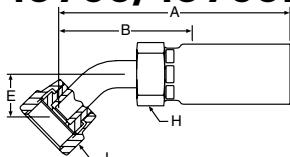
**1JC58/1JC58H Seal-Lok™ Straight - Short****58/58H Series Permanent**

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----|-----------------|----|-------|-------|---------------|
| #                 |   |             |           |           |      |     |                 |    |       |       |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm  | inch            | mm | inch  | inch  |               |
| 1JC58-4-4         |   | 9/16-18     | 1/4       | 1/4       | 2.16 | 55  | 1.06            | 27 | 5/8   | 11/16 | PUL 001       |
| 1JC58-6-4         | + | 11/16-16    | 3/8       | 1/4       | 2.19 | 56  | 1.09            | 28 | 3/4   | 13/16 | PUL 002       |
| 1JC58-4-5         | + | 9/16-18     | 1/4       | 5/16      | 2.22 | 56  | 1.09            | 28 | 5/8   | 11/16 | PUL 001       |
| 1JC58-6-5         | + | 11/16-16    | 3/8       | 5/16      | 2.28 | 58  | 1.09            | 28 | 3/4   | 13/16 | PUL 002       |
| 1JC58-6-6         |   | 11/16-16    | 3/8       | 3/8       | 2.47 | 63  | 1.03            | 26 | 3/4   | 13/16 | PUL 002       |
| 1JC58-8-6         | + | 13/16-16    | 1/2       | 3/8       | 2.56 | 65  | 1.19            | 30 | 7/8   | 15/16 | PUL 003       |
| 1JC58-8-8         |   | 13/16-16    | 1/2       | 1/2       | 2.75 | 70  | 1.19            | 30 | 7/8   | 15/16 | PUL 003       |
| 1JC58-10-8        | + | 1-14        | 5/8       | 1/2       | 2.95 | 75  | 1.38            | 35 | 1-1/8 | 1-1/8 | PUL 004       |
| 1JC58-10-10       | + | 1-14        | 5/8       | 5/8       | 3.05 | 77  | 1.38            | 35 | 1-1/8 | 1-1/8 | PUL 004       |
| 1JC58-12-10       | + | 1-3/16-12   | 3/4       | 5/8       | 3.09 | 78  | 1.43            | 36 | 1-1/4 | 1-3/8 | PUL 006       |
| 1JC58-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.20 | 81  | 1.44            | 37 | 1-1/4 | 1-3/8 | PUL 006       |
| 1JC58-16-16       | + | 1-7/16-12   | 1         | 1         | 3.74 | 95  | 1.50            | 38 | 1-1/2 | 1-5/8 | PUL 008       |
| 1JC58-20-16       | + | 1-11/16-12  | 1-1/4     | 1         | 3.78 | 96  | 1.56            | 40 | 1-5/8 | 1-3/8 | PUL 009       |
| 1JC58H-12-12      | + | 1-3/16-12   | 3/4       | 3/4       | 3.86 | 98  | 1.50            | 38 | 1-1/4 | 1-3/8 | Crimp Only    |
| 1JC58H-16-16      | + | 1-7/16-12   | 1         | 1         | 4.66 | 119 | 1.69            | 43 | 1-3/4 | 1-5/8 | Crimp Only    |

[+] Non Standard. See page ii for information on non-standard products.

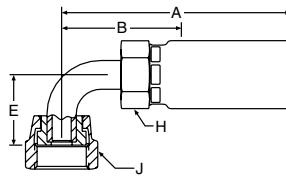
**1J158/1J158H Seal-Lok™ 90° Long Elbow****58/58H Series Permanent (SAE Drop Dimensions)**

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B |      | E  |      | H Hex | J Hex  | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----------------|------|----|------|-------|--------|---------------|
| #                 |   |             |           |           |      |                 |      |    |      |       |        |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm              | inch | mm | inch | mm    | inch   | inch          |
| 1J158-4-4 (+)     | + | 9/16-18     | 1/4       | 1/4       | 2.45 | 62              | 1.31 | 33 | 1.80 | 46    | 5/8    | 11/16         |
| 1J158-4-5 (+)     | + | 9/16-18     | 1/4       | 1/4       | 2.54 | 65              | 1.31 | 33 | 1.80 | 46    | 3/4    | 13/16         |
| 1J158-6-5 (+)     | + | 11/16-16    | 3/8       | 5/16      | 2.76 | 70              | 1.56 | 40 | 2.13 | 54    | 3/4    | 11/16         |
| 1J158-6-6 (+)     | + | 11/16-16    | 3/8       | 5/16      | 2.94 | 75              | 1.56 | 40 | 2.13 | 54    | 7/8    | 13/16         |
| 1J158-8-6 (+)     | + | 13/16-16    | 1/2       | 3/8       | 2.94 | 75              | 1.69 | 43 | 2.51 | 64    | 7/8    | 13/16         |
| 1J158-8-8 (+)     | + | 13/16-16    | 1/2       | 3/8       | 3.21 | 82              | 1.69 | 43 | 2.51 | 64    | 15/16  | 15/16         |
| 1J158-10-10       | + | 1-14        | 5/8       | 5/8       | 3.35 | 85              | 1.69 | 43 | 2.76 | 70    | 1-1/16 | 1-1/8         |
| 1J158-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.86 | 98              | 2.13 | 54 | 3.78 | 96    | 1-3/8  | 1-3/8         |
| 1J158-16-16       | + | 1-7/16-12   | 1         | 1         | 4.42 | 112             | 2.38 | 60 | 4.50 | 114   | 1-5/8  | 1-5/8         |
| 1J158H-12-12      | + | 1-3/16-12   | 3/4       | 3/4       | 4.38 | 111             | 1.88 | 48 | 3.78 | 96    | 1-1/4  | 1-3/8         |
| 1J158H-16-16      | + | 1-7/16-12   | 1         | 1         | 5.35 | 136             | 2.25 | 57 | 4.50 | 114   | 1-3/4  | 1-5/8         |

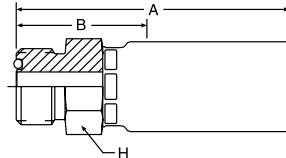
**1J758/1J758H Seal-Lok™ 45° Elbow****58/58H Series Permanent (SAE Drop Dimensions)**

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B |      | E  |      | H Hex | J Hex  | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----------------|------|----|------|-------|--------|---------------|
| #                 |   |             |           |           |      |                 |      |    |      |       |        |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm              | inch | mm | inch | mm    | inch   | inch          |
| 1J758-4-4 (+)     | + | 9/16-18     | 1/4       | 1/4       | 2.66 | 68              | 1.56 | 40 | 0.41 | 10    | 5/8    | 11/16         |
| 1J758-6-6         | + | 11/16-16    | 3/8       | 3/8       | 2.98 | 76              | 1.63 | 41 | 0.43 | 11    | 7/8    | 13/16         |
| 1J758-8-8         | + | 13/16-16    | 1/2       | 1/2       | 3.43 | 87              | 1.94 | 49 | 0.59 | 15    | 15/16  | 15/16         |
| 1J758-10-10       | + | 1-14        | 5/8       | 5/8       | 3.56 | 90              | 1.88 | 48 | 0.65 | 17    | 1-1/16 | 1-1/8         |
| 1J758-12-12       | + | 1-7/16-12   | 3/4       | 3/4       | 3.67 | 93              | 2.00 | 51 | 0.81 | 21    | 1-1/8  | 1-3/8         |
| 1J758-16-12       | + | 1-7/16-12   | 1         | 3/4       | 4.48 | 114             | 2.00 | 51 | 0.94 | 24    | 1-3/8  | 1-5/8         |
| 1J758-16-16       | + | 1-7/16-12   | 1         | 1         | 5.10 | 130             | 2.81 | 71 | 0.94 | 24    | 1-3/8  | 1-5/8         |
| 1J758H-12-12      | + | 1-3/16-12   | 3/4       | 3/4       | 4.51 | 115             | 2.31 | 59 | 0.81 | 21    | 1-1/4  | 1-3/8         |
| 1J758H-16-16      | + | 1-7/16-12   | 1         | 1         | 5.75 | 146             | 2.81 | 71 | 0.94 | 24    | 1-3/4  | 1-5/8         |

(+) Non Standard. See page ii for information on non-standard products.

**1J958/1J958H Seal-Lok™ 90° Elbow****58/58H Series Permanent (SAE Drop Dimensions)**

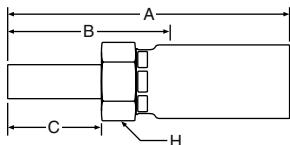
| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex  | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|--------|-------|---------------|
| #                 |   | ~~~~~       | (O)       | (O)       |      |     |                 |    |      |    | (hex)  | (hex) |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm | inch   | inch  |               |
| 1J958-4-4 (+)     | + | 9/16-18     | 1/4       | 1/4       | 2.49 | 63  | 1.38            | 35 | 0.82 | 21 | 5/8    | 11/16 | PUT 002       |
| 1J958-6-6         | + | 11/16-16    | 3/8       | 3/8       | 2.85 | 72  | 1.56            | 40 | 0.90 | 23 | 7/8    | 13/16 | PUT 003       |
| 1J958-8-8         | + | 13/16-16    | 1/2       | 1/2       | 3.15 | 80  | 1.63            | 41 | 1.15 | 29 | 15/16  | 15/16 | PUT 004       |
| 1J958-10-10       | + | 1-14        | 5/8       | 5/8       | 3.26 | 83  | 1.63            | 41 | 1.27 | 32 | 1-1/16 | 1     | PUT 005       |
| 1J958-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.82 | 97  | 2.13            | 54 | 1.88 | 48 | 1-3/8  | 1-3/8 | PUT 005       |
| 1J958-16-16       | + | 1-7/16-12   | 1         | 1         | 5.03 | 128 | 2.94            | 75 | 2.21 | 56 | 1-5/8  | 1-5/8 | PUT 007       |
| 1J958H-12-12      | + | 1-3/16-12   | 3/4       | 3/4       | 4.41 | 112 | 2.00            | 51 | 1.85 | 47 | 1-1/4  | 1-3/8 | Crimp Only    |
| 1J958H-16-16      | + | 1-7/16-12   | 1         | 1         | 5.70 | 145 | 2.75            | 70 | 2.21 | 56 | 1-3/4  | 1-5/8 | Crimp Only    |

**1J058 Male Seal-Lok™ – Rigid Straight (with O-Ring)****58 Series Permanent**

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|----|-----------------|----|-------|---------------|
| #                 |   | ~~~~~       | (O)       | (O)       |      |    |                 |    | (hex) |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm | inch            | mm | inch  |               |
| 1J058-4-4 (+)     | + | 9/16-18     | 1/4       | 1/4       | 2.20 | 56 | 1.06            | 27 | 5/8   | PUM 004       |
| 1J058-6-4         | + | 11/16-16    | 3/8       | 1/4       | 2.28 | 58 | 1.13            | 29 | 3/4   | PUM 005       |
| 1J058-4-5         | + | 9/16-16     | 1/4       | 5/16      | 2.20 | 56 | 1.06            | 27 | 5/8   | PUM 004       |
| 1J058-6-5         | + | 11/16-16    | 3/8       | 5/16      | 2.28 | 58 | 1.13            | 29 | 3/4   | PUM 005       |
| 1J058-6-6 (+)     | + | 11/16-16    | 3/8       | 3/8       | 2.47 | 63 | 1.13            | 29 | 3/4   | PUM 005       |
| 1J058-8-6         | + | 13/16-16    | 1/2       | 3/8       | 2.56 | 65 | 1.25            | 32 | 7/8   | PUM 008       |
| 1J058-8-8 (+)     | + | 13/16-16    | 1/2       | 1/2       | 2.75 | 70 | 1.25            | 32 | 15/16 | PUM 009       |
| 1J058-10-10       | + | 1-14        | 5/8       | 5/8       | 3.10 | 79 | 1.44            | 37 | 1-1/8 | PUM 011       |
| 1J058-12-12       | + | 1-3/16-12   | 3/4       | 3/4       | 3.25 | 83 | 1.56            | 40 | 1-3/8 | PUM 013       |
| 1J058-16-16       | + | 1-7/16-12   | 1         | 1         | 3.86 | 98 | 1.63            | 41 | 1-5/8 | PUM 020       |

(+): Non Standard. See page ii for information on non-standard products.

## 1TU58 Universal Tube Stub End

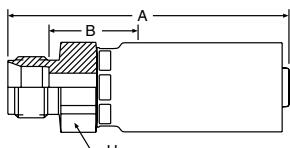


58 Series Permanent

| Steel Part Number | C | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B |      | C  |      | H Hex | Pusher Number |
|-------------------|---|-----------|-----------|------|-----------------|------|----|------|-------|---------------|
| #                 |   |           |           |      |                 |      |    |      |       |               |
| Hose Fitting      |   | inch      | inch      | inch | mm              | inch | mm | inch | mm    | inch          |
| 1TU58-4-2         |   | 1/4       | 1/8       | 1.72 | 44              | 1    | 25 | 0.71 | 18    | 1/2           |
| 1TU58-4-4         |   | 1/4       | 1/4       | 2.60 | 66              | 1.50 | 38 | 0.72 | 18    | 5/8           |
| 1TU58-5-5 (+)     | + | 5/16      | 5/16      | 2.69 | 68              | 1.50 | 38 | 0.75 | 19    | 11/16         |
| 1TU58-6-6         |   | 3/8       | 3/8       | 2.91 | 74              | 1.50 | 38 | 0.78 | 20    | 3/4           |
| 1TU58-8-8         |   | 1/2       | 1/2       | 3.35 | 85              | 1.81 | 46 | 1.03 | 26    | 7/8           |
| 1TU58-10-10 (+)   | + | 5/8       | 5/8       | 3.45 | 88              | 1.81 | 46 | 1.03 | 26    | 1             |
| 1TU58-12-12 (+)   | + | 3/4       | 3/4       | 3.66 | 93              | 1.94 | 49 | 1.03 | 26    | 1-1/8         |
| 1TU58-16-16 (+)   | + | 1         | 1         | 4.41 | 112             | 2.19 | 56 | 1.29 | 33    | 1-3/8         |
|                   |   |           |           |      |                 |      |    |      |       | PUT 007       |

\*316 stainless nipple, shell

## 1AL58N A-LOK®/CPI Compression (Without Nut and Ferrule)



58 Series Permanent

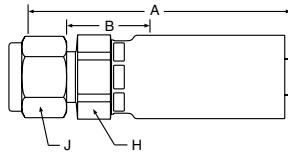
| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    | Cutoff Allow. B |      | H Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|-----------------|------|-------|---------------|
| #                 |   |             |           |           |      |                 |      |       |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm              | inch | mm    | inch          |
| 1AL58-4-2N        | + | 7/16-20     | 1/4       | 1/8       | 1.56 | 40              | 0.63 | 16    | 1/2           |
| 1AL58-4-4N        |   | 7/16-20     | 1/4       | 1/4       | 2.16 | 55              | 0.69 | 17    | 5/8           |
| 1AL58-6-6N        |   | 9/16-20     | 3/8       | 3/8       | 2.56 | 65              | 0.81 | 21    | 3/4           |
| 1AL58-8-8N        |   | 3/4-20      | 1/2       | 1/2       | 2.81 | 71              | 0.75 | 19    | 15/16         |
|                   |   |             |           |           |      |                 |      |       | PUM 009       |

\*316 Stainless nipple and shell.

Please reference Instrument Tubing Selection Guide, Bulletin 4200-TS, or contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

(+ ) Non Standard. See page ii for information on non-standard products.

## 1AL58 A-LOK® Compression (With Nut and Ferrule)



### 58 Series Permanent

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   | ~~~~~       | ○○        | ○○        |      |    |                 |    | ○○    | ○○    |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 1AL58-4-2 (+)     | + | 7/16-20     | 1/4       | 1/8       | 1.56 | 40 | 0.63            | 16 | 1/2   | 9/16  | —             |
| 1AL58-4-4 (+)     |   | 7/16-20     | 1/4       | 1/4       | 2.16 | 55 | 0.69            | 17 | 5/8   | 9/16  | PUM 002       |
| 1AL58-6-6 (+)     |   | 9/16-20     | 3/8       | 3/8       | 2.56 | 65 | 0.81            | 21 | 3/4   | 11/16 | PUM 005       |
| 1AL58-8-8 (+)     | + | 3/4-20      | 1/2       | 1/2       | 2.81 | 71 | 0.75            | 19 | 15/16 | 7/8   | PUM 009       |

\*316 Stainless nipple and shell.

Note: Nut part No. is XNUX or XNUX-316 for stainless steel.

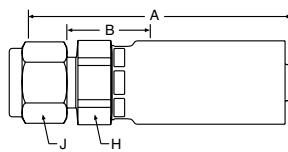
Front ferrule part No. is XFFX or XFFX-316 for stainless steel.

Back ferrule part No. is XBFX or XBFX-316 for stainless steel.

X denotes dash size.

Please reference Instrument Tubing Selection Guide, Bulletin 4200-TS, or contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

## 1P658 CPI Compression (With Nut and Ferrule)



### 58 Series Permanent

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   | ~~~~~       | ○○        | ○○        |      |    |                 |    | ○○    | ○○    |               |
| Hose Fitting      |   |             | inch      | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 1P658-4-2 (+)     | + | 7/16-20     | 1/4       | 1/8       | 1.56 | 40 | 0.63            | 16 | 1/2   | 9/16  | —             |
| 1P658-4-4 (+)     |   | 7/16-20     | 1/4       | 1/4       | 2.16 | 55 | 0.69            | 17 | 5/8   | 9/16  | PUM 002       |
| 1P658-6-6 (+)     |   | 9/16-20     | 3/8       | 3/8       | 2.56 | 65 | 0.81            | 21 | 3/4   | 11/16 | PUM 005       |
| 1P658-8-8 (+)     |   | 3/4-20      | 1/2       | 1/2       | 2.81 | 71 | 0.75            | 19 | 15/16 | 7/8   | PUM 009       |

\*316 Stainless nipple and shell.

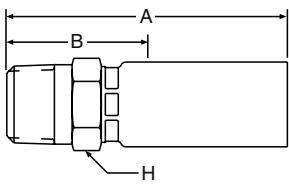
Note: Nut part No. is XBZ or XBZ-SS for stainless steel.

Ferrule part No. is XTZ or XTZ-SS for stainless steel.

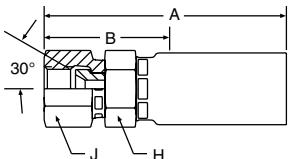
X denotes dash size.

Please reference Instrument Tubing Selection Guide, Bulletin 4200-TS, or contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

(+) Non Standard. See page ii for information on non-standard products.

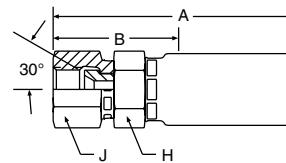
**1UT58 Male (JIS) /BSPT****58 Series Permanent**

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|------|-----------------|------|-------|---------------|
| #                 |   | ~~~~~           | (O)       |      |      |                 |      | (H)   |               |
| Hose Fitting      |   |                 |           | inch | inch | mm              | inch | mm    | mm            |
| 1UT58-2-2         |   | PT 1/8-28       | 1/8       | 1.38 | 35   | 0.75            | 19   | 14    | PUM 001       |
| 1UT58-4-4 (+)     | + | PT 1/4-19       | 1/4       | 2.36 | 60   | 1.26            | 32   | 19    | PUM 005       |
| 1UT58-6-6 (+)     | + | PT 3/8-19       | 3/8       | 2.38 | 68   | 1.26            | 32   | 22    | PUM 008       |
| 1UT58-8-8 (+)     | + | PT 1/2-14       | 1/2       | 3.03 | 77   | 1.50            | 38   | 27    | PUM 506       |
| 1UT58-12-12 (+)   | + | PT 3/4-14       | 3/4       | 3.35 | 85   | 1.57            | 40   | 35    | PUM 510       |
| 1UT58-16-16 (+)   | + | PT 1-11         | 1         | 4.06 | 103  | 1.81            | 46   | 41    | PUM 020       |

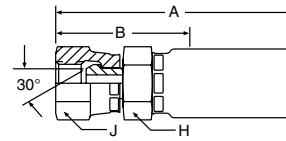
**1FU58 (JIS) /BSP 30° Flare Swivel Female****58 Series Permanent**

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | J Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|------|-----------------|------|-------|-------|---------------|
| #                 |   | ~~~~~           | (O)       |      |      |                 |      | (H)   | (J)   |               |
| Hose Fitting      |   |                 |           | inch | inch | mm              | inch | mm    | mm    |               |
| 1FU58-4-4 (+)     | + | PF 1/4-19       | 1/4       | 2.32 | 59   | 1.26            | 32   | 19    | 19    | PUF 002       |
| 1FU58-6-6         | + | PF 3/8-19       | 3/8       | 2.68 | 68   | 1.30            | 33   | 19    | 22    | PUF 004       |
| 1FU58-8-8 (+)     | + | PF 1/2-14       | 1/2       | 3.19 | 81   | 1.61            | 41   | 27    | 27    | PUF 006       |
| 1FU58-12-12 (+)   | + | PF 3/4-14       | 3/4       | 3.54 | 90   | 1.73            | 44   | 27    | 36    | PUF 009       |
| 1FU58-16-16 (+)   | + | PF 1-11         | 1         | 4.09 | 104  | 1.89            | 48   | 41    | 41    | PUF 030       |

(+) Non Standard. See page ii for information on non-standard products.

**1MU58 (JIS) Metric 30° Flare Swivel Female****58 Series Permanent**

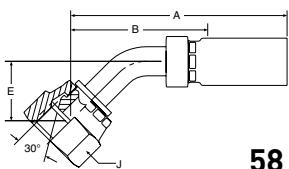
| Steel Part Number | C | Thread Size | Hose I.D. | A        | Cutoff Allow. B | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|----------|-----------------|-------|-------|---------------|
| #                 |   |             |           |          |                 |       |       |               |
| Hose Fitting      |   |             | inch      | inch mm  | inch mm         | mm    | mm    |               |
| 1MU58-4-4 (+)     | + | M14x1,5     | 1/4       | 2.32 59  | 1.26 32         | 19    | 19    | PUF 002       |
| 1MU58-6-6 (+)     | + | M18x1,5     | 3/8       | 2.60 66  | 1.30 33         | 19    | 22    | PUF 004       |
| 1MU58-8-8         | + | M22x1,5     | 1/2       | 3.15 80  | 1.57 40         | 27    | 27    | PUF 031       |
| 1MU58-12-12 (+)   | + | M27x2,0     | 3/4       | 3.50 89  | 1.73 44         | 27    | 36    | PUF 032       |
| 1MU58-16-16 (+)   | + | M33x2,0     | 1         | 4.06 103 | 1.89 48         | 41    | 41    | PUF 033       |

**1GU58 (JIS) /BSP 60° Cone Swivel Female****58 Series Permanent**

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A       | Cutoff Allow. B | H Hex | J Hex | Pusher Number |
|-------------------|---|-----------------|-----------|---------|-----------------|-------|-------|---------------|
| #                 |   |                 |           |         |                 |       |       |               |
| Hose Fitting      |   |                 | inch      | inch mm | inch mm         | mm    | mm    |               |
| 1GU58-4-4 (+)     | + | PF 1/4-19       | 1/4       | 2.32 59 | 1.26 32         | 19    | 19    | PUF 002       |
| 1GU58-6-6         | + | PF 3/8-19       | 3/8       | 1.30 33 | 1.30 33         | 19    | 22    | PUF 004       |
| 1GU58-8-8         | + | PF 1/2-14       | 1/2       | 1.61 41 | 1.61 41         | 27    | 27    | PUF 006       |
| 1GU58-8-10 (+)    | + | PF 1/2-14       | 1/2       | 3.27 83 | 1.61 41         | 27    | 27    | PUF 006       |
| 1GU58-12-12 (+)   | + | PF 3/4-14       | 3/4       | 1.73 44 | 1.73 44         | 27    | 36    | PUF 009       |
| 1GU58-16-16 (+)   | + | PF 1-11         | 1         | 1.89 48 | 1.89 48         | 41    | 41    | PUF 030       |

(+): Non Standard. See page ii for information on non-standard products.

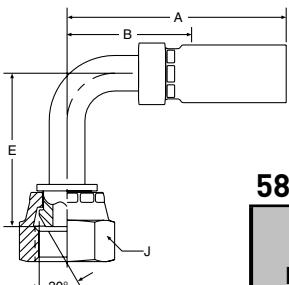
## 1G158 (JIS)/BSP 60° Cone Female Swivel 45° Elbow



58 Series Permanent

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | E    |    | J Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|----|-----------------|----|------|----|-------|---------------|
| #                 |   | ~~~~~           | (O)       |      |    |                 |    |      |    | (O)   |               |
| Hose Fitting      |   |                 | inch      | inch | mm | inch            | mm | inch | mm |       |               |
| 1G158-4-3 (+)     | + | PF 1/4-19       | 3/16      | 2.83 | 72 | 1.93            | 49 | 0.79 | 20 | 19    | PUT 001       |
| 1G158-4-4 (+)     | + | PF 1/4-19       | 1/4       | 2.99 | 76 | 1.93            | 49 | 0.79 | 20 | 19    | PUT 002       |
| 1G158-6-6 (+)     | + | PF 3/8-19       | 3/8       | 3.39 | 86 | 1.89            | 48 | 0.83 | 21 | 22    | PUT 003       |
| 1G158-8-8 (+)     | + | PF 1/2-14       | 1/2       | 3.74 | 95 | 2.05            | 53 | 0.98 | 25 | 27    | PUT 004       |

## 1G258 (JIS)/BSP 60° Cone Female Swivel 90° Elbow

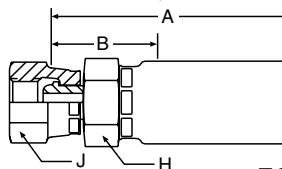


58 Series Permanent

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | E    |    | J Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|----|-----------------|----|------|----|-------|---------------|
| #                 |   | ~~~~~           | (O)       |      |    |                 |    |      |    | (O)   |               |
| Hose Fitting      |   |                 | inch      | inch | mm | inch            | mm | inch | mm |       |               |
| 1G258-4-3 (+)     | + | PF 1/4-19       | 3/16      | 2.28 | 58 | 1.34            | 34 | 0.94 | 24 | 19    | PUT 001       |
| 1G258-4-4 (+)     | + | PF 1/4-19       | 1/4       | 2.44 | 62 | 1.34            | 34 | 0.94 | 24 | 19    | PUT 002       |
| 1G258-6-6 (+)     | + | PF 3/8-19       | 3/8       | 3.07 | 78 | 1.69            | 43 | 1.50 | 38 | 22    | PUT 003       |
| 1G258-8-8 (+)     | + | PF 1/2-14       | 1/2       | 3.31 | 84 | 1.77            | 45 | 1.81 | 46 | 27    | PUT 004       |

(+) Non Standard. See page ii for information on non-standard products.

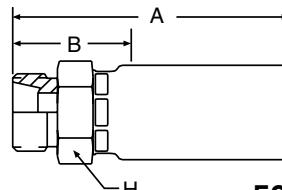
## 1C658 Metric Swivel DIN 20078 Heavy Series (Without O-Ring) 1C958 (With O-Ring)



58 Series Permanent

| Steel Part Number | C | Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | J Hex | Pusher Number |
|-------------------|---|-------------|-----------|------|------|-----------------|------|-------|-------|---------------|
| #                 |   | ~~~~~       | ○         |      |      |                 |      | ○     | ○     |               |
| Hose Fitting      |   |             |           | inch | inch | mm              | inch | mm    | mm    | mm            |
| 1C658-10-4 (+)    | + | M18x1,5     | 1/4       | 2.40 | 61   | 1.14            | 30   | 19    | 24    | PUF 505       |
| 1C658-12-5 (+)    | + | M20x1,5     | 5/16      | 2.52 | 64   | 1.22            | 31   | 22    | 24    | PUF 505       |
| 1C658-14-6 (+)    | + | M22x1,5     | 3/8       | 2.76 | 70   | 1.22            | 31   | 24    | 27    | PUF 505       |
| 1C658-16-8 (+)    | + | M24x1,5     | 1/2       | 2.99 | 76   | 1.30            | 33   | 27    | 30    | PUF 506       |
| 1C658-20-12       | + | M30x2       | 3/4       | 3.35 | 85   | 1.46            | 37   | 32    | 36    | PUF 507       |
| 1C658-25-12       | + | M36x2       | 3/4       | 3.39 | 86   | 1.54            | 39   | 36    | 41    | PUF 508       |
| 1C658-30-16       | + | M42x2       | 1         | 3.86 | 98   | 1.54            | 39   | 41    | 46    | PUF 509       |

## 1D058 Male Stud DIN 20078 Light Series

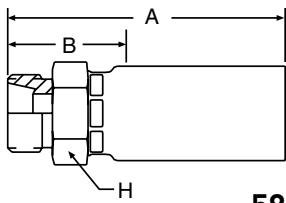


58 Series Permanent

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|------|-----------------|------|-------|---------------|
| #                 |   | ~~~~~       | ○         | ○         |      |      |                 |      | ○     |               |
| Hose Fitting      |   |             |           |           | inch | inch | mm              | inch | mm    | mm            |
| 1D058-8-4 (+)     | + | M14x1,5     | 8         | 1/4       | 2.17 | 55   | 0.98            | 25   | 19    | PUM 503       |
| 1D058-10-5 (+)    | + | M16x1,5     | 10        | 5/16      | 2.28 | 58   | 1.02            | 26   | 19    | PUM 503       |
| 1D058-10-6 (+)    | + | M16x1,5     | 10        | 3/8       | 2.52 | 64   | 1.02            | 26   | 22    | PUM 503       |
| 1D058-12-6 (+)    | + | M18x1,5     | 12        | 3/8       | 2.52 | 64   | 1.06            | 27   | 22    | PUM 504       |
| 1D058-15-8 (+)    | + | M22x1,5     | 15        | 1/2       | 2.80 | 71   | 1.18            | 30   | 27    | PUM 507       |
| 1D058-18-12       | + | M26x1,5     | 18        | 3/4       | 3.30 | 77   | 1.18            | 30   | 32    | PUM 509       |
| 1D058-22-12       | + | M30x2       | 22        | 3/4       | 3.11 | 79   | 1.22            | 31   | 36    | PUM 510       |
| 1D058-28-16       | + | 36x2        | 28        | 1         | 3.54 | 90   | 1.22            | 31   | 41    | PUM 511       |

(+) Non Standard. See page ii for information on non-standard products.

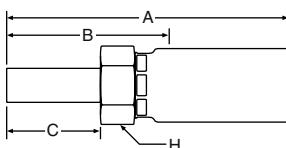
## 1D258 Male Stud DIN 20078 Heavy Series



58 Series Permanent

| Steel Part Number | C | Thread Size | Tube O.D. | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | Pusher Number |
|-------------------|---|-------------|-----------|-----------|------|------|-----------------|------|-------|---------------|
| #                 |   |             |           |           |      |      |                 |      |       |               |
| Hose Fitting      |   |             |           |           | inch | inch | mm              | inch | mm    |               |
| 1D258-10-4 (+)    | + | M18x1,5     | 10        | 1/4       | 2.28 | 58   | 1.10            | 28   | 22    | PUM 504       |
| 1D258-12-5 (+)    | + | M20x1,5     | 12        | 5/16      | 2.44 | 62   | 1.18            | 30   | 24    | PUM 505       |
| 1D258-14-6 (+)    | + | M22x1,5     | 14        | 3/8       | 2.72 | 69   | 1.26            | 32   | 27    | PUM 507       |
| 1D258-16-8 (+)    | + | M24x1,5     | 16        | 1/2       | 2.87 | 73   | 1.26            | 32   | 27    | PUM 507       |
| 1D258-20-12       | + | M30x2       | 20        | 3/4       | 3.19 | 81   | 1.30            | 33   | 36    | PUM 510       |
| 1D258-25-12       | + | M36x2       | 25        | 3/4       | 3.27 | 83   | 1.38            | 35   | 41    | PUM 511       |
| 1D258-30-16       | + | M42x2       | 30        | 1         | 3.90 | 99   | 1.38            | 35   | 46    | PUM 512       |

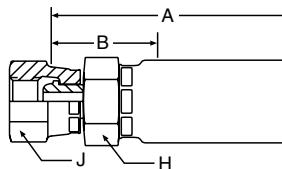
## 11D58 Metric Standpipe Light Series



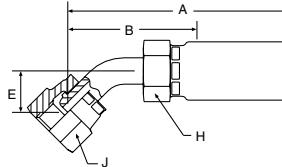
58 Series Permanent

| Steel Part Number | C | Tube O.D. | Hose I.D. | A    |      | Cutoff Allow. B |      | C Hex | H Hex | Pusher Number |
|-------------------|---|-----------|-----------|------|------|-----------------|------|-------|-------|---------------|
| #                 |   |           |           |      |      |                 |      |       |       |               |
| Hose Fitting      |   |           |           | inch | inch | mm              | inch | mm    | mm    | mm            |
| 11D58-8-4 (+)     | + | 8         | 1/4       | 2.60 | 66   | 1.42            | 36   | 22    | 17    | PUM 502       |
| 11D58-10-5 (+)    | + | 10        | 5/16      | 2.76 | 70   | 1.46            | 37   | 23    | 17    | PUM 502       |
| 11D58-10-6        | + | 10        | 3/8       | 2.95 | 75   | 1.46            | 37   | 23    | 19    | PUM 502       |
| 11D58-12-6        |   | 12        | 3/8       | 2.95 | 75   | 1.50            | 38   | 23    | 19    | PUM 503       |
| 11D58-15-8        | + | 15        | 1/2       | 3.23 | 82   | 1.61            | 41   | 25    | 22    | PUM 504       |
| 11D58-18-12       | + | 18        | 3/4       | 3.23 | 82   | 1.54            | 39   | 25    | 30    | PUM 508       |
| 11D58-22-12       | + | 22        | 3/4       | 3.66 | 93   | 1.77            | 45   | 28    | 30    | PUM 508       |
| 11D58-28-16       | + | 28        | 1         | 4.17 | 106  | 1.85            | 47   | 30    | 41    | PUM 511       |

(+) Non Standard. See page ii for information on non-standard products.

**19258 BSP Swivel****58 Series Permanent**

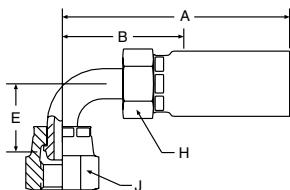
| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | H Hex | J Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|------|-----------------|------|-------|-------|---------------|
| #                 |   | ~~~~~           | (O)       |      |      |                 |      |       |       |               |
| Hose Fitting      |   |                 |           | inch | inch | mm              | inch | mm    | mm    | mm            |
| 19258-4-4         | + | PF 1/4-19       | 1/4       | 2.24 | 57   | 1.02            | 26   | 17    | 19    | PUF 013       |
| 19258-6-5 (+)     | + | PF 3/8-19       | 5/16      | 2.36 | 60   | 1.06            | 27   | 19    | 22    | PUF 305       |
| 19258-6-6         | + | PF 3/8-19       | 3/8       | 2.56 | 65   | 1.06            | 27   | 19    | 22    | PUF 306       |
| 19258-8-8         | + | PF 1/2-14       | 1/2       | 2.91 | 74   | 1.22            | 31   | 24    | 27    | PUF 308       |
| 19258-10-8 (+)    | + | PF 5/8-14       | 1/2       | 3.27 | 83   | 1.34            | 34   | 27    | 27    | PUF 008       |
| 19258-12-12       | + | PF 3/4-14       | 3/4       | 3.27 | 83   | 1.38            | 35   | 32    | 36    | PUF 008       |
| 19258-16-16       | + | PF 1-11         | 1         | 3.86 | 98   | 1.54            | 39   | 36    | 41    | PUF 508       |

**1B158 BSP Swivel 45° Elbow****58 Series Permanent**

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    |      | Cutoff Allow. B |      | E    | H Hex | J Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|------|-----------------|------|------|-------|-------|---------------|
| #                 |   | ~~~~~           | (O)       |      |      |                 |      |      |       |       |               |
| Hose Fitting      |   |                 |           | inch | inch | mm              | inch | mm   | mm    | mm    |               |
| 1B158-4-4 (+)     | + | PF 1/4-19       | 1/4       | 2.76 | 70   | 1.54            | 39   | 0.55 | 14    | 17    | 19            |
| 1B158-6-5 (+)     | + | PF 3/8-19       | 5/16      | 2.91 | 74   | 1.61            | 41   | 0.63 | 16    | 17    | 22            |
| 1B158-6-6 (+)     | + | PF 3/8-19       | 3/8       | 3.11 | 79   | 1.61            | 41   | 0.63 | 16    | 19    | 22            |
| 1B158-8-8 (+)     | + | PF 1/2-14       | 1/2       | 3.54 | 90   | 1.85            | 47   | 0.67 | 17    | 22    | 27            |
| 1B158-10-8 (+)    | + | PF 5/8-14       | 1/2       | 3.58 | 91   | 1.89            | 48   | 0.67 | 17    | 22    | 30            |
| 1B158-12-12       | + | PF 3/4-14       | 3/4       | 4.09 | 104  | 2.20            | 56   | 0.87 | 22    | 30    | 32            |
| 1B158-16-16       | + | PF 1-11         | 1         | 4.80 | 122  | 2.48            | 63   | 0.98 | 25    | 38    | 41            |
|                   |   |                 |           |      |      |                 |      |      |       |       | PUT 007       |

(+ ) Non Standard. See page ii for information on non-standard products.

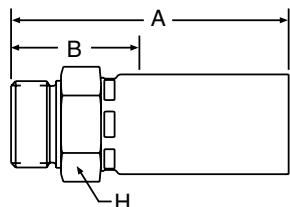
## 1B258 BSP Swivel 90° Elbow



### 58 Series Permanent

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    | Cutoff Allow. B |      | E  |      | H Hex | J Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|-----------------|------|----|------|-------|-------|---------------|
| #                 |   | ~~~~~           | O         |      |                 |      |    |      |       |       |               |
| Hose Fitting      |   |                 | inch      | inch | mm              | inch | mm | inch | mm    | mm    | mm            |
| 1B258-4-4         | + | PF 1/4-19       | 1/4       | 2.48 | 63              | 1.23 | 32 | 1.14 | 29    | 17    | 19            |
| 1B258-6-5 (+)     | + | PF 3/8-19       | 5/16      | 2.72 | 69              | 1.42 | 36 | 1.34 | 34    | 17    | 22            |
| 1B258-6-6         | + | PF 3/8-19       | 3/8       | 2.95 | 75              | 1.46 | 37 | 1.50 | 38    | 19    | 22            |
| 1B258-8-8         | + | PF 1/2-14       | 1/2       | 3.27 | 83              | 1.57 | 40 | 1.57 | 40    | 22    | 27            |
| 1B258-10-8 (+)    | + | PF 5/8-14       | 1/2       | 3.27 | 83              | 1.57 | 40 | 1.54 | 39    | 22    | 30            |
| 1B258-12-12       | + | PF 3/4-14       | 3/4       | 3.94 | 100             | 2.05 | 52 | 2.20 | 56    | 30    | 32            |
| 1B258-16-16       | + | PF 1-11         | 1         | 4.69 | 119             | 2.36 | 60 | 2.28 | 58    | 38    | 41            |
|                   |   |                 |           |      |                 |      |    |      |       |       | PUT 007       |

## 1D958 Male BSP

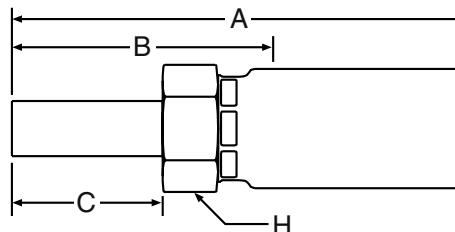


### 58 Series Permanent

| Steel Part Number | C | BSP Thread Size | Hose I.D. | A    | Cutoff Allow. B |      | H Hex | Pusher Number |
|-------------------|---|-----------------|-----------|------|-----------------|------|-------|---------------|
| #                 |   | ~~~~~           | O         |      |                 |      |       |               |
| Hose Fitting      |   |                 | inch      | inch | mm              | inch | mm    | mm            |
| 1D958-4-4 (+)     | + | PF 1/4-19       | 1/4       | 2.24 | 57              | 1.02 | 26    | 19            |
| 1D958-6-5 (+)     | + | PF 3/8-19       | 5/16      | 2.36 | 60              | 1.06 | 27    | 22            |
| 1D958-6-6 (+)     | + | PF 3/8-19       | 3/8       | 2.52 | 64              | 1.06 | 27    | 22            |
| 1D958-8-8 (+)     | + | PF 1/2-14       | 1/2       | 2.87 | 73              | 1.22 | 31    | 27            |
| 1D958-12-12       | + | PF 3/4-14       | 3/4       | 3.19 | 81              | 1.34 | 34    | 32            |
| 1D958-16-16       | + | PF 1-11         | 1         | 3.74 | 95              | 1.38 | 35    | 41            |
|                   |   |                 |           |      |                 |      |       | PUM 511       |

(+) Non Standard. See page ii for information on non-standard products.

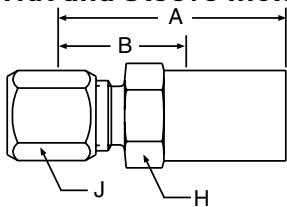
## 13D58 Metric Standpipe Heavy Series



### 58 Series Permanent

| Steel Part Number | C | Tube O.D. | Hose I.D. | A    |      | Cutoff Allow. B |    | C    |    | H Hex | Pusher Number |
|-------------------|---|-----------|-----------|------|------|-----------------|----|------|----|-------|---------------|
| #                 |   |           |           |      |      |                 |    |      |    |       |               |
| Hose Fitting      |   |           |           | inch | inch | mm              | mm | inch | mm | mm    |               |
| 13D58-10-4 (+)    | + | 10        | 1/4       | 2.72 | 69   | 1.54            | 39 | 0.94 | 24 | 17    | PUM 502       |
| 13D58-12-5 (+)    | + | 12        | 5/16      | 2.91 | 74   | 1.61            | 41 | 1.02 | 26 | 17    | PUM 502       |
| 13D58-12-6        | + | 12        | 3/8       | 3.07 | 78   | 1.57            | 40 | 1.02 | 26 | 19    | PUM 503       |
| 13D58-14-6 (+)    | + | 14        | 3/8       | 3.19 | 81   | 1.73            | 44 | 1.02 | 26 | 19    | PUM 503       |
| 13D58-16-8        | + | 16        | 1/2       | 3.43 | 87   | 1.81            | 46 | 1.18 | 30 | 22    | PUM 504       |
| 13D58-20-12       | + | 20        | 3/4       | 3.50 | 89   | 1.61            | 41 | 1.42 | 36 | 30    | PUM 508       |
| 13D58-25-12       | + | 25        | 3/4       | 3.58 | 91   | 1.69            | 43 | 1.57 | 40 | 30    | PUM 508       |
| 13D58-30-16       | + | 30        | 1         | 4.02 | 102  | 2.05            | 52 | 1.73 | 44 | 41    | PUM 511       |

(+) Non Standard. See page ii for information on non-standard products.

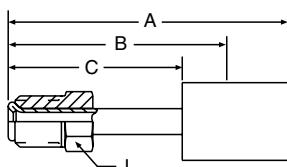
**11192 Ferrul-Fix****Nut and Sleeve Included****92 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|----|-----------------|----|-------|-------|---------------|
| #                 |   |   |             |            |           |      |    |                 |    |       |       |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm | inch            | mm | inch  | inch  |               |
| 11192-3-3         | + |   | 3/8-24      | 3/16       | 3/16      | 1.37 | 35 | 15/16           | 24 | 5/8   | 7/16  | PUM 019       |

"Ferrul-Fix" affords salvaging of bent tube section of combination tube-hose assemblies and quick, easy repair on the job.

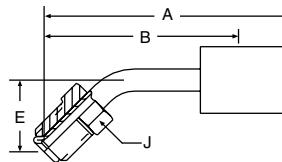
**NOTE:** Nut Part Number is 111-size

Sleeve Part Number is 110-size

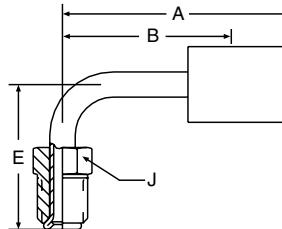
**12892 SAE Male Inverted Swivel Straight****92 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O. D. | Hose I.D. | A    |    | Cutoff Allow. B |    | C    | J Hex | Pusher Number |
|-------------------|---|---|-------------|------------|-----------|------|----|-----------------|----|------|-------|---------------|
| #                 |   |   |             |            |           |      |    |                 |    |      |       |               |
| Hose Fitting      |   |   |             | inch       | inch      | inch | mm | inch            | mm | inch | mm    |               |
| 12892-3-3         | + |   | 3/8-24      | 3/16       | 3/16      | 2.01 | 51 | 1-1/2           | 38 | 1.25 | 32    | 7/16          |

(+) Non Standard. See page ii for information on non-standard products.

**16792 SAE Male Inverted Swivel 45° Elbow****92 Series Permanent**

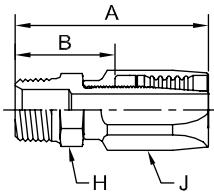
| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | J Hex | E    |    | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|------|----|---------------|
| #                 |   |   | ~~~~~       | ○○        | ○○        |      |    |                 |    | ○○    |      |    |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  | inch | mm |               |
| 16792-3-3         |   | + | 3/8-24      | 3/16      | 3/16      | 2.36 | 60 | 1-15/16         | 50 | 3/8   | 0.62 | 16 | PUT 014       |

**16992 SAE Male Inverted Swivel 90° Elbow****92 Series Permanent**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | J Hex | E    |    | Pusher Number |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|------|----|---------------|
| #                 |   |   | ~~~~~       | ○○        | ○○        |      |    |                 |    | ○○    |      |    |               |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  | inch | mm |               |
| 16992-3-3         |   | + | 3/8-24      | 3/16      | 3/16      | 1.45 | 37 | 1               | 25 | 3/8   | 1.25 | 32 | PUT 014       |

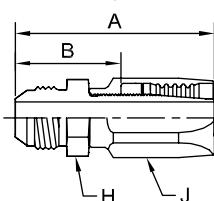
[+] Non Standard. See page ii for information on non-standard products.

## 201BA Male NPTF Rigid Straight

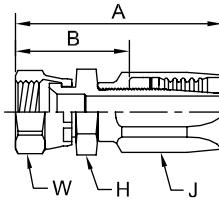


| Steel Part Number   | B | C | NPTF Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  |
|---------------------|---|---|------------------|-----------|------|----|-----------------|----|-------|--------|
| #                   |   |   | ~~~~~            | ○         |      |    |                 |    | ○     | ○      |
| <b>Hose Fitting</b> |   |   |                  |           |      |    |                 |    |       |        |
|                     |   |   |                  | inch      | inch | mm | inch            | mm | inch  | inch   |
| 201BA-2-4           | + |   | 1/8-27           | 1/4       | 2.25 | 57 | 0.97            | 25 | 5/8   | 3/4    |
| 201BA-4-4           | + | + | 1/4-18           | 1/4       | 2.44 | 62 | 1.16            | 30 | 5/8   | 3/4    |
| 201BA-6-4           | + | + | 3/8-18           | 1/4       | 2.44 | 62 | 1.16            | 30 | 3/4   | 3/4    |
| 201BA-4-6           | + | + | 1/4-18           | 3/8       | 2.63 | 67 | 1.22            | 31 | 3/4   | 7/8    |
| 201BA-6-6           | + |   | 3/8-18           | 3/8       | 2.63 | 67 | 1.22            | 31 | 3/4   | 7/8    |
| 201BA-8-6           |   | + | 1/2-14           | 3/8       | 2.81 | 71 | 1.41            | 36 | 7/8   | 7/8    |
| 201BA-8-8           |   | + | 1/2-14           | 1/2       | 3.16 | 80 | 1.56            | 40 | 7/8   | 1-1/16 |
| 201BA-12-12         |   | + | 3/4-14           | 3/4       | 3.19 | 81 | 1.53            | 39 | 1-1/8 | 1-5/16 |
| 201BA-16-16         |   | + | 1-11-1/2         | 1         | 3.69 | 94 | 2.06            | 52 | 1-1/2 | 1-5/8  |

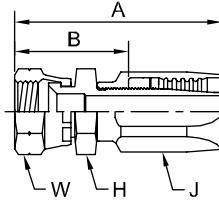
## 203BA Male JIC 37° Rigid Straight



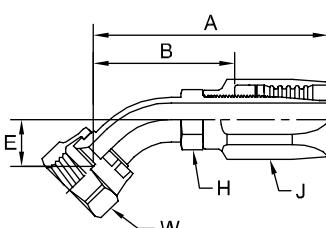
| Steel Part Number   | B | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  |
|---------------------|---|---|-------------|-----------|------|----|-----------------|----|-------|--------|
| #                   |   |   | ~~~~~       | ○         |      |    |                 |    | ○     | ○      |
| <b>Hose Fitting</b> |   |   |             |           |      |    |                 |    |       |        |
|                     |   |   |             | inch      | inch | mm | inch            | mm | inch  | inch   |
| 203BA-5-4           | + | + | 1/2-20      | 1/4       | 2.42 | 62 | 1.13            | 29 | 5/8   | 3/4    |
| 203BA-6-6           | + | + | 9/16-18     | 3/8       | 2.63 | 67 | 1.22            | 31 | 3/4   | 7/8    |
| 203BA-8-6           |   | + | 3/4-16      | 3/8       | 2.72 | 69 | 1.31            | 33 | 3/4   | 7/8    |
| 203BA-10-8          |   | + | 7/8-14      | 1/2       | 3.16 | 80 | 1.56            | 40 | 1     | 1-1/16 |
| 203BA-12-12         |   | + | 1 1/16-12   | 3/4       | 3.30 | 84 | 1.66            | 42 | 1 1/8 | 1-5/16 |
| 203BA-16-16         |   | + | 1 5/16-12   | 1         | 3.66 | 93 | 2.03            | 52 | 1 1/2 | 1-5/8  |

**206BA Female JIC 37° Swivel Straight**

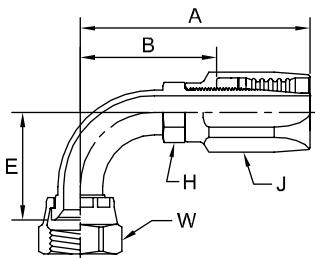
| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  | W Hex |
|-------------------|---|---|-------------|-----------|------|----|-----------------|----|-------|--------|-------|
| #                 |   |   | ~~~~~       | ○         |      |    |                 |    | ○     | ○      | ○     |
| Hose Fitting      |   |   |             | inch      | inch | mm | inch            | mm | inch  | inch   | inch  |
| 206BA-4-4         | + | + | 7/6-20      | 1/4       | 2.52 | 64 | 1.22            | 31 | 5/8   | 3/4    | 9/16  |
| 206BA-5-4         | + | + | 1/2-20      | 1/4       | 2.56 | 65 | 1.34            | 34 | 5/8   | 3/4    | 5/8   |
| 206BA-6-4         | + | + | 9/16-18     | 1/4       | 2.58 | 66 | 1.28            | 33 | 11/16 | 3/4    | 11/16 |
| 206BA-5-6         | + | + | 1/2-20      | 3/8       | 2.75 | 70 | 1.34            | 34 | 3/4   | 7/8    | 5/8   |
| 206BA-6-6         | + | + | 9/16-18     | 3/8       | 2.77 | 70 | 1.34            | 34 | 3/4   | 7/8    | 11/16 |
| 206BA-8-6         |   | + | 3/4-16      | 3/8       | 2.81 | 71 | 1.41            | 36 | 7/8   | 7/8    | 7/8   |
| 206BA-8-8         |   | + | 3/4-16      | 1/2       | 3.16 | 80 | 1.56            | 40 | 1     | 1-1/16 | 7/8   |
| 206BA-10-8        |   | + | 7/8-14      | 1/2       | 3.24 | 82 | 1.63            | 41 | 1     | 1-1/16 | 1     |
| 206BA-12-12       |   | + | 1 1/16-12   | 3/4       | 3.33 | 85 | 1.69            | 43 | 1 1/4 | 1-5/16 | 1 1/4 |
| 206BA-14-12       |   | + | 1 3/16-12   | 3/4       | 3.34 | 85 | 1.72            | 44 | 1-3/8 | 1-5/16 | 1-3/8 |
| 206BA-16-16       |   | + | 1 5/16-12   | 1         | 3.72 | 95 | 2.10            | 53 | 1 1/2 | 1-5/8  | 1 1/2 |

**208BA Female SAE 45° Swivel Straight**

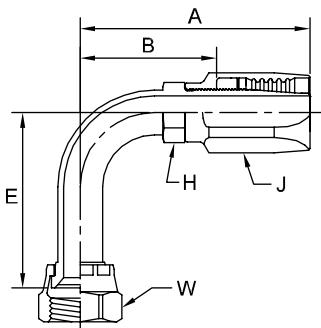
| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex | W Hex |
|-------------------|---|---|-------------|-----------|------|----|-----------------|----|-------|-------|-------|
| #                 |   |   | ~~~~~       | ○         |      |    |                 |    | ○     | ○     | ○     |
| Hose Fitting      |   |   |             | inch      | inch | mm | inch            | mm | inch  | inch  | inch  |
| 208BA-6-6         | + | + | 5/8-18      | 3/8       | 2.83 | 72 | 1.41            | 36 | 3/4   | 7/8   | 3/4   |

**237BA Female JIC 37° Swivel 45° Elbow Short Drop**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |    | Cutoff Allow. B |    | E    | H Hex | J Hex | W Hex |
|-------------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|------|-------|-------|-------|
| #                 |   |   | ~~~~~       | ○         | ○         |      |    |                 |    |      | ○     | ○     | ○     |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch | inch  | inch  | inch  |
| 237BA-8-6         |   | + | 3/4-16      | 1/2       | 3/8       | 3.09 | 79 | 1.69            | 43 | 0.55 | 14    | 3/4   | 7/8   |
| 237BA-10-8        |   | + | 7/8-14      | 5/8       | 1/2       | 3.53 | 90 | 1.94            | 49 | 0.63 | 16    | 7/8   | 1     |
| 237BA-12-12       |   | + | 1 1/16-12   | 1         | 3/4       | 3.75 | 95 | 2.13            | 54 | 0.77 | 20    | 1 1/8 | 1 1/4 |

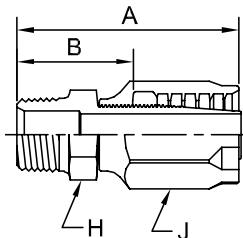
**239BA Female JIC 37° Swivel 90° Elbow Short Drop**

| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | W Hex |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|-------|
| #                 |   |   | ~~~~~       |           |           |      |     |                 |    |      |    |       |       |       |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm | inch  | inch  | inch  |
| 239BA-5-4         | + |   | 1/2-20      | 5/16      | 1/4       | 2.39 | 61  | 1.09            | 28 | 0.77 | 20 | 5/8   | 5/8   | 0.62  |
| 239BA-6-6         | + |   | 9/16-18     | 3/8       | 3/8       | 2.70 | 69  | 1.31            | 33 | 0.86 | 22 | 3/4   | 11/16 | 0.69  |
| 239BA-8-6         | + |   | 3/4-16      | 1/2       | 3/8       | 2.86 | 73  | 1.44            | 37 | 1.09 | 28 | 3/4   | 7/8   | 0.88  |
| 239BA-8-8         | + |   | 3/4-16      | 1/2       | 1/2       | 3.20 | 81  | 1.59            | 40 | 1.09 | 28 | 7/8   | 7/8   | 0.88  |
| 239BA-10-8        | + |   | 7/8-14      | 5/8       | 1/2       | 3.23 | 82  | 1.63            | 41 | 1.23 | 31 | 7/8   | 1     | 1.00  |
| 239BA-12-12       | + |   | 1 1/16-12   | 3/4       | 3/4       | 3.70 | 94  | 2.06            | 52 | 1.83 | 47 | 1 1/8 | 1 1/4 | 1.25  |
| 239BA-16-16       | + |   | 1 5/16-12   | 1         | 1         | 4.39 | 112 | 2.75            | 70 | 2.14 | 54 | 1 1/2 | 1 1/2 | 1.50  |

**241BA Female JIC 37° Swivel 90° Elbow Long Drop**

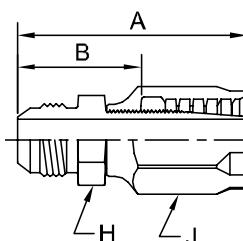
| Steel Part Number | B | C | Thread Size | Tube O.D. | Hose I.D. | A    |     | Cutoff Allow. B |    | E    |    | H Hex | J Hex | W Hex  |
|-------------------|---|---|-------------|-----------|-----------|------|-----|-----------------|----|------|----|-------|-------|--------|
| #                 |   |   | ~~~~~       |           |           |      |     |                 |    |      |    |       |       |        |
| Hose Fitting      |   |   |             | inch      | inch      | inch | mm  | inch            | mm | inch | mm | inch  | inch  | inch   |
| 241BA-12-12       | + |   | 1-1/16 - 12 | 3/4       | 3/4       | 3.94 | 100 | 2.31            | 59 | 3.73 | 95 | 1-1/8 | 1-1/4 | 1-5/16 |

## 201BG Male NPTF Rigid Straight

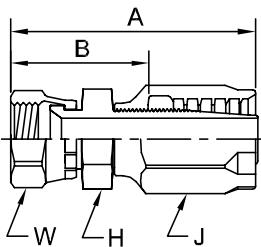


| Steel Part Number | B | C | NPTF Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  |
|-------------------|---|---|------------------|-----------|------|----|-----------------|----|-------|--------|
| #                 |   |   |                  |           |      |    |                 |    |       |        |
| Hose Fitting      |   |   |                  | inch      | inch | mm | inch            | mm | inch  | inch   |
| 201BG-2-3         | + | + | 1/8-27           | 3/16      | 1.78 | 45 | 0.81            | 21 | 1/2   | 5/8    |
| 201BG-4-3         | + | + | 1/4-18           | 3/16      | 1.97 | 50 | 1.00            | 25 | 5/8   | 5/8    |
| 201BG-4-4         | + | + | 1/4-18           | 1/4       | 2.06 | 52 | 1.06            | 27 | 5/8   | 11/16  |
| 201BG-4-5         | + | + | 1/4-18           | 5/16      | 2.38 | 61 | 1.25            | 32 | 5/8   | 3/4    |
| 201BG-6-6         | + |   | 3/8-18           | 3/8       | 2.63 | 67 | 1.31            | 33 | 7/8   | 7/8    |
| 201BG-8-8         |   | + | 1/2-14           | 1/2       | 3.13 | 80 | 1.63            | 41 | 1     | 1-1/16 |

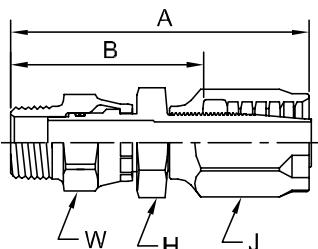
## 203BG Male JIC 37° Rigid Straight



| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  |
|-------------------|---|---|-------------|-----------|------|----|-----------------|----|-------|--------|
| #                 |   |   |             |           |      |    |                 |    |       |        |
| Hose Fitting      |   |   |             | inch      | inch | mm | inch            | mm | inch  | inch   |
| 203BG-4-3         | + | + | 7/16-20     | 3/16      | 1.96 | 50 | 1.00            | 25 | 1/2   | 5/8    |
| 203BG-4-4         | + | + | 7/16-20     | 1/4       | 2.05 | 52 | 1.06            | 27 | 5/8   | 11/16  |
| 203BG-5-4         | + | + | 1/2-20      | 1/4       | 2.05 | 52 | 1.06            | 27 | 5/8   | 11/16  |
| 203BG-6-5         | + | + | 9/16-18     | 5/16      | 2.37 | 60 | 1.25            | 32 | 5/8   | 3/4    |
| 203BG-6-6         | + | + | 9/16-18     | 3/8       | 2.62 | 67 | 1.31            | 33 | 7/8   | 7/8    |
| 203BG-8-6         |   | + | 3/4-16      | 3/8       | 2.72 | 69 | 1.41            | 36 | 7/8   | 7.8    |
| 203BG-8-8         |   | + | 3/4-16      | 1/2       | 3.03 | 77 | 1.53            | 39 | 1     | 1-1/16 |
| 203BG-10-8        |   | + | 7/8-14      | 1/2       | 3.13 | 80 | 1.63            | 41 | 1     | 1-1/16 |

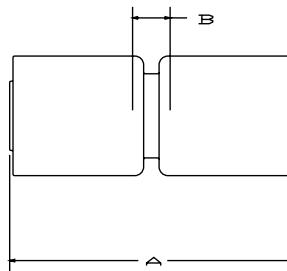
**206BG Female JIC 37° Swivel Straight**

| Steel Part Number | B | C | Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  | W Hex |
|-------------------|---|---|-------------|-----------|------|----|-----------------|----|-------|--------|-------|
| #                 |   |   | ~~~~~       | ○         |      |    |                 |    | ○     | ○      | ○     |
| Hose Fitting      |   |   |             | inch      | inch | mm | inch            | mm | inch  | inch   | inch  |
| 206BG-4-3         | + | + | 7/16-20     | 3/16      | 2.05 | 52 | 1.08            | 27 | 9/16  | 5/8    | 9/16  |
| 206BG-4-4         | + | + | 7/16-20     | 1/4       | 2.14 | 54 | 1.14            | 29 | 5/8   | 11/16  | 9/16  |
| 206BG-5-4         | + | + | 1/2-20      | 1/4       | 2.19 | 56 | 1.19            | 30 | 5/8   | 11/16  | 5/8   |
| 206BG-6-5         | + | + | 9/16-18     | 5/16      | 2.52 | 64 | 1.39            | 35 | 11/16 | 3/4    | 11/16 |
| 206BG-6-6         | + | + | 9/16-18     | 3/8       | 2.77 | 70 | 1.45            | 37 | 7/8   | 7/8    | 11/16 |
| 206BG-8-6         |   | + | 3/4-16      | 3/8       | 2.81 | 71 | 1.50            | 38 | 7/8   | 7/8    | 7/8   |
| 206BG-8-8         |   | + | 3/4-16      | 1/2       | 3.06 | 78 | 1.56            | 40 | 1     | 1-1/16 | 1     |

**213BG Male NPTF Pipe - Swivel Under Pressure - Straight**

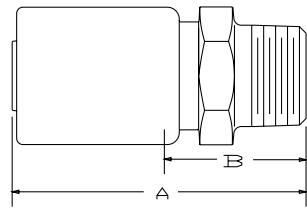
| Steel Part Number | B | C | NPTF Thread Size | Hose I.D. | A    |    | Cutoff Allow. B |    | H Hex | J Hex  | W Hex |
|-------------------|---|---|------------------|-----------|------|----|-----------------|----|-------|--------|-------|
| #                 |   |   | ~~~~~            | ○         |      |    |                 |    | ○     | ○      | ○     |
| Hose Fitting      |   |   |                  | inch      | inch | mm | inch            | mm | inch  | inch   | inch  |
| 213BG-2-3         | + | + | 1/8-27           | 3/16      | 2.44 | 62 | 1.47            | 37 | 5/8   | 5/8    | 5/8   |
| 213BG-4-3         | + | + | 1/4-18           | 3/16      | 2.50 | 64 | 1.53            | 39 | 5/8   | 5/8    | 5/8   |
| 213BG-4-4         | + | + | 1/4-18           | 1/4       | 2.59 | 66 | 1.59            | 40 | 5/8   | 11/16  | 5/8   |
| 213BG-4-5         | + | + | 1/4-18           | 5/16      | 3.03 | 77 | 1.91            | 49 | 11/16 | 3/4    | 11/16 |
| 213BG-6-6         | + | + | 3/8-18           | 3/8       | 3.28 | 83 | 1.97            | 50 | 7/8   | 7/8    | 7/8   |
| 213BG-8-8         |   | + | 1/2-14           | 1/2       | 3.78 | 96 | 2.28            | 58 | 1     | 1-1/16 | 1     |

## SQ Mender



| Part Number | Steel Part Number | Hose I.D. | A    |     | Cutoff Allow. B |    | Swage Die      |
|-------------|-------------------|-----------|------|-----|-----------------|----|----------------|
| #           | #                 | (O)       |      |     |                 |    |                |
| Hose        | Fitting           | inch      | inch | mm  | inch            | mm |                |
| S612        | 1HUSQ-12-12       | 3/4       | 3.70 | 94  | 0.53            | 14 | SQ-101-12S6/S9 |
| S616        | 1HUSQ-16-16       | 1         | 3.99 | 101 | 0.53            | 14 | SQ-101-16S6    |
| S620        | 1HUSQ-20-20       | 1 1/4     | 4.53 | 115 | 0.53            | 14 | SQ-101-20S6    |
| S912        | 1HUSQ-12-12       | 3/4       | 3.70 | 94  | 0.53            | 14 | SQ-101-12S9    |
| S916        | 1HUSQ-16-16       | 1         | 3.99 | 101 | 0.53            | 14 | SQ-101-16S9    |

## 101SQ



| Part Number | Steel Part Number | Hose I.D. | A    |     | Cutoff Allow. B |    | Swage Die      | Swage Pusher |
|-------------|-------------------|-----------|------|-----|-----------------|----|----------------|--------------|
| #           | #                 | (O)       |      |     |                 |    |                |              |
| Hose        | Fitting           | inch      | inch | mm  | inch            | mm |                |              |
| S612        | 101SQ-12-12       | 3/4       | 3.70 | 94  | 0.53            | 13 | SQ-101-12S6/S9 | SQ-101-12P   |
| S616        | 101SQ-16-16       | 1         | 3.99 | 101 | 0.53            | 13 | SQ-101-16S6    | SQ-101-16P   |
| S620        | 101SQ-20-20       | 1 1/4     | 4.53 | 115 | 0.53            | 13 | SQ-101-20S6    | SQ-101-20P   |
| S912        | 101SQ-12-12       | 3/4       | 3.70 | 94  | 0.53            | 13 | SQ-101-12S9    | SQ-101-12P   |
| S916        | 101SQ-16-16       | 1         | 3.99 | 101 | 0.53            | 13 | SQ-101-16S9    | SQ-101-16P   |

Notes

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

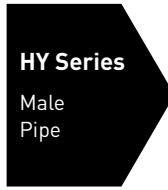
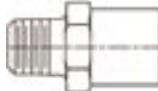
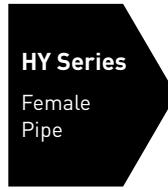
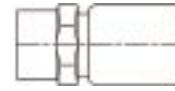
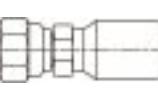
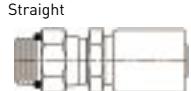
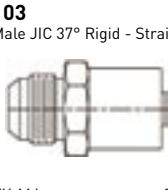
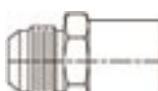
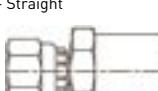
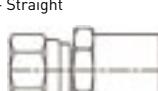
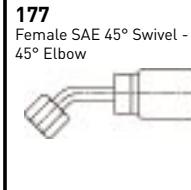
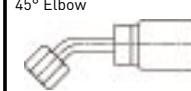
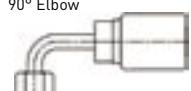
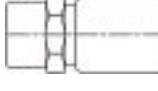
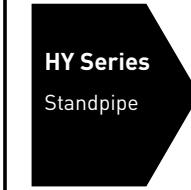
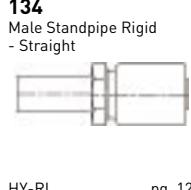
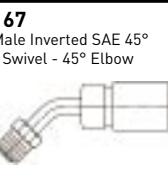
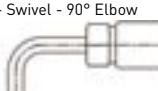
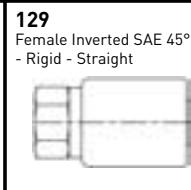
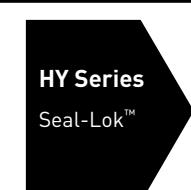
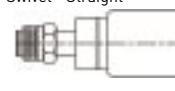
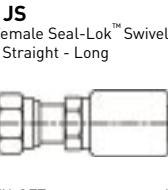
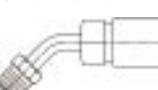
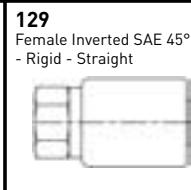
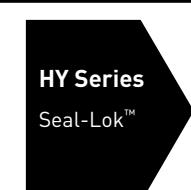
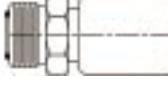
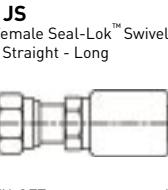
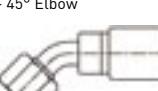
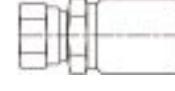
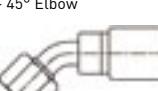
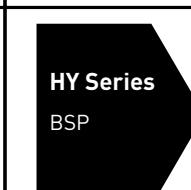
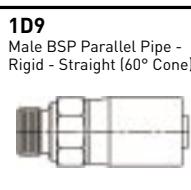
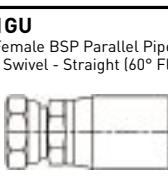
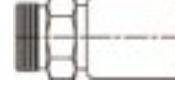
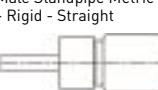
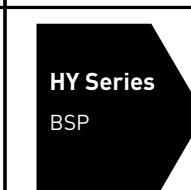
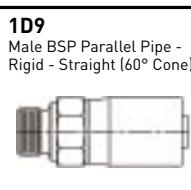
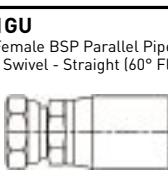
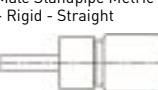
Approvals &  
Guides

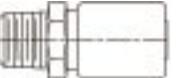
Alphanumeric  
Index



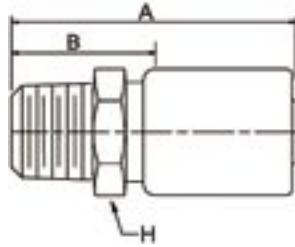
HY fittings have been added to this catalog for reference only purposes.

## HY Series Hose Fittings

|   |  |  |  |   |   |
|---|--|--|--|---|---|
|    | <b>101</b><br>Male NPTF Pipe Rigid - Straight<br>   | <b>113</b><br>Male NPTF Pipe - Swivel - Straight<br>                      | <b>11L</b><br>Male NPTF Pipe - Swivel - 90° Elbow<br>                      |    | <b>102</b><br>Female NPTF Pipe Rigid - Straight<br>                          |
|    | <b>107</b><br>Female NPSM Pipe - Swivel - Straight [60° Cone]<br>                                   | <b>105</b><br>Male SAE Straight Thread with O-Ring - Rigid - Straight<br> | <b>10G</b><br>Male SAE Straight Thread with O-Ring - Swivel - Straight<br> |    | <b>10L</b><br>Male SAE Straight Thread with O-Ring - Swivel - 90° Elbow<br>  |
|    | <b>103</b><br>Male JIC 37° Rigid - Straight<br>   | <b>106</b><br>Female JIC 37° Swivel - Straight<br>                        | <b>137</b><br>Female JIC 37° Swivel - 45° Elbow - Short Drop<br>            |    | <b>139</b><br>Female JIC 37° Swivel - 90° Elbow - Short Drop<br>              |
|   | <b>108</b><br>Female SAE 45° Swivel - Straight<br>   |    | <b>177</b><br>Female SAE 45° Swivel - 45° Elbow<br>                        |    | <b>179</b><br>Female SAE 45° Swivel - 90° Elbow<br>                          |
|  | <b>16J</b><br>Female Grease Connection - Special PTF Taper Thread - Rigid - Straight - 1/2x27<br> |   |    |   | <b>141</b><br>Female JIC 37° Swivel - 90° Elbow - Long Drop<br>              |
|  | <b>169</b><br>Male Inverted SAE 45° - Swivel - 45° Elbow<br>                                      |   |    |  | <b>128</b><br>Male Inverted SAE 45° Swivel - Straight<br>                  |
|  | <b>167</b><br>Male Inverted SAE 45° - Swivel - 45° Elbow<br>                                      |   |   |   | <b>1J0</b><br>Male Seal-Lok™ Rigid - Straight (w/ O-Ring)<br>              |
|  | <b>1J7</b><br>Female Seal-Lok™ Swivel - 45° Elbow<br>   |   |    |  | <b>1JC</b><br>Female Seal-Lok™ Swivel - Straight - Short<br>               |
|  | <b>1J9</b><br>Female Seal-Lok™ Swivel - 90° Elbow - Short Drop<br>                                |   |    |  | <b>1D0</b><br>Male Metric L - Rigid Straight (24° Cone)<br>                |
|  | <b>13D</b><br>Male Standpipe Metric S - Rigid - Straight<br>                                      |   |    |  | <b>1G6</b><br>Female BSP Parallel Pipe - Swivel - Straight (60° Flare)<br> |
|  | <b>HY-RZT</b><br>DIN "S" Series<br>   |   |  |  | <b>HY-BPF</b><br>DIN "P" Series<br>  |

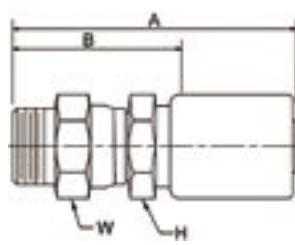
| HY Series Hose Fittings             |   |                                      |  |  |  |
|-------------------------------------|---|--------------------------------------|--|--|--|
| <b>HY Series</b><br>BSP 60°<br>Cone | <b>1UT</b><br>Male BSP Taper Pipe Rigid<br>- Straight<br><br>HY-BT pg. 128 | <b>HY Series</b><br>BSP 30°<br>Flare | <b>1XU</b><br>Female Metric Swivel<br>- Straight {30° Flare}<br><br>HY-KMF pg. 128 |  |  |
|                                     |   |                                      |  |  |  |

**Note:** Fittings 43, HY and 82 and are all Hose Product Division Fittings and must be purchased through HPD. HY fittings have been added to this catalog for reference only purposes.

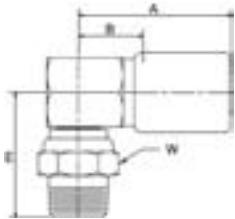
**101HY (HY-MP) Male NPTF Pipe Rigid - Straight**

Note: "C303" - Stainless Steel Fitting

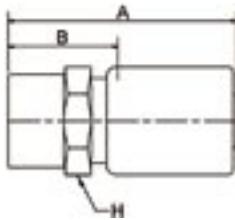
| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex   | Cutoff Allow. B |
|-------------------|-------------|-----------|---------|---------|-----------------|
| #                 | ~~~~~       | O         |         |         |                 |
| Hose Fitting      | inch        | inch      | inch mm | inch    | inch mm         |
| 101HY-2-4         | 1/8x27      | -2        | 1/4 -4  | 2.34 59 | 5/8 1.00        |
| 101HY-4-4         | 1/4x18      | -4        | 1/4 -4  | 2.53 64 | 9/16 1.19       |
| 101HY-4-4C303     | 1/4x18      | -4        | 1/4 -4  | 2.53 64 | 9/16 1.19       |
| 101HY-4-6         | 1/4x18      | -4        | 3/8 -6  | 2.55 65 | 11/16 1.19      |
| 101HY-6-4         | 3/8x18      | -6        | 1/4 -4  | 2.53 64 | 3/4 1.19        |
| 101HY-6-6         | 3/8x18      | -6        | 3/8 -6  | 2.55 65 | 3/4 1.19        |
| 101HY-6-6C303     | 3/8x18      | -6        | 3/8 -6  | 2.55 65 | 3/4 1.19        |
| 101HY-8-4         | 1/2x14      | -8        | 1/4 -4  | 2.72 69 | 7/8 1.38        |
| 101HY-8-6         | 1/2x14      | -8        | 3/8 -6  | 2.73 69 | 7/8 1.38        |
| 101HY-8-8         | 1/2x14      | -8        | 1/2 -8  | 2.91 74 | 7/8 1.56        |
| 101HY-8-8C303     | 1/2x14      | -8        | 1/2 -8  | 2.91 74 | 7/8 1.56        |
| 101HY-8-10        | 1/2x14      | -8        | 5/8 -10 | 2.94 75 | 1-1/8 1.59      |
| 101HY-8-12        | 1/2x14      | -8        | 3/4 -12 | 3.08 78 | 1-1/4 1.50      |
| 101HY-12-8        | 3/4x14      | -12       | 1/2 -8  | 2.91 74 | 1-1/16 1.56     |
| 101HY-12-10       | 3/4x14      | -12       | 5/8 -10 | 2.98 76 | 1-1/8 1.59      |
| 101HY-12-12       | 3/4x14      | -12       | 3/4 -12 | 3.08 78 | 1-1/4 1.50      |
| 101HY-12-12C303   | 3/4x14      | -12       | 3/4 -12 | 3.08 78 | 1-1/4 1.50      |
| 101HY-12-16       | 3/4x14      | -12       | 1 -16   | 3.23 82 | 1-3/8 1.63      |
| 101HY-16-12       | 1x11-1/2    | -16       | 3/4 -12 | 3.27 83 | 1-3/8 1.69      |
| 101HY-16-16       | 1x11-1/2    | -16       | 1 -16   | 3.42 87 | 1-3/8 1.81      |
| 101HY-16-16C303   | 1x11-1/2    | -16       | 1 -16   | 3.42 87 | 1-3/8 1.81      |
|                   |             |           |         |         | 46              |

**113HY (HY-MS and HY-SP) Male NPTF Pipe - Swivel - Straight**

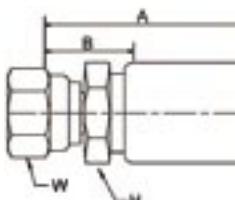
| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex    | W Hex       | Cutoff Allow. B |
|-------------------|-------------|-----------|---------|----------|-------------|-----------------|
| #                 | ~~~~~       | O         |         |          |             |                 |
| Hose Fitting      | inch        | inch      | inch mm | inch     | inch        | inch mm         |
| 113HY-2-4         | 1/8x27      | -2        | 1/4 -4  | 2.97 75  | 9/16 5/8    | 1.63 41         |
| 113HY-4-4         | 1/4x18      | -4        | 1/4 -4  | 3.06 78  | 9/16 5/8    | 1.72 44         |
| 113HY-4-6         | 1/4x18      | -4        | 3/8 -6  | 3.17 81  | 11/16 11/16 | 1.81 46         |
| 113HY-6-4         | 3/8x18      | -6        | 1/4 -4  | 3.13 80  | 5/8 11/16   | 1.78 45         |
| 113HY-6-6         | 3/8x18      | -6        | 3/8 -6  | 3.11 79  | 11/16 11/16 | 1.75 44         |
| 113HY-6-8         | 3/8x18      | -6        | 1/2 -8  | 3.31 84  | 7/8 7/8     | 1.97 50         |
| 113HY-8-6         | 1/2x14      | -8        | 3/8 -6  | 3.38 86  | 7/8 7/8     | 2.03 52         |
| 113HY-8-8         | 1/2x14      | -8        | 1/2 -8  | 3.50 89  | 7/8 7/8     | 2.16 55         |
| 113HY-12-12       | 3/4x14      | -12       | 3/4 -12 | 3.95 100 | 1-1/4 1-1/4 | 2.38 60         |
| 113HY-16-16       | 1x11-1/2    | -16       | 1 -16   | 4.23 107 | 1-1/2 1-1/2 | 2.63 67         |

**11LHY (HY-SP90) Male NPTF Pipe Swivel - 90° Elbow**

| Steel Part Number | Thread Size |    | Hose I.D. | A    |      | E    |      | W Hex | B     |      |    |
|-------------------|-------------|----|-----------|------|------|------|------|-------|-------|------|----|
| #                 | ~~~~~       |    | O         |      |      |      |      | HEX   |       |      |    |
| Hose Fitting      | inch        |    | inch      | inch | mm   | inch | mm   | inch  | inch  | mm   |    |
| 11LHY-4-4         | 1/4x18      | -4 | 1/4       | -4   | 2.31 | 59   | 1.69 | 43    | 11/16 | 0.97 | 25 |
| 11LHY-4-6         | 1/4x18      | -4 | 3/8       | -6   | 2.33 | 59   | 1.69 | 43    | 11/16 | 0.97 | 25 |
| 11LHY-6-6         | 3/8x8       | -6 | 3/8       | -6   | 2.33 | 59   | 1.63 | 41    | 11/16 | 0.97 | 25 |
| 11LHY-8-6         | 1/2x14      | -8 | 3/8       | -6   | 2.73 | 69   | 1.88 | 48    | 7/8   | 0.97 | 25 |
| 11LHY-8-8         | 1/2x14      | -8 | 1/2       | -8   | 3.00 | 76   | 1.93 | 49    | 7/8   | 1.09 | 28 |

**102HY (HY-FF) Female NPTF Pipe Rigid - Straight**

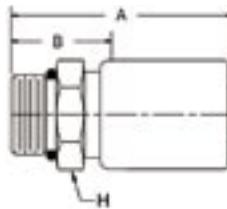
| Steel Part Number | Thread Size |     | Hose I.D. | A    |      | H Hex | Cutoff Allow. B |      |    |
|-------------------|-------------|-----|-----------|------|------|-------|-----------------|------|----|
| #                 | ~~~~~       |     | O         |      |      | HEX   |                 |      |    |
| Hose Fitting      | inch        |     | inch      | inch | mm   | inch  | inch            | mm   |    |
| 102HY-2-4         | 1/8x27      | -2  | 1/4       | -4   | 2.34 | 59    | 5/8             | 1.00 | 25 |
| 102HY-4-4         | 1/4x18      | -4  | 1/4       | -4   | 2.47 | 63    | 11/16           | 1.13 | 29 |
| 102HY-4-6         | 1/4x18      | -4  | 3/8       | -6   | 2.48 | 63    | 11/16           | 1.13 | 29 |
| 102HY-6-4         | 3/8x18      | -6  | 1/4       | -4   | 2.47 | 63    | 7/8             | 1.13 | 29 |
| 102HY-6-6         | 3/8x18      | -6  | 3/8       | -6   | 2.48 | 63    | 7/8             | 1.13 | 29 |
| 102HY-8-6         | 1/2x14      | -8  | 3/8       | -6   | 2.75 | 70    | 1               | 1.41 | 36 |
| 102HY-8-8         | 1/2x14      | -8  | 1/2       | -8   | 2.84 | 72    | 1               | 1.50 | 38 |
| 102HY-12-12       | 3/4x14      | -12 | 3/4       | -12  | 2.83 | 72    | 1-1/4           | 1.25 | 32 |
| 102HY-16-16       | 1x11-1/2    | -16 | 1         | 16   | 3.27 | 83    | 1-1/2           | 1.66 | 42 |

**107HY (HY-RV) Female NPSM Pipe Swivel - Straight (60° Cone)**

| Steel Part Number | Thread Size |    | Hose I.D. | A    |      | H Hex | W Hex | B    |    |     |
|-------------------|-------------|----|-----------|------|------|-------|-------|------|----|-----|
| #                 | ~~~~~       |    | O         |      |      | HEX   | HEX   |      |    |     |
| Hose Fitting      | inch        |    | inch      | inch | mm   | inch  | inch  | inch | mm |     |
| 107HY-6-6         | 3/8x18      | -6 | 3/8       | -6   | 2.55 | 65    | 3/4   | 1.19 | 30 | 762 |

## 105HY (HY-RA) Male SAE Straight Thread with O-Ring - Rigid - Straight

Note: O-Ring is not compatible with Phosphate Ester fluids.

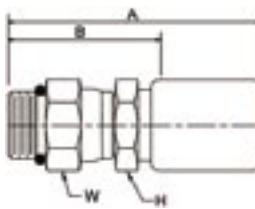


| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex   | Cutoff Allow. B |
|-------------------|-------------|-----------|---------|---------|-----------------|
| #                 | ~~~~~       | O         |         | Hexagon |                 |
| Hose Fitting      | inch        | inch      | inch mm | inch    | inch mm         |
| 105HY-4-4         | 7/16x20     | -4        | 1/4 -4  | 2.33 59 | 9/16 0.97 25    |
| 105HY-5-4         | 1/2x20      | -5        | 1/4 -4  | 2.33 59 | 5/8 0.97 25     |
| 105HY-6-4         | 9/16x18     | -6        | 1/4 -4  | 2.42 61 | 11/16 1.06 27   |
| 105HY-6-6         | 9/16x18     | -6        | 3/8 -6  | 2.38 60 | 11/16 1.03 26   |
| 105HY-8-6         | 3/4x16      | -8        | 3/8 -6  | 2.42 61 | 7/8 1.06 27     |
| 105HY-8-8         | 3/4x16      | -8        | 1/2 -8  | 2.59 66 | 7/8 1.25 32     |
| 105HY-10-6        | 7/8x14      | -10       | 3/8 -6  | 2.55 65 | 1 1.19 30       |
| 105HY-10-8        | 7/8x14      | -10       | 1/2 -8  | 2.66 68 | 1 1.31 33       |
| 105HY-10-10       | 7/8x14      | -10       | 5/8 -10 | 2.80 71 | 1-1/8 1.41 36   |
| 105HY-12-8        | 1-1/16x12   | -12       | 1/2 -8  | 2.81 71 | 1-1/4 1.47 37   |
| 105HY-12-10       | 1-1/16x12   | -12       | 5/8 -10 | 2.83 72 | 1-1/4 1.44 37   |
| 105HY-12-12       | 1-1/16x12   | -12       | 3/4 -12 | 2.92 74 | 1-1/4 1.34 34   |
| 105HY-16-12       | 1-5/16x12   | -16       | 3/4 -12 | 2.92 74 | 1-1/2 1.34 34   |
| 105HY-16-16       | 1-5/16x12   | -16       | 1 -16   | 3.08 78 | 1-1/2 1.47 37   |

## 10GHY (HY-RC) Male SAE Straight Thread with O-Ring - Swivel Straight

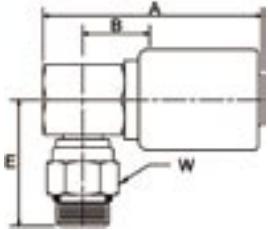
Note: The fitting allows minor movement under pressure to relieve stress on hose. It is not to be used for continuous or extensive swiveling.

Note: O-Ring is not compatible with Phosphate Ester fluids.



| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex    | W Hex       | B       |
|-------------------|-------------|-----------|---------|----------|-------------|---------|
| #                 | ~~~~~       | O         |         | Hexagon  | Hexagon     |         |
| Hose Fitting      | inch        | inch      | inch mm | inch     | inch        | inch mm |
| 10GHY-4-4         | 7/16x20     | -4        | 1/4 -4  | 3.00 76  | 9/16 5/8    | 1.66 42 |
| 10GHY-5-4         | 1/2x20      | -5        | 1/4 -4  | 3.00 76  | 9/16 5/8    | 1.66 42 |
| 10GHY-6-6         | 9/16x18     | -6        | 3/8 -6  | 3.14 80  | 11/16 11/16 | 1.78 45 |
| 10GHY-8-6         | 3/4x16      | -8        | 3/8 -6  | 3.24 82  | 13/16 7/8   | 1.88 48 |
| 10GHY-8-8         | 3/4x16      | -8        | 1/2 -8  | 3.36 85  | 7/8 7/8     | 2.00 51 |
| 10GHY-10-8        | 7/8x14      | -10       | 1/2 -8  | 3.44 87  | 1 1         | 2.09 53 |
| 10GHY-12-8        | 1-1/16x12   | -12       | 1/2 -8  | 3.66 93  | 1-1/4 1-1/4 | 2.31 59 |
| 10GHY-12-12       | 1-1/16x12   | -12       | 3/4 -12 | 3.89 99  | 1-1/4 1-1/4 | 2.31 59 |
| 10GHY-16-16       | 1-5/16x12   | -16       | 1 -16   | 3.95 100 | 1-3/8 1-1/2 | 2.34 59 |

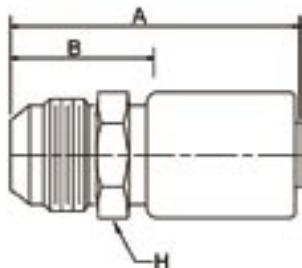
## 10LHY (HY-RC90) Male SAE Straight Thread with O-Ring - Swivel 90° Elbow



Note: The fitting allows minor movement under pressure to relieve stress on hose. It is not to be used for continuous or extensive swiveling.  
 Note: O-Ring is not compatible with Phosphate Ester fluids.

| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |    | W Hex | B    |       |      |    |
|-------------------|-------------|-----------|------|-----|------|----|-------|------|-------|------|----|
| #                 | ~~~~~       | O         |      |     |      |    | Hex   |      |       |      |    |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm | inch  | inch | mm    |      |    |
| 10LHY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 2.33 | 59 | 1.66  | 42   | 11/16 | 0.97 | 25 |
| 10LHY-8-6         | 3/4x16      | -8        | 3/8  | -6  | 2.33 | 59 | 1.73  | 44   | 7/8   | 0.97 | 25 |
| 10LHY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 3.00 | 76 | 1.80  | 46   | 7/8   | 1.09 | 28 |
| 10LHY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 3.00 | 76 | 1.88  | 48   | 1     | 1.09 | 28 |
| 10LHY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 2.77 | 70 | 2.23  | 57   | 1-1/4 | 1.19 | 30 |
| 10LHY-16-16       | 1-5/16x12   | -16       | 1    | -16 | 3.03 | 77 | 2.40  | 61   | 1-1/2 | 1.41 | 36 |

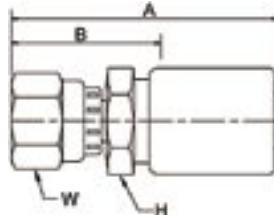
## 103HY (HY-MJ) Male JIC 37° Rigid - Straight



| Steel Part Number | Thread Size | Hose I.D. | A    |     | H Hex | Cutoff Allow. B |       |      |    |
|-------------------|-------------|-----------|------|-----|-------|-----------------|-------|------|----|
| #                 | ~~~~~       | O         |      |     | Hex   |                 |       |      |    |
| Hose Fitting      | inch        | inch      | inch | mm  | inch  | mm              |       |      |    |
| 103HY-4-4         | 7/16x20     | -4        | 1/4  | -5  | 2.52  | 64              | 5/8   | 1.19 | 30 |
| 103HY-5-4         | 1/2x20      | -5        | 1/4  | -4  | 2.52  | 64              | 5/8   | 1.19 | 30 |
| 103HY-6-4         | 9/16x18     | -6        | 1/4  | -4  | 2.53  | 64              | 11/16 | 1.19 | 30 |
| 103HY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 2.54  | 65              | 11/16 | 1.19 | 30 |
| 103HY-6-8         | 9/16x18     | -6        | 1/2  | -8  | 2.72  | 69              | 7/8   | 1.38 | 35 |
| 103HY-8-6         | 3/4x16      | -8        | 3/8  | -6  | 2.64  | 67              | 13/16 | 1.28 | 33 |
| 103HY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 2.81  | 71              | 7/8   | 1.47 | 37 |
| 103HY-10-6        | 7/8x14      | -10       | 3/8  | -6  | 2.81  | 71              | 1     | 1.47 | 37 |
| 103HY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 2.91  | 74              | 1     | 1.56 | 40 |
| 103HY-10-10       | 7/8x14      | -10       | 5/8  | -10 | 2.98  | 76              | 1-1/8 | 1.59 | 40 |
| 103HY-10-12       | 7/8x14      | -10       | 3/4  | -12 | 3.08  | 78              | 1-1/4 | 1.50 | 38 |
| 103HY-12-8        | 1-1/16x12   | -12       | 1/2  | -8  | 3.02  | 77              | 1-1/8 | 1.66 | 42 |
| 103HY-12-10       | 1-1/16x12   | -12       | 5/8  | -10 | 3.09  | 78              | 1-1/8 | 1.72 | 44 |
| 103HY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 3.19  | 81              | 1-1/4 | 1.63 | 41 |
| 103HY-14-12       | 1-3/16x12   | -14       | 3/4  | -12 | 3.19  | 81              | 1-1/4 | 1.63 | 41 |
| 103HY-16-12       | 1-5/16x12   | -16       | 3/4  | -12 | 3.23  | 82              | 1-3/8 | 1.66 | 42 |
| 103HY-16-16       | 1-5/16x12   | -16       | 1    | -16 | 3.39  | 86              | 1-3/8 | 1.78 | 45 |

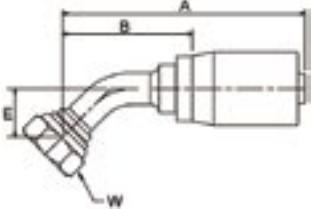
# 106HY (HY-FJ) Female JIC 37° Swivel - Straight

Note: "C303" - Stainless Steel Fitting



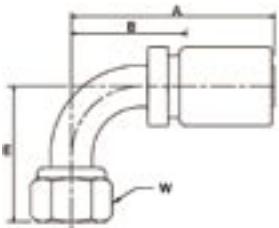
| Steel Part Number | Thread Size | Hose I.D. | A    |     | H Hex | W Hex | B     |       |
|-------------------|-------------|-----------|------|-----|-------|-------|-------|-------|
| #                 | ~~~~~       | O         |      |     | Hex   | Hex   |       |       |
| Hose Fitting      | inch        | inch      | inch | mm  | inch  | inch  | inch  | mm    |
| 106HY-3-4         | 3/8x24      | -3        | 1/4  | -4  | 2.58  | 66    | 9/16  | 1/2   |
| 106HY-4-4         | 7/16x20     | -4        | 1/4  | -4  | 2.60  | 66    | 9/16  | 9/16  |
| 106HY-4-4C303     | 7/16x20     | -4        | 1/4  | -4  | 2.60  | 66    | 9/16  | 9/16  |
| 106HY-4-6         | 7/16x20     | -4        | 3/8  | -6  | 2.67  | 68    | 3/4   | 9/16  |
| 106HY-5-4         | 1/2x20      | -5        | 1/4  | -4  | 2.65  | 67    | 9/16  | 5/8   |
| 106HY-5-6         | 1/2x20      | -5        | 3/8  | -6  | 2.73  | 69    | 3/4   | 5/8   |
| 106HY-6-4         | 9/16x18     | -6        | 1/4  | -4  | 2.67  | 68    | 5/8   | 11/16 |
| 106HY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 2.69  | 68    | 11/16 | 11/16 |
| 106HY-6-6C303     | 9/16x18     | -6        | 3/8  | -6  | 2.69  | 68    | 11/16 | 11/16 |
| 106HY-6-8         | 9/16x18     | -6        | 1/2  | -8  | 2.86  | 73    | 7/8   | 11/16 |
| 106HY-8-6         | 3/4x16      | -8        | 3/8  | -6  | 2.72  | 69    | 7/8   | 7/8   |
| 106HY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 2.90  | 74    | 7/8   | 1.56  |
| 106HY-8-8C303     | 3/4x16      | -8        | 1/2  | -8  | 2.90  | 74    | 7/8   | 1.56  |
| 106HY-8-10        | 3/4x16      | -8        | 5/8  | -10 | 2.98  | 76    | 1-1/8 | 7/8   |
| 106HY-8-12        | 3/4x16      | -8        | 3/4  | -10 | 3.08  | 78    | 1-1/4 | 7/8   |
| 106HY-10-6        | 7/8x14      | -10       | 3/8  | -6  | 2.81  | 71    | 7/8   | 1     |
| 106HY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 2.98  | 76    | 1     | 1.63  |
| 106HY-10-10       | 7/8x14      | -10       | 5/8  | -10 | 3.06  | 78    | 1-1/8 | 1     |
| 106HY-10-12       | 7/8x14      | -10       | 3/4  | -12 | 3.16  | 80    | 1-1/4 | 1     |
| 106HY-12-8        | 1-1/16x12   | -12       | 1/2  | -8  | 3.05  | 77    | 1-1/8 | 1-1/4 |
| 106HY-12-10       | 1-1/16x12   | -12       | 5/8  | -10 | 3.12  | 79    | 1-1/8 | 1-1/4 |
| 106HY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 3.22  | 82    | 1-1/4 | 1-1/4 |
| 106HY-12-12C303   | 1-1/16x12   | -12       | 3/4  | -12 | 3.22  | 82    | 1-1/4 | 1-1/4 |
| 106HY-12-16       | 1-1/16x12   | -12       | 1    | -16 | 3.38  | 86    | 1-3/8 | 1-1/4 |
| 106HY-14-12       | 1-3/16x12   | -14       | 3/4  | -12 | 3.23  | 82    | 1-1/4 | 1-3/8 |
| 106HY-16-12       | 1-5/16x12   | -16       | 3/4  | -12 | 3.30  | 84    | 1-3/8 | 1-1/2 |
| 106HY-16-16       | 1-5/16x12   | -16       | 1    | -16 | 3.45  | 88    | 1-3/8 | 1-1/2 |
| 106HY-16-16C303   | 1-5/16x12   | -16       | 1    | -16 | 3.45  | 88    | 1-3/8 | 1-1/2 |
| 106HY-20-16       | 1-5/8x12    | -20       | 1    | -16 | 3.70  | 94    | 1-3/4 | 2     |
|                   |             |           |      |     |       |       |       | 2.09  |
|                   |             |           |      |     |       |       |       | 53    |

## 137HY (HY-FJ45T) Female JIC 37° Swivel - 45° Elbow - Short Drop

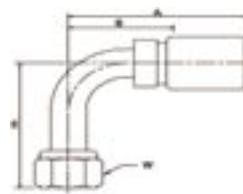


| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |     | W Hex | B    |       |      |    |
|-------------------|-------------|-----------|------|-----|------|-----|-------|------|-------|------|----|
| #                 | ~~~~~       | O         |      |     |      |     | O     |      |       |      |    |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm  | inch  | inch | mm    |      |    |
| 137HY-4-4         | 7/16x20     | -4        | 1/4  | -4  | 3.24 | 82  | 0.33  | 8    | 9/16  | 1.88 | 48 |
| 137HY-5-4         | 1/2x20      | -5        | 1/4  | -4  | 3.27 | 83  | 0.36  | 9    | 5/8   | 1.91 | 49 |
| 137HY-6-4         | 9/16x18     | -6        | 1/4  | -4  | 3.34 | 85  | 0.39  | 10   | 3/4   | 2.00 | 51 |
| 137HY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 3.33 | 85  | 0.39  | 10   | 11/16 | 1.97 | 50 |
| 137HY-8-6         | 3/4x16      | -8        | 3/8  | -6  | 3.66 | 93  | 0.54  | 14   | 7/8   | 2.31 | 59 |
| 137HY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 3.77 | 96  | 0.54  | 14   | 7/8   | 2.41 | 61 |
| 137HY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 3.41 | 87  | 0.63  | 16   | 1     | 2.06 | 52 |
| 137HY-10-10       | 7/8x14      | -10       | 5/8  | -10 | 3.69 | 94  | 0.63  | 16   | 1     | 2.31 | 59 |
| 137HY-12-10       | 1-1/16x12   | -12       | 5/8  | -10 | 3.94 | 100 | 0.77  | 20   | 1-1/8 | 2.56 | 65 |
| 137HY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 3.89 | 99  | 0.77  | 20   | 1-1/4 | 2.31 | 59 |
| 137HY-16-12       | 1-5/16x12   | -16       | 3/4  | -12 | 4.35 | 110 | 0.89  | 23   | 1-1/2 | 2.78 | 71 |
| 137HY-16-16       | 1-5/16x12   | -16       | 1    | -16 | 4.31 | 109 | 0.89  | 23   | 1-1/2 | 2.69 | 68 |

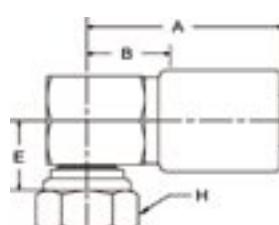
## 139HY (HY-FJ90T) Female JIC 37° Swivel - 90° Elbow - Short Drop



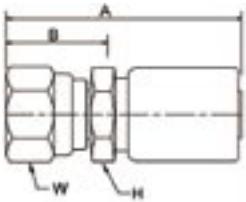
| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |     | W Hex | B    |       |      |    |
|-------------------|-------------|-----------|------|-----|------|-----|-------|------|-------|------|----|
| #                 | ~~~~~       | O         |      |     |      |     | O     |      |       |      |    |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm  | inch  | inch | mm    |      |    |
| 139HY-4-4         | 7/16x20     | -4        | 1/4  | -4  | 3.13 | 80  | 0.69  | 18   | 9/16  | 1.78 | 45 |
| 139HY-5-4         | 1/2x20      | -5        | 1/4  | -4  | 3.16 | 80  | 0.77  | 20   | 5/8   | 1.81 | 46 |
| 139HY-6-4         | 9/16x18     | -6        | 1/4  | -4  | 3.25 | 83  | 0.86  | 22   | 3/4   | 1.91 | 49 |
| 139HY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 3.23 | 82  | 0.86  | 22   | 11/16 | 1.88 | 48 |
| 139HY-8-6         | 3/4x16      | -8        | 3/8  | -6  | 3.48 | 88  | 1.12  | 28   | 7/8   | 2.13 | 54 |
| 139HY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 3.59 | 91  | 1.13  | 29   | 7/8   | 2.25 | 57 |
| 139HY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 3.11 | 79  | 1.23  | 31   | 1     | 1.75 | 44 |
| 139HY-10-10       | 7/8x14      | -10       | 5/8  | -10 | 3.39 | 86  | 1.23  | 31   | 1     | 2.00 | 51 |
| 139HY-10-12       | 7/8x14      | -10       | 3/4  | -12 | 3.25 | 83  | 1.23  | 31   | 1     | 1.69 | 43 |
| 139HY-12-8        | 1-1/16x12   | -12       | 1/2  | -8  | 3.61 | 92  | 1.83  | 46   | 1-1/4 | 2.25 | 57 |
| 139HY-12-10       | 1-1/16x12   | -12       | 5/8  | -10 | 3.89 | 99  | 1.83  | 46   | 1-1/4 | 2.50 | 64 |
| 139HY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 3.84 | 98  | 1.83  | 46   | 1-1/4 | 2.28 | 58 |
| 139HY-16-12       | 1-5/16x12   | -16       | 3/4  | -12 | 4.33 | 110 | 2.14  | 54   | 1-1/2 | 2.78 | 71 |
| 139HY-16-16       | 1-5/16x12   | -16       | 1    | -16 | 4.31 | 109 | 2.31  | 59   | 1-1/2 | 2.69 | 68 |

**141HY (HY-FJ90TL) Female JIC 37° Swivel - 90° Elbow - Long Drop**

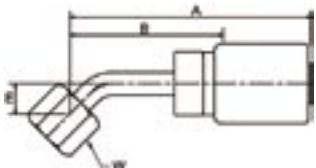
| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |     | W Hex | B    |       |
|-------------------|-------------|-----------|------|-----|------|-----|-------|------|-------|
| #                 | ~~~~~       | O         |      |     |      |     | Hex   |      |       |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm  | inch  | inch | mm    |
| 141HY-4-4         | 7/16x20     | -4        | 1/4  | -4  | 3.13 | 80  | 1.8   | 46   | 9/16  |
| 141HY-5-4         | 1/2x20      | -5        | 1/4  | -4  | 3.16 | 80  | 1.77  | 45   | 5/8   |
| 141HY-6-4         | 9/16x18     | -6        | 1/4  | -4  | 3.22 | 82  | 2.19  | 56   | 11/16 |
| 141HY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 3.23 | 82  | 2.19  | 56   | 11/16 |
| 141HY-8-6         | 3/4x16      | -8        | 3/8  | -6  | 3.48 | 88  | 2.44  | 62   | 7/8   |
| 141HY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 3.59 | 91  | 2.44  | 62   | 7/8   |
| 141HY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 3.36 | 85  | 2.58  | 66   | 1     |
| 141HY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 3.59 | 91  | 3.73  | 95   | 1-1/4 |
| 141HY-16-16       | 1-5/16x12   | -16       | 1    | -16 | 4.56 | 116 | 4.33  | 110  | 1-1/2 |

**193HY (HY-FJ90) Female JIC 37° Swivel - 90° Elbow - Block**

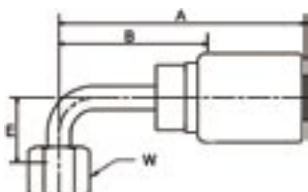
| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |    | W Hex | B    |       |
|-------------------|-------------|-----------|------|-----|------|----|-------|------|-------|
| #                 | ~~~~~       | O         |      |     |      |    | Hex   |      |       |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm | inch  | inch | mm    |
| 193HY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 2.33 | 59 | 0.78  | 20   | 11/16 |
| 193HY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 3.00 | 76 | 0.85  | 22   | 7/8   |
| 193HY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 3.00 | 76 | 0.89  | 23   | 1     |
| 193HY-10-12       | 7/8x14      | -10       | 3/4  | -12 | 3.25 | 83 | 0.96  | 24   | 1     |
| 193HY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 3.33 | 85 | 0.99  | 25   | 1-1/4 |

**108HY (HY-FA) Female SAE 45° Swivel - Straight**

| Steel Part Number | Thread Size | Hose I.D. | A    | H Hex | W Hex | B    |
|-------------------|-------------|-----------|------|-------|-------|------|
| #                 | ~~~~~       | O         |      |       |       |      |
| Hose Fitting      | inch        | inch      | inch | mm    | inch  | inch |
| 108HY-4-4         | 7/16x20     | -4        | 1/4  | -4    | 2.60  | 66   |
| 108HY-5-4         | 1/2x20      | -5        | 1/4  | -4    | 2.66  | 68   |
| 108HY-6-4         | 5/8x18      | -6        | 1/4  | -4    | 2.73  | 69   |
| 108HY-6-6         | 5/8x18      | -6        | 3/8  | -6    | 2.75  | 70   |
| 108HY-8-6         | 3/4x16      | -8        | 3/8  | -6    | 2.73  | 69   |
| 108HY-8-8         | 3/4x16      | -8        | 1/2  | -8    | 2.90  | 74   |
| 108HY-10-8        | 7/8x14      | -10       | 1/2  | -8    | 2.98  | 76   |
|                   |             |           |      |       | 1     | 1    |
|                   |             |           |      |       | 1.63  | 41   |

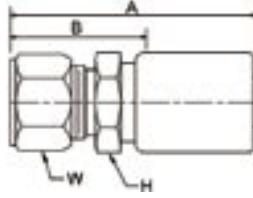
**177HY (HY-FA45T) Female SAE 45° Swivel - 45° Elbow**

| Steel Part Number | Thread Size | Hose I.D. | A    | E  | W Hex | B    |
|-------------------|-------------|-----------|------|----|-------|------|
| #                 | ~~~~~       | O         |      |    |       |      |
| Hose Fitting      | inch        | inch      | inch | mm | inch  | inch |
| 177HY-5-6         | 1/2x20      | -5        | 3/8  | -6 | 3.28  | 83   |
| 177HY-6-6         | 5/8x18      | -6        | 3/8  | -6 | 3.33  | 85   |
|                   |             |           |      |    | 0.36  | 9    |
|                   |             |           |      |    | 5/8   | 1.94 |
|                   |             |           |      |    |       | 49   |
|                   |             |           |      |    | 3/4   | 1.97 |
|                   |             |           |      |    |       | 50   |

**179HY (HY-FA90T) Female SAE 45° Swivel - 90° Elbow**

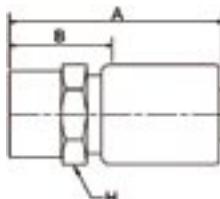
| Steel Part Number | Thread Size | Hose I.D. | A    | E   | W Hex | B    |
|-------------------|-------------|-----------|------|-----|-------|------|
| #                 | ~~~~~       | O         |      |     |       |      |
| Hose Fitting      | inch        | inch      | inch | mm  | inch  | inch |
| 179HY-4-6         | 7/16x20     | -4        | 3/8  | -6  | 3.08  | 78   |
| 179HY-6-6         | 5/8x18      | -6        | 3/8  | -6  | 3.23  | 82   |
| 179HY-12-12       | 1-1/16x14   | -12       | 3/4  | -12 | 3.98  | 101  |
|                   |             |           |      |     | 0.69  | 18   |
|                   |             |           |      |     | 0.86  | 22   |
|                   |             |           |      |     | 3/4   | 1.88 |
|                   |             |           |      |     |       | 48   |
|                   |             |           |      |     | 1-1/4 | 2.39 |
|                   |             |           |      |     |       | 61   |

## 111HY (HY-MV, HY-MH and HY-MM) Male Ferulok® Flareless - Rigid - Straight (24° Cone w/Nut and Ferrule)



| Steel Part Number | Thread Size | Hose I.D. | A    |     | H Hex   | W Hex   | B     |       |      |
|-------------------|-------------|-----------|------|-----|---------|---------|-------|-------|------|
| #                 | ~~~~~       | O         |      |     | Hexagon | Hexagon |       |       |      |
| Hose Fitting      | inch        |           | inch |     | inch    | mm      | inch  | inch  | mm   |
| 111HY-4-4         | 7/16x20     | -4        | 1/4  | -4  | 2.42    | 61      | 9/16  | 9/16  | 1.06 |
| 111HY-4-6         | 7/16x20     | -4        | 3/8  | -6  | 2.44    | 62      | 3/4   | 9/16  | 1.09 |
| 111HY-5-6         | 1/2x20      | -5        | 3/8  | -6  | 2.44    | 62      | 3/4   | 5/8   | 1.09 |
| 111HY-6-4         | 9/16x18     | -6        | 1/4  | -4  | 2.44    | 62      | 5/8   | 11/16 | 1.09 |
| 111HY-6-6         | 9/16x18     | -6        | 3/8  | -6  | 2.45    | 62      | 11/16 | 11/16 | 1.09 |
| 111HY-8-6         | 3/4x16      | -8        | 3/8  | -6  | 2.61    | 66      | 7/8   | 7/8   | 1.25 |
| 111HY-8-8         | 3/4x16      | -8        | 1/2  | -8  | 2.72    | 69      | 7/8   | 7/8   | 1.38 |
| 111HY-10-8        | 7/8x14      | -10       | 1/2  | -8  | 2.78    | 71      | 1     | 1     | 1.44 |
| 111HY-12-12       | 1-1/16x12   | -12       | 3/4  | -12 | 3.02    | 77      | 1-1/4 | 1-1/4 | 1.44 |
| 111HY-16-16       | 1-5/16x12   | -16       | 1    | -16 | 3.17    | 81      | 1     | 1-1/2 | 1.56 |
|                   |             |           |      |     |         |         |       |       | 40   |

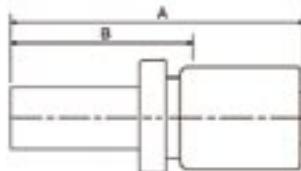
## 1GJHY (HY-NV) Female Grease Connection - Special PTF Taper Thread - Rigid - Straight - 1/2x27



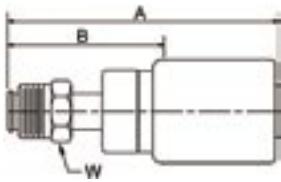
| Steel Part Number | Thread Size | Hose I.D. | A    |    | H Hex   | Cutoff Allow. B |      |      |    |
|-------------------|-------------|-----------|------|----|---------|-----------------|------|------|----|
| #                 | ~~~~~       | O         |      |    | Hexagon |                 |      |      |    |
| Hose Fitting      | inch        |           | inch |    | inch    | mm              | inch | inch | mm |
| 1GJHY-8-4         | 1/2x27      | -8        | 1/4  | -4 | 2.41    | 61              | 3/4  | 1.06 | 27 |

## 134HY (HY-RL) Male Standpipe Rigid - Straight (Inch Size Tube O.D.)

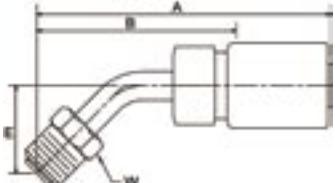
Note: 134HY requires the use of Ferrule nut (BU), Ferrule (TU), and Ferulok® Fittings.



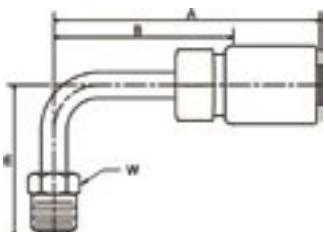
| Steel Part Number | R   | Hose I.D. | A    |     | B    |     |      |    |
|-------------------|-----|-----------|------|-----|------|-----|------|----|
| #                 | O   | O         |      |     |      |     |      |    |
| Hose Fitting      | mm  | inch      | inch | mm  | inch | mm  |      |    |
| 134HY-4-4         | 1/4 | -4        | 1/4  | -4  | 3.03 | 77  | 1.69 | 43 |
| 134HY-6-4         | 3/8 | -6        | 1/4  | -4  | 3.16 | 80  | 1.81 | 46 |
| 134HY-6-6         | 3/8 | -6        | 3/8  | -6  | 3.17 | 81  | 1.81 | 46 |
| 134HY-8-6         | 1/2 | -8        | 3/8  | -6  | 3.33 | 85  | 1.97 | 50 |
| 134HY-8-8         | 1/2 | -8        | 1/2  | -8  | 3.44 | 87  | 2.09 | 53 |
| 134HY-10-8        | 5/8 | -10       | 1/2  | -8  | 3.66 | 93  | 2.31 | 59 |
| 134HY-12-10       | 3/4 | -12       | 5/8  | -10 | 3.80 | 97  | 2.41 | 61 |
| 134HY-12-12       | 3/4 | -12       | 3/4  | -12 | 3.89 | 99  | 2.31 | 59 |
| 134HY-16-16       | 1   | -16       | 1    | -16 | 4.23 | 107 | 2.63 | 67 |

**128HY (HY-MF) Male Inverted SAE 45° Swivel - Straight**

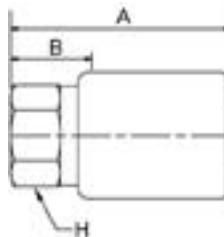
| Steel Part Number | Thread Size | Hose I.D. | A      | W Hex | Cutoff Allow. B |
|-------------------|-------------|-----------|--------|-------|-----------------|
| #                 | ~~~~~       | O         |        |       |                 |
| Hose Fitting      | inch        | inch      | inch   | inch  | inch            |
| 128HY-3-4         | 3/8x24      | -3        | 1/4 -4 | 3.09  | 78              |
| 128HY-4-4         | 7/16x24     | -4        | 1/4 -4 | 3.28  | 83              |
| 128HY-5-4         | 1/2x20      | -5        | 1/4 -4 | 3.34  | 85              |
| 128HY-5-6         | 1/2x20      | -5        | 3/8 -6 | 3.17  | 81              |
| 128HY-6-6         | 5/8x18      | -6        | 3/8 -6 | 3.73  | 95              |
| 128HY-8-6         | 3/4x18      | -8        | 3/8 -8 | 3.42  | 87              |
| 128HY-8-8         | 3/4x18      | -8        | 1/2 -8 | 3.66  | 93              |

**167HY (HY-MF45T) Male Inverted SAE 45° - Swivel - 45° Elbow**

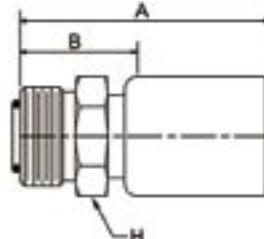
| Steel Part Number | Thread Size | Hose I.D. | A      | E    | W Hex | B    |
|-------------------|-------------|-----------|--------|------|-------|------|
| #                 | ~~~~~       | O         |        |      |       |      |
| Hose Fitting      | inch        | inch      | inch   | mm   | inch  | inch |
| 167HY-3-4         | 3/8x24      | -3        | 1/4 -4 | 3.03 | 77    | 0.72 |
| 167HY-4-4         | 7/16x24     | -4        | 1/4 -4 | 3.31 | 84    | 0.78 |
| 167HY-4-6         | 7/16x24     | -4        | 3/8 -6 | 3.14 | 80    | 0.78 |
| 167HY-5-4         | 1/2x20      | -5        | 1/4 -4 | 3.55 | 90    | 0.88 |
| 167HY-5-6         | 1/2x20      | -5        | 3/8 -6 | 3.38 | 86    | 0.88 |
| 167HY-6-6         | 5/8x18      | -6        | 3/8 -6 | 4.16 | 106   | 0.94 |
| 167HY-8-8         | 3/4x18      | -8        | 1/2 -8 | 4.22 | 107   | 1.06 |

**169HY (HY-MF90T) Male Inverted SAE 45° - Swivel - 90° Elbow**

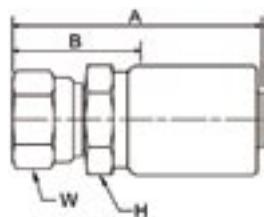
| Steel Part Number | Thread Size | Hose I.D. | A      | E    | W Hex | B    |
|-------------------|-------------|-----------|--------|------|-------|------|
| #                 | ~~~~~       | O         |        |      |       |      |
| Hose Fitting      | inch        | inch      | inch   | mm   | inch  | inch |
| 169HY-3-4         | 3/8x24      | -3        | 1/4 -4 | 3.09 | 78    | 1.38 |
| 169HY-4-4         | 7/16x24     | -4        | 1/4 -4 | 3.28 | 83    | 1.47 |
| 169HY-4-6         | 7/16x24     | -4        | 3/8 -6 | 3.11 | 79    | 1.47 |
| 169HY-5-4         | 1/2x20      | -5        | 1/4 -4 | 3.52 | 89    | 1.66 |
| 169HY-5-6         | 1/2x20      | -5        | 3/8 -6 | 3.34 | 85    | 1.66 |
| 169HY-6-6         | 5/8x18      | -6        | 3/8 -6 | 4.03 | 102   | 1.69 |
| 169HY-7-6         | 11/16x18    | -7        | 3/8 -6 | 4.16 | 106   | 1.69 |
| 169HY-8-6         | 3/4x18      | -8        | 3/8 -6 | 4.05 | 103   | 1.88 |
| 169HY-8-8         | 3/4x18      | -8        | 1/2 -8 | 4.09 | 104   | 1.88 |

**129HY (HY-NG) Female Inverted SAE 45° - Rigid - Straight**

| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex   | Cutoff Allow. B |
|-------------------|-------------|-----------|---------|---------|-----------------|
| #                 | ~~~~~       | O         |         |         |                 |
| Hose Fitting      | inch        | inch      | inch mm | inch    | inch mm         |
| 129HY-4-4         | 7/16x24     | -4        | 1/4 -4  | 2.16 55 | 9/16 0.81 21    |
| 129HY-5-4         | 1/2x20      | -5        | 1/4 -5  | 2.25 57 | 5/8 0.91 23     |
| 129HY-6-6         | 5/8x18      | -6        | 3/8 -6  | 2.25 57 | 7/8 0.91 23     |

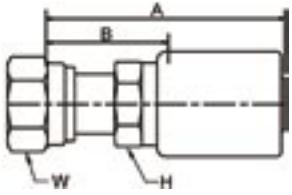
**1J0HY (HY-0M) Male Seal-Lok™ Rigid - Straight (with O-Ring)**

| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex   | Cutoff Allow. B |
|-------------------|-------------|-----------|---------|---------|-----------------|
| #                 | ~~~~~       | O         |         |         |                 |
| Hose Fitting      | inch        | inch      | inch mm | inch    | inch mm         |
| 1J0HY-4-4         | 9/16x18     | -4        | 1/4 -4  | 2.36 60 | 5/8 1.00 25     |
| 1J0HY-6-6         | 11/16x16    | -6        | 3/8 -6  | 2.49 63 | 3/4 1.13 29     |
| 1J0HY-8-8         | 13/16x16    | -8        | 1/2 -8  | 2.69 68 | 7/8 1.34 34     |
| 1J0HY-12-8        | 1-3/16x12   | -12       | 1/2 -8  | 2.91 74 | 1-1/4 1.56 40   |

**1JCHY (HY-0F) Female Seal-Lok™ Swivel - Straight - Short**

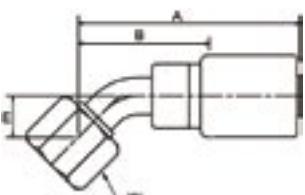
| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex   | W Hex       | B       |
|-------------------|-------------|-----------|---------|---------|-------------|---------|
| #                 | ~~~~~       | O         |         |         |             |         |
| Hose Fitting      | inch        | inch      | inch mm | inch    | inch        | inch mm |
| 1JCHY-4-4         | 9/16x18     | -4        | 1/4 -4  | 2.61 66 | 9/16 11/16  | 0.94 24 |
| 1JCHY-6-6         | 11/16x16    | -6        | 3/8 -6  | 2.69 68 | 11/16 13/16 | 0.94 24 |
| 1JCHY-8-8         | 13/16x16    | -8        | 1/2 -8  | 2.91 74 | 7/8 15/16   | 1.13 29 |
| 1JCHY-12-12       | 1-3/16x12   | -12       | 3/4 -12 | 3.31 84 | 1-1/4 1-3/8 | 1.13 29 |

## 1JSHY (HY-0FT) Female Seal-Lok™ Swivel - Straight - Long ISO 12151-1 - SWSB



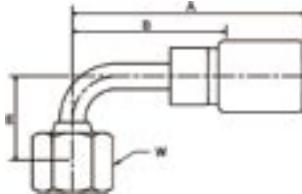
| Steel Part Number | Thread Size | Hose I.D. | A    |     | H Hex | W Hex | B     |       |
|-------------------|-------------|-----------|------|-----|-------|-------|-------|-------|
| #                 |             |           |      |     |       |       |       |       |
| Hose Fitting      | inch        | inch      | inch | mm  | inch  | inch  | inch  | mm    |
| 1JSHY-4-4         | 9/16x18     | -4        | 1/4  | -4  | 2.59  | 66    | 9/16  | 11/16 |
| 1JSHY-6-4         | 11/16x16    | -6        | 1/4  | -4  | 2.67  | 68    | 5/8   | 13/16 |
| 1JSHY-6-6         | 11/16x16    | -6        | 3/8  | -6  | 2.75  | 70    | 11/16 | 13/16 |
| 1JSHY-6-8         | 11/16x16    | -6        | 1/2  | -8  | 2.87  | 73    | 7/8   | 15/16 |
| 1JSHY-8-6         | 13/16x16    | -8        | 3/8  | -6  | 2.84  | 72    | 7/8   | 15/16 |
| 1JSHY-8-8         | 13/16x16    | -8        | 1/2  | -8  | 2.95  | 75    | 7/8   | 15/16 |
| 1JSHY-10-8        | 1x14        | -10       | 1/2  | -8  | 3.16  | 80    | 15/16 | 1-1/8 |
| 1JSHY-10-10       | 1x14        | -10       | 5/8  | -10 | 3.17  | 81    | 1-1/8 | 1-1/8 |
| 1JSHY-10-12       | 1x14        | -10       | 3/4  | -12 | 3.27  | 83    | 1-1/4 | 1-1/8 |
| 1JSHY-12-10       | 1-3/16x12   | -12       | 5/8  | -10 | 3.20  | 81    | 1-1/8 | 1-3/8 |
| 1JSHY-12-12       | 1-3/16x12   | -12       | 3/4  | -12 | 3.30  | 84    | 1-1/4 | 1-3/8 |
| 1JSHY-16-12       | 1-7/16x12   | -16       | 3/4  | -12 | 3.44  | 87    | 1-3/8 | 1-5/8 |
| 1JSHY-16-16       | 1-7/16x12   | -16       | 1    | -16 | 3.59  | 91    | 1-3/8 | 1-5/8 |
| 1JSHY-20-16       | 1-11/16x12  | -20       | 1    | -16 | 3.47  | 88    | 1-5/8 | 1-7/8 |

## 1J7HY (HY-OF45T) Female Seal-Lok™ Swivel - 45° Elbow ISO 12151-1 - SWE45



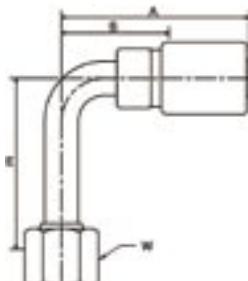
| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |     | W Hex | B    |       |      |    |
|-------------------|-------------|-----------|------|-----|------|-----|-------|------|-------|------|----|
| #                 |             |           |      |     |      |     |       |      |       |      |    |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm  | inch  | inch | mm    |      |    |
| 1J7HY-4-4         | 9/16x18     | -4        | 1/4  | -4  | 3.22 | 82  | 0.4   | 10   | 11/16 | 1.88 | 48 |
| 1J7HY-6-4         | 11/16x16    | -6        | 1/4  | -4  | 3.31 | 84  | 0.44  | 11   | 13/16 | 1.97 | 50 |
| 1J7HY-6-6         | 11/16x16    | -6        | 3/8  | -6  | 3.23 | 82  | 0.44  | 11   | 13/16 | 1.88 | 48 |
| 1J7HY-6-8         | 11/16x16    | -6        | 1/2  | -8  | 3.41 | 87  | 0.44  | 11   | 13/16 | 2.06 | 52 |
| 1J7HY-8-6         | 13/16x16    | -8        | 3/8  | -6  | 3.37 | 86  | 0.56  | 14   | 15/16 | 2.03 | 52 |
| 1J7HY-8-8         | 13/16x16    | -8        | 1/2  | -8  | 3.34 | 85  | 0.56  | 14   | 15/16 | 2.00 | 51 |
| 1J7HY-10-8        | 1x14        | -10       | 1/2  | -8  | 3.58 | 91  | 0.69  | 18   | 1-1/8 | 2.22 | 56 |
| 1J7HY-10-10       | 1x14        | -10       | 5/8  | -10 | 3.59 | 91  | 0.69  | 18   | 1-1/8 | 2.22 | 56 |
| 1J7HY-12-10       | 1-3/16x12   | -12       | 5/8  | -10 | 4.11 | 104 | 0.83  | 21   | 1-3/8 | 2.72 | 69 |
| 1J7HY-12-12       | 1-3/16x12   | -12       | 3/4  | -12 | 4.00 | 102 | 0.83  | 21   | 1-3/8 | 2.44 | 62 |
| 1J7HY-16-12       | 1-7/16x12   | -16       | 3/4  | -12 | 4.39 | 112 | 0.97  | 25   | 1-5/8 | 2.84 | 72 |
| 1J7HY-16-16       | 1-7/16x12   | -16       | 1    | -16 | 4.55 | 116 | 0.97  | 25   | 1-5/8 | 2.94 | 75 |

## 1J9HY (HY-OF90T) Female Seal-Lok™ Swivel - 90° Elbow- Short Drop ISO 12151-1 - SWES90



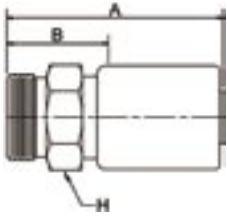
| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |     | W Hex | B    |
|-------------------|-------------|-----------|------|-----|------|-----|-------|------|
| #                 | ~~~~~       | O         |      |     |      |     | HEX   |      |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm  | inch  | inch |
| 1J9HY-4-4         | 9/16x18     | -4        | 1/4  | -4  | 3.06 | 78  | .83   | 21   |
| 1J9HY-4-6         | 9/16x18     | -4        | 3/8  | -6  | 3.08 | 78  | .83   | 21   |
| 1J9HY-6-4         | 11/16x16    | -6        | 1/4  | -4  | 3.20 | 81  | .95   | 24   |
| 1J9HY-6-6         | 11/16x16    | -6        | 3/8  | -6  | 3.13 | 80  | .95   | 24   |
| 1J9HY-6-8         | 11/16x16    | -6        | 1/2  | -8  | 3.30 | 84  | .95   | 24   |
| 1J9HY-8-6         | 13/16x16    | -8        | 3/8  | -6  | 3.19 | 81  | 1.16  | 29   |
| 1J9HY-8-8         | 13/16x16    | -8        | 1/2  | -8  | 3.16 | 80  | 1.16  | 29   |
| 1J9HY-10-8        | 1x14        | -10       | 1/2  | -8  | 3.47 | 88  | 1.33  | 34   |
| 1J9HY-10-10       | 1x14        | -10       | 5/8  | -10 | 3.42 | 87  | 1.33  | 34   |
| 1J9HY-12-10       | 1 3/16x12   | -12       | 5/8  | -10 | 3.91 | 99  | 1.91  | 49   |
| 1J9HY-12-12       | 1 3/16x12   | -12       | 3/4  | -12 | 3.92 | 100 | 1.91  | 49   |
| 1J9HY-16-12       | 1 7/16x12   | -16       | 3/4  | -12 | 4.27 | 108 | 2.25  | 57   |
| 1J9HY-16-16       | 1 7/16x12   | -16       | 1    | -16 | 4.45 | 113 | 2.25  | 57   |

## 1J1HY (HY-OF90TL) Female Seal-Lok™ Swivel - 90° Elbow Long Drop - ISO 12151-1 - SWEL90



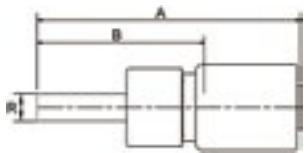
| Steel Part Number | Thread Size | Hose I.D. | A    |     | E    |     | W Hex | B    |
|-------------------|-------------|-----------|------|-----|------|-----|-------|------|
| #                 | ~~~~~       | O         |      |     |      |     | HEX   |      |
| Hose Fitting      | inch        | inch      | inch | mm  | inch | mm  | inch  | inch |
| 1J1HY-4-4         | 9/16x18     | -4        | 1/4  | -4  | 3.06 | 78  | 1.80  | 46   |
| 1J1HY-6-6         | 11/16x16    | -6        | 3/8  | -6  | 3.13 | 80  | 2.13  | 54   |
| 1J1HY-8-8         | 13/16x16    | -8        | 1/2  | -8  | 3.16 | 80  | 2.50  | 64   |
| 1J1HY-10-8        | 1x14        | -10       | 1/2  | -8  | 3.41 | 87  | 2.77  | 70   |
| 1J1HY-10-10       | 1x14        | -10       | 5/8  | -10 | 3.42 | 87  | 2.77  | 70   |
| 1J1HY-12-12       | 1-3/16x12   | -12       | 3/4  | -12 | 3.95 | 100 | 3.83  | 97   |
| 1J1HY-16-16       | 1-7/16x12   | -16       | 1    | -16 | 4.45 | 113 | 4.50  | 114  |

## 1D0HY (HY-MZ) Male Metric L - Rigid Straight (24° Cone) - ISO 8434-1



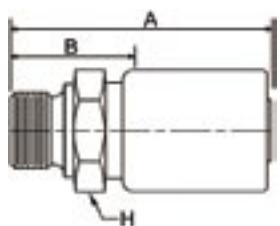
| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex    | Cutoff Allow. B |
|-------------------|-------------|-----------|---------|----------|-----------------|
| #                 | ~~~~~       | ○         |         | hexagon  |                 |
| Hose Fitting      | inch        | inch      | inch mm | inch     | inch mm         |
| 1D0HY-6-4         | 6           | M12x1.5   | -6 1/4  | -4 2.36  | 60 14 1.00      |
| 1D0HY-8-4         | 8           | M14x1.5   | -8 1/4  | -4 2.36  | 60 17 1.00      |
| 1D0HY-10-4        | 10          | M16x1.5   | -10 1/4 | -4 2.40  | 61 19 1.03      |
| 1D0HY-10-6        | 10          | M16x1.5   | -10 3/8 | -6 2.42  | 61 19 1.06      |
| 1D0HY-12-6        | 12          | M18x1.5   | -12 3/8 | -6 2.42  | 61 22 1.06      |
| 1D0HY-15-6        | 15          | M22x1.5   | -15 3/8 | -6 2.52  | 64 24 1.16      |
| 1D0HY-15-8        | 15          | M22x1.5   | -15 1/2 | -8 2.63  | 67 24 1.28      |
| 1D0HY-18-10       | 18          | M26x1.5   | -18 5/8 | -10 2.71 | 69 27 1.31      |
| 1D0HY-22-12       | 22          | M30x2.0   | -22 3/4 | -12 2.88 | 73 32 1.31      |
| 1D0HY-28-16       | 28          | M36x2.0   | -28 1   | -16 3.04 | 77 41 1.41      |

## 13DHY (HY-RZT) Male Standpipe Metric S - Rigid - Straight ISO 8434-1



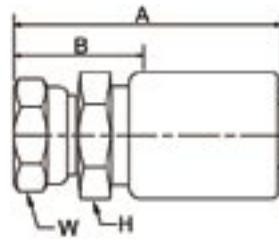
| Steel Part Number | R  | Hose I.D. | A       | B               |
|-------------------|----|-----------|---------|-----------------|
| #                 | Ø  | ○         |         |                 |
| Hose Fitting      | mm | inch      | inch mm | inch mm         |
| 13DHY-16-8        | 16 | -16       | 1/2 -8  | 3.53 90 2.16 55 |
| 13DHY-20-10       | 20 | -20       | 5/8 -10 | 3.62 92 2.22 56 |
| 13DHY-25-12       | 25 | -25       | 3/4 -12 | 3.79 96 2.22 56 |

## 1D9HY (HY-BP) Male BSP Parallel Pipe - Rigid - Straight (60° Cone) ISO 228-1



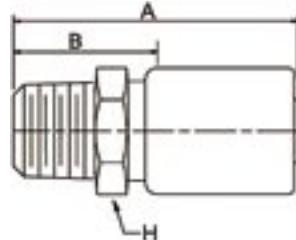
| Steel Part Number | Thread Size | Hose I.D. | A       | H Hex   | Cutoff Allow. B |
|-------------------|-------------|-----------|---------|---------|-----------------|
| #                 | ~~~~~       | ○         |         | hexagon |                 |
| Hose Fitting      | inch        | inch      | inch mm | inch    | inch mm         |
| 1D9HY-4-4         | 1/4x19      | -4        | 1/4 -4  | 2.40 61 | 13/16 1.03 26   |
| 1D9HY-6-6         | 3/8x19      | -6        | 3/8 -6  | 2.55 65 | 7/8 1.19 30     |
| 1D9HY-8-8         | 1/2x14      | -8        | 1/2 -8  | 2.83 72 | 1-1/16 1.47 37  |
| 1D9HY-12-12       | 3/4x14      | -12       | 3/4 -12 | 3.09 78 | 1-5/16 1.50 38  |
| 1D9HY-16-16       | 1x11        | -16       | 1 -16   | 3.31 84 | 1-9/16 1.69 43  |

## 1GUHY (HY-BPF) Female BSP Parallel Pipe - Swivel - Straight (60° Flare) ISO 228-1



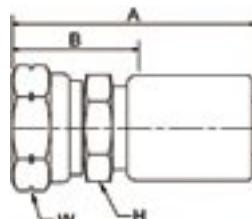
| Steel Part Number | Thread Size | Hose I.D. | A    |     | H Hex | W Hex | B    |    |
|-------------------|-------------|-----------|------|-----|-------|-------|------|----|
| #                 | ~~~~~       | (O)       |      |     |       |       |      |    |
| Hose Fitting      | inch        | inch      | inch | mm  | inch  | inch  | inch | mm |
| 1GUHY-2-4         | 1/8x28      | -2        | 1/4  | -4  | 2.51  | 64    | 14   | 14 |
| 1GUHY-4-4         | 1/4x19      | -4        | 1/4  | -4  | 2.62  | 67    | 14   | 17 |
| 1GUHY-4-6         | 1/4x19      | -4        | 3/8  | -6  | 2.64  | 67    | 19   | 17 |
| 1GUHY-6-4         | 3/8x19      | -6        | 1/4  | -4  | 2.69  | 68    | 19   | 22 |
| 1GUHY-6-6         | 3/8x19      | -6        | 3/8  | -6  | 2.70  | 69    | 19   | 22 |
| 1GUHY-8-8         | 1/2x14      | -8        | 1/2  | -8  | 3.02  | 77    | 22   | 25 |
| 1GUHY-10-10       | 5/8x14      | -10       | 5/8  | -10 | 3.09  | 78    | 27   | 29 |
| 1GUHY-12-12       | 3/4x14      | -12       | 3/4  | -12 | 3.25  | 83    | 32   | 32 |
| 1GUHY-16-16       | 1x11        | -16       | 1    | -16 | 3.45  | 88    | 35   | 38 |
|                   |             |           |      |     |       |       | 1.84 | 47 |

## 1UTHY (HY-BT) Male BSP Taper Pipe Rigid - Straight



| Steel Part Number | Thread Size | Hose I.D. | A    |     | H Hex | Cutoff Allow. B |
|-------------------|-------------|-----------|------|-----|-------|-----------------|
| #                 | ~~~~~       | (O)       |      |     |       |                 |
| Hose Fitting      | inch        | inch      | inch | mm  | inch  | inch            |
| 1UTHY-4-4         | 1/4x19      | -4        | 1/4  | -4  | 2.53  | 64              |
| 1UTHY-6-4         | 3/8x19      | -6        | 1/4  | -4  | 2.53  | 64              |
| 1UTHY-6-6         | 3/8x19      | -6        | 3/8  | -6  | 2.55  | 65              |
| 1UTHY-8-6         | 1/2x14      | -8        | 3/8  | -6  | 2.73  | 69              |
| 1UTHY-8-8         | 1/2x14      | -8        | 1/2  | -8  | 2.91  | 74              |
| 1UTHY-12-12       | 3/4x14      | -12       | 3/4  | -12 | 3.08  | 78              |
| 1UTHY-16-16       | 1x11        | -16       | 1    | -16 | 3.42  | 87              |
|                   |             |           |      |     | 1-3/8 | 1.82            |
|                   |             |           |      |     |       | 46              |

## 1XUHY (HY-KMF) Female Metric Swivel - Straight (30° Flare)



| Steel Part Number | Thread Size | Hose I.D. | A    |     | H Hex | W Hex | B    |      |
|-------------------|-------------|-----------|------|-----|-------|-------|------|------|
| #                 | ~~~~~       | (O)       |      |     |       |       |      |      |
| Hose Fitting      | inch        | inch      | inch | mm  | inch  | inch  | inch | mm   |
| 1XUHY-24-8        | 24          | M24x1.5   | -24  | 1/2 | -8    | 3.14  | 80   | 22   |
| 1XUHY-24-10       | 24          | M24x1.5   | -24  | 5/8 | 10    | 3.22  | 82   | 30   |
| 1XUHY-30-12       | 30          | M30x1.5   | -30  | 3/4 | -12   | 3.31  | 84   | 32   |
|                   |             |           |      |     |       |       | 38   | 1.75 |

## PTFE Hose & Fittings

|  |         |
|--|---------|
| Tutorial, Introduction & Benefits .....          | 130-131 |
| PTFE Hose Assembly & Fittings Nomenclature ..... | 132     |

## Smooth Bore Hose

|   |     |
|---|-----|
| 919 – SAE 100R14A Hose.....   | 133 |
| 919B – SAE 100R14B Hose (Static-Dissipative Tube).....  | 133 |
| 919J – SAE 100R14A Performance, Silicone Jacket .....   | 134 |
| 919U – SAE 100R14 Performance, Urethane Jacket.....   | 135 |
| 929 – SAE 100R14 Performance, Heavy Wall .....  | 136 |
| 929B – SAE 100R14 Performance, Heavy Wall (Static-Dissipative Tube) .....                     | 136 |
| 929BJ – SAE 100R14 Performance, Heavy Wall (Static-Dissipative Tube),<br>Silicone Jacket..... | 137 |
| 943B – 3000 PSI W.P., High Temperature Hydraulic Hose .....                                   | 139 |
| 950B – 4000 PSI W.P., High Temperature Hydraulic Hose .....                                   | 139 |

## Convoluted Hose

|  |     |
|--|-----|
| 939 - PTFE Convoluted Tube Hose .....                            | 138 |
| 939B - PTFE Convoluted Tube Hose (Static-Dissipative Tube) ..... | 138 |

## Permanent & Field Attachable Hose Fittings

|  |         |
|--|---------|
| Visual Index.....  | 140-141 |
| 90 Series - Field Attachable Fittings for 919 Series PTFE Hose .....         | 142-149 |
| 91N Series - Crimp Fittings for 919 & 929 Series PTFE Hose .....             | 150-164 |
| 93N/ 96N Fittings - Crimp Fittings for 939 Series Hose .....                 | 165-168 |
| 94/95 Series - Factory Crimp Fittings for 943B & 950B Series PTFE Hose ..... | 169     |



## PTFE Hoses Tutorial

- Familiarize yourself with the definition and operating characteristics of PTFE hose- general, features, advantages, and benefits follow
- The **STAMPED** guide on **page 131** is provided as your template for the gathering of information to help you in selecting a hose
- Review the information pertaining to static dissipation (electrical dissipation) - it may be pertinent to your application
- Review the **symbols on page ii** and **nomenclature information on page 132** - this will clear up any questions on assemblies and component call outs- examples are provided
- PTFE hose are often used for the conveyance of chemicals –please refer to our general chemical compatibility guide in the technical section guide- feel free to contact our technical department if you have concerns
- A visual index of PTFE fittings follows the hose portion of this section- this will help you quickly determine what configurations are available

**PTFE Fittings visual index starts on page 140.**

**NOTE:** If higher or lower temperature requirements are required please refer to our **Metal Hose Catalog 4660-MH1**

Tubing made of PTFE and other fluoropolymer materials may be found in. **Atlantic Tubing Catalog 4150**

## What is PTFE and why is it a superior hose core material?

PTFE (Polytetrafluoroethylene) is a high-performance fluoroplastic with high crystallinity and high molecular weight. Discovered in 1938 by DuPont chemist, Dr. Roy J. Plunkett. PTFE is more commonly known as Teflon®, the DuPont trade name for PTFE. Parflex PTFE hose provides fluid conveyance solutions for a wide array of markets and applications because of the unique properties of PTFE:

**Chemical Resistance** – inert to virtually all chemicals

**Extreme Temperature Ranges** – 65F to 500F

**Low friction** – Minimizes pressure drop and deposits on hose.

**Non-Stick** - Easier to clean

**Flexible** – convoluted designs have excellent bend radius properties

**Resists Moisture**

**Unlimited Shelf Life**



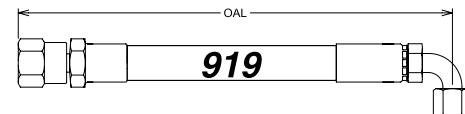
## How To Select A Hose (STAMPED)

|                    |  |
|--------------------|--|
| <b>Size</b>        | The appropriate inside and outside diameters and length of the hose should be determined   |
| <b>Temperature</b> | The maximum temperature of the material being conveyed   |
| <b>Application</b> | External conditions including abrasion, climate, heat, flexing, internal vacuum, and degrees of bending                              |
| <b>Media</b>       | The composition of the substance being conveyed and chemical compatibility with the hose inner core, and if applicable, outer jacket |
| <b>Pressure</b>    | The maximum pressure of the system, including pressure spikes  |
| <b>Ends</b>        | The appropriate end connection and attachment method for the application   |
| <b>Delivery</b>    | Testing, quality, packaging, and delivery requirements   |

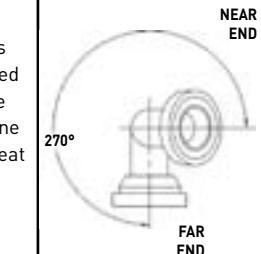
**NOTE:** Static dissipation and PTFE hoses

In the case of a PTFE hose, static electricity is caused when a non-conducting fluid flows at a high velocity through the PTFE natural core tube. When a static charge builds up in the tube of a PTFE hose, it will look for the path of least resistance to ground. If the tube is non-conductive, then the path of least resistance may be to pierce through the wall of the PTFE tube to the conductive stainless steel braid and eventually to the metal fittings and back to ground through the equipment to which the hose assembly is connected.

The purpose of a static dissipating tube on the inside of the hose is to provide an acceptable path of less resistance and allow the static buildup to dissipate through the core tube to the metal fittings and eventually to ground. Parflex static-dissipating hose is designated with a B after the series number. Example: Hose type 919B-6 is the static-dissipative version of hose type 919-6.



## Hose Assembly Nomenclature

| P  | 919       | 06                            | 39                            | 08           | 08           | 08                 | C  | 30   | N/A  |
|--|-----------|-------------------------------|-------------------------------|--------------|--------------|--------------------|--|--|--|
| Prefix   | Hose Type | Fitting 1st End Configuration | Fitting 2nd End Configuration | Size 1st End | Size 2nd End | Hose End Dash Size | Fitting Material                         | Length   | Displacement Angle   |
| R= Field Attachable Fitting<br><br>P= Permanent Crimp 91N & 93N Series<br><br>F= 91 Series Crimp |           |                               |                               |              |              |                    | Blank= Steel<br>C= Stainless<br>B= Brass | Overall Length always expressed in inches<br><br>If elbow fittings are used overall length is measured from the centerline or the seat | Specified only if two elbow fittings are used. Starting with either end as the far end, measure the angle clockwise to describe the displacement of the near end.<br><br> |

This assembly example reflects a 1/2" ID 919 hose with an SAE 1/2" female JIC 37° straight fitting on the first end and an SAE 1/2" 90° female JIC 37° elbow fitting on the other. The fittings are crimped (permanently attached) and stainless steel. The overall length is 30".

The first fitting part number is 10691N-8-8  
The second fitting part number is 13991N-8-8

### Special Notes

Assemblies are to be measured extreme end to end.  
Exceptions:

1. Face seal type fittings shall be measured from sealing face.
2. Where elbow fittings are used, measurement shall be to the centerline of the sealing surface of the elbow end.
3. "A-LOK" and "CPI" fittings are measured from the tube stops.

## Hose Fittings Nomenclature

| 1                             | 03                     | 91N               | 8        |           |   |
|-------------------------------|------------------------|-------------------|----------|-----------|---|
| Type                          | End Configuration Code | Series of Fitting | End Size | Hose Size | Material  |
| 1=Crimp<br>2=Field Attachable |                        |                   |          |           | Blank=Steel or Brass/Steel<br><br>B=All Brass<br><br>C=Stainless Steel<br><br>S= All Carbon Steel |

This example describes a permanent crimp 1/2" Male SAE JIC 37° hose end with a 3/8" hose end-this commonly referred to as a "jump size". This fitting is constructed from carbon steel since the designated material is blank.

The callout is: **10391N-8-6**

Other end configuration codes found on page 36.

## 919 PTFE Hose Exceeds SAE 100R14A



| Part Number | Hose I. D. | Max. Hose O. D. | Tube Wall | Max. Working Pressure | Min. Bend Radius | Vac. Rating | Weight      | Crimp Fitting | 80C Crimp Die | Field Attachable Fitting |
|-------------|------------|-----------------|-----------|-----------------------|------------------|-------------|-------------|---------------|---------------|--------------------------|
| #           |            |                 |           |                       |                  |             |             |               |               |                          |
| hose        | inch mm    | inch mm         | inch      | wpsi MPa              | inch mm          | inch/Hg.    | lbs/ft kg/m | series pg     | crimp die re  | pg                       |
| 919-3 (+)   | 1/8 3      | 1/4 6           | .030      | 3000 20.7             | 1.5 38           | 28          | .038 5.7    | 91 150-164    | T03           |                          |
| 919-4       | 3/16 5     | 5/16 8          | .030      | 3000 20.7             | 2.0 51           | 28          | .059 8.9    | 91N 150-164   | T04N          | 90 142-149               |
| 919-5       | 1/4 6      | 3/8 10          | .030      | 3000 20.7             | 3.0 76           | 28          | .086 12.7   | 91N 150-164   | T05N          | 90 142-149               |
| 919-6       | 5/16 8     | 7/16 11         | .030      | 2500 17.2             | 4.0 102          | 28          | .103 15.3   | 91N 150-164   | T06N          | 90 142-149               |
| 919-8       | 13/32 10.5 | 17/32 14        | .030      | 2000 13.8             | 5.0 127          | 28          | .126 18.8   | 91N 150-164   | T08N          | 90 142-149               |
| 919-10      | 1/2 12.5   | 5/8 16          | .030      | 1500 10.3             | 6.5 165          | 28          | .149 22.1   | 91N 150-164   | T10N          | 90 142-149               |
| 919-12      | 5/8 16     | 3/4 19          | .030      | 1200 8.3              | 7.5 191          | 12          | .186 27.7   | 91N 150-164   | T12N          | 90 142-149               |
| 919-16      | 7/8 22     | 1-1/32 26       | .035      | 1000 6.9              | 9.0 229          | 14          | .268 39.9   | 91N 150-164   | T16N          | 90 142-149               |
| 919-20      | 1-1/8 29   | 1-9/32 33       | .042      | 625 4.3               | 16.0 406         | 10          | .388 57.7   | 91 150-164    | T20           | 90 142-149               |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Natural FDA Compliant PTFE**Reinforcement:** 304 Stainless Steel**Temperature:** -100F to +450F

-73C to +232C

Change in length at working pressure is +2% to -4%.

**Applications:**

- Transfer lines for nearly all chemicals
- Hot oils
- Compressed Air/Gases
- Adhesive dispensing
- Coolant Lines
- Medical Gases

\*Use hose type 919B with static-dissipative core tube when conveying non-conducting fluids such as oils, paints, fuels, steam, etc..

## 919B PTFE Hose with Static-Dissipative Tube Exceeds SAE 100R14B



| Part Number | Hose I. D. | Max. Hose O. D. | Tube Wall | Max. Working Pressure | Min. Bend Radius | Vac. Rating | Weight      | Crimp Fitting | 80C Crimp Die | Field Attachable Fitting |
|-------------|------------|-----------------|-----------|-----------------------|------------------|-------------|-------------|---------------|---------------|--------------------------|
| #           |            |                 |           |                       |                  |             |             |               |               |                          |
| hose        | inch mm    | inch mm         | inch      | wpsi MPa              | inch mm          | inch/Hg.    | lbs/ft kg/m | series pg     | crimp die re  | pg                       |
| 919B-5      | 1/4 6      | 3/8 10          | .030      | 3000 20.7             | 3.0 76           | 28          | .086 12.7   | 91N 150-164   | T05N          | 90 142-149               |
| 919B-6      | 5/16 8     | 7/16 11         | .030      | 2500 17.2             | 4.0 102          | 28          | .103 15.3   | 91N 150-164   | T06N          | 90 142-149               |
| 919B-8      | 13/32 10   | 17/32 14        | .030      | 2000 13.8             | 5.0 127          | 28          | .126 18.8   | 91N 150-164   | T08N          | 90 142-149               |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Black Static-Dissipative PTFE**Reinforcement:** 304 Stainless Steel**Temperature:** -100F to +450F

-73C to +232C

Change in length at working pressure is +2% to -4%.

**Applications:**

- Transfer lines for nearly all chemicals
- Hot oils
- Compressed Air/Gases
- Fuel Lines
- Adhesive dispensing
- Coolant Lines
- Paints/Coatings
- Steam Transfer

(+) Non Standard. See page ii for information on non-standard products.

## 919J Silicone Jacketed PTFE Hose Exceeds SAE 100R14A Performance



| Part Number    | Hose I. D. | Max. Hose O. D. | Tube Wall | Max. Working Pressure | Min. Bend Radius | Vacuum Rating | Weight  | Crimp Fitting        | 80C Crimp Die         |
|----------------|------------|-----------------|-----------|-----------------------|------------------|---------------|---------|----------------------|-----------------------|
| #              |            |                 |           |                       |                  |               |         |                      |                       |
| hose           | inch       | mm              | inch      | mm                    | inch             | wpsi MPa      | inch mm | inch/Hg. lbs/ft kg/m | series pg crimp die   |
| 919J-4-RED     | 3/16       | 5               | 0.45      | 11                    | .030             | 3000 21       | 2.0 51  | 28 .124              | 18.4 91N 150-164 T04J |
| 919J-5-RED (+) | 1/4        | 6.3             | 0.52      | 13                    | .030             | 3000 21       | 3.0 76  | 28 .142              | 21.1 91N 150-164 T05J |
| 919J-6-RED     | 5/16       | 8               | 0.58      | 15                    | .030             | 2500 17       | 4.0 102 | 28 .165              | 24.5 91N 150-164 T06J |
| 919J-8-RED     | 13/32      | 10              | 0.68      | 17                    | .030             | 2000 14       | 5.0 127 | 28 .202              | 30.3 91N 150-164 T08J |
| 919J-10-RED    | 1/2        | 12.5            | 0.78      | 20                    | .030             | 1500 10       | 6.5 165 | 28 .236              | 35.2 91N 150-164 T10J |
| 919J-12-RED    | 5/8        | 16              | 0.91      | 23                    | .030             | 1200 8        | 7.5 191 | 12 .291              | 43.2 91N 150-164 T12J |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Natural FDA Compliant PTFE

**Reinforcement:** 304 Stainless Steel

**Cover:** Red Extruded Silicone

**Temperature:** -100F to +450F

-73C to +232C

Change in length at working pressure is +2% to -4%.

### Applications:

- Transfer lines for nearly all chemicals
- Coolant Lines
- Compressed Air/Gases
- Adhesive dispensing

### Special Features:

- Silicone jacket protects stainless steel wire reinforcement against wear and fraying even at temperatures up to 450F.
- Silicone jacket provides clean smooth cover and prevents contaminants from accumulating in braided reinforcement.
- Steam Cleanable
- Other non-standard colors available, including white FDA compliant silicone.
- Cover must be skived prior to fitting attachment

(+) Non Standard. See page ii for information on non-standard products.

# 919U High Abrasion Resistance PTFE Hose

## Exceeds SAE 100R14A Performance



| Part Number | Hose I. D. |    | Max. Hose O. D. |    | Tube Wall | Max. Working Pressure |     | Min. Bend Radius |     | Vacuum Rating | Weight |      | Crimp Fitting |         | 80C Crimp Die |
|-------------|------------|----|-----------------|----|-----------|-----------------------|-----|------------------|-----|---------------|--------|------|---------------|---------|---------------|
| #           |            |    |                 |    |           |                       |     |                  |     |               |        |      |               |         |               |
| hose        | inch       | mm | inch            | mm | inch      | wpsi                  | MPa | inch             | mm  | inch/Hg.      | lbs/ft | kg/m | series        | pg      | crimp die     |
| 919U-4      | 3/16       | 5  | 3/8             | 10 | .030      | 3000                  | 21  | 2.0              | 51  | 28            | .084   | 12.5 | 91N           | 150-164 | T04N          |
| 919U-6      | 5/16       | 8  | 1/2             | 13 | .030      | 2500                  | 17  | 4.0              | 102 | 28            | .132   | 13.2 | 91N           | 150-164 | T06N          |
| 919U-8      | 13/32      | 10 | 5/8             | 16 | .030      | 2000                  | 14  | 5.0              | 127 | 28            | .15    | 15.0 | 91N           | 150-164 | T08N          |
| 919U-12     | 5/8        | 16 | 27/32           | 21 | .030      | 1200                  | 8   | 7.5              | 191 | 12            | .221   | 22.1 | 91N           | 150-164 | T12N          |
| 919U-16     | 7/8        | 22 | 1-1/16          | 27 | .035      | 1000                  | 7   | 9.0              | 229 | 14            | .314   | 31.4 | 91N           | 150-164 | T16N          |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Natural FDA Compliant PTFE

**Reinforcement:** 304 Stainless Steel

**Cover:** Black Abrasion Resistant Urethane

**Temperature:** -40F to +275F

-40C to +135C

Change in length at working pressure is +2% to -4%.

### Applications:

- Transfer lines for nearly all chemicals
- Coolant Lines
- Compressed Air/Gases
- Adhesive dispensing

### Special Features:

- Urethane jacket protects stainless steel wire reinforcement against wear and fraying.
- Cover must be skived prior to fitting attachment

## 929 Heavy Wall PTFE Hose Exceeds SAE 100R14A Performance



| Part Number | Hose I. D. | Max. Hose O. D. | Tube Wall | Max. Working Pressure | Min. Bend Radius | Vacuum Rating | Weight      | Crimp Fitting | 80C Crimp Die |
|-------------|------------|-----------------|-----------|-----------------------|------------------|---------------|-------------|---------------|---------------|
| #           |            |                 |           |                       |                  |               |             |               |               |
| hose        | inch mm    | inch mm         | inch      | wpsi MPa              | inch mm          | inch/Hg.      | lbs/ft kg/m | series pg     | crimp die     |
| 929-4       | 3/16 5     | 5/16 8          | .040      | 3000 21               | 1.5 38           | 28            | .8 11.9     | 91N 150-164   | T04N          |
| 929-6       | 5/16 8     | 7/16 11         | .040      | 2500 17               | 3.5 89           | 28            | .121 18.0   | 91N 150-164   | T06N          |
| 929-8       | 13/32 10   | 9/16 14         | .042      | 2000 14               | 4.5 114          | 28            | .157 23.3   | 91N 150-164   | T08N          |
| 929-12      | 5/8 16     | 3/4 19          | .048      | 1200 8                | 6.5 165          | 12            | .186 27.7   | 91N 150-164   | T12N          |
| 929-16      | 7/8 22     | 1-1/8 29        | .048      | 1250 9                | 7.4 188          | 14            | .488 72.6   | 91N 150-164   | T16N          |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Natural FDA Compliant PTFE

**Reinforcement:** 304 Stainless Steel

**Temperature:** -100F to +450F

-73C to +232C

Change in length at working pressure is +2% to -4%.

### Applications:

- Instrumentation Lines
  - Sampling/Analyzing Lines
  - 919 applications requiring tight routing
- \*Use hose type 929B with static-dissipative core tube when conveying non-conducting fluids such as oils, paints, fuels, steam, etc.

### Special Features:

- Tighter bend radius
- Better kink resistance
- Enhanced resistance to gas permeation

## 929B Heavy Wall PTFE Hose with Static-Dissipative Tube Exceeds SAE 100R14B Performance



| Part Number | Hose I. D. | Max. Hose O. D. | Tube Wall | Max. Working Pressure | Min. Bend Radius | Vacuum Rating | Weight      | Crimp Fitting | 80C Crimp Die |
|-------------|------------|-----------------|-----------|-----------------------|------------------|---------------|-------------|---------------|---------------|
| #           |            |                 |           |                       |                  |               |             |               |               |
| hose        | inch mm    | inch mm         | inch      | wpsi MPa              | inch mm          | inch/Hg.      | lbs/ft kg/m | series pg     | crimp die     |
| 929B-4      | 3/16 5     | 5/16 8          | .040      | 3000 21               | 1.5 38           | 28            | .8 11.9     | 91N 150-164   | T04N          |
| 929B-6      | 5/16 8     | 7/16 11         | .040      | 2500 17               | 3.5 89           | 28            | .121 18.0   | 91N 150-164   | T06N          |
| 929B-8      | 13/32 10   | 9/16 14         | .042      | 2000 14               | 4.5 114          | 28            | .157 23.3   | 91N 150-164   | T08N          |
| 929B-12     | 5/8 16     | 3/4 19          | .048      | 1200 8                | 6.5 165          | 12            | .186 27.7   | 91N 150-164   | T12N          |
| 929B-16     | 7/8 22     | 1-1/8 29        | .048      | 1250 9                | 7.4 188          | 14            | .488 72.6   | 91N 150-164   | T16H          |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Black Static-Dissipative PTFE

**Reinforcement:** 304 Stainless Steel

**Temperature:** -100F to +450F

-73C to +232C

Change in length at working pressure is +2% to -4%.

### Applications:

- 919B applications requiring tight routing or enhanced permeation resistance

### Special Features:

- Tighter bend radius
- Better kink resistance
- Enhanced resistance to gas permeation

# 929BJ Silicone Jacketed PTFE Hose with Static-Dissipative Tube Exceeds SAE 100R14B Performance



| Part Number | Hose I. D. |      | Max. Hose O. D. |    | Tube Wall | Max. Working Pressure |     | Min. Bend Radius |     | Vacuum Rating | Weight |       | Crimp Fitting |         | 80C Crimp Die |
|-------------|------------|------|-----------------|----|-----------|-----------------------|-----|------------------|-----|---------------|--------|-------|---------------|---------|---------------|
| #           |            |      |                 |    |           |                       |     |                  |     |               |        |       |               |         |               |
| hose        | inch       | mm   | inch            | mm | inch      | wpsi                  | MPa | inch             | mm  | inch/Hg.      | lbs/ft | kg/m  | series        | pg      | crimp die     |
| 929BJ-4     | .375       | 9.5  | .58             | 15 | .040      | 3000                  | 21  | 2.0              | 51  | 28            | .17    | 25.3  | 91N           | 150-164 | T04J          |
| 929BJ-5 (+) | .375       | 9.5  | .63             | 16 | .040      | 2500                  | 17  | 2.0              | 51  | 28            | .194   | 28.9  | 91N           | 150-164 | T05J          |
| 929BJ-6     | .375       | 9.5  | .69             | 18 | .040      | 2500                  | 17  | 4.0              | 102 | 28            | .232   | 34.5  | 91N           | 150-164 | T06J          |
| 929BJ-8     | .375       | 9.5  | .79             | 20 | .042      | 2000                  | 14  | 4.6              | 117 | 28            | .288   | 42.9  | 91N           | 150-164 | T08J          |
| 929BJ-12    | .500       | 12.7 | 1.04            | 26 | .042      | 1200                  | 8   | 6.5              | 165 | 12            | .403   | 60.0  | 91N           | 150-164 | T12J          |
| 929BJ-16    | .625       | 15.8 | 1.36            | 35 | .042      | 1250                  | 9   | 7.4              | 188 | 14            | .782   | 116.4 | 91N           | 150-164 | T16HJ         |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Black Static-Dissipative PTFE  
**Reinforcement:** 304 Stainless Steel  
**Cover:** Brown Silicone Jacket  
**Temperature:** -100F to +450F  
                   -73C to +232C

Change in length at working pressure is +2% to -4%.

#### Applications:

- Vacuum lines for high temperature autoclaves
- Tough smooth bore hose applications requiring any or all of these special features.

#### Special Features:

- Silicone jacket protects stainless steel wire reinforcement against wear and fraying even at temperatures up to 450F.
- Silicone jacket provides clean smooth cover and prevents contaminants from accumulating in braided reinforcement.
- Steam Cleanable
- Tighter bend radius
- Better kink resistance
- Enhanced resistance to gas permeation
- Cover must be skived prior to fitting attachment

(+) Non Standard. See page ii for information on non-standard products.

## 939 Convoluted PTFE Hose



| Part Number                                     | Hose I. D. | Max. Hose O. D. | Max. Working Pressure | Min. Bend Radius | Vacuum Rating | Weight      |        | Crimp Fitting | 83C Crimp Die |
|---|------------|-----------------|-----------------------|------------------|---------------|-------------|--------|---------------|---------------|
| #   |            |                 |                       |                  |               |             |        |               |               |
| hose  | inch mm    | inch mm         | wpsi MPa              | inch mm          | inch/Hg.      | lbs/ft kg/m | series | pg            | crimp die     |
| 939-6   | 3/8 10     | 0.59 15         | 1500 10               | 2.25 57          | 28            | .12         | 17.9   | 93            | 165-168       |
| 939-8   | 1/2 12.5   | 0.79 20         | 1350 9                | 2.88 73          | 28            | .211        | 31.4   | 93N           | 165-168       |
| 939-10  | 5/8 16     | 0.88 22         | 1000 7                | 3.00 76          | 28            | .24         | 35.7   | 93N           | 165-168       |
| 939-12  | 3/4 19     | 1.09 28         | 1100 8                | 3.75 95          | 28            | .316        | 47.0   | 93N           | 165-168       |
| 939-16  | 1 25       | 1.33 34         | 1000 7                | 5.00 127         | 28            | .451        | 67.1   | 93N           | 165-168       |
| 939-20  | 1-1/4 31.5 | 1.75 44         | 1000 7                | 6.25 159         | 20*           | .697        | 103.7  | 93N           | 165-168       |
| 939-24  | 1-1/2 38   | 2.05 52         | 750 5                 | 7.50 191         | 12*           | .795        | 118.3  | 93N           | 165-168       |
| 939-32  | 2 51       | 2.56 57         | 250 2                 | 10.00 254        | 5*            | 1.01        | 150.3  | 93N           | 165-168       |
| Min. Burst Pressure is 4x Max. Working Pressure |            |                 |                       |                  |               |             |        |               |               |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Natural FDA Compliant PTFE**Reinforcement:** 304 Stainless Steel**Temperature:** -100F to +450F  
-73C to +232C

Not recommended for steam-cold water cycling applications.

**Applications:**

- Transfer lines for nearly all chemicals
- Compressed Air/Gases

\*Use hose type 939B with static-dissipative core tube when conveying non-conducting fluids such as oils, paints, fuels, steam, etc.

**Special Features:**

- Better flexibility
- Exceptional kink resistance

## 939B Convoluted PTFE Hose



| Part Number                                     | Hose I. D. | Max. Hose O. D. | Max. Working Pressure | Min. Bend Radius | Vacuum Rating | Weight      |        | Crimp Fitting | 80C Crimp Die |
|---|------------|-----------------|-----------------------|------------------|---------------|-------------|--------|---------------|---------------|
| #   |            |                 |                       |                  |               |             |        |               |               |
| hose  | inch mm    | inch mm         | wpsi MPa              | inch mm          | inch/Hg.      | lbs/ft kg/m | series | pg            | crimp die     |
| 939B-6  | 3/8 10     | 0.59 15         | 1500 10               | 2.25 57          | 28            | .12         | 17.9   | 93            | 165-168       |
| 939B-8  | 1/2 12.5   | 0.79 20         | 1350 9                | 2.88 73          | 28            | .211        | 31.4   | 93N           | 165-168       |
| 939B-10   | 5/8 16     | 0.88 22         | 1000 7                | 3.00 76          | 28            | .24         | 35.7   | 93N           | 165-168       |
| 939B-12   | 3/4 19     | 1.09 28         | 1100 8                | 3.75 95          | 28            | .316        | 47.0   | 93N           | 165-168       |
| 939B-16   | 1 25       | 1.33 34         | 1000 7                | 5.00 127         | 28            | .451        | 67.1   | 93N           | 165-168       |
| 939B-20   | 1-1/4 31.5 | 1.75 44         | 1000 7                | 6.25 159         | 20*           | .697        | 103.7  | 93N           | 165-168       |
| 939B-24   | 1-1/2 38   | 2.05 52         | 750 5                 | 7.50 191         | 12*           | .795        | 118.3  | 93N           | 165-168       |
| 939B-32   | 2 51       | 2.56 57         | 250 2                 | 10.00 254        | 5*            | 1.01        | 150.3  | 93N           | 165-168       |
| Min. Burst Pressure is 4x Max. Working Pressure |            |                 |                       |                  |               |             |        |               |               |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Black Static-Dissipative PTFE**Reinforcement:** 304 Stainless Steel**Temperature:** -100F to +450F  
-73C to +232C

Not recommended for steam-cold water cycling applications.

**Applications:**

- Transfer lines for nearly all chemicals
- Hot oils

**Special Features:**

- Better flexibility
- Exceptional kink resistance

**Note:** A non-standard version of this hose is available with blue polyester braid instead of stainless steel reinforcement. Contact Parflex for performance specifications and availability.

## 943B - 3000 PSI W.P., High Temperature Hydraulic Hose

### Meets or exceeds 100R17 and 100R7 Performance



| Part Number | Hose I. D. |      | Max. Hose O. D. |    | Tube Wall | Max. Working Pressure |       | Min. Bend Radius |     | Vacuum Rating | Weight   |       | Crimp Fitting |     |
|-------------|------------|------|-----------------|----|-----------|-----------------------|-------|------------------|-----|---------------|----------|-------|---------------|-----|
| #           |            |      |                 |    |           |                       |       |                  |     |               |          |       |               |     |
| hose        | inch       | mm   | inch            | mm | inch      | wpsi                  | MPa   | inch             | mm  | inch/Hg.      | lbs./ft. | kg/m  | series        | pg. |
| 943B-6      | .5/16      | 8    | 0.49            | 12 | .040      | 3000                  | 20.68 | 2.50             | 64  | 28            | .175     | 26.0  | 94            | 169 |
| 943B-8      | 13/32      | 10   | 0.62            | 16 | .045      | 3000                  | 20.68 | 2.88             | 73  | 28            | .235     | 35.0  | 94            | 169 |
| 943B-10     | 1/2        | 12.5 | 0.73            | 19 | .051      | 3000                  | 20.68 | 3.25             | 83  | 28            | .264     | 39.3  | 94            | 169 |
| 943B-12     | 5/8        | 16   | 0.99            | 25 | .051      | 3000                  | 20.68 | 4.00             | 102 | 28            | .66      | 98.2  | 94            | 169 |
| 943B-16     | 29/32      | 23   | 1.25            | 32 | .051      | 3000                  | 20.68 | 5.00             | 127 | 28            | 1.02     | 151.8 | 94            | 169 |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Black Static-Dissipative PTFE**Reinforcement:** 304 Stainless Steel**Temperature:** -65F to +400F

-54C to +204C

Change in length at working pressure is +2% to -2%

Not recommended for steam-cold water cycling applications.

**Applications:**

- High temperature hydraulic hose
- Transfer lines for nearly all chemicals
- Compressed Air/Gases
- Factory Crimp only

## 950B - 4000 PSI W.P., High Temperature Hydraulic Hose



| Part Number | Hose I. D. |    | Max Hose O. D. |    | Tube Wall | Max. Working Pressure |     | Min. Bend Radius |     | Vacuum Rating | Weight   |       | Crimp Fitting |     |
|-------------|------------|----|----------------|----|-----------|-----------------------|-----|------------------|-----|---------------|----------|-------|---------------|-----|
| #           |            |    |                |    |           |                       |     |                  |     |               |          |       |               |     |
| hose        | inch       | mm | inch           | mm | inch      | wpsi                  | MPa | inch             | mm  | inch/Hg.      | lbs./ft. | kg/m  | series        | pg. |
| 950B-4      | 15/64      | 6  | 0.50           | 10 | .050      | 4000                  | 28  | 3.00             | 38  | 28            | .196     | 29.2  | 95            | 169 |
| 950B-6      | 5/16       | 8  | 0.62           | 16 | .050      | 4000                  | 28  | 5.00             | 127 | 28            | .24      | 35.7  | 95            | 169 |
| 950B-8      | 7/16       | 11 | 0.75           | 19 | .050      | 4000                  | 28  | 5.75             | 146 | 28            | .454     | 67.6  | 95            | 169 |
| 950B-12     | 5/8        | 16 | 1.08           | 27 | .060      | 4000                  | 28  | 7.75             | 197 | 28            | .96      | 142.9 | 95            | 169 |
| 950B-16     | 29/32      | 23 | 1.36           | 35 | .060      | 4000                  | 28  | 9.63             | 245 | 14            | 1.297    | 193.0 | 95            | 169 |

Min. Burst Pressure is 4x Max. Working Pressure

**Tube:** Black Static-Dissipative PTFE**Reinforcement:** Double High Density Braids of 304 Stainless Steel**Temperature:** -65F to +400F

-54C to +204C

Change in length at working pressure is +2% to -2%

**Applications:**

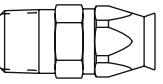
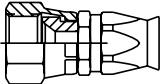
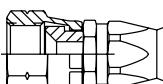
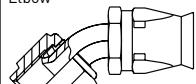
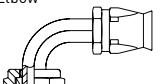
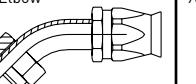
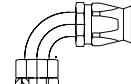
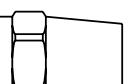
- High temperature hydraulic hose
- Transfer lines for nearly all chemicals
- Compressed Air/Gases
- Factory Crimp only

## PTFE Permanent Hose Fittings

|  |  |   |  |   |   |
|--|--|---|--|---|---|
| <b>91N Series</b><br>Hose Fittings           | <b>101</b><br>Male Taper Pipe Rigid          | <b>103</b><br>Male (JIC) 37°                              | <b>106</b><br>SAE (JIC) 37° Swivel       | <b>107</b><br>Female Pipe Swivel            | <b>108</b><br>SAE 45° Swivel                          |
| 91N pg. 150                                  | 91N pg. 150                                  | 91N pg. 150   | 91N, 91NRD pg. 151                       | 91N pg. 152                                 | 91N pg. 153   |
| <b>128</b><br>Male Inverted Swivel-Straight  | <b>134</b><br>Straight Tube                  | <b>137</b><br>JIC 37° Swivel 45° Elbow                    | <b>139</b><br>JIC 37° Swivel 90° Elbow   | <b>141</b><br>JIC 37° Swivel 90° Long Elbow | <b>161</b><br>Compression Air Brake                   |
| 91N pg. 153                                  | 91N pg. 154                                  | 91N pg. 154   | 91N pg. 155                              | 91N pg. 155                                 | 91N pg. 156   |
| <b>167</b><br>Male Inverted Swivel 45° Elbow | <b>169</b><br>Male Inverted Swivel 90° Elbow | <b>177</b><br>SAE 45° Swivel 45° Elbow                    | <b>179</b><br>SAE 45° Swivel 90° Elbow   | <b>1AL</b><br>A-LOK® Compression            | <b>1P6</b><br>CPI® Compression (With Nut and Ferrule) |
| 91N pg. 156                                  | 91N pg. 157                                  | 91N pg. 157   | 91N pg. 158                              | 91N pg. 158                                 | 91N pg. 159   |
| <b>1FN</b><br>Sanitary Flange                | <b>1FV</b><br>Mini Sanitary Flange           | <b>1J1</b><br>Female Seal-Lok™ Swivel 90° Elbow Long Drop | <b>1J7</b><br>Seal-Lok™ Swivel 45° Elbow | <b>1J9</b><br>Seal-Lok™ Swivel 90° Elbow    | <b>1JC</b><br>Seal-Lok™ Straight                      |
| 91N pg. 159                                  | 91N pg. 159                                  | 91N pg. 160   | 91N pg. 161                              | 91N pg. 161                                 | 91N pg. 162   |
| <b>1LF</b><br>Laundry Flange Fitting         | <b>1Q1</b><br>Ultra Seal                     | <b>1HV</b><br>Male VacuSeal                               | <b>1VH</b><br>Female VacuSeal            | <b>1TU</b><br>Universal Rube Stub Fitting   | <b>192</b><br>Female BSP Swivel                       |
| 91N pg. 162                                  | 91N pg. 162                                  | 91N pg. 163   | 91N pg. 163                              | 91N pg. 163                                 | 91N pg. 164   |
| <b>1B2</b><br>Female BSP Swivel 90° Elbow    | <b>93N Series</b><br>Hose Fittings           | <b>101</b><br>Male Taper Pipe Rigid                       | <b>102</b><br>Female Taper Pipe Rigid    | <b>106</b><br>(JIC) 37° Female Swivel       | <b>137</b><br>JIC 37° Swivel 45° Elbow                |
| 91N pg. 164                                  | 93N pg. 165                                  | 93N pg. 165   | 93N pg. 165                              | 93N pg. 165                                 | 93N pg. 166   |
| <b>139</b><br>JIC 37° Swivel 90° Elbow       | <b>14K</b><br>ANSI B16.5 Flange              | <b>1FC</b><br>Female Cam and Groove with BUNA N Gasket    | <b>1MC</b><br>Male Cam and Groove        | <b>1JC</b><br>Seal-Lok™ Straight            | <b>1J7</b><br>Seal-Lok™ 45° Elbow                     |
| 93N pg. 166                                  | 93N pg. 167                                  | 93N pg. 167   | 93N pg. 167                              | 93N pg. 168                                 | 93N pg. 168   |
| <b>1J9</b><br>Seal-Lok™ 90° Elbow            | <b>94, 95 Series</b><br>Hose Fittings        | <b>106</b><br>(JIC) 37° Female Swivel                     |  |   |   |
| 93N pg. 168                                  | 94, 95 pg. 169                               |   |  |   |   |

Visual Index  
PTFE Field Attachable Hose Fittings

Hydraulic &  
Pneumatic  
Hose & Fit.

| PTFE Field Attachable Hose Fittings   |    |   |                                    |   |   |
|---|----|---|------------------------------------|---|---|
| <b>90 Series</b><br>Hose Fittings   |    | <b>201</b><br>Male Taper Pipe Rigid   | <b>206</b><br>SAE (JIC) 37° Swivel | <b>208</b><br>SAE 45° Swivel  | <b>228</b><br>SAE Male Inverted Swivel-Straight                                     |
|  | 90 |  | 90                                 |    | 90  |
| pg. 142   |    | pg. 142   |                                    | pg. 143   | pg. 143   |
|  | 90 |  | 90                                 |    |   |
| pg. 144   |    | pg. 145   |                                    | pg. 146   | pg. 147   |
|  | 90 |  | 90                                 |    |   |
| pg. 148   |    | pg. 149   |                                    | pg. 149   |   |
| <b>HAB Series</b><br>Hose Fittings  |    |   |                                    |  |  |
|   |    |   |                                    | HAB   | HAB   |
|   |    |   |                                    | pg. 149   | pg. 149   |

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings &  
Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

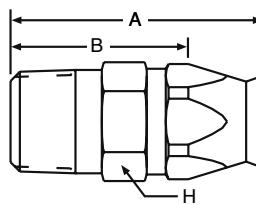
Alphanumeric  
Index

**Note: Brass or stainless steel fittings are recommended for use with water-based fluids to avoid potential corrosion.**

Please refer to the Hose Fitting Thread Guide and the Pressure Rating of Hose End Connections - PSI Guide on pages 312 & 313.



## 20190 Male Taper Pipe Rigid



### 90 Series Field Attachable

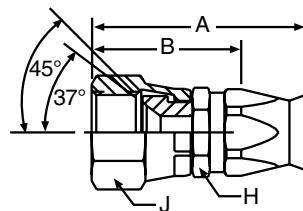
| *Part Number | B | C | NPTF Thread Size | Hose Size | A    |    | Cutoff Allow. B | H Hex |
|--------------|---|---|------------------|-----------|------|----|-----------------|-------|
| #            |   |   | ~~~~~            |           |      |    |                 | ~~~~~ |
| Hose Fitting |   |   |                  | inch      | inch | mm | inch            | mm    |
| 20190-2-4    | + |   | 1/8-27           | -4        | 1.33 | 34 | 7/8             | 22    |
| 20190-4-4    | + | + | 1/4-18           | -4        | 1.58 | 40 | 1-1/16          | 27    |
| 20190-4-5    | + | + | 1/4-18           | -5        | 1.66 | 42 | 1-1/8           | 29    |
| 20190-4-6    | + | + | 1/4-18           | -6        | 1.66 | 42 | 1-1/8           | 29    |
| 20190-6-6    | + | + | 3/8-18           | -6        | 1.66 | 42 | 1-1/8           | 29    |
| 20190-6-8    | + | + | 3/8-18           | -8        | 1.77 | 45 | 1-3/16          | 30    |
| 20190-8-8    | + | + | 1/2-14           | -8        | 1.97 | 50 | 1-7/16          | 37    |
| 20190-8-10   | + | + | 1/2-14           | -10       | 2.13 | 54 | 1-7/16          | 37    |
| 20190-12-12  | + | + | 3/4-14           | -12       | 2.26 | 57 | 1-9/16          | 40    |
| 20190-12-16  | + | + | 3/4-14           | -16       | 2.29 | 58 | 1-5/8           | 41    |
| 20190-16-16  | + | + | 1-11-1/2         | -16       | 2.46 | 62 | 1-7/8           | 48    |
| 20190-20-20  | + | + | 1-1/4-11-1/2     | -20       | 2.69 | 68 | 2-1/16          | 52    |
|              |   |   |                  |           |      |    |                 | 2     |

\* Brass nipple and ferrule, steel socket.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

## 20690 SAE (JIC) 37° Swivel



### 90 Series Field Attachable

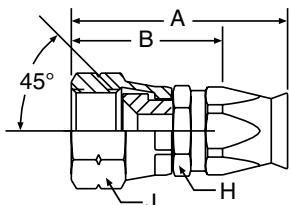
| *Part Number  | B | C | NPTF Thread Size | Hose Size | A    |    | Cutoff Allow. B | H Hex | J Hex |
|---------------|---|---|------------------|-----------|------|----|-----------------|-------|-------|
| #             |   |   | ~~~~~            |           |      |    |                 | ~~~~~ | ~~~~~ |
| Hose Fitting  |   |   |                  | inch      | inch | mm | inch            | mm    | inch  |
| 20690-4-4 ~   | + |   | 7/16-20          | -4        | 1.58 | 40 | 1-1/8           | 29    | 9/16  |
| 20690-5-5 ~   | + |   | 1/2-20           | -5        | 1.66 | 42 | 1-1/8           | 29    | 5/8   |
| 20690-6-6     | + |   | 9/16-18          | -6        | 1.74 | 44 | 1-1/4           | 32    | 11/16 |
| 20690-8-6 ~   | + | + | 3/4-16           | -6        | 1.85 | 47 | 1-5/16          | 33    | 7/8   |
| 20690-8-8 ~   | + |   | 3/4-16           | -8        | 1.98 | 50 | 1-3/8           | 35    | 7/8   |
| 20690-8-10 ~  | + | + | 3/4-16           | -10       | 2.07 | 53 | 1-7/16          | 37    | 1     |
| 20690-10-10 ~ | + |   | 7/8-14           | -10       | 2.22 | 56 | 1-9/16          | 40    | 1     |
| 20690-12-12   | + |   | 1-1/16-12        | -12       | 2.33 | 59 | 1-11/16         | 43    | 1-1/4 |
| 20690-16-16   | + |   | 1-5/16-12        | -16       | 2.52 | 64 | 1-15/16         | 49    | 1-3/8 |
| 20690-20-20   | + |   | 1-5/8-12         | -20       | 2.63 | 67 | 2-5/16          | 59    | 2     |
|               |   |   |                  |           |      |    |                 |       | 2     |

\* Brass nipple and ferrule, steel nut and socket.

~ These fittings contain a dual seat that accepts both the JIC (37 deg.) and SAE (45 deg.) male configurations. The size -6 and -12 SAE (45 deg.) swivel fittings are shown under part number 20890.

B - Brass nipple, brass nut, shell.

[+] Non Standard. See page ii for information on non-standard products.

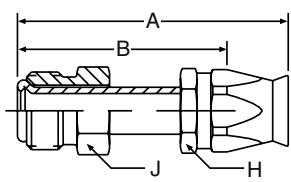
**20890 SAE 45° Swivel****90 Series Field Attachable**

| *Part Number | B | C | NPTF Thread Size | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | H Hex | J Hex |
|--------------|---|---|------------------|-----------|-----------|------|----|-----------------|----|-------|-------|
| #            |   |   | ~~~~~            |           |           |      |    |                 |    | ○     | ○     |
| Hose Fitting |   |   |                  | inch      | inch      | inch | mm | inch            | mm | inch  | inch  |
| 20890-6-6    | + | + | 5/8-18           | -6        | 3/8       | 1.77 | 45 | 1-5/16          | 33 | 11/16 | 3/4   |
| 20890-12-12  | + | + | 1-1/16-14        | -12       | 1-11/16   | 2.34 | 59 | 1-11/16         | 43 | 1-1/4 | 1-1/4 |

\* Brass nipple and ferrule, steel nut and socket.

B - Brass nipple, brass nut, shell.

C - All components 303 stainless steel.

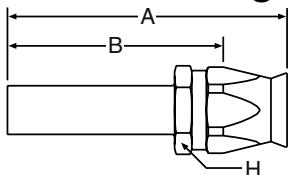
**22890 SAE Male Inverted Swivel-Straight****90 Series Field Attachable**

| *Part Number | B | C | NPTF Thread Size | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | H Hex | J Hex  |
|--------------|---|---|------------------|-----------|-----------|------|----|-----------------|----|-------|--------|
| #            |   |   | ~~~~~            |           |           |      |    |                 |    | ○     | ○      |
| Hose Fitting |   |   |                  | inch      | inch      | inch | mm | inch            | mm | inch  | inch   |
| 22890-4-4    | + | + | 7/16-24          | -4        | 1/4       | 2.15 | 55 | 1-5/8           | 41 | 9/16  | 7/16   |
| 22890-5-5    | + | + | 1/2-20           | -5        | 5/16      | 2.21 | 56 | 1-11/16         | 43 | 5/8   | 1/2    |
| 22890-5-6    | + | + | 1/2-20           | -6        | 5/16      | 2.20 | 56 | 1-11/16         | 43 | 11/16 | 1/2    |
| 22890-6-6    | + | + | 5/8-18           | -6        | 3/8       | 2.22 | 56 | 1-3/4           | 44 | 11/16 | 5/8    |
| 22890-8-8    | + | + | 3/4-18           | -8        | 1/2       | 2.34 | 59 | 1-3/4           | 44 | 7/8   | 3/4    |
| 22890-10-10  | + | + | 7/8-18           | -10       | 5/8       | 2.77 | 70 | 2-1/8           | 54 | 15/16 | 7/8    |
| 22890-12-12  | + | + | 1-1/16-16        | -12       | 3/4       | 3.01 | 76 | 2-3/8           | 60 | 1-1/8 | 1-1/16 |

\* Brass ferrule, steel tube, nut and socket.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

**23490 Straight Tube****90 Series Field Attachable**

| *Part Number | B | C | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | H Hex |
|--------------|---|---|-----------|-----------|------|----|-----------------|----|-------|
| #            |   |   |           |           |      |    |                 |    | ○     |
| Hose Fitting |   |   | inch      | inch      | inch | mm | inch            | mm | inch  |
| 23490-8-8    | + | + | -8        | 1/2       | 3.06 | 78 | 2-7/16          | 62 | 13/16 |
| 23490-8-10   | + | + | -10       | 1/2       | 3.18 | 81 | 2-1/2           | 64 | 1     |
| 23490-10-8   | + | + | -8        | 5/8       | 3.26 | 83 | 2-11/16         | 69 | 13/16 |
| 23490-10-10  | + | + | -10       | 5/8       | 3.32 | 84 | 2-5/8           | 67 | 1     |
| 23490-12-12  | + | + | -12       | 3/4       | 3.74 | 95 | 3-1/16          | 78 | 1-1/8 |

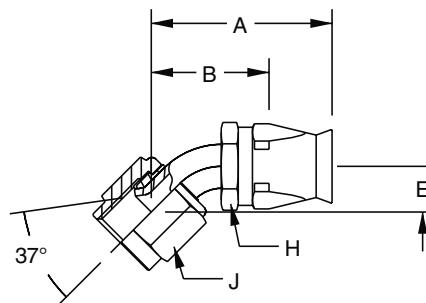
\* Brass nipple and ferrule, steel socket.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

26790 fitting includes 23490 with the 60HAB sleeve and 61HAB nut.

(+) Non Standard. See page ii for information on non-standard products.

**23790 SAE (JIC) 37° Swivel 45° Elbow****90 Series Field Attachable**

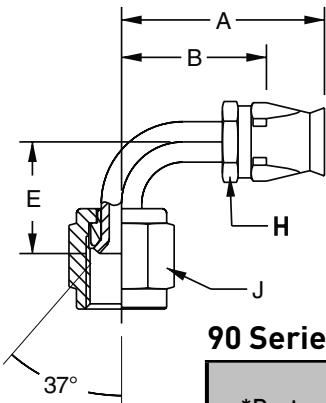
| *Part Number | B | C | NPTF Thread Size | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex |
|--------------|---|---|------------------|-----------|-----------|------|----|-----------------|----|------|----|-------|-------|
| #            |   |   | ~~~~~            |           |           |      |    |                 |    |      |    |       |       |
| Hose Fitting |   |   |                  | inch      | inch      | inch | mm | inch            | mm | inch | mm | inch  | inch  |
| 23790-4-4    | + | + | 7/16-20          | -4        | 1/4       | 1.79 | 45 | 1-3/8           | 35 | 0.33 | 8  | 9/16  | 9/16  |
| 23790-5-5    | + | + | 1/2-20           | -5        | 5/16      | 1.86 | 47 | 1-1/8           | 29 | 0.36 | 9  | 5/8   | 5/8   |
| 23790-6-6    | + | + | 9/16-18          | -6        | 3/8       | 1.96 | 50 | 1-7/16          | 37 | 0.39 | 10 | 11/16 | 11/16 |
| 23790-8-6    | + | + | 3/4-16           | -6        | 1/2       | 2.11 | 54 | 1-11/16         | 43 | 0.55 | 14 | 11/16 | 7/8   |
| 23790-8-8    | + | + | 3/4-16           | -8        | 1/2       | 2.32 | 59 | 1-3/4           | 44 | 0.55 | 14 | 13/16 | 7/8   |
| 23790-10-10  | + | + | 7/8-14           | -10       | 5/8       | 2.45 | 62 | 1-7/8           | 48 | 0.63 | 16 | 15/16 | 1     |
| 23790-12-12  | + | + | 1-1/16-12        | -12       | 3/4       | 3.04 | 77 | 2-7/16          | 62 | 0.78 | 20 | 1-1/8 | 1-1/4 |
| 23790-16-16  | + | + | 1-5/16-12        | -16       | 1         | 3.28 | 83 | 2-11/16         | 68 | 0.90 | 23 | 1-3/8 | 1-1/2 |
| 23790-20-20  | + | + | 1-5/8-12         | -20       | 1-1/4     | 3.70 | 94 | 3-1/16          | 78 | 1.10 | 28 | 1-3/4 | 2     |

\* Brass ferrule, steel tube, nut and socket.

B - Brass nipple, brass nut, shell.

C - All components 303 stainless steel.

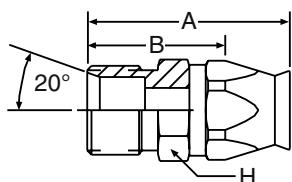
[+] Non Standard. See page ii for information on non-standard products.

**23990 SAE (JIC) 37° Swivel 90° Elbow****90 Series Field Attachable**

| *Part Number | C | Thread Size | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex |
|--------------|---|-------------|-----------|-----------|------|----|-----------------|----|------|----|-------|-------|
| #            |   | ~~~~~       |           |           |      |    |                 |    |      |    | ~~~~~ | ~~~~~ |
| Hose Fitting |   |             | inch      | inch      | inch | mm | inch            | mm | inch | mm | inch  | inch  |
| 23990-4-4    | + | 7/16-20     | -4        | 1/4       | 1.67 | 41 | 1-1/4           | 32 | 0.68 | 17 | 9/16  | 9/16  |
| 23990-5-5    | + | 1/2-20      | -5        | 5/16      | 1.75 | 44 | 1-1/4           | 32 | 0.77 | 20 | 5/8   | 5/8   |
| 23990-6-6    | + | 9/16-18     | -6        | 3/8       | 1.86 | 47 | 1-3/8           | 35 | 0.85 | 22 | 11/16 | 11/16 |
| 23990-8-6    | + | 3/4-16      | -6        | 1/2       | 1.95 | 50 | 1-7/16          | 37 | 1.09 | 28 | 11/16 | 7/8   |
| 23990-8-8    | + | 3/4-16      | -8        | 1/2       | 2.15 | 55 | 1-1/2           | 38 | 1.09 | 28 | 13/16 | 7/8   |
| 23990-10-10  | + | 7/8-14      | -10       | 5/8       | 2.38 | 60 | 1-3/4           | 44 | 1.23 | 31 | 15/16 | 1     |
| 23990-12-12  | + | 1-1/16-12   | -12       | 3/4       | 2.95 | 75 | 2-5/16          | 59 | 1.82 | 46 | 1-1/8 | 1-1/4 |
| 23990-16-16  | + | 1-5/16-12   | -16       | 1         | 3.13 | 80 | 2-1/2           | 64 | 2.14 | 54 | 1-3/8 | 1-1/2 |
| 23990-20-20  | + | 1-5/8-12    | -20       | 1-1/4     | 3.54 | 90 | 1-7/8           | 73 | 2.57 | 65 | 2     | 1-3/4 |

\* Brass ferrule, steel tube, nut and socket.

C - All components 303 stainless steel.

**26190 SAE Compression Air Brake****90 Series Field Attachable**

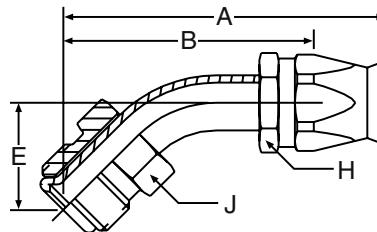
| *Part Number    | B | C | Thread Size | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | H Hex |
|-----------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|-------|
| #               |   |   | ~~~~~       |           |           |      |    |                 |    | ~~~~~ |
| Hose Fitting    |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch  |
| 26190-8-8       | + | + | 11/16-20    | -8        | 1/2       | 1.69 | 43 | 1-1/16          | 27 | 13/16 |
| 26190-8-10      | + | + | 11/16-20    | -10       | 1/2       | 1.86 | 47 | 1-3/16          | 30 | 1     |
| 26190-10-10     | + | + | 13/16-18    | -10       | 5/8       | 1.92 | 49 | 1-15/16         | 49 | 1     |
| 26190-12-10 (+) | + | + | 1-18        | -10       | 3/4       | 1.31 | 33 | 1-5/16          | 33 | 1     |
| 26190-12-12     | + | + | 1-18        | -12       | 3/4       | 2.09 | 53 | 1-7/16          | 37 | 1-1/8 |

\* Brass nipple and ferrule, steel socket.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

(+) Non Standard. See page ii for information on non-standard products.

**26790 SAE Male Inverted Swivel 45° Elbow****90 Series Field Attachable**

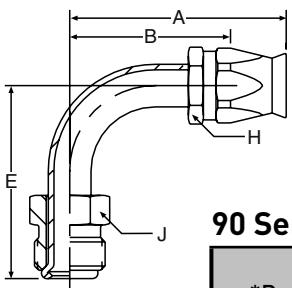
| *Part Number    | B | C | Thread Size | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex  |
|-----------------|---|---|-------------|-----------|-----------|------|----|-----------------|----|------|----|-------|--------|
| #               |   |   | ~~~~~       |           |           |      |    |                 |    |      |    | ○     | ○      |
| Hose Fitting    |   |   |             | inch      | inch      | inch | mm | inch            | mm | inch | mm | inch  | inch   |
| 26790-4-4       | + | + | 7/16-24     | -4        | 1/4       | 2.11 | 54 | 1-11/16         | 43 | 0.63 | 16 | 9/16  | 7/16   |
| 26790-5-5       | + | + | 1/2-20      | -5        | 5/16      | 2.51 | 64 | 2               | 51 | 0.94 | 24 | 5/8   | 1/2    |
| 26790-5-6       | + | + | 1/2-20      | -6        | 5/16      | 2.55 | 65 | 2-1/16          | 52 | 0.94 | 24 | 11/16 | 1/2    |
| 26790-6-6       | + | + | 5/8-18      | -6        | 3/8       | 2.61 | 66 | 2-1/8           | 54 | 0.94 | 24 | 11/16 | 5/8    |
| 26790-8-8       | + | + | 3/4-18      | -8        | 1/2       | 2.68 | 68 | 2-1/16          | 52 | 0.94 | 24 | 7/8   | 3/4    |
| 26790-8-10 (+)  | + | + | 3/4-18      | -10       | 1/2       | 2.77 | 70 | 2-1/8           | 54 | 0.94 | 24 | 15/16 | 3/4    |
| 26790-10-10 (+) | + | + | 7/8-18      | -10       | 5/8       | 2.92 | 74 | 2-5/16          | 59 | 1.02 | 26 | 15/16 | 7/8    |
| 26790-12-12 (+) | + | + | 1-1/16-16   | -12       | 3/4       | 3.14 | 80 | 2-1/2           | 64 | 1.02 | 26 | 1-1/8 | 1-1/16 |

\* Brass ferrule, steel tube, nut and socket.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

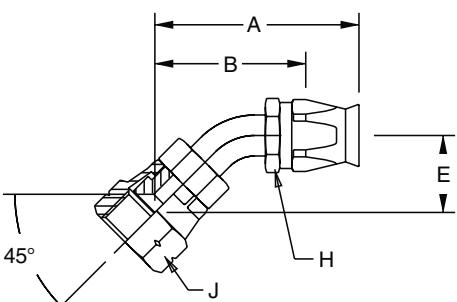
[+] Non Standard. See page ii for information on non-standard products.

**26990 SAE Male Inverted Swivel 90° Elbow****90 Series Field Attachable**

| *Part Number | C | Thread Size |     | Tube Size | A    |      | Cutoff Allow. B |      | E    |      | H Hex   | J Hex   |
|--------------|---|-------------|-----|-----------|------|------|-----------------|------|------|------|---------|---------|
| #            |   | ~~~~~       |     |           |      |      |                 |      |      |      | hexagon | hexagon |
| Hose Fitting |   |             |     | inch      | inch | inch | mm              | inch | mm   | inch | inch    | inch    |
| 26990-4-4    | + | 7/16-24     | -4  | 1/4       | 1.79 | 45   | 1-5/16          | 33   | 1.19 | 30   | 9/16    | 7/16    |
| 26990-5-5    | + | 1/2-20      | -5  | 5/16      | 2.01 | 51   | 1-1/2           | 38   | 1.65 | 42   | 5/8     | 1/2     |
| 26990-5-6    | + | 1/2-20      | -6  | 5/16      | 2.05 | 52   | 1-9/16          | 40   | 1.65 | 42   | 11/16   | 1/2     |
| 26990-6-6    | + | 5/8-18      | -6  | 3/8       | 2.03 | 52   | 1-1/2           | 38   | 1.70 | 43   | 11/16   | 5/8     |
| 26990-8-8    | + | 3/4-18      | -8  | 1/2       | 2.30 | 58   | 1-11/16         | 43   | 1.78 | 45   | 13/16   | 3/4     |
| 26990-8-10   | + | 3/4-18      | -10 | 1/2       | 2.39 | 61   | 1-3/4           | 44   | 1.78 | 45   | 15/16   | 3/4     |
| 26990-10-10  | + | 7/8-18      | -10 | 5/8       | 2.65 | 67   | 2               | 51   | 2.18 | 55   | 15/16   | 7/8     |
| 26990-12-12  | + | 1-1/16-16   | -12 | 3/4       | 2.81 | 71   | 2-3/16          | 56   | 2.51 | 64   | 1-1/8   | 1-1/16  |

\* Brass ferrule, steel tube, nut and socket.

C - All components 303 stainless steel.

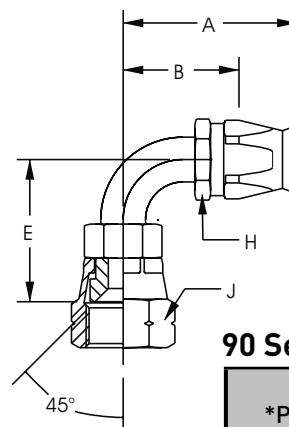
**27790 SAE 45° Swivel 45° Elbow****90 Series Field Attachable**

| *Part Number | C | Thread Size |     | Tube Size | A    |      | Cutoff Allow. B |      | E    |      | H Hex   | J Hex   |
|--------------|---|-------------|-----|-----------|------|------|-----------------|------|------|------|---------|---------|
| #            |   | ~~~~~       |     |           |      |      |                 |      |      |      | hexagon | hexagon |
| Hose Fitting |   |             |     | inch      | inch | inch | mm              | inch | mm   | inch | inch    | inch    |
| 27790-6-6    | + | 5/8-18      | -6  | 3/8       | 1.72 | 44   | 1-3/16          | 30   | 0.39 | 10   | 11/16   | 3/4     |
| 27790-12-12  | + | 1-1/16-14   | -12 | 3/4       | 2.87 | 73   | 2-1/4           | 57   | 0.78 | 20   | 1-1/8   | 1-1/4   |

\* Brass ferrule, steel tube, nut and socket.

C - All components 303 stainless steel.

(+) Non Standard. See page ii for information on non-standard products.

**27990 SAE 45° Swivel 90° Elbow****90 Series Field Attachable**

| *Part Number | C | Thread Size |      | Tube Size | A    |    | Cutoff Allow. B |    | E    |    | H Hex | J Hex |
|--------------|---|-------------|------|-----------|------|----|-----------------|----|------|----|-------|-------|
| #            |   |             |      |           |      |    |                 |    |      |    |       |       |
| Hose Fitting |   |             | inch | inch      | inch | mm | inch            | mm | inch | mm | inch  | inch  |
| 27990-4-4    | + | 7/16-20     | -4   | 1/4       | 1.67 | 42 | 1-1/4           | 32 | 0.68 | 17 | 9/16  | 9/16  |
| 27990-5-5    | + | 1/2-20      | -5   | 5/16      | 1.75 | 44 | 1-1/4           | 32 | 0.77 | 20 | 5/8   | 5/8   |
| 27990-6-6    | + | 5/8-18      | -6   | 3/8       | 1.86 | 47 | 1-3/8           | 35 | 0.85 | 22 | 3/4   | 11/16 |
| 27990-8-8    | + | 3/4-16      | -8   | 1/2       | 2.15 | 55 | 1-1/2           | 38 | 1.09 | 28 | 7/8   | 13/16 |
| 27990-12-12  | + | 1-1/16-14   | -12  | 3/4       | 2.95 | 75 | 2-5/16          | 59 | 1.82 | 46 | 1-1/4 | 1-1/8 |

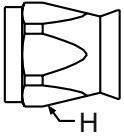
\* Brass ferrule, steel tube, nut and socket.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

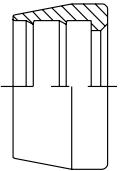
(+ ) Non Standard. See page ii for information on non-standard products.

## 20090 Replacement Socket for Field Attachable Fittings



| Steel<br>Socket Part<br>Number | Stainless Steel<br>Socket Part<br>Number | H<br>Hex |
|--------------------------------|--|----------|
| #                              | #  | Hexagon  |
| 20090-4                        | 20090-4C                                 | 9/16     |
| 20090-5                        | 20090-5C                                 | 5/8      |
| 20090-6                        | 20090-6C                                 | 11/16    |
| 20090-8                        | 20090-8C                                 | 7/8      |
| 20090-10                       | 20090-10C                                | 1        |
| 20090-12                       | 20090-12C                                | 1-1/8    |
| 20090-16                       | 20090-16C                                | 1-3/8    |
| 20090-20                       | 20090-20C                                | 1-3/4    |

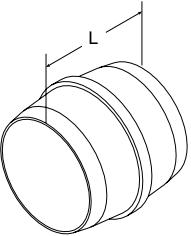
## 090 Replacement Ferrule for 90 Series Field Attachable Fit- tings



| Brass<br>Ferrule<br>Part<br>Number | Stainless Steel<br>Ferrule<br>Part<br>Number | Hose<br>Size |
|------------------------------------|--|--------------|
| #                                  | #  |              |
| 090-4B                             | 090-4C                                       | -4           |
| 090-5B                             | 090-5C                                       | -5           |
| 090-6B                             | 090-6C                                       | -6           |
| 090-8B                             | 090-8C                                       | -8           |
| 090-10B                            | 090-10C                                      | -10          |
| 090-12B                            | 090-12C                                      | -12          |
| 090-16B                            | 090-16C                                      | -16          |
| 090-20B                            | 090-20C                                      | -20          |

(+) Non Standard. See page ii for information on non-standard products.

## 60 HAB SAE Compression Airbrake Sleeve

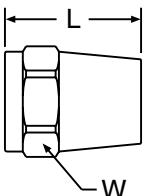


| *Part<br>Number | Tube<br>Size | L    |
|-----------------|--------------|------|
| #               |              |      |
| 60HAB-4         | 1/4          | .250 |
| 60HAB-6         | 3/8          | .313 |
| 60HAB-8         | 1/2          | .375 |
| 60HAB-10        | 5/8          | .438 |
| 60HAB-12        | 3/4          | .500 |

\*Brass

\*To be used with "34" Fittings

## 61 HAB SAE Compression Airbrake Nut

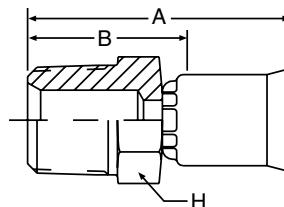


| *Part<br>Number | Thread<br>Size | Tube<br>Size | E    | H<br>Hex |
|-----------------|----------------|--------------|------|----------|
| #               | ~~~~~          |              |      | Hexagon  |
| Hose Fitting    |                | inch         | inch | mm       |
| 61HAB-4         | 7/16-24        | 1/4          | 0.75 | 19       |
| 61HAB-6         | 7/32-24        | 3/8          | 1.13 | 29       |
| 61HAB-8         | 11/16-20       | 1/2          | 1.25 | 32       |
| 61HAB-10        | 13/16-18       | 5/8          | 1.38 | 35       |
| 61HAB-12        | 1-18           | 3/4          | 1.56 | 40       |

\*Brass

\*To be used with "34" Fittings

## 10191N Male Taper Pipe Rigid



### 91N Series Permanent

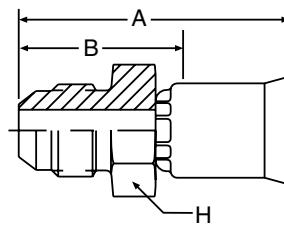
| *Part Number    | B | C | NPTF Thread Size | A    |      | Cutoff Allow. B | H Hex  |
|-----------------|---|---|------------------|------|------|-----------------|--------|
| #               |   |   |                  |      |      |                 |        |
| Hose Fitting    |   |   |                  | inch | inch | mm              | inch   |
| 10191N-2-4      |   |   | 1/8-27           | -4   | 1.27 | 32              | 3/4    |
| 10191N-4-4      | + |   | 1/4-18           | -4   | 1.50 | 38              | 15/16  |
| 10191N-4-5      | + |   | 1/4-18           | -5   | 1.55 | 39              | 15/16  |
| 10191N-4-6      | + |   | 1/4-18           | -6   | 1.60 | 41              | 15/16  |
| 10191N-6-6      | + |   | 3/8-18           | -6   | 1.65 | 58              | 1      |
| 10191N-6-8      | + |   | 3/8-18           | -8   | 1.71 | 43              | 1      |
| 10191N-8-8      | + |   | 1/2-14           | -8   | 1.94 | 49              | 1-1/4  |
| 10191N-8-10     | + |   | 1/2-14           | -10  | 1.96 | 50              | 1-1/4  |
| 10191N-8-12 (+) | + | + | 1/2-14           | -12  | 2.42 | 61              | 1-1/4  |
| 10191N-12-12    | + |   | 3/4-14           | -12  | 2.19 | 56              | 1-3/8  |
| 10191N-16-16    | + |   | 1-11-1/2         | -16  | 2.46 | 62              | 1-1/2  |
| 10191-20-20     |   |   | 1-1/4-11-1/2     | -20  | 3.05 | 77              | 2-1/16 |
|                 |   |   |                  |      |      |                 | 52     |
|                 |   |   |                  |      |      |                 | 1-3/4  |

\* Brass nipple, steel shell.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

## 10391N Male (JIC) 37°



### 91N Series Permanent

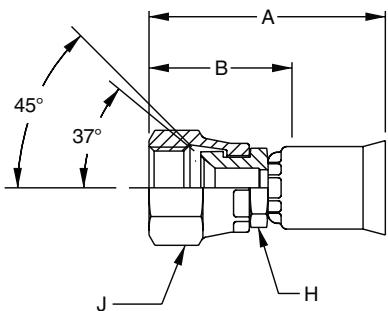
| *Part Number   | B | C | NPTF Thread Size | A    |      | Cutoff Allow. B | H Hex  |
|----------------|---|---|------------------|------|------|-----------------|--------|
| #              |   |   |                  |      |      |                 |        |
| Hose Fitting   |   |   |                  | inch | inch | mm              | inch   |
| 10391N-4-4     | + | + | 7/16-20          | -4   | 1.37 | 35              | 13/16  |
| 10391N-5-5     | + | + | 1/2-20           | -5   | 1.48 | 38              | 7/8    |
| 10391N-6-6 (+) | + | + | 9/16-18          | -6   | 1.64 | 42              | 1      |
| 10391N-8-8     | + | + | 3/4-16           | -8   | 1.79 | 35              | 1-1/8  |
| 10391N-8-6     | + | + | 3/4-16           | -6   | 1.73 | 44              | 1-1/16 |
| 10391N-10-10   | + | + | 7/8-14           | -10  | 2.07 | 53              | 1-3/8  |
| 10391N-12-12   | + | + | 1-1/16-12        | -12  | 2.10 | 53              | 1-5/16 |
| 10391N-16-16   | + | + | 1-5/16-12        | -16  | 2.43 | 62              | 1-1/2  |
|                |   |   |                  |      |      |                 | 38     |
|                |   |   |                  |      |      |                 | 1-3/8  |

\* Brass nipple, steel shell.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

(+): Non Standard. See page ii for information on non-standard products.

**10691N SAE (JIC) 37° Swivel****91N Series Permanent**

| *Part Number   | S | B | C | Thread Size | Tube Size | A     |      | Cutoff Allow. B |         | H Hex | J Hex   |
|----------------|---|---|---|-------------|-----------|-------|------|-----------------|---------|-------|---------|
| #              |   |   |   |             |           |       |      |                 |         |       |         |
| Hose Fitting   |   |   |   |             | inch      | inch  | inch | mm              | inch    | mm    | inch    |
| 10691N-4-4 ~   |   |   |   | 7/16-20     | -4        | 1/4   | 1.43 | 36              | 7/8     | 22    | 3/8     |
| 10691N-5-5 ~   | + |   |   | 1/2-20      | -5        | 5/16  | 1.56 | 40              | 15/16   | 24    | 7/16    |
| 10691N-6-6     |   |   |   | 9/16-18     | -6        | 3/8   | 1.63 | 41              | 1       | 25    | 1/2     |
| 10691N-6-8     | + | + | + | 9/16-18     | -8        | 1/2   | 1.69 | 43              | 1       | 25    | 9/16    |
| 10691N-8-8 ~   | + |   |   | 3/4-16      | -8        | 1/2   | 1.89 | 48              | 1-3/16  | 30    | 11/16   |
| 10691N-8-10 ~  | + | + |   | 3/4-16      | -10       | 5/8   | 1.86 | 58              | 1-1/8   | 29    | 3/4     |
| 10691N-10-10 ~ | + |   |   | 7/8-14      | -10       | 5/8   | 2.03 | 52              | 1-5/16  | 33    | 13/16   |
| 10691N-12-12   | + |   |   | 1-1/16-12   | -12       | 3/4   | 2.12 | 54              | 1-5/16  | 33    | 1       |
| 10691N-16-16   | + |   |   | 1-5/16-12   | -16       | 1     | 2.45 | 62              | 1-9/16  | 40    | 1-1/4   |
| 10691-20-20    | + | + |   | 1-5/8-12    | -20       | 1-1/4 | 2.98 | 76              | 1-13/16 | 46    | 1-11/16 |
|                |   |   |   |             |           |       |      |                 |         |       | 2       |

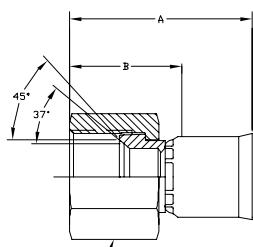
\* Brass nipple, steel nut, shell.

~ These fittings contain a dual seat that accepts both the JIC (37 deg.) and SAE (45 deg.) male configurations. The size -6 and -12 swivel fittings are shown under part number 10891N.

S – Steel nipple, steel nut, shell.

B – Brass nipple, brass nut, shell.

C – All components 303 stainless steel.

**10691NRD****91N Series Permanent**

| *Part Number          | B | C | Thread Size | Tube Size | A    |      | Cutoff Allow. B |        | J Hex |       |
|-----------------------|---|---|-------------|-----------|------|------|-----------------|--------|-------|-------|
| #                     |   |   |             |           |      |      |                 |        |       |       |
| Hose Fitting          |   |   |             | inch      | inch | inch | mm              | inch   | mm    | inch  |
| 10691N-4-4-RD ~ (+)   | + | + | 7/16-20     | -4        | 1/4  | 1.34 | 34              | 13/16  | 21    | 9/16  |
| 10691N-5-5-RD ~ (+)   | + | + | 1/2-20      | -5        | 5/16 | 1.51 | 38              | 7/8    | 22    | 5/8   |
| 10691N-6-6-RD ~ (+)   | + | + | 9/16-18     | -6        | 3/8  | 1.60 | 41              | 15/16  | 24    | 11/16 |
| 10691N-8-8-RD ~ (+)   | + | + | 3/4-16      | -8        | 1/2  | 1.79 | 45              | 1-1/16 | 27    | 7/8   |
| 10691N-10-10-RD ~     | + | + | 7/8-14      | -10       | 5/8  | 1.91 | 49              | 1-3/16 | 30    | 1     |
| 10691N-12-12-RD       | + | + | 1-1/16-12   | -12       | 3/4  | 2.09 | 58              | 1-5/16 | 33    | 1-1/4 |
| 10691N-16-16-RD ~ (+) | + | + | 1-5/16-12   | -16       | 1    | 2.27 | 58              | 1-5/16 | 33    | 1-1/2 |

\* Brass nipple, steel nut, shell.

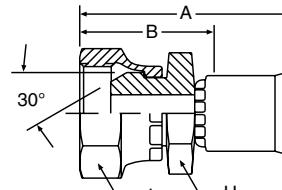
~ These fittings contain a dual seat that accepts both the JIC (37 deg.) and SAE (45 deg.) male configurations. The size -6 and -12 swivel fittings are shown under part number 10891N.

B – Brass nipple, brass nut, shell.

C – All components 303 stainless steel.

(+) Non Standard. See page ii for information on non-standard products.

## 10791N Female Pipe Swivel

**91N Series Permanent**

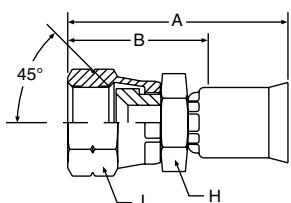
| *Part Number | B | C | Thread Size |      | Tube Size | A    |    | Cutoff Allow. B |       | H Hex  | J Hex |
|--------------|---|---|-------------|------|-----------|------|----|-----------------|-------|--------|-------|
| #            |   |   |             |      |           |      |    |                 |       |        |       |
| Hose Fitting |   |   |             | inch | inch      | inch | mm | inch            | mm    | inch   | inch  |
| 10791N-4-4   | + |   | 1/4-18      | -4   | 1/4       | 1.50 | 38 | 15/16           | 24.00 | 9/16   | 11/16 |
| 10791N-6-6   | + |   | 3/8-18      | -6   | 3/8       | 1.67 | 42 | 1               | 25    | 5/8    | 7/8   |
| 10791N-8-8   | + |   | 1/2-14      | -8   | 1/2       | 1.83 | 46 | 1-1/8           | 29    | 3/4    | 1     |
| 10791N-12-12 | + |   | 3/4-14      | -12  | 3/4       | 2.09 | 53 | 1-5/16          | 33    | 1      | 1-1/4 |
| 10791N-16-16 | + |   | 1-11-1/2    | -16  | 1         | 2.26 | 57 | 1-5/16          | 33    | 1-3/16 | 1-3/8 |

\* Brass nipple , steel nut and shell.

B - Brass nipple, brass nut, shell.

C - All components are 300 series stainless steel.

[+] Non Standard. See page ii for information on non-standard products.

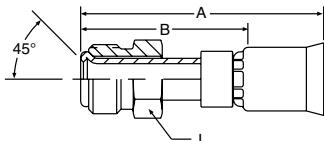
**10891N SAE 45° Swivel****91N Series Permanent**

| *Part Number | S | C | Thread Size |     | Tube Size | A    |      | Cutoff Allow. B |       | H Hex | J Hex |
|--------------|---|---|-------------|-----|-----------|------|------|-----------------|-------|-------|-------|
| #            |   |   | ~~~~~       |     |           |      |      |                 |       |       |       |
| Hose Fitting |   |   |             |     | inch      | inch | inch | mm              | inch  | mm    | inch  |
| 10891N-6-6   |   | + | 5/8-18      | -6  | 3/8       | 1.69 | 43   | 1-1/16          | 27.00 | 5/8   | 3/4   |
| 10891N-12-12 | + | + | 1-1/16-14   | -12 | 3/4       | 2.12 | 54   | 1-5/16          | 33    | 1     | 1-1/4 |

\* Brass nipple, steel nut and shell.

S - Steel nipple, nut and shell.

C - All components are 300 series stainless steel.

**12891N Male Inverted Swivel-Straight****91N Series Permanent**

| *Part Number | B | C | Thread Size |     | Tube Size | A    |      | Cutoff Allow. B |      | J Hex  |
|--------------|---|---|-------------|-----|-----------|------|------|-----------------|------|--------|
| #            |   |   | ~~~~~       |     |           |      |      |                 |      |        |
| Hose Fitting |   |   |             |     | inch      | inch | inch | mm              | inch | inch   |
| 12891N-4-4   | + | + | 7/16-24     | -4  | 1/4       | 2.09 | 53   | 1-1/2           | 38   | 7/16   |
| 12891N-5-5   | + | + | 1/2-20      | -5  | 5/16      | 2.15 | 55   | 1-9/16          | 40   | 1/2    |
| 12891N-5-6   | + | + | 1/2-20      | -6  | 3/8       | 2.23 | 57   | 1-9/16          | 40   | 1/2    |
| 12891N-6-6   | + | + | 5/8-18      | -6  | 3/8       | 2.23 | 57   | 1-9/16          | 40   | 5/8    |
| 12891N-8-8   | + | + | 3/4-18      | -8  | 1/2       | 2.31 | 59   | 1-5/8           | 41   | 3/4    |
| 12891N-10-10 | + | + | 7/8-18      | -10 | 5/8       | 2.43 | 58   | 1-3/4           | 44   | 7/8    |
| 12891N-12-12 | + | + | 1-1/16-16   | -12 | 3/4       | 2.50 | 64   | 1-11/16         | 43   | 1-1/16 |

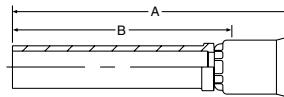
\* Steel nipple, tube, nut and shell.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

(+) Non Standard. See page ii for information on non-standard products.

## 13491N Straight Tube



### 91N Series Permanent

| *Part Number | B | C |     | Tube Size | A    |      | Cutoff Allow. B |      |
|--------------|---|---|-----|-----------|------|------|-----------------|------|
| #            |   |   |     |           |      |      |                 |      |
| Hose Fitting |   |   |     | inch      | inch | inch | mm              | inch |
| 13491N-8-8   | + | + | -8  | 1/2       | 2.80 | 71   | 2-1/8           | 54   |
| 13491N-8-10  | + | + | -10 | 1/2       | 2.81 | 71   | 2-1/8           | 54   |
| 13491N-10-10 | + | + | -10 | 5/8       | 2.96 | 75   | 2-1/4           | 58   |
| 13491N-12-12 | + | + | -12 | 3/4       | 3.37 | 86   | 2-9/16          | 65   |

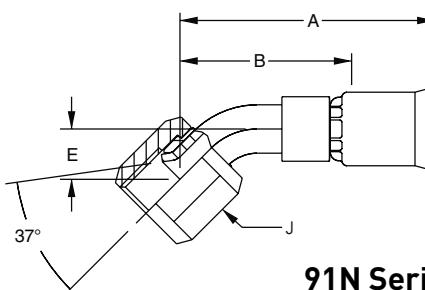
\* Brass nipple, steel shell.

B - Brass nipple, brass nut, shell.

C - All components 303 stainless steel.

The 16T91N fitting includes 13491N with the 60HAB sleeve and 61HAB nut.

## 13791N JIC 37° Swivel 45° Elbow



### 91N Series Permanent

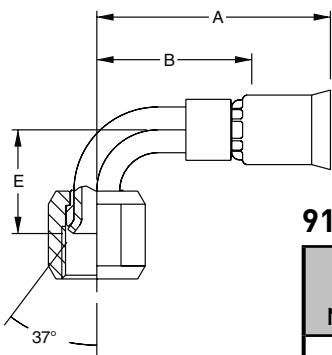
| *Part Number | C | Thread Size |     | Tube Size | A    |      | Cutoff Allow. B |      | E    | J Hex |
|--------------|---|-------------|-----|-----------|------|------|-----------------|------|------|-------|
| #            |   |             |     |           |      |      |                 |      |      |       |
| Hose Fitting |   |             |     | inch      | inch | inch | mm              | inch | mm   | inch  |
| 13791N-4-4   |   | 7/16-20     | -4  | 1/4       | 1.74 | 44   | 1-3/16          | 30   | 0.33 | 8     |
| 13791N-5-5   | + | 1/2-20      | -5  | 5/16      | 1.87 | 47   | 1-1/4           | 32   | 0.36 | 9     |
| 13791N-6-6   |   | 9/16-18     | -6  | 3/8       | 1.94 | 49   | 1-5/16          | 33   | 0.39 | 10    |
| 13791N-8-8   |   | 3/4-16      | -8  | 1/2       | 2.28 | 58   | 1-9/16          | 37   | 0.55 | 14    |
| 13791N-10-10 |   | 7/8-14      | -10 | 5/8       | 2.42 | 61   | 1-11/16         | 43   | 0.64 | 43    |
| 13791N-12-12 | + | 1-1/16-12   | -12 | 3/4       | 2.83 | 58   | 2-1/16          | 52   | 0.78 | 20    |
| 13791N-16-16 | + | 1-5/16-12   | -16 | 1         | 3.18 | 81   | 2-1/4           | 57   | 0.89 | 23    |
| 13791-20-20  | + | 1-5/8-12    | -20 | 1-1/4     | 3.67 | 93   | 2-9/16          | 65   | 1.10 | 28    |

\* Steel tube, nipple, nut and shell.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

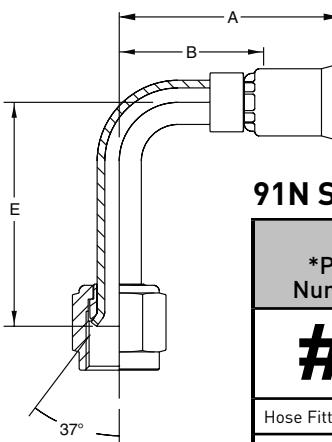
[+] Non Standard. See page ii for information on non-standard products.

**13991N JIC 37° Swivel 90° Elbow****91N Series Permanent**

| *Part Number | C | Thread Size |      | Tube Size | A    | Cutoff Allow. B | E       | J Hex |
|--------------|---|-------------|------|-----------|------|-----------------|---------|-------|
| #            |   |             |      |           |      |                 |         |       |
| Hose Fitting |   |             | inch | inch      | inch | mm              | inch    | inch  |
| 13991N-4-4   |   | 7/16-20     | -4   | 1/4       | 1.62 | 41              | 1-1/16  | 37    |
| 13991N-5-5   | + | 1/2-20      | -5   | 5/16      | 1.71 | 43              | 1-1/8   | 29    |
| 13991N-6-6   | + | 9/16-18     | -6   | 3/8       | 1.91 | 49              | 1-1/4   | 32    |
| 13991N-8-8   |   | 3/4-16      | -8   | 1/2       | 2.03 | 52              | 1-5/16  | 33    |
| 13991N-10-10 |   | 7/8-14      | -10  | 5/8       | 2.27 | 58              | 1-9/16  | 37    |
| 13991N-12-12 | + | 1-1/16-12   | -12  | 3/4       | 2.75 | 58              | 1-15/16 | 49    |
| 13991N-16-16 | + | 1-5/16-12   | -16  | 1         | 3.15 | 80              | 2-3/16  | 56    |
| 13991-20-20  | + | 1-5/8-12    | -20  | 1-1/4     | 3.53 | 90              | 2-7/16  | 62    |

\* Steel tube, nipple, nut and shell.

C - All components 303 stainless steel.

**14191N JIC 37° Swivel 90° Long Elbow****91N Series Permanent**

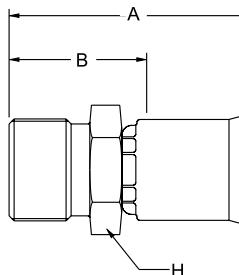
| *Part Number    | C | Thread Size |      | Tube Size | A    | Cutoff Allow. B | E       | J Hex |
|-----------------|---|-------------|------|-----------|------|-----------------|---------|-------|
| #               |   |             |      |           |      |                 |         |       |
| Hose Fitting    |   |             | inch | inch      | inch | mm              | inch    | inch  |
| 14191N-4-4      |   | 7/16-20     | -4   | 1/4       | 1.66 | 42              | 1-1/8   | 29    |
| 14191N-5-5      | + | 1/2-20      | -5   | 5/16      | 1.72 | 44              | 1-1/8   | 29    |
| 14191N-6-6      | + | 9/16-18     | -6   | 3/8       | 1.93 | 49              | 1-5/16  | 33    |
| 14191N-8-8      | + | 3/4-16      | -8   | 1/2       | 2.11 | 54              | 1-3/8   | 35    |
| 14191N-10-10    | + | 7/8-14      | -10  | 5/8       | 2.34 | 59              | 1-5/8   | 41    |
| 14191N-12-12    | + | 1-1/16-12   | -12  | 3/4       | 2.63 | 58              | 1-7/8   | 48    |
| 14191N-16-16    | + | 1-5/16-12   | -16  | 1         | 3.15 | 80              | 2-3/16  | 56    |
| 14191-20-20 (+) | + | 1-5/8-12    | -20  | 1-1/4     | 4.00 | 102             | 2-15/16 | 75    |

\* Steel tube, nipple, nut and shell.

C - All components 303 stainless steel.

(+) Non Standard. See page ii for information on non-standard products.

## 16191N Compression Air Brake



**91N Series Permanent**

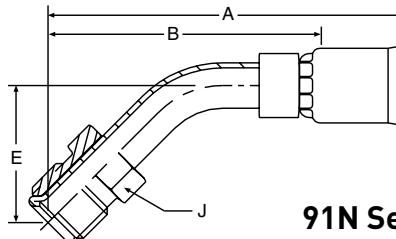
| *Part Number | B | C | Thread Size | Tube Size | A    |      | Cutoff Allow. B |       | H Hex |
|--------------|---|---|-------------|-----------|------|------|-----------------|-------|-------|
| #            |   |   | ~~~~~       |           |      |      |                 |       |       |
| Hose Fitting |   |   |             | inch      | inch | mm   | inch            | mm    | inch  |
| 16191N-8-8   | + | + | 11/16-20    | -8        | 1/2  | 1.61 | 41              | 15/16 | 24    |
| 16191N-8-10  | + | + | 11/16-20    | -10       | 5/8  | 1.61 | 41              | 15/16 | 24    |
| 16191N-10-10 | + | + | 13/16-18    | -10       | 5/8  | 1.82 | 46              | 1-1/8 | 29    |
| 16191N-12-12 | + | + | 1-18        | -12       | 3/4  | 1.93 | 49              | 1-1/8 | 29    |
|              |   |   |             |           |      |      |                 |       | 1-1/4 |

\* Brass nipple, steel shell.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

## 16791N Male Inverted Swivel 45° Elbow



**91N Series Permanent**

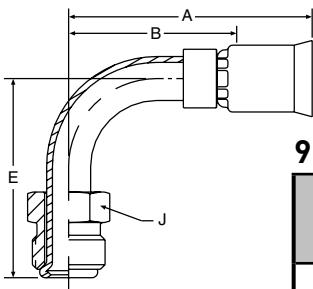
| *Part Number | C | Thread Size | Tube Size | A    |      | Cutoff Allow. B |         | E    | J Hex  |
|--------------|---|-------------|-----------|------|------|-----------------|---------|------|--------|
| #            |   | ~~~~~       |           |      |      |                 |         |      |        |
| Hose Fitting |   |             | inch      | inch | mm   | inch            | mm      | inch | mm     |
| 16791N-4-4   | + | 7/16-24     | -4        | 1/4  | 2.05 | 52              | 1-1/2   | 38   | 0.63   |
| 16791N-5-5   | + | 1/2-20      | -5        | 5/16 | 2.48 | 63              | 1-7/8   | 48   | 0.71   |
| 16791N-6-6   | + | 5/8-18      | -6        | 3/8  | 2.60 | 66              | 1-15/16 | 49   | 0.96   |
| 16791N-8-8   | + | 3/4-18      | -8        | 1/2  | 2.85 | 72              | 2-1/8   | 54   | 0.90   |
| 16791N-10-10 | + | 7/8-18      | -10       | 5/8  | 3.30 | 84              | 2-5/8   | 67   | 1.02   |
| 16791N-12-12 | + | 1-1/16-16   | -12       | 3/4  | 3.64 | 58              | 2-13/16 | 71   | 1.15   |
|              |   |             |           |      |      |                 |         |      | 1-1/16 |

\* Steel tube, nipple, nut and shell.

B - Brass nipple, brass shell.

C - All components 303 stainless steel.

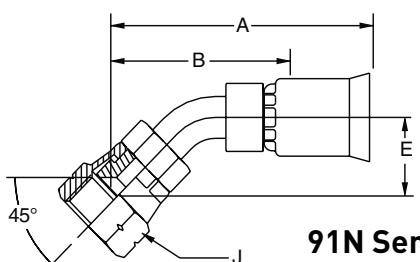
[+] Non Standard. See page ii for information on non-standard products.

**16991N Male Inverted Swivel 90° Elbow****91N Series Permanent**

| *Part Number   | C | Thread Size |     | Tube Size | A    |      | Cutoff Allow. B |      | E    |      | J Hex  |
|----------------|---|-------------|-----|-----------|------|------|-----------------|------|------|------|--------|
| #              |   |             |     |           |      |      |                 |      |      |      |        |
| Hose Fitting   |   |             |     | inch      | inch | inch | mm              | inch | mm   | inch | mm     |
| 16991N-4-4     | + | 7/16-24     | -4  | 1/4       | 1.72 | 44   | 1-3/16          | 30   | 1.19 | 30   | 7/16   |
| 16991N-5-5     | + | 1/2-20      | -5  | 5/16      | 1.98 | 50   | 1-3/8           | 35   | 1.65 | 42   | 1/2    |
| 16991N-5-6 (+) | + | 1/2-20      | -6  | 3/8       | 2.03 | 52   | 1-7/16          | 37   | 1.65 | 42   | 1/2    |
| 16991N-6-6     | + | 5/8-18      | -6  | 3/8       | 2.08 | 53   | 1-7/16          | 37   | 1.70 | 43   | 5/8    |
| 16991N-8-8     | + | 3/4-18      | -8  | 1/2       | 2.18 | 55   | 1-1/2           | 38   | 1.87 | 43   | 3/4    |
| 16991N-10-10   | + | 7/8-18      | -10 | 5/8       | 3.02 | 58   | 2-5/16          | 59   | 2.18 | 55   | 7/8    |
| 16991N-12-12   | + | 1-1/16-16   | -12 | 3/4       | 3.36 | 85   | 2-9/16          | 64   | 2.51 | 64   | 1-1/16 |

\* Steel tube, nipple, nut and shell.

C - All components 303 stainless steel.

**17791N SAE 45° Swivel 45° Elbow****91N Series Permanent**

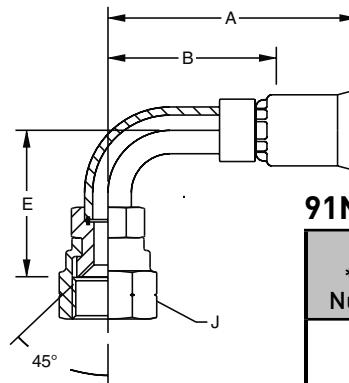
| *Part Number | C | Thread Size |     | Tube Size | A    |      | Cutoff Allow. B |      | E    |      | J Hex |
|--------------|---|-------------|-----|-----------|------|------|-----------------|------|------|------|-------|
| #            |   |             |     |           |      |      |                 |      |      |      |       |
| Hose Fitting |   |             |     | inch      | inch | inch | mm              | inch | mm   | inch | mm    |
| 17791N-6-6   | + | 5/8-18      | -6  | 3/8       | 2.06 | 52   | 1-5/16          | 33   | 0.39 | 10   | 3/4   |
| 17791N-12-12 | + | 1-1/16-14   | -12 | 3/4       | 3.07 | 78   | 2-7/16          | 62   | 0.78 | 20   | 1-1/4 |

\* Steel tube, nipple, nut and shell.

C - All components 303 stainless steel.

(+) Non Standard. See page ii for information on non-standard products.

## 17991N SAE 45° Swivel 90° Elbow

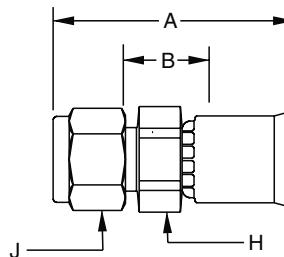
**91N Series Permanent**

| *Part Number | C | Thread Size |      | Tube Size | A    |    | Cutoff Allow. B |    | E    |    | J Hex |
|--------------|---|-------------|------|-----------|------|----|-----------------|----|------|----|-------|
| #            |   | ~~~~~       |      |           |      |    |                 |    |      |    |       |
| Hose Fitting |   |             | inch | inch      | inch | mm | inch            | mm | inch | mm | inch  |
| 17991N-6-6   | + | 5/8-18      | -6   | 3/8       | 2.06 | 52 | 1-5/16          | 49 | 1.19 | 30 | 3/4   |
| 17991N-12-12 | + | 1-1/16-14   | -12  | 3/4       | 2.92 | 74 | 2-1/8           | 54 | 1.82 | 46 | 1-1/4 |

\* Steel tube, nipple, nut and shell.

C - All components 303 stainless steel.

## 1AL91N A-LOK® Compression

**91N Series Permanent**

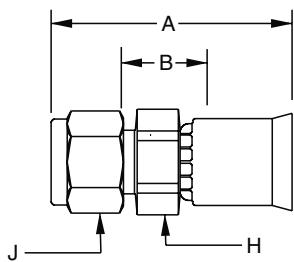
| Part Number (w/ nut/ferrules) | Part Number (w/o nut/ferrules) | C |      | Tube Size | A    |    | Cutoff Allow. B |    | H Hex | J Hex |
|-------------------------------|--------------------------------|---|------|-----------|------|----|-----------------|----|-------|-------|
| #                             | #                              |   |      |           |      |    |                 |    |       |       |
| Hose Fitting                  | Hose Fitting                   |   | inch | inch      | inch | mm | inch            | mm | inch  | inch  |
| 1AL91N-4-4 (+)                | 1AL91N-4-4N (+)                |   | -4   | 1/4       | 1.30 | 33 | 7/16            | 11 | 1/2   | 9/16  |
| 1AL91N-4-5 (+)                | 1AL91N-4-5N (+)                |   | -5   | 1/4       | 1.35 | 34 | 7/16            | 11 | 1/2   | 9/16  |
| 1AL91N-6-6 (+)                | 1AL91N-6-6N (+)                |   | -6   | 3/8       | 1.53 | 39 | 1/2             | 13 | 5/8   | 11/16 |
| 1AL91N-8-8 (+)                | 1AL91N-8-8N (+)                |   | -8   | 1/2       | 1.61 | 41 | 7/16            | 11 | 13/16 | 7/8   |
| 1AL91N-12-12 (+)              | 1AL91N-12-12N (+)              |   | -12  | 3/4       | 1.86 | 47 | 1/2             | 13 | 1-1/8 | 1-1/8 |
| 1AL91N-16-16 (+)              | 1AL91N-16-16N (+)              |   | -16  | 1         | 2.11 | 58 | 7/16            | 11 | 1-3/8 | 1-1/2 |

C - 316 stainless steel nipple, nut, ferrules; 303 stainless steel shell.

Note: Nut part No. is XNUX-316; front ferrule part No. is XFFX-316; back ferrule part No. is XBFX-316. X denotes dash size.

Please reference Instrument Tubing Selection Guide, Bulletin 4200-TS, or contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

[+] Non Standard. See page ii for information on non-standard products.

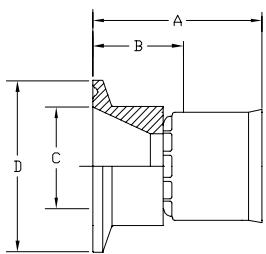
**1P691N CPI® Compression (With Nut and Ferrule)****91N Series Permanent**

| Part Number       | Tube Size | A    |      | Cutoff Allow. B |      | H Hex | J Hex |
|-------------------|-----------|------|------|-----------------|------|-------|-------|
| #                 |           |      |      |                 |      |       |       |
| Hose Fitting      | inch      | inch | inch | mm              | inch | mm    | inch  |
| 1P691N-4-4C (+)   | -4        | 1/4  | 1.30 | 33              | 7/16 | 11    | 1/2   |
| 1P691N-4-5C (+)   | -5        | 1/4  | 1.35 | 34              | 7/16 | 11    | 1/2   |
| 1P691N-6-6C (+)   | -6        | 3/8  | 1.53 | 39              | 1/2  | 13    | 5/8   |
| 1P691N-8-8C (+)   | -8        | 1/2  | 1.61 | 41              | 7/16 | 11    | 13/16 |
| 1P691N-12-12C (+) | -12       | 3/4  | 1.86 | 47              | 1/2  | 13    | 1-1/8 |
| 1P691N-16-16C (+) | -16       | 1    | 2.06 | 58              | 7/16 | 14    | 1-3/8 |

C – 316 stainless steel nipple, nut and ferrule; 303 stainless steel shell.

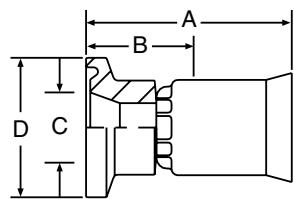
Note: Nut part No. is XBZ-SS; ferrule part No. is XTZ-SS. X denotes dash size.

Please reference Instrument Tubing Selection Guide, Bulletin 4200-TS, or contact the Instrumentation Connectors Division in Huntsville, Alabama, (Phone: 256-881-2040) directly for correct installation and application information.

**1FN91N Sanitary Flange****91N Series Permanent**

| Part Number       | Flange Size D | A    |      | Cutoff Allow. B |        | C  |
|-------------------|---------------|------|------|-----------------|--------|----|
| #                 |               |      |      |                 |        |    |
| Hose Fitting      | inch          | inch | inch | mm              | inch   | mm |
| 1FN91N-16-8C (+)  | -8            | 1.98 | 1.69 | 43              | 1      | 25 |
| 1FN91N-16-10C (+) | -10           | 1.98 | 1.72 | 44              | 1-1/16 | 27 |
| 1FN91N-16-12C (+) | -12           | 1.98 | 1.82 | 46              | 1-1/16 | 27 |
| 1FN91N-16-16C (+) | -16           | 1.98 | 1.96 | 50              | 1-1/16 | 27 |
| 1FN91N-24-8C (+)  | -8            | 1.98 | 2.33 | 59              | 1-5/8  | 41 |
| 1FN91N-24-12C (+) | -12           | 1.98 | 1.73 | 58              | 7/8    | 22 |
| 1FN91N-24-20C (+) | -20           | 1.98 | 2.20 | 56              | 15/16  | 24 |

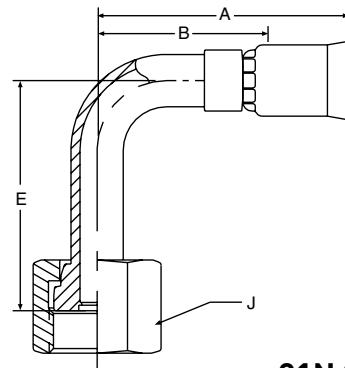
C – 316L stainless steel nipple, 303 stainless steel shell.

**1FV91N Mini Sanitary Flange****91N Series Permanent**

| Part Number       | Flange Size D | A    |      | Cutoff Allow. B |       | C  |
|-------------------|---------------|------|------|-----------------|-------|----|
| #                 |               |      |      |                 |       |    |
| Hose Fitting      | inch          | inch | inch | mm              | inch  | mm |
| 1FV91N-8-8C (+)   | -8            | 0.99 | 1.37 | 35              | 11/16 | 17 |
| 1FV91N-12-12C (+) | -12           | 0.99 | 1.59 | 40              | 13/16 | 21 |

C – 316L stainless steel nipple, 303 stainless steel shell.

(+) Non Standard. See page ii for information on non-standard products.

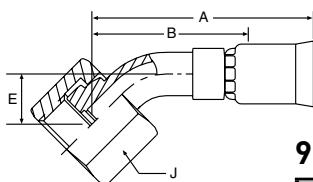
**1J191N Female Seal-Lok™ Swivel 90° Elbow Long Drop****91N Series Permanent**

| *Part Number   | C | Thread Size |      | Tube Size | A    |    | Cutoff Allow. B |    | E    |     | J Hex |
|----------------|---|-------------|------|-----------|------|----|-----------------|----|------|-----|-------|
| #              |   |             |      |           |      |    |                 |    |      |     |       |
| Hose Fitting   |   |             | inch | inch      | inch | mm | inch            | mm | inch | mm  | inch  |
| 1J191N-4-4 (+) |   | 9/16-18     | -4   | 1/4       | 1.66 | 42 | 1-1/16          | 27 | 1.80 | 46  | 11/16 |
| 1J191N-4-5     | + | 9/16-18     | -5   | 5/16      | 1.78 | 45 | 1-1/16          | 27 | 1.80 | 46  | 11/16 |
| 1J191N-6-5 (+) | + | 11/16-16    | -5   | 5/16      | 1.92 | 49 | 1-3/16          | 30 | 2.13 | 54  | 13/16 |
| 1J191N-6-6     | + | 11/16-16    | -6   | 3/8       | 1.92 | 49 | 1-3/16          | 30 | 2.13 | 54  | 13/16 |
| 1J191N-8-6 (+) | + | 13/16-16    | -6   | 3/8       | 2.00 | 51 | 1-9/16          | 40 | 2.51 | 43  | 15/16 |
| 1J191N-8-8     | + | 13/16-16    | -8   | 1/2       | 2.15 | 58 | 1-7/16          | 37 | 2.51 | 64  | 15/16 |
| 1J191N-10-10   | + | 1-14        | -10  | 5/8       | 1.25 | 32 | 1-9/16          | 40 | 2.76 | 70  | 1-1/8 |
| 1J191N-12-12   | + | 1-3/16-12   | -12  | 3/4       | 2.65 | 67 | 1-13/16         | 46 | 3.78 | 96  | 1-3/8 |
| 1J191N-16-16   | + | 1-7/16-12   | -16  | 1         | 3.15 | 80 | 2-1/4           | 57 | 4.50 | 114 | 1-1/2 |

\* Steel tube, nipple, nut, and shell.

C - All components 303 stainless steel.

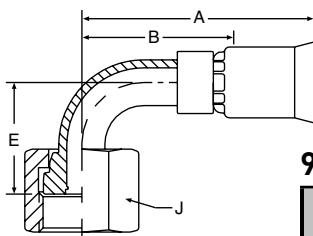
(+): Non Standard. See page ii for information on non-standard products.

**1J791N Seal-Lok™ Swivel 45° Elbow****91N Series Permanent**

| *Part Number | C | Thread Size | Tube Size | A    |      | Cutoff Allow. B |         | E    |      | J Hex |
|--------------|---|-------------|-----------|------|------|-----------------|---------|------|------|-------|
| #            |   | ~~~~~       |           |      |      |                 |         |      |      |       |
| Hose Fitting |   |             | inch      | inch | mm   | inch            | mm      | inch | mm   | inch  |
| 1J791N-4-4   | + | 9/16-18     | -4        | 1/4  | 1.73 | 44              | 1-1/4   | 32   | 0.41 | 10    |
| 1J791N-4-6   | + | 9/16-18     | -6        | 3/8  | 1.91 | 49              | 1-5/16  | 33   | 0.41 | 10    |
| 1J791N-6-6   | + | 11/16-16    | -6        | 3/8  | 2.02 | 51              | 1-3/8   | 35   | 0.43 | 11    |
| 1J791N-8-8   | + | 13/16-16    | -8        | 1/2  | 2.18 | 55              | 1-1/2   | 38   | 0.59 | 15    |
| 1J791N-8-10  | + | 13/16-16    | -8        | 1/2  | 2.39 | 61              | 1-11/16 | 43   | 0.59 | 15    |
| 1J791N-10-10 | + | 1-14        | -10       | 5/8  | 2.47 | 63              | 1-3/4   | 44   | 0.59 | 43    |
| 1J791N-12-12 | + | 1-3/16-12   | -12       | 3/4  | 2.74 | 58              | 1-15/16 | 49   | 0.81 | 21    |
| 1J791N-16-16 | + | 1-7/16-12   | -16       | 1    | 3.50 | 89              | 2-1/2   | 64   | 0.94 | 24    |
|              |   |             |           |      |      |                 |         |      |      | 1-5/8 |

\* Steel tube, nipple, nut, and shell.

C - All components 303 stainless steel.

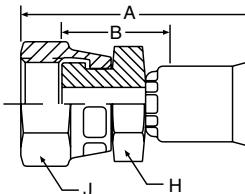
**1J991N Seal-Lok™ Swivel 90° Elbow****91N Series Permanent**

| *Part Number | C | Thread Size | Tube Size | A     |      | Cutoff Allow. B |        | E    |      | J Hex |
|--------------|---|-------------|-----------|-------|------|-----------------|--------|------|------|-------|
| #            |   | ~~~~~       |           |       |      |                 |        |      |      |       |
| Hose Fitting |   |             | inch      | inch  | mm   | inch            | mm     | inch | mm   | inch  |
| 1J991N-4-4   | + | 9/16-18     | -4        | 1/4   | 1.79 | 45              | 1-1/4  | 32   | 0.82 | 21    |
| 1J991N-6-6   | + | 11/16-16    | -6        | 3/8   | 1.87 | 47              | 1-1/4  | 32   | 0.90 | 23    |
| 1J991N-8-8   | + | 13/16-16    | -8        | 1/2   | 2.07 | 53              | 1-3/8  | 35   | 1.15 | 29    |
| 1J991N-10-10 | + | 1-14        | -10       | 5/8   | 2.23 | 57              | 1-1/2  | 38   | 1.27 | 32    |
| 1J991N-12-12 | + | 1-3/16-12   | -12       | 3/4   | 2.63 | 67              | 1-7/8  | 48   | 1.85 | 43    |
| 1J991N-16-16 | + | 1-7/16-12   | -16       | 1     | 3.45 | 58              | 2-9/16 | 65   | 2.21 | 56    |
| 1J991N-20-20 | + | 1-11/16-12  | -20       | 1-1/4 | 3.91 | 99              | 2-7/8  | 73   | 2.51 | 64    |
|              |   |             |           |       |      |                 |        |      |      | 1-7/8 |

\* Steel tube, nipple, nut, and shell.

C - All components 303 stainless steel.

(+) Non Standard. See page ii for information on non-standard products.

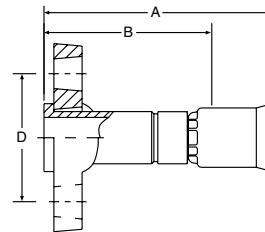
**1JC91N Seal-Lok™ Straight****91N Series Permanent**

| *Part Number | B | C | Thread Size | A    |      | Cutoff Allow. B |         | H Hex | J Hex   |
|--------------|---|---|-------------|------|------|-----------------|---------|-------|---------|
| #            |   |   |             |      |      |                 |         |       |         |
| Hose Fitting |   |   |             | inch | inch | mm              | inch    | mm    | inch    |
| 1JC91N-4-4   | + |   | 9/16-18     | -4   | 1.46 | 37              | 5/8     | 16    | 9/16    |
| 1JC91N-6-6   | + |   | 11/16-16    | -6   | 1.62 | 41              | 11/16   | 17    | 5/8     |
| 1JC91N-8-8   | + |   | 13/16-16    | -8   | 1.93 | 49              | 13/16   | 21    | 3/4     |
| 1JC91N-10-10 | + |   | 1-14        | -10  | 2.05 | 52              | 7/8     | 22    | 15/16   |
| 1JC91N-12-10 | + |   | 1-3/16-12   | -10  | 2.05 | 52              | 1-1/4   | 32    | 15/16   |
| 1JC91N-12-12 | + |   | 1-3/16-12   | -12  | 2.05 | 58              | 1-1/4   | 32    | 15/16   |
| 1JC91N-16-16 | + |   | 1-7/16-12   | -16  | 2.56 | 65              | 1-1/16  | 27    | 1-3/8   |
| 1JC91N-20-16 | + | + | 1-11/16-12  | -16  | 2.30 | 58              | 1-3/8   | 35    | 1-5/8   |
| 1JC91-20-20  | + | + | 1-11/16-12  | -20  | 2.68 | 68              | 1-11/16 | 43    | 1-11/16 |
|              |   |   |             |      |      |                 |         |       | 1-7/8   |

\* Steel nipple, nut, and shell.

B - Brass nipple, brass nut, shell.

C - All components 303 stainless steel.

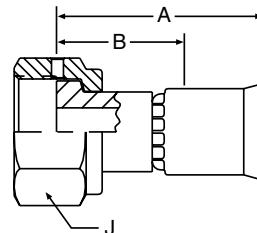
**1LF91N Laundry Flange Fitting****91N Series Permanent**

| *Part Number | B | C | Flange Size D | A    |      | Cutoff Allow. B |        |
|--------------|---|---|---------------|------|------|-----------------|--------|
| #            |   |   |               |      |      |                 |        |
| Hose Fitting |   |   | inch          | inch | inch | mm              | inch   |
| 1LF91N-12-12 | + | + | -12           | 2.00 | 3.20 | 81              | 2-5/16 |
| 1LF91N-16-16 | + | + | -16           | 2.00 | 3.32 | 84              | 2-5/16 |
|              |   |   |               |      |      |                 | 59     |

\* Steel nipple, flange, and shell.

B - Brass nipple, brass shell.

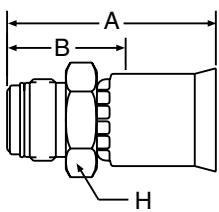
C - All components 303 stainless steel.

**1Q191N Ultra Seal****91N Series Permanent**

| Part Number       | Thread Size | A    |      | Cutoff Allow. B |    | J Hex |
|-------------------|-------------|------|------|-----------------|----|-------|
| #                 |             |      |      |                 |    |       |
| Hose Fitting      |             | inch | inch | inch            | mm | inch  |
| 1Q191N-4-4C (+)   | 9/16-18     | -4   | 1/4  | 1.63            | 41 | 3/4   |
| 1Q191N-6-6 C (+)  | 3/4-20      | -6   | 3/8  | 1.81            | 46 | 7/8   |
| 1Q191N-8-8C (+)   | 7/8-20      | -8   | 1/2  | 1.62            | 41 | 15/16 |
| 1Q191N-12-12C (+) | 1-15/16-20  | -12  | 3/4  | 1.93            | 49 | 1-1/8 |
|                   |             |      |      |                 |    | 29    |
|                   |             |      |      |                 |    | 1-1/2 |

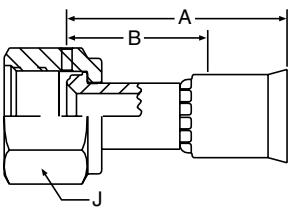
C - 316L stainless steel nipple and nut; 303 stainless steel shell.

[+] Non Standard. See page ii for information on non-standard products.

**1HV91N Male VacuSeal****91N Series Permanent**

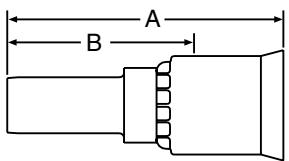
| Part Number     | Thread Size | A    |      |      | Cutoff Allow. B | H Hex  |
|-----------------|-------------|------|------|------|-----------------|--------|
| #               |             |      |      |      |                 |        |
| Hose Fitting    |             | inch | inch | inch | inch            | inch   |
| 1HV91N-4-4C (+) | 9/16-18     | -4   | 1/4  | 1.59 | 40              | 1      |
| 1HV91N-6-6C (+) | 7/8-14      | -6   | 3/8  | 1.80 | 46              | 1      |
| 1HV91N-8-8C (+) | 7/8-14      | -8   | 1/2  | 1.89 | 48              | 1-1/16 |
|                 |             |      |      |      | 27              | 1-1/16 |

C - 316L stainless steel nipple and nut; 303 stainless steel shell.

**1VH91N Female VacuSeal****91N Series Permanent**

| Part Number     | Thread Size | A    |      |      | Cutoff Allow. B | H Hex  |
|-----------------|-------------|------|------|------|-----------------|--------|
| #               |             |      |      |      |                 |        |
| Hose Fitting    |             | inch | inch | inch | inch            | inch   |
| 1VH91N-4-4C (+) | 9/16-18     | -4   | 1/4  | 1.59 | 40              | 1-1/16 |
| 1VH91N-8-6C (+) | 7/8-14      | -6   | 3/8  | 1.83 | 46              | 1-3/16 |
| 1VH91N-8-8C (+) | 7/8-14      | -8   | 1/2  | 1.94 | 49              | 1-3/16 |
|                 |             |      |      |      | 30              | 1-1/16 |

C - 316L stainless steel nipple and nut; 303 stainless steel shell.

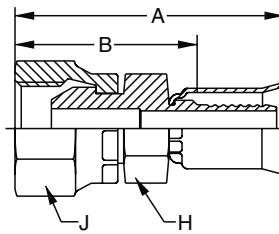
**1TU91N Universal Tube Stub Fitting****91N Series Permanent**

| Part Number       | A    |      |      | Cutoff Allow. B |
|-------------------|------|------|------|-----------------|
| #                 |      |      |      |                 |
| Hose Fitting      | inch | inch | inch | inch            |
| 1TU91N-2-3C       | -3   | 1/8  | 1.33 | 34              |
| 1TU91N-3-3C       | -3   | 3/16 | 1.33 | 34              |
| 1TU91N-4-4C       | -4   | 1/4  | 1.63 | 41              |
| 1TU91N-4-5C       | -5   | 1/4  | 1.70 | 43              |
| 1TU91N-6-6C       | -6   | 3/8  | 1.81 | 46              |
| 1TU91N-8-8C       | -8   | 1/2  | 2.72 | 58              |
| 1TU91N-8-10C      | -10  | 1/2  | 2.14 | 54              |
| 1TU91N-10-10C (+) | -10  | 5/8  | 2.14 | 54              |
| 1TU91N-12-12C (+) | -12  | 3/4  | 2.24 | 57              |
| 1TU91N-16-16C     | -16  | 1    | 2.73 | 69              |
|                   |      |      |      | 1-3/4           |

C - 316 stainless steel nipple, 303 stainless steel shell.

(+) Non Standard. See page ii for information on non-standard products.

## 19291N Female BSP Swivel

**91N Series Permanent**

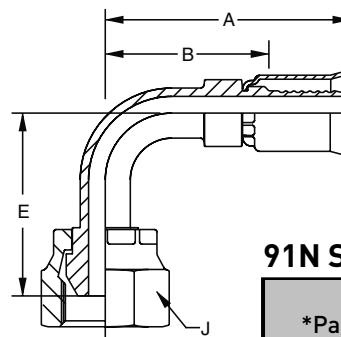
| *Part Number | B | C | Thread Size | Tube Size | A    | Cutoff Allow. B |    | H Hex  | J Hex |
|--------------|---|---|-------------|-----------|------|-----------------|----|--------|-------|
| #            |   |   | ~~~~~       |           |      |                 |    |        |       |
| Hose Fitting |   |   |             | inch      | inch | inch            | mm | inch   | mm    |
| 19291N-8-8   | + | + | 1/2-14      | 8         | 1/2  | 1.99            | 51 | 1-5/16 | 33    |
| 19291N-12-12 | + | + | 3/4-14      | 12        | 3/4  | 2.35            | 60 | 1-9/16 | 40    |

\* Steel nipple, nut and shell.

B - Brass nipple, brass nut, shell.

C - All components 303 stainless steel.

## 1B291N Female BSP Swivel 90° Elbow

**91N Series Permanent**

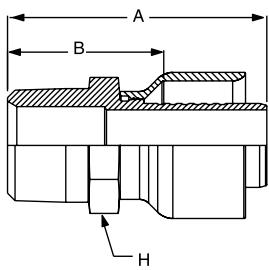
| *Part Number | B | C | Thread Size | Tube Size | A    | Cutoff Allow. B |    | E     | J Hex |
|--------------|---|---|-------------|-----------|------|-----------------|----|-------|-------|
| #            |   |   | ~~~~~       |           |      |                 |    |       |       |
| Hose Fitting |   |   |             | inch      | inch | inch            | mm | inch  | mm    |
| 1B291N-8-8   | + | + | 1/2-14      | 8         | 1/2  | 2.04            | 52 | 1-3/8 | 35    |
| 1B291N-12-12 | + | + | 3/4-14      | 12        | 3/4  | 2.93            | 74 | 2-1/8 | 54    |

\* Steel nipple, tube, nut and shell.

B - Brass nipple, brass nut, shell.

C - All components 303 stainless steel.

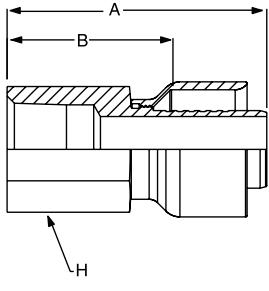
[+] Non Standard. See page ii for information on non-standard products.

**10193N Male Taper Pipe Rigid**

\* Steel nipple and shell.

C - 316 stainless steel nipple, 303 stainless steel shell.

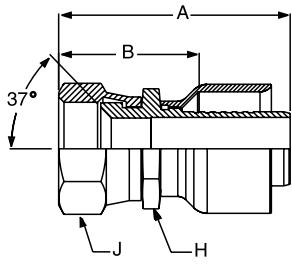
| *Part Number | C | NPTF Thread Size | Hose I.D. | A    | Cutoff Allow. B | H Hex   |
|--------------|---|------------------|-----------|------|-----------------|---------|
| #            |   |                  |           |      |                 |         |
| Hose Fitting |   |                  |           | inch | inch            | mm      |
| 10193N-8-8   |   | 1/2-14           | 1/2       | 2.09 | 53              | 1-1/2   |
| 10193N-12-12 |   | 3/4-14           | 3/4       | 2.70 | 69              | 1-5/8   |
| 10193N-16-16 |   | 1-11-1/2         | 1         | 3.03 | 77              | 1-13/16 |
| 10193N-20-20 |   | 1-1/4-11-1/2     | 1-1/4     | 3.20 | 58              | 1-7/8   |
| 10193N-24-24 |   | 1-1/2-11-1/2     | 1-1/2     | 3.76 | 96              | 2-1/16  |
| 10193N-32-32 |   | 2-11-1/2         | 2         | 3.97 | 101             | 2-5/16  |
|              |   |                  |           |      |                 | inch    |

**10293N Female Taper Pipe Rigid**

\* Steel nipple and shell.

C - 316 stainless steel nipple, 303 stainless steel shell.

| *Part Number     | C | NPTF Thread Size | Hose I.D. | A    | Cutoff Allow. B | H Hex   |
|------------------|---|------------------|-----------|------|-----------------|---------|
| #                |   |                  |           |      |                 |         |
| Hose Fitting     |   |                  |           | inch | inch            | mm      |
| 10293N-8-8 (+)   | + | 1/2-14           | 1/2       | 2.36 | 60              | 1-3/4   |
| 10293N-12-12 (+) | + | 3/4-14           | 3/4       | 2.90 | 74              | 1-13/16 |
| 10293N-16-16 (+) | + | 1-11-1/2         | 1         | 3.28 | 83              | 2-1/16  |
| 10293N-20-20 (+) | + | 1-1/4-11-1/2     | 1-1/4     | 3.37 | 86              | 2-1/16  |
| 10293N-24-24 (+) | + | 1-1/2-11-1/2     | 1-1/2     | 3.84 | 98              | 2-1/8   |
| 10293N-32-32 (+) | + | 2-11-1/2         | 2         | 3.83 | 58              | 2-1/8   |
|                  |   |                  |           |      |                 | inch    |

**10693N (JIC) 37° Female Swivel**

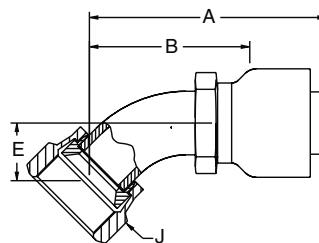
\* Steel nipple, nut and shell.

C - 316 stainless steel nipple, 303 stainless steel nut and shell.

| *Part Number | C | Thread Size | Hose I.D. | A    | Cutoff Allow. B | H Hex   | J Hex |
|--------------|---|-------------|-----------|------|-----------------|---------|-------|
| #            |   |             |           |      |                 |         |       |
| Hose Fitting |   |             |           | inch | inch            | mm      | inch  |
| 10693N-6-6   | + | 9/16-8      | 3/8       | 1.69 | 43              | 1-3/32  | 28    |
| 10693N-8-8   |   | 3/8-16      | 1/2       | 2.02 | 51              | 1-3/8   | 35    |
| 10693N-10-10 | + | 7/8-14      | 5/8       | 2.51 | 64              | 1-11/16 | 43    |
| 10693N-12-12 |   | 1-1/16-12   | 3/4       | 2.86 | 73              | 1-3/4   | 44    |
| 10693N-16-16 |   | 1-5/16-12   | 1         | 3.11 | 79              | 1-13/16 | 46    |
| 10693N-20-20 |   | 1-5/8-12    | 1-1/4     | 3.28 | 83              | 2       | 51    |
| 10693N-24-24 |   | 1-7/8-12    | 1-1/2     | 3.92 | 58              | 2-1/4   | 57    |
| 10693N-32-32 |   | 2-1/2-12    | 2         | 4.12 | 105             | 2-7/16  | 62    |
|              |   |             |           |      |                 |         | inch  |

(+) Non Standard. See page ii for information on non-standard products.

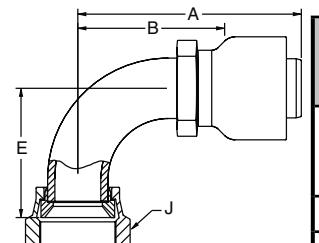
## 13793N JIC 37° Swivel 45° Elbow



| *Part Number     | C | NPTF Thread Size | Hose I.D. | A    |     | Cutoff Allow. B |     | E    |    | J Hex |
|------------------|---|------------------|-----------|------|-----|-----------------|-----|------|----|-------|
| #                |   | ~~~~~            | O         |      |     |                 |     |      |    |       |
| Hose Fitting     |   |                  | inch      | inch | mm  | inch            | mm  | inch | mm | inch  |
| 13793N-6-6       | + | 9/16-18          | -6        | 2.04 | 52  | 1-7/16          | 37  | .39  | 10 | 7/8   |
| 13793N-8-8 (+)   | + | 3/4-16           | -8        | 2.31 | 59  | 1-5/8           | 41  | .55  | 14 | 7/8   |
| 13793N-10-10 (+) | + | 7/8-14           | -10       | 2.56 | 65  | 1-15/16         | 49  | .64  | 16 | 1     |
| 13793N-12-12 (+) | + | 1-1/6-12         | -12       | 3.37 | 86  | 2-1/4           | 57  | .78  | 20 | 1-1/4 |
| 13793N-16-16 (+) | + | 1-5/16-12        | -16       | 3.71 | 94  | 2-5/8           | 67  | .90  | 23 | 1-1/2 |
| 13793N-20-20 (+) | + | 1-5/8-12         | -20       | 4.06 | 103 | 2-3/4           | 70  | 1.18 | 43 | 2     |
| 13793N-24-24 (+) | + | 1-7/8-12         | -24       | 5.76 | 58  | 4-1/4           | 108 | 1.47 | 37 | 2-1/4 |
| 13793N-32-32 (+) | + | 2-1/2-12         | -32       | 7.04 | 179 | 5-5/8           | 143 | 2.06 | 52 | 2-7/8 |

\* Steel nipple, tube, nut and shell.  
C - 316 stainless steel nipple, tube and nut; 303 stainless steel shell.

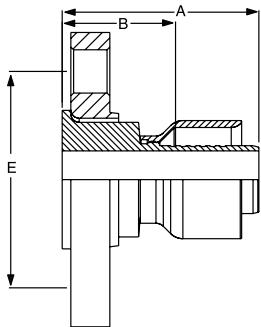
## 13993N JIC 37° Swivel 90° Elbow



| *Part Number     | C | NPTF Thread Size | Hose I.D. | A    |     | Cutoff Allow. B |     | E    |     | J Hex |
|------------------|---|------------------|-----------|------|-----|-----------------|-----|------|-----|-------|
| #                |   | ~~~~~            | O         |      |     |                 |     |      |     |       |
| Hose Fitting     |   |                  | inch      | inch | mm  | inch            | mm  | inch | mm  | inch  |
| 13993N-8-8 (+)   | + | 3/4-16           | -8        | 2.20 | 56  | 1-9/16          | 40  | 1.09 | 28  | 7/8   |
| 13993N-10-10 (+) | + | 7/8-14           | -10       | 2.41 | 61  | 1-11/16         | 43  | 1.23 | 31  | 1     |
| 13993N-12-12     | + | 1-1/6-12         | -12       | 3.28 | 83  | 2-3/16          | 56  | 1.82 | 46  | 1-1/4 |
| 13993N-16-16     | + | 1-5/16-12        | -16       | 3.71 | 94  | 2-1/2           | 64  | 2.14 | 54  | 1-1/2 |
| 13993N-20-20     | + | 1-5/8-12         | -20       | 3.89 | 99  | 2-9/16          | 65  | 2.57 | 43  | 2     |
| 13993N-24-24     | + | 1-7/8-12         | -24       | 5.72 | 58  | 4-1/4           | 108 | 3.17 | 81  | 2-1/4 |
| 13993N-32-32 (+) | + | 2-1/2-12         | -32       | 6.47 | 164 | 5-1/16          | 129 | 4.59 | 117 | 2-7/8 |

\* Steel nipple, tube, nut and shell.  
C - 316 stainless steel nipple, tube and nut; 303 stainless steel shell.

(+) Non Standard. See page ii for information on non-standard products.

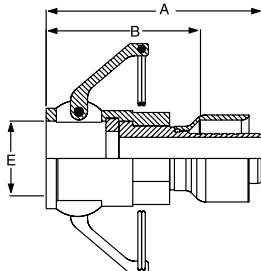
**14K93N ANSI B16.5 Flange**

| *Part Number     | C | Hose I.D. | Flange Diameter | A    |    | Cutoff Allow. B | Bolt Diameter E |
|------------------|---|-----------|-----------------|------|----|-----------------|-----------------|
| #                |   | (O)       |                 |      |    |                 |                 |
| Hose Fitting     |   | inch      | inch            | inch | mm | inch            | inch            |
| 14K93N-8-8 (+)   | + | 1/2       | 3-1/2           | 2.03 | 52 | 1-3/8           | 35              |
| 14K93N-12-12 (+) | + | 3/4       | 3-7/8           | 2.70 | 69 | 1-3/4           | 44              |
| 14K93N-16-16 (+) | + | 1         | 4-1/4           | 2.84 | 72 | 1-5/8           | 41              |
| 14K93N-20-20 (+) | + | 1-1/4     | 4-5/8           | 2.98 | 76 | 1-5/8           | 41              |
| 14K93N-24-24 (+) | + | 1-1/2     | 5               | 3.45 | 88 | 1-3/4           | 44              |
| 14K93N-32-32 (+) | + | 2         | 6               | 3.62 | 58 | 2               | 51              |

\* Steel nipple and shell, 304 stainless steel flange.

C – 316 stainless steel nipple, 304 stainless steel flange, 303 stainless steel shell.

Also available in 96N series.

**1FC93N Female Cam and Groove with BUNA N Gasket**

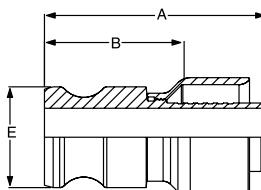
| *Part Number     | C | Hose I.D. | A    |     | Cutoff Allow. B |       | E    |
|------------------|---|-----------|------|-----|-----------------|-------|------|
| #                |   | (O)       |      |     |                 |       |      |
| Hose Fitting     |   | inch      | inch | mm  | inch            | mm    | inch |
| 1FC93N-12-8 (+)  | + | 1/2       | 3.32 | 84  | 2-11/16         | 68    | 1.26 |
| 1FC93N-12-12 (+) | + | 3/4       | 3.92 | 100 | 2-13/16         | 71.44 | 1.26 |
| 1FC93N-16-16 (+) | + | 1         | 4.22 | 107 | 3               | 76.20 | 1.44 |
| 1FC93N-20-20 (+) | + | 1-1/4     | 4.48 | 114 | 3-3/16          | 80.96 | 1.79 |
| 1FC93N-24-24 (+) | + | 1-1/2     | 5.10 | 130 | 3-7/16          | 83.31 | 2.10 |
| 1FC93N-32-32 (+) | + | 2         | 5.20 | 58  | 3-1/2           | 88.90 | 2.48 |

\* Steel nipple and shell, 316 stainless steel nut.

C – 316 stainless steel nipple and nut, 303 stainless steel shell.

Meets Military Standards MIL-C-27487 and MS-27019.

Also available in 96N series.

**1MC93N Male Cam and Groove**

| *Part Number     | C | Hose I.D. | A    |    | Cutoff Allow. B |    | E    |
|------------------|---|-----------|------|----|-----------------|----|------|
| #                |   | (O)       |      |    |                 |    |      |
| Hose Fitting     |   | inch      | inch | mm | inch            | mm | inch |
| 1MC93N-12-8 (+)  |   | 1/2       | 2.12 | 54 | 1-1/2           | 38 | 1.26 |
| 1MC93N-12-12 (+) |   | 3/4       | 2.65 | 67 | 1-1/2           | 38 | 1.26 |
| 1MC93N-16-16 (+) |   | 1         | 3.19 | 81 | 2               | 51 | 1.44 |
| 1MC93N-20-20 (+) |   | 1-1/4     | 3.43 | 87 | 2-1/8           | 54 | 1.79 |
| 1MC93N-24-24 (+) |   | 1-1/2     | 3.91 | 99 | 2-1/4           | 57 | 2.10 |
| 1MC93N-32-32 (+) |   | 2         | 4.34 | 58 | 2-11/16         | 68 | 2.48 |

\* Steel nipple and shell.

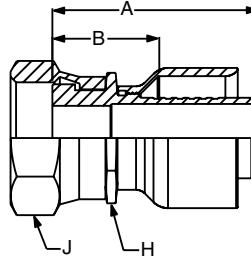
C – 316 stainless steel nipple, 303 stainless steel shell.

Meets Military Standards MIL-C-27487 and MS-27019.

Also available in 96N series.

(+) Non Standard. See page ii for information on non-standard products.

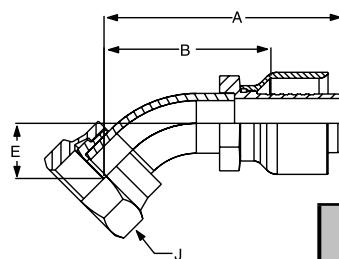
## 1JC93N Seal-Lok™ Straight



\* Steel nipple, nut and shell.  
C - 316 stainless steel nipple and nut, 303 stainless steel shell.  
Also available in 96N series.

| *Part Number     | C | Thread Size | Hose I.D. | Tube Size | A    | Cutoff Allow. B |        | H Hex | J Hex |
|------------------|---|-------------|-----------|-----------|------|-----------------|--------|-------|-------|
| #                |   |             |           |           |      |                 |        |       |       |
| Hose Fitting     |   |             | inch      |           | inch | mm              | inch   | mm    | inch  |
| 1JC93N-8-8 (+)   | + | 13/16-16    | 1/2       | 1/2       | 2.08 | 53              | 1      | 25    | 15/16 |
| 1JC93N-10-10 (+) | + | 1-14        | 5/8       | 5/8       | 2.21 | 56              | 1-1/4  | 32    | 15/16 |
| 1JC93N-12-12 (+) | + | 1-3/16-12   | 3/4       | 3/4       | 2.30 | 58              | 1-3/8  | 35    | 1-3/8 |
| 1JC93N-16-16     | + | 1-7/16-12   | 1         | 1         | 2.61 | 66              | 1-3/8  | 35    | 1-3/8 |
| 1JC93N-20-20     | + | 1-11/16-12  | 1-1/4     | 1-1/4     | 2.65 | 67              | 1-5/16 | 33    | 1-7/8 |

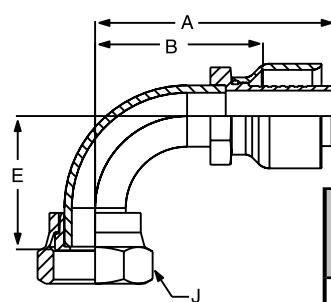
## 1J793N Seal-Lok™ 45° Elbow



\* Steel nipple, tube, nut and shell.  
C - 316 stainless steel nipple, tube and nut; 303 stainless steel shell.  
Also available in 96N series.

| *Part Number     | C | Thread Size | Hose I.D. | A    | Cutoff Allow. B |         | E  | J Hex |
|------------------|---|-------------|-----------|------|-----------------|---------|----|-------|
| #                |   |             |           |      |                 |         |    |       |
| Hose Fitting     |   |             | inch      | inch | mm              | inch    | mm | inch  |
| 1J793N-8-8 (+)   | + | 13/16-16    | 1/2       | 1.33 | 34              | 1-15/16 | 75 | 0.59  |
| 1J793N-10-10 (+) | + | 1-14        | 5/8       | 2.91 | 74              | 2-1/16  | 53 | 0.59  |
| 1J793N-12-12 (+) | + | 1-3/16-12   | 3/4       | 3.29 | 84              | 2-1/4   | 57 | 0.81  |
| 1J793N-16-16 (+) | + | 1-7/16-12   | 1         | 4.05 | 103             | 2-13/16 | 71 | 0.94  |
| 1J793N-20-20 (+) | + | 1-11/16-12  | 1-1/4     | 4.25 | 108             | 2-15/16 | 75 | 1.00  |

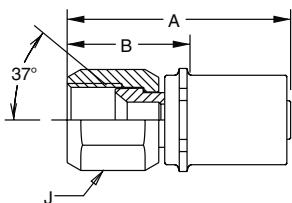
## 1J993N Seal-Lok™ 90° Elbow



\* Steel nipple, tube, nut and shell.  
C - 316 stainless steel nipple, tube and nut; 303 stainless steel shell.  
Also available in 96N series.

| *Part Number     | C | Thread Size | Hose I.D. | A    | Cutoff Allow. B |        | E  | J Hex |
|------------------|---|-------------|-----------|------|-----------------|--------|----|-------|
| #                |   |             |           |      |                 |        |    |       |
| Hose Fitting     |   |             | inch      | inch | mm              | inch   | mm | inch  |
| 1J993N-8-8 (+)   | + | 13/16-16    | 1/2       | 2.23 | 57              | 1-3/4  | 44 | 1.15  |
| 1J993N-10-10 (+) | + | 1-14        | 5/8       | 2.67 | 68              | 1-7/8  | 48 | 1.27  |
| 1J993N-12-12 (+) | + | 1-3/16-12   | 3/4       | 2.88 | 73              | 2      | 51 | 1.54  |
| 1J993N-16-16     | + | 1-7/16-12   | 1         | 4.00 | 102             | 2-3/4  | 70 | 2.21  |
| 1J993N-20-20     | + | 1-11/16-12  | 1-1/4     | 4.36 | 111             | 3-1/16 | 78 | 2.51  |

(+) Non Standard. See page ii for information on non-standard products.

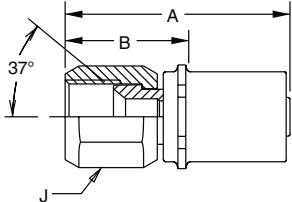
**10694 (JIC) 37° Female Swivel**

| *Part Number | C | Thread Size | Tube O.D. | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | J Hex |
|--------------|---|-------------|-----------|-----------|-----------|------|----|-----------------|----|-------|
| #            |   |             |           |           |           |      |    |                 |    |       |
| Hose Fitting |   |             |           | inch      | inch      | inch | mm | inch            | mm | inch  |
| 10694-6-6    | + | 9/16-18     | 3/8       | -6        | 3/8       | 1.76 | 45 | 15/16           | 24 | 11/16 |
| 10694-8-8    | + | 3/4-16      | 1/2       | -8        | 1/2       | 2.09 | 53 | 1-3/16          | 30 | 7/8   |
| 10694-10-10  | + | 7/8-14      | 5/8       | -10       | 5/8       | 2.30 | 58 | 1-5/16          | 33 | 1     |
| 10694-12-12  | + | 1-1/16-12   | 3/4       | -12       | 3/4       | 2.45 | 62 | 1-5/16          | 33 | 1-1/4 |
| 10694-16-16  | + | 1-5/16-12   | 1         | -16       | 1         | 2.72 | 69 | 1-7/16          | 37 | 1-1/2 |

Factory crimped only.

\*Steel nipple, nut and shell

C – Stainless nipple, nut and shell

**10695 (JIC) 37° Female Swivel**

| *Part Number | C | Thread Size | Tube O.D. | Hose Size | Tube Size | A    |    | Cutoff Allow. B |    | J Hex |
|--------------|---|-------------|-----------|-----------|-----------|------|----|-----------------|----|-------|
| #            |   |             |           |           |           |      |    |                 |    |       |
| Hose Fitting |   |             |           | inch      | inch      | inch | mm | inch            | mm | inch  |
| 10695-4-4    | + | 7/16-20     | 1/4       | -4        | 1/4       | 1.47 | 37 | 13/16           | 21 | 9/16  |
| 10695-6-6    | + | 9/16-18     | 3/8       | -6        | 3/8       | 1.76 | 45 | 15/16           | 24 | 11/16 |
| 10695-8-8    | + | 3/4-16      | 1/2       | -8        | 1/2       | 2.09 | 53 | 1-3/16          | 30 | 7/8   |
| 10695-12-12  | + | 1-1/16-12   | 3/4       | -12       | 3/4       | 2.45 | 62 | 1-5/16          | 33 | 1-1/4 |
| 10695-16-16  | + | 1-5/16-12   | 1         | -16       | 1         | 2.72 | 69 | 1-7/16          | 37 | 1-1/2 |

Factory crimped only.

\*Steel nipple, nut and shell

C – Stainless nipple, nut and shell

(+ ) Non Standard. See page ii for information on non-standard products.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

## Thermoplastic Tubing

|  |         |
|--|---------|
| Thermoplastic Tutorial and Information ..... | 172-173 |
| Tubing Pressure Ranges.....                  | 174     |
| Tubing Compatibility Chart.....              | 175     |
| Polyethylene.....                            | 177-180 |
| Nylon .....                                  | 181-184 |
| Polypropylene .....                          | 185     |
| Polyurethane.....                            | 186-190 |
| Clear Vinyl.....                             | 191     |
| Burst Pressure/Temperature Charts .....      | 192-194 |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

DIMENSIONS ARE FOR REFERENCE ONLY. SUBJECT TO CHANGE.

(+) Non Standard. See page ii for information on non-standard products.





## Parflex Thermoplastic Tubing Tutorial

- Review the general attributes of our thermoplastic tubing that follows- this provides an excellent overview for all of thermoplastic tubing in our product line
- Review the symbols pages- this will help clear up any questions you may have on the product tables within this section
- The market/applications table identifies and provides a “good fit” summary
- Review the pressure bar graph provided- this shows relative pressure ratings for the entire line of thermoplastic tubing
- Review the **STAMPED guide** (Size, Temperature, Media, Application, Pressure, End Configuration, and Delivered Preferences) **on page 173** to help narrow your search for the desired product
- Specific nomenclature, features, advantages, and benefits can be found at the beginning page of each product line

- All Plastic tubing dimensions are laser monitored to ensure an overall quality product
- Most Tubing sizes are packaged in convenient 100 ft., 250 ft., 500 ft. and 1,000 ft lengths

### Polyethylene Tubing

- Parflex polyethylene tubing meets FDA, NSF Standard 51 for all food contact applications and NSF-61 for potable water applications
- Our E-Series tubing is made of 100% virgin resin material
- Polyethylene tubing meets ASTM D-1693 for stress crack resistance
- We also offer special PE tubing: FRPE (flame retardant & plenum rated) as well as HDPE (high density)

### Nylon Tubing

- Flexible Nylon tubing use high grade resins for strength and flexibility for routing in tight spaces
- Semirigid high strength Nylon use high grade resins without the addition of plasticizers for higher pressure tubing applications
- Pure Air Tubing (PAT) is the tubing choice for pure air systems (Semiconductor) due to its cleanliness in addition to excellent chemical and UV light resistance

### Polypropylene

- Polypropylene tubing meets FDA, NSF Standard 51 for all food contact applications
- Polypropylene tubing exhibits excellent chemical resistance to chlorinated water applications
- Polypropylene tubing is commonly used in outdoor applications where UV light stabilization is required

### Polyurethane

- Polyurethane tubing is a flexible, kink resistant and abrasion resistant material commonly used in Pneumatic applications
- Polyurethane is available in multiple transparent and opaque colors for system color coding
- Polyurethane is available in the following durometers (measurement of material hardness):
  - Low Durometer (85-most flexible, very soft)
  - Medium Durometer (90-less flexible)
  - High Durometer (→95-least flexible, highest pressures)

### Polyvinyl Chloride (PVC)

- PVC tubing is made from 100% virgin resin material and Meets all FDA specifications for materials in contact with food and drugs
- PVC tubing is very flexible (70 Durometer) tubing that is crystal clear and is Ideal for situations where visible fluid flow is necessary (i.e. sight gages for tank identification)

| Product Family            | Series     | Suggested Markets and Applications  |
|---------------------------|------------|---|
| Polyethylene              | E and EB   | Potable water, chemical transfer, and low cost, low pressure pneumatics, NSF-51 & NSF- 61         |
|                           | PE         | Low cost, low pressure pneumatics, NSF-51   |
|                           | FRPE       | Pneumatic controls in HVAC/plenum space (UL 1820), Dubl-Barb fitting from Parker Brass            |
| High Density Polyethylene | HDPE       | Chemical transfer and low cost pneumatics   |
| Nylon                     | N          | Pneumatic and petroleum-based chemical transfer   |
|                           | PAT        | Pure air and gas distribution systems, Semiconductor  |
|                           | NR         | High pressure pneumatic, lubrication, and Marine control systems                                  |
| Polypropylene             | PP and PPB | Food contact and chemical transfer applications, chlorinated water, NSF-51                        |
| Urethane                  | U and UM   | Pneumatic controls requiring high flexibility, kink resistance and movement                       |
|                           | HU and HUM | High pressure pneumatics requiring flexibility and kink resistance, Robotics                      |
|                           | LU         | Low pressure pneumatics requiring extreme flexibility and kink resistance, Pneumatic Logic Boards |
| Vinyl                     | PV         | Low pressure chemical and medical applications requiring high clarity and flexibility, FDA        |

Add caveat for ordering Series EB and Series PPB NSF tubing with “-NSF” suffix

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

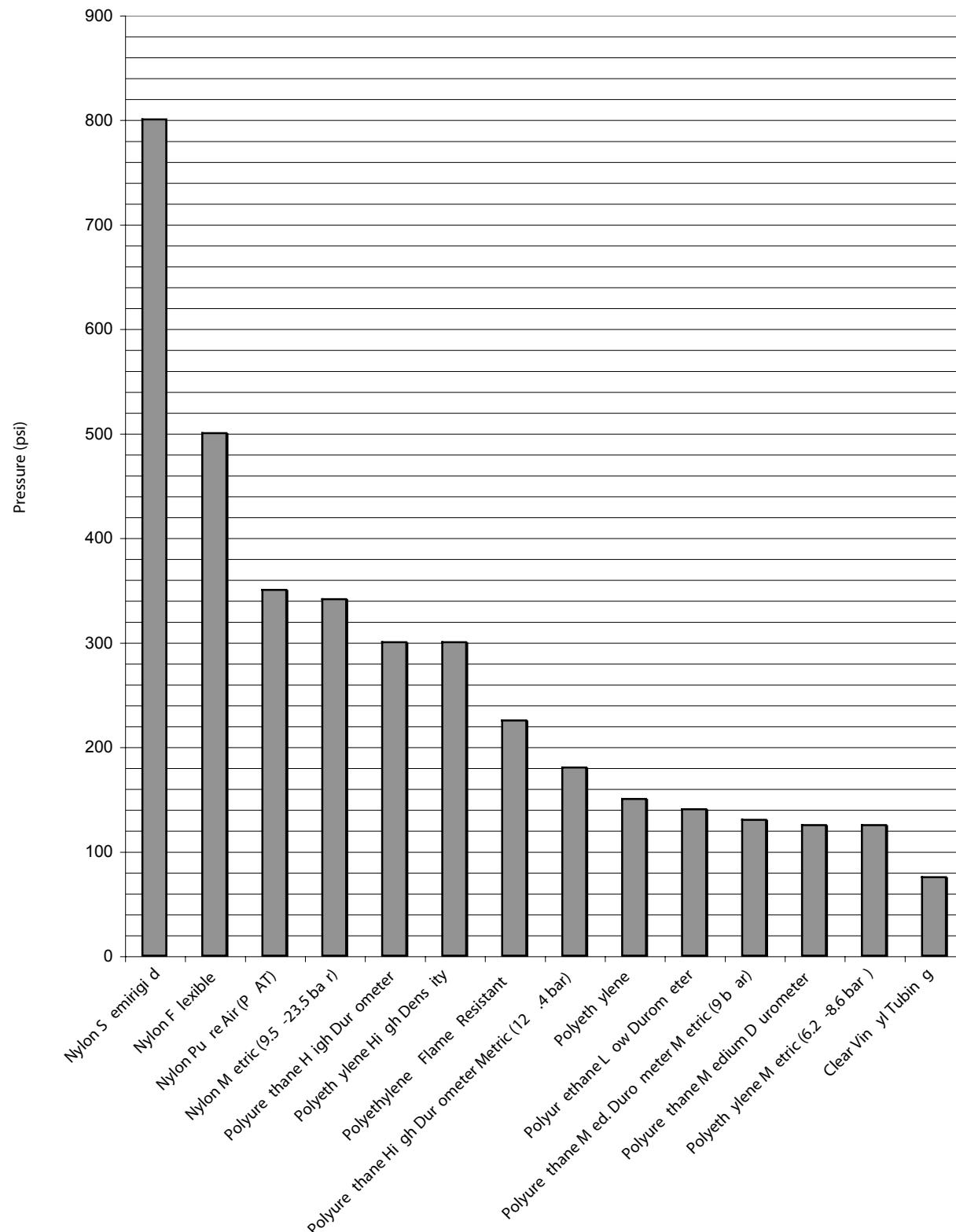
Alphanumeric  
Index



## How To Select Thermoplastic Tubing (STAMPED)

- Size** Choose appropriate outside diameters - tubing is always measured on the OD
- Temperature** The maximum temperature of the material being conveyed
- Application** External conditions including abrasion, climate, heat, flexing, crushing, kinking, and degrees of bending
- Media** The composition of the substance being conveyed and chemical compatibility with the tubing
- Pressure** The maximum pressure of the system, including pressure spikes
- Ends** The appropriate end connection (barb, push to connect, compression)
- Delivery** Testing, quality, packaging, and delivery requirements

## Tubing Pressure Ranges



**Note:** Working pressures are at 73°F (23°C). Pressure ratings are also effected by diameter of tubing and wall thickness.  
Actual performance may vary with different media and working conditions. **Use this information for comparison only.**

## Tubing Compatibility Chart

Courtesy of Brass Products Division

| Parker FluidConnectors | Copper | Aluminum | Steel | Polyethylene E | Polyethylene FRPE | Nylon N        | Nylon PAI      | Nylon NR       | Polypropylene PP | Polyurethane U | Polyurethane HU | Vinyl | Nylon PFT J844 | Diesel Fuel FL | GPH Hose | SAE J1402 (HPD) | TFE            | FEA            | PFA |
|------------------------|--------|----------|-------|----------------|-------------------|----------------|----------------|----------------|------------------|----------------|-----------------|-------|----------------|----------------|----------|-----------------|----------------|----------------|-----|
| Fitting Line           |        |          |       |                |                   |                |                |                |                  |                |                 |       |                |                |          |                 |                |                |     |
| SAE 45° Flare          | X      | X        | X     |                |                   |                |                |                |                  |                |                 |       |                |                |          |                 |                |                |     |
| Inverted Flare         | X      | X        | X     |                |                   |                |                |                |                  |                |                 |       |                |                |          |                 |                |                |     |
| Compression            | X      | X        |       | X <sup>†</sup> | X <sup>†</sup>    | X <sup>†</sup> | X <sup>†</sup> | X <sup>†</sup> |                  |                |                 |       |                |                |          | X <sup>†</sup>  | X <sup>†</sup> | X <sup>†</sup> |     |
| Compress-Align         | X      | X        |       | X*             | X                 | X*             | X              | X*             | X*               |                |                 |       |                |                |          |                 | X              | X              | X   |
| Metru-Lok              | X      | X        |       | X*             |                   | X              |                | X              | X                |                |                 |       |                |                |          |                 |                |                |     |
| Poly-Tite®             | X      |          |       | X              |                   | X              |                |                | X                |                |                 |       | X              |                |          |                 |                |                |     |
| Dubl-Barb®             |        |          |       | X              | X                 |                |                |                |                  |                |                 |       |                |                |          |                 |                |                |     |
| Prestolok              |        |          |       | X              |                   | X              |                |                |                  | X              | X               |       |                |                |          |                 |                |                |     |
| Prestolok II           |        |          |       | X              |                   | X              |                |                |                  | X              | X               |       |                |                |          |                 |                |                |     |
| Microlok               |        |          |       | X              |                   | X              |                |                |                  | X              | X               | X     |                |                |          |                 |                |                |     |
| Flow Controls          |        |          |       | X              |                   | X              |                |                |                  |                |                 |       |                |                |          |                 |                |                |     |
| Prestomatic            |        |          |       | X              |                   | X              |                |                |                  |                |                 |       | X              | X              |          |                 |                |                |     |
| Prestolok              |        |          |       | X              |                   | X              |                |                |                  |                |                 |       | X              | X              |          |                 |                |                |     |
| Cartridges             |        |          |       | X              |                   | X              |                |                |                  |                |                 |       | X              | X              |          |                 |                |                |     |
| Air Brake-AB           | X      |          |       |                |                   |                |                |                |                  |                |                 |       |                |                |          |                 |                |                |     |
| Air Brake-NTA®         |        |          |       |                |                   | X              | X              |                |                  |                |                 |       | X              | X              |          |                 |                |                |     |
| Transmission           |        |          |       |                | X                 |                |                |                |                  |                |                 |       | X              |                |          |                 |                |                |     |
| Ari Brake Hose Ends    |        |          |       |                |                   |                |                |                |                  |                |                 |       |                |                |          | X               |                |                |     |
| Vibra-Lok              | X      | X        | X     |                |                   |                |                |                |                  |                |                 |       |                |                |          |                 |                |                |     |
| DAT                    |        |          |       |                |                   | X              | X              |                |                  |                |                 |       | X              | X              |          |                 |                |                |     |
| Hose Barb              |        |          |       |                |                   |                |                |                |                  |                |                 |       |                | X**            |          |                 |                |                |     |

Ratings are based on static pressure conditions

\* Tube support is recommended

\*\* Clamp required

† Plastic sleeve and brass tube support is recommended

## Tube Line Fabrication Guide for Leak Free Systems

Every hydraulic, pneumatic and lubrication system requires some form of tube line fabrication and fitting installation for completion. Proper fabrication and installation are essential for the overall efficiency, leak free performance, and general appearance of any system.

Start by planning ahead. After sizing the tube lines and selecting the appropriate style of fitting, consider the following in the design of your system:

1. Accessibility of joints
2. Proper routing of lines
3. Adequate tube line supports
4. Available fabricating tools

## Routing of Lines

Routing of lines is probably the most difficult yet most significant of these system design considerations. Proper routing involves getting a connecting line from one point to another through the most logical path.

Always try to leave fitting joints as accessible as possible. Hard to reach joints are hard to assemble and tighten properly. Inaccessible joints are also more difficult and time consuming to service.

Hydraulic &amp; Pneumatic Hose &amp; Fit.

PTFE Hose &amp; Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings &amp; Accessories

Tooling &amp; Equipment

Hose Accessories

Technical &amp; Design Information

Approvals &amp; Guides

Alphanumeric Index

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

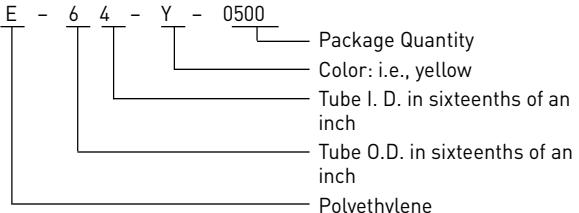
# Polyethylene Tubing

Series E: Instrument Grade—FDA, NSF Listed  
Series EB: Ultraviolet Light Resistant

- FDA, NSF-51 and NSF-61 compliant black polyethylene tubing is also available and is denoted with the letters "NSF" in the part number.
- E series natural and colored tubing listed below meet FDA, NSF-51 and NSF-61 requirements for food contact applications.
- Economical.
- Resistant to environmental stress cracking. It greatly exceeds that of ordinary polyethylene tubing as measured by ASTM D-1693 (10% IGEPAL).
- Black (EB) tubing contains an ultraviolet inhibitor which is recommended for use in sunlit areas and in close proximity to high ultraviolet light sources.
- Available in black as well as nine other colors, as recommended by the Instrument Society of America.
- Chemically resistant and flexible.
- Extruded from high molecular weight resin for increased dimensional stability, uniformity and long-term strength.
- All tubing conforms to ASTM D-1248, Type I, Class A, Category 4, Grade E5.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -80°F (-62°C) to +150°F (+66°C).

## How to order Parflex polyethylene tubing

Example: E-64-Y-0500 is 3/8" O.D. x .250" I.D. x 500' long.



## Fitting Recommendation:

- Parker TrueSeal™ fittings.
- Parker Fast & Tite® fittings.
- A tube support can be used with this tubing for maximum holding power where tensile, vibration or pressure spikes may occur
- Parker Brass Fittings available from  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

| Part Number  | Color*  | O. D. in. | I. D. in. | Avg. Wall Thick | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Reel Length ft.  | Min. Bend Radius in. | Weight lbs. Per 100 ft. |
|--|---|-----------|-----------|-----------------|------------------------------|---------------------------------|--|----------------------|-------------------------|
| #  |   |           |           |                 |                              |                                 |  |                      |                         |
| E-43-XXXX<br>E-43-X-XXXX<br>EB-43-XXXX<br>EB-43-XXXX-NSF | Natural<br>R, B, O, Y, P, G, WHT, GRA<br>Black<br>Black NSF | .125      | .170      | .040            | 120                          | 480                             | 0100, 0500, 1000<br>0100, 0500<br>0100, 0500, 1000<br>0500, 1000 | 1                    | 1.1                     |
| E-53-XXXX<br>EB-53-XXXX                                  | Natural<br>Black  | .156      | .187      | .062            | 145                          | 580                             | 0100, 0500   | 1-1/8                | 2.1                     |
| E-64-XXXX<br>E-64-X-XXXX<br>EB-64-XXXX<br>EB-64-XXXX-NSF | Natural<br>R, B, O, Y, P, G, WHT, GRA<br>Black<br>Black NSF | .188      | .250      | .062            | 125                          | 500                             | 0100, 0500   | 1-1/4                | 2.5                     |
| E-86-XXXX<br>E-86-X-XXXX<br>EB-86-XXXX<br>EB-86-XXXX-NSF | Natural<br>WHT, GRA<br>Black<br>Black NSF                   | .213      | .375      | .062            | 90                           | 360                             | 0100, 0500   | 2-1/2                | 3.6                     |
| E-108-XXXX<br>EB-108-XXXX                                | Natural<br>Black  | .250      | .500      | .062            | 70                           | 280                             | 0100   | 4                    | 4.6                     |

\*Color Code: R = red, B = blue, O = orange, Y = yellow, P = purple, G = green, WHT = white, GRA = gray.

Standard black is not NSF approved.

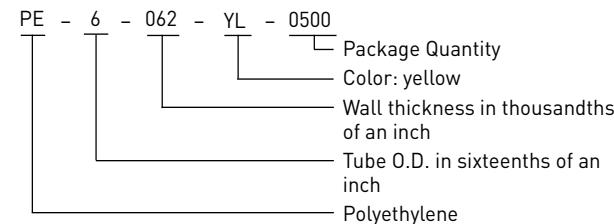
# Polyethylene Tubing "Poly-Flo®"

## Series PE: Pneumatic, Industrial Grade

- Economical, industrial grade
- Limited stress crack resistance. Not recommended for residential water systems.
- NSF-51 listed (excludes black)
- Withstands more than 500 hours of Igepal solution
- ASTM D 1248 classification:  
Natural: Type 1, Class A, Category 3  
Colors: Type 1, Class B, Category 3
- The recommended operating temperature range for service at rated pressures with compatible fluids is -80°F (-62°C) to +175°F (+79°C). Pressure ratings are lower at elevated temperatures.

### How to order Poly-Flo polyethylene tubing

Example: PE-6-062-YL-0500 is 3/8" O.D. x 0.062" wall x 500' long.



### Fitting Recommendation:

- Parker TrueSeal™ fittings.
- Parker Fast & Tite® fittings.
- A tube support can be used with this tubing for maximum holding power where tensiling, vibration or pressure spikes may occur
- Parker Brass Fittings available from  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

| Part Number  | Color*   | O. D. in. | I. D. in. | Avg. Wall Thick | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Package ft.        | Min. Bend Radius in. | Weight lbs. Per 100 ft. |
|--|--|-----------|-----------|-----------------|------------------------------|---------------------------------|--------------------|----------------------|-------------------------|
| #  |  |           |           |                 |                              |                                 |                    |                      |                         |
| PE-2-020-XX-1000   | NA, BK   | .125      | .085      | .020            | 125                          | 500                             | 1000               | .500                 | .29                     |
| PE-2.5-025-XX-1000                                       | NA, BK   | .156      | .106      | .025            | 125                          | 500                             | 1000               | .625                 | .44                     |
| PE-3-030-XX-100  | NA, BK   | .188      | .127      | .030            | 125                          | 500                             | 1000               | .750                 | .65                     |
| PE-4-040-XX-1000<br>PE-4-040-XX-0500<br>PE-4-040-XX-0200 | NA, BK<br>BL, RD, GN, OR, PR, GY, YL<br>NA, BK, BL, RD, GN, OR, PR, GY, YL | .250      | .170      | .040            | 100                          | 400                             | 1000<br>500<br>200 | 1.000                | 1.10                    |
| PE-5-062-XX-0500   | NA, BK   | .250      | .188      | .062            | 150                          | 600                             | 500                | 1.125                | 2.13                    |
| PE-6-062-XX-0200<br>PE-6-062-XX-0500                     | NA, BK, BL, RD, GN, OR, PR, GY, YL<br>NA, BK                               | .313      | .251      | .062            | 87                           | 350                             | 500<br>200         | 1.250                | 2.50                    |
| PE-8-062-XX-0100<br>PE-8-062-XX-0250                     | NA, BK, WH, BL<br>NA, BK   | .375      | .376      | .062            | 62                           | 250                             | 250<br>100         | 2.500                | 3.40                    |

XX = Product Color

\*Color Code: NA – Natural, BK – Black, BL – Blue, RD – Red, GN – Green, OR – Orange, PR – Purple, GY – Gray, YL – Yellow, WH – White.

Note: Working pressure and burst pressure are at 73°F (23°C). Burst data was obtained in carefully controlled test conditions. Use this information for comparison only. Actual performance may vary with different media and working conditions.

# Metric Polyethylene Tubing

Series E: Instrument Grade—FDA, NSF Listed  
Series EB: Ultraviolet Light Resistant

## Fitting Recommendation:

- Parker TrueSeal™ fittings.
- Parker Fast & Tite® fittings.
- A tube support can be used with this tubing for maximum holding power where tensiling, vibration or pressure spikes may occur
- Parker Metric Brass Fittings available from  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

How to order Parflex metric polyethylene tubing

Example: E-8x1-0100

E - 8 x 1 - 0100

Package Quantity

Tube Wall Thickness in millimeters

Tube O. D. in millimeters

Metric Polyethylene

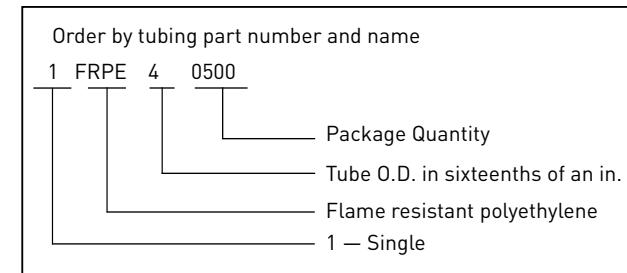
| Part Number                     | Color         | O. D.<br>in. | I. D.<br>in. | Wall Thick<br>mm. | Working Pressure<br>at 23°C<br>bar | Min. Burst Pressure<br>at 23°C<br>bar | Reel Length<br>ft. | Min. Bend Radius<br>mm. | Weight<br>lbs.<br>Per<br>100 ft.<br>(kg.) |
|---------------------------------|---------------|--------------|--------------|-------------------|------------------------------------|---------------------------------------|--------------------|-------------------------|---|
| #                               |               |              |              |                   |                                    |                                       |                    |                         |   |
| E-6X1-0100<br>EB-6X1-0100       | Natural Black | 6            | 4            | 1                 | 8.6                                | 34.5                                  | 100<br>100         | 25                      | 1.3<br>(.59)                              |
| E-8X1-0100<br>EB-8X1-0100       | Natural Black | 8            | 6            | 1                 | 6.9                                | 27.6                                  | 100<br>100         | 38                      | 1.4<br>(.64)                              |
| E-10X1.5-0100<br>EB-10X1.5-0100 | Natural Black | 10           | 7            | 1.5               | 8.6                                | 34.5                                  | 100<br>100         | 38                      | 2.6<br>(1.18)                             |
| E-12X1.5-0100<br>EB-12X1.5-0100 | Natural Black | 12           | 9            | 1.5               | 6.2                                | 24.8                                  | 100<br>100         | 63                      | 3.2<br>(1.45)                             |

# Polyethylene Tubing

## Series FRPE: Flame Resistant

Using the same base linear low density polyethylene (LLDPE) as the E-Series tubing, Parker Hannifin, Parflex Division's FRPE tubing has the following advantages:

- Excellent stress crack resistance. Meets requirements set forth in ASTM D-1693.
- UL 1820 approved as well as UL 94 V-2.
- Can be installed in accordance with NFPA Standard 90A.
- Self-extinguishing properties coupled with low smoke density characteristics.
- Numbering system allows the installer to identify up to 30 distinct circuits.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -85°F (-65°C) to +150°F (+66°C).



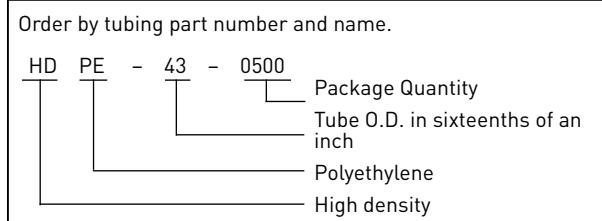
| Part Number                               | Color                   | O. D. in. | I. D. in. | Avg. Wall Thick | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Reel Length ft.    | Min. Bend Radius in. | Weight lbs. Per 100 |
|---|-------------------------|-----------|-----------|-----------------|------------------------------|---------------------------------|--------------------|----------------------|---------------------|
| #   |                         | (O)       | (O)       |                 | (↑)                          | (爆)                             |                    | (*)                  | (kg)                |
| 1FRPE2.5-0500                             | Black                   | .031      | .096      | .030            | 225                          | 900                             | 500                | 1/2                  | .053                |
| 1FRPE4-0250<br>1FRPE4-0500<br>1FRPE4-1000 | Black<br>Black<br>Black | 1/4       | .170      | .040            | 160                          | 640                             | 250<br>500<br>1000 | 3/4                  | 1.17                |
| 1FRPE6-0250<br>1FRPE6-0500                | Black<br>Black          | .039      | .250      | .062            | 195                          | 780                             | 250<br>500         | 1-1/2                | 2.71                |
| 1FRPE8-0250                               | Black                   | .051      | .375      | .062            | 135                          | 540                             | 250                | 1-3/4                | 3.80                |

## Fitting Recommendation:

- Parker Brass Compression Double Barb
- Parker Brass Fittings available from Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

## Series HDPE: High Density

- Manufactured from high strength, high density polyethylene.
- Semirigid tubing that is inherently resistant to most chemicals, less easily cut or damaged and has a higher burst pressure rating than series E tubing.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -80°F (-62°C) to +175°F (+80°C).



| Part Number                  | Color          | O. D. in. | I. D. in. | Avg. Wall Thick | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Reel Length ft. | Min. Bend Radius in. | Weight lbs. Per 100 ft. |
|------------------------------|----------------|-----------|-----------|-----------------|------------------------------|---------------------------------|-----------------|----------------------|-------------------------|
| #                            |                | (O)       | (O)       |                 | (↑)                          | (爆)                             |                 | (*)                  | (kg)                    |
| HDPE-43-0250<br>HDPE-43-0500 | Black<br>Black | 1/4       | .170      | .040            | 300                          | 1200                            | 250<br>500      | 1-1/2                | 1.1                     |
| HDPE-64-0250<br>HDPE-64-0500 | Black<br>Black | .039      | .250      | .062            | 300                          | 1200                            | 250<br>500      | 2-1/2                | 2.5                     |

# Nylon Tubing

## Series N: Flexible

- Made from high-grade, abrasion resistant, heat and light stabilized nylon.
- Resistance to stress cracking greatly exceeds that of ordinary nylon tubing.
- Exhibits extremely low level water absorption.
- Chemically resistant.
- Better flexibility, lighter weight and better resistance to flexural fatigue.
- The recommended operating temperature range for service at rated pressures with compatible fluids, depending upon conditions, is -65°F (-54°C) to +200°F (+93°C) continuous.
- Available in natural (NN), red (RED), green (GRN), blue (BLU), yellow (YEL), and black (NB).
- Black tubing is recommended for use outdoors and in sunlit areas.

Order by tubing part number and name

NN - 2 - 016 - RED - 0100

Package Quantity (omit for 250 ft. reel length)

Colors (except natural and black)

Wall thickness in thousandths of an inch

Tube O. D. in sixteenths of an inch

Color, natural or black (omit for RED, GRN, BLU, YEL)

Nylon

### Fitting Recommendations:

- Parker TrueSeal™ fittings.\*\*
- Parker Fast & Tite® fittings.\*\*
- Parker Brass Fittings available from:  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

\*\*Verify fitting working pressure meets application requirements.

| Part Number              | Color         | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Avg. Wall Thick | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Std. Reel Length ft. | Min. Bend Radius in. | Weight lbs. Per 100 ft. |
|--------------------------|---------------|---------------------|---------------------|-----------------|------------------------------|---------------------------------|----------------------|----------------------|-------------------------|
| #                        |               |                     |                     |                 |                              |                                 |                      |                      |                         |
| NN-2-016<br>NB-2-016     | Natural Black | 1/8                 | .093                | .016            | 250                          | 1000                            | 100, 250             | 1/4                  | 0.25                    |
| NN-2-031<br>NB-2-031     | Natural Black | 1/8                 | .064                | .031            | 500                          | 2000                            | 100, 250             | 1/4                  | 0.42                    |
| NN-2.5-025<br>NB-2.5-025 | Natural Black | 5/32                | .106                | .025            | 300                          | 1200                            | 100, 250             | 1/2                  | 0.47                    |
| NN-3-025<br>NB-3-025     | Natural Black | 3/16                | .138                | .025            | 250                          | 1000                            | 100, 250             | 5/8                  | 0.58                    |
| NN-3-046<br>NB-3-046     | Natural Black | 3/16                | .096                | .046            | 500                          | 2000                            | 100, 250             | 7/16                 | 0.93                    |
| NN-4-035<br>NB-4-035     | Natural Black | 1/4                 | .180                | .035            | 250                          | 1000                            | 100, 250             | 7/8                  | 1.10                    |
| NN-4-040<br>NB-4-040     | Natural Black | 1/4                 | .170                | .040            | 310                          | 1250                            | 100, 250             | 7/8                  | 1.20                    |
| NN-4-062<br>NB-4-062     | Natural Black | 1/4                 | .127                | .062            | 500                          | 2000                            | 100, 250             | 1/2                  | 1.70                    |
| NN-5-040<br>NB-5-040     | Natural Black | 5/16                | .233                | .040            | 250                          | 1000                            | 100, 250             | 1-1/8                | 1.56                    |
| NN-6-050<br>NB-6-050     | Natural Black | 3/8                 | .275                | .050            | 250                          | 1000                            | 100, 250             | 1-1/8                | 2.34                    |
| NN-6-093<br>NB-6-093     | Natural Black | 3/8                 | .190                | .093            | 500                          | 2000                            | 100, 250             | 3/4                  | 3.80                    |
| NN-8-062<br>NB-8-062     | Natural Black | 1/2                 | .375                | .062            | 250                          | 1000                            | 100, 250             | 1-1/4                | 3.94                    |
| NN-8-124<br>NB-8-124     | Natural Black | 1/2                 | .253                | .124            | 500                          | 2000                            | 100, 250             | 1                    | 6.70                    |

\*Suggested working pressure is 1/4 of burst pressure.  
Metric part numbers on the following page.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

# Metric Nylon Tubing

## Series N: Flexible

- Manufactured from our high standard, high-grade, abrasion resistant, heat and light stabilized flexible nylon.
- Metric nylon tubing has the same high chemical resistance and benefits of flexibility, light weight and resistance to flexural fatigue as our standard nylon tubing.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -54°C (-65°F) to 93°C (200°F) continuous.
- Available in natural and black. Others colors available upon request: green (GRN), red (RED), yellow (YEL), and blue (BLU).

### Fitting Recommendations:

- Parker metric fittings available from:  
Tube Fittings Division  
Columbus, Ohio  
Phone (614) 279-7070
- Parker Metric Brass Fittings available from:  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

Order by tubing part number and name

N N 4 x .65 - BLU - 1000

Package Quantity (omit for standard reel length)  
Color (omit for natural and black)  
Wall thickness in millimeters  
Tube O. D. in millimeters  
Color, Natural N, Black B (omit for other colors)  
Nylon

| Part Number          | Color         | Nom. Tube O. D. mm. | Nom. Tube I. D. mm. | Avg. Wall Thick mm. | Working Pressure at 23°C bar | Min. Burst Pressure at 23°C bar | Std. Reel Length ft. (m) | Min. Bend Radius mm. | Weight lbs. Per 100ft. (k.g.) |
|----------------------|---------------|---------------------|---------------------|---------------------|------------------------------|---------------------------------|--------------------------|----------------------|-------------------------------|
| #                    |               | (O)                 | (O)                 |                     | (P)                          | (B)                             |                          | (R)                  | (W)                           |
| NN4X.65<br>NB4X.65   | Natural Black | 4                   | 2.7                 | 0.65                | 26                           | 68                              | 100<br>(30.5)            | 14                   | .49<br>(.22)                  |
| NN6X1<br>NB6X1       | Natural Black | 6                   | 4.0                 | 1.00                | 23.5                         | 94                              | 100<br>(30.5)            | 22                   | 1.1<br>(.50)                  |
| NN8X1<br>NB8X1       | Natural Black | 8                   | 6.0                 | 1.00                | 17                           | 68                              | 100<br>(30.5)            | 29                   | 1.6<br>(.73)                  |
| NN10X1<br>NB10X1     | Natural Black | 10                  | 8.0                 | 1.00                | 12.5                         | 50                              | 100<br>(30.5)            | 34                   | 2.0<br>(.91)                  |
| NN12X1<br>NB12X1     | Natural Black | 12                  | 10.0                | 1.00                | 11                           | 44                              | 100<br>(30.5)            | 45                   | 2.4<br>(1.1)                  |
| NN14X1.5<br>NB14X1.5 | Natural Black | 14                  | 11.0                | 1.50                | 15                           | 60                              | 100<br>(30.5)            | 57                   | 4.2<br>(1.9)                  |
| NN16X1.5<br>NB16X1.5 | Natural Black | 16                  | 13.0                | 1.50                | 12.5                         | 50                              | 100<br>(30.5)            | 74                   | 4.9<br>(2.2)                  |
| NN18X1.5<br>NB18X1.5 | Natural Black | 18                  | 15.0                | 1.50                | 10.5                         | 42                              | 100<br>(30.5)            | 92                   | 5.5<br>(2.5)                  |
| NN20X1.5<br>NB20X1.5 | Natural Black | 20                  | 17.0                | 1.50                | 9.5                          | 38                              | 100<br>(30.5)            | 112                  | 6.2<br>(2.8)                  |

To convert bar to PSI, multiply by 14.5.

# Nylon Pure Air Tubing

## Series PAT: Ultra Pure, UV Resistant

- Manufactured from a specially formulated nylon for use in pure air and gas distribution systems.
- Packaged on corrugated plastic reel with ends capped. Shipped in a plastic-lined container.
- Offers excellent chemical resistance and ultraviolet light resistance.
- Maintains good resistance to high ambient temperatures with low moisture absorption.
- Provides high tensile strength with excellent coupling retention in high-pressure, temperature and vibration environments.
- Sizes 1/4" and smaller are single wall tubing having superior heat and light resistance.
- Tubing sizes 3/8" O.D. and above are reinforced constructions intended for gas distribution system connections where there is no substantial movement between end couplings.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +200°F (+93°C).
- PAT tubing is rated for full vacuum service at 28 inch Hg.
- Available in black (BLK), brown (BRN), and silver (SIL).

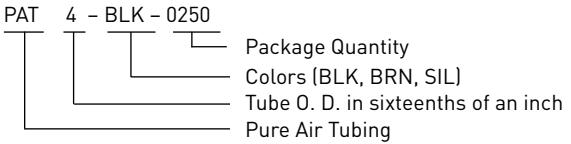
### Fitting Recommendations:

| Nylon Part Number | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Avg. Wall Thick in. | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Std.** Reel Length ft. | Min. Bend Radius in. | Weight lbs. Per 100ft. |
|-------------------|---------------------|---------------------|---------------------|------------------------------|---------------------------------|------------------------|----------------------|------------------------|
| #                 |                     |                     |                     |                              |                                 |                        |                      |                        |
| PAT2              | 1/8                 | .079                | .023                | 250                          | 1000                            | 1000                   | 3/8                  | 3.50                   |
| PAT4              | 1/4                 | .170                | .040                | 300                          | 1200                            | 1000                   | 1.0                  | 12.41                  |
| PAT6              | 3/8                 | .251                | .062                | 350                          | 1400                            | 500                    | 1-1/0                | 28.22                  |
| PAT8              | 1/2                 | .376                | .062                | 235                          | 950                             | 500                    | 2.0                  | 39.54                  |
| PAT10             | 5/8                 | .441                | .092                | 225                          | 900                             | 250                    | 2-1/2                | 70.21                  |
| PAT12             | 3/4                 | .566                | .092                | 200                          | 800                             | 250                    | 3.0                  | 87.23                  |

\*Suggested working pressure is 1/4 of burst pressure.

\*\*Other reel lengths may be available. Contact the Parflex Division for details.

Order by tubing part number and name



- Parker DAT series brass compression fittings.

- Parker Brass Fittings available from:

Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

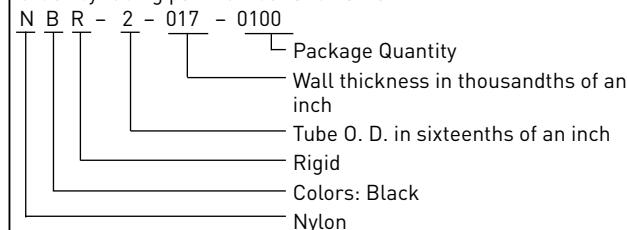
Alphanumeric  
Index

# Nylon Tubing

## Series NR: Semirigid High Strength

- Manufactured from a semirigid nylon material. The tubing does not contain plasticizers.
- Offers better chemical resistance than series N, good resistance to high ambient temperature and low moisture absorption.
- Has a high tensile strength which will give excellent coupling retention in high-pressure, temperature and vibration environments.
- Specified for machine tool lubricating systems, marine control systems, process lines for chemicals and oils, and other applications requiring a high quality nylon tube.
- NR and NBR tubing meets UL94HB flame resistance ratings in wall thicknesses of .033" and greater.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -60°F (-51°C) to +200°F (+93°C).

Order by tubing part number and name



## Fitting Recommendations:

- Parker TrueSeal™ fittings.
- Parker Fast & Tite® fittings.
- Parker Brass Fittings available from:  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

| Part Number            | Color         | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Avg. Wall Thick | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Std. Reel Length ft. | Min. Bend Radius in. | Weight lbs. Per 100ft. |
|------------------------|---------------|---------------------|---------------------|-----------------|------------------------------|---------------------------------|----------------------|----------------------|------------------------|
| #                      |               | (O)                 | (O)                 |                 | (P)                          | (B)                             |                      | (R)                  | (W)                    |
| NNR-2-017<br>NBR-2-017 | Natural Black | .0625               | .0500               | .017            | 425                          | 1700                            | 500                  | 1/2                  | 0.26                   |
| NNR-2-026<br>NBR-2-026 | Natural Black | .0625               | .0500               | .026            | 625                          | 2500                            | 500                  | 3/8                  | 0.36                   |
| NNR-3-024<br>NBR-3-024 | Natural Black | .0750               | .0625               | .024            | 425                          | 1700                            | 500                  | 3/4                  | 0.56                   |
| NNR-3-039<br>NBR-3-039 | Natural Black | .0750               | .0625               | .039            | 625                          | 2500                            | 500                  | 5/8                  | 0.82                   |
| NNR-3-044<br>NBR-3-044 | Natural Black | .0750               | .0625               | .044            | 800                          | 3200                            | 500                  | 5/8                  | 0.88                   |
| NNR-4-035<br>NBR-4-035 | Natural Black | .09375              | .08125              | .035            | 425                          | 1700                            | 250                  | 1                    | 1.10                   |
| NNR-4-050<br>NBR-4-050 | Natural Black | .09375              | .08125              | .050            | 625                          | 2500                            | 250                  | 7/8                  | 1.40                   |
| NNR-5-040<br>NBR-5-040 | Natural Black | .1250               | .109375             | .040            | 425                          | 1700                            | 250                  | 1-1/2                | 1.50                   |
| NNR-6-048<br>NBR-6-048 | Natural Black | .1250               | .109375             | .048            | 425                          | 1700                            | 250                  | 1-3/4                | 2.20                   |
| NNR-6-075<br>NBR-6-075 | Natural Black | .1250               | .109375             | .075            | 625                          | 2500                            | 250                  | 1-1/2                | 3.20                   |
| NNR-8-062<br>NBR-8-062 | Natural Black | .1875               | .16875              | .062            | 375                          | 1500                            | 250                  | 2-3/8                | 3.80                   |
| NNR-8-075<br>NBR-8-075 | Natural Black | .1875               | .16875              | .075            | 625                          | 2500                            | 250                  | 2-1/2                | 4.5                    |

\* Suggested working pressure is 1/4 of burst pressure.

NEW—Series NR nylon tubing is now available in 100 ft. bunch coil package lengths. To order, add suffix 0100 to part number. Example: NNR-4-035-0100

# Polypropylene Tubing

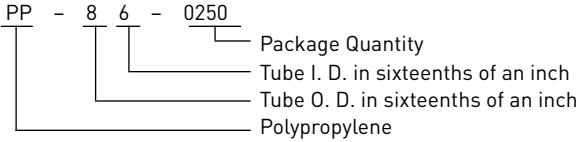
Series PP: Laboratory Grade—FDA, NSF Listed

Series PPB: Ultraviolet Light Resistant

- Acid and chemically resistant.
- Flexible.
- Dimensionally stable.
- May be used at higher temperatures and working pressures than polyethylene tubing.
- Resistance to hot water and hot corrosive acids is excellent. Polypropylene tubing will last many times longer than nylon tubing in hot water service.
- Has water absorption of less than .01%.
- Has good resistance to vegetable oils.
- Has excellent resistance to environmental stress cracking.
- Available in white, UV-resistant black and special NSF black.
- PPB series tubing has superior ultraviolet resistance.
- White and NSF black polypropylene meet FDA and NSF-51 requirements for food contact and potable water.
- PP NSF listed only upon special request.
- NSF black polypropylene tubing is available upon special request. Add -NSF suffix to PPB part number.
- The recommended operating temperature range for service at rated pressures with compatible fluids is 0°F (-18°C) to +200°F (+93°C).

How to order Parflex polypropylene tubing

Example: PP-86-0250 is 1/2" O. D. x 3/8" I. D.



## Fitting Recommendations:

- Parker TrueSeal™ fittings.
- Parker Fast & Tite® fittings.
- A tube support can be used with this tubing for maximum holding power where tensiling, vibration or pressure spikes may occur
- Parker Brass Fittings available from  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

| Part Number                 | Color          | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Avg. Wall Thick in. | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Reel Length ft. | Min. Bend Radius in. | Weight lbs. Per 100ft. |
|-----------------------------|----------------|---------------------|---------------------|---------------------|------------------------------|---------------------------------|-----------------|----------------------|------------------------|
| #                           |                | (O)                 | (O)                 |                     | (↑)                          | (burst)                         |                 | (*)                  | (kg)                   |
| PP-21-1000<br>PPB-21-1000   | White<br>Black | 1/8                 | .080                | .023                | 350                          | 1400                            | 1000            | 1/2                  | 0.28                   |
| PP-32-0500<br>PPB-32-0500   | White<br>Black | 3/16                | .120                | .034                | 350                          | 1400                            | 500             | 3/4                  | 0.62                   |
| PP-43-0500<br>PPB-43-0500   | White<br>Black | 1/4                 | .170                | .040                | 300                          | 1200                            | 500             | 1                    | 1.01                   |
| PP-53-0500<br>PPB-53-0500   | White<br>Black | 5/16                | .187                | .062                | 350                          | 1400                            | 500             | 1-1/4                | 1.87                   |
| PP-64-0500<br>PPB-64-0500   | White<br>Black | 3/8                 | .250                | .062                | 300                          | 1200                            | 500             | 1-1/4                | 2.35                   |
| PP-86-0250<br>PPB-86-0250   | White<br>Black | 1/2                 | .375                | .062                | 225                          | 900                             | 250             | 2-1/2                | 3.28                   |
| PP-108-0100<br>PPB-108-0100 | White<br>Black | 5/8                 | .500                | .062                | 175                          | 700                             | 100             | 4                    | 4.22                   |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

# Polyurethane Tubing

## Series U: Polyether Base

- Medium durometer (90 to 95 Shore A).
- The tubing is tough, strong, kink resistant and abrasion resistant.
- Excellent hydrolytic stability.
- Flexible and easy to assemble onto designated fittings.
- Broad temperature range.
- Available in eight colors.
- High quality, precision made tubing used in a wide range of demanding and critical applications.
- Polyurethane occupies a unique position among polymers, sharing the best properties of both rubber and plastic. Parflex Series U tubing exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics.
- Used for a wide variety of applications. Typical usage includes air tools, robotics, pneumatic logic and actuation systems, analytical instrumentation, vacuum equipment, pressure measurement apparatus, semiconductor equipment manufacturers and a variety of medical and laboratory applications.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +180°F (+82°C).

Order by tubing part number and name

U - 2 1 - BLK - 0500

Package Quantity

\*Colors: Black

Tube I. D. in sixteenths of an in.

Tube O. D. in sixteenths of an in.

Polyurethane

## Fitting Recommendations:

- Parker TrueSeal™ fittings:  
A tube support should be used with this tubing, sizes -64 and -86, for maximum fitting holding power.
- Parker Fast & Tite® fittings:  
Requires use of a tube support
- Parker polyurethane Fast-Stor® fittings.
- Parker Par-Barb fittings.
- Parker Brass Fittings including MicroLok fittings available from:

Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

## Also available in coils

| Part Number                                      | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Wall Thick in. | Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Coil Length ft.          | Weight lbs. Per 100ft. |
|--|---------------------|---------------------|----------------|------------------------------|---------------------------------|--------------------------|------------------------|
| #  |                     |                     |                |                              |                                 |                          |                        |
| U-21-0050<br>U-21-0250<br>U-21-0500<br>U-21-1000 | 1/8                 | 1/16                | 1/32           | 125                          | 375                             | 50<br>250<br>500<br>1000 | 0.46                   |
| U-32-0050<br>U-32-0250<br>U-32-0500              | 3/16                | 1/8                 | 1/32           | 125                          | 375                             | 50<br>250<br>500         | 0.76                   |
| U-42-0050<br>U-42-0250<br>U-42-0500<br>U-42-1000 | 1/4                 | 1/8                 | 1/16           | 125                          | 375                             | 50<br>250<br>500<br>1000 | 1.80                   |
| U-64-0050<br>U-64-0100<br>U-64-0250<br>U-64-0500 | 3/8                 | 1/4                 | 1/16           | 125                          | 375                             | 50<br>100<br>250<br>500  | 3.00                   |
| U-85-0050<br>U-85-0100<br>U-85-0250              | 1/2                 | 21/64               | .086           | 125                          | 375                             | 50<br>100<br>250         | 4.40                   |
| U-86-0050<br>U-86-0250<br>U-86-0500              | 1/2                 | 3/8                 | 1/16           | 85                           | 255                             | 50<br>100<br>250         | 4.20                   |
| U-96-0050<br>U-96-0100                           | 9/16                | 3/8                 | 3/32           | 125                          | 375                             | 50<br>100                | 6.80                   |
| U-128-0050<br>U-128-0100                         | 3/4                 | 1/2                 | 1/8            | 125                          | 375                             | 50<br>100                | 12.00                  |

\*\* Suggested working pressure is 1/3 of burst pressure.

Metric part numbers on the following page.

\*Colors: Clear-Blank, Black-BLK, Green-GRN, Red-RED, Yellow-YEL, Blue-BLU, Orange-ORG, Gray-GRA



# Metric Polyurethane Tubing

Series U: Polyether Base

How to order Parflex metric polyurethane tubing

Example: UM 6x4-0100

UM    6    x    4    - 0100

Package Quantity

Tube I. D. in millimeters

Tube O. D. in millimeters

Metric Polyurethane

| Part Number                                  | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Wall Thick mm. | Working Pressure at 23°C bar | Min. Burst Pressure at 34°C bar | Coil Length ft. (m)                        | Weight lbs. Per 100ft. (k.g.) |
|--|---------------------|---------------------|----------------|------------------------------|---------------------------------|--|-------------------------------|
| #  |                     |                     |                |                              |                                 |  |                               |
| UM4x2.5-0100<br>UM4x2.5-0250<br>UM4x2.5-0500 | 4                   | 2.5                 | 0.75           | 9                            | 26                              | 100 (30.5m)<br>250 (76.2m)<br>500 (152.4m) | 0.06 (.027)                   |
| UM6x4-0100<br>UM6x4-0250<br>UM6x4-0500       | 6                   | 4.0                 | 1.00           | 9                            | 26                              | 100 (30.5m)<br>250 (76.2m)<br>500 (152.4m) | 1.23 (.558)                   |
| UM8x5-0100<br>UM8x5-0250<br>UM8x5-0500       | 8                   | 5.0                 | 1.50           | 9                            | 26                              | 100 (30.5m)<br>250 (76.2m)<br>500 (152.4m) | 2.40 (1.09)                   |
| UM10x6.5-0100<br>UM10x6.5-0250               | 10                  | 6.5                 | 1.75           | 9                            | 26                              | 100 (30.5m)<br>250 (76.2m)                 | 3.55 (1.61)                   |
| UM12x8-0100<br>UM12x8-0250                   | 12                  | 8.0                 | 2.00           | 9                            | 26                              | 100 (30.5m)<br>250 (76.2m)                 | 4.92 (2.23)                   |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

# Polyurethane Tubing

## Series HU: High Durometer

- Polyether base.
- Tough, strong, kink resistant and abrasion resistant.
- Excellent hydrolytic stability.
- Broad temperature range.
- Five colors.
- Has a Shore A hardness greater than 95 durometer. This high durometer enables the use of compression/push-to-connect fittings and significantly increases the working pressure versus standard polyurethane tubing.
- High quality, precision made tubing used in a wide range of demanding and critical applications.
- Polyurethane tubing occupies a unique position among polymers, sharing the best properties of both rubber and plastic. Urethane exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics.
- Used for a wide variety of applications. Typical usage includes air tools, robotics, pneumatic logic and actuation systems, analytical instrumentation, vacuum equipment, pressure measurement apparatus, semiconductor equipment manufacturers and a variety of laboratory applications.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +180°F (+82°C).

Order by tubing part number and name

HU - 2 - BLK - 0500

Package Quantity

\*Colors: Black

Tube O. D. in sixteenths of an in.

Polyurethane — High Durometer

### Fitting Recommendations:

- Parker TrueSeal™ fittings.
- Parker Brass Fittings and MicroLok fittings available from:  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

Also available in coils

| Part Number                | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Wall Thick in. | Working Pressure at 73°F PSI                         | Min. Burst Pressure at 73°F PSI | Coil Length ft.   | Weight lbs. Per 100ft. |
|----------------------------|---------------------|---------------------|----------------|--|---------------------------------|-------------------|------------------------|
| #                          |                     |                     |                |  |                                 |                   |                        |
| HU-2-0100<br>HU-2-0500     | 1/8                 | .063                | .031           | 300  | 900                             | 100<br>250<br>500 | 0.48                   |
| HU-2.5-0100<br>HU-2.5-0500 | 5/32                | .094                | .031           | 210  | 630                             | 100<br>500        | 0.64                   |
| HU-4-0100<br>HU-4-0500     | 1/4                 | .160                | .045           | 180  | 540                             | 100<br>500        | 1.55                   |
| HU-6-0100<br>HU-6-0500     | 3/8                 | .250                | .062           | 180  | 540                             | 100<br>500        | 3.27                   |
| HU-8-0100<br>HU-8-0250     | 1/2                 | .320                | .090           | 180  | 540                             | 100<br>250        | 6.18                   |
| HU-12-0100<br>HU-12-0250   | 3/4                 | .467                | .142           | Contact Parflex Division for additional information. |                                 | 100<br>250        |                        |

\*\* Suggested working pressure is 1/3 of burst pressure.

Metric part numbers on the following page.

\* Colors: Black-BLK, Red-RED, Navy Blue-DBL, Silver-SIL, Blue-BLU.

Consult Division concerning the following new color offerings: brown, gray, green, yellow, orange, clear, white, purple, light gray, neon pink, neon green, neon orange, and the following transparent colors: red, green, blue, yellow, orange, purple.

# Metric Polyurethane Tubing

Series HUM: High Durometer (Metric)

- Polyether base.

How to order Parflex metric polyurethane tubing

Example: HUM-6-BLK-0100

HUM - 6 - BLK - 0100

Package Quantity  
\*Colors: Black  
Tube O. D. in millimeters  
Metric polyurethane — High Durometer

| Part Number                | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Wall Thick mm. | ** Working Pressure at 23°C bar | Min. Burst Pressure at 23°C bar | Coil Length ft. | Weight lbs. Per 100ft. (k.g.) |
|----------------------------|---------------------|---------------------|----------------|---------------------------------|---------------------------------|-----------------|-------------------------------|
| #                          |                     |                     |                |                                 |                                 |                 |                               |
| HUM-4-0100<br>HUM-4-0500   | 4                   | 2.4                 | 0.84           | 12.4                            | 37.2                            | 100<br>500      | .68<br>(0.31)                 |
| HUM-6-0100<br>HUM-6-0500   | 6                   | 4.0                 | 1.00           | 12.4                            | 37.2                            | 100<br>500      | 1.30<br>(.558)                |
| HUM-8-0100<br>HUM-8-0250   | 8                   | 5.0                 | 1.50           | 12.4                            | 37.2                            | 100<br>500      | 2.59<br>(1.17)                |
| HUM-10-0100<br>HUM-10-0250 | 10                  | 6.5                 | 1.80           | 12.4                            | 37.2                            | 100<br>250      | 3.84<br>(1.74)                |
| HUM-12-0100<br>HUM-12-0250 | 12                  | 8.0                 | 2.06           | 12.4                            | 37.2                            | 100<br>250      | 4.92<br>(2.23)                |

\*\*Suggested working pressure is 1/3 of burst pressure.

Note:

Metric urethane tubing is packaged in the following lengths:  
100 ft. (30.5 meters), 250 ft. (76.2 meters), 500 ft. (152.4 meters).

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

\* Colors: Black-BLK, Red-RED, Navy Blue-DBL, Silver-SIL, Blue-BLU. Consult Division for availability of other color options.

# Polyurethane Tubing

## Series LU: Low Durometer

- Polyether base.
- Tough, strong, kink resistant and abrasion resistant.
- Excellent hydrolytic stability.
- Flexible and easy to assemble onto designated fittings.
- Broad temperature range.
- Chemically resistant.
- High quality, precision made tubing used in a wide range of demanding and critical applications.
- Occupies a unique position among polymers, sharing the best properties of both rubber and plastic. Urethane exhibits the elongation and recovery characteristics of rubber and the chemical resistance associated with plastics.
- Used for a wide variety of applications. Typical usage includes air tools, robotics, pneumatic logic and actuation systems, analytical instrumentation, vacuum equipment, pressure measurement apparatus, semiconductor equipment manufacturers and a variety of laboratory applications.
- Maximum working pressure was determined in carefully controlled tests. Actual results may vary with different media, working conditions, or fittings.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +180°F (+82°C).

Order by tubing part number and name

LU - 2 - BLK - 0100

Package Quantity

\*Colors: Black

Tube O. D. in sixteenths of an in.

Polyurethane — Low Durometer

### Fitting Recommendations:

- Par-Barb fittings.
- Parker Brass Fittings including MicroLok fittings available from:  
Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

Also available in coils

| Part Number | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Wall Thick in. | ** Working Pressure at 73°F PSI | Min. Burst Pressure at 73°F PSI | Coil Length ft. | Weight lbs. Per 100ft. |
|-------------|---------------------|---------------------|----------------|---------------------------------|---------------------------------|-----------------|------------------------|
| #           |                     |                     |                |                                 |                                 |                 |                        |
| LU-2-0100   | 1/8                 | 1/16                | 1/32           | 145                             | 435                             | 100             | 0.44                   |
| LU-2.5-0100 | 5/32                | 5/64                | .039           | 135                             | 405                             | 100             | 0.69                   |
| LU-4-0100   | 1/4                 | 1/8                 | 1/16           | 145                             | 435                             | 100             | 1.78                   |
| LU-5-0100   | 5/16                | 3/16                | 1/16           | 100                             | 300                             | 100             | 2.38                   |

\*\*Suggested working pressure is 1/3 of burst pressure.

\* Colors: Black-BLK.

Consult Division concerning the following new color offerings: brown, gray, green, yellow, orange, clear, white, purple, light gray, neon pink, neon green, neon orange, and the following transparent colors: red, green, blue, yellow, orange, purple, pink.

# Clear Vinyl Tubing

Parflex Clear Vinyl Tubing Formula Number V-1, Instrument and Laboratory Grade  
FDA Compliance

- Made from a virgin clear PVC (polyvinyl chloride) resin, specially formulated for exceptional purity, clarity and flexibility.
- Superior or equivalent to clear vinyl tubing available from any other source.
- Formula V-1 tubing fully meets all specifications called out by the United States Food and Drug Administration (FDA) for materials in contact with food and drugs for human consumption.
- 70 durometer for soft, easy handling and bending without tubing collapse.
- Crystal clear for fully visible fluid flow and excellent appearance.
- The recommended operating temperature range for service at rated pressures with compatible fluids is -40°F (-40°C) to +150°F (+65°C).

## Fitting Recommendations:

- Tubing sizes 42, 43, 53, 64, 86 and 108 are made for use with Parker Fast & Tite® tube fittings. A tube support should be used with this tubing for maximum fitting holding power.
- Par-Barb insert barbed type fittings may be used with all sizes of Parflex clear vinyl tubing.
- Parker Brass Fittings are available from:

Brass Products Division  
Otsego, Michigan  
Phone (616) 694-9411

### How to order tubing:

PV 10 8 - 1

Formula V-1 FDA Approved Formulation

Tube I. D. in sixteenths of an inch

Tube O. D. in sixteenths of an inch

Parflex Clear Vinyl Tubing

| Crystal Clear Part Number | O. D. in. | I. D. in. | Avg. Wall Thick in. | Made from Virgin PVC Resins |                      | Weight lbs. Per 100 ft. |
|---------------------------|-----------|-----------|---------------------|-----------------------------|----------------------|-------------------------|
|                           |           |           |                     | Working Pressure at         | Standard Coil Length |                         |
| #                         |           |           |                     |                             |                      |                         |
| PV21-1                    | 1/8       | 1/16      | 1/32                | 35                          | 100                  | 0.48                    |
| PV32-1                    | .170      | 1/8       | .025                | 35                          | 100                  | 0.58                    |
| PV42-1                    | 1/4       | 1/8       | 1/16                | 65                          | 100                  | 2.52                    |
| PV43-1                    | 1/4       | .170      | .040                | 55                          | 100                  | 1.35                    |
| PV403-1                   | 1/4       | 3/16      | 1/32                | 22                          | 100                  | 1.11                    |
| PV53-1                    | 5/16      | 3/16      | 1/16                | 55                          | 100                  | 2.51                    |
| PV63-1                    | 3/8       | 3/16      | 3/32                | 65                          | 100                  | 4.26                    |
| PV73-1                    | 7/16      | 3/16      | 1/8                 | 75                          | 100                  | 6.28                    |
| PV54-1                    | 5/16      | 1/4       | 1/32                | 20                          | 100                  | 1.42                    |
| PV64-1                    | 3/8       | 1/4       | 1/16                | 55                          | 100                  | 3.15                    |
| PV74-1                    | 7/16      | 1/4       | 3/32                | 60                          | 100                  | 5.18                    |
| PV84-1                    | 1/2       | 1/4       | 1/8                 | 70                          | 100                  | 7.55                    |
| PV75-1                    | 7/16      | 5/16      | 1/16                | 50                          | 100                  | 3.7                     |
| PV85-1                    | 1/2       | 5/16      | 3/32                | 60                          | 100                  | 6.15                    |
| PV95-1                    | 9/16      | 5/16      | 1/8                 | 70                          | 100                  | 8.80                    |
| PV86-1                    | 1/2       | 3/8       | 1/16                | 45                          | 100                  | 4.41                    |
| PV96-1                    | 9/16      | 3/8       | 3/32                | 50                          | 100                  | 7.06                    |
| PV106-1                   | 5/8       | 3/8       | 1/8                 | 60                          | 100                  | 10.07                   |
| PV97-1                    | 9/16      | 7/16      | 1/16                | 40                          | 100                  | 5.03                    |
| PV107-1                   | 5/8       | 7/16      | 3/32                | 45                          | 100                  | 8.04                    |
| PV117-1                   | 11/16     | 7/16      | 1/8                 | 50                          | 100                  | 11.49                   |
| PV108-1                   | 5/8       | 1/2       | 1/16                | 30                          | 100                  | 5.66                    |
| PV118-1                   | 11/16     | 1/2       | 3/32                | 40                          | 100                  | 8.94                    |
| PV128-1                   | 3/4       | 1/2       | 1/8                 | 45                          | 100                  | 12.59                   |
| PV138-1                   | 13/16     | 1/2       | 5/32                | 60                          | 100                  | 16.70                   |
| PV129-1                   | 3/4       | 9/16      | 3/32                | 40                          | 100                  | 9.94                    |
| PV139-1                   | 13/16     | 9/16      | 1/8                 | 45                          | 100                  | 13.84                   |
| PV1310-1                  | 13/16     | 5/8       | 3/32                | 35                          | 100                  | 10.82                   |
| PV1410-1                  | 7/8       | 5/8       | 1/8                 | 40                          | 100                  | 15.11                   |
| PV1510-1                  | 15/16     | 5/8       | 5/32                | 50                          | 100                  | 19.63                   |
| PV1411-1                  | 7/8       | 11/16     | 3/32                | 30                          | 100                  | 11.83                   |
| PV1611-1                  | 1         | 11/16     | 5/32                | 45                          | 100                  | 21.27                   |
| PV1612-1                  | 1         | 3/4       | 1/8                 | 35                          | 100                  | 17.62                   |
| PV1712-1                  | 1-1/16    | 3/4       | 5/32                | 35                          | 100                  | 22.77                   |
| PV1812-1                  | 1-1/8     | 3/4       | 3/16                | 50                          | 50                   | 28.32                   |
| PV2012-1                  | 1-1/4     | 3/4       | 1/4                 | 55                          | 50                   | 40.28                   |
| PV1814-1                  | 1-1/8     | 7/8       | 1/8                 | 30                          | 50                   | 20.14                   |
| PV1914-1                  | 1-3/16    | 7/8       | 5/32                | 35                          | 50                   | 25.91                   |
| PV2014-1                  | 1-1/4     | 7/8       | 3/16                | 45                          | 50                   | 32.10                   |
| PV2016-1                  | 1-1/4     | 1         | 1/8                 | 25                          | 50                   | 22.66                   |
| PV2116-1                  | 1-5/16    | 1         | 5/32                | 30                          | 50                   | 29.03                   |
| PV2216-1                  | 1-3/8     | 1         | 3/16                | 40                          | 50                   | 35.87                   |
| PV2416-1                  | 1-1/2     | 1         | 1/4                 | 45                          | 50                   | 50.35                   |
| PV2218-1                  | 1-3/8     | 1-1/8     | 1/8                 | 25                          | 50                   | 25.18                   |
| PV2420-1                  | 1-1/2     | 1-1/4     | 1/8                 | 20                          | 50                   | 27.69                   |
| PV2620-1                  | 1-5/8     | 1-1/4     | 3/16                | 35                          | 50                   | 43.43                   |
| PV2810-1                  | 1-3/4     | 1-1/4     | 1/4                 | 45                          | 50                   | 60.42                   |
| PV3024-1                  | 1-7/8     | 1-1/2     | 3/16                | 30                          | 50                   | 50.98                   |
| PV3224-1                  | 2         | 1-1/2     | 1/4                 | 40                          | 50                   | 70.49                   |
| PV3628-1                  | 2-1/4     | 1-3/4     | 1/4                 | 30                          | 50                   | 80.56                   |
| PV4032-1                  | 2-1/2     | 2         | 1/4                 | 35                          | 50                   | 90.63                   |

Hydraulic &  
Pneumatic Hose & Fit.

PTFE Hose & Fittings

Thermoplastic Tubing  
Coiled Air Hose,  
Fittings & Accessories

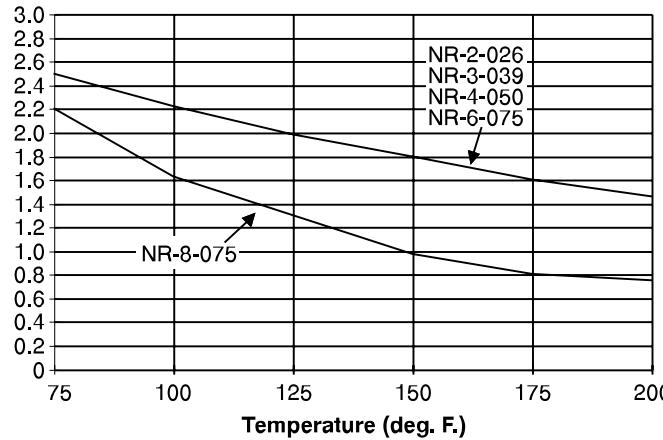
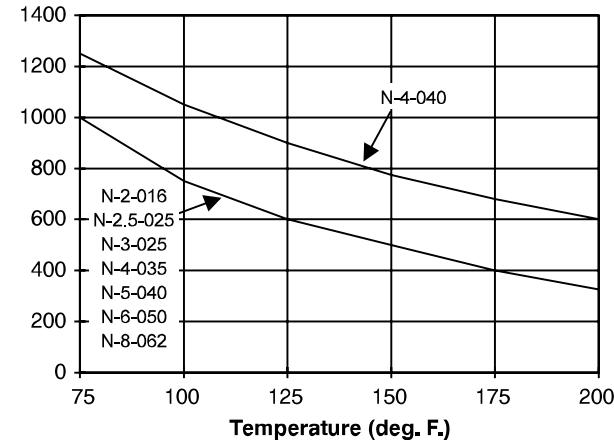
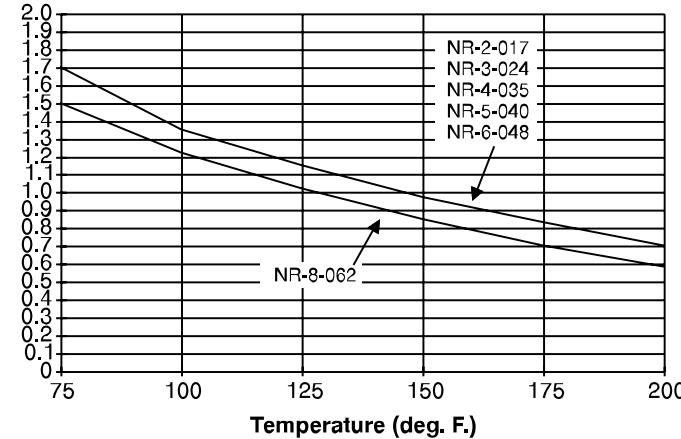
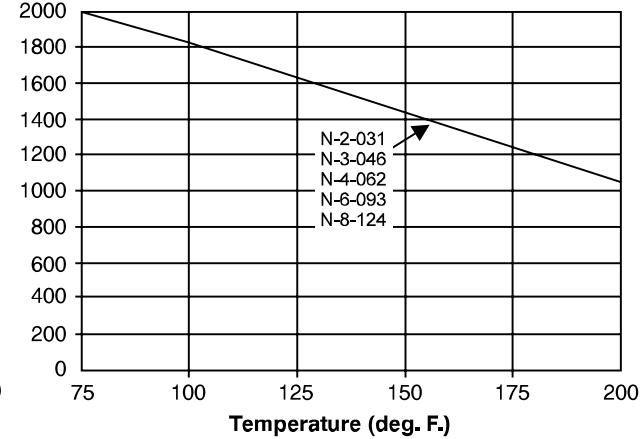
Truck (Fleet) Products  
Tooling & Equipment

Hose Accessories

Technical & Design Information

Approvals & Guides

Alphanumeric Index

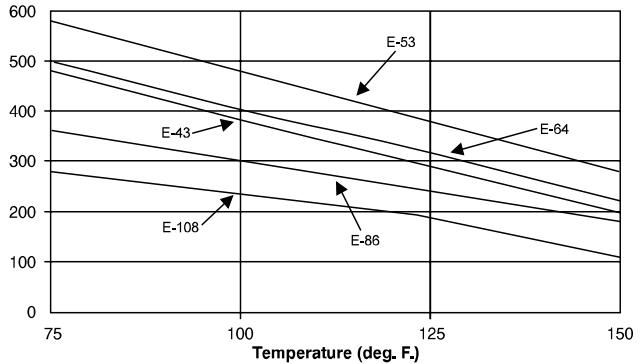
**Nylon Semi-Rigid Tubing**NR Series (NNR, NBR)  
1/8 through 1/2 inch O. D.Minimum  
Burst  
Pressure  
(PSIg)  
(Thousands)**Nylon Flexible Tubing**N Series (NN, NB)  
1/8 through 1/2 inch O. D.Minimum  
Burst  
Pressure  
(PSIg)**Nylon Semi-Rigid Tubing**NR Series (NNR, NBR)  
1/8 through 1/2 inch O. D.Minimum  
Burst  
Pressure  
(PSIg)  
(Thousands)**Nylon Flexible Tubing**N Series (NN, NB)  
1/8 through 1/2 inch O. D.Minimum  
Burst  
Pressure  
(PSIg)

Suggested working pressure is 1/4 of burst pressure at system operating temperature.

**Polyethylene Tubing**

Laboratory Grade E Series  
1/4 through 5/8 inch O. D.

Minimum  
Burst  
Pressure  
(PSIg)



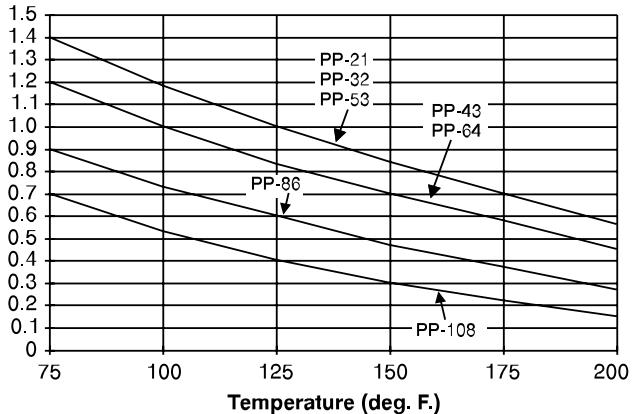
Similar curves for Poly-Flo® sizes

Consult Factory

**Polypropylene Tubing**

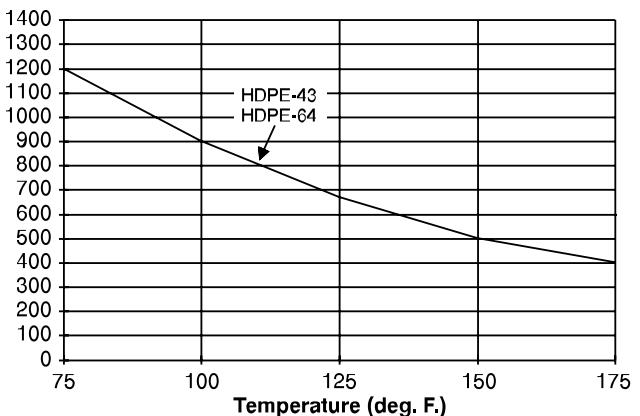
PP Series  
1/8 through 5/8 inch O. D.

Minimum  
Burst  
Pressure  
(PSIg)  
(Thousands)

**Polyethylene Tubing**

High Density HDPE Series  
1/4 through 5/8 inch O. D.

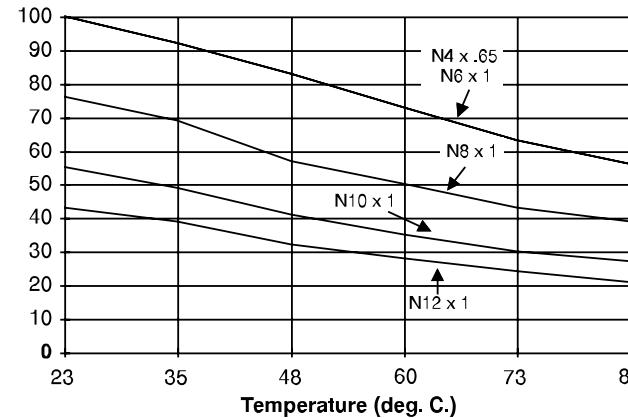
Minimum  
Burst  
Pressure  
(PSIg)



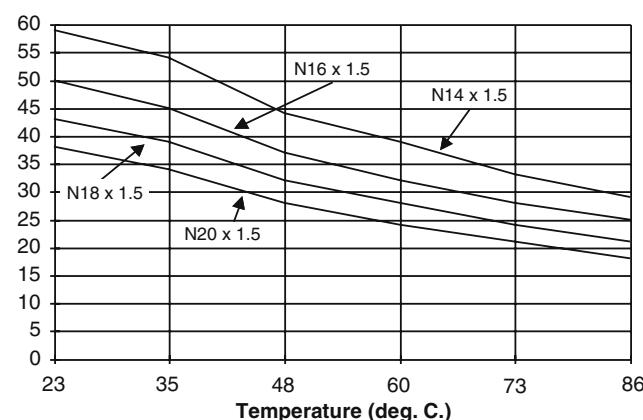
Suggested working pressures of nylon, polypropylene and polyethylene are 1/4 of burst pressure at system operating temperature.  
Suggested working pressure of polyurethane is 1/3 of burst pressure at system operating temperature.

**Metric Nylon Tubing****N Series**

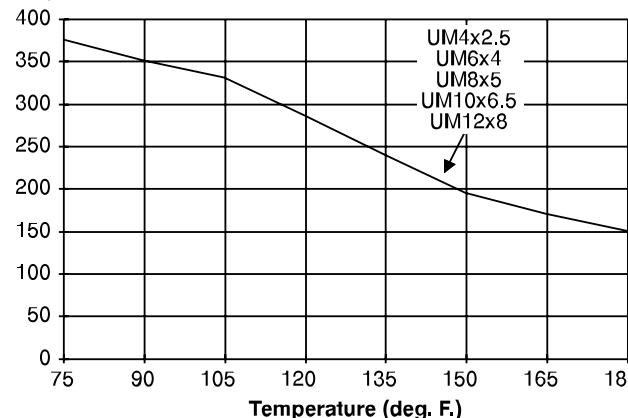
4 millimeters through 12 millimeters O. D.

Minimum  
Burst  
Pressure (bar)**Metric Nylon Tubing****N Series**

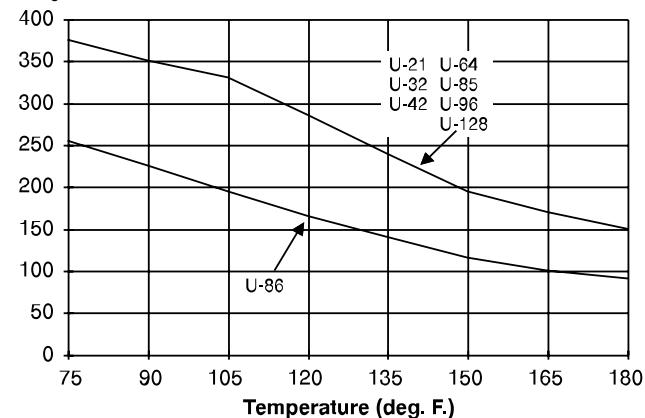
14 millimeters through 20 millimeters O. D.

Minimum  
Burst  
Pressure (bar)**Metric Polyurethane Tubing****UM Series Polyether Base**

4 through 12 millimeters O. D.

Minimum  
Burst  
Pressure  
(PSIg)**Polyurethane Tubing****U Series Polyether Base**

1/8 through 3/4 inch O. D.

Minimum  
Burst  
Pressure  
(PSIg)

## Coiled Air Hose, Fittings & Accessories

|                                      |         |
|--------------------------------------|---------|
| Visual Index.....                    | 196     |
| Fast-Stor® FSX Air Hose .....        | 197     |
| Fast-Stor® Air Hose .....            | 198     |
| Measuring Bulk Hose .....            | 199     |
| Fast-Stor® Fittings.....             | 200-202 |
| Size Selection Procedure.....        | 203     |
| Typical Fast-Stor® Installation..... | 203     |
| NoMar Polyurethane Fast-Stor® .....  | 204-206 |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

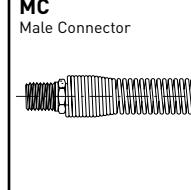
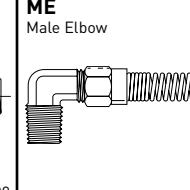
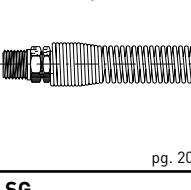
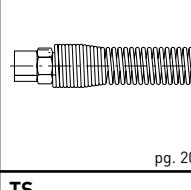
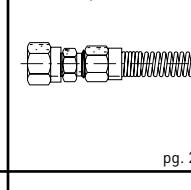
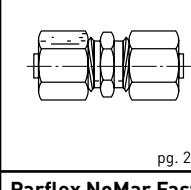
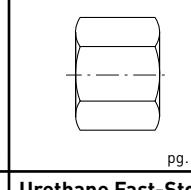
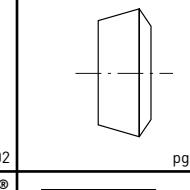
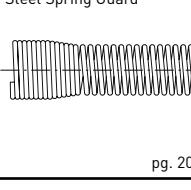
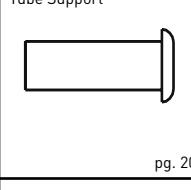
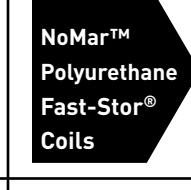
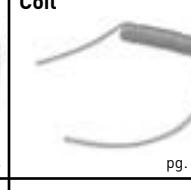
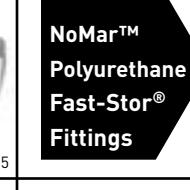
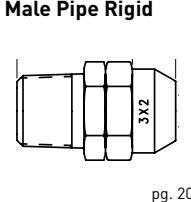
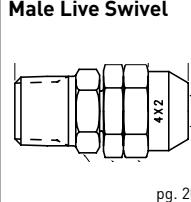
Approvals &  
Guides

Alphanumeric  
Index

DIMENSIONS ARE FOR REFERENCE ONLY. SUBJECT TO CHANGE.



## Coiled Air Hose, Fittings &amp; Accessories

|   |  |  |   |  |   |
|---|--|--|---|--|---|
| <br><b>Fast-Stor®</b><br>Coiled Air Hose | <br><b>FSX Air Hose</b>           | <br><b>Air Hose</b>   | <br><b>Fittings &amp; Accessories</b>           | <br><b>MC</b><br>Male Connector         | <br><b>ME</b><br>Male Elbow                                    |
| <br><b>ML</b><br>Live Male Pipe Swivel   | <br><b>FC</b><br>Female Connector | <br><b>FL</b><br>Female Pipe Swivel                         | <br><b>UC</b><br>Union Connector                | <br><b>FN</b><br>Brass Nut              | <br><b>FR</b><br>Plastic Ferrule                               |
| <br><b>SG</b><br>Steel Spring Guard      | <br><b>TS</b><br>Tube Support     | <br><b>NoMar™<br/>Polyurethane<br/>Fast-Stor®<br/>Coils</b> | <br><b>Parflex NoMar Fast-Stor® Accessories</b> | <br><b>Urethane Fast-Stor®<br/>Coil</b> | <br><b>NoMar™<br/>Polyurethane<br/>Fast-Stor®<br/>Fittings</b> |
| <br><b>Male Pipe Rigid</b>              | <br><b>Male Live Swivel</b>      |  |   |  |   |

## Fast-Stor® FSX Air Hose

Parflex Fast-Stor FSX self-retracting air hose assemblies are a lower cost alternative to nylon Fast-Stor assemblies. Manufactured from a proprietary resin, FSX air hose offers high working pressure and excellent coil retention at an economical price.

Note: Product comes fully assembled. Not for use with Fast-Stor compression fittings or spring guards.

Standard color: Safety Yellow

Service temperature range: -40°F to +200°F

- For use in pneumatic applications
- Working pressure of 200 PSI at 73°F
- Live swivel male barbed fittings are standard on both ends.
- Spring guards are included to provide protection from abrasion and kinking.



| Assembly Part Number | Hose I. D. in. | Avg. Wall Thick | Working Length ft. | Fittings Live Swivel Male | Max. Working Pressure at 73°F PSI |
|----------------------|----------------|-----------------|--------------------|---------------------------|-----------------------------------|
| #                    | (O)            |                 |                    |                           | (↑)                               |
| AX412                | 1/4            | .035            | 9                  | 1/4" NPT                  | 200                               |
| AX425                | 1/4            | .035            | 18                 | 1/4" NPT                  | 200                               |
| AX612                | 3/8            | .050            | 9                  | 3/8" NPT                  | 200                               |
| AX625                | 3/8            | .050            | 18                 | 3/8" NPT                  | 200                               |

Hydraulic & Pneumatic Hose & Fit.

PTFE Hose & Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings & Accessories

Truck (Fleet) Products

Tooling & Equipment

Hose Accessories

Technical & Design Information

Approvals & Guides

Alphanumeric Index

## Fast-Stor® Air Hose

Fast-Stor® Self Retracting Air Hose, from Parflex, is manufactured from an extremely tough, abrasion resistant nylon. Fast-Stor® hose has excellent memory characteristics over a wide temperature range for long service life in the most rugged applications. The SAFETY YELLOW color of Fast-Stor® is highly desirable due to U.S. Government OSHA directives.

Service temperature range from -40°F to +200°F (-40°C to +93°C).



## How to order: Fast-Stor Assemblies

### Popular Stock Assemblies

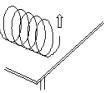
| Assembly Part Number | Fast-Stor Hose I. D. | Total Length of Hose ft. | Usable Length ft. | Fitting End #1 | Fitting End #2 Live Swivel | Max. Working Pressure PSI* | Min. Burst at 73°F |
|----------------------|----------------------|--------------------------|-------------------|----------------|----------------------------|----------------------------|--------------------|
| #                    | (O)                  |                          |                   |                |                            | (↑)                        | (W)                |
| A0312-MC4-ML4        | 3/16                 | 12                       | 9                 | 1/4" MPT       | 1/4" MPT                   | 170                        | 680                |
| A0325-MC4-ML4        | 3/16                 | 25                       | 18                | 1/4" MPT       | 1/4" MPT                   | 170                        | 680                |
| A0350-MC4-ML4        | 3/16                 | 50                       | 38                | 1/4" MPT       | 1/4" MPT                   | 170                        | 680                |
| A0412-MC4-ML4        | 1/4                  | 12                       | 9                 | 1/4" MPT       | 1/4" MPT                   | 170                        | 680                |
| A0425-MC4-ML4        | 1/4                  | 25                       | 18                | 1/4" MPT       | 1/4" MPT                   | 170                        | 680                |
| A0450-MC4-ML4        | 1/4                  | 50                       | 38                | 1/4" MPT       | 1/4" MPT                   | 170                        | 680                |
| A0612-MC6-ML6        | 3/8                  | 12                       | 9                 | 3/8" MPT       | 3/8" MPT                   | 170                        | 680                |
| A0625-MC6-ML6        | 3/8                  | 25                       | 18                | 3/8" MPT       | 3/8" MPT                   | 170                        | 680                |
| A0650-MC6-ML6        | 3/8                  | 50                       | 38                | 3/8" MPT       | 3/8" MPT                   | 170                        | 680                |
| A0812-MC8-ML8        | 1/2                  | 12                       | 9                 | 1/2" MPT       | 1/2" MPT                   | 170                        | 680                |
| A0825-MC8-ML8        | 1/2                  | 25                       | 18                | 1/2" MPT       | 1/2" MPT                   | 170                        | 680                |
| A0850-MC8-ML8        | 1/2                  | 50                       | 38                | 1/2" MPT       | 1/2" MPT                   | 170                        | 680                |

### Bulk Hose

| Assembly Part Number | Hose I. D. | Avg. Wall Thick in. | Hose Length ft. | Master Carton Quality | Coil Min. I. D. | Coil Max. O. D. | Max. Working Pressure PSI* | Min. Burst at 73°F |
|----------------------|------------|---------------------|-----------------|-----------------------|-----------------|-----------------|----------------------------|--------------------|
| #                    | (O)        |                     |                 |                       | (O)             | (O)             | (↑)                        | (W)                |
| FS-03-100            | 3/16       | .023                | 100             | 600                   | 2.0             | 2.5             | 170                        | 680                |
| FS-04-100            | 1/4        | .030                | 100             | 600                   | 3.0             | 3.7             | 170                        | 680                |
| FS-06-100            | 3/8        | .045                | 100             | 400                   | 4.5             | 5.5             | 170                        | 680                |
| FS-08-100            | 1/2        | .062                | 100             | 400                   | 6.5             | 7.8             | 170                        | 680                |
| FS-12-100            | 3/4        | .075                | 100             | 100                   | 12.0            | 14.0            | 170                        | 680                |

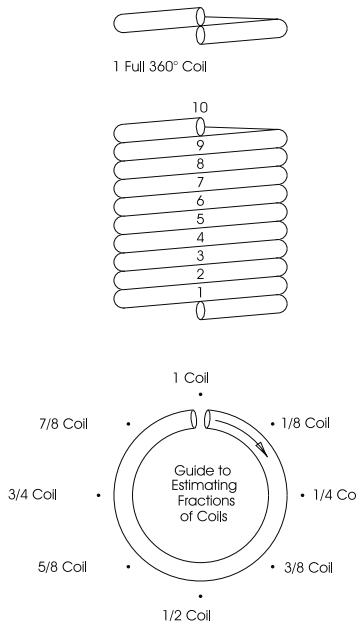
\*Maximum working pressure listed at 75°F or lower and based on safety factor of 4:1 over burst.

Measuring Fast-Stor® hose is quick and easy and may be accomplished by either of two accurate methods:



Position bulk length coils on work table extending away from you, cut-end up in 12:00 o'clock position.

## 1. Counting

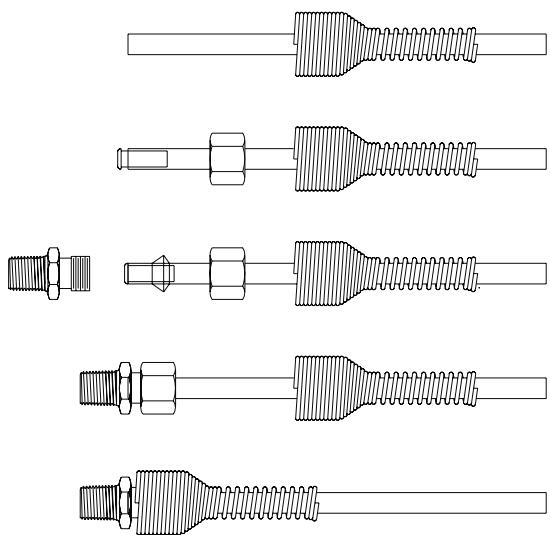


| Total Length of Hose |        | Number of Coils Needed to Obtain Required Net Extended Length +3% |                        |                        |                        |                        |
|----------------------|--------|---|------------------------|------------------------|------------------------|------------------------|
| Feet                 | Inches | 3/16 I. D.<br>Fast-Stor   | 1/4 I. D.<br>Fast-Stor | 3/8 I. D.<br>Fast-Stor | 1/2 I. D.<br>Fast-Stor | 3/4 I. D.<br>Fast-Stor |
| 3                    | 36     | 5-1/8   | 3-1/2                  | 2-1/4                  | 1-5/8                  | 7/8                    |
| 5                    | 60     | 8-1/2   | 5-3/4                  | 3-7/8                  | 2-5/8                  | 1-1/2                  |
| 7                    | 84     | 12  | 8-1/8                  | 5-3/4                  | 3-3/4                  | 1-1/8                  |
| 10                   | 120    | 17-1/8  | 11-1/2                 | 7-3/4                  | 5-3/8                  | 3                      |
| 12                   | 144    | 20-1/2  | 13-7/8                 | 9-1/4                  | 6-1/2                  | 3-1/2                  |
| 15                   | 180    | 25-3/4  | 17-3/8                 | 11-1/2                 | 8                      | 4-1/2                  |
| 16                   | 192    | 27-3/8  | 18-1/2                 | 12-3/8                 | 8-5/8                  | 4-3/4                  |
| 17                   | 204    | 29-1/8  | 19-5/8                 | 13-1/8                 | 9-1/8                  | 5                      |
| 19                   | 216    | 30-7/8  | 20-3/4                 | 13-7/8                 | 9-5/8                  | 5-3/8                  |
| 20                   | 240    | 34-1/4  | 23-1/8                 | 15-3/8                 | 10-3/4                 | 6                      |
| 25                   | 300    | 42-7/8  | 28-7/8                 | 19-1/4                 | 13-3/8                 | 7-1/2                  |
| 30                   | 360    | 51-3/8  | 34-5/8                 | 23-1/8                 | 16-1/8                 | 8-7/8                  |
| 33                   | 396    | 56-1/2  | 38-1/8                 | 25-3/8                 | 17-3/4                 | 9-3/4                  |
| 50                   | 600    | 85-5/8  | 57-3/4                 | 38-1/2                 | 26-7/8                 | 14-7/8                 |

## 2. Division into Even Numbers of Lengths

Bulk retracted lengths of Fast-Stor® hose are always exactly 100 feet long when shipped from factory. Some diameter expansion of the coils may have occurred in shipment due to temperature and storage conditions. This may appear to have shortened a given 100' retracted length slightly in relation to other 100' retracted lengths in the same master carton. The shorter appearance should not be mistaken for any actual shortage in extended length. A bulk retracted length may be easily divided into smaller lengths by first measuring the tightly retracted length in inches, and dividing by 4 to determine the cut off length for 25 feet, by 3 for 33 feet, by 8 for 12-1/2 feet, etc. Pieces should be tagged with their proper length before returning to storage.

## How to Assemble Fast-Stor Hose



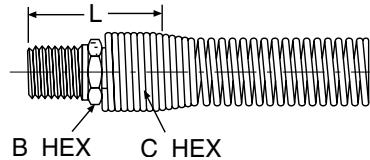
1. Using a Parker Model 316 cutoff tool, Parflex PHC hand cutter or other sharp cutter, cut hose squarely to correct length.
2. Install SG spring guard on hose as shown. A guard is not required on size -12 hose.
3. Slide FN nut on hose and insert TS tube support.
4. Slide FR plastic ferrule over hose with taper side toward cut end of hose. Size -12 hose uses a brass ferrule and requires the hose end to be dipped in clean water for lubrication.
5. Push hose into fitting body until bottomed. Slide nut and ferrule up to fitting body and tighten nut by hand. With a wrench, tighten the nut additional 2 to 2-1/2 turns.
6. Slide spring guard over nut until the lead coil snaps between the nut and fitting body hex.

## Fittings

Fittings for Fast-Stor® hose are heavy duty brass construction with built in insert-supports. Fitting bodies are SAE Standard sizes. Hose entry length into the fittings is the longest in the industry due to Parflex's SAE body design and size standardization, assuring a strong grip on the hose.

All fitting part numbers include body, nut, ferrule and spring guard. For body only use Prefix B.

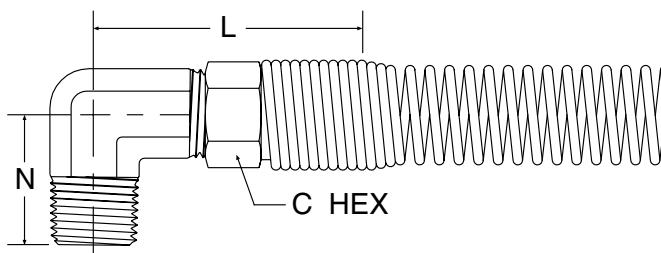
### MC - Male Connector



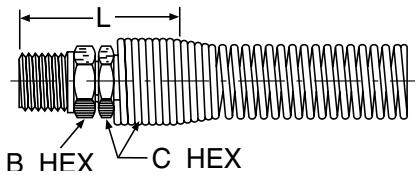
| Part Number | Hose I.D. | End Type     | End Size | L       | B Hex | C Hex | Box Quantity |
|-------------|-----------|--------------|----------|---------|-------|-------|--------------|
| #           | (O)       |              |          |         |       |       |              |
| MC-03-2     | 3/16      | MPT-Straight | 1/8 MPT  | 1-3/8   | 9/16  | 1/2   | 20           |
| MC-03-4     | 3/16      | MPT-Straight | 1/4 MPT  | 1-9/16  | 9/16  | 1/2   | 20           |
| MC-04-2     | 1/4       | MPT-Straight | 1/8 MPT  | 1-3/8   | 9/16  | 9/16  | 20           |
| MC-04-4     | 1/4       | MPT-Straight | 1/4 MPT  | 1-9/16  | 9/16  | 9/16  | 20           |
| MC-06-6     | 3/8       | MPT-Straight | 3/8 MPT  | 1-13/16 | 11/16 | 13/16 | 20           |
| MC-08-6     | 1/2       | MPT-Straight | 3/8 MPT  | 2-1/8   | 7/8   | 15/16 | 20           |
| MC-08-8     | 1/2       | MPT-Straight | 1/2 MPT  | 2-1/8   | 7/8   | 15/16 | 20           |
| *MC-12-12   | 3/4       | MPT-Straight | 3/4 MPT  | 2-1/4   | 1-1/4 | 1-3/8 | 10           |

\* No Spring Guard Required.

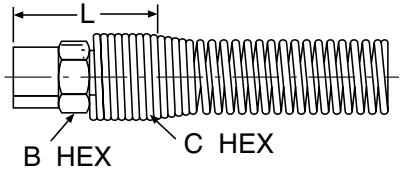
### ME - Male Elbow



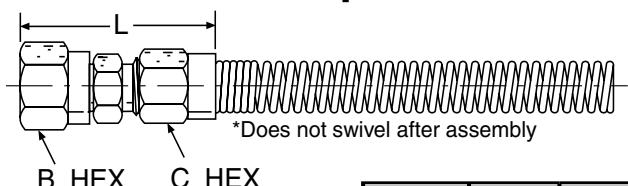
| Part Number | Hose I.D. | End Type       | End Size | L       | N     | C Hex | Box Quantity |
|-------------|-----------|----------------|----------|---------|-------|-------|--------------|
| #           | (O)       |                |          |         |       |       |              |
| ME-03-4     | 3/16      | 90° Male Elbow | 1/4 MPT  | 1-1/4   | 15/16 | 9/16  | 20           |
| ME-04-4     | 1/4       | 90° Male Elbow | 1/4 MPT  | 1-13/16 | 15/16 | 9/16  | 20           |
| ME-06-6     | 3/8       | 90° Male Elbow | 3/8 MPT  | 1-9/16  | 1-1/8 | 13/16 | 20           |
| ME-08-8     | 1/2       | 90° Male Elbow | 1/2 MPT  | 1-3/4   | 1-3/8 | 15/16 | 20           |

**ML - Live Male Pipe Swivel**

| Part Number | Hose I.D. | End Type        | End Size | L      | B Hex | C Hex | Box Quantity |
|-------------|-----------|-----------------|----------|--------|-------|-------|--------------|
| #           | (O)       |                 |          |        |       |       |              |
| ML-03-4     | 3/16      | MPT Live Swivel | 1/4 MPT  | 1-1/16 | 9/16  | 1/2   | 20           |
| ML-04-4     | 1/4       | MPT Live Swivel | 1/4 MPT  | 1-9/16 | 9/16  | 9/16  | 20           |
| ML-06-6     | 3/8       | MPT Live Swivel | 3/8 MPT  | 1-7/8  | 3/4   | 13/16 | 20           |
| ML-08-8     | 1/2       | MPT Live Swivel | 1/2 MPT  | 2-3/8  | 7/8   | 15/16 | 20           |

**FC Female Connector**

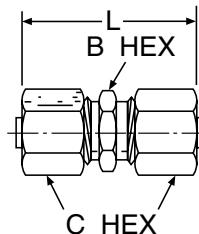
| Part Number | Hose I.D. | End Type        | End Size | L      | B Hex | C Hex | Box Quantity |
|-------------|-----------|-----------------|----------|--------|-------|-------|--------------|
| #           | (O)       |                 |          |        |       |       |              |
| FC-04-4     | 1/4       | Female Pipe FPT | 1/4 FPT  | 1-9/16 | 11/16 | 9/16  | 10           |
| FC-06-6     | 3/8       | Female Pipe FPT | 3/8 FPT  | 1-3/4  | 13/15 | 13/16 | 10           |

**FL - \*Female Pipe Swivel**

| Part Number | Hose I.D. | End Type               | End Size | L     | B Hex | C Hex | Box Quantity |
|-------------|-----------|------------------------|----------|-------|-------|-------|--------------|
| #           | (O)       |                        |          |       |       |       |              |
| FL-04-4     | 1/4       | Female NPSM 30° Swivel | 1/4 NPSM | 1-3/4 | 5/8   | 9/16  | 20           |
| FL-06-6     | 3/8       | Female NPSM 30° Swivel | 3/8 NPSM | 2-1/8 | 3/4   | 9/16  | 10           |

Does not swivel after assembly

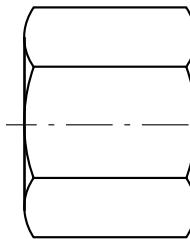
## UC Union Connector



| Part Number | Hose I.D. | End Type        | End Size             | L     | B Hex | C Hex | Box Quantity |
|-------------|-----------|-----------------|----------------------|-------|-------|-------|--------------|
| #           | (O)       |                 |                      |       |       |       |              |
| UC-04-4     | 1/4       | Union Connector | 1/4 x 1/4 I. D. Hose | 1-7/8 | 1/2   | 9/16  | 10           |
| UC-06-6     | 3/8       | Union Connector | 3/8 x 3/8 I. D. Hose | 2-5/8 | 11/16 | 13/16 | 10           |

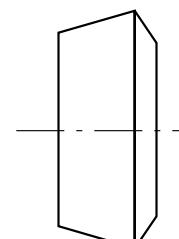
## Replacement Parts

### FN - Brass Nut



| Part Number | Hose I.D. | Box Quantity |
|-------------|-----------|--------------|
| #           | (O)       |              |
| FN-03       | 3/16      | 20           |
| FN-04       | 1/4       | 20           |
| FN-06       | 3/8       | 20           |
| FN-08       | 1/2       | 20           |

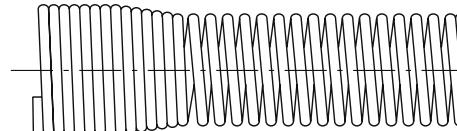
### FR - Plastic Ferrule



| Part Number | Hose I.D. | Box Quantity |
|-------------|-----------|--------------|
| #           | (O)       |              |
| FR-03       | 3/16      | 50           |
| FR-04       | 1/4       | 50           |
| FR-06       | 3/8       | 30           |
| FR-08       | 1/2       | 20           |
| FR-12*      | 3/4       | 10           |

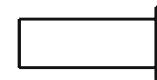
\*Available in brass only

### SG - Steel Spring Guard



| Part Number | Hose I.D. | Box Quantity |
|-------------|-----------|--------------|
| #           | (O)       |              |
| SG-03       | 3/16      | 20           |
| SG-04       | 1/4       | 20           |
| SG-06       | 3/8       | 20           |
| SG-08       | 1/2       | 20           |

### TS - Tube Support



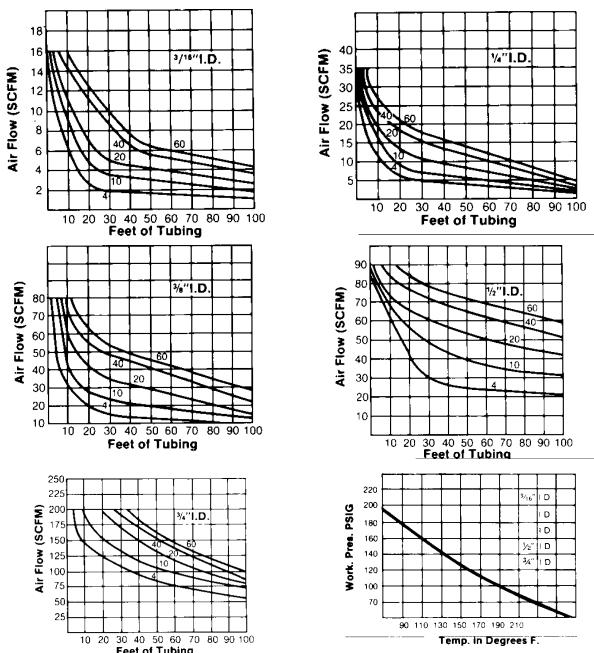
| Part Number | Hose I.D. | Box Quantity |
|-------------|-----------|--------------|
| #           | (O)       |              |
| TS-03       | 3/16      | 100          |
| TS-04       | 1/4       | 100          |
| TS-06       | 3/8       | 100          |
| TS-08       | 1/2       | 100          |

## Size Selection Procedure

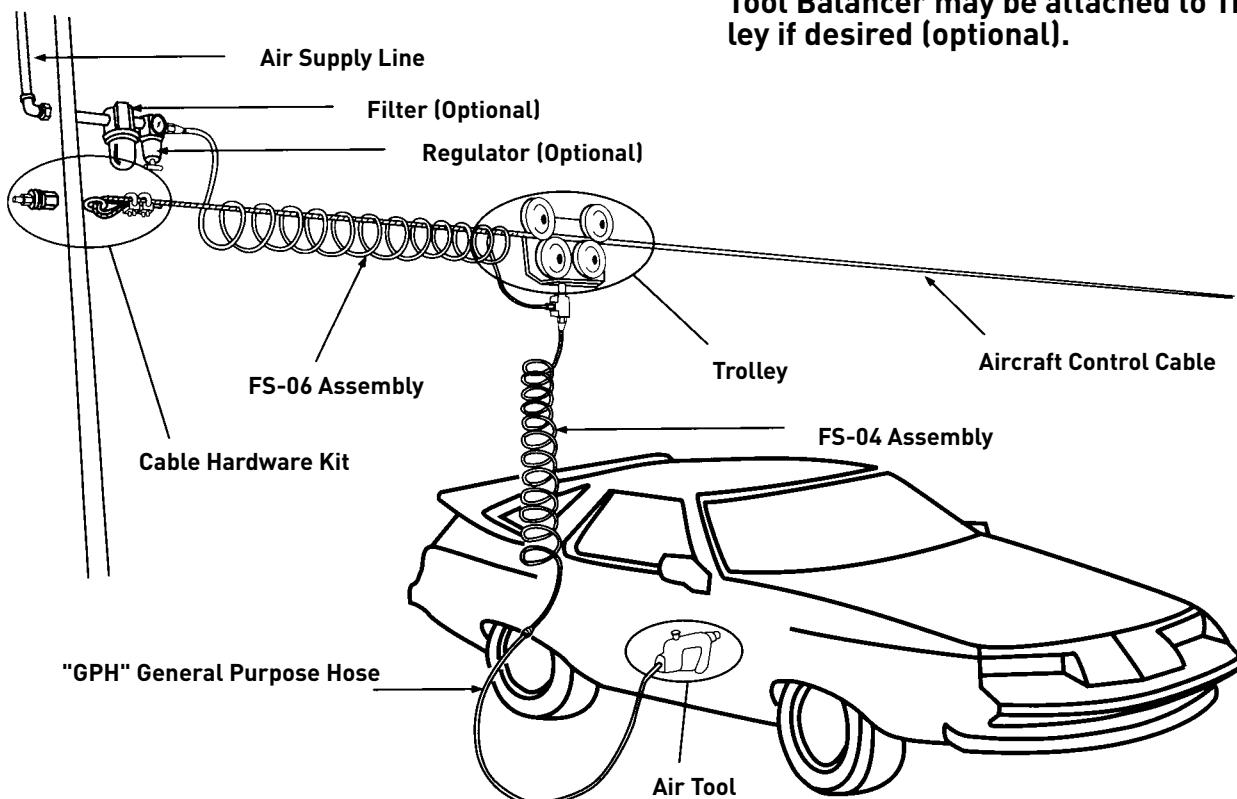
Proper size selection is extremely important in choosing any air hose in order to prevent "starvation" of the air tool, and to insure maximum torque and tool speed. Starved tools don't produce!

Steps in size selection:

- Determine air flow rate and pressure required by following air-tool manufacturers recommendations.
- Refer to "Air Flow Characteristics" Graphs, shown at right. Find air flow requirement in standard cubic feet per minute (SCFM) on vertical line to left of graph. Now follow horizontal line on same graph to determine total extended length of hose required. Follow vertical line above hose length to intersection with the horizontal air flow SCFM line.
- Note pressure drop above curve nearest to intersection of SCFM and hose length lines. Pressure drop, subtracted from line pressure, equals "available pressure" at the selected SCFM flow rate and hose length.
- If "available pressure" is below the tool manufacturers' recommendations, refer to chart for successively larger hose sizes until an acceptable "available pressure" is found. Choose this size Fast-Stor® Air Hose for your application.
- Refer to "working pressure vs. temperature" chart to be sure your application falls within the working range of Fast-Stor® Air Hose.



## Typical Fast-Stor® Installation



**Air Line Lubricator and/or Reel Type Tool Balancer may be attached to Trolley if desired (optional).**

Hydraulic & Pneumatic Hose & Fit.

PTFE Hose & Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings & Accessories

Truck (Fleet) Products

Tooling & Equipment

Hose Accessories

Technical & Design Information

Approvals & Guides

Alphanumeric Index

# Parflex NoMar™ Fast-Stor® Assemblies

## How to order:

### Urethane Fast-Stor® Assemblies

Includes live male end and rigid male end



| Assembly Part Number | Hose O. D. in.         | Hose I. D. in.         | Working Length ft. | Coil I. D. in.         | Max. Working Pressure PSI at 73°F  | Min. Burst at 73°F      | End Fittings |
|----------------------|------------------------|------------------------|--------------------|------------------------|------------------------------------|-------------------------|--------------|
| #                    | (Diagram of Hose O.D.) | (Diagram of Hose I.D.) |                    | (Diagram of Coil I.D.) | (Diagram of Max. Working Pressure) | (Diagram of Min. Burst) |              |
| AUFS-32-TBLU-010*    | 3/16                   | 1/8                    | 10                 | 3/4                    | 125                                | 375                     | 1/8" NPT     |
| AUFS-32-TBLU-025*    | 3/16                   | 1/8                    | 25                 | 3/4                    | 125                                | 375                     | 1/8" NPT     |
| AUFS-42-TBLU-010     | 1/4                    | 1/8                    | 10                 | 3/4                    | 125                                | 375                     | 1/4" NPT     |
| AUFS-42-TBLU-025     | 1/4                    | 1/8                    | 25                 | 3/4                    | 125                                | 375                     | 1/4" NPT     |
| AUFS-64-TBLU-010     | 3/8                    | 1/4                    | 10                 | 1-1/4                  | 125                                | 375                     | 1/4" NPT     |
| AUFS-64-TBLU-015     | 3/8                    | 1/4                    | 15                 | 1-1/4                  | 125                                | 375                     | 1/4" NPT     |
| AUFS-64-TBLU-020     | 3/8                    | 1/4                    | 20                 | 1-1/4                  | 125                                | 375                     | 1/4" NPT     |
| AUFS-64-TBLU-025     | 3/8                    | 1/4                    | 25                 | 1-1/4                  | 125                                | 375                     | 1/4" NPT     |
| AUFS-85-TBLU-010     | 1/2                    | 21/64                  | 10                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-85-TBLU-015     | 1/2                    | 21/64                  | 15                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-85-TBLU-020     | 1/2                    | 21/64                  | 20                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-85-TBLU-025     | 1/2                    | 21/64                  | 25                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-86-TBLU-010     | 1/2                    | 3/8                    | 10                 | 2-1/2                  | 85                                 | 255                     | 3/8" NPT     |
| AUFS-86-TBLU-020     | 1/2                    | 3/8                    | 20                 | 2-1/2                  | 85                                 | 255                     | 3/8" NPT     |
| AUFS-96-TBLU-010     | 9/16                   | 3/8                    | 10                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-96-TBLU-015     | 9/16                   | 3/8                    | 15                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-96-TBLU-020     | 9/16                   | 3/8                    | 20                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-96-TBLU-025     | 9/16                   | 3/8                    | 25                 | 2-1/2                  | 125                                | 375                     | 3/8" NPT     |
| AUFS-128-TBLU-010+   | 3/4                    | 1/2                    | 10                 | 3                      | 125                                | 375                     | 1/2" NPT     |
| AUFS-128-TBLU-015+   | 3/4                    | 1/2                    | 15                 | 3                      | 125                                | 375                     | 1/2" NPT     |
| AUFS-128-TBLU-020+   | 3/4                    | 1/2                    | 20                 | 3                      | 125                                | 375                     | 1/2" NPT     |
| AUFS-128-TBLU-025+   | 3/4                    | 1/2                    | 25                 | 3                      | 125                                | 375                     | 1/2" NPT     |

Pigtail Lengths - 16" swivel end, 8" rigid end. Size -32 comes standard with two rigid ends.

Standard color is transparent blue (-TBLU). Other sizes and colors available upon request. Consult factory.

\*Assembly includes rigid mate end on both ends; live male ends not available.

+Permanent crimped shell.

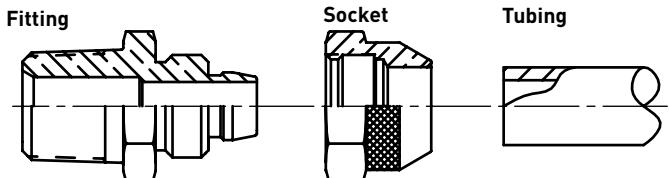
## Urethane Fast-Stor® Coils

Pigtail Lengths - 16" End #1, 8" End #2  
 Standard color is transparent blue (-TBLU).  
 Other sizes and colors available upon request.  
 Consult factory.



| Assembly Part Number | Hose O. D. in. | Hose I. D. in. | Working Length ft. | Coil I. D. in. | Max. Working Pressure PSI at 73°F | Min. Burst PSI at 73°F |
|----------------------|----------------|----------------|--------------------|----------------|-----------------------------------|------------------------|
| #                    | (Diagram)      | (Diagram)      |                    | (Diagram)      | (Diagram)                         | (Diagram)              |
| UFS-32-TBLU-010      | 3/16           | 1/8            | 10                 | 3/4            | 125                               | 375                    |
| UFS-32-TBLU-025      | 3/16           | 1/8            | 25                 | 3/4            | 125                               | 375                    |
| UFS-42-TBLU-010      | 1/4            | 1/8            | 10                 | 3/4            | 125                               | 375                    |
| UFS-42-TBLU-025      | 1/4            | 1/8            | 25                 | 3/4            | 125                               | 375                    |
| UFS-64-TBLU-010      | 3/8            | 1/4            | 10                 | 1-1/4          | 125                               | 375                    |
| UFS-64-TBLU-015      | 3/8            | 1/4            | 15                 | 1-1/4          | 125                               | 375                    |
| UFS-64-TBLU-020      | 3/8            | 1/4            | 20                 | 1-1/4          | 125                               | 375                    |
| UFS-64-TBLU-025      | 3/8            | 1/4            | 25                 | 1-1/4          | 125                               | 375                    |
| UFS-85-TBLU-010      | 1/2            | 21/64          | 10                 | 2-1/2          | 125                               | 375                    |
| UFS-85-TBLU-015      | 1/2            | 21/64          | 15                 | 2-1/2          | 125                               | 375                    |
| UFS-85-TBLU-020      | 1/2            | 21/64          | 20                 | 2-1/2          | 125                               | 375                    |
| UFS-85-TBLU-025      | 1/2            | 21/64          | 25                 | 2-1/2          | 125                               | 375                    |
| UFS-86-TBLU-010      | 1/2            | 3/8            | 10                 | 2-1/2          | 85                                | 255                    |
| UFS-86-TBLU-020      | 1/2            | 3/8            | 20                 | 2-1/2          | 85                                | 255                    |
| UFS-96-TBLU-010      | 9/16           | 3/8            | 10                 | 2-1/2          | 125                               | 375                    |
| UFS-96-TBLU-015      | 9/16           | 3/8            | 15                 | 2-1/2          | 125                               | 375                    |
| UFS-96-TBLU-020      | 9/16           | 3/8            | 20                 | 2-1/2          | 125                               | 375                    |
| UFS-128-TBLU-010     | 3/4            | 1/2            | 10                 | 3              | 125                               | 375                    |
| UFS-128-TBLU-015     | 3/4            | 1/2            | 15                 | 3              | 125                               | 375                    |
| UFS-128-TBLU-020     | 3/4            | 1/2            | 20                 | 3              | 125                               | 375                    |
| UFS-128-TBLU-025     | 3/4            | 1/2            | 25                 | 3              | 125                               | 375                    |

Dimensions in inches.



### Assembly Instructions

1. Slide the socket on the tubing with threads facing the end of the tubing.
2. Press the tubing over the Tube Support portion of the fitting until the tube bottoms out. Do not use a lubricant.
3. Push the socket up to meet the mating threads on the fitting, finger tighten the socket onto the fitting.
4. Tighten the fitting and socket until the fitting hex and socket hex meet.

Hydraulic &  
Pneumatic Hose & Fit.

PTFE Hose & Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings & Accessories

Truck (Fleet) Products

Tooling & Equipment

Hose Accessories

Technical & Design Information

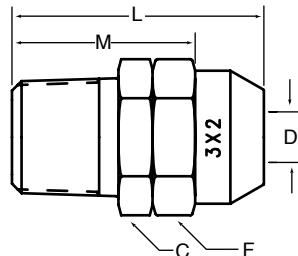
Approvals & Guides

Alphanumeric Index

## Fittings

### Male Pipe Rigid

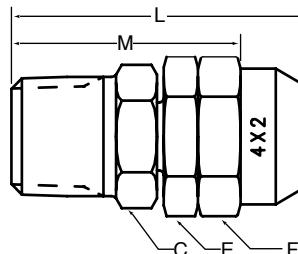
Parflex NoMar Polyurethane Fast-Stor® fittings are manufactured from a heavy brass construction utilizing all standards NPTF pipe threads. The engineered barb design generates the maximum gripping and sealing power when combined with the socket.



| Part Number | Hose Part Number | Thread Size | L    | M Cutoff | D I. D. | C Hex | F Hex |
|-------------|------------------|-------------|------|----------|---------|-------|-------|
| #           | #                | ~~~~~       |      |          | (O)     | Hex   | Hex   |
| MCB-3x2-2   | UFS-32           | 1/8 NPT     | 0.94 | 0.72     | 0.11    | 7/16  | 7/16  |
| MCB-4x2-2   | UFS-42           | 1/8 NPT     | 1.00 | 0.74     | 0.12    | 7/16  | 7/16  |
| MCB-4x2-4   | UFS-42           | 1/4 NPT     | 1.16 | 0.90     | 0.12    | 9/16  | 7/16  |
| MCB-6x4-4   | UFS-64           | 1/4 NPT     | 1.16 | 0.90     | 0.23    | 5/8   | 5/8   |
| MCB-6x4-6   | UFS-64           | 3/8 NPT     | 1.20 | 0.94     | 0.23    | 3/4   | 5/8   |
| MCB-8x5-6   | UFS-85           | 3/8 NPT     | 1.29 | 0.99     | 0.27    | 3/4   | 3/4   |
| MCB-8x6-4   | UFS-86           | 1/4 NPT     | 1.29 | 1.03     | 0.28    | 3/4   | 3/4   |
| MCB-8x6-6   | UFS-86           | 3/8 NPT     | 1.30 | 1.04     | 0.34    | 3/4   | 3/4   |
| MCB-9x6-6   | UFS-96           | 3/8 NPT     | 1.47 | 1.10     | 0.31    | 7/8   | 7/8   |
| MCB-9x6-8   | UFS-96           | 1/2 NPT     | 1.61 | 1.24     | 0.32    | 7/8   | 7/8   |

For 3/4" size fitting offering, consult the factory for availability and assembly procedures.

## Male Live Swivel



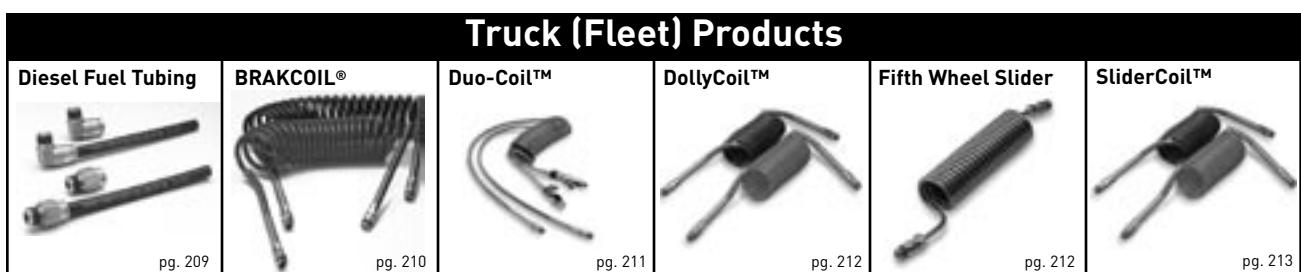
| Part Number | Hose Part Number | Thread Size | L    | M Cutoff | D I. D. | C Hex | E Hex | F Hex |
|-------------|------------------|-------------|------|----------|---------|-------|-------|-------|
| #           | #                | ~~~~~       |      |          | (O)     | Hex   | Hex   | Hex   |
| MLB-4x2-4   | UFS-42           | 1/4 NPT     | 1.37 | 1.110    | 0.12    | 9/16  | 7/16  | 9/16  |
| MLB-6x4-4   | UFS-64           | 1/4 NPT     | 1.37 | 1.110    | 0.22    | 9/16  | 5/8   | 5/8   |
| MLB-6x4-6   | UFS-64           | 3/8 NPT     | 1.58 | 1.320    | 0.23    | 3/4   | 5/8   | 5/8   |
| MLB-8x5-6   | UFS-85           | 3/8 NPT     | 1.68 | 1.380    | 0.27    | 3/4   | 3/4   | 3/4   |
| MLB-8x6-6   | UFS-86           | 3/8 NPT     | 1.71 | 1.450    | 0.33    | 3/4   | 3/4   | 3/4   |
| MLB-9x6-6   | UFS-96           | 3/8 NPT     | 1.87 | 1.500    | 0.31    | 3/4   | 7/8   | 7/8   |
| MLB-9x6-8   | UFS-96           | 1/2 NPT     | 1.95 | 1.580    | 0.31    | 15/16 | 7/8   | 7/8   |

For 3/4" size fitting offering, consult the factory for availability and assembly procedures.

## Truck (Fleet) Products

|                                  |     |
|----------------------------------|-----|
| Visual Index .....               | 207 |
| Air Brake Tubing .....           | 208 |
| Parflex Diesel Fuel Tubing ..... | 209 |
| BRAKCOIL® .....                  | 210 |
| Duo-Coil™ .....                  | 211 |
| DollyCoil™ .....                 | 212 |
| Fifth Wheel Slider Coil .....    | 212 |
| SliderCoil™ .....                | 213 |
| Harness & Bundles .....          | 214 |

## Truck (Fleet) Products Visual Index



# Air Brake Tubing

**Parflex Tubing** – Nylon tubing designed for use in tractor, trailer and other mobile air brake, instrumentation and air accessory systems. Meets SAE specification J844 Type A or B, D.O.T. FMVSS106, and performance requirements as specified in SAE specification J1131.

- 100% quality controlled – 100% pressure tested.
- Saves weight and labor in comparison with copper tubing.
- Heat and light stabilized.
- Colors available: Black, red, blue, green, orange, yellow, brown, silver, purple, white.

## PFT Type A



Heat and light stabilized seamless single wall extruded nylon tubing, available in sizes 1/8 (-2), 5/32 (-2.5), 3/16 (-3), 1/4 (-4) and 5/16 (-5).

This tubing conforms to SAE specification J844 type A. The A refers to nonreinforced tubing.

**Temperature Range:** -40°F to +200°F (-40°C to +93°C).

**Maximum Working Pressure:** 150 PSI.

Meets D.O.T. FMVSS 106 (Sizes 2 and 2.5 not listed in FMVSS 106).

## PFT Type B



Heat and light stabilized seamless extruded nylon core reinforced with one open ply of fibrous reinforcement and a protective nylon cover sheath. The outer cover and core are fused to minimize leakage and maximize impact resistance and are always of contrasting colors.

This tubing conforms to SAE specification J844 type B. The B refers to reinforced tubing.

**Temperature Range:** -40°F to +200°F (-40°C to +93°C).

-70°F to +200°F (-56.6°C to +93°C) for PFT-8B coiled air brake tubing.

**Maximum Working Pressure:** 150 PSI.

Meets D.O.T. FMVSS 106.

| Tubing Type | Part Number | Std. Reel Length ft. | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Nom. Wall Thick in. | Min. Bend Radius in. | Min. Burst Pressure at 75°F PSI | Weight lbs. Per 100 ft. |
|-------------|-------------|----------------------|---------------------|---------------------|---------------------|----------------------|---------------------------------|-------------------------|
|             | #           |                      |                     |                     |                     |                      |                                 |                         |
| A           | PFT-2A      | 1000                 | 1/8                 | .079                | .023                | 3/8                  | 1000                            | .34                     |
| A           | PFT-2.5A    | 250                  | 5/32                | .092                | .032                | 1/2                  | 1200                            | .57                     |
| A           | PFT-3A      | 1000                 | 3/16                | .118                | .035                | 3/4                  | 1200                            | .77                     |
| A           | PFT-4A      | 1000                 | 1/4                 | .170                | .040                | 1                    | 1200                            | 1.21                    |
| A           | PFT-5A      | 500                  | 5/16                | .232                | .040                | 1-1/4                | 1000                            | 1.57                    |
| B           | PFT-6B      | 500                  | 3/8                 | .251                | .062                | 1-1/2                | 1400                            | 2.71                    |
| B           | PFT-8B      | 500                  | 1/2                 | .376                | .062                | 2                    | 950                             | 3.89                    |
| B           | PFT-10B     | 250                  | 5/8                 | .441                | .092                | 2-1/2                | 900                             | 7.04                    |
| B           | PFT-12B     | 250                  | 3/4                 | .566                | .092                | 3                    | 800                             | 8.57                    |

## Air Brake Fittings

NTA, push-in, and AB brass all available from:

Parker Brass Products Division  
Otsego, Michigan  
(616) 694-9411

# Parflex Diesel Fuel Tubing

**Parflex FL Tubing** – Nylon tubing designed for use in tractor, trailer and other mobile fuel systems.

- Heat and light stabilized.
- 100% quality controlled – 100% pressure tested.
- Saves weight and labor in comparison with hose and hardline tubing.
- For use in D.O.T. diesel fuel applications.
- For use with Parker Prestomatic diesel fuel fittings.
- **Do not exceed temperature and pressure ranges.**

## Diesel Fuel Tubing



Heat and light stabilized seamless extruded nylon core reinforced with fibrous reinforcement and bonded with a protective blue nylon cover sheath.

**Temperature Range:** -40°F to +200°F (-40°C to +93°C).

**Maximum Working Pressure:** 150 PSI.

Contact Parflex Division for application review.



| Part Number        | Reel Length ft. | Nom. Tube O. D. in. | Nom. Tube I. D. in. | Min. Bend Radius in. | Weight lbs. Per 100 ft. |
|--------------------|-----------------|---------------------|---------------------|----------------------|-------------------------|
| #                  |                 | (○)                 | (○)                 | (*)                  | (kg)                    |
| PFT-4A-XXX-1000-FL | 1000            | .125                | .170                | 1.00                 | 1.21                    |
| PFT-6B-XXX-500-FL  | 500             | .188                | .251                | 1-1/2                | 2.71                    |
| PFT-8B-XXX-500-FL  | 500             | .250                | .376                | 2                    | 3.89                    |
| PFT-10B-XXX-250-FL | 250             | .313                | .441                | 2-1/2                | 7.04                    |
| PFT-12B-XXX-250-FL | 250             | .375                | .566                | 3                    | 8.57                    |

XXX represents color code.

Standard color: blue (BLU).

Consult Division for additional colors.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

# BRAKCOIL®

## Tractor to Trailer Coiled Nylon Air-Brake Connections

You get it all with Parker BRAKCOIL® – designed for just about any tractor/trailer air-brake application you will need for trouble-free service on your rig.

Parker BRAKCOIL® offers you these other features and advantages:

- The best cold temperature warranty in the business.
- Years of city delivery and line haul testing.
- Maintenance-free performance.
- Heavy duty plated spring guards that are rust resistant for added protection.
- More coils offer you maximum working lengths.
- No need for pogo sticks or spring hangers.
- Color coding gives you mistake-free hook-ups – blue for service, red for emergency.
- **Temperature range:** Meets or exceeds SAE J844 and D.O.T. FMVSS 106 specifications at -40°F to +200°F. In addition, Parker has tested and approved this product for -70°F to +200°F.
- Wide selection of configurations to suit any rig connections needed.
- Extended BRAKCOIL® handle available, part No. 771164.

When you need to replace your air-brake line . . . get it all with Parker BRAKCOIL®.



### How to Order:

BRAKCOIL® kits are supplied complete – **Parker pre-assembled**, with everything needed, including spring guards and male pipe NTA brass fittings, **ready to install**. Special pipe thread sealant is factory applied. No cutting or assembly necessary. Just attach the gladhand to either end. They are available in kits or as separate lines. A kit consists of both a red and blue tube assembly.

| Kit<br>Coil<br>Number    | Individual<br>Coil<br>Part<br>Number | Tube<br>O. D. | Valve<br>Tail<br>Length<br>in. | Brass Male Ends<br>(NPT) |          | Working<br>Length | Number<br>of Coils | Application                |
|--------------------------|--------------------------------------|---------------|--------------------------------|--------------------------|----------|-------------------|--------------------|----------------------------|
|                          |                                      |               |                                | Valve                    | Gladhand |                   |                    |                            |
| #                        | #                                    | ○○            |                                |                          |          |                   |                    |                            |
| 731516                   | 731512-Red<br>731512-Blue            | -8            | 12                             | 1/2                      | 1/2      | 15'               | 21-1/2             | Tractor to Trailer         |
| 751597                   | 731611-Red<br>731611-Blue            | -8            | 12                             | 3/8                      | 1/2      | 15'               | 21-1/2             | Tractor to Trailer         |
| 731522                   | 731513-Red<br>731513-Blue            | -8            | 40                             | 1/2                      | 1/2      | 15'               | 21-1/2             | Tractor to Trailer         |
| 741526                   | 731612-Red<br>731612-Blue            | -8            | 40                             | 3/8                      | 1/2      | 15'               | 21-1/2             | Tractor to Trailer         |
| 751641                   | 741590-Red<br>741590-Blue            | -8            | 6                              | 1/2                      | 1/2      | 12'               | 18-1/2             | Tractor to Trailer         |
| 751655                   | 751656-Blk<br>Black Only             | -8            | 6                              | 3/8                      | 1/2      | 12'               | 18-1/2             | Tractor to Trailer         |
| Fifth<br>Wheel<br>Slider | 811537                               | -4            | —                              | —                        | —        | 54"               | —                  | Fifth Wheel<br>Slider Coil |

## Duo-Coil™ Features

Newly designed Parker Duo-Coil combines both tractor-to-trailer lines (service and emergency) into a strong single unit. The specially designed Duo-Coil will provide years of trouble-free service.

### Parker Duo-Coil has built in the following features:

- Reverse winding of the coiled air brake lines eliminates the possibility of tangling.
- Installation swivel fittings make hook-up a snap.
- The inner red emergency coil is wound inside the blue service coil offering added protection to the driver.
- The single unit provides clean and neat installation.
- Parker product testing for -70°F to +200°F provides performance confidence at low temperatures as well as the best cold temperature warranty in the business.

## Application

The right connection for quick, trouble-free hook-up between your tractor and trailer. Whether it's an extended trailer with outboard valve ports on the chassis or high or low air ports on the cab, Parker Duo-Coil has the right configuration for your rig.\*

- \* Parker Duo-Coil assemblies fully comply with D.O.T. requirements covering coiled nylon brake tubing as stated in Chapter III—Federal Highway Administration, Department of Transportation, Subchapter B – Motor Carrier Safety Regulations (Docket No. MC-41; Notice No. 73-9), Part 393—Parts and Accessories Necessary for Safe Operation.

## How to Order:

Duo-Coil kits are supplied complete—**Parker pre-assembled**, with everything needed, including spring guards and pipe end NTA fittings, **ready to install**. Special pipe thread sealant is factory applied. No cutting or fitting assembly is necessary. Just attach the gladhand to either end. Nylon tubing used in Duo-Coil conforms to SAE J844d (Revision c), Type 3B (3B refers to reinforced tubing).

| Kit<br>Coil<br>Number | Tube<br>O. D. | Valve<br>Tail | Brass Male Ends<br>(NPT) |          | Working<br>Length<br>ft. | Number<br>of Coils |
|-----------------------|---------------|---------------|--------------------------|----------|--------------------------|--------------------|
|                       |               |               | Valve                    | Gladhand |                          |                    |
| #                     | ○             |               |                          |          |                          |                    |
| 801048                | -8            | 12            | 1/2                      | 1/2      | 15                       | 21-1/2             |
| 801632                | -8            | 6             | 1/2                      | 1/2      | 12                       | 18-1/2             |
| 801595                | -8            | 40            | 1/2                      | 1/2      | 15                       | 21-1/2             |



Note: Gladhands not supplied.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

For information on additional truck and trailer products, call or write for the Parker Fleet Products Catalog 4453.



## DollyCoil™

The Parker DollyCoil is used between double trailers on converter dollies. No need to install springs or hangers as DollyCoil will retract to its original shape time and time again – even after long periods of extended use. Standard working lengths are 6 feet. Parker DollyCoil assemblies fully comply with D.O.T. requirements covering coiled nylon brake tubing as stated in Chapter III – Federal Highway Administration, Department of Transportation, Subchapter B – Motor Carrier Safety Regulations (Docket No. MC-41; Notice No. 73-9), Part 393 – Parts and Accessories Necessary for Safe Operation.



### How to Order:

DollyCoil kits are supplied complete – **Parker pre-assembled**, with everything needed, including spring guards and male pipe end NTA fittings, **ready to install**. Special pipe thread sealant is factory applied. No cutting or assembly necessary. Just attach the gladhand to either end. They are available in kits or as separate lines. A kit consists of both a red and blue tube assembly.

| Kit Coil Number | Tube O. D. | Valve Tail | Brass Male Ends (NPT) |                   | Working Length Range ft. | Number of Coils | Application      | Color     |
|-----------------|------------|------------|-----------------------|-------------------|--------------------------|-----------------|------------------|-----------|
|                 |            |            | Valve 90° End         | Gladhand 180° End |                          |                 |                  |           |
| 751634          | -8         | 8          | 1/2                   | 1/2               | 6                        | 12              | Convert, Dollies | Blue, Red |

## Fifth Wheel Slider Coil

- Clutter-free hook-up and maintenance-free performance of adjustable length pneumatic tubing for fifth wheel sliding action.
- Returns to its original shape time after time, even after long periods of extended use.
- Self-adjusts from 10" to fully extended 54" working length.
- Universal, ready for immediate installation.

**No Maintenance:** Slider coil will stay on the job at peak performance through years of trouble-free life.

**Self-Adjusting:** Coil set is strong and permanent. Even after prolonged use in fully extended position, coils will retract to shorter length without sagging. Eliminates hazards of chafing and wear.



### Technical Data

**Construction:** A heat and light stabilized single wall 1/4" O.D. extruded nylon tubing conforming to SAE specification J844 type A.

**Note:** Fitting assembly required.

**Temperature Range:** -40°F to +200°F (-40°C to +93°C)

**Maximum Working Pressure:** 150 PSI, meets D.O.T. FMVSS 106 standard.

| Part Number | Fittings     | Pigtail Length in. | Max. Extended Length in. | Retracted Length in. |
|-------------|--------------|--------------------|--------------------------|----------------------|
| #           |              |                    |                          |                      |
| 811537      | {2}68NTA-4-4 | 2                  | 54                       | 10                   |

## SliderCoil™

The Parker SliderCoil is used between an adjustable rear trailer axle and the final point on a trailer chassis. No need to install springs or hangers. SliderCoil will retract to its original shape even after long periods of extended use. Standard working length is 6 to 8 feet. It meets all D.O.T. requirements – Title 49, – Transportation Chapter III, – Federal Highway Administration, – D.O.T. (Docket No. MC-68; Notice No. 75-16), Part 393, Parts and Accessories Necessary for Safe Operation.



### How to Order:

SliderCoil kits are supplied complete – **Parker pre-assembled**, with everything needed, including spring guards and male pipe end NTA fittings, **ready to install**. Special pipe thread sealant is factory applied. No cutting or assembly necessary. Just attach the gladhand to either end. They are available in kits or as separate lines. A kit consists of both a red and blue tube assembly.

| Kit<br>Coil<br>Number | Individual<br>Coil<br>Part<br>Numbers | Tube<br>O. D. | Valve<br>Tail | Brass Male Ends<br>(NPT) |                      | Working<br>Length<br>Range<br>ft. | Number<br>of Coils | Application   | Color     |
|-----------------------|---------------------------------------|---------------|---------------|--------------------------|----------------------|-----------------------------------|--------------------|---------------|-----------|
|                       |                                       |               |               | Valve<br>90° End         | Gladhand<br>180° End |                                   |                    |               |           |
| #                     | #                                     | (O)           |               |                          |                      |                                   |                    |               |           |
| 751657                | 751658-BLU, RED                       | -8            | 8             | 1/4                      | 1/4                  | 14-1/2                            | 6' - 8'            | Sliding       | Blue, Red |
| 751659                | 751660-BLU, RED                       | -8            | 8             | 3/8                      | 3/8                  | 14-1/2                            | 6' - 8'            | Trailer Axles | Blue, Red |

# Harness & Bundles



## Application

Prefomed, prebundled tubing or hose custom designed to reduce installation time and improve throughput.

## Features

With Parker Parflex Tubing Harnesses, your production line will run faster, and be virtually free from tubing scrap.

Parker Parflex Tubing Harnesses combine all of the advantages found in Parker Air Brake Tubing with those of the electrical harnesses used today in the transit bus and heavy-duty truck market. They are designed and engineered to meet the exacting requirements of each bus or truck manufacturer for each vehicle.

## Advantages

- Individual tubes are pre-cut and assembled into a single unit.
- Each tube can be color coded and/or numbered.
- Each harness may contain any number of tube sizes ranging from 1/8" O. D. to 3/4" O. D.
- The harness can be supplied with special clamps, brackets, and fittings to meet any need required by the customer.
- The air brake tubing used in a Parflex Harness conforms to SAE J844 type 3A and 3B and also D.O.T. FMVSS 106.

Several different harnesses may be required on a single unit depending upon the model of the vehicle, wheel base, and options available. To determine your harness application needs:

1. Recognize the cost savings available to you through the use of harnesses. How many dollars will be saved on tubing installation alone? On scrap reduction?
2. Call Parker. Have one of our application engineers study your applications.
3. Have our engineer design and build a prototype harness for your approval.
4. Approve the prototype as our basis to engineer your production model harness.
5. Implement the harness into your Purchasing and Production systems - one harness, one part number instead of multiple part numbers you once had for each air brake line.

## Benefit

Your production line, now using a Parker Parflex Harness, will be neater - installation time and tube scrap will be kept to a minimum. Accuracy and ease of installation will be improved dramatically.

Join the many other truck and bus manufacturers who are already taking advantage of the benefits offered by incorporating Parker Parflex Tubing Harnesses into their systems.

# Tooling & Equipment

|   |         |
|---|---------|
| Visual Index .....                                      | 216     |
| Minute Machine PMM-1 Hand Swager .....                  | 217     |
| SQ-101-SW Swager/Mender .....                           | 217     |
| Swager Tooling .....                                    | 217     |
| MiniKrimp .....   | 218-221 |
| Karrykrimp .....  | 222     |
| Karrykrimp II .....                                     | 222     |
| Parkrimp I .....  | 222     |
| Parkrimp II .....                                       | 222     |
| Superkrimp .....  | 222     |
| Parflex Pumps (for use with Karykrimp) .....            | 223     |
| Air Over Hydraulic Pump (for use with MiniKrimp™) ..... | 223     |
| Parflex Parkrimp Die Identification .....               | 224     |
| ENERPAC Warranty Policy .....                           | 225     |
| Cutoff Tools .....                                      | 226     |
| Vise Blocks .....                                       | 226     |
| Hozembler .....   | 226     |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

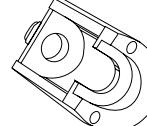
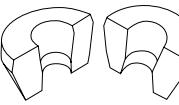
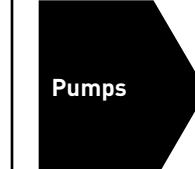
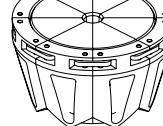
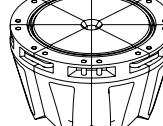
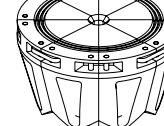
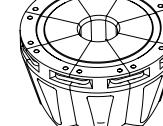
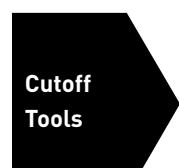
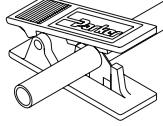
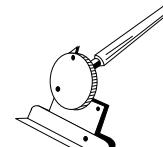
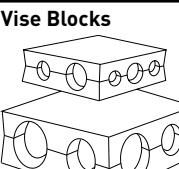
Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

**Tooling & Equipment**

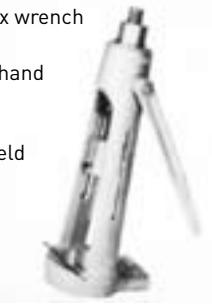
|   |   |  |  |   |   |
|---|---|--|--|---|---|
| <b>Swagers,<br/>Swager<br/>Tooling</b>  | <b>Minute Machine<br/>PMM-1 Hand Swager</b><br><br>pg. 217 | <b>SQ-101-SW<br/>Swager/Mender</b><br><br>pg. 217 | <b>Male Pushers</b><br><br>pg. 247        | <b>Female Pushers</b><br><br>pg. 217           | <b>Tube Pushers</b><br><br>pg. 217             |
| <b>Split Dies</b><br><br>pg. 217           | <b>HTC Cutter</b><br><br>pg. 217                           | <b>MiniKrimp™</b><br>                             | <b>Hand Pump Model</b><br><br>pg. 218    | <b>Air Over Hydraulic</b><br><br>pg. 219       | <b>MiniKrimp Portable Stand</b><br><br>pg. 220 |
| <b>Karrykrimp</b><br>                      | <b>Karrykrimp</b><br><br>pg. 222                           | <b>Karrykrimp II</b><br><br>pg. 222               | <b>Parkrimp</b><br>                      | <b>Parkrimp I</b><br><br>pg. 222               | <b>Parkrimp II</b><br><br>pg. 222              |
| <b>Superkrimp</b><br>                     | <b>Superkrimp</b><br><br>pg. 222                          | <b>Pumps</b><br>                                 | <b>Hand Pump</b><br><br>pg. 223         | <b>Hand Pump</b><br><br>pg. 223               | <b>Hand Pump</b><br><br>pg. 223               |
| <b>Air-Over-Hydraulic</b><br><br>pg. 223 | <b>Parflex<br/>Parkrimp<br/>Dies</b><br><br>55 pg. 224   | <b>1 Groove</b><br><br>55 pg. 224               | <b>2 Grooves</b><br><br>58 pg. 224     | <b>3 Grooves</b><br><br>91N, 92, 93N pg. 224 | <b>1 V Groove</b><br><br>HY pg. 224          |
| <b>Cutoff<br/>Tools</b><br>              | <b>Hose Cutoff<br/>Machine</b><br><br>pg. 226            | <b>Plastic Tube Cutter</b><br><br>pg. 226       | <b>Hose Cutoff Tool</b><br><br>pg. 226 | <b>Karrykut</b><br><br>pg. 226               | <b>Vise Blocks</b><br>                       |
| <b>Vise Blocks</b><br><br>pg. 226        | <b>Hozembler</b><br>                                     | <b>Hozembler</b><br><br>pg. 226                 |  |   |   |

## Parflex Minute Machine PMM-1 Hand Swager

Operated with ordinary 1-1/2 open end or box wrench (not included).

Interchangeable with other popular types of hand swaging tools.

Best of all, factory perfect assemblies with Parflex hose can be made anywhere in the field by customers otherwise unfamiliar with ordinary rubber hose assembly procedures.



## SQ-101-SW Swager/Mender

Used for field assembly or repair on Predator S6 and S9 hoses



## Swager Tooling (Sizes given in fittings section)

### Male Pushers

See Fittings Section for correct PUM part number.



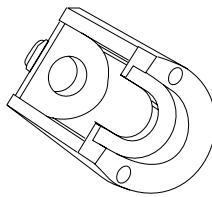
### Female Pushers

See Fittings Section for correct PUF & PUL part number.



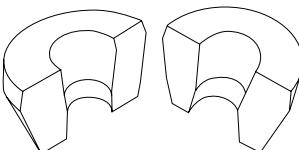
### Tube Pushers

See Fittings Section for correct PUT part number.



### Split Dies

See Sodge and Crimp Die Selection Chart for correct part number.



## HTC Hose & Tubing Cutter

### Features:

- Heavy duty steel construction & insulated grip
- Special V-block design & blade

### Multiple capabilities:

- Up to 1" hose/tubing OD
- Non-wire reinforced thermoplastic hose & tubing
- Non-wire reinforced rubber hose & tubing

### Advantages /Benefits:

- Durable & portable; weighs only 12 ounces
- Ensures a straight, clean cut
- Cutting edge first punctures, then cuts
- Minimal flattening of hose /tubing during cutting
- Straight/square cut enhances fitting retention
- Easily adjustable blade provides two cutting surfaces- doubles blade life
- Versatile; one tool for multiple applications- Air tools, auto repair shops, beverage dispensers, laboratories, many general industrial and commercial applications



## MiniKrimp™—Hand Pump Model

### Specifications

|                              |                                   |
|------------------------------|-----------------------------------|
| Approximate Size (with Pump) | 6" Deep, 13" Wide, 15" High       |
| Weight                       | 42lbs. with hand pump             |
| Rating                       | 30 tons force @ 10,000psi maximum |

### Standard Equipment

#### Model 94C-002-PFD includes:

| Part Description                     | Part Number |
|--------------------------------------|-------------|
| MiniKrimp™ Portable Crimping Machine | 94C-080-PFD |
| Hand Pump                            | 015301      |
| Die Ring — Color Coded Silver        | 82C-R01-PFD |

The Parker Hannifin MiniKrimp™ is the best portable crimper on the market. Its' unique construction holds three U.S. patents for design and utility. By utilizing a one-piece, high strength cast aluminum frame, the MiniKrimp is light, robust, and highly corrosion resistant. At 10,000psi and 30+ tons of force the MiniKrimp can crimp the majority of Parker thermoplastic, rubber, hybrid, PTFE and specialty hoses up to 1" ID. Exceptions do occur depending on the hose type, hose size, and fitting material. It is suggested that several trials be performed using the proposed hose and fitting combination in order to confirm a successful crimp. Set up and cycle times can also be determined by performing a crimp trial. Cycle times will vary depending on the previously mentioned variables in addition to the hydraulic pump used. Additional hydraulic pumps are listed for support in the Parker catalogs 4660 or 4400. If a trial is not possible, contact the Parker hose manufacturing division for support.

For crimp information on your particular hose and fitting combination refer to CrimpSource Online or the appropriate catalog of the Parker division that supplies the hose.

[www.parker.com/fcg](http://www.parker.com/fcg)

[www.parker.com/dayco/csonline/crimpsource.asp](http://www.parker.com/dayco/csonline/crimpsource.asp)

All pumps are supplied to Parker by Enerpac. For repair or warranty work to any of the cylinders or pumps, contact your nearest Enerpac Service Center. For the Enerpac Service Center nearest you, call 1-800-558-0530 or visit the Enerpac web site at [www.Enerpac.com](http://www.Enerpac.com).

## MiniKrimp™— Air-Over-Hydraulic Model



### Specifications

|                              |                                   |
|------------------------------|-----------------------------------|
| Approximate Size (with Pump) | 6" Deep, 12" Wide, 15" High       |
| Weight                       | 45lbs. with air/hydraulic pump    |
| Rating                       | 30 tons force @ 10,000psi maximum |

### Standard Equipment

#### Model 94C-002-PFD includes:

| Part Description  | Part Number |
|---|-------------|
| MiniKrimp™ Portable Crimping Machine                      | 94C-080-PFD |
| Air-Over-Hydraulic Pump<br>(includes tubing and adapters) | 02539       |
| Die Ring — Color Coded Silver                             | 82C-R01-PFD |

The Parker Hannifin MiniKrimp™ is the best portable crimper on the market. Its' unique construction holds three U.S. patents for design and utility. By utilizing a one-piece, high strength cast aluminum frame, the MiniKrimp is light, robust, and highly corrosion resistant. At 10,000psi and 30+ tons of force the MiniKrimp can crimp the majority of Parker thermoplastic, rubber, hybrid, PTFE and specialty hoses up to 1" ID. Exceptions do occur depending on the hose type, hose size, and fitting material. It is suggested that several trials be performed using the proposed hose and fitting combination in order to confirm a successful crimp. Set up and cycle times can also be determined by performing a crimp trial. Cycle times will vary depending on the previously mentioned variables in addition to the hydraulic pump used. Additional hydraulic pumps are listed for support in the Parker catalogs 4660 or 4400. If a trial is not possible, contact the Parker hose manufacturing division for support.

For crimp information on your particular hose and fitting combination refer to CrimpSource Online or the appropriate catalog of the Parker division that supplies the hose.

[www.parker.com/fcg](http://www.parker.com/fcg)

[www.parker.com/dayco/csonline/crimpsource.asp](http://www.parker.com/dayco/csonline/crimpsource.asp)

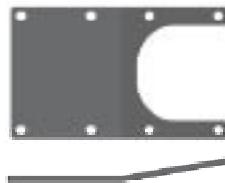
All pumps are supplied to Parker by Enerpac. For repair or warranty work to any of the cylinders or pumps, contact your nearest Enerpac Service Center. For the Enerpac Service Center nearest you, call 1-800-558-0530 or visit the Enerpac web site at [www.Enerpac.com](http://www.Enerpac.com).

## MiniKrimp™ Crimping Machine



Part #: 015307, Upright Vise Mount

Machined and bent from  $\frac{1}{4}$  inch thick 1018 steel. The mount connects to the bottom of the MiniKrimp™ using four 3/8-16 bolts (bolts not included). Once connected, the MiniKrimp™ can then be clamped into a vise for operation. Top and side view shown.



Part #: 015306, Table Mount

Machined and bent from  $\frac{1}{4}$  inch thick 1018 steel. The mount connects to the bottom of the MiniKrimp™ using four 3/8-16 bolts (bolts not included). The MiniKrimp™ can then be mounted to a table using the four 3/8 inch clearance holes on the other side of the plate (bolts not included). Top and side view shown.

Part #: 015309, High Pressure Hose Assembly

Parker 10,000 psi,  $\frac{1}{4}$  inch ID hose with 3/8 inch female JIC connections on both ends. Hose is 6 feet long and is used when a flexible connection is required between the MiniKrimp and a hydraulic pressure source.

Part #: 015308, Replacement Connector

Replacement stainless steel bent tube rigid connector for 94C-001-PFD (MiniKrimp Hand Pump Model).

Part #: 025349, Replacement Connector

Replacement stainless steel bent tube rigid connector for 94C-002-PFD (MiniKrimp Air over Hydraulic Model).

Part #: 045234, High Pressure Hose Assembly for stand

Parker 10,000 psi  $\frac{1}{4}$  inch ID hose with quick coupler. This hose is designed to be used when mounting a hand pump to the 94C-MKS MiniKrimp™ stand's base. See picture below.

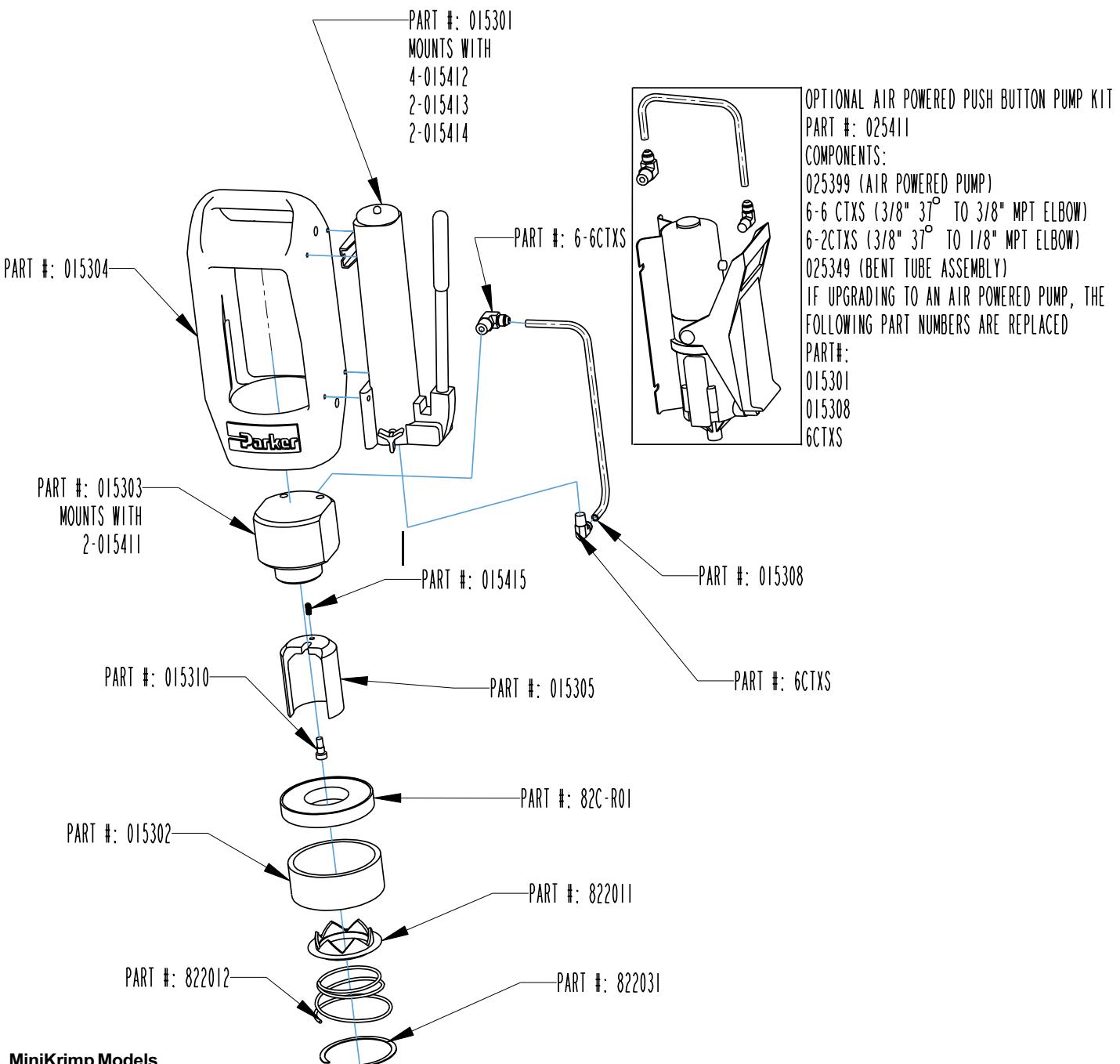


Part #: 94C-MKS, Folding Stand

The 94C-MKS is a lightweight folding stand designed exclusively for the MiniKrimp™ portable crimper (works with all versions). When not in use the stand folds up closely to the MiniKrimp™ for storage. Mounting hardware and safety instructions are included. See pictures below for configuration examples Patent pending



Note: The hydraulic connectors shown above are designed exclusively for use with the MiniKrimp. No other connectors are approved for use with the MiniKrimp without expressed written consent from Parker Parflex Division's technical support. Any worn connectors should be replaced immediately.

**MiniKrimp Models**

| Part No. | Description                    | Qty. | Part No. | Description                   | Qty. |
|----------|--------------------------------|------|----------|-------------------------------|------|
| 015301   | 2 Speed Light Weight Hand Pump | 1    | 822011   | Die Separator                 | 1    |
| 015302   | Hardened Steel Sleeve          | 1    | 822012   | Spring                        | 1    |
| 015303   | Custom Cylinder                | 1    | 822031   | Retention Ring                | 1    |
| 015304   | Aluminum Frame                 | 1    | 82C-R01  | Silver Die Ring               | 1    |
| 015305   | Cup Pusher                     | 1    | 015411   | 3/8-16 18-8 SS SHCS 2.5" Long | 2    |
| 015308   | Bent Tube Assembly             | 1    | 015413   | 1/4-20 18-8 SS Lock Washer    | 2    |
| 015310   | 3/8" x 3/8" Shoulder Bolt      | 1    | 015414   | 14-20 18-8 SS Flat Washer     | 2    |
| 015415   | Spring Plunger                 | 1    | 015412   | 1/4-20 18-8 SS SHCS .75" Long | 4    |
| 6GCTXS   | 3/8" 37° to 1/4" NPT Elbow     | 1    | 025349   | Bent Tube Assembly            | 1    |
| 6-2GCTXS | 3/8" 37° to 1/8" NPT Elbow     | 1    | 025399   | Air Powered Pump              | 1    |
| 6-6GCTXS | 3/8" 37° to 3/8" NPT Elbow     | 1    |          |                               |      |

## Karrykrimp

Karrykrimp, with crimping capability up to 1-1/4", SAE 100R1, 100R2, 100R7, 100R8, 100R9 and 100R14, gives you true field-crimping capability. Utilizing Parker's patented unitized dies (the same as Parkrimp I and II), this lightweight machine is easily carried to the job site for quick, easy field assemblies — when downtime is critical. The Karrykrimp unit puts hose assembly fabrication where you need and want it, on the spot.

### Part No.

82C-061-PFD ..... Karrykrimp, two-piece stand, silver die ring, black die ring, connection hose with coupling, no dies, no pump  
82C-R01-PFD ..... Karrykrimp silver die ring



## Parkrimp I

Parkrimp I offers hose assembly capability through 1-1/4", SAE 100R1, 100R2, 100R7, 100R8, 100R9 and 100R14. Its patented design provides you with the ability to crimp straight — as well as bent tube hose ends; a full power return cycle allows quick, easy size and hose type changes, while the die pusher automatically moves out of the way for easy die insertion: Bench mounted at a 20° angle lets you load and unload hydraulic assemblies as easily as possible. Parkrimp I gives you the ease and flexibility to manufacture hydraulic hose assemblies you require — and in less than ten seconds.



### Part No.

80C-081-PFD ..... Parkrimp 1 crimper, silver die ring, black die ring, no dies  
80C-R01-PFD ..... Parkrimp 1 silver die ring

## Karrykrimp II

Karrykrimp II is portable, compact and ruggedly built. The Karrykrimp II gives you everything you need to crimp hoses from 1/4" to 1-1/4" in one convenient package. Model 85C-061 includes crimping machine, collapsible stand, die rings, and connection hose with quick coupling. Select the power unit that meets your needs.

### Part No.

85C-061-PFD ..... Karrykrimp 2, two-piece stand, silver die ring, black die ring, connection hose with coupling, no dies, no pump  
85C-R01-PFD ..... Karrykrimp 2 silver die ring



## Parkrimp II

Parkrimp II provides you with total capability to manufacture hydraulic hose assemblies up through 2". Parkrimp II's advanced design — with capacity to handle 100R1 through 100R14 hose types, coupled with straight or bent tube ends — is the industry's leading edge in the manufacture of hydraulic hose assemblies. Unparalleled in its design, Parkrimp II needs no special adjustments or gauge settings. Simply insert the unitized or split die train for the appropriate size — and with push button ease you have factory-quality assemblies in just seconds.



**Part No. 83C-081-PFD** ..... Parkrimp 2 head assembly, Parkrimp 2 stand assembly with 230/460 volt 3 phase power unit wired for 230 volt, adapter bowl, spacer ring, no dies

## Superkrimp

Superkrimp can handle all Parflex thermoplastic and TFE hose assemblies up through 2". Its design — with capacity to handle 100R7, 100R8, and 100R14 hose types, coupled with straight or bent tube ends — is the industry's leading edge in the manufacture of hose assemblies. Unparalleled in its design, Superkrimp needs no special adjustments or gauge settings. Simply insert the unitized or split die train for the appropriate size, and with push-button ease you have factory quality assemblies in just seconds.

- Bench top design
- Quick, easy operation
- Stainless steel crimping

### Part No.

**88C-082-PFD** ..... Superkrimp, 115/120 volt single phase power unit wired for 230 volts, adapter bowl, spacer ring, spacer plate, no dies. Order appropriate dies from the crimp die selection chart in the Technical & Design Information section.



## Parflex Hand Pumps

### Hand Pump

**Part No. 015301 (for use with MiniKrimp™ Hand Pump Model)**  
**Easy-to-use hand pump delivers 10,000 PSI.**

Length ..... 13-3/8"  
 Width ..... 3-1/4"  
 Height ..... 3-5/8"  
 Port Size ..... 1/4" NPTF  
 Weight ..... 4.7 lb.  
 Hydraulic Fluid ..... Enerpac Oil only



### Hand Pump

**Part No. 82C-0HP-PFD (for use with Karrykrimp, KarryKrimp II & MiniKrimp™)**  
**Easy-to-use hand pump delivers 10,000 PSI.**

Length ..... 22-11/16"  
 Width ..... 3-1/4"  
 Height ..... 4-11/16"  
 Port Size ..... 3/8" NPTF  
 Weight ..... 9 lb.  
 Hydraulic Fluid ..... Enerpac Oil only



### Hand Pump

**Part No. 85C-0HP-PFD (for use with Karrykrimp, Karrykrimp 2 & MiniKrimp™)**  
**Easy-to-use hand pump delivers 10,000 PSI.**

Length ..... 28-15/16"  
 Width ..... 2-1/8"  
 Height ..... 11"  
 Port Size ..... 3/8" NPTF  
 Weight ..... 61 lb.  
 Hydraulic Fluid ..... Enerpac Oil only



### Air-Over-Hydraulic Pump

**Part No. 025399 (for use with MiniKrimp™ Air-over-Hydraulic Model)**  
**Lightweight pump operates with 80 - 120 PSI shop air pressure.**

Length ..... 13"  
 Width ..... 4-1/2"  
 Height ..... 5"  
 Intake Port Size ..... 1/4" NPTF  
 Output Port Size ..... 1/8" NPTF  
 Weight ..... 12 lb.  
 Hydraulic Fluid ..... Enerpac Oil only



Reference Parker Hose Products Catalog 4400 for these additional pump options for use with Karrykrimp, Karrykrimp 2 & MiniKrimp™:

| Pump Description | Part Number |
|------------------|-------------|
| Electric Pump    | 82C-OEP     |
| Electric Pump    | 85C-OEP     |

All pumps are supplied to Parker by Enerpac. For repair or warranty work to any of the cylinders or pumps, contact your nearest Enerpac Service Center. For the Enerpac Service Center nearest you, call 1-800-558-0530 or visit the Enerpac web site at [www.Enerpac.com](http://www.Enerpac.com).

## Parflex Parkrimp Dies

Parkrimp dies, specifically engineered for thermoplastic and fluoropolymer hose:

- Linked die segments
- Pre-matched and assembled
- Fitting series identification grooves
- Fitting size color coded.

**Note:** Parflex dies have been designed for use with the silver die ring. Silver die rings are to be used with all Parflex hoses unless otherwise specified.

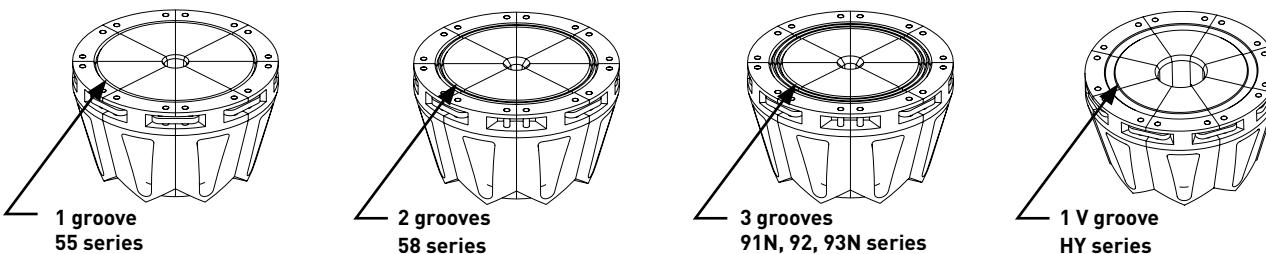
The following is a list of the silver die rings for the approved Parkrimp machines:

Parkrimp I and PHaskrimp - silver die ring part no. 80C-R01-PFD

Karrykrimp and MiniKrimp - silver die ring part no. 82C-R01-PFD

Karrykrimp 2 - silver die ring part no. 85C-R01-PFD

Parkrimp 2 and Superkrimp - silver die rings attached to unit. No additional silver die rings required.



### Color Code:

| Size | Color  |
|------|--------|
| -2   | Brown  |
| -3   | Gray   |
| -4   | Red    |
| -5   | Purple |
| -6   | Yellow |
| -8   | Blue   |
| -10  | Orange |
| -12  | Green  |
| -16  | Black  |

### Additional Notes:

- 1) The Parkrimp dies used with "HY" series fittings will have a groove of 3/16" wide with the part number stamped into the groove instead of the "C" groove commonly associated with Parflex crimp dies.
- 2) See Swage and Crimp Die Selection Chart in section "J" of this catalog for proper part number selection.

Visit CrimpSource Online at [www.parker.com/dayco/csonline/crimpsource.asp](http://www.parker.com/dayco/csonline/crimpsource.asp) for the latest and most up to date crimping information such as dies and crimp specification for all your favorite Parflex hoses.

# ENERPAC Warranty Policy

For those ENERPAC items sold as part of the Parker Parflex Division product offering, the following warranty applies.

ENERPAC products are warranted to be free of defects in materials and workmanship under normal use for as long as they are owned by the original purchaser, subject to the exclusions and limitations described below. This warranty does not cover ordinary wear and tear, overloading, alterations, (including repairs or attempted repairs by parties other than ENERPAC or its authorized service representatives), improper fluid, use in a manner for which they are not intended or use which is contrary to instructions for the products.

THIS WARRANTY IS LIMITED TO NEW PRODUCTS SOLD THROUGH ENERPAC AUTHORIZED DISTRIBUTORS, ORIGINAL EQUIPMENT MANUFACTURERS OR OTHER DESIGNATED CHANNELS OF DISTRIBUTION. NO AGENT, EMPLOYEE, OR OTHER REPRESENTATIVE OF ENERPAC HAS THE AUTHORITY TO IN ANY WAY CHANGE OR AMEND THIS WARRANTY.

Electronic products and components are warranted against defects in material and workmanship for a period of two years from the date of purchase.

The following items supplied with ENERPAC products are excluded from this warranty:

- Components not manufactured by ENERPAC, including air motors, electric motors, gasoline engines, and diesel engines. Such items are warranted to the extent of the warranty provided by the manufacturers of such items.

If the customer believes a product is defective, the product must be delivered, or shipped freight prepaid, to the nearest ENERPAC Authorized Service Center. The customer should contact ENERPAC to locate and Authorized Service Center in the customer's area.

Products that do not conform to this warranty will be returned by ground transportation, freight prepaid.

THE FOREGOING WARRANT IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The remedy of repair, replacement or refund is customer's exclusive remedy in the event of breach of this warranty.

SELLER SHALL NOT BE SUBJECT TO AND DISCLAIMS:

- (a) ANY OTHER OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR OF WARRANTY,
- (b) ANY OBLIGATIONS WHATSOEVER ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER THEORIES OR LAW WITH RESPECT TO PRODUCTS SOLD OR SERVICES RENDERED BY SELLER OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATING THERETO, AND
- (c) ALL CONSEQUENTIAL, INCIDENTAL AND CONTINGENT DAMAGES WHATSOEVER.

ENERPAC's liability in all cases is limited to, and shall not exceed, the purchase price paid.

**For the nearest authorized ENERPAC SERVICE CENTER, please call ENERPAC at 1-800-558-0530 or visit the ENERPAC web site at [www.Enerpac.com](http://www.Enerpac.com).**

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE Hose & Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings & Accessories

Truck (Fleet) Products

Tooling & Equipment

Hose Accessories

Technical & Design Information

Approvals & Guides

Alphanumeric Index

## Hose Cutoff Machine

- Power unit for quick, easy cutting of cotton or rubber covered fabric braid or wire reinforced hose.
- Equipped with 1-1/2 HP, 3650 RPM, 115/230V single phase electric motor wired for 115V.
- Belt driven cutting wheel of high speed steel, hardened and ground for smooth, dust-free, long-lasting service.
- Moving parts shielded by guards.
- Includes a Smooth Cutting Blade (8" with 5/8" arbor size).

Model 332T-115V will cut:

- two wire braid, 1-1/4" maximum
- one wire braid, 2" maximum
- four spiral, 1-1/4" maximum
- recommended for PTFE Hose

Replacement Smooth Cutting Blade

(8" with 5/8" arbor size) ..... 580661

Replacement Scallop Cutting Blade ..... 24398



**Part Number 332T-115V**

## Karrykut

- Portable power saw
- Makes up hose assemblies on the job.
- Hardened steel blade powered
- 110V (13 amp) universal AC-DC motor.
- Hand grip, trigger control.
- Unique clamp which spreads hose as it is cut to prevent binding of blade.
- Clean cutoff of rubber or cotton covered, wire or fabric reinforced hose
- 4 through -32 inside diameter.



**Part Number 631075**

### Part Number

Universal Clamp Attachment\* ..... **631076**

Replacement Blade (8" with 5/8" arbor size) ..... **580661**

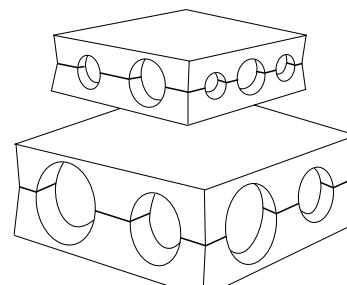
Replacement Power Saw (less clamp and Blade) ..... **631140**

\*May be used with any portable power saw unit having a 5/8" arbor, 8" blade capacity.

## Vise Blocks For Parflex Hose

### Part Number

**VBS** - For Hose Sizes 3, 4, 5, 6, and 8; 3/16", 1/4", 5/16", 3/8" and 1/2" I. D.

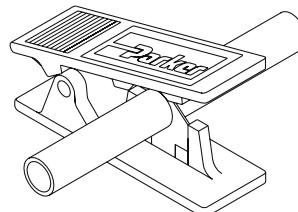


**Part Number VBS & VBL**

**VBL** - For Hose Sizes 12 and 16; 3/4" and 1" I. D.

## Plastic Tube Cutter

- Easy to handle
- Razor-edged tube cutter
- Closes automatically, assuring clean and square cuts.
- May be used with polyethylene, polypropylene, nylon and other plastic tubing up to 5/8".

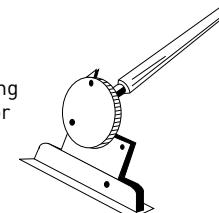


**Part Number PTC**

Replacement blades - **PTC-001-RB**

## Hose Cutoff Tool

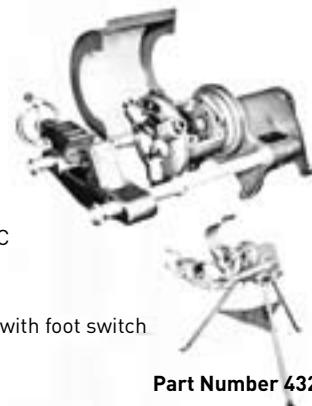
- Small
- Easy to use
- Manually operated unit for quick cutting of Parflex hoses (not recommended for wire reinforced).



**Part Number 316-PFD**

## Hozembler

- Facilitates the attachment of Field Attachable hose fittings.
- Handles all types of hose and fittings in sizes -3 through -32 I.D.
- Handles standard bent tube elbows.
- 110V, 30 amp, universal AC-DC motor.



**NOTE:** 432 is supplied complete with foot switch and safety guard.

**Part Number 432**

### Part Number

Model 432 Hozembler ..... **432-115V** (complete with vise and all adapters)

Mounting Stands ..... **662451**

### Replacement Parts

Hose Vise (complete with 662453 and 662454) ..... **662452**

Hose Vise Jaw Plate ..... **662453**

Hose Vise Jaw Adapter ..... **662454**

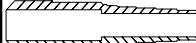
Chuck Jaws ..... **662455**

**Request Bulletin 4497-B2 for operating instructions.**

## Hose Accessories

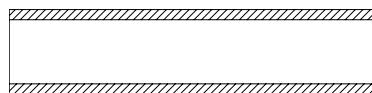
|   |         |
|---|---------|
| Visual Index.....                             | 227     |
| Hose Guards.....                              | 228-230 |
| Spring/Armor/PVC Guard Selection Tables ..... | 231     |
| Hoze-Oil .....                                | 232     |
| 702 Oil .....                                 | 232     |

## Hose Accessories Visual Index

| Hose Accessories   |  |   |   |   |  |
|--|--|---|---|---|--|
|   | <b>Clear Vinyl Hose Guards</b><br><br>pg. 228 | <b>Hose Bend Restrictor (HBR)</b><br><br>pg. 228 | <b>CNG Hose Guard Kit</b><br><br>pg. 228 | <b>Pre-made Spring Guards</b><br><br>pg. 229 | <b>Steel Spring Guards</b><br><br>pg. 229 |
| <b>Flat Steel Armor Guards</b><br><br>pg. 229 |   | <b>Hoze-Oil</b><br><br>pg. 232                   | <b>702 Lubricant</b><br><br>pg. 232      |   |  |

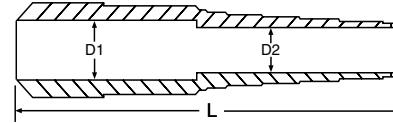
| Additional Accessories Available     |                        |   |
|--------------------------------------|------------------------|---|
| Components, Accessories              | Division               | Contact Information   |
| Tube Fitting Adapters                | Tube Fitting Division  | Phone: 614/279-7070 Fax: 614/279-7685<br><a href="http://www.parker.com/tfd">www.parker.com/tfd</a> |
| Seal-Lok™ O-Rings                    | Tube Fitting Division  | Phone: 614/279-7070 Fax: 614/279-7685<br><a href="http://www.parker.com/tfd">www.parker.com/tfd</a> |
| Hose Protective Sleeving             | Hose Products Division | Phone: 440/943-5700 Fax: 440/943-3129<br><a href="http://www.parkerhose.com">www.parkerhose.com</a> |
| Hose Clamps                          | Hose Products Division | Phone: 440/943-5700 Fax: 440/943-3129<br><a href="http://www.parkerhose.com">www.parkerhose.com</a> |
| Flange Kits (Code 61, 62, DIN & ISO) | Hose Products Division | Phone: 440/943-5700 Fax: 440/943-3129<br><a href="http://www.parkerhose.com">www.parkerhose.com</a> |
| Protection Shields                   | Hose Products Division | Phone: 440/943-5700 Fax: 440/943-3129<br><a href="http://www.parkerhose.com">www.parkerhose.com</a> |

## Clear Vinyl Hose Guard



| Part Number | Guard I.D. inch | Standard Length feet |
|-------------|-----------------|----------------------|
| #           | (O)             |                      |
| PV97-1      | 0.44            | 100                  |
| PV139-1     | 0.56            | 100                  |
| PV1611-1    | 0.68            | 100                  |
| PV2014-1    | 0.87            | 50                   |
| PV2420-1    | 1.25            | 50                   |
| PV3224-1    | 1.50            | 50                   |

## Black Elastomer Hose Bend Restrictor (HBR)

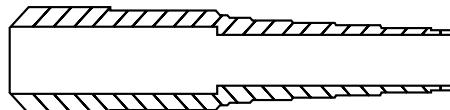


| Hose Guard Number | Hose Size | L inch | D1 inch | D2 inch |
|-------------------|-----------|--------|---------|---------|
| #                 |           |        |         |         |
| HBR-4             | 1/4       | 5      | .600    | .500    |
| HBR-6             | 3/8       | 6      | .640    | .625    |

**Note:** Parker reserves the right to change dimensions and performance parameters without notice.

## Black Vinyl CNG Hose Guard

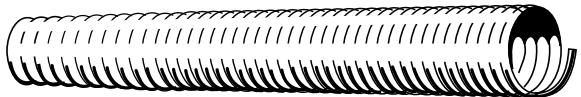
- Use with Parflex CNG hose
- Each Guard Kit contains two vinyl hose guards (similar to HBR above) and warning tag.



| Hose Part Number                   | Hose Guard Kit Part Number |
|------------------------------------|----------------------------|
| #                                  | #                          |
| 3CNG/CNGLT/CNGFR-4                 | CNGG3-4                    |
| 3CNG/CNGLT/CNGFR-6                 | CNGG3-6                    |
| 3CNG/CNGLT/CNGFR-6/540N-2 TWINLINE | CNGG6-2                    |
| 4CNG/CNGLT/CNGFR-6                 | CNGG4-6                    |
| 5CNG/CNGLT/CNGFR-3                 | CNGG5-3                    |
| 5CNG/CNGLT/CNGFR-4                 | CNGG5-4                    |
| 5CNG/CNGLT/CNGFR-6                 | CNGG5-6                    |
| 5CNG/CNGLT/CNGFR-8                 | CNGG5-8                    |
| 5CNG/CNGLT/CNGFR-12                | CNGG5-12                   |
| 5CNG/CNGLT/CNGFR-16                | CNGG5-16                   |

**Use Spring Guards for protection from abrasion and extreme physical abuse.**

## Pre-made Spring Guards (Plated, hard-drawn steel wire)



### Standard

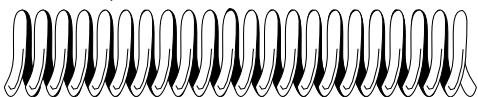
| Part Number | Guard I.D. inch | Standard Length inch |
|-------------|-----------------|----------------------|
| #           |                 |                      |
| 55SSG-3     | 0.47            | 5                    |
| 55SSG-4     | 0.55            | 5                    |
| 55SSG-5     | 0.61            | 5                    |
| 55SSG-6     | 0.68            | 5                    |
| 55SSG-8     | 0.83            | 5                    |
| 55SSG-12    | 1.09            | 7                    |

### For CPS/CNG Hose

| Part Number | Guard I.D. inch | Standard Length inch |
|-------------|-----------------|----------------------|
| #           |                 |                      |
| 3PSG-2      | 0.39            | 4.60                 |
| 3PSG-3      | 0.46            | 5.30                 |
| 3PSG-4      | 0.54            | 6.25                 |
| 3PSG-6      | 0.72            | 6.50                 |
| 5PSG-4      | 0.63            | 6.25                 |
| 5PSG-6      | 0.78            | 6.50                 |
| 5PSG-8      | 0.90            | 6.50                 |

Special configurations available upon request. Contact factory.

## Steel Spring Guards (Plated, hard-drawn steel wire)



| Part Number | Guard I.D. inch | Standard Length feet |
|-------------|-----------------|----------------------|
| #           |                 |                      |
| 55SG-3      | 0.47            | 25                   |
| 55SG-4      | 0.55            | 25                   |
| 55SG-5      | 0.61            | 25                   |
| 55SG-6      | 0.67            | 25                   |
| 55SG-8      | 0.83            | 25                   |
| 55SG-12     | 1.09            | 10                   |
| 55SG-16     | 1.35            | 10                   |
| 58SG-12     | 1.18            | 10                   |
| 58SG-16     | 1.51            | 10                   |

## Flat Steel Armor Guards



| Part Number | Guard I.D. inch | Standard Length feet |
|-------------|-----------------|----------------------|
| #           |                 |                      |
| 55AG-3      | 0.47            | 25                   |
| 55AG-4      | 0.55            | 25                   |
| 55AG-5      | 0.61            | 25                   |
| 55AG-6      | 0.67            | 25                   |
| 55AG-8      | 0.83            | 25                   |
| 55AG-12     | 1.09            | 10                   |
| 55AG-16     | 1.35            | 10                   |
| 58AG-12     | 1.18            | 10                   |
| 58AG-16     | 1.51            | 10                   |

## Guards for PTFE Hoses

| Hose    | Max. O.D. | Partek Sleeve | External Round Spring | Internal Round Spring | External Flat Spring | Internal Flat Spring | Fire Sleeve | External Anti-Kink Casing | Clear Vinyl Sleeve    |
|---------|-----------|---------------|-----------------------|-----------------------|----------------------|----------------------|-------------|---------------------------|-----------------------|
| 919/929 | -3        | 0.25          | -                     | 2625-10               | -                    | 2740-10              | -           | -                         | PV75-1                |
|         | -4        | 0.32          | -                     | 2625-11               | -                    | 2740-11              | -           | FS-F-5                    | MG-038-015C PV86-1    |
|         | -5        | 0.40          | -                     | 2625-14               | -                    | 2740-14              | -           | FS-F-7                    | MG-044-015C PV97-1    |
|         | -6        | 0.46          | AS-Y-11/AS-B-11       | 2625-15               | -                    | 2740-16              | -           | FS-F-8                    | MG-050-015C PV108-1   |
|         | -8        | 0.56          | AS-Y-11/AS-B-11       | 2625-19               | -                    | 2740-19              | 2613-13CR   | FS-F-10                   | MG-062-015C PV1310-1  |
|         | -10       | 0.66          | AS-Y-13/AS-B-13       | 2625-22               | -                    | 2740-22              | 2613-16CR   | FS-F-12                   | MG-075-015C PV1411-1  |
|         | -12       | 0.79          | AS-Y-15/AS-B-15       | 2625-26               | -                    | 2740-26              | 2613-20CR   | FS-F-14                   | MG-081-015C PV1814-1  |
|         | -16       | 1.05          | AS-Y-17/AS-B-17       | 2625-34               | -                    | 2740-34              | 2613-28CR   | FS-F-20                   | MG-112-015C* PV2218-1 |
|         | -20       | 1.32          | AS-Y-22/AS-B-22       | 2625-44               | -                    | 2740-44              | 2613-37CR   | FS-F-24                   | MG-144-015C -         |
| 936     | -4        | 0.56          | AS-Y-11/AS-B-11       | 2625-20               | -                    | 2740-20              | -           | FS-F-11                   | -                     |
|         | -6        | 0.69          | AS-Y-13/AS-B-13       | 2625-24               | -                    | 2740-24              | -           | FS-F-14                   | -                     |
|         | -8        | 0.86          | AS-Y-15/AS-B-15       | 2625-29               | -                    | 2740-31              | -           | FS-F-16                   | -                     |
|         | -10       | 0.96          | AS-Y-17/AS-B-17       | 2625-35               | -                    | 2740-35              | -           | FS-F-18                   | -                     |
|         | -12       | 1.12          | AS-Y-19/AS-B-19       | 2625-38               | -                    | 2740-38              | -           | FS-F-20                   | -                     |
|         | -16       | 1.43          | AS-Y-27/AS-B-27       | 2625-50               | 2799-16CR            | 2740-50              | -           | FS-F-24                   | -                     |
|         | -20       | 1.80          | AS-Y-35/AS-B-35       | 2625-70               | 2799-20CR            | 2740-60              | -           | FS-F-32                   | -                     |
|         | -24       | 2.05          | AS-Y-37/AS-B-37       | 2625-72               | 2799-24CR            | 2740-70              | -           | FS-F-38                   | -                     |
|         | -32       | 2.60          | AS-Y-45/AS-B-45       | 2625-87               | 2799-32CR            | 2740-83              | -           | FS-F-48                   | -                     |
| 939     | -4        | 0.48          | AS-Y-11/AS-B-11       | 2625-16               | -                    | 2740-18              | -           | FS-F-10                   | -                     |
|         | -6        | 0.59          | AS-Y-13/AS-B-13       | 2625-20               | -                    | 2740-20              | -           | FS-F-11                   | -                     |
|         | -8        | 0.75          | AS-Y-15/AS-B-15       | 2625-25               | -                    | 2740-25              | -           | FS-F-14                   | -                     |
|         | -10       | 0.88          | AS-Y-17/AS-B-17       | 2625-29               | -                    | 2740-30              | -           | FS-F-16                   | -                     |
|         | -12       | 1.09          | AS-Y-19/AS-B-19       | 2625-36               | -                    | 2740-36              | -           | FS-F-20                   | -                     |
|         | -16       | 1.33          | AS-Y-27/AS-B-27       | 2625-44               | 2799-16CR            | 2740-44              | -           | FS-F-24                   | -                     |
|         | -20       | 1.75          | AS-Y-35/AS-B-35       | 2625-58               | 2799-20CR            | 2740-58              | -           | FS-F-32                   | -                     |
|         | -24       | 2.05          | AS-Y-39/AS-B-39       | 2625-67               | 2799-24CR            | 2740-70              | -           | FS-F-38                   | -                     |
|         | -32       | 2.56          | AS-Y-47/AS-B-47       | 2625-83               | 2799-32CR            | 2740-83              | -           | FS-F-48                   | -                     |
| 943     | -6        | 0.49          | AS-Y-11/AS-B-11       | 2625-17               | -                    | 2740-18              | -           | FS-F-10                   | -                     |
|         | -8        | 0.62          | AS-Y-13/AS-B-13       | 2625-21               | -                    | 2740-21              | 2613-13CR   | FS-F-11                   | -                     |
|         | -10       | 0.73          | AS-Y-15/AS-B-15       | 2625-24               | -                    | 2740-23              | 2613-16CR   | FS-F-14                   | -                     |
|         | -12       | 0.99          | AS-Y-17/AS-B-17       | 2625-33               | -                    | 2740-35              | 2613-20CR   | FS-F-18                   | -                     |
|         | -16       | 1.39          | AS-Y-27/AS-B-27       | 2625-45               | -                    | 2740-46              | 2613-28CR   | FS-F-24                   | -                     |

\*MG-112-015C to be used on 919-16 only.

### Footnotes:

Partek sleeves come in yellow and black.

All internal guards are fabricated from 300 series stainless steel.

All external guards are plated steel.



## Spring Guards, Armor Guards and PVC Guards

Parker hose guards prolong the life of hoses that are exposed to rugged operating conditions. In addition to protecting the hose from abrasion and cutting, they limit the bending radius which prevents kinking.

| Hose Style         | Armor Guards/Spring Guards |                  |                  |                  |                  |                    |                    |                    |                    |
|--------------------|----------------------------|------------------|------------------|------------------|------------------|--------------------|--------------------|--------------------|--------------------|
|                    | 55AG-3<br>55SG-3           | 55AG-4<br>55SG-4 | 55AG-5<br>55SG-5 | 55AG-6<br>55SG-6 | 55AG-8<br>55SG-8 | 55AG-12<br>55SG-12 | 55AG-16<br>55SG-16 | 58AG-12<br>58SG-12 | 58AG-16<br>58SG-16 |
| 510/510A/510C/518C | -2, -3                     | -4               | -5               | -6               | -8               | -12                | -16                |                    |                    |
| 520N/528N          | -3                         | -4               | -5               | -6               | -8               |                    |                    |                    |                    |
| 540N/540P          | -2, -3                     | -4               | -5               | -6               | -8               | -12                |                    |                    |                    |
| 55LT               | -2, -3                     | -4               | -5               | -6               | -8               | -10, -12           | -16                |                    |                    |
| 55FR               |                            | -4               |                  | -6               | -8               | -12                |                    |                    |                    |
| 560/563            | -3                         | -4               | -5               | -6               | -8               | -10                |                    | -12                |                    |
| 575X               | -3                         | -4               |                  | -6               | -8               |                    | -12                |                    |                    |
| 580N/588N          |                            |                  |                  | -4               | -6               | -8, -10            |                    | -12                | -16                |
| 53FR               |                            |                  |                  |                  | -6               | -8                 |                    | -12                |                    |
| 573X/573XL         | -3                         |                  |                  |                  |                  |                    |                    |                    | -16                |
| 590, 593           | -3                         | -4               |                  | -6               | -8               | -10                |                    | -12                | -16                |
| PSH/3PSH/4PSH/HPSH |                            |                  |                  |                  |                  | -8, -10            |                    | -12                | -16                |
| MSH                |                            | -5               |                  | -6               |                  |                    |                    |                    |                    |
| 56DH/568DH         | -2                         |                  |                  |                  |                  |                    |                    |                    |                    |
| PTH                | -3                         |                  |                  |                  |                  |                    |                    |                    |                    |
| 1035A/1035HT       |                            | -4               |                  | -6               |                  |                    |                    |                    |                    |
| 53LT/538LT         | -3                         | -4               |                  | -5               | -6               | -8, -10            | -12                |                    |                    |
| GPH                | -3                         | -4, 5            | -5               | -6               | -8               | -10, -12           | -16                |                    |                    |
| 515A, 515H, 515X   | -3, -4                     | -5               | -6               |                  | -8               |                    |                    |                    |                    |
| 570A               |                            |                  |                  | -6               | -8               |                    |                    |                    |                    |

| Hose Style         | PVC Guards |         |          |          |          |          |          |
|--------------------|------------|---------|----------|----------|----------|----------|----------|
|                    | PV97-1     | PV139-1 | PV1611-1 | PV2014-1 | PV2418-1 | PV2420-1 | PV3224-1 |
| 510/510A/510C/518C | -2         | -3, -4  | -5, -6   | -8       | -12      |          | -16      |
| 520N/528N          |            | -3, -4  | -5, -6   | -8       |          |          |          |
| 540N/540P          | -2         | -3, -4  | -5, -6   | -8       | -12      |          |          |
| 55LT               | -2         | -3, -4  | -5, -6   | -8       | -10, -12 |          | -16      |
| 55FR               |            | -4      | -6       | -8       | -12      |          |          |
| 560/563            |            | -3, -4  | -5, -6   | -8       | -10      | -12      |          |
| 575X               |            | -3, -4  | -6       | -8       |          | -12      |          |
| 580N/588N          |            |         | -4       | -6       | -8, -10  | -12      | -16      |
| 53FR/530           |            |         |          | -6       | -8       | -12      |          |
| 573X/573XL         | -3         |         |          |          |          |          | -16      |
| 590                |            | -3, -4  | -6       | -8       | -10      | -12      | -16      |
| PSH/3PSH/4PSH/HPSH |            |         |          |          | -8, -10  | -12      | -16      |
| MSH                |            | -5      | -6       |          |          |          |          |
| 56DH/568DH         | -2         |         |          |          |          |          |          |
| PTH                |            | -3      |          |          |          |          |          |
| 1035A/1035HT       |            | -4      | -6       |          |          |          |          |
| 53LT/538LT         |            | -3, -4  | -5       | -6       | -8, -10  |          | -12      |
| GPH                | -3         | -4      | -5, -6   | -8       | -10, -12 | -12      | -16      |
| 515A, 515H, 515X   | -3         | -4, -5  | -6       | -8       |          |          |          |
| 570A               |            |         | -6       | -8       |          |          |          |

## Hoze-Oil

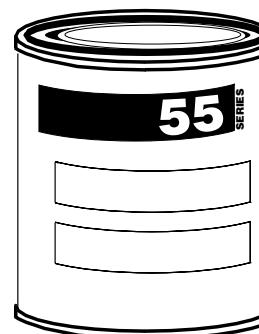
- Parker's improved hose assembly oil
- Reduces hose assembly make-up time.
- Parker Hoze-Oil reduces torque and eliminates waste lubrication.



Part Number HOZE-OIL

## 702 Oil for Stainless Steel Fittings

- This lubricant must be used when assembling stainless steel swage fittings.
- The O.D. of the fitting and the I.D. of the swager dies must be coated with 702 oil.
- Incorrect application of 702 Oil may result in swage assembly failure.



Part Number 702-OIL/702-OIL BULK

## Technical and Design Information

|   |     |
|---|-----|
| Technical & Design Tutorial & Information ..... | 234 |
| Dash Sizes for Hose & Tubing .....              | 235 |
| Metric Conversion Chart.....                    | 236 |

## Hose Assembly Instructions

|  |         |
|--|---------|
| Twin/Multi-Line Separation .....                 | 237     |
| Hose Assembly & Crimping .....                   | 238-243 |
| Field Attachable Fitting Assembly.....           | 244-245 |
| 90 Series Field Attachable Assembly .....        | 246-248 |
| Ferrul-Fix Installation .....                    | 249     |
| PMM-1 Portable Swage .....                       | 250     |
| SQ Swage .....                                   | 251-253 |
| MiniKrimp™ .....                                 | 254-255 |
| Crimp Specification & Tool Selection Chart ..... | 256-259 |
| Swage Specification & Tool Selection Chart ..... | 260-261 |
| Swage & Crimp Die Selection Chart.....           | 262-266 |

## Hose Selection, Installation & Maintenance

|   |         |
|---|---------|
| Recommended Practices for Hydraulic Hose Assemblies .....         | 267-271 |
| Selection of Hose Diameter.....                                   | 272-273 |
| Calculation of Hose Length for Over-the-Sheave Applications ..... | 274     |
| Hose Permeation Data.....   | 275     |

## Hose Fittings

|                        |     |
|------------------------|-----|
| Thread Guide.....      | 276 |
| Pressure Ratings ..... | 273 |

## Materials

|  |         |
|--|---------|
| Media to Fitting & Seal Compatibility.....           | 278     |
| Metal Tube and Fitting Material Compatibility .....  | 279     |
| O-Ring Selection .....                               | 280     |
| Metals Corrosion Scale.....                          | 281     |
| Materials to Parflex Part Number Table .....         | 282     |
| Media to Hose Material Compatibility .....           | 283-286 |
| Media to Hose Material Compatibility (Hybrid) .....  | 287-290 |
| Media to Plastic Tubing Material Compatibility ..... | 291-293 |
| Media to Plastic Fitting Material Compatibility..... | 294-296 |

Extra care is taken in the preparation of this literature but Parker is not responsible for any inadvertent typographical errors or omissions. Information subject to change without notice. The information in this catalog is only accurate as of the date of publication. For a more current information base, please consult the Parker Parflex Division web site at [www.parker.com/parflex](http://www.parker.com/parflex).



## Hose Assemblies Tutorial

- Review twin/multi-line hose separation page if applicable- this will give you information before proceeding to the assembly pages- not following this procedure may cause permanent damage to hoses
- Review the PMM (Parker Minute Machine) hand swaging machine information if swaging- further information is included with each PMM unit
- Steps for crimping are clearly marked with sequences showing product distinctions (shown in bold panels to the left) between products lines
  - Crimping section as well as universal preparations for all hoses appear first
  - Field attachable, assemblies appear next
  - References to specific pages and sequences are clearly indicated (e.g. for 90 series field attachable fittings skip to page 246)
  - The crimping machine shown in the examples is a PARKRIMP I machine\*

\*The Hose Products Division Parkrimp I is used as an example in this section for illustration and instruction purposes. The PARKRIMP crimping system is the same for all standard Parker portable or bench style crimpers. Please note: You must become familiar with your own specific crimper to determine its operational features. Please review thoroughly and understand your operator's manual included with your machine. Never use a crimper beyond its recommended published capacities. Crimp specifications can be found in this catalog and on line by accessing Crimp Source. [www.parker.com/dayco/csonline/crimpsource.asp](http://www.parker.com/dayco/csonline/crimpsource.asp)

## Dash Sizes for Hose and Tubing

Dash sizes are commonly used to designate hose I. D., plastic tubing and metal tubing O. D. and coupling size.  
 Dash size systems in common use:

| Nominal Hose I. D.<br>or Tubing O. D. |             | Dash Number<br>for all SAE Hose<br>Except 100R5 | Dash Number<br>for<br>SAE 100R5 | Dash Number<br>for<br>TFE Hose | Nominal<br>DIN<br>Size |
|---------------------------------------|-------------|---|---------------------------------|--------------------------------|------------------------|
| Inches                                | Millimeters |   |                                 |                                |                        |
| 1/8                                   | 3,2         | -2  | -                               | -                              | -                      |
| 3/16                                  | 4,8         | -3  | -4                              | -4                             | 5                      |
| 1/4                                   | 6,3         | -4  | -5                              | -5                             | 6                      |
| 5/16                                  | 7,9         | -5  | -6                              | -6                             | 8                      |
| 3/8                                   | 9,5         | -6  | -                               | -                              | 10                     |
| 13/32                                 | 10,3        | -6.5  | -8                              | -8                             | -                      |
| 1/2                                   | 12,7        | -8  | -10                             | -10                            | 12                     |
| 5/8                                   | 15,9        | -10   | -12                             | -12                            | 16                     |
| 3/4                                   | 19,1        | -12   | -                               | -                              | 20                     |
| 7/8                                   | 22,2        | -14   | -16                             | -16                            | -                      |
| 1                                     | 25,4        | -16   | -                               | -                              | 25                     |
| 1-1/8                                 | 28,6        | -   | -20                             | -20                            | -                      |
| 1-1/4                                 | 31,8        | -20   | -                               | -                              | 32                     |
| 1-3/8                                 | 34,9        | -   | -24                             | -24                            | -                      |
| 1-1/2                                 | 38,1        | -24   | -                               | -                              | 40                     |
| 1-13/16                               | 46,0        | -   | -32                             | -32                            | -                      |
| 2                                     | 50,8        | -32   | -                               | -                              | -                      |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

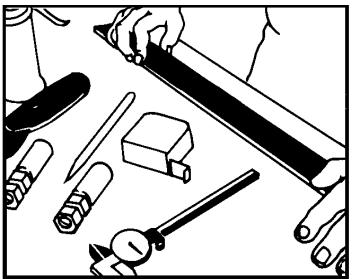
Alphanumeric  
Index

# Metric Conversion Chart

| English to Metric         |   |  | Metric to English          |  |   |                   |
|---------------------------|---|--|----------------------------|--|---|-------------------|
|                           | To Convert From   | To   | Multiply By                | To Convert From                                  | To  | Multiply By       |
| Area                      | sq. in. (in <sup>2</sup> )                              | sq. mm (mm <sup>2</sup> )                        | 645.16                     | sq. mm (mm <sup>2</sup> )                        | sq. in. (in <sup>2</sup> )                              | 0.00155           |
|                           | sq. in. (in <sup>2</sup> )                              | sq. cm (cm <sup>2</sup> )                        | 6.4516                     |  |   |                   |
|                           | sq. ft. (ft <sup>2</sup> )                              | sq. meters (m <sup>2</sup> )                     | 0.0929                     |  |   |                   |
| Density                   | pounds/cubic foot (lb.ft <sup>2</sup> )                 | kilograms/cubic meter (kg/m <sup>2</sup> )       | 16.02                      | kilograms/cubic meter (kg/m <sup>2</sup> )       | pounds/cubic foot (lb.ft <sup>2</sup> )                 | 0.0624            |
| Energy                    | British Thermal Units (Btu) (1 J=Ws=0.2388 cal)         | joules (J)                                       | 1055                       | joules (J)                                       | British Thermal Units (Btu)                             | 0.000947          |
| Force                     | pounds - force (lbf) (1N=0.102 kgf)                     | newtons (N)                                      | 4.448                      | newtons (N)                                      | pounds - force (lbf)                                    | 0.2248            |
| Length                    | inches (in)   | millimeters (mm)                                 | 25.4                       | millimeters (mm)                                 | inches (in)   | 0.03937           |
|                           | feet (ft)   | meters (m)                                       | 0.3048                     | meters (m)                                       | feet (ft)   | 3.281             |
|                           | miles (mi)  | kilometers (km)                                  | 1.609                      | kilometers (km)                                  | miles (mi)  | 0.621             |
| Mass (Weight)             | ounces (oz.)  | grams (g)  | 28.35                      | grams (g)  | ounces (oz.)  | 0.035             |
|                           | pounds - mass (lb)                                      | kilograms (kg)                                   | 0.4536                     | kilograms (kg)                                   | pounds - mass (lb)                                      | 2.205             |
|                           | short tons (2000 lb) (tn)                               | metric tons (100 kg) (t)                         | 0.9072                     | metric tons (100 kg) (t)                         | short tons (2000 lb) (tn)                               | 1.102             |
| Power                     | horsepower (550 ft lb/s) (hp)                           | kilowatts (kW)                                   | 0.7457                     | kilowatts (kW)                                   | horsepower (550 ft lb/s) (hp)                           | 1.341             |
| Pressure                  | pounds/square inch (PSI)                                | kilograms (f)/square cm (kg(f)/cm <sup>2</sup> ) | 0.7457                     | kilograms (f)/square cm (kg(f)/cm <sup>2</sup> ) | pounds/square inch (PSI)                                | 14.22             |
|                           |   | kilopascals (kPa)                                | 0.0703                     | kilopascals (kPa)                                |   | 0.145             |
|                           |   | bars (100 kPa)                                   | 6.8948                     | bars (100 kPa)                                   |   | 14.503            |
| Stress                    | pounds/square inch (PSI) (1N/mm <sup>2</sup> =1MPa)     | megapascals (MPa)                                | 0.006895                   | megapascals (MPa)                                | pounds/square inch (PSI) (1N/mm <sup>2</sup> =1MPa)     | 145.039           |
| Temperature               | degrees Fahrenheit (°F)                                 | degrees Celsius (°C)                             | 5/9 (after subtracting 32) | degrees Celsius (°C)                             | degrees Fahrenheit (°F)                                 | 9/5 (then add 32) |
| Torque or Bend-ing Moment | pounds-force-foot (lb-ft)                               | Newtons-meter (Nm)                               | 1.3567                     | Newtons-meter (Nm)                               | pounds-force-foot (lb-ft)                               | 0.737             |
|                           | pounds-force-inch (lb-in)                               |  | 0.113                      |  | pounds-force-inch (lb-in)                               | 8.85              |
| Velocity                  | feet/second (ft/s)                                      | meters/second (m/s)                              | 0.3048                     | meters/second (m/s)                              | feet/second (ft/s)                                      | 3.2808            |
| Viscosity                 | dynamic (centipoise)                                    | Pascal-second (Pas)                              | .001                       | Pascal-second (Pas)                              | dynamic (centipoise)                                    | 1000              |
|                           | denematic - foot <sup>2</sup> /sec (ft <sup>2</sup> /s) | meter <sup>2</sup> /sec (m <sup>2</sup> /s)      | 0.0929                     | meter <sup>2</sup> /sec (m <sup>2</sup> /s)      | denematic - foot <sup>2</sup> /sec (ft <sup>2</sup> /s) | 10.7643           |
| Volume                    | cubic inch (in <sup>3</sup> )                           | cubic centimeter (cm <sup>3</sup> ) (mililiter)  | 16.3871                    | cubic centimeter (cm <sup>3</sup> ) (mililiter)  | cubic inch (in <sup>3</sup> )                           | 0.061             |
|                           | quarts (qt)   | liters (1000 cm <sup>3</sup> )                   | 0.9464                     | liters (1000 cm <sup>3</sup> )                   | quarts (qt)   | 1.057             |
|                           | gallons (gal)   | liters   | 3.7854                     | liters   | gallons (gal)   | 0.2642            |

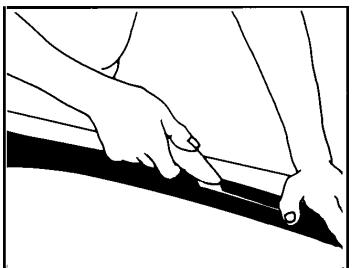
Factory-built assemblies are available using twin/multi-line hoses. When field-built assemblies are preferred, the following steps must be taken.

### 1 SET-UP



Position twinned or multi-line hose assembly so that it lies flat on work surface without tendency to twist or turn.

### 4 CUT HOSE TO LENGTH

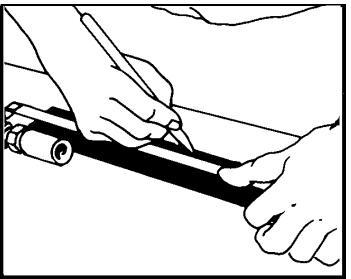


Press the multi-line hose assembly firmly and flat against the work surface with your free hand so that it does not move. Using a Stanley trimming knife model No. 10-515 or equivalent, draw the knife toward you with constant light to moderate pressure, and a smooth stroke. Multiple strokes will be necessary to separate the hoses.

**NOTE**

It is important that the knife blade be perpendicular to the hose during this procedure so that the blade cuts only the center line of the web. EXTREME CARE MUST BE TAKEN TO AVOID CUTTING THROUGH THE COVER OF THE HOSES AND THEREBY EXPOSING THE HOSE REINFORCEMENT. If this occurs, the hose assembly must be discarded. (See sketch A.) If the separation length is greater than that which can be accomplished with one continuous, smooth stroke, then the procedure should be repeated over shorter distances always cutting toward the free end of the hoses.

### 2 MEASURE HOSE TO LENGTH

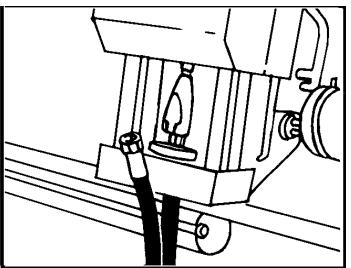


Measure and mark the length that the hoses are to be separated.

**NOTE:**

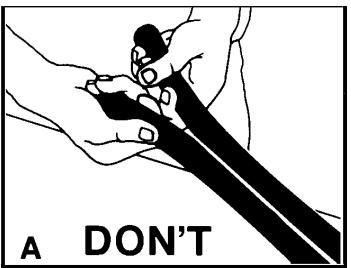
If length of separation is specified from the threaded or swivel nut end of coupling, deduct the cutoff allowance dimension for the specific style of coupling used. The cutoff allowance is obtainable from the hose fitting tables or can be calculated by subtracting the insertion depth of the shell from the overall coupling length.

### 5 MEASURE SEPARATION



It is suggested that the separation length be sufficiently long so that the swaging or crimping operation can be accomplished without risk of kinking the hoses or tearing the web which could result in exposure of the hose reinforcement. (See sketch B)

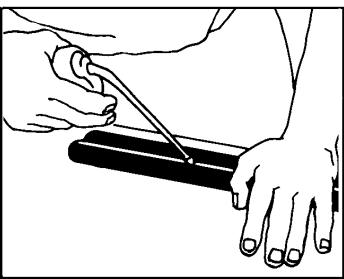
### A INCORRECT HANDLING



#### A DON'T

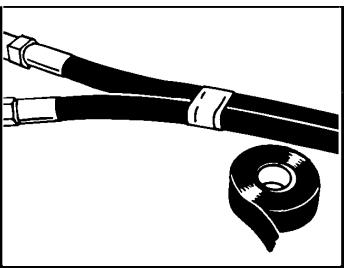
EXTREME CARE MUST BE TAKEN TO AVOID CUTTING THROUGH THE COVER OF THE HOSES AND THEREBY EXPOSING THE HOSE REINFORCEMENT. If this occurs, the hose assembly must be discarded.

### 3 LUBRICATE



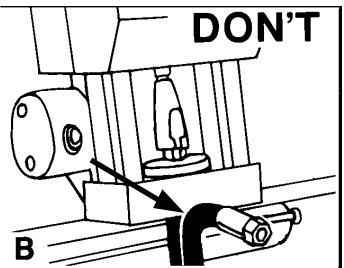
Lightly lubricate the web area between the hoses. Distribute the lubricant uniformly along the web of the assembly to be separated. Parker Hose-Oil or any lightweight oil will suffice. (SAE 10 or 20) The function of the oil is to reduce the friction of the knife blade so that it naturally seeks the center of the valley formed by the hoses. This eliminates the need for the operator to steer the knife.

### 6 APPLY TAPE



At the option of the assembler as dictated by the installation, it is suggested that a nylon lashing strap or tape be applied at the termination of the separated length to provide protection against tearing of the web or hose covers.

### B INCORRECT HANDLING



#### DON'T

The separation length must allow for the swaging or crimping operation without damaging the hose.

**1** MEASURE & CUT HOSE TO LENGTH

ALL HOSES



Verify the type and size hose printed on layline match work order.

**NOTE:**

When calculating hose length, take into consideration the change in hose length (expansion/contraction) that may occur during pressurization.

Using a flexible or rigid measuring tape, measure the length of hose required as follows:

- a. Verify required length of hose assembly with fittings.
- b. Subtract "Cutoff Allowance" of each fitting from hose assembly length. (Refer to Hose Fittings Tables in Catalog 4660 for proper cutoff allowances)

**EXAMPLE:**

Hose assembly length with fittings = 12"

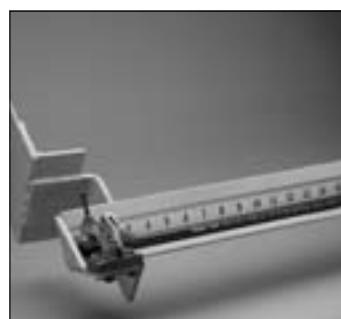
Fitting Cutoff Allowance  
(125HBL-6-6) 3/4"

Fitting Cutoff Allowance  
(125HBL-6-6) 3/4"

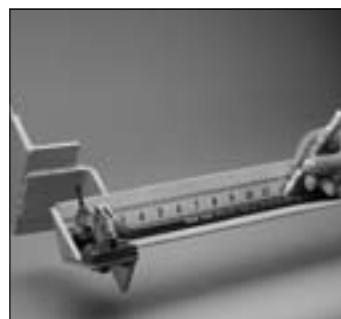
Total Cutoff Allowance 1-7/16"

12"- 1-7/16" = 10-9/16"

Length of hose required = 10-9/16"

**2** MEASURE & CUT HOSE TO LENGTH

Secure hose in some type of fixture to ensure straightness.



Measure and mark hose.



Tape hose securely so mark is in center of tape and mark tape. 919U hoses can not be taped.

**CAUTION:**

Do not use abrasive wheels to cut hose. Abrasive wheels will damage core tube.

**3** MEASURE & CUT HOSE TO LENGTH

Using a Parker Model 316 cutoff tool, Parflex PHC hand cutter or other sharp cutter, cut hose squarely to correct length.



Using a Parker Model 332-T-115V Hose Cutoff Machine or fine-toothed hacksaw, cut hose squarely to length.

A power hose cutoff saw should always be used on PTFE and wire reinforced thermoplastic and hybrid hoses.

**4** INSPECT HOSE

HYBRID &amp; THERMOPLASTIC



Visually inspect both ends of hose for squareness.. Remove any burrs on core tube with a sharp knife.

GPH HOSES



Visually inspect both ends of hose. Ensure end of hose is cut squarely, has no loose or frayed reinforcement and core tube is not damaged. Trim hose as required.

PTFE HOSES



Visually inspect both ends of hose for squareness, loose wires and burrs on core tube. Trim any loose wires flush with tube and remove any burrs on tube with a sharp knife.

**SQ SWAGER ASSEMBLY:**

For swaged Predator Hose assemblies using the SQ-101 swager, please proceed to page 251.

**5** INSPECT FITTINGS

Verify fitting part number(s) match work order.

Visually inspect fitting(s) for a through-hole, threads and damage.



Verify fitting and ferrule part number(s) match work order.



Verify fitting part number(s) match work order.

Visually inspect fitting(s) for a through-hole, threads and damage.

**PTFE FIELD ATTACHABLES:**

For further instruction on PTFE 90 Series Field Attachable assembly, please proceed to page 246 for steps 6 - 25.

**HYD. FIELD ATTACHABLES:**

For further instruction on Hydraulic Field Attachable assembly, please proceed to page 244 for steps 6 - 14.

**6** ASSEMBLE HOSE

Mark hose end with proper insertion depth line as follows:

Place fitting next to hose and align annular crosshatched ring on fitting with end of hose.

**GPH HOSES:**

Please proceed to page 240 for continued instruction.



Mark hose end with proper insertion depth line. For 919U hoses, use a sharp knife and light pressure to cut back the urethane cover at least the length of the insertion depth of the fitting.

**WARNING:**

Do not use lubricating oil when installing fittings on hose used in oxygen service. When installing fittings on hose used in oxygen service lubricate with a non-oil based soap solution. Failure to do so may result in an explosion and personal injury when hose is used.

**7 ASSEMBLE HOSE**

Using Parker Hoze-Oil or an SAE 20 lubricating oil, lightly lubricate inside of hose end. (Use soap solution for oxygen service. This practice should only be done if necessary.)

**GPH HOSES**

Insert hose into ferrule until hose bottoms out against lip of ferrule.

**PTFE HOSES**

Push fitting onto hose slightly and then remove tape. Continue pushing fitting onto hose until fitting reaches depth insertion mark. (If fitting does not readily slide onto hose, perform the next step.)

**8 ASSEMBLE HOSE**

Push hose into fitting all the way to depth insertion mark. (If fitting does not readily slide onto hose, perform the next step.)

**9 ASSEMBLE HOSE**

Tap fitting onto hose as follows: Using Parker VBS or VBL vise blocks, place hose with fitting into proper hole of vise block and place in bench vise.

**CAUTION:**

Ensure hose extends from vise blocks only enough to clear depth insertion mark. Failure to do this may result in harmful kinking of hose.



Push fitting inward completely until hex of fitting is flush with end of ferrule.

**GPH:** For further instruction on GPH assembly, please proceed to step 11.

**PTFE:** For further instruction on PTFE assembly, please proceed to step 11.

**10 ASSEMBLE HOSE**

HYBRID &amp; THERMOPLASTIC



Using a rubber mallet, tap fitting onto hose until bottom of fitting shell is aligned with depth insertion mark. Repeat Steps 7-10 for other end of hose if required.

**NOTE**

The following steps are performed using the Parker Parkrimp I.

**NOTE**

Pusher slide pin is located inside rear of pusher.

**CAUTION**

Do not use the black spacer ring on Parflex fittings. Use of the black spacer ring will result in improperly crimped fittings and hose assemblies.

**11 ASSEMBLE HOSE**

ALL HOSES



Select proper Parkrimp die set. (Refer to Assembly Tool Selection Chart in Catalog 4660 or 4690 for proper Parkrimp die part number.)

**12 ASSEMBLE HOSE**

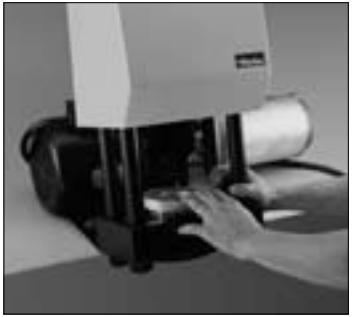
Using a molybdenum disulfide type grease, apply a thin layer of grease on bowl of crimper base plate.

**13 ASSEMBLE HOSE**

Place die set into bowl.

**CAUTION**

The silver die ring must be used for all Parflex fittings. Failure to do so will result in improperly crimped fittings and hose assemblies.

**14 ASSEMBLE HOSE**

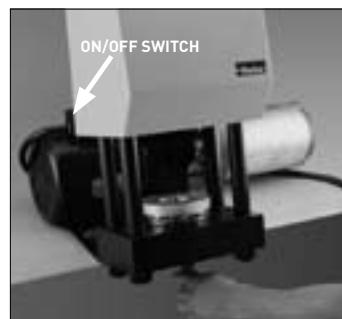
Place silver die ring on top of die. Position ring so it is centered on die.

**CAUTION**

When positioning fitting in die, ensure fitting skirt rests on die step. Failure to do so will result in an improperly crimped or damaged fitting.

**15 ASSEMBLE HOSE**

Insert hose and fitting from bottom of crimper and up through die set. Position fitting so bottom of fitting skirt rests on die step.

**16 ASSEMBLE HOSE**

Turn on crimper.

**NOTE**

Pump on crimper should not exceed 3000 PSI. Parker Hannifin will not accept responsibility for the operation of or provide warranty coverage for a crimper that is operated by a power unit other than equipment supplied by Parker Hannifin for the express purpose of operating the crimper.

**WARNING**

Keep fingers and hands away from die-pusher area. Failure to do so may result in personal injury.

**19 ASSEMBLE HOSE**

Push handle to retract pusher.

**17 ASSEMBLE HOSE**

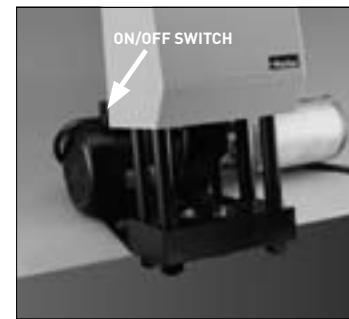
While holding hose and fitting in position on die step, pull down on handle to activate crimper.

**18 ASSEMBLE HOSE**

Crimp fitting onto hose until die ring contacts base plate.

**20 ASSEMBLE HOSE**

Remove hose assembly and die set.

**21 ASSEMBLE HOSE**

Repeat Steps 13-20 for the other end of hose if required.

Turn off Crimper

## ALL HOSES

**22** MEASURE & INSPECT

Measure and verify hose assembly length matches work order.

**23** MEASURE & INSPECT

Inspect insertion depth mark at fitting ends. Insertion mark must be visible and within 1/8" of bottom of shell.

**24** MEASURE & INSPECT

Measure crimp diameter of each fitting at top, middle and bottom of shell. Take measurements at a minimum of three places around shell circumference. Verify crimp diameter is within tolerances. (Refer to Crimp Specification & Tool Selection Chart for proper crimp diameters.)

Pressure test hose assembly if required.

CONTINUED FROM PAGE 239

**6** INSPECT FITTINGS

Visually inspect fitting(s) as follows: Inspect socket for threads in shoulder, threads in shell and damage.

## FIELD ATTACHABLES

**7** INSPECT FITTINGS

Inspect nipple for a through-hole, threads, hex and damage. Ensure swivel nut is properly crimped, has threads and turns freely.

**8** ASSEMBLE HOSE

Using Parker Hoze-Oil or an SAE 20 lubricating oil, lightly lubricate inside and outside of hose end.

**CAUTION**

Ensure hose is installed in correct size hole of vise block. Clamping hose in a smaller hole will crush hose.

**9** ASSEMBLE HOSE

Using a Parker VBS or VBL vise block, place hose in proper hole of vise block and place in bench vise. Ensure enough hose extends from vise block to install socket.

**CAUTION**

Socket should be firm when tightened but not difficult to turn. If socket is difficult to install, check hose for proper lubrication. Re-apply lubricating oil as necessary. Installation of socket without proper lubrication may damage hose.

**10** ASSEMBLE HOSE

Using a wrench, screw socket onto hose counterclockwise until it bottoms. Ensure end of hose is against inside shoulder. Back off socket 1/4 turn clockwise.

**11** ASSEMBLE HOSE

Remove vise block and hose from vise.

Place hex portion of socket into vise and tighten vise. Ensure socket extends past vise jaws enough to allow for installation of nipple.

**CAUTION**

When tightening socket in vise, do not over tighten vise jaws. Over tightening vise jaws will distort internal threads of socket and hamper installation of nipple.

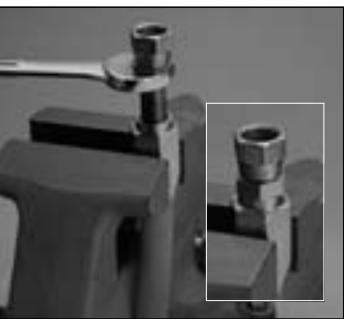
## FIELD ATTACHABLES

**12** ASSEMBLE HOSE

Using Parker Hoze-Oil or an SAE 20 lubricating oil, generously lubricate nipple threads and hose I.D..

**CAUTION**

Nipple should be firm when tightened but not difficult to turn. If nipple is difficult to install, check hose for proper lubrication. Re-apply lubricating oil as necessary. Installation of nipple without proper lubrication will damage core tube.

**13** ASSEMBLE HOSE

Using a wrench on the nipple hex, screw nipple into socket clockwise until nipple bottoms against socket shoulder.

**14** MEASURE & INSPECT

Measure and verify hose assembly length matches work order. Pressure test hose assembly if required.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Tooling &  
Equipment

Truck (Fleet)  
Products

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

CONTINUED FROM PAGE 239

**6** INSPECT FITTINGS

Verify fitting part number(s) match work order.

**9** INSPECT FITTINGS

Inspect sleeve for scratches and damage.

**NOTE**

When installing sockets on hose, check hose ends to determine if wire braid "necks down" (bends inward). If one end "necks down" use this end to slide sockets onto hose.

**12** ASSEMBLE HOSE

Mount nipple hex in vise. Ensure nipple end extends beyond vise jaws sufficiently to allow installation of hose.

**7** INSPECT FITTINGS

Visually inspect fitting(s) as follows:  
Inspect socket for a through-hole, threads in shell and damage.

**10** ASSEMBLE HOSE

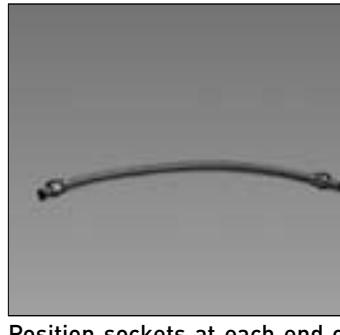
Slide two sockets over end of hose with bottom of sockets back to back.

**13** ASSEMBLE HOSE

Push hose bore onto nipple to size tube and to aid in separating braid before fitting sleeve.

**8** INSPECT FITTINGS

Inspect nipple for a through-hole, threads, hex and damage. Ensure swivel nut is properly crimped, has threads and turns freely.

**11** ASSEMBLE HOSE

Position sockets at each end of hose.

**14** ASSEMBLE HOSE

Remove hose from nipple.

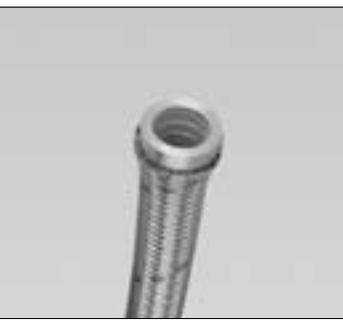
## 90 SERIES

**15** ASSEMBLE HOSE

Verify tube butts against inside shoulder of sleeve.

**16** ASSEMBLE HOSE

By hand, push sleeve over end of TFE core tube and under wire braid.

**17** ASSEMBLE HOSE

To complete positioning of sleeve, push hose end with sleeve, against a solid flat surface.

**18** ASSEMBLE HOSE

Using a tapered punch, push punch into end of sleeve and tube to set sleeve barbs into tube.

**WARNING**

Do not use lubricating oil when installing fittings on hose used in oxygen service. When installing fittings on hose used in oxygen service lubricate with a non-oil based soap solution. Failure to do so may result in an explosion and personal injury when hose is used.

**19** ASSEMBLE HOSE

Using Parker Hoze-Oil or an SAE 20 lubricating oil, lubricate nipple and socket threads. For stainless steel fittings use Parker 702 Oil or a molybdenum type lubricant. For hose used in oxygen service lubricate using a non-oil based soap solution.

**20** ASSEMBLE HOSE

Using a twisting motion, push hose over nipple until hose is seated against nipple chamfer.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

**21 ASSEMBLE HOSE**

Push socket forward and hand-start threading of socket to nipple.

**CAUTION**

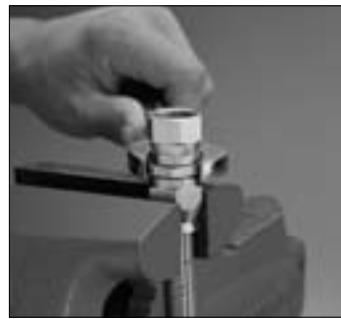
When tightening socket in vise, do not over tighten vise jaws. Over tightening vise jaws will distort internal threads of socket and hamper installation of nipple.

**22 ASSEMBLE HOSE**

Remove assembly from vise and reposition with socket in vise jaws. Ensure socket extends beyond vise jaws far enough to allow nipple to be completely tightened.

**23 ASSEMBLE HOSE**

Wrench tighten nipple hex until clearance between hex and socket hex is  $1/32"$  or less.

**24 ASSEMBLE HOSE**

Tighten further to align corners of nipple and socket hexes if necessary.

Repeat Steps 12-24 for other end of hose.

**25 MEASURE & INSPECT**

Measure and verify hose assembly length matches work order.  
Pressure test hose assembly if required.

# Ferrul-Fix Installation Instructions

## Ferrul-Fix

**Fast, on-the-job repair for ruptured bent tube hose assemblies and power steering lines.**

The life of the combination tube-hose assembly is often limited to the service life of the hose alone. A replacement assembly may not be available, since equipment dealers are unable to stock all of the many odd tube configurations.

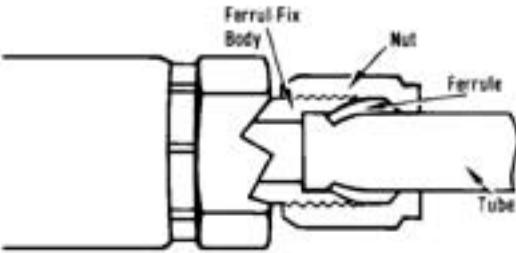
Parker Ferrul-Fix hose end fitting now makes it possible to salvage the bent tube section of the original assembly for replacement. Most importantly, it gets you back into operation FAST!

- **Gets you back in operation fast** — No costly delays while replacement assemblies are rushed from the factory.
- **Lets you reuse expensive bent tube ends** — You can replace the hose at a fraction of the cost of complete assembly.
- **Eliminates need for emergency brazing or welding in the field** — Ferrul-Fix can be assembled without special tools or equipment.

**3-Piece Design** — body, nut, ferrule. Wedging action of ferrule, when drawn down by nut, forms seal between body and ferrule, while cutting edge of ferrule bites into tube wall forming another positive seal.

**Visible Bite** — Extent of bite at cutting edge of ferrule is completely visible when fitting is disassembled, an important safety feature. Self-centering action assures an even bite around circumference of tube.

**Parkerized Finish** — Ferrul-Fix fittings have the Parkerized black finish, providing built-in torque in make-up.



## Ferrul-Fix Installation Instructions

1. Cut the formed tube off squarely next to the permanent hose fitting. Lightly debur the end of the tube internally and externally.
2. Disassemble the Ferrul-Fix fitting, and lubricate threads and both ends of the ferrule with Parker Ferulube.
3. Slide nut and ferrule onto tubing with the long, straight end of the ferrule pointing toward the tube end.
4. Insert tube end into the Ferrul-Fix body until it bottoms against the shoulder. Slide ferrule inside body, and screw nut down finger tight.
5. Wrench nut down 1-3/4 turns to preset the ferrule.
6. Disconnect nut and inspect lead edge of ferrule to make certain that the biting edge has turned up a shoulder to a height of at least 50% of the ferrule and completely around the tube.
7. Assemble Ferrul-Fix fitting to hose. Refer to assembly instructions listed in appropriate fittings section. Do not assemble to hose before step 1-6.
8. Reassemble tubing into Ferrul-Fix end and turn nut down easily until a sudden increase in force is evident. Turn bent tube to proper position if required. Using two wrenches, one on the fitting nipple hex and the other on the nut, tighten nut an additional 1/6 turn (one wrench flat).

For additional information, see Parker Tube Fittings Division Catalog 4300, Ferulok instructions.

Hydraulic & Pneumatic Hose & Fit.

PTFE Hose & Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings & Accessories

Truck (Fleet) Products

Tooling & Equipment

Hose Accessories

Technical & Design Information

Approvals & Guides

Alphanumeric Index

## I. Preparation of PMM-1 Portable Swaging Machine

Clean and lubricate Acme lead screw assembly. Use lightweight lithium or molybdenum-based grease.

Clean and relubricate as required, particularly if the tool has been exposed to dust or dirt during storage.

## II. Versatile Features of PMM-1 Include

Three methods of mounting: bench, vise, or horizontal unsecured for ground or flat work surface.

Swage die retaining clips for horizontal position.

Thumbscrew for quick change of coupling pushers.

Optional crank handle box end wrench part number **821072**.

## III. Swaging in Vertical Bench Mounting Position

Install appropriate pusher, part number selected from coupling style charts in 4660 Parflex catalog fitting section.

Clean and lubricate bore of swage dies with Parker **Hoze - Oil** or other high film strength Oil. Repeat after two or three swages. Use Parker 702 oil when swaging stainless steel couplings and lubricate each coupling.

Install two-piece split die in bowl. Select proper die for specific coupling style and hose size from assembly tool selection chart in the 4660 catalog.

After having properly inserted hose into coupling and marking insertion depth, remove or elevate one die segment to allow installation of hose and coupling.

Insert coupling all the way into pusher and exert an upward force; replace die segment in bowl of swager. Verify proper alignment with mating die half.

If lubrication has not previously been accomplished, now is another opportunity to lubricate dies.

**Note:** To avoid premature wear of dies, it is essential to distribute oil around the complete bore of dies.

Using an appropriate wrench, begin clockwise rotation of hex drive nut. As skirt of coupling approaches the die opening, properly align entry of coupling by deflecting the hose as required continuing to exert an upward force on hose and coupling to keep it fully inserted in pusher.

**Note:** The crank style box end wrench part number **821072** is recommended as it eliminates slipping and provides easier nonstop rotation of drive nut.

Continue swaging stroke until bottom face of pusher fully contacts top face of dies.

Retract pusher sufficiently to allow removal of swaged coupling.

Measure swaged diameter of coupling and inspect threads of male style couplings for any indication of damage. On female swivel style couplings, inspect for free rotation and condition of nut.

## IV. Swaging in Horizontal or Unsecured Position

Position torque reaction arm at 90° to the center line of the machine.

Following insertion of hose/coupling assembly into machines, it is necessary in this position to secure the die halves with the spring retaining clips provided.

In the horizontal position, it is easier and recommended to insert both die halves at the same time after the hose and coupling have been inserted.

Each of the previously specified procedures also applies to use of the PMM-1 swager in this position.

## V. Vise Mounting

Secure PMM-1 swager in vise using only the lug or ear provided.

**DO NOT ATTEMPT** to vise mount by gripping the round and tapered base of the machine. To do so can result in serious injury.

Using the vise lug, the machine may be mounted at an inclined angle or may be mounted horizontally using the full area of the mounting lug; this will be determined by the work area arrangements.

**Note:** When using the PMM-1 swager in the reaction arm position or the vise mounted position, it will not be possible to maintain constant rotation of the driving nut. It is recommended, however, that a continuous, smooth stroke be maintained whenever possible.

CONTINUED FROM PAGE 239

## SEWER HOSE

**5** INSPECT FITTINGS

Verify fitting part number matches work order.

Visually inspect fitting for properly crimped shells, internal barbs, a through-hole and damage.

**8** ASSEMBLE HOSE

Repeat Steps 4a and 4b for other hose.

**6** ASSEMBLE HOSE

Mark each hose end with proper insertion depth line as follows:

Place fitting next to hose and align annular crosshatched ring on fitting with end of hose.

**7** ASSEMBLE HOSE

Mark hose at bottom of fitting shell. (Mark indicates the full length in which hose will be inserted into fitting.)

**9** ASSEMBLE HOSE

Using Parker Hoze-Oil or an SAE 20 lubricating oil, lightly lubricate inside of both hose ends.

**10** ASSEMBLE HOSE

Push each hose end into fitting all the way to depth insertion mark.

**NOTE**

The following steps are performed using the PSH-Swager.

**NOTE**

You must use 2 complete dies for each size.

**CAUTION**

Make sure both die halves are the same size and their serial numbers match. Failure to do so will result in an improperly crimped fitting.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

**11 ASSEMBLE HOSE**

SEWER HOSE



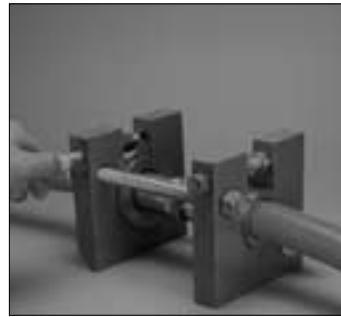
Remove both die securing bolts and nuts.

**12 ASSEMBLE HOSE**

Place hose and fitting assembly into position on swager.

**13 ASSEMBLE HOSE**

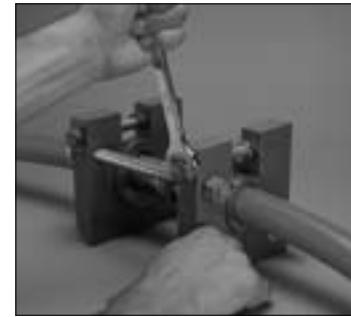
Insert both die halves around hose in each end of swager.

**14 ASSEMBLE HOSE**

Install both die securing bolts with nuts positioned in opening of swager plates.

**CAUTION**

When swaging stainless steel fittings, lubricate through-hole of dies with Parker 702 Oil. Failure to do so may result in damage to fittings.

**15 ASSEMBLE HOSE**

Tighten die securing bolts  $1/4$  turn past finger tight.

**16 ASSEMBLE HOSE**

Using Parker Hoze-Oil or an SAE 20 lubricating oil, generously lubricate fitting surface and I.D. of dies. (For stainless steel fittings, use Parker 702 Oil.)

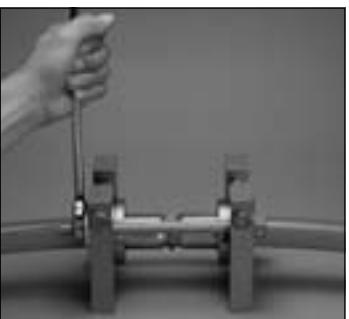
**CAUTION**

Ensure swager plates remain in parallel when tightening swager bolts. Failure to do so will result in an improperly swaged fitting.

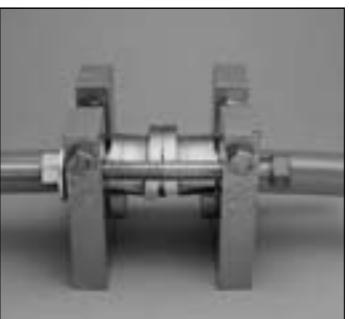
Generously Lubricate swaging bolts. Failure to do so may result in an improperly swaged fitting.

**17** ASSEMBLE HOSE

SEWER HOSE



Align swager plates in parallel and tighten nuts on swaging bolts uniformly until dies touch.

**18** ASSEMBLE HOSE

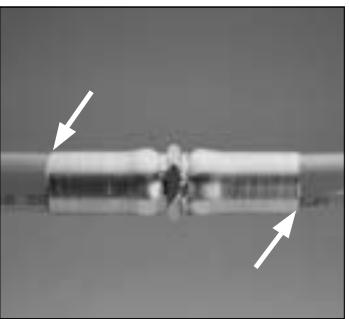
Loosen swaging bolts to release pressure on dies.

**19** ASSEMBLE HOSE

Remove die securing bolts and nuts, and remove dies.

**20** ASSEMBLE HOSE

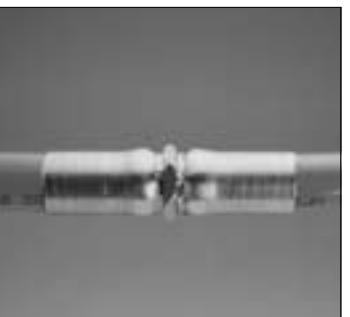
Lift out hose assembly.

**21** MEASURE & INSPECT

Inspect depth insertion mark at fitting ends. Insertion mark must be visible and within 1/8" of bottom of fitting shell.

**22** MEASURE & INSPECT

Measure swage diameter of each end of fitting at top, middle and bottom of shell. Take measurements at a minimum of three places around shell circumference. Verify swage diameter is within tolerances. [Refer to Swage Specification & Tool Selection Chart for proper swage diameters.]

**23** MEASURE & INSPECT

Pressure test hose if required.

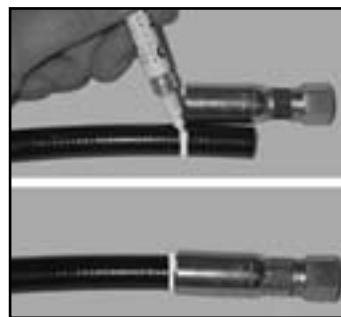
**SWAGER TOOLING**

| Part Number    | Description        |
|----------------|--------------------|
| SQ-101-SW      | Swager/Mender      |
| SQ-101-12S6/S9 | Size S612/S912 die |
| SQ-101-16S6    | Size S616 die      |
| SQ-101-16S9    | Size S916 die      |
| SQ-101-20S6    | Size 20 die        |
| SQ-101-12P     | Size 12 pusher     |
| SQ-101-16P     | Size 16 pusher     |
| SQ-101-20P     | Size 20 pusher     |

S624, HFS212 & HFS216 cannot be swage mended.

**1 ASSEMBLE HOSE**

55, 57, 58 and 91N



Place the hose next to the fitting and align it with the knurl marks in the fitting shell. Mark the length onto the hose. Push hose into the fitting until the mark on the hose is even with the end of the fitting shell (lubricate hose, if necessary).

**2 ASSEMBLE HOSE**

Select proper MiniKrimp die set. For Parflex hoses, see Parflex Hose Swage & Crimp Selection Chart in this catalog.)

**3 ASSEMBLE HOSE**

Place unitized die set into base plate.

**4 ASSEMBLE HOSE**

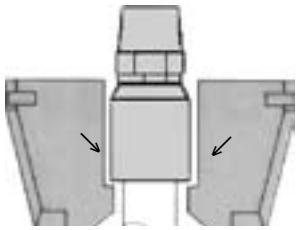
Place proper die ring on top of the selected die. See Parker PFD Catalog 4660 for proper die ring selection.

**5 ASSEMBLE HOSE**

Slide pusher into place onto shoulder bolt.

**6 ASSEMBLE HOSE**

Position the hose and fitting in dies from below.

**7 ASSEMBLE HOSE****PARKALIGN® FEATURE**

55, 57, 58 and 91N

Rest bottom of coupling on die step using PARKALIGN® feature.

**8 ASSEMBLE HOSE**

While holding hose and fitting into position on die step, begin pumping hand pump until die ring contacts base plate.

**9 ASSEMBLE HOSE**

Release pressure, remove finished assembly. Check crimp diameter. See Parker PFD Catalog 4660 for correct crimp diameter measurements.

**10 ASSEMBLE HOSE**

Measure crimp diameter of each fitting at the top, middle and bottom of the shell. Take measurements at a minimum of three places around the shell circumference. Verify crimp diameter is within tolerances. [See Parflex Hose Swage & Crimp Selection Chart in this catalog.]

**NOTE:**

Hose assemblies must be inspected for cleanliness and should be free of all foreign particles.

**NOTE:**

Parker Hannifin will not accept responsibility for the operation of, or provide warranty coverage for, a crimper that is operated by a power unit other than equipment supplied by Parker Hannifin for the express purpose of operating that crimper.

## Crimp Specification &amp; Tool Selection Chart

| Hose Type | Size | Ftg. Ser. | Crimp Die 80C-*83C- | Min. (in) | Max. (in) | Min. (mm) | Max. (mm) |
|-----------|------|-----------|---------------------|-----------|-----------|-----------|-----------|
| 510A      | -2   | 57        | P02H                | 0.396     | 0.410     | 10.0      | 10.4      |
| 510/510A  | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 510/510A  | -4   | 55        | P04J                | 0.535     | 0.555     | 13.5      | 14.1      |
| 510A      | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 510/510A  | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 510A      | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 510A      | -12  | 55        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 510/510A  | -3   | SU        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 510/510A  | -6   | SU        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 510A      | -8   | SU        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 518C/510C | -2   | 57        | P02H                | 0.396     | 0.410     | 10.0      | 10.4      |
| 518C/510C | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 518C/510C | -4   | 55        | P04J                | 0.535     | 0.555     | 13.5      | 14.1      |
| 518C/510C | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 518C/510C | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 518C/510C | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 518C/510C | -10  | 58        | P10H                | 1.000     | 1.020     | 25.4      | 26.0      |
| 518C/510C | -12  | 55        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 518C/510C | -16  | 55        | P16                 | 1.345     | 1.365     | 34.1      | 34.7      |
| 520N/528N | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 520N/528N | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 520N/528N | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 520N/528N | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 520N/528N | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 520N/528N | -10  | 55        | P10                 | 0.950     | 0.970     | 24.1      | 24.7      |
| 526BA     | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 526BA     | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 526BA     | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 540N      | -2   | 57        | P02H                | 0.396     | 0.410     | 10.0      | 10.4      |
| 540N      | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 540N/540P | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 540N      | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 540N/540P | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 540N/540P | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 540N/540P | -12  | 55        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 540R      | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 540N      | -3   | SU        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 540N/540P | -6   | SU        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 540N/540P | -8   | SU        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 540N/540P | -12  | HY        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 549       | -2   | 57        | P02H                | 0.396     | 0.410     | 10.0      | 10.4      |
| 549       | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 549       | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 549       | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 549       | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 549       | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |

| Hose Type  | Size | Ftg. Ser. | Crimp Die 80C-*83C- | Min. (in) | Max. (in) | Min. (mm) | Max. (mm) |
|------------|------|-----------|---------------------|-----------|-----------|-----------|-----------|
| 549        | -12  | 55        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 549        | -3   | SU        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 549        | -4   | SU        | P04J                | 0.535     | 0.555     | 13.5      | 14.1      |
| 549        | -6   | SU        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 549        | -8   | SU        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 55LT       | -2   | 57        | P02H                | 0.396     | 0.410     | 10.0      | 10.4      |
| 550H/55LT  | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 550H/55LT  | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 550H/55LT  | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 550H/55LT  | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 550H/55LT  | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 550H/55LT  | -12  | 55        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 550H/55LT  | -16  | 55        | P16                 | 1.345     | 1.365     | 34.1      | 34.7      |
| 550H/55LT  | -10  | 58        | P10H                | 1.000     | 1.020     | 25.4      | 26.0      |
| 550H/55LT  | -3   | SU        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 550H/55LT  | -4   | SU        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 550H/55LT  | -5   | SU        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 550H/55LT  | -6   | SU        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 550H/55LT  | -8   | SU        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 550H/55LT  | -12  | HY        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 55FR       | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 55FR       | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 55FR       | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 55FR       | -12  | 55        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 55FR       | -4   | SU        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 55FR       | -6   | SU        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 55FR       | -8   | SU        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 55FR       | -12  | HY        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 560        | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 560        | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 560        | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 560        | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 560        | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 560        | -8   | 55        | P08J                | 0.815     | 0.835     | 20.7      | 21.3      |
| 560        | -10  | 55        | P10                 | 0.950     | 0.970     | 24.1      | 24.7      |
| 560        | -12  | 58        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| 563        | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 563        | -4   | 55        | P04J                | 0.535     | 0.555     | 14.2      | 14.8      |
| 563        | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| 563        | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 563        | -8   | 55        | P08J                | 0.815     | 0.835     | 20.7      | 21.3      |
| 56DH/568DH | -1.5 | SF        | T03                 | 0.295     | 0.315     | 7.50      | 8.00      |
| 56DH/568DH | -2   | CY        | P0368               | 0.361     | 0.375     | 9.17      | 9.53      |
| 575X       | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 575X       | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 575X       | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 575X       | -8   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| 575X       | -12  | 58H       | P1258H*             | 1.200     | 1.220     | 30.4      | 31.0      |

Note: \*\* Black Die Ring must be used with these dies

Note: \* Silver Die Ring



# Crimp Specification & Tool Selection Chart

| Hose Type     | Size | Ftg. Ser. | Crimp Die 80C-*83C- | Min. (in) | Max. (in) | Min. (mm) | Max. (mm) |
|---------------|------|-----------|---------------------|-----------|-----------|-----------|-----------|
| 575X          | -16  | 58H       | P1658H*             | 1.605     | 1.625     | 40.7      | 41.3      |
| 575LH         | -3   | LH        | LH3                 | 0.450     | 0.470     | 11.4      | 12.0      |
| 580N/588N     | -4   | 58        | P04H                | 0.668     | 0.688     | 16.9      | 17.5      |
| 580N/588N     | -6   | 58        | P06H                | 0.785     | 0.805     | 19.9      | 20.5      |
| 580N/588N     | -8   | 58        | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| 580N/588N     | -10  | 58        | P10H                | 1.000     | 1.020     | 25.4      | 26.0      |
| 580N/588N     | -12  | 58        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| 580N/588N     | -16  | 58        | P16H                | 1.475     | 1.495     | 37.4      | 38.0      |
| H580N         | -16  | 58H       | P1658H*             | 1.605     | 1.625     | 40.7      | 41.3      |
| 53FR/530      | -6   | 58        | P06FR               | 0.730     | 0.750     | 18.5      | 19.1      |
| 53FR/530      | -8   | 58        | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| 53FR/530      | -12  | 58        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| 573LH         | -3   | LV        | LV3                 | 0.423     | 0.443     | 10.7      | 11.3      |
| 590           | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 590           | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 590           | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 590           | -8   | 55        | P08J                | 0.815     | 0.835     | 20.7      | 21.3      |
| 590           | -10  | 58        | P10H                | 1.000     | 1.020     | 25.4      | 26.0      |
| 590           | -12  | 58        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| 590           | -16  | 58        | P16J                | 1.450     | 1.470     | 36.8      | 37.4      |
| 593/FHN       | -12  | LV        | P12L                | 1.150     | 1.170     | 29.2      | 29.8      |
| 593           | -16  | LV        | P16L*               | 1.450     | 1.470     | 36.8      | 37.4      |
| 4PSH/S4       | -8   | 57H       | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| 4PSH/S4       | -8   | 58        | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| 4PSH/S4       | -8   | HY        | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| PSH           | -10  | 57        | P10H                | 1.000     | 1.020     | 25.4      | 26.0      |
| PSH/3PSH/HPSH | -12  | 57        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| PSH/3PSH/HPSH | -16  | 57        | P16J                | 1.450     | 1.470     | 36.8      | 37.4      |
| PSH           | -10  | 58        | P10H                | 1.000     | 1.020     | 25.4      | 26.0      |
| PSH/3PSH/HPSH | -12  | 58        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| PSH/3PSH/HPSH | -16  | 58        | P16J                | 1.450     | 1.470     | 36.8      | 37.4      |
| PSH/3PSH/HPSH | -12  | HY        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| PSH/3PSH/HPSH | -16  | HY        | P1490               | 1.480     | 1.500     | 37.5      | 38.1      |
| MSH           | -5   | MS        | M05                 | 0.535     | 0.555     | 13.5      | 14.1      |
| MSH           | -6   | MS        | M06                 | 0.640     | 0.660     | 16.2      | 16.8      |
| MTH           | -4   | 91N       | MTH4                | 0.385     | 0.405     | 9.7       | 10.3      |
| PTH           | -3   | 92        | T05                 | 0.450     | 0.470     | 11.4      | 12.0      |
| 1035A/1035HT  | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 1035A/1035HT  | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| 53LT/538LT    | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 53LT/538LT    | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 53LT/538LT    | -5   | 58        | P05R                | 0.650     | 0.670     | 16.5      | 17.1      |

| Hose Type          | Size | Ftg. Ser. | Crimp Die 80C-*83C- | Min. (in) | Max. (in) | Min. (mm) | Max. (mm) |
|--------------------|------|-----------|---------------------|-----------|-----------|-----------|-----------|
| 53LT/538LT         | -6   | 58        | P06FR               | 0.730     | 0.750     | 18.5      | 19.1      |
| 53LT/538LT         | -8   | 58        | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| 53LT/538LT         | -10  | 58        | P10H                | 1.000     | 1.020     | 25.4      | 26.0      |
| 53LT/538LT         | -12  | 58H       | P1258K*             | 1.260     | 1.280     | 32.0      | 32.6      |
| 53LT/538LT         | -5   | HY        | P04H                | 0.668     | 0.688     | 16.9      | 17.5      |
| 53LT/538LT         | -6   | HY        | P06FR               | 0.730     | 0.750     | 18.5      | 19.1      |
| 53LT/538LT         | -8   | HY        | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| 53LT/538LT         | -3   | SU        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| GPH/GPV            | -3   | 55        | P03J                | 0.445     | 0.465     | 11.3      | 11.9      |
| GPH/GPV            | -4   | 55        | P04J                | 0.535     | 0.555     | 13.5      | 14.1      |
| GPH/GPV            | -5   | 55        | P05                 | 0.620     | 0.640     | 15.7      | 16.3      |
| GPH/GPV            | -6   | 55        | P06                 | 0.675     | 0.695     | 17.1      | 17.7      |
| GPH/GPV            | -8   | 55        | P08J                | 0.815     | 0.835     | 20.7      | 21.3      |
| GPH/GPV            | -10  | 55        | P10                 | 0.950     | 0.970     | 24.1      | 24.7      |
| GPH/GPV            | -12  | 55        | P12                 | 1.100     | 1.120     | 27.9      | 28.5      |
| 3CNG               | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| 3CNG               | -6   | 58        | P06H                | 0.785     | 0.805     | 19.9      | 20.5      |
| 4CNG               | -6   | 58        | P06H                | 0.785     | 0.805     | 19.9      | 20.5      |
| 5CNG/5CNGLT/5CNGFR | -3   | 55        | P03                 | 0.480     | 0.500     | 12.1      | 12.7      |
| 5CNG/5CNGLT/5CNGFR | -4   | 58        | P04H                | 0.668     | 0.688     | 16.9      | 17.5      |
| 5CNG/5CNGLT/5CNGFR | -6   | 58        | P06H                | 0.785     | 0.805     | 19.9      | 20.5      |
| 5CNG/5CNGLT/5CNGFR | -8   | 58        | P08H                | 0.900     | 0.920     | 22.8      | 23.4      |
| 5CNG/5CNGLT/5CNGFR | -12  | 58H       | P1258H*             | 1.200     | 1.220     | 30.4      | 31.0      |
| 5CNG/5CNGLT/5CNGFR | -16  | 58H       | P1658H*             | 1.605     | 1.625     | 40.7      | 41.3      |
| HGPH               | -4   | 55        | P04                 | 0.560     | 0.580     | 14.2      | 14.8      |
| HP                 | -3   | HP        | HP3                 | 0.545     | 0.565     | 13.8      | 14.4      |
| HP                 | -4   | HP        | HP4                 | 0.650     | 0.670     | 16.5      | 17.1      |
| HP                 | -6   | HP        | HP6                 | 0.785     | 0.805     | 19.9      | 20.5      |
| GPH                | -3   | HBL       | GPH3                | 0.390     | 0.410     | 9.9       | 10.5      |
| GPH                | -4   | HBL       | GPH4                | 0.490     | 0.510     | 12.4      | 13.0      |
| GPH                | -5   | HBL       | GPH5                | 0.560     | 0.580     | 14.2      | 14.8      |
| GPH                | -6   | HBL       | GPH6                | 0.625     | 0.645     | 15.8      | 16.4      |
| GPH                | -8   | HBL       | GPH8                | 0.750     | 0.770     | 19.0      | 19.6      |
| GPH                | -10  | HBL       | GPH10               | 0.895     | 0.915     | 22.7      | 23.3      |
| GPH                | -12  | HBL       | GPH12               | 1.060     | 1.080     | 26.9      | 27.5      |
| GPH                | -16  | HBL       | GPH16               | 1.335     | 1.355     | 33.9      | 34.5      |
| D6                 | 04   | HY        | P0580               | 0.570     | 0.590     | 14.4      | 15.0      |
| D6                 | 06   | HY        | P0740               | 0.730     | 0.750     | 18.5      | 19.1      |
| D6                 | 08   | HY        | P0870               | 0.860     | 0.880     | 21.8      | 22.4      |
| D6                 | 10   | HY        | P1045               | 1.035     | 1.055     | 26.2      | 26.8      |

Note: \*\* Black Die Ring must be used with these dies

Note: \* Silver Die Ring



## Crimp Specification &amp; Tool Selection Chart

| Hose Type | Size | Ftg. Ser. | Crimp Die 80C-*83C- | Min. [in] | Max. [in] | Min. [mm] | Max. [mm] |
|-----------|------|-----------|---------------------|-----------|-----------|-----------|-----------|
| D6        | 12   | HY        | P1220               | 1.210     | 1.230     | 30.7      | 31.3      |
| D6        | 16   | HY        | P1525               | 1.515     | 1.535     | 38.4      | 39.0      |
| H6        | 04   | HY        | P0550               | 0.540     | 0.560     | 13.7      | 14.3      |
| H6        | 05   | HY        | P0635               | 0.625     | 0.645     | 15.8      | 16.4      |
| H6        | 06   | HY        | P0705               | 0.695     | 0.715     | 17.6      | 18.2      |
| H6        | 08   | HY        | P0845               | 0.835     | 0.855     | 21.2      | 21.8      |
| H6        | 10   | HY        | P1045               | 1.035     | 1.055     | 26.2      | 26.8      |
| H6        | 12   | HY        | P1195               | 1.185     | 1.205     | 30.1      | 30.7      |
| HFS/HR1C  | 04   | HY        | P0580               | 0.570     | 0.590     | 14.4      | 15.0      |
| HFS       | 05   | HY        | P0665               | 0.655     | 0.675     | 16.6      | 17.2      |
| HFS/HR1C  | 06   | HY        | P0740               | 0.730     | 0.750     | 18.5      | 19.1      |
| HFS/HR1C  | 08   | HY        | P0845               | 0.835     | 0.855     | 21.2      | 21.8      |
| HFS       | 12   | HY        | P1130               | 1.120     | 1.140     | 28.4      | 29.0      |
| HFS       | 16   | HY        | P1395               | 1.385     | 1.405     | 35.1      | 35.7      |
| HFS2/HR2C | 04   | HY        | P0625               | 0.615     | 0.635     | 15.6      | 16.2      |
| HFS2/HR2C | 06   | HY        | P0740               | 0.730     | 0.750     | 18.5      | 19.1      |
| HFS2/HR2C | 08   | HY        | P0870               | 0.860     | 0.880     | 21.8      | 22.4      |
| HFS2/HR2C | 10   | HY        | P1015               | 1.005     | 1.025     | 25.5      | 26.1      |
| HFS2/HR2C | 12   | HY        | P1150               | 1.140     | 1.160     | 28.9      | 29.5      |
| HFS2/HR2C | 16   | HY        | P1450               | 1.440     | 1.460     | 36.5      | 37.1      |
| R6        | 04   | HY        | P0570               | 0.560     | 0.580     | 14.2      | 14.8      |
| R6        | 06   | HY        | P0740               | 0.730     | 0.750     | 18.5      | 19.1      |
| R6        | 08   | HY        | P0870               | 0.860     | 0.880     | 21.8      | 22.4      |
| R6        | 10   | HY        | P1100               | 1.090     | 1.110     | 27.6      | 28.2      |

| Hose Type | Size | Ftg. Ser. | Crimp Die 80C-*83C- | Min. [in] | Max. [in] | Min. [mm] | Max. [mm] |
|-----------|------|-----------|---------------------|-----------|-----------|-----------|-----------|
| R6        | 12   | HY        | P1245               | 1.235     | 1.255     | 31.3      | 31.9      |
| R6        | 16   | 43        | M1600               | 1.590     | 1.610     | 40.3      | 40.9      |
| S5        | 08   | 55        | P08                 | 0.840     | 0.860     | 21.3      | 21.9      |
| S5        | 10   | 58        | P10S                | 1.060     | 1.080     | 26.9      | 27.5      |
| S6        | 12   | 58        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| S6        | 16   | 58        | P16J                | 1.450     | 1.470     | 36.8      | 37.4      |
| S6        | 24   | 71        | -                   | 2.290     | 2.310     | 58.1      | 58.7      |
| S6        | 12   | HY        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| S6        | 16   | HY        | P1450               | 1.440     | 1.460     | 36.5      | 37.1      |
| S6        | 20   | SQ        | T24*                | 1.840     | 1.860     | 46.7      | 47.3      |
| S9        | 12   | 58        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| S9        | 16   | 58        | P16J                | 1.450     | 1.470     | 36.8      | 37.4      |
| S9        | 12   | HY        | P12H                | 1.150     | 1.170     | 29.2      | 29.8      |
| S9        | 16   | HY        | P1490               | 1.480     | 1.500     | 37.5      | 38.1      |
| HTB       | 04   | BW        | P0745*              | 0.735     | 0.755     | 18.6      | 19.2      |
| HTB       | 06   | 43        | A06**               | 0.865     | 0.885     | 21.9      | 22.5      |
| HTB       | 08   | 43        | A08**               | 0.985     | 1.005     | 25.0      | 25.6      |
| HTB       | 10   | 43        | A10**               | 1.100     | 1.120     | 27.9      | 28.5      |
| HTB       | 12   | 43        | A12**               | 1.285     | 1.305     | 32.6      | 33.2      |
| HTB       | 16   | 43        | A16**               | 1.630     | 1.650     | 41.4      | 42.0      |
| M8        | 06   | 43        | M0850               | 0.840     | 0.860     | 21.3      | 21.9      |
| M8        | 08   | 43        | M1010               | 1.000     | 1.020     | 25.4      | 26.0      |
| M8        | 10   | 43        | M1170               | 1.160     | 1.180     | 29.4      | 30.0      |

Note: \*\* Black Die Ring must be used with these dies

Note: \* Silver Die Ring

## Notes:

1. Crimp diameter roundness shall not vary by more than .010".
2. Crimp diameters are measured in the center to the crimp area.
3. Use only Silver Die Ring when crimping Parflex hose fittings except where noted above.
4. Parflex Division reserves the right to alter crimp specifications.

# Crimp Specification & Tool Selection Chart

| Hose Type          | Size | Fitting Series | Crimp Die | Crimp Ring | Crimp Diameter |           |           |           |
|--------------------|------|----------------|-----------|------------|----------------|-----------|-----------|-----------|
|                    |      |                |           |            | Min. [in]      | Max. [in] | Min. [mm] | Max. [mm] |
| 919                | -3   | 91             | 80C-T03   | [SILVER]*  | 0.295          | 0.305     | 7.49      | 7.75      |
| 919/919U/901N/919B | -4   | 91N            | 80C-T04N  | [SILVER]*  | 0.335          | 0.355     | 8.51      | 9.02      |
| 919/919B           | -5   | 91N            | 80C-T05N  | [SILVER]*  | 0.385          | 0.405     | 9.78      | 10.29     |
| 919/919U/919B      | -6   | 91N            | 80C-T06N  | [SILVER]*  | 0.470          | 0.490     | 11.94     | 12.45     |
| 919/919U/919B      | -8   | 91N            | 80C-T08N  | [SILVER]*  | 0.565          | 0.585     | 14.35     | 14.86     |
| 919/919B           | -10  | 91N            | 80C-T10N  | [SILVER]*  | 0.665          | 0.685     | 16.89     | 17.40     |
| 919/919U/919B      | -12  | 91N            | 80C-T12N  | [SILVER]*  | 0.790          | 0.810     | 20.07     | 20.57     |
| 919/919U/919B      | -16  | 91N            | 80C-T16N  | [SILVER]*  | 1.045          | 1.065     | 26.54     | 27.05     |
| 919                | -20  | 91             | 80C-T20   | [SILVER]*  | 1.415          | 1.435     | 35.94     | 36.45     |
| 929/929B           | -4   | 91N            | 80C-T04N  | [SILVER]*  | 0.335          | 0.355     | 8.51      | 9.02      |
| 929/929B           | -5   | 91N            | 80C-T05N  | [SILVER]*  | 0.385          | 0.405     | 9.78      | 10.29     |
| 929/929B           | -6   | 91N            | 80C-T06N  | [SILVER]*  | 0.470          | 0.490     | 11.94     | 12.45     |
| 929/929B           | -8   | 91N            | 80C-T08N  | [SILVER]*  | 0.565          | 0.585     | 14.35     | 14.86     |
| 929/929B           | -10  | 91N            | 80C-T10N  | [SILVER]*  | 0.665          | 0.685     | 16.89     | 17.40     |
| 929/929B           | -12  | 91N            | 80C-T12N  | [SILVER]*  | 0.790          | 0.810     | 20.07     | 20.57     |
| 929/929B           | -16  | 91N            | 80C-T16H  | [SILVER]*  | 1.100          | 1.120     | 27.94     | 28.45     |
| 929BJ              | -4   | 91N            | 80C-T04J  | [SILVER]*  | 0.335          | 0.355     | 8.51      | 9.02      |
| 929BJ              | -5   | 91N            | 80C-T05J  | [SILVER]*  | 0.385          | 0.405     | 9.78      | 10.29     |
| 929BJ              | -6   | 91N            | 80C-T06J  | [SILVER]*  | 0.470          | 0.490     | 11.94     | 12.45     |
| 929BJ              | -8   | 91N            | 80C-T08J  | [SILVER]*  | 0.565          | 0.585     | 14.35     | 14.86     |
| 929BJ              | -10  | 91N            | 80C-T10J  | [SILVER]*  | 0.665          | 0.685     | 16.89     | 17.40     |
| 929BJ              | -12  | 91N            | 80C-T12J  | [SILVER]*  | 0.790          | 0.810     | 20.07     | 20.57     |
| 929BJ              | -16  | 91N            | 80C-T16HJ | [SILVER]*  | 1.100          | 1.120     | 27.94     | 28.45     |
| 919J               | -4   | 91N            | 80C-T04J  | [SILVER]*  | 0.335          | 0.355     | 8.51      | 9.02      |
| 919J               | -5   | 91N            | 80C-T05J  | [SILVER]*  | 0.385          | 0.405     | 9.78      | 10.29     |
| 919J               | -6   | 91N            | 80C-T06J  | [SILVER]*  | 0.470          | 0.490     | 11.94     | 12.45     |
| 919J               | -8   | 91N            | 80C-T08J  | [SILVER]*  | 0.565          | 0.585     | 14.35     | 14.86     |
| 919J               | -10  | 91N            | 80C-T10J  | [SILVER]*  | 0.665          | 0.685     | 16.89     | 17.40     |
| 919J               | -12  | 91N            | 80C-T12J  | [SILVER]*  | 0.790          | 0.810     | 20.07     | 20.57     |
| 919J               | -16  | 91N            | 80C-T16J  | [SILVER]*  | 1.045          | 1.065     | 26.54     | 27.05     |
| 939/939B           | -6   | 93N            | 80C-P04   | [SILVER]*  | 0.560          | 0.580     | 14.22     | 14.73     |
| 939/939B           | -8   | 93N            | 83C-T08   | [SILVER]*  | 0.750          | 0.770     | 19.05     | 19.56     |
| 939/939B           | -10  | 93N            | 83C-T10   | [SILVER]*  | 0.910          | 0.930     | 23.11     | 23.62     |
| 939/939B/939BU     | -12  | 93N            | 83C-T12   | [SILVER]*  | 1.090          | 1.110     | 27.69     | 28.19     |
| 939/939B/939BK †   | -16  | 93N            | 83C-T16   | [SILVER]*  | 1.295          | 1.315     | 32.89     | 33.40     |
| 939/939B †         | -20  | 93N            | 83C-T20   | None*      | 1.580          | 1.600     | 40.13     | 40.64     |
| 939/939B †         | -24  | 93N            | 83C-T24   | None*      | 1.845          | 1.865     | 46.86     | 47.37     |
| 939/939B †         | -32  | 93N            | 83C-T32   | None*      | 2.410          | 2.430     | 61.21     | 61.72     |

\*The Parkrim 2 and SuperKrimp always use the integral silver ring. 91N series may be crimped on the Parkrim 2 and SuperKrimp if adapter bowl 83C-0CB is used.

† Must use Parkrim 2 and Supercrimp.

## Notes:

1. Crimp diameter roundness shall not vary by more than .010".
2. Crimp diameters are measured in the center to the crimp area.
3. Use only Silver Die Ring when crimping Parflex hose fittings except where noted above.
4. Parflex Division reserves the right to alter crimp specifications.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings & Accessories

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

## Swage Specification & Tool Selection Chart

| Hose Type      | Size | Fitting Series | Swage Die DIE- | Swage Diameter |           |           |           |
|----------------|------|----------------|----------------|----------------|-----------|-----------|-----------|
|                |      |                |                | Min. (in)      | Max. (in) | Min. (mm) | Max. (mm) |
| GPH            | -3   | 55             | J03            | 0.445          | 0.465     | 11.3      | 11.8      |
| GPH            | -4   | 55             | J04            | 0.535          | 0.555     | 13.6      | 14.1      |
| GPH            | -5   | 55             | 305            | 0.620          | 0.640     | 15.7      | 16.3      |
| GPH            | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| GPH            | -8   | 55             | J08            | 0.815          | 0.835     | 20.7      | 21.2      |
| GPH            | -10  | 55             | 310            | 0.950          | 0.970     | 24.1      | 24.6      |
| GPH            | -12  | 55             | 312            | 1.100          | 1.120     | 27.9      | 28.4      |
| 520N/528N      | -3   | 55             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 520N/528N      | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 520N/528N      | -5   | 55             | 305            | 0.620          | 0.640     | 15.7      | 16.3      |
| 520N/528N      | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 520N/528N      | -8   | 55             | 308            | 0.840          | 0.860     | 21.3      | 21.8      |
| 526BA          | -3   | 55             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 526BA          | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 526BA          | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 540N           | -3   | 55/SU          | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 540N/540P      | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 540N           | -5   | 55             | 305            | 0.620          | 0.640     | 15.7      | 16.3      |
| 540N/540P      | -6   | 55/SU          | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 540N/540P      | -8   | 55/SU          | 308            | 0.840          | 0.860     | 21.3      | 21.8      |
| 540N/540P      | -12  | 55             | 312            | 1.100          | 1.120     | 27.9      | 28.4      |
| 549            | -3   | 55/SU          | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 549            | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 549            | -4   | SU             | J04            | 0.535          | 0.555     | 13.6      | 14.1      |
| 549            | -5   | 55             | 305            | 0.620          | 0.640     | 15.7      | 16.3      |
| 549            | -6   | 55/SU          | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 549            | -8   | 55/SU          | 308            | 0.840          | 0.860     | 21.3      | 21.8      |
| 549            | -12  | 55             | 312            | 1.100          | 1.120     | 27.9      | 28.4      |
| 550A/550H/55LT | -3   | 55             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 550A/550H/55LT | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 550H/55LT      | -5   | 55             | 305            | 0.620          | 0.640     | 15.7      | 16.3      |
| 550A/550H/55LT | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 550A/550H/55LT | -8   | 55             | 308            | 0.840          | 0.860     | 21.3      | 21.8      |
| 550H/55LT      | -10  | 58             | H10            | 1.000          | 1.020     | 25.4      | 25.9      |
| 550H/55LT      | -12  | 55             | 312            | 1.100          | 1.120     | 27.9      | 28.4      |
| 550H/55LT      | -16  | 55             | 316            | 1.345          | 1.365     | 34.2      | 34.7      |
| 55FR           | -4   | 55/SU          | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 55FR           | -6   | 55/SU          | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 55FR           | -8   | 55/SU          | 308            | 0.840          | 0.860     | 21.3      | 21.8      |
| 55FR           | -12  | 55             | 312            | 1.100          | 1.120     | 27.9      | 28.4      |
| 580N/588N      | -4   | 58             | H04            | 0.668          | 0.688     | 17.0      | 17.5      |
| 580N/588N      | -6   | 58             | H06            | 0.785          | 0.805     | 19.9      | 20.4      |
| 580N/588N      | -8   | 58             | H08            | 0.900          | 0.920     | 22.9      | 23.4      |
| 580N/588N      | -10  | 58             | H10            | 1.000          | 1.020     | 25.4      | 25.9      |
| 580N/588N      | -12  | 58             | H12            | 1.150          | 1.170     | 29.2      | 29.7      |
| 580N/588N      | -16  | 58             | H16            | 1.475          | 1.495     | 37.5      | 38.0      |

| Hose Type        | Size | Fitting Series | Swage Die DIE- | Swage Diameter |           |           |           |
|------------------|------|----------------|----------------|----------------|-----------|-----------|-----------|
|                  |      |                |                | Min. (in)      | Max. (in) | Min. (mm) | Max. (mm) |
| 53FR/530         | -8   | 58             | H08            | 0.900          | 0.920     | 22.9      | 23.4      |
| 53FR/530         | -12  | 58             | H12            | 1.150          | 1.170     | 29.2      | 29.7      |
| 560              | -3   | 55             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 560              | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 560              | -5   | 55             | 305            | 0.620          | 0.640     | 15.7      | 16.3      |
| 560              | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 560              | -8   | 55             | J08            | 0.815          | 0.835     | 20.7      | 21.2      |
| 560              | -10  | 55             | 310            | 0.950          | 0.970     | 24.1      | 24.6      |
| 560              | -12  | 58             | H12            | 1.150          | 1.170     | 29.2      | 29.7      |
| 573X/XL          | -3   | LV             | V03            | 0.423          | 0.443     | 10.7      | 11.3      |
| 573X             | -16  | LV             | J16            | 1.450          | 1.470     | 36.8      | 37.3      |
| 573LH            | -3   | LV             | V03            | 0.423          | 0.443     | 10.7      | 11.3      |
| 575LH            | -3   | LH             | V03X           | 0.450          | 0.470     | 11.4      | 11.9      |
| 580N/588N        | -4   | 58             | P04H           | 0.668          | 0.688     | 16.9      | 17.5      |
| 580N/588N        | -6   | 58             | P06H           | 0.785          | 0.805     | 19.9      | 20.5      |
| 580N/588N        | -8   | 58             | P08H           | 0.900          | 0.920     | 22.8      | 23.4      |
| 580N/588N        | -10  | 58             | P10H           | 1.000          | 1.020     | 25.4      | 26.0      |
| 580N/588N        | -12  | 58             | P12H           | 1.150          | 1.170     | 29.2      | 29.8      |
| 580N/588N        | -16  | 58             | P16H           | 1.475          | 1.495     | 37.4      | 38.0      |
| H580N            | -16  | 58H            |                | 1.605          | 1.625     | 40.7      | 41.3      |
| 590              | -3   | 58             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 590              | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 590              | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 590              | -8   | 55             | J08            | 0.815          | 0.835     | 20.7      | 21.2      |
| 590              | -10  | 58             | H10            | 1.000          | 1.020     | 25.4      | 25.9      |
| 590              | -12  | 58             | H12            | 1.150          | 1.170     | 29.2      | 29.7      |
| 590              | -16  | 58             | J16            | 1.450          | 1.470     | 36.8      | 37.3      |
| 593/FHN          | -12  | LV             | H12            | 1.150          | 1.170     | 29.2      | 29.7      |
| 593              | -16  | LV             | J16            | 1.450          | 1.470     | 36.8      | 37.3      |
| 4PSH/S4          | -8   | 58             | H08            | 0.900          | 0.920     | 22.9      | 23.4      |
| PSH              | -10  | 58             | H10            | 1.000          | 1.020     | 25.4      | 25.9      |
| PSH/3PSH/S6/S9   | -12  | 58             | H12            | 1.150          | 1.170     | 29.2      | 29.7      |
| PSH/HPSH/3PSH/S6 | -16  | 58             | J16            | 1.440          | 1.460     | 36.6      | 37.1      |
| MSH              | -5   | MS             | M05            | 0.535          | 0.555     | 13.6      | 14.1      |
| MSH              | -6   | MS             | M06            | 0.640          | 0.660     | 16.3      | 16.8      |
| MTH              | -4   | 91N            | MTH4           | 0.385          | 0.405     | 9.7       | 10.3      |
| PTH              | -3   | 92             | T10090-5       | 0.450          | 0.470     | 11.4      | 11.9      |
| 510A             | -3   | 55/SU          | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 510A             | -4   | 55             | J04            | 0.535          | 0.555     | 13.6      | 14.1      |
| 510A             | -6   | 55/SU          | 306S           | 0.675          | 0.695     | 17.1      | 17.7      |
| 510A             | -8   | 55/SU          | 308            | 0.840          | 0.860     | 21.3      | 21.8      |
| 518C             | -3   | 55             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 518C             | -4   | 55             | J04            | 0.535          | 0.555     | 13.6      | 14.1      |
| 518C             | -5   | 55             | 305            | 0.620          | 0.640     | 15.7      | 16.3      |
| 518C             | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 518C             | -8   | 55             | 308            | 0.840          | 0.860     | 21.3      | 21.8      |

# Swage Specification & Tool Selection Chart

| Hose Type              | Size | Fitting Series | Swage Die DIE- | Swage Diameter |           |           |           |
|------------------------|------|----------------|----------------|----------------|-----------|-----------|-----------|
|                        |      |                |                | Min. [in]      | Max. [in] | Min. [mm] | Max. [mm] |
| 518C                   | -10  | 58             | H10            | 1.000          | 1.020     | 25.4      | 25.9      |
| 518C                   | -12  | 55             | 312            | 1.100          | 1.120     | 27.9      | 28.4      |
| 518C                   | -16  | 55             | 316            | 1.345          | 1.365     | 34.2      | 34.7      |
| 53LT/538LT             | -3   | 55/SU          | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 53LT/538LT             | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 53LT/538LT             | -5   | 58             | R05            | 0.650          | 0.670     | 16.5      | 17.0      |
| 53LT/538LT             | -6   | 58             | FR06           | 0.730          | 0.750     | 18.5      | 19.1      |
| 53LT/538LT             | -10  | 58             | H10            | 1.000          | 1.020     | 25.4      | 25.9      |
| 575X                   | -3   | 55             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 575X                   | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 575X                   | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 575X                   | -8   | 55             | 308            | 0.840          | 0.860     | 21.3      | 21.8      |
| 1035A                  | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 1035A                  | -6   | 55             | 306            | 0.675          | 0.695     | 17.1      | 17.7      |
| 3CNG/3CNGLT/<br>3CNGFR | -4   | 55             | 304            | 0.560          | 0.580     | 14.2      | 14.7      |
| 3CNG/3CNGLT/<br>3CNGFR | -6   | 58             | H06            | 0.785          | 0.805     | 19.9      | 20.4      |
| 4CNG/5CNGLT/<br>4CNGFR | -6   | 58             | H06            | 0.785          | 0.805     | 19.9      | 20.4      |
| 5CNG/5CNGLT/<br>5CNGFR | -3   | 55             | 303            | 0.480          | 0.500     | 12.2      | 12.7      |
| 5CNG/5CNGLT/<br>5CNGFR | -4   | 58             | H04            | 0.668          | 0.688     | 17.0      | 17.5      |
| 5CNG/5CNGLT/<br>5CNGFR | -6   | 58             | H06            | 0.785          | 0.805     | 19.9      | 20.4      |
| 5CNG/5CNGLT/<br>5CNGFR | -8   | 58             | H08            | 0.900          | 0.920     | 22.9      | 23.4      |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

Notes:

1. The information covered in the Swage Specification & Tool Selection Chart pertains to steel, stainless and brass hose fittings.
2. Swage diameter roundness shall not vary by more than .010".
3. Swage diameters are measured in the center to the crimp area.
4. Parflex Division reserves the right to alter swage specifications.



## Swage and Crimp Die Selection Chart

| Hose Type | Size | Fitting Series | Swage Die DIE- | Crimp Die 80C-*83C- | Machine Selection |           | Color Code |
|-----------|------|----------------|----------------|---------------------|-------------------|-----------|------------|
|           |      |                |                |                     | Brass             | Stainless |            |
| 510A      | -2   | 57             | -              | P02H                | A                 | A         | BROWN      |
| 510/510A  | -3   | 55             | 303            | P03                 | A                 | A         | GRAY       |
| 510/510A  | -4   | 55             | J04            | P04J                | A                 | A         | RED        |
| 510A      | -5   | 55             | -              | P05                 | A                 | A         | PURPLE     |
| 510/510A  | -6   | 55             | 306            | P06                 | A                 | A         | YELLOW     |
| 510A      | -8   | 55             | 308            | P08                 | A                 | A         | BLUE       |
| 510A      | -12  | 55             | -              | P12                 | A                 | A         | GREEN      |
| 510/510A  | -3   | SU             | 303            | P03                 | A                 | A         | GRAY       |
| 510/510A  | -6   | SU             | 306            | P06                 | A                 | A         | YELLOW     |
| 510A      | -8   | SU             | 308            | P08                 | A                 | A         | BLUE       |
| 518C/510C | -2   | 57             | -              | P02H                | A                 | A         | BROWN      |
| 518C/510C | -3   | 55             | 303            | P03                 | A                 | A         | GRAY       |
| 518C/510C | -4   | 55             | J04            | P04J                | A                 | A         | RED        |
| 518C/510C | -5   | 55             | 305            | P05                 | A                 | A         | PURPLE     |
| 518C/510C | -6   | 55             | 306            | P06                 | A                 | A         | YELLOW     |
| 518C/510C | -8   | 55             | 308            | P08                 | A                 | A         | BLUE       |
| 518C/510C | -10  | 58             | H10            | P10H                | A                 | A         | ORANGE     |
| 518C/510C | -12  | 55             | 312            | P12                 | A                 | A         | GREEN      |
| 518C/510C | -16  | 55             | 316            | P16                 | A                 | A         | BLACK      |
| 520N/528N | -3   | 55             | 303            | P03                 | A                 | A         | GRAY       |
| 520N/528N | -4   | 55             | 304            | P04                 | A                 | A         | RED        |
| 520N/528N | -5   | 55             | 305            | P05                 | A                 | A         | PURPLE     |
| 520N/528N | -6   | 55             | 306            | P06                 | A                 | A         | YELLOW     |
| 520N/528N | -8   | 55             | 308            | P08                 | A                 | A         | BLUE       |
| 520N/528N | -10  | 55             | -              | P10                 | A                 | A         | ORANGE     |
| 526BA     | -3   | 55             | 303            | P03                 | A                 | A         | GRAY       |
| 526BA     | -4   | 55             | 304            | P04                 | A                 | A         | RED        |
| 526BA     | -6   | 55             | 306            | P06                 | A                 | A         | YELLOW     |
| 540N      | -2   | 57             | H02            | P02H                | A                 | A         | BROWN      |
| 540N      | -3   | 55             | 303            | P03                 | A                 | A         | GRAY       |
| 540N/540P | -4   | 55             | 304            | P04                 | A                 | A         | RED        |
| 540N      | -5   | 55             | 305            | P05                 | A                 | A         | PURPLE     |
| 540N/540P | -6   | 55             | 306            | P06                 | A                 | A         | YELLOW     |
| 540N/540P | -8   | 55             | 308            | P08                 | A                 | A         | BLUE       |
| 540N/540P | -12  | 55             | 312            | P12                 | A                 | A         | GREEN      |
| 540N      | -3   | SU             | 303            | P03                 | A                 | A         | GRAY       |
| 540N/540P | -6   | SU             | 306            | P06                 | A                 | A         | YELLOW     |
| 540N/540P | -8   | SU             | 308            | P08                 | A                 | A         | BLUE       |
| 540N/540P | -12  | HY             | -              | P12                 | A                 | A         | GREEN      |
| 549       | -2   | 57             | -              | P02H                | A                 | A         | BROWN      |
| 549       | -3   | 55             | 303            | P03                 | A                 | A         | GRAY       |
| 549       | -4   | 55             | 304            | P04                 | A                 | A         | RED        |
| 549       | -5   | 55             | 305            | P05                 | A                 | A         | PURPLE     |
| 549       | -6   | 55             | 306            | P06                 | A                 | A         | YELLOW     |
| 549       | -8   | 55             | 308            | P08                 | A                 | A         | BLUE       |
| 549       | -12  | 55             | 312            | P12                 | A                 | A         | GREEN      |
| 549       | -4   | SU             | J04            | P04J                | A                 | A         | RED        |
| 549       | -6   | SU             | 306            | P06                 | A                 | A         | YELLOW     |

\* See "Crimp Specification and Tool Selection Chart" in this catalog for the proper die ring for these hose sizes. All other hoses use the SILVER RING only.

† Crimp Machine Code: A = All models; B = Parkrimp II and Superkrimp only.



# Swage and Crimp Die Selection Chart

| Hose Type  | Size | Fitting Series | Swage Die DIE- | Crimp Die 80C-*83C- | Machine Selection |                 | Color Code |
|------------|------|----------------|----------------|---------------------|-------------------|-----------------|------------|
|            |      |                |                |                     | Brass Steel       | Stainless Steel |            |
| 549        | -8   | SU             | 308            | P08                 | A                 | A               | BLUE       |
| 55LT       | -2   | 57             | -              | P02H                | A                 | A               | BROWN      |
| 550H/55LT  | -3   | 55             | 303            | P03                 | A                 | A               | GRAY       |
| 550H/55LT  | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 550H/55LT  | -5   | 55             | 305            | P05                 | A                 | A               | PURPLE     |
| 550H/55LT  | -6   | 55             | 306            | P06                 | A                 | A               | YELLOW     |
| 550H/55LT  | -8   | 55             | 308            | P08                 | A                 | A               | BLUE       |
| 550H/55LT  | -12  | 55             | 312            | P12                 | A                 | A               | GREEN      |
| 550H/55LT  | -16  | 55             | 316            | P16                 | A                 | A               | BLACK      |
| 550H/55LT  | -10  | 58             | H10            | P10H                | A                 | A               | ORANGE     |
| 550H/55LT  | -3   | SU             | 303            | P03                 | A                 | A               | GRAY       |
| 550H/55LT  | -4   | SU             | 304            | P04                 | A                 | A               | RED        |
| 550H/55LT  | -5   | SU             | 305            | P05                 | A                 | A               | PURPLE     |
| 550H/55LT  | -6   | SU             | 306            | P06                 | A                 | A               | YELLOW     |
| 550H/55LT  | -8   | SU             | 308            | P08                 | A                 | A               | BLUE       |
| 550H/55LT  | -12  | HY             | 312            | P12                 | A                 | A               | GREEN      |
| 55FR       | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 55FR       | -6   | 55             | 306            | P06                 | A                 | A               | YELLOW     |
| 55FR       | -8   | 55             | 308            | P08                 | A                 | A               | BLUE       |
| 55FR       | -12  | 55             | 312            | P12                 | A                 | A               | GREEN      |
| 55FR       | -4   | SU             | 304            | P04                 | A                 | A               | RED        |
| 55FR       | -6   | SU             | 306            | P06                 | A                 | A               | YELLOW     |
| 55FR       | -8   | SU             | 308            | P08                 | A                 | A               | BLUE       |
| 55FR       | -12  | HY             | 312            | P12                 | A                 | A               | GREEN      |
| 560        | -3   | 55             | 303            | P03                 | A                 | A               | GRAY       |
| 560        | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 560        | -5   | 55             | 305            | P05                 | A                 | A               | PURPLE     |
| 560        | -6   | 55             | 306            | P06                 | A                 | A               | YELLOW     |
| 560        | -8   | 55             | J08            | P08J                | A                 | A               | BLUE       |
| 560        | -10  | 55             | 310            | P10                 | A                 | A               | ORANGE     |
| 560        | -12  | 58             | H12            | P12H                | A                 | A               | GREEN      |
| 563        | -3   | 55             | -              | P03                 | A                 | A               | GRAY       |
| 563        | -4   | 55             | -              | P04                 | A                 | A               | RED        |
| 563        | -5   | 55             | -              | P05                 | A                 | A               | PURPLE     |
| 563        | -6   | 55             | -              | P06                 | A                 | A               | YELLOW     |
| 56DH/568DH | -1.5 | SF             | -              | T03                 | A                 | A               | Gray       |
| 56DH/568DH | -2   | CY             | -              | P0368               | A                 | A               | Brown      |
| 563        | -8   | 55             | -              | P08J                | A                 | A               | BLUE       |
| 575X       | -3   | 55             | 303            | P03                 | A                 | A               | GRAY       |
| 575X       | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 575X       | -6   | 55             | 306            | P06                 | A                 | A               | YELLOW     |
| 575X       | -8   | 55             | 308            | P08                 | A                 | A               | BLUE       |
| 575X       | -12  | 58H            | -              | P1258H*             | B                 | B               | GREEN      |
| 575X       | -16  | 58H            | -              | P1658H*             | B                 | B               | BLACK      |
| 575LH      | -3   | LH             | V03X           | LH3                 | A                 | A               | GRAY       |
| 580N/588N  | -6   | 58             | H06            | P06H                | A                 | A               | YELLOW     |
| 580N/588N  | -10  | 58             | H10            | P10H                | A                 | A               | ORANGE     |

\* See "Crimp Specification and Tool Selection Chart" in this catalog for the proper die ring for these hose sizes. All other hoses use the SILVER RING only.  
 † Crimp Machine Code: A = All models; B = Parkrim II and Superkrimp only.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products  
Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index



## Swage and Crimp Die Selection Chart

| Hose Type     | Size | Fitting Series | Swage Die DIE- | Crimp Die 80C-*83C- | Machine Selection |                 | Color Code |
|---------------|------|----------------|----------------|---------------------|-------------------|-----------------|------------|
|               |      |                |                |                     | Brass Steel       | Stainless Steel |            |
| 580N/588N     | -12  | 58             | H12            | P12H                | A                 | A               | GREEN      |
| 580N/588N     | -16  | 58             | H16            | P16H                | A                 | B               | BLACK      |
| H580N         | -16  | 58H            | -              | P1658H*             | B                 | B               | BLACK      |
| 53FR/530      | -6   | 58             | FR06           | P06FR               | A                 | A               | YELLOW     |
| 53FR/530      | -8   | 58             | H08            | P08H                | A                 | A               | BLUE       |
| 53FR/530      | -12  | 58             | H12            | P12H                | A                 | A               | GREEN      |
| 573LH         | -3   | LV             | V03            | LV3                 | A                 | A               | GRAY       |
| 590           | -3   | 55             | 303            | P03                 | A                 | A               | GRAY       |
| 590           | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 590           | -6   | 55             | 306            | P06                 | A                 | A               | YELLOW     |
| 590           | -8   | 55             | J08            | P08J                | A                 | A               | BLUE       |
| 590           | -10  | 58             | H10            | P10H                | A                 | B               | ORANGE     |
| 590           | -12  | 58             | H12            | P12H                | A                 | B               | GREEN      |
| 590           | -16  | 58             | J16            | P16J                | A                 | B               | BLACK      |
| 593/FHN       | -12  | LV             | H12            | P12L                | B                 | B               | GREEN      |
| 593           | -16  | LV             | J16            | P16L*               | B                 | B               | BLACK      |
| 4PSH/S4       | -8   | 57H            | -              | P08H                | A                 | A               | BLUE       |
| 4PSH/S4       | -8   | 58             | H08            | P08H                | A                 | A               | BLUE       |
| 4PSH/S4       | -8   | HY             | -              | P08H                | A                 | A               | BLUE       |
| PSH           | -10  | 57             | -              | P10H                | A                 | A               | ORANGE     |
| PSH/3PSH/HPSH | -12  | 57             | -              | P12H                | A                 | A               | GREEN      |
| PSH/3PSH/HPSH | -16  | 57             | -              | P16J                | A                 | B               | BLACK      |
| PSH           | -10  | 58             | H10            | P10H                | A                 | A               | ORANGE     |
| PSH/3PSH/HPSH | -12  | 58             | H12            | P12H                | A                 | A               | GREEN      |
| PSH/3PSH/HPSH | -16  | 58             | J16            | P16J                | A                 | B               | BLACK      |
| PSH/3PSH/HPSH | -12  | HY             | -              | P12H                | A                 | A               | GREEN      |
| PSH/3PSH/HPSH | -16  | HY             | -              | P1490               | A                 | B               | BLACK      |
| MSH           | -5   | MS             | M05            | M05                 | A                 | A               | PURPLE     |
| MSH           | -6   | MS             | M06            | M06                 | A                 | A               | YELLOW     |
| MTH           | -4   | 91N            | -              | MTH4                | A                 | A               | RED        |
| PTH           | -3   | 92             | T10090-5       | T05                 | A                 | A               | PURPLE     |
| 1035HT        | -3   | 55             | 303            | P03                 | A                 | A               | GRAY       |
| 1035A/1035HT  | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 1035A/1035HT  | -6   | 55             | 306            | P06                 | A                 | A               | YELLOW     |
| 53LT/538LT    | -3   | 55             | 303            | P03                 | A                 | A               | GRAY       |
| 53LT/538LT    | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 53LT/538LT    | -5   | 58             | R05            | P05R                | A                 | A               | PURPLE     |
| 53LT/538LT    | -6   | 58             | FR06           | P06FR               | A                 | A               | YELLOW     |
| 53LT/538LT    | -8   | 58             | H08            | P08H                | A                 | A               | BLUE       |
| 53LT/538LT    | -10  | 58             | H10            | P10H                | A                 | A               | ORANGE     |
| 53LT/538LT    | -12  | 58H            | -              | P1258K*             | B                 | B               | GREEN      |
| 53LT/538LT    | -5   | HY             | R05            | P04H                | A                 | A               | RED        |
| 53LT/538LT    | -6   | HY             | FR06           | P06FR               | A                 | A               | YELLOW     |
| 53LT/538LT    | -8   | HY             | H08            | P08H                | A                 | A               | BLUE       |
| GPH/GPV       | -3   | 55             | J03            | P03J                | A                 | A               | GRAY       |
| GPH/GPV       | -5   | 55             | 305            | P05                 | A                 | A               | PURPLE     |
| GPH/GPV       | -6   | 55             | 306            | P06                 | A                 | A               | YELLOW     |
| GPH/GPV       | -8   | 55             | J08            | P08J                | A                 | A               | BLUE       |

\* See "Crimp Specification and Tool Selection Chart" in this catalog for the proper die ring for these hose sizes. All other hoses use the SILVER RING only.

† Crimp Machine Code: A = All models; B = Parkrimp II and Superkrimp only.



# Swage and Crimp Die Selection Chart

| Hose Type          | Size | Fitting Series | Swage Die DIE- | Crimp Die 80C-*83C- | Machine Selection |                 | Color Code |
|--------------------|------|----------------|----------------|---------------------|-------------------|-----------------|------------|
|                    |      |                |                |                     | Brass Steel       | Stainless Steel |            |
| GPH/GPV            | -10  | 55             | 310            | P10                 | A                 | A               | ORANGE     |
| GPH/GPV            | -12  | 55             | 312            | P12                 | A                 | A               | GREEN      |
| 3CNG               | -4   | 55             | 304            | P04                 | A                 | A               | RED        |
| 3CNG               | -6   | 58             | H06            | P06H                | A                 | A               | YELLOW     |
| 4CNG               | -6   | 58             | H06            | P06H                | A                 | A               | RED        |
| 5CNG/5CNGLT/5CNGFR | -3   | 55             | 303            | P03                 | A                 | A               | GRAY       |
| 5CNG/5CNGLT/5CNGFR | -4   | 58             | H04            | P04H                | A                 | A               | RED        |
| 5CNG/5CNGLT/5CNGFR | -6   | 58             | H06            | P06H                | A                 | A               | YELLOW     |
| 5CNG/5CNGLT/5CNGFR | -8   | 58             | H08            | P08H                | A                 | A               | BLUE       |
| 5CNG/5CNGLT/5CNGFR | -12  | 58H            | -              | P1258H*             | B                 | B               | GREEN      |
| 5CNG/5CNGLT/5CNGFR | -16  | 58H            | -              | P1658H*             | B                 | B               | BLACK      |
| HGPH               | -4   | 55             | -              | P04                 | A                 | A               | GRAY       |
| GPH                | -3   | HBL            | -              | GPH3                | A                 | A               | GRAY       |
| GPH                | -4   | HBL            | -              | GPH4                | A                 | A               | RED        |
| GPH                | -5   | HBL            | -              | GPH5                | A                 | A               | PURPLE     |
| GPH                | -6   | HBL            | -              | GPH6                | A                 | A               | YELLOW     |
| GPH                | -8   | HBL            | -              | GPH8                | A                 | A               | BLUE       |
| GPH                | -10  | HBL            | -              | GPH10               | A                 | A               | ORANGE     |
| GPH                | -12  | HBL            | -              | GPH12               | A                 | A               | GREEN      |
| GPH                | -16  | HBL            | -              | GPH16               | A                 | A               | BLACK      |
| D6                 | 04   | HY             | -              | P0580               | A                 | A               | RED        |
| D6                 | 06   | HY             | -              | P0740               | A                 | A               | YELLOW     |
| D6                 | 08   | HY             | -              | P0870               | A                 | A               | BLUE       |
| D6                 | 10   | HY             | -              | P1045               | A                 | A               | ORANGE     |
| D6                 | 12   | HY             | -              | P1220               | A                 | A               | GREEN      |
| D6                 | 16   | HY             | -              | P1525               | A                 | A               | BLACK      |
| H6                 | 04   | HY             | -              | P0550               | A                 | A               | RED        |
| H6                 | 05   | HY             | -              | P0635               | A                 | A               | PURPLE     |
| H6                 | 06   | HY             | -              | P0705               | A                 | A               | YELLOW     |
| H6                 | 08   | HY             | -              | P0845               | A                 | A               | BLUE       |
| H6                 | 10   | HY             | -              | P1045               | A                 | A               | ORANGE     |
| H6                 | 12   | HY             | -              | P1195               | A                 | A               | GREEN      |
| HFS/HR1C           | 04   | HY             | -              | P0580               | A                 | A               | RED        |
| HFS                | 05   | HY             | -              | P0665               | A                 | A               | PURPLE     |
| HFS/HR1C           | 06   | HY             | -              | P0740               | A                 | A               | YELLOW     |
| HFS/HR1C           | 08   | HY             | -              | P0845               | A                 | A               | BLUE       |
| HFS                | 12   | HY             | -              | P1130               | A                 | A               | GREEN      |
| HFS                | 16   | HY             | -              | P1395               | A                 | A               | BLACK      |
| HFS2/HR2C          | 04   | HY             | -              | P0625               | A                 | A               | PURPLE     |
| HFS2/HR2C          | 06   | HY             | -              | P0740               | A                 | A               | YELLOW     |
| HFS2/HR2C          | 08   | HY             | -              | P0870               | A                 | A               | BLUE       |
| HFS2/HR2C          | 10   | HY             | -              | P1015               | A                 | A               | ORANGE     |
| HFS2/HR2C          | 16   | HY             | -              | P1450               | A                 | A               | BLACK      |
| R6                 | 06   | HY             | -              | P0740               | A                 | A               | YELLOW     |
| R6                 | 08   | HY             | -              | P0870               | A                 | A               | BLUE       |
| R6                 | 10   | HY             | -              | P1100               | A                 | A               | ORANGE     |
| R6                 | 12   | HY             | -              | P1245               | A                 | A               | GREEN      |
| R6                 | 16   | 43             | -              | M1600               | A                 | A               | BLACK      |
| S5                 | 08   | 55             | 308            | P08                 | A                 | A               | BLUE       |

\* See "Crimp Specification and Tool Selection Chart" in this catalog for the proper die ring for these hose sizes. All other hoses use the SILVER RING only.

† Crimp Machine Code: A = All models; B = Parkrimp II and Superkrimp only.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index



## Swage and Crimp Die Selection Chart

| Hose Type              | Size | Fitting Series | Swage Die DIE- | Crimp Die 80C-*83C- | Machine Selection |                 | Color Code |
|------------------------|------|----------------|----------------|---------------------|-------------------|-----------------|------------|
|                        |      |                |                |                     | Brass Steel       | Stainless Steel |            |
| S5                     | 10   | 43             | -              | P1130               | A                 | A               | GREEN      |
| S6                     | 12   | 58             | H12            | P12H                | A                 | A               | GREEN      |
| S6                     | 16   | 58             | J16            | P16J                | A                 | A               | BLACK      |
| S6                     | 12   | HY             | -              | P12H                | A                 | A               | GREEN      |
| S6                     | 16   | HY             | -              | P1450               | A                 | A               | BLACK      |
| S6                     | 20   | SQ             | -              | T24*                | B                 | B               | RED        |
| S9                     | 12   | 58             | H12            | P12H                | A                 | A               | GREEN      |
| S9                     | 16   | 58             | J16            | P16J                | A                 | A               | BLACK      |
| S9                     | 12   | HY             | -              | P12H                | A                 | A               | GREEN      |
| S9                     | 16   | HY             | -              | P1490               | A                 | A               | BLACK      |
| HTB                    | 04   | BW             | -              | P0745               | A                 | A               | YELLOW     |
| HTB                    | 06   | 43             | -              | A06                 | A                 | A               | YELLOW     |
| HTB                    | 08   | 43             | -              | A08                 | A                 | A               | BLUE       |
| HTB                    | 10   | 43             | -              | A10                 | A                 | A               | ORANGE     |
| HTB                    | 12   | 43             | -              | A12                 | A                 | A               | GREEN      |
| HTB                    | 16   | 43             | -              | A16                 | A                 | A               | BLACK      |
| M8                     | 06   | 43             | -              | M0850               | A                 | A               | YELLOW     |
| M8                     | 08   | 43             | -              | M1010               | A                 | A               | BLUE       |
| M8                     | 10   | 43             | -              | M1170               | A                 | A               | ORANGE     |
| 573X/XL                | -3   | LV             | V03            | -                   | -                 | -               | -          |
| 573X                   | -16  | LV             | J16            | -                   | -                 | -               | -          |
| 919                    | -3   | 91             | -              | T03                 | A                 | A               | GRAY       |
| 919/919U/929/929B      | -4   | 91N            | -              | T04N                | A                 | A               | RED        |
| 919/919B               | -5   | 91N            | -              | T05N                | A                 | A               | PURPLE     |
| 919/919B/919U/929/929B | -6   | 91N            | -              | T06N                | A                 | A               | YELLOW     |
| 919/919B/919U/929/929B | -8   | 91N            | -              | T08N                | A                 | A               | BLUE       |
| 919                    | -10  | 91N            | -              | T10N                | A                 | A               | ORANGE     |
| 919/919U/929B          | -12  | 91N            | -              | T12N                | A                 | A               | GREEN      |
| 919/919U               | -16  | 91N            | -              | T16N                | A                 | A               | BLACK      |
| 919                    | -20  | 91             | -              | T20                 | A                 | A               | WHITE      |
| 919J/929BJ             | -4   | 91N            | -              | T04J                | A                 | A               | RED        |
| 919J/929BJ             | -5   | 91N            | -              | T05J                | A                 | A               | PURPLE     |
| 919J/929BJ             | -6   | 91N            | -              | T06J                | A                 | A               | YELLOW     |
| 919J/929BJ             | -8   | 91N            | -              | T08J                | A                 | A               | BLUE       |
| 919J/929BJ             | -10  | 91N            | -              | T10J                | A                 | A               | ORANGE     |
| 919J/929BJ             | -12  | 91N            | -              | T12J                | A                 | A               | GREEN      |
| 919J                   | -16  | 91N            | -              | T16                 | A                 | A               | BLACK      |
| 929B                   | -16  | 91N            | -              | T16H                | A                 | A               | BLACK      |
| 929BJ                  | -16  | 91N            | -              | T16HJ               | A                 | A               | BLACK      |
| 939/939B               | -10  | 93N            | -              | 83C-T10*            | A                 | A               | ORANGE     |
| 939/939B               | -12  | 93N            | -              | 83C-T12*            | A                 | A               | GREEN      |
| 939/939B               | -16  | 93N            | -              | 83C-T16*            | B                 | B               | BLACK      |
| 939/939B               | -20  | 93N            | -              | 83C-T20*            | B                 | B               | WHITE      |
| 939/939B               | -24  | 93N            | -              | 83C-T24*            | B                 | B               | RED        |
| 939/939B               | -32  | 93N            | -              | 83C-T32*            | B                 | B               | GREEN      |

\* Use silver spacer ring only with all Parflex hoses. Do not use black spacer ring on the SuperKrimp, ParKrimp I or ParKrimp II. Parflex Crimp Dies can be further identified by machined grooves in the top of dies: 55 Series has one groove - 58 Series has two grooves - 91N Series has three grooves.

† Crimp Machine Code: A = All models; B = Parkrimp II and Superkrimp only.



# Recommended Practices for Hydraulic Hose Assemblies

**Foreword —** This SAE Recommended Practice is intended as a guide to consider when selecting, routing, fabricating, installing, replacing, maintaining and storing hose for fluid-power systems. It is subject to change to keep pace with experience and technical advances. For those new to hose use in fluid-power systems, this guide outlines practices to note during each phase of system design and use. Experienced designers and users skilled in achieving proper results, as well as the less experienced, can use this outline as a list of considerations to keep in mind.

Fluid power systems are complex and require extensive knowledge of both the system requirements and the various types of hose. Therefore, all-inclusive, detailed, step-by-step instructions are not practical and are beyond the scope of this document. Less experienced designers and user's who need more information can consult specialists such as hose suppliers and manufacturers. This guide can improve the communication process.

**Safety Considerations —** These recommended practices involve safety considerations; note these carefully during all phases of design and use of hose systems. Improper selection, fabrication, installation or maintenance of hose and hose assemblies for fluid-power systems may result in serious personal injury or property damage. These recommended practices can reduce the likelihood of component or system failure, thereby reducing the risk of injury or damage.

**1. Scope —** SAE J1273 provides guidelines for selection, routing, fabrication, installation, replacement, maintenance and storage of hose and hose assemblies for fluid-power systems. Many of these SAE Recommended Practices also may be suitable for other hose and systems.

## 2. References

**2.1 Applicable Documents —** The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, the latest issue of SAE publications shall apply.  
 SAE J343 – Test and Procedures for SAE 100 R Series Hydraulic Hose and Hose Assemblies.  
 SAE J514 – Hydraulic Tube Fittings  
 SAE J517 – Hydraulic Hose  
 SAE J1927 – Cumulative Damage Analysis for Hydraulic Hose Assemblies

**2.1.2 ISO Publication —** Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.  
 ISO 3457 – Earth Moving Machinery-Guards and Shields-Definitions and Specifications

**3. Explanation of Terms —** These explanations serve only to clarify this document and are not intended to stand alone. They are presented sequentially, with the former helping to explain the latter.

**3.1 Fluid Power —** Energy transmitted and controlled using pressurized hydraulic fluids or compressed air.

**3.2 Hose —** Flexible conductor. In this document, the term hose may also refer to a hose assembly with related accessories used in fluid power applications.

**3.3 Hose Fitting or Fitting —** Connector which can be attached to the end of a hose.

**3.4 Hose Assembly —** Hose with hose fittings attached.

**3.5 Hose Failure —** Occurrence in which a hose stops meeting system requirements.

**3.6 Hose Service Life —** Length of time a hose meets system requirements without needing replacement.

**4. Safety Considerations —** Listed in 4.1 to 4.7 are some

potential conditions and situations that may lead to personal injury and/or property damage. The list is not necessarily all inclusive. Consider reasonable and feasible means, including those described in this section, to reduce the risk of injuries or property damage.

**4.1 Fluid Injections —** Fine streams of escaping pressurized fluid can penetrate skin and enter a human body. These fluid injections may cause severe tissue damage and loss of limb. Consider various means to reduce the risk of fluid injections, particularly in areas normally occupied by operators. Consider careful routing, adjacent components, warnings, guards, shields and training programs. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Avoid contact with escaping fluids. Treat all leaks as though pressurized and hot enough to burn skin. Never use any part of your body to check for hose leaks. If a fluid-injection accident occurs, see a doctor immediately. **DO NOT DELAY OR TREAT AS A SIMPLE CUT!** Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should consult a knowledgeable medical source.

**4.2 Whipping Hose —** If a pressurized hose assembly blows apart, the fittings can be thrown off at high speed, and the loose hose can flail or whip with great force. This is especially true in compressible-fluid systems. When this risk exists, consider guards and restraints to protect against injury.

**4.3 Burns from Conveyed Fluids —** Fluid-power media may reach temperatures that can burn human skin. If there is risk of burns from escaping fluid, consider guards and shields to prevent injury, particularly in areas normally occupied by operators.

**4.4 Fire and Explosion from Conveyed Fluids —** Most fluid-power media, including fire-resistant hydraulic fluids, will burn under certain conditions. Fluids which escape from pressurized systems may form a mist or fine spray which can flash or explode upon contact with an ignition source. Consider selecting, guarding, and routing hose to minimize the risk of combustion. (See Section 5 and ISO 3457).

**4.5 Fire and Explosions from Static-Electric Discharge —** Fluid passing through hose can generate static electricity, resulting in static-electric discharge. This may create sparks that can ignite system fluids or gases in the surrounding atmosphere. When this potential exists, select hose specifically designed to carry the static-electric charge to ground.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings & Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

**4.6 Electrical Shock** – Electrocution could occur if hose conducts electricity through a person. Most hoses are conductive. Many contain metal or have metal fittings. Even nonconductive hoses can be conduits for electricity if they carry conductive fluids. Be aware of routing or using hose near electrical sources. When this cannot be avoided, select appropriate hose. Nonconductive hoses should be considered. SAE J517-100R7 and 100R8 hoses, with orange covers marked “Nonconductive” are available for applications requiring nonconductive hose.

**4.7 Mechanisms Controlled by Fluid Power** – Mechanisms controlled by fluid in hoses can become hazardous when a hose fails. For example, when a hose bursts, objects supported by fluid pressure may fall, or vehicles or machines may lose their brakes or steering. If mechanisms are controlled by fluid power, consider safe modes of failure that minimize risks of injury or damage.

**5. Hose Selection and Routing** – A wide variety of interacting factors influence hose service life and the ability of each fluid-power system to operate satisfactorily, and the combined effects of these factors on service life are often unpredictable. Therefore, these documents should not be construed as design standards. For applications outside the specifications in SAE J517, SAE J514, or other relevant design standards, performance of hose assemblies should be determined by appropriate testing. Carefully analyze each system. Then design routings and select hose and related components to meet the system-performance and hose-service-life requirements, and to minimize the risks of personal injury and/or property damage. Consider the following factors:

**5.1 System Pressures** – Excessive pressure can accelerate hose assembly failure. Analyze the steady-state pressures, and the frequency and the amplitude of pressure surges, such as pulses and spikes. These are rapid and transient rises in pressure which may not be indicated on many common pressure gauges and can be identified best on high-frequency-response electronic measuring instruments. For maximum hose service life, hose selection should be based on a system pressure, including surges, that is less than the hose maximum working pressure. Hose may be used above its maximum working pressure where reduced life expectancy is acceptable. SAE J1927 provides a method to help predict wire-reinforced hose service for a given hydraulic application, where the surge pressure peaks vary, and/or the highest pressure peaks occur infrequently.

**5.2 Suction** – For suction applications, such as inlet flow to pumps, select hose to withstand both the negative and positive pressures the system imposes on the hose.

**5.3 External Pressure** – In certain applications, such as in autoclaves or under water, the external environmental pressures may exceed the fluid pressure inside the hose. In these applications, consider the external pressures, and, if necessary, consult the manufacturers.

**5.4 Temperature** – Exceeding hose temperature ratings may significantly reduce hose life. Select hose so the fluid and ambient temperatures, both static and transient, fall within the hose ratings. The effects of external heat sources should not raise the temperature of the hose above its maximum operating temperature. Select hose, heat shields, sleeving, and other methods for these requirements, and route or shield hose to avoid hose damage from external heat sources.

**5.5 Permeation** – Permeation, or effusion, is seepage of fluid

more permeable than others. Consider the effects of permeation when selecting hose, especially with gaseous fluids. Consult the hose and fluid manufacturers for permeability information.

**5.6 Hose-Material Compatibility** – Variables that can affect compatibility of system fluids with hose materials include, but are not limited to:

- A. Fluid Pressure
- B. Temperature
- C. Concentration
- D. Duration of exposure

Because of permeation (see 5.5), consider compatibility of system fluids with the hose, tube, cover, reinforcement, and fittings. Consult the fluid and hose manufacturers for compatibility information. **NOTE**—Many fluid/elastomer compatibility tables in manufacturers' catalogs show ratings based on fluids at 21° C, room temperature. These ratings may change at other temperatures. Carefully read the notes on the compatibility tables, and if in doubt, consult the manufacturer. **NOTE**—See pages 287–290 for chemical resistance information.

**5.7 Environment** – Environmental conditions can cause hose and fitting degradation. Conditions to evaluate include, but are not limited to:

- A. Ultraviolet light
- B. Salt water
- C. Air pollutants
- D. Temperature
- E. Ozone
- F. Chemicals
- G. Electricity
- H. Abrasion

If necessary, consult the manufacturers for more information.

**5.8 Static-Electric Discharge** – Fluid passing through hose can generate static electricity resulting in static-electric discharge. This may create sparks that can puncture hose. If this potential exists, select hose with sufficient conductivity to carry the static-electric charge to the ground.

**5.9 Sizing** – The power transmitted by pressurized fluid varies with pressure and rate of flow. Select hose with adequate size to minimize pressure loss, and to avoid hose damage from heat generation or excessive velocity. Conduct calculations, or consult the manufacturers for sizing at flow velocities.

**5.10 Unintended Uses** – Hose assemblies are designed for the internal forces of conducted fluids. Do not pull hose or use it for purposes that may apply external forces for which the hose or fittings were not designed.

**5.11 Specifications and Standards** – When selecting hose and fittings for specific applications, refer to applicable government, industry, and manufacturer's specifications and standards.

**5.12 Unusual Applications** – Applications not addressed by the manufacturer or by industry standards may require special testing prior to selecting hose.

**5.13 Hose Cleanliness** – The cleanliness requirements of system components, other than hose, will determine the cleanliness requirements of the application. Consult the component manufacturers' cleanliness information for all components in the system. Hose assemblies vary in cleanliness levels; therefore, specify hose assemblies with adequate cleanliness for the system.

**5.14 Hose Fittings** – Selection of the proper hose fittings for the hose and application is essential for proper operation and safe use of hose and related assembly equipment. Hose fittings are qualified with the hose. Therefore, select only hose fittings compatible with the hose for the applications.

Improper selection of hose fittings or related assembly equipment for the application can result in injury or damage from leaks, or from hose assemblies blowing apart (see 4.2, 6.2, 6.3 and 6.4).

**5.15 Vibration** – Vibration can reduce hose service life. If required, conduct tests to evaluate the frequency and amplitude of system vibration. Clamps or other means may be used to reduce the effects of vibration. Consider the vibration requirements when selecting hose and predicting service life.

**5.16 Hose Cover Protection** – Protect the hose cover from abrasion, erosion, snagging and cutting. Special abrasion-resistant hoses and hose guards are available for additional protection. Route hose to reduce abrasion from hose rubbing other hose or objects that may abrade it.

**5.17 External Physical Abuse** – Route hose to avoid:

- A. Tensile loads
- B. Side loads
- C. Flattening
- D. Thread damage
- E. Kinking
- F. Damage to sealing surfaces
- G. Abrasion
- H. Twisting

**5.18 Swivel-Type Adapters** – Swivel-type fittings or adapters do not transfer torque to hose while being tightened. Use these as needed to prevent twisting during installation.

**5.19 Live Swivels** – If two components in the system are rotating in relation to each other, live swivels may be necessary. These connectors reduce the torque transmitted to the hose.

**5.20 Slings and Clamps** – Use slings and clamps to support heavy or long hose and to keep it away from moving parts. Use clamps that prevent hose movement that will cause abrasion.

**5.21 Minimum Bend Radius** – The minimum bend radius is defined in SAE J343 and is specified in other SAE standards and hose manufacturer's product literature. Routing at less than minimum bend radius may reduce hose life. Sharp bending at the hose/fitting juncture may result in leaking, hose rupturing, or the hose assembly blowing apart (see 4.2 and Figure 1).

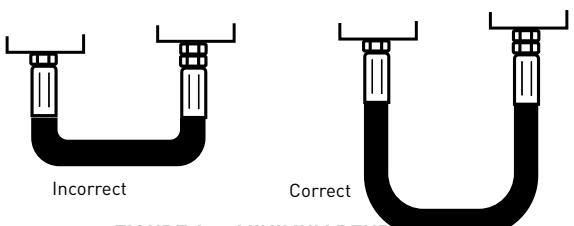


FIGURE 1 — MINIMUM BEND RADIUS

**5.22 Elbows and Adapters** – In special cases, use elbows and adapters to relieve hose strain (see Figure 2).

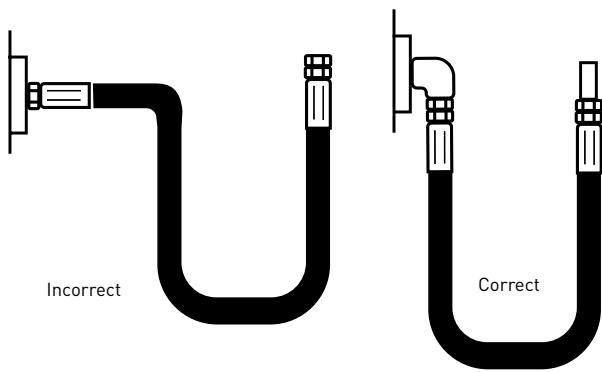


FIGURE 2 — ELBOWS AND ADAPTERS

**5.23 Lengths** – Unnecessarily long hose can increase pressure drop and affect system performance. When pressurized, hose that is too short may pull loose from its fittings, or stress the fitting connections, causing premature metallic or seal failures. When establishing hose length, refer to Figures 3, 4, and 5; and use the following practices:

**5.23.1 Motion Absorption** – Provide adequate hose length to distribute movement and prevent bends smaller than the minimum bend radius.

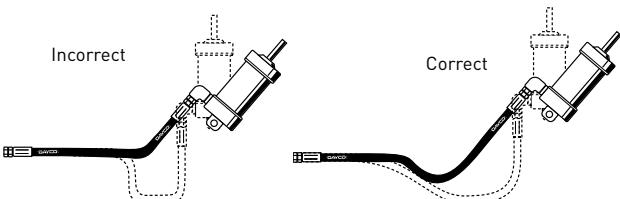


FIGURE 3 — MOTION ABSORPTION

**5.23.2 Hose and Machine Tolerances** – Design hose to allow for changes in length due to machine motion and tolerances.

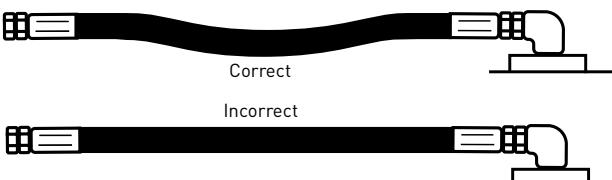


FIGURE 4 — HOSE AND MACHINE TOLERANCES

**5.23.3 Hose Length Due To Pressure** – Design hose to accommodate length changes from changing pressures. Do not cross or clamp together high- and low-pressure hoses. The difference in length changes could wear the hose covers.

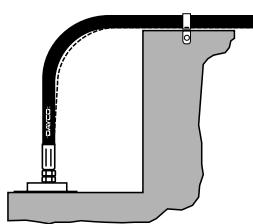


FIGURE 5 — HOSE LENGTH DUE TO PRESSURE

**5.24 Hose Movement and Bending** – Hose allows relative motion between system components. Analyze this motion when designing hose systems. The number of cycles per day may significantly affect hose life. Also avoid multiple planes of motion and twisting motion. Consider the motion of the hose when selecting hose and predicting service life. In applications that require hose to move or bend, refer to Figures 6 and 7; and use these practices:

#### 5.24.1 Bend in Only One Plane to Avoid Twisting

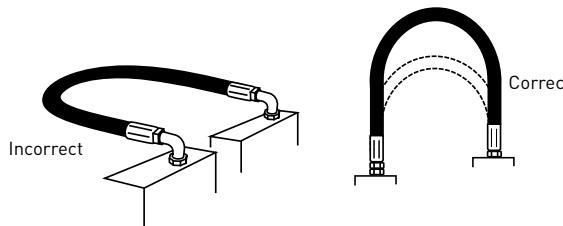


FIGURE 6 — BEND IN ONLY ONE PLANE TO AVOID TWISTING

**5.24.2 Prevent Hose Bending in More Than One Plane** – If hose follows a compound bend, couple it into separate segments, or clamp into segments that flex in only one plane.

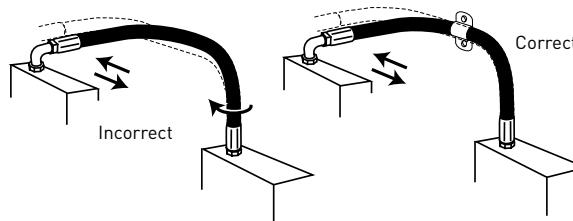


FIGURE 7 — PREVENT HOSE BENDING IN MORE THAN ONE PLANE

**6. Hose-Assembly Fabrication** – Persons fabricating hose assemblies should be trained in the proper use of equipment and materials. The manufacturers' instructions and the practices listed as follows must be followed. Properly assembled fittings are vital to the integrity of a hose assembly. Improperly assembled fittings can separate from the hose and may cause serious injury or property damage from whipping hose, or from fire or explosion of vapor expelled from the hose.

**6.1 Component Inspection** – Prior to assembly, examine components for:

- A. Style or type
- B. Cleanliness
- C. Loose covers
- D. Nicks
- E. Size
- F. Inside obstructions
- G. Visible defects
- H. Damage
- I. Length
- J. Blisters
- K. Burrs

**6.2 Hose Fittings** – Hose fitting components from one manufacturer are not usually compatible with fittings components supplied by another manufacturer. For example, do not use a hose fitting nipple from one manufacturer with a

hose socket from another manufacturer. It is the responsibility of the fabricator to consult the manufacturer's written instructions or the manufacturer directly for information on proper fitting components.

**6.3 Hose and Fitting Compatibility** – Care must be taken to determine proper compatibility between the hose and fitting. Base selection on the manufacturers' recommendations substantiated by testing to industry standards such as SAE J517. Hose from one manufacturer is not usually compatible with fittings from another. Do not intermix hose and fittings from two manufacturers without approval from both manufacturers.

**6.4 Hose Assembly Equipment** – Assembly equipment from one manufacturer is usually not interchangeable with that from another manufacturer. Hoses and fittings from one manufacturer should not generally be assembled with the equipment of another manufacturer.

**6.5 Safety Equipment** – During fabrication, use proper safety equipment, including eye protection, breathing apparatus, and adequate ventilation.

**6.6 Reuse of Hose and Fittings** – When fabricating hose assemblies, do not reuse:

- A. Field-attachable fittings that have blown or pulled off hose.
- B. Any part of hose fittings that were permanently crimped or swaged to hose.
- C. Hose that has been in service after system check out (see 7.7).

**6.7 Cleanliness of Hose Assemblies** – Hose assemblies may be contaminated during fabrication. Clean hoses to specified cleanliness levels (see 5.13).

**7. Hose Installation and Replacement** – Use the following practices when installing hose assemblies in new systems or replacing hose assemblies in existing systems:

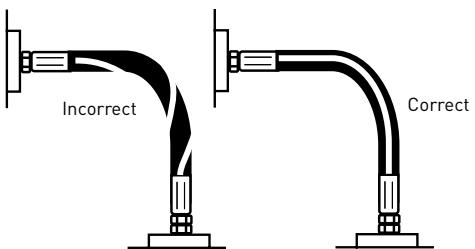
**7.1 Pre-Installation Inspection** – Before installing hose assemblies, examine:

- A. Hose length and routing for compliance with original design.
- B. Assemblies for correct style, size, length and visible nonconformities.
- C. Fitting sealing surfaces for burrs, nicks, or other damage.

**NOTE:** When replacing hose assemblies in existing systems, verify that the replacement is of equal quality to the original assembly.

**7.2 Handling During Installation** – Handle hose with care during installation. Kinking hose, or bending at less than minimum bend radius may reduce hose life. Avoid sharp bending at the hose/fitting juncture (see 5.21).

**7.3 Twist Angle and Orientation** – Pressure applied to a twisted hose may shorten the life of the hose or loosen the connections. To avoid twisting, use the hose lay line or marking as a reference (see Figure 8).

**FIGURE 8 — TWIST ANGLE AND ORIENTATION**

**7.4 Securement and Protection** – Install necessary restraints and protective devices. Determine that such devices do not create additional stress or wear points.

**7.5 Routing** – Review proper routing practices provided in Section 5 and make appropriate corrections to obtain optimum performance.

**7.6 Assembly Torque** – The connection end of a hose is normally threaded to obtain a tight pressure seal when attached to a port, an adapter, or another fitting. Sometimes bolts or screws provide the threaded connection. Each size and type of connection requires different torque values, and these may vary due to type of material or exterior coating.

**7.7 System Checkouts** – In hydraulic or other liquid systems, eliminate all air entrapment after completing the installation. Follow manufacturers' instructions to test the system for possible malfunctions and leaks.

#### 7.7.1 To avoid injury during system checkouts:

- A. Do not touch any part of the system when checking for leaks (see 4.1).
- B. Stay out of potentially hazardous areas while testing hose systems (see Section 4).
- C. Relieve system pressure before tightening connections.

**8. Maintenance Inspection** – A hose and fitting maintenance program may reduce equipment downtime, maintain peak operating performance, and reduce the risk of personal injury and/or property damage. The user should design and implement a maintenance program that suits the specific application and each specific hose in that application.

**8.1 Inspection Frequency** – Evaluate factors such as the nature and severity of the application, past history, and manufacturers' information to establish the frequency of visual inspections and functional tests.

**8.2 Visual Inspection (Hose and Fittings)** – Visually inspect hose and fittings for:

- A. Leaks at hose fitting or in hose.
- B. Damaged, cut or abraded cover.
- C. Exposed reinforcement.
- D. Kinked, crushed, flattened, or twisted hose.
- E. Hard, stiff, heat cracked, or charred hose.
- F. Blistered, soft, degraded, or loose cover.
- G. Cracked, damaged, or badly corroded fittings.
- H. Fitting slippage on hose.
- I. Other signs of significant deterioration. If any of these conditions exist, evaluate the hose assemblies for correction or replacement.

**8.3 Visual Inspection (All Other Components)** – When visually

inspecting hose and fittings, inspect for related items including:

- A. Leaking ports.
- B. Damaged or missing hose clamps, guards or shields.
- C. Excessive dirt and debris around hose.
- D. System fluid: Level, type, contamination, condition and air entrainment. If any of these are found, address them appropriately.

**8.4 Functional Test** – Functional tests determine if systems are leak free and operating properly. Carry out functional tests per information from equipment manufacturers.

**9. Hose Storage** – Age control and the manner of storage can affect hose life. Use the following practices when storing hose.

**9.1 Age Control** – Maintain a system of age control to determine that hose is used before its shelf life has expired. Shelf life is the period of time when it is reasonable to expect the hose to retain full capabilities for rendering the intended service.

Store hose in a manner that facilitates age control and first-in, first-out usage based on manufacturing date on hose or hose assembly. Per SAE J517:

- A. Shelf life of rubber hose in bulk form, or in hose assemblies passing visual inspection and proof test, is forty quarters (ten years) from the date of vulcanization.
- B. Shelf life of thermoplastic and polytetrafluoroethylene hose is considered to be unlimited.

**9.2 Storage** – Store hose and hose assemblies in a cool, dark, dry area with the ends capped. When storing hose, take care to avoid damage that could reduce hose life, and follow the manufacturers' information for storage and shelf life. Examples of factors that can adversely affect hose product in storage are:

- A. Temperature
- B. Ozone
- C. Oils
- D. Corrosive liquids and fumes
- E. Rodents
- F. Humidity
- G. Ultraviolet light
- H. Solvents
- I. Insects
- J. Radioactive materials

If there are any questions regarding the quality or usability of hose or hose assemblies, evaluate appropriately:

- A. Flex the hose to the minimum bend radius and compare it with new hose. After flexing, examine the cover and tube for cracks. If any appear, no matter how small, reject the hose.
- B. If the hose is wire reinforced, and the hose is unusually stiff, or a cracking sound is heard during flexing, check for rust by cutting away a section of the cover from a sample. Rust would be another reason for rejection.
- C. If doubt still persists, contact hose assembler to conduct proof-pressure tests or any other tests needed to verify hose quality.

Prepared by the SAE Fluid Conductors and Connectors Technical Committee SC3–Training and Education Subcommittee

## Selection of Hose Diameter from Flow Rate and Velocity

The Fluid Velocity Nomogram gives the velocity of a liquid or gas as a function of flow rate and inside diameter of the fluid line. The commonly recommended maximum velocities for hydraulic oil systems at 200°F or less are indicated for guidance.

Example: At 10 gpm, what is the minimum size within the recommended velocity range for a hydraulic pressure line?

The dashed line drawn from the 10 gpm mark on the left hand line to the maximum velocity of 20 fps intersects the middle line at .438 " (7/16" I. D. hose or tubing).

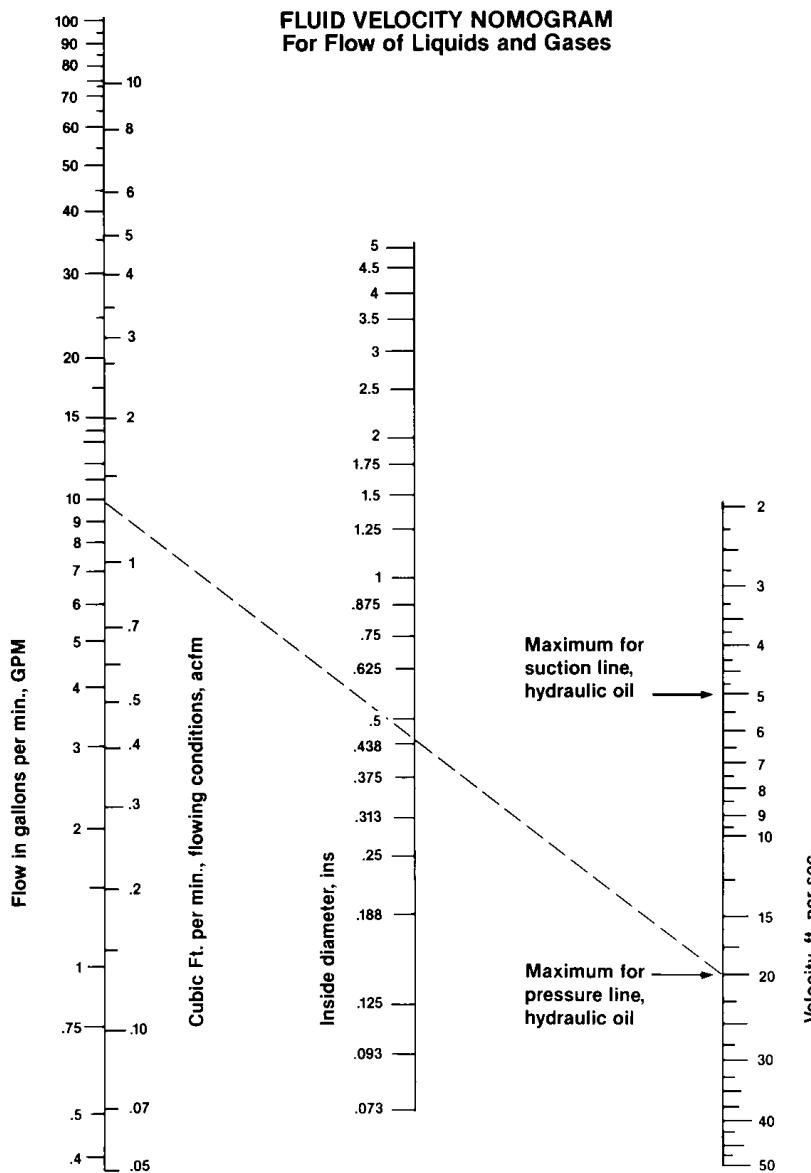
For a hose application, use 1/2" I. D., the nearest common standard size.

This chart is based on the following formulas:  $v_{fps} = \frac{.321Q}{bd^2}$ , Q = gal per min  
 $d$  = hose or tube I. D. (inch)

$$\text{cu. ft./min.} = .1337 Q$$

The cu. ft. per min. value is the actual volume flow rate under flowing conditions.

For air, standard cfm of free air = 7.81 actual cfm when the inlet air is at 100 PSIG, 68°F.



## Determination of Pressure Drop in the Line

$$\text{Velocity: } v = .409 \frac{Q}{d^2} = .0509 \frac{W}{pd^2} = \frac{q}{.785d^2}$$

$$\text{Reynold's Number: } Re = 124 \frac{dv}{\mu} = 6.31 \frac{W}{d\mu} = 378 \frac{qp}{d\mu}$$

Pressure Drop, Isothermal, Incompressible Flow (Liquids):

$$\Delta P = .001294 \frac{fL p v^2}{d} = .00000336 \frac{fL W^2}{pd^5} = .0121 \frac{fL q^2}{d^5}$$

Pressure Drop, Isothermal, Compressible, Long Lines (Gases and Vapors):

$$\frac{\Delta P}{P_1} = 1 - \sqrt{1 - \frac{fL p_1 v_1^2}{12 g d P_1}}$$

## Symbols and Units for Listed Formulas

$d$  = inside diameter of hose, inches

$f$  = friction coefficient, dimensionless

$g$  = gravitational constant, 32.2 ft./sec.<sup>2</sup>

$P_1$  = input pressure, PSI

$\Delta P$  = pressure difference, PSI

$q$  = rate of flow at flowing condition, cu. ft./min.

$Q$  = rate of flow, gals./min.

$Re$  = Reynolds number, dimensionless

$v$  = flow velocity, ft./sec.

$W$  = rate of flow, lbs./hr.

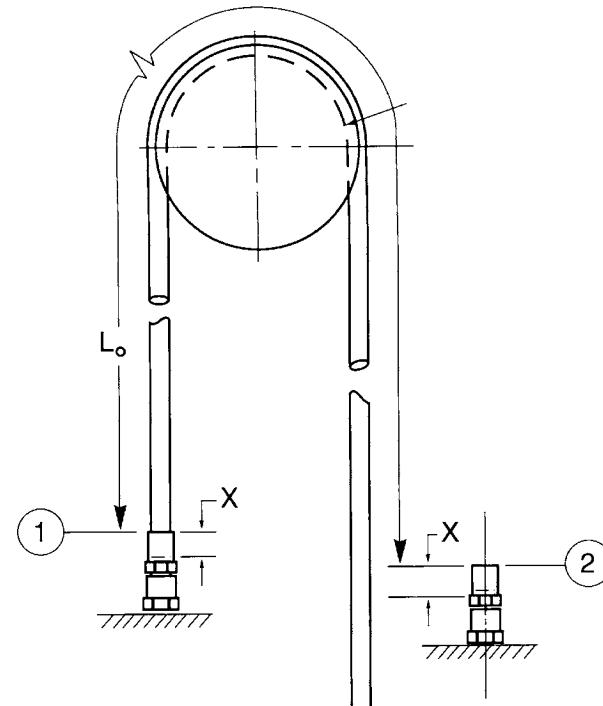
$p$  = weight density of fluid, lbs./cu. ft.

$\mu$  = absolute (dynamic) viscosity, centipoises

## Parflex Hose — Calculation of Hose Length for Over-the-Sheave Applications

The exact cutoff length for an optimum over-the-sheave assembly depends on the particular mechanical arrangement of the machine. A method for finding an approximate starting point is as follows:

1. Assemble hose with one coupling as shown in diagram.
2. Measure hose length from point 1 to point 2 **with hose taut (.985 accounts for 1.56 stretch)**. ( $L_o$  = length)
3. Calculation of insert allowance (x) may be found from the coupling dimension tabulations in the fittings section or from direct measurement on the coupling. A 1.5% stretch allowance is provided in this formula.
4. Calculate hose cutoff or free length  $L_F$ :  
$$L_F = 0.985 L_o + 2x$$
Where  $L_F$  includes coupling insert allowance on both ends.
5. Couple the remaining hose end, check crimp, and assemble on the machine.



## Permeation Rate at 120°F

(Pound per Linear Hose Foot per Year)

| Hose Size | R12 | R22  | R507 | R404A | R502 | R134A |
|-----------|-----|------|------|-------|------|-------|
| -2        | -   | .28  | -    | -     | .03  | -     |
| -3        | -   | .30  | .08  | .07   | -    | -     |
| -4        | -   | .71  | .15  | .10   | -    | -     |
| -6        | -   | 1.11 | -    | -     | .87  | -     |

## Permeation Rate at 212°F

(Pound per Linear Hose Foot per Year)

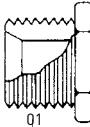
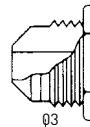
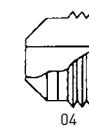
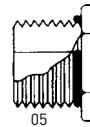
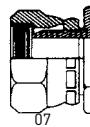
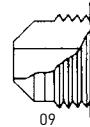
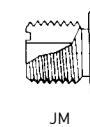
| Hose Size | R12 | R22  | R507 | R404A | R502 | R134A |
|-----------|-----|------|------|-------|------|-------|
| -2        | -   | -    | -    | -     | -    | -     |
| -3        | -   | 1.25 | -    | -     | -    | -     |
| -4        | .08 | 2.32 | -    | -     | -    | .07   |
| -6        | -   | -    | -    | -     | -    | -     |

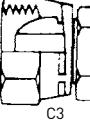
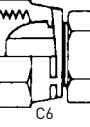
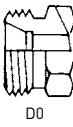
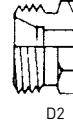
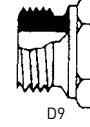
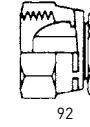
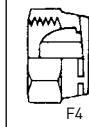
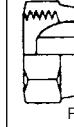
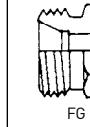
## Notes:

1. Data is for comparison only. Actual results may vary due to differences in application temperature and pressure.
2. Data is collected in highly controlled tests per UL1963.
3. Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings and Related Accessories, Section 2.6:

Permeation: Permeation (that is, seepage through the hose) will occur from inside the hose to outside when hose is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials as helium, fuel oil, natural gas, or freon). This permeation may result in high concentrations of vapors which are potentially flammable, explosive, or toxic, and in loss of fluid. Dangerous explosions, fires, and other hazards can result when using the wrong hose for such applications. The system designer must take into account the fact that this permeation will take place and must not use hose if this permeation could be hazardous. The system designer must take into account all legal, government, insurance, or any other special regulations which govern the use of fuels and refrigerants. Never use a hose even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the hose assembly.

Permeation of moisture from outside the hose to inside the hose will also occur in hose assemblies, regardless of internal pressure. If this moisture permeation would have detrimental effects (particularly but not limited to refrigeration and air conditioning systems), incorporation of sufficient drying capacity in the system or other appropriate system safeguards should be selected and used.

| PARFLEX<br>STYLE<br>NO. |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|
| Dash<br>Size            | NPTF<br>Pipe<br>Thread<br>Size  | SAE (JIC) 37°<br>Flare<br>Thread<br>Size  | SAE 45°<br>Flare<br>Thread<br>Size  | "O" Ring<br>Style<br>Straight<br>Thread<br>Size                                   | SAE<br>Inverted<br>Flare<br>Thread<br>Size  | PTT<br>30° Flare<br>Thread<br>Size  | SAE<br>Flareless<br>Thread<br>Size  | Seal-<br>Lok<br>Thread  |
| 2                       | 1/8 - 27  | 5/16 - 24   | 5/16 - 24   | 5/16 - 24   | -   | -   | 5/16 - 24   | -   |
| 3                       | -   | 3/8 - 24  | 3/8 - 24  | 3/8 - 24  | -   | -   | 3/8 - 24  | -   |
| 4                       | 1/4 - 18  | 7/16 - 20   | 7/16 - 20   | 7/16 - 20   | 1/4 - 18  | -   | 7/16 - 20   | 9/16 - 18   |
| 5                       | -   | 1/2 - 20  | 1/2 - 20  | 1/2 - 20  | -   | -   | 1/2 - 20  | -   |
| 6                       | 3/8 - 18  | 9/16 - 18   | 5/8 - 18  | 9/16 - 18   | 3/8 - 18  | -   | 9/16 - 18   | 11/16 - 16  |
| 8                       | 1/2 - 14  | 3/4 - 16  | 2 3/4 - 16  | 2 3/4 - 16  | 1/2 - 14  | -   | 3/4 - 16  | 13/16 - 16  |
| 10                      | -   | 7/8 - 14  | 7/8 - 14  | 7/8 - 14  | -   | -   | 7/8 - 14  | 1 - 14  |
| 12                      | 3/4 - 14  | 1 1/16 - 12   | 1 1/16 - 12   | 1 1/16 - 12   | -   | -   | 1 1/16 - 12   | 1 3/16 - 12   |
| 14                      | -   | 1 3/16 - 12   | -   | 1 3/16 - 12   | -   | -   | 1 3/16 - 12   | -   |
| 16                      | 1 - 11 1/2  | 1 5/16 - 12   | -   | 1 5/16 - 12   | -   | 1 5/16 - 14   | 1 5/16 - 12   | 1 7/16 - 12   |
| 20                      | 1 1/4 - 11 1/2  | 1 5/8 - 12  | -   | 1 5/8 - 12  | -   | 1 5/8 - 14  | 1 5/8 - 12  | -   |
| 24                      | 1 1/2 - 11 1/2  | 1 7/8 - 12  | -   | 1 7/8 - 12  | -   | 1 7/8 - 14  | 1 7/8 - 12  | -   |
| 32                      | 2 - 11 1/2  | 2 1/2 - 12  | -   | 2 1/2 - 12  | -   | 2 1/2 - 12  | 2 1/2 - 12  | -   |

| PARFLEX<br>STYLE<br>NO. |  |  |  |  |  |  |  |  |  |
|-------------------------|--|--|--|--|--|---|--|--|--|
| Fitting<br>Size         | Metric<br>Swivel<br>Female<br>Thread<br>Size                                       | Metric<br>Swivel<br>Female<br>Thread<br>Size                                       | Male<br>Stud<br>Thread<br>Size   | Male<br>Stud<br>Thread<br>Size   | Male<br>BSP<br>Thread<br>Size  | BSP<br>Swivel<br>Female<br>Thread<br>Size   | French<br>Swivel<br>Female<br>Gas<br>Series  | French<br>Swivel<br>Female<br>Metric<br>Series                                       | French<br>Male<br>Stud<br>Gas<br>Series  |
| 4                       | -  | -  | -  | -  | 1/4"   | 1/4"  | -  | -  | -  |
| 6                       | M12 x 1,5  | -  | M12 x 1,5  | -  | 3/8"   | 3/8"  | -  | M12 x 1  | -  |
| 8                       | M14 x 1,5  | M16 x 1,5  | M14 x 1,5  | M16 x 1,5  | 1/2"   | 1/2"  | -  | M14 x 1,5  | -  |
| 10                      | M16 x 1,5  | M18 x 1,5  | M16 x 1,5  | M18 x 1,5  | -  | 5/8"  | -  | M16 x 1,5  | -  |
| 12                      | M18 x 1,5  | M20 x 1,5  | M18 x 1,5  | M20 x 1,5  | 3/4"   | 3/4"  | -  | M18 x 1,5  | -  |
| -                       | -  | -  | -  | -  | -  | -   | M20 x 1,5  | -  | M20 x 1,5  |
| 14                      | -  | M22 x 1,5  | -  | M22 x 1,5  | -  | -   | -  | M20 x 1,5  | -  |
| 15                      | M22 x 1,5  | -  | M22 x 1,5  | -  | -  | -   | -  | M22 x 1,5  | -  |
| 16                      | -  | M24 x 1,5  | -  | M24 x 1,5  | 1"   | 1"  | -  | M24 x 1,5  | -  |
| -                       | -  | -  | -  | -  | -  | -   | M24 x 1,5  | -  | M24 x 1,5  |
| 18                      | M26 x 1,5  | -  | M26 x 1,5  | -  | -  | -   | -  | M27 x 1,5  | -  |
| 20                      | -  | M30 x 2  | -  | M30 x 2  | -  | -   | -  | M27 x 1,5  | -  |
| -                       | -  | -  | -  | -  | -  | -   | M30 x 1,5  | -  | M30 x 1,5  |
| 22                      | M30 x 2  | -  | M30 x 2  | -  | -  | -   | -  | M30 x 1,5  | -  |
| 25                      | -  | M36 x 2  | -  | M36 x 2  | -  | -   | -  | M33 x 1,5  | -  |
| -                       | -  | -  | -  | -  | -  | -   | M36 x 1,5  | -  | M36 x 1,5  |
| 28                      | M36 x 2  | -  | M36 x 2  | -  | -  | -   | -  | -  | -  |
| 30                      | -  | M42 x 2  | -  | M42 x 2  | -  | -   | -  | M39 x 1,5  | -  |
| 33                      | -  | -  | -  | -  | -  | -   | M45 x 1,5  | -  | M45 x 1,5  |

## Notes

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index



| Media                                  | Fitting Material |       |        |        | Seal Material      |              |          |
|--|------------------|-------|--------|--------|--------------------|--------------|----------|
|  | Brass            | Steel | 316 SS | BUNA-N | Ethylene Propylene | Fluorocarbon | Neoprene |
| Acetylene                              | NR               | F     | S      | S      | S                  | S            | F        |
| Air (oil free) @ 190° F                | S                | F     | S      | F      | S                  | S            | S        |
| Air (oil free) @ 300° F                | S                | F     | S      | NR     | F                  | S            | F        |
| Air (oil free) @ 400° F                | S                | F     | NR     | NR     | NR                 | S            | NR       |
| Alcohol, Ethyl                         | S                | NR    | NR     | S      | S                  | NR           | S        |
| Animal Oils (Lard Oil)                 | F                | F     | F      | S      | F                  | S            | F        |
| Aromatic Fuel - 50%                    | ID               | ID    | ID     | F      | NR                 | S            | NR       |
| Aromatic Solvents                      | ID               | F     | F      | ID     | S                  | NR           |          |
| Asphalt                                | NR               | NR    | S      | F      | NR                 | S            | F        |
| ASTM Oil #1                            | S                | S     | S      | S      | NR                 | S            | S        |
| ASTM Oil #2                            | S                | S     | S      | S      | NR                 | S            |          |
| ASTM Oil #3                            | S                | S     | S      | S      | NR                 | S            | NR       |
| ASTM Oil #4                            | S                | S     | S      | F      | NR                 | S            | NR       |
| ATF Oil                                | S                | S     | S      | S      | NR                 | S            | F        |
| Automotive Brake Fluid                 | ID               | ID    | ID     | NR     | S                  | NR           | F        |
| Benzene                                | NR               | F     | NR     | NR     | NR                 | S            | NR       |
| Brine (Sodium Chloride)                | NR               | NR    | S      | S      | S                  | S            | S        |
| Butane                                 | NR               | S     | S      | S      | NR                 | S            | S        |
| Carbon Dioxide                         | S                | F     | S      | S      | S                  | S            | S        |
| Carbon Monoxide                        | S                | S     | S      | S      | S                  | S            | F        |
| Chlorine (Dry)                         | F                | F     | NR     | NR     | ID                 | F            | F        |
| Compressed Air                         | S                | F     | S      | S      | S                  | S            | S        |
| Crude Oil                              | NR               | F     | S      | F      | NR                 | S            | NR       |
| Cutting Oil                            | ID               | S     | S      | S      | NR                 | S            | F        |
| Diesel Fuel                            | S                | S     | S      | S      | NR                 | S            | NR       |
| Ethanol                                | SS               | NR    | NR     | NR     | S                  | NR           | S        |
| Ethers                                 | SS               | S     | NR     | NR     | F                  | NR           | NR       |
| Freon 11                               | SS               | ID    | ID     | F      | NR                 | F            | NR       |
| Freon 12                               | SS               | S     | NR     | F      | NR                 | S            | S        |
| Freon 22                               | SS               | NR    | S      | NR     | NR                 | NR           | S        |
| Fuel Oil                               | NR               | S     | S      | S      | NR                 | S            | F        |
| Gasoline                               | SS               | F     | S      | S      | NR                 | S            | NR       |
| Gas, Liquid Propane (LPG)              | SS               | S     | S      | S      | NR                 | S            | F        |
| Gas, Natural                           | FF               | S     | S      | S      | NR                 | S            | S        |
| Helium                                 | SS               | S     | S      | S      | S                  | S            | S        |
| Hydraulic Oil, Petroleum Base          | ID               | S     | S      | F      | NR                 | S            | F        |
| Hydraulic Oil, Water Base              | ID               | S     | S      | S      | S                  | NR           | S        |
| Hydrogen Gas                           | SS               | S     | S      | S      | S                  | S            | S        |
| Jet Fuel                               | SS               | S     | S      | S      | NR                 | S            | NR       |
| Kerosene                               | SS               | S     | S      | S      | NR                 | S            | F        |
| Lubricating Oil SAE 10, 20, 30, 40, 50 | SS               | S     | S      | S      | NR                 | S            | F        |
| Methanol                               | SS               | S     | S      | S      | S                  | NR           | S        |
| MIL-F-8192 (JP-9)S                     | SS               | S     | NR     | NR     | S                  | NR           |          |
| MIL-H-5606                             | SS               | S     | S      | S      | NR                 | S            |          |
| MIL-H-6083                             | SS               | S     | S      | S      | NR                 | S            | F        |
| MIL-H-7083                             | ST               | S     | S      | S      | S                  | F            | F        |
| MIL-H-8446 (MLO-8515)                  | SS               | S     | S      | F      | NR                 | S            | S        |
| Mil-L-2104 & 2104B                     | SS               | S     | S      | S      | NR                 | S            | F        |
| MIL-L-7808                             | NR               | F     | S      | F      | NR                 | S            | NR       |
| Mineral Oil                            | SS               | S     | S      | S      | NR                 | S            | F        |
| Nitrogen                               | SS               | S     | S      | S      | S                  | S            | S        |
| Petrolatum                             | SS               | S     | S      | S      | NR                 | S            | S        |
| Petroleum Oil (<250° F)                | SS               | S     | S      | S      | NR                 | S            | F        |
| Propane                                | SS               | S     | S      | S      | NR                 | S            | F        |
| R134A                                  | S                | S     | S      | NR     | S                  | NR           | NR       |
| Sea Water                              | F                | NR    | S      | S      | S                  | S            | F        |
| Skydrol 500, Type 2                    | NR               | S     | S      | NR     | S                  | NR           | NR       |
| Skydrol 7000, Type 2                   | NR               | S     | S      | NR     | S                  | F            | NR       |
| Soap Solutions                         | NR               | NR    | S      | S      | S                  | S            | F        |
| Steam (<400° F)                        | F                | S     | S      | NR     | S                  | NR           | NR       |
| Stoddard Solvent                       | F                | S     | S      | S      | NR                 | S            | F        |
| Transmission Fluid (Type A)            | S                | S     | S      | S      | NR                 | S            | F        |
| Trichloroethane                        | ID               | F     | S      | NR     | NR                 | S            | NR       |
| Water                                  | S                | F     | S      | S      | S                  | F            | F        |

Table U4 — Fluid Compatibility Chart

Codes:  
 S = Satisfactory  
 NR = Not recommended

F = Fair  
 ID = Insufficient data



# Metal Tube and Fitting Material Compatibility

As a general rule, tube and fitting materials should be the same. If different materials must be considered, the following chart can be used as a general guide. Since operating conditions differ with applications, this chart should be used only as a guide and not a firm recommendation. Before making a final

decision on material combination, it should be sufficiently tested under appropriate conditions to assure suitability for the intended application. For additional material combinations, contact the Tube Fittings Division.

| Tube Material                               | Specification            | Construction              | Condition               | Max. Hardness        | Temperature Range [7]                 | Application   | Tube Material to Fitting & Material Compatibility |     |     |                                 |     |     |                              |       |       |            |                                  |             |
|---|--------------------------|---------------------------|-------------------------|----------------------|---------------------------------------|---|---|-----|-----|---------------------------------|-----|-----|------------------------------|-------|-------|------------|----------------------------------|-------------|
|   |                          |                           |                         |                      |                                       |   | Seal-Lok ORFS [SAE J1453]                         |     |     | Triple-Lok 37° Flare [SAE J514] |     |     | Ferulok Flareless [SAE J514] |       |       | In-tru-Lok | EO / EO-2 Flareless [ISO 8434-1] |             |
|   |                          |                           |                         |                      |                                       |   | S   | SS  | B   | S                               | SS  | B   | M                            | S     | SS    | M          | B                                | S, SS, B, M |
| Carbon Steel C-1010                         | SAE J524 (ASTM A179) [8] | Seamless                  | Fully Annealed          | HRB 72               | -65° to 500°F<br>-55° to 260°C        | High pressure hydraulic, air, & some specialty chem           | E   | NR  | (6) | G                               | NR  | (6) | NR                           | E     | NR    | NR         | NR                               | NR          |
|   | SAE J525 (ASTM A178) [8] | Welded & Drawn            |                         |                      |                                       |   | E   | NR  | (6) | E                               | NR  | (6) | NR                           | E     | NR    | NR         | NR                               | NR          |
|   | SAE J356                 | Welded & Flash Controlled |                         |                      |                                       |   | G   | NR  | (6) | NR                              | NR  | (6) | NR                           | G     | NR    | NR         | NR                               | NR          |
| Carbon Steel C-1021                         | SAE J2467                | Welded & Flash Controlled | Fully Annealed          | HRB 75               | -65° to 500°F<br>-55° to 260°C        | High pressure hydraulic                                       | E   | NR  | (6) | NR                              | NR  | (6) | NR                           | E     | NR    | NR         | NR                               | NR          |
|   | SAE J2435                | Welded & Drawn            |                         |                      |                                       |   | E   | NR  | (6) | E                               | NR  | (6) | NR                           | E     | NR    | NR         | NR                               | NR          |
| Carbon Steel High Strength Low Alloy (HSLA) | SAE 2613                 | Welded & Flash Controlled | Sub-critically annealed | HRB 90               | -65° to 500°F<br>-55° to 260°C        | High pressure hydraulic                                       | E (10)  | NR  | (6) | NR                              | NR  | NR  | NR                           | NR    | NR    | NR         | NR                               | NR          |
|   | SAE J2614                | Welded & Drawn            |                         |                      |                                       |   | E   | NR  | (6) | NR                              | NR  | NR  | NR                           | NR    | NR    | NR         | NR                               | NR          |
| Alloy Steel 4130                            | ASTM A519                | Seamless                  |                         |                      | -65° to 500°F<br>-55° to 260°C        | High pressure hydraulics                                      | E (4)   | NR  | NR  | NR                              | NR  | NR  | NR                           | NR    | NR    | NR         | NR                               | NR          |
| St 37.4 (Carbon Steel)                      | DIN 2391 Part 2 (Metric) | Seamless                  | Fully Annealed          | HRB 72               | -65° to 500°F<br>-55° to 260°C        | High pressure hydraulic, air, & some specialty chem           | E   | NR  | NR  | G                               | NR  | NR  | NR                           | NR    | NR    | NR         | NR                               | E           |
| Stainless Steel 304 & 316                   | ASTM A213 ASTM A269      | Seamless                  | Fully Annealed          | HRB 90               | -425° to 1200°F<br>-255° to 650°C (3) | High pressure, high temp, or generally corrosive media (1)    | (6)   | E   | (6) | (6)                             | G   | (6) | NR                           | (6)   | E     | NR         | NR                               | NR          |
|   | ASTM A249 ASTM A269      | Welded & Drawn            |                         |                      |                                       |   | (6)   | E   | (6) | (6)                             | E   | (6) | NR                           | (6)   | E     | NR         | NR                               | NR          |
| 1.4571 1.4541 Stainless Steel               | DIN 17458 Tab 8 (Metric) | Seamless                  | Fully Annealed          | HRB 90               | -425° to 1200°<br>-255° to 650°C (3)  | High pressure, high temp, or generally corrosive media (1)    | (6)   | E   | NR  | (6)                             | G   | NR  | NR                           | NR    | E     | NR         | NR                               | E           |
| Copper                                      | SAE J528 (ASTM B-75) [8] | Seamless                  | Soft Annealed Temper 0  | 60 Max. Rockwell 15T | -325° to 400°F<br>-200° to 205°C      | Low pressure, low temp, water, oil & air                      | E   | (6) | E   | G                               | (6) | E   | NR                           | G (2) | NR    | NR         | E                                | E           |
| Aluminum 6061                               | ASTM-B210                | Seamless                  | T6 Temper               | HRB 56               | -325° to 400°F<br>-200° to 205°C      | Low pressure, low temp, water, oil, air & some specialty chem | NR  | NR  | NR  | G                               | NR  | NR  | NR                           | E (2) | NR    | NR         | (6)                              | NR          |
|   |                          |                           | O & T4 Temper           | HRB 30               |                                       |   | E (5)   | NR  | NR  | G                               | NR  | NR  | NR                           | E (2) | NR    | NR         | (6)                              | NR          |
| Monel 400                                   | ASTM-B165                | Seamless                  | Fully Annealed          | HRB 70               | -400° to 800°F<br>-240° to 425°C      | Sour gas, marine & gen chem processing media                  | NR  | (6) | NR  | NR                              | (6) | NR  | E                            | NR    | (6)   | E          | NR                               | NR          |
| Nylon                                       |                          | Extruded                  | Flexible & Semi-Rigid   |                      | -60° to 200°F<br>-50° to 95°C         | Lube lines, chem process controls & air                       | NR  | NR  | NR  | NR                              | NR  | NR  | NR                           | G (2) | G (2) | G (2)      | E                                | G (2), (9)  |

**Ratings Key:**NR Not Recommended  
F FairG Good  
E Excellent**Fitting Materials Code:**S Steel  
SS Stainless SteelB Brass  
M Monel**Table U7 — Tube and Fitting Material****Notes:**

- 1) For highly corrosive media or service environment, contact the Tube Fittings Division.
- 2) Requires different assembly procedure. Contact the Tube Fittings Division.
- 3) Low temperature limit for stainless steel Ferulok fittings is -20°F (-30°C).
- 4) For brazing only. Grade 4130 not recommended with Parflange process.
- 5) For use with Parflange process only. Not recommended with brazing.
- 6) Use depends on specific application. Contact the Tube Fittings Division.
- 7) Applies to tube material.
- 8) Comparable specifications to SAE.
- 9) With metric version of tubing.
- 10) Not tested with Parflange. Contact the Tube Fittings Division.



## O-Ring Material Selection

Standard O-rings supplied with Parker tube fittings and adapters are 90 durometer hard nitrile (Buna-N) Parker compound #N0552. These O-rings are well suited for most industrial hydraulic and pneumatic systems. They have high extrusion resistance making them suitable for very high pressure static applications. Optional high temperature fluorocarbon, Parker compound #V0894, is also available for higher temperature specifications.

O-rings for other than normal hydraulic media or higher temperature applications can be selected from the following chart. The chart should be used only as a general guide. Before making final selection for a given application, it is recommended that appropriate tests be conducted to assure compatibility with the fluid, temperature, pressure and other environmental conditions.

For fluids not shown in the chart, please contact the Tube Fittings Division.

| Polymer   | Abbreviated Name  | Parker Compound No.  | Color  | SAE J515 Type  | Hardness Shore "A" <sup>7)</sup>   | Temperature Range  | Recommended For   | Not Recommended For  |
|---|---|--|--|--|--|--|---|--|
| Nitrile-Butadiene<br>Nitrile-Butadiene<br>Nitrile-Butadiene<br>Nitrile-Butadiene<br>(Low compression set)<br>Nitrile-Butadiene<br>Nitrile-Butadiene<br>Nitrile-Butadiene<br>Nitrile-Butadiene | NBR<br>NBR<br>NBR<br>NBR<br>NBR<br>NBR<br>NBR<br>NBR<br>NBR | N0552<br>N0674<br>N0103<br>N1059<br>N0507<br>N0304<br>N0508<br>N0756 | Black<br>Black<br>Black<br>Black<br>Black<br>Black<br>Black<br>Black | CH <sup>2)</sup><br>—<br>—<br>CH <sup>2)</sup><br>—<br>—<br>—<br>— | 90 <sup>6)</sup><br>70<br>70<br>90<br>90<br>75<br>75<br>75 <sup>6)</sup> | -30° to 250° F<br>-30° to 250° F<br>-65° to 225° F<br>-30° to 275° F<br>-65° to 180° F<br>-65° to 225° F<br>-35° to 250° F<br>-65° to 275° F | Petroleum base oils and fluids, mineral oils, ethylene glycol base fluids, silicone and di-ester base lubricants, air, water under 150°F, and natural gas.<br>Hydrogen fuel cells.<br>Hydrogen fuel cells.<br>Meets FDA requirements for food products.<br>CNG Applications | Phosphate ester base hydraulic fluids, automotive brake fluids, strong acids, ozone, freons, ketones, halogenated hydrocarbons, and methanol.    |
| Ethylene-Propylene<br>Ethylene-Propylene<br>Ethylene-Propylene  | EPDM<br>EPDM<br>EPDM  | E0540<br>E0893<br>E0962  | Black<br>Purple <sup>1)</sup><br>Black                               | CA <sup>3)</sup><br>CA <sup>3)</sup><br>—                          | 80<br>80<br>90   | -65° to 275° F<br>-65° to 275° F<br>-65° to 275° F   | Phosphate ester base hydraulic fluids, hot water, steam to 400°F, silicone oils and greases, dilute acids and alkalies, ketones, alcohols and automotive brake fluids.<br>CO <sub>2</sub> climate control systems.  | Petroleum base oils and di-ester base lubricants.  |
| Neoprene<br>Neoprene  | CR<br>CR  | C0873<br>C0944   | Black<br>Red <sup>1)</sup>   | —<br>—   | 70<br>70   | -45° to 250° F<br>-45° to 250° F   | Refrigerants (freons, ammonia), high aniline point petroleum oils, mild acids, and silicate ester lubricants.   | Phosphate ester fluids and ketones.  |
| Fluorocarbon  | FKM <sup>5)</sup><br>or<br>FPM                              | V0747<br>V0884<br>V0894  | Black  | —<br>—<br>HK <sup>4)</sup>   | 75<br>75<br>90 <sup>6)</sup>   | -15° to 400° F<br>-15° to 400° F<br>-15° to 400° F   | Petroleum base oils and fluids, some phosphate ester base fluids, silicone and silicate ester base lubricants, di-ester base lubricants, acids and halogenated hydrocarbons.  | Ketones, skylrol fluids, amines (VDMH), anhydrous ammonia, low molecular weight esters and ethers, and hot hydrofluoric or chlorosulfonic acids. |
| Silicone  | Si  | S0604  | Rust <sup>1)</sup>   | —  | 70   | -65° to 450° F   | Dry heat (air to 400°F) and high aniline point oils.  | Most petroleum fluids, ketones, water and  |

**Table U6 — O-Ring Selection**

- 1) These Parker "Chromassure" color assurance O-rings are available from the Parker Hannifin O-Ring Division. They help eliminate assembly errors, reduce warranty costs and liability risks, and assure safety in aftermarket business.
- 2) Formerly SAE Type I.
- 3) Formerly SAE Type II.
- 4) Formerly SAE Type III.
- 5) "FKM" is the ASTM designation for fluorocarbon. Its ISO designation is "FPM".
- 6) Standard compounds available from stock.
- 7) Use 90 durometer hard O-rings for applications with 1500 PSI or higher pressures.

## Corrosion of Base Metals in Contact

The susceptibility of different base metals to corrosion while in contact, depends upon the difference between the contact potentials, or the electromotive voltages of the metals involved. The greater the potential difference is, the greater is the tendency for corrosion. The metal with the higher potential forms the anode and is corroded. The larger the separation distance in the electromotive chart between the two metals in contact, the higher the contact potential and chances for corrosion. For example, zinc and aluminum are very short distance apart in the chart; therefore potential for corrosion when these two metals are in contact is very low. On the other hand, aluminum and passivated 316 stainless steel are far apart; hence, when in contact, the potential for

corrosion is very high. Aluminum, being more anodic metal, will corrode in this combination.

As a general guideline, if the metals are half the length of the chart or more apart, the combination should be avoided. Also, it is not a good idea to combine an anodic metal part with thin cross section, such as thin wall tubing, with a cathodic or less anodic metal part of a heavy cross section, such as a fitting.

**Example:** A thin wall brass tube with steel fitting is a better, although not ideal, combination than a thin wall steel tube with brass fitting.

| Electromotive or Galvanic Series for Metals  |  |
|--|--|
|  <p>Electric current flows from plus to minus</p> <p>+ Anodic (least noble) corroded</p> <p>- Cathodic (most noble) protected</p> <p>Direction of attack</p> | <p>Magnesium</p> <p>Magnesium alloys</p> <p>Zinc (<b>Parker steel fittings are zinc plated</b>)</p> <p>Berillium</p> <p>Aluminum 5052, 3004, 3003, 1100, 6053</p> <p>Cadmium</p> <p>Aluminum 2117, 2017, 2024</p> <p>Mild steel (1018), wrought iron, free machining steel (12L14)</p> <p>Low alloy high strength steel, cast iron</p> <p>Chrome iron (active)</p> <p>430 Stainless (active)</p> <p>302, 303, 321, 347, 410, 416, stainless steel (active)</p> <p>Ni-resist</p> <p>316, 317 stainless steel (active)</p> <p>Carpenter 20Cb-3 stainless (active)</p> <p>Aluminum bronze (CA 687)</p> <p>Hastelloy C (active) Inconel 625 (active) Titanium (active)</p> <p>Lead/Tin solder</p> <p>Lead</p> <p>Tin</p> <p>Inconel 600 (active)</p> <p>Nickel (active)</p> <p>60 Ni-15 Cr (active)</p> <p>80 Ni-20 Cr (active)</p> <p>Hastelloy B (active)</p> <p>Naval brass (CA 464), Yellow brass (CA 268), Brass (CA360)</p> <p>Red brass (CA 230), Admiralty brass (CA 443)</p> <p>Copper (CA 102)</p> <p>Manganese bronze (CA 675), Tin bronze (CA 903, 905)</p> <p>410, 416 Stainless (passive) Phosphor bronze (CA 521, 524)</p> <p>Silicon bronze (CA 651, 655)</p> <p>Nickel silver (CA 732, 735, 745, 752, 754, 757, 764, 770, 794)</p> <p>Cupro Ni 90-10</p> <p>Cupro Ni 80-20</p> <p>430 Stainless steel (passive)</p> <p>Cupro Ni 70-30</p> <p>Nickel aluminum bronze (CA 630, 632)</p> <p>Monel 400, K500</p> <p>Silver solder</p> <p>Nickel (passive)</p> <p>60 Ni 15 Cr (passive)</p> <p>Inconel 600 (passive)</p> <p>80 Ni 20 Cr (passive)</p> <p>Chrome iron (passive)</p> <p>302, 303, 304, 321, 347 stainless steel (passive)</p> <p>316, 317 stainless steel (passive) (<b>Parker stainless steel fittings are passivated</b>)</p> <p>Carpenter 20 Cb-3 stainless (passive), Incoloy 825</p> <p>Silver</p> <p>Titanium (passive), Hastelloy C &amp; C276 (passive), Inconel 625 (passive)</p> <p>Graphic</p> <p>Zirconium</p> <p>Gold</p> <p>Platinum</p> |

Table U5 — Electromotive or Galvanic Series for Metals

## Ratings Code:

- G - Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.
- L - Marginal or conditional. Noticeable effects but not necessarily indicating lack of serviceability. Further testing suggested for specific application. Very long-term effects such as stiffening or potential for crazing should be evaluated.
- P - Poor or unsatisfactory. Not recommended without extensive and realistic testing.
- - Indicates that this was not tested.
- # - For fluoropolymer. Indicates good chemical resistance but potential for excessive permeation.

| MATERIALS CODE FOR HOSE CORE TUBES                         |                                       | PARKER'S PART NUMBERS                                       |
|--|---------------------------------------|---|
| H  | Elastomeric Polyester                 | 55FR, 53FR, 53LT, PSH, HPSH, 3PSH, 560, 590, 593,           |
| N  | Polymeric Flexible Nylon              | 55LT, 530, 510C, 518C, 515H                                 |
| HP, HP8, PFT, 1035HT, 901N, CNG, CPS, 570A,                |                                       | 540N, 520N, 580N, H580N, 588N, PDH, PTH, 573X, 575X, 573XL, |
| NC   | Flexible Nylon Co-Polymer             | 510, 510A, 515A, MSH  |
| O  | Flexible Polyolefin                   | 540P, 1038, 1041  |
| PFX  | Proprietary Elastomer                 | 1035A   |
| PV   | Flexible Polyvinyl Chloride (PVC)     | GPH, GPV  |
| TFE  | Fluoropolymer PTFE                    | 919, 929, 939/939B, 943B, 919U, 929BJ                       |
| MATERIALS CODE FOR HOSE COVERS                             |                                       |   |
| HF   | Elastomeric Low Temperature Polyester | 55LT, 53LT, 3CNGLT, 4CNGLT, 5CNGLT                          |
| HFR  | Flame Resistant Polyester             | 55FR, 53FR  |
| N  | Polymeric Flexible Nylon              | PFT, 510  |
| OC   | Polyolefin Copolymer                  | 1038, 1041  |
| PFX  | Proprietary Elastomer                 | 518C, 1035HT  |
| PV   | Flexible Polyvinyl Chloride (PVC)     | GPH, GPV  |
| U  | Polyurethane                          | All except GPH, 55LT, 53LT, 518C, PFT, 510, and PTFE hoses  |
| UFR  | Flame Resistant Urethane              | 3CNGFR, 4CNGFR, 5CNGFR                                      |
| MATERIALS CODE FOR TUBING AND TRUE SEAL FITTING COMPONENTS |                                       |   |
| A  | Acetal                                | TrueSeal Fittings   |
| B-N  | Buna N (Nitrile) O-Rings              | O-Rings in TrueSeal and Fast & Tite                         |
| EPDM   | Ethylene Propylene                    | O-Rings in TrueSeal and Fast & Tite                         |
| F  | Kynar                                 | TrueSeal Fittings   |
| FRPE   | Flame Resistant Polyethylene          | FRPE  |
| HDPE   | High Density Polyethylene             | HDPE  |
| N  | Polymeric Flexible Nylon              | NN, NB; colors, PFT   |
| NR   | Unplasticized Nylon                   | NNR, NBR  |
| PE   | Linear Low Density Polyethylene       | E, EB, PE   |
| PP   | Polypropylene                         | PP, PPB, PPC  |
| PV   | Flexible Polyvinyl Chloride (PVC)     | PV  |
| TFE  | Fluoropolymer PTFE                    | TFE   |
| U  | Polyurethane                          | U   |
| V  | Viton O-Rings                         | O-Rings in TrueSeal and Fast & Tite                         |

# Media to Hose Material Compatibility Guide

| MEDIA                               | H | N | U/HF<br>UFR | PV | NC | O | OC | PFX | HFR | FEP | TFE |
|-------------------------------------|---|---|-------------|----|----|---|----|-----|-----|-----|-----|
| Acetaldehyde                        | G | L | L           | P  | -  | L | P  | L   | G   | G   | G   |
| Acetic Acid Glacial                 | L | L | L           | G  | P  | G | L  | L   | L   | G   | G   |
| Acetone                             | L | G | P           | P  | G  | P | P  | P   | L   | G   | G   |
| Acetylene                           | 2 | 2 | 2           | 2  | 2  | 2 | 2  | 2   | 2   | 2   | 2   |
| Air (4)                             | G | G | G           | G  | G  | G | G  | G   | G   | G   | G   |
| Ammonium Chloride                   | G | P | G           | G  | P  | G | G  | G   | L   | G   | G   |
| Ammonium Hydroxide                  | L | G | P           | L  | -  | G | G  | P   | L   | G   | G   |
| Anhydrous Ammonia                   | P | P | P           | P  | P  | P | P  | P   | P   | 8   | 8   |
| Aniline                             | P | P | P           | P  | P  | L | P  | P   | P   | G   | G   |
| Animal Oils (6)                     | G | G | G           | G  | G  | P | P  | G   | G   | -   | G   |
| Aromatic Hydrocarbons               | L | G | L           | P  | G  | P | -  | L   | L   | -   | G   |
| Asphalt                             | G | G | G           | G  | G  | L | L  | G   | G   | L   | G   |
| Baygon (insecticide)                | L | G | P           | -  | -  | - | -  | P   | L   | -   | G   |
| Beer                                | G | G | G           | G  | -  | G | G  | G   | G   | G   | G   |
| Benzene                             | L | G | L           | P  | L  | P | P  | L   | L   | G   | G   |
| Brake Fluid (DOT #3)                | - | G | P           | P  | -  | P | P  | P   | -   | -   | G   |
| Butane (2) (4)                      | G | G | L           | L  | P  | L | P  | L   | G   | #   | #   |
| Butter (6)                          | G | G | G           | G  | -  | G | G  | G   | G   | -   | G   |
| Calcium Chloride                    | G | 3 | G           | L  | 3  | G | G  | G   | G   | G   | G   |
| Carbon Dioxide (4)                  | G | G | G           | G  | G  | G | G  | G   | G   | #   | #   |
| Carbon Monoxide (4)                 | G | 3 | G           | G  | 3  | L | -  | G   | G   | #   | #   |
| Carbon Tetrachloride                | L | G | P           | L  | G  | P | P  | P   | L   | G   | G   |
| Castor Oil                          | G | L | L           | G  | L  | P | P  | L   | G   | -   | G   |
| Chlorinated Hydrocarbon Base Fluids | L | G | L           | P  | -  | - | -  | L   | L   | -   | G   |
| Chlorinated Petroleum Oil           | G | G | L           | -  | L  | - | -  | L   | G   | -   | -   |
| Chlorinated Solvents                | P | 3 | P           | L  | 3  | L | L  | P   | P   | -   | G   |
| Chlorine, Gaseous, Dry              | P | P | P           | G  | P  | L | P  | P   | P   | #   | #   |
| Chlordane (Insecticide)             | L | G | P           | -  | -  | - | -  | P   | L   | -   | -   |
| Chloroform                          | P | P | P           | P  | P  | P | P  | P   | P   | G   | G   |
| Chromic Acid                        | P | 3 | P           | G  | P  | 3 | L  | P   | P   | L   | G   |
| Citric Acid Solutions               | G | G | L           | G  | G  | G | G  | L   | G   | G   | G   |
| Crude Petroleum Oil                 | G | G | G           | G  | G  | P | P  | G   | G   | -   | G   |
| Cyclohexane (2)                     | G | G | G           | -  | -  | P | P  | G   | G   | G   | G   |
| Cyon (Insecticide)                  | L | G | P           | -  | -  | - | -  | P   | L   | -   | -   |
| Diazion (insecticide)               | L | - | P           | L  | -  | - | -  | P   | L   | -   | -   |
| Diesel Fuel (2)                     | G | G | G           | L  | G  | P | P  | G   | G   | -   | G   |
| Diester Oils                        | L | G | P           | P  | -  | P | P  | P   | L   | -   | G   |
| Enamels                             | G | G | G           | L  | -  | L | L  | G   | G   | -   | G   |
| Ethanol (6)                         | G | G | L           | L  | L  | G | G  | L   | G   | -   | G   |
| Ethers                              | L | G | P           | L  | G  | L | P  | P   | L   | G   | G   |
| Ethylene Glycol                     | L | G | L           | G  | G  | G | G  | L   | G   | G   | G   |
| Ethylene Oxide                      | G | G | L           | P  | -  | L | L  | L   | G   | #   | #   |
| Fatty Acids                         | G | G | 3           | G  | G  | L | L  | 3   | G   | G   | G   |
| Formaldehyde                        | L | L | P           | L  | L  | G | L  | P   | L   | G   | G   |
| Formic Acid                         | P | P | P           | G  | P  | G | G  | P   | P   | G   | G   |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

## Media to Hose Material Compatibility Guide

| MEDIA  | H | N | U/HF<br>UFR | PV | NC | O | OC | PFX | HFR | FEP | TFE |
|--|---|---|-------------|----|----|---|----|-----|-----|-----|-----|
| Freon 12 (5)                                     | P | G | L           | G  | G  | L | -  | L   | P   | #   | #   |
| Freon 22 (5)                                     | P | G | L           | G  | G  | L | -  | L   | P   | #   | #   |
| Fruit Juices                                     | G | G | G           | G  | -  | G | G  | G   | G   | -   | G   |
| Fuel Oil (2)                                     | G | G | L           | L  | G  | P | P  | L   | G   | G   | G   |
| Gas (Oil) (2)                                    | G | G | G           | G  | P  | P | P  | G   | G   | -   | G   |
| Gas (Natural) (4)                                | 2 | 2 | 2           | 2  | 2  | 2 | 2  | 2   | 2   | 2   | 2   |
| Gasoline (2)                                     | G | G | 3           | P  | G  | P | P  | 3   | G   | G   | G   |
| Glue   | 3 | 3 | 3           | 3  | 3  | 3 | 3  | 3   | 3   | 3   | 3   |
| Glycerin   | G | G | L           | G  | G  | G | G  | L   | G   | G   | G   |
| Glycols (to 135°F)                               | L | G | L           | G  | G  | - | -  | L   | G   | G   | G   |
| Grease (petroleum base)                          | G | G | G           | G  | G  | L | L  | G   | G   | -   | G   |
| Heptachlor (insecticide)                         | L | G | P           | L  | -  | P | P  | P   | L   | -   | G   |
| Hexane (2)                                       | G | G | G           | L  | G  | P | P  | G   | G   | G   | G   |
| Houghto Safe-600 Series<br>(hydraulic fluid)     | G | G | L           | G  | G  | G | L  | L   | G   | -   | G   |
| Houghto Safe-1000 Series<br>(phosphate esters)   | L | G | P           | G  | G  | P | P  | P   | L   | -   | G   |
| Hydraulic Fluid (petroleum base)                 | G | G | G           | G  | G  | L | L  | G   | G   | L   | G   |
| Hydraulic Fluid (phosphate ester base)           | L | G | L           | L  | G  | P | P  | P   | L   | -   | G   |
| Hydraulic Fluid (water glycol base)              | G | G | G           | L  | G  | - | -  | G   | G   | -   | G   |
| Hydraulic Oil (Petroleum base)                   | G | G | G           | G  | G  | L | P  | G   | G   | L   | G   |
| Hydrochloric Acid.                               | P | L | P           | L  | P  | L | P  | P   | P   | G   | G   |
| Hydrofluoric Acid                                | P | P | P           | L  | P  | L | P  | P   | P   | G   | G   |
| Hydrogen, Gaseous (2) (4) (5)                    | G | G | G           | G  | G  | G | G  | G   | #   | #   |     |
| Hydrolube<br>(hydraulic fluid/water glycol base) | G | G | L           | G  | G  | G | G  | L   | G   | -   | G   |
| IRUS 902   |   |   |             |    |    |   |    |     |     |     |     |
| (hydraulic fluid/water-oil emulsion)             | G | G | G           | G  | G  | L | P  | G   | G   | -   | G   |
| Isocyanates (2)                                  | L | L | L           | P  | -  | L | P  | L   | L   | -   | G   |
| IsoOctane (2)                                    | G | G | G           | L  | G  | L | P  | L   | G   | G   | G   |
| Isopropyl Alcohol                                | G | G | L           | L  | G  | G | L  | L   | G   | G   | G   |
| Kerosene (2)                                     | G | G | L           | L  | G  | L | P  | P   | G   | G   | G   |
| Ketones  | L | G | P           | P  | G  | G | P  | P   | L   | G   | G   |
| Lacquer Solvents                                 | L | G | P           | P  | 3  | L | 3  | P   | L   | L   | G   |
| Lactic Acid                                      | P | G | P           | G  | G  | G | G  | P   | P   | G   | G   |
| Lime (calcium oxide)                             | G | G | G           | G  | -  | G | G  | G   | G   | G   | G   |
| Lindol<br>(hydraulic fluid/phosphate esters)     | L | G | P           | -  | -  | - | -  | P   | L   | -   | G   |
| Linseed Oil                                      | G | G | G           | L  | G  | L | P  | G   | G   | G   | G   |
| LP - Gas   | 2 | 2 | 2           | 2  | 2  | 2 | 2  | 2   | 2   | 2   | 2   |
| Lubricating Oils (diester base)                  | L | G | P           | -  | G  | - | -  | P   | L   | -   | G   |
| Lubricating Oils (Petroleum base)                | G | G | G           | G  | G  | L | P  | G   | G   | G   | G   |
| Malathion (insecticide)                          | L | G | P           | -  | -  | - | -  | P   | L   | -   | G   |
| Magnesium Hydroxide                              | L | G | L           | G  | -  | G | G  | L   | L   | G   | G   |
| Magnesium Salts                                  | - | G | G           | G  | -  | G | -  | G   | -   | -   | G   |

# Media to Hose Material Compatibility Guide

| MEDIA   | H | N | U/HF<br>UFR | PV | NC | O | OC | PFX | HFR | FEP | TFE |
|---|---|---|-------------|----|----|---|----|-----|-----|-----|-----|
| Mercury   | G | G | G           | G  | G  | G | G  | G   | G   | G   | G   |
| Meropa Oil (sulphur base)                         | G | G | -           | -  | -  | - | -  | -   | -   | -   | G   |
| Methane   | 2 | 2 | 2           | 2  | 2  | 2 | 2  | 2   | 2   | 2   | 2   |
| Methanol  | G | G | P           | P  | G  | L | P  | P   | G   | -   | G   |
| Methoxychlor (insecticide)                        | L | G | P           | -  | -  | - | -  | P   | L   | -   | G   |
| Methyl Alcohol (6)                                | G | G | P           | P  | G  | L | P  | P   | G   | G   | G   |
| Methylene Chloride                                | P | L | P           | L  | P  | L | P  | P   | P   | G   | G   |
| Methyl Ethyl Ketone (MEK)                         | L | G | P           | P  | G  | G | L  | P   | L   | G   | G   |
| Methyl Ethyl Ketone Peroxide (MEKP)               | - | L | P           | -  | -  | - | -  | P   | -   | -   | G   |
| Methyl Isobutyl Ketone (MIBK)                     | L | G | P           | P  | G  | L | P  | P   | L   | G   | G   |
| Milk (6)  | G | G | G           | G  | -  | G | G  | G   | G   | G   | G   |
| Mineral Oil                                       | G | G | G           | G  | G  | L | P  | G   | G   | G   | G   |
| Mineral Spirits                                   | P | - | L           | P  | -  | - | -  | L   | P   | -   | G   |
| Motor Oils  | G | G | G           | G  | G  | - | -  | G   | G   | G   | G   |
| Naphtha   | L | G | P           | P  | G  | P | P  | P   | L   | G   | G   |
| Natural Gas (4)                                   | 2 | 2 | 2           | 2  | 2  | 2 | 2  | 2   | 2   | 2   | 2   |
| Nitric Acid                                       | P | P | P           | L  | P  | P | P  | P   | P   | L   | G   |
| Nitrobenzene                                      | P | G | P           | P  | G  | P | P  | P   | P   | G   | G   |
| Nitrogen, Gaseous (4) (5)                         | G | G | G           | G  | G  | G | G  | G   | G   | G   | G   |
| Nitrous Oxide                                     | - | L | -           | G  | -  | L | -  | G   | -   | #   | #   |
| Oil (SAE)   | G | G | G           | G  | G  | L | L  | G   | G   | -   | G   |
| Oil of Turpentine                                 | G | G | P           | G  | G  | P | P  | P   | G   | -   | G   |
| Oleic Acid  | G | G | G           | L  | G  | L | L  | G   | G   | G   | G   |
| OS 45 Type 3 Hydraulic Fluid<br>(silicate esters) | L | G | L           | P  | -  | P | P  | L   | L   | -   | -   |
| Oxygen, Gaseous (4) (5) (6)                       | G | G | G           | G  | G  | G | G  | G   | G   | G   | G   |
| Ozone   | L | P | L           | G  | P  | L | G  | P   | L   | G   | G   |
| Paint Solvents (oil base)                         | L | G | L           | P  | -  | P | P  | L   | L   | -   | G   |
| Paint (Oil Base) (7)                              | G | G | G           | P  | -  | L | P  | G   | G   | -   | G   |
| Pentane (2)                                       | G | G | L           | L  | -  | P | P  | L   | G   | G   | G   |
| Perchloric Acid                                   | P | P | P           | L  | P  | P | P  | P   | P   | L   | G   |
| Perchloroethylene                                 | P | P | P           | L  | P  | P | P  | P   | P   | -   | G   |
| Petroleum Ether                                   | - | 2 | 2           | P  | 2  | P | P  | 2   | -   | 2   | 2   |
| Petroleum Oils                                    | G | G | G           | G  | G  | L | P  | G   | G   | -   | G   |
| Phenols   | P | P | P           | L  | P  | P | P  | P   | P   | -   | G   |
| Phosphate Esters (above 135°F)                    | P | G | P           | P  | -  | P | P  | P   | L   | -   | G   |
| Phosphate Esters (to 135°F)                       | G | G | P           | P  | G  | P | P  | P   | G   | -   | G   |
| Polyl Esters                                      | L | G | P           | P  | -  | - | -  | P   | L   | -   | G   |
| Potassium Hydroxide, 50%                          | P | P | P           | L  | -  | L | L  | P   | P   | G   | G   |
| Propane (4) (5)                                   | 2 | 2 | 2           | 2  | 2  | 2 | 2  | 2   | 2   | 2   | 2   |
| Propylene Glycol                                  | - | - | G           | G  | -  | G | L  | -   | -   | G   | G   |
| Pydraul F-9, 150, 160 (to 135°F)                  | G | G | P           | P  | G  | P | P  | P   | G   | -   | G   |
| Pydraul 312C, 625 (to 135°F)                      | P | G | P           | P  | G  | P | P  | P   | G   | -   | G   |
| Quintolubric 822 Fluid                            | - | G | G           | -  | -  | - | -  | -   | -   | -   | G   |
| Salt Water  | 3 | 3 | 3           | 3  | 3  | 3 | 3  | 3   | 3   | G   | G   |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

| MEDIA   | H | N | U/HF<br>UFR | PV | NC | O | OC | PFX | HFR | FEP | TFE |
|---|---|---|-------------|----|----|---|----|-----|-----|-----|-----|
| Sevin (insecticides in water)   | G | G | G           | -  | -  | - | -  | G   | G   | -   | G   |
|   | G | G | G           | G  | G  | - | -  | G   | G   | -   | G   |
|   | G | G | G           | G  | G  | - | -  | G   | G   | -   | G   |
| Skydrol 500 & 7000  | L | G | P           | P  | G  | P | P  | P   | L   | G   | G   |
|   | G | G | G           | G  | G  | G | G  | G   | G   | G   | G   |
|   | G | G | G           | G  | G  | 3 | 3  | G   | G   | -   | G   |
| Sodium Borate   | G | G | G           | G  | G  | G | G  | G   | G   | G   | G   |
|   | 3 | 3 | 3           | 3  | 3  | 3 | 3  | 3   | 3   | 3   | 3   |
|   | G | G | G           | G  | 3  | G | -  | G   | G   | G   | G   |
| Sodium Chloride Solutions   | L | P | P           | L  | P  | L | L  | P   | L   | G   | G   |
|   | L | P | P           | L  | -  | 3 | 3  | P   | L   | G   | G   |
|   | P | P | P           | P  | P  | P | P  | P   | P   | G   | G   |
| Sodium Hydroxide, 50%   | P | G | P           | L  | G  | P | P  | P   | P   | G   | G   |
|   | P | P | P           | P  | P  | P | P  | P   | P   | G   | G   |
|   | P | P | P           | P  | P  | P | P  | P   | P   | G   | G   |
| Steam   | P | G | P           | L  | G  | P | P  | P   | P   | G   | G   |
|   | L | G | P           | P  | G  | - | -  | P   | L   | -   | G   |
|   | L | G | P           | P  | G  | - | -  | G   | G   | -   | G   |
| Stoddard Solvent  | G | G | G           | G  | -  | L | G  | G   | G   | G   | G   |
|   | P | L | L           | L  | -  | P | -  | L   | P   | G   | G   |
|   | G | G | G           | G  | -  | G | -  | G   | G   | -   | G   |
| Straight Synthetic Oils<br>(phosphate esters)   | P | G | P           | P  | G  | - | -  | P   | L   | -   | G   |
|   | L | G | P           | P  | G  | - | -  | P   | L   | -   | G   |
|   | L | G | P           | P  | G  | - | -  | P   | L   | -   | G   |
| Sulfur  | G | G | G           | G  | -  | L | G  | G   | G   | G   | G   |
|   | P | L | L           | L  | -  | P | -  | L   | P   | G   | G   |
|   | G | G | G           | G  | -  | G | -  | G   | G   | -   | G   |
| Sulfur Dioxide  | P | P | P           | P  | P  | P | P  | P   | P   | G   | G   |
|   | P | P | P           | P  | P  | P | P  | P   | P   | G   | G   |
|   | G | G | G           | G  | G  | P | P  | P   | P   | G   | G   |
| Sulfur Hexafluoride Gas (4) (5)   | P | P | P           | 3  | P  | P | P  | P   | P   | -   | G   |
|   | P | L | P           | P  | G  | P | P  | P   | P   | L   | G   |
|   | G | G | G           | G  | G  | P | P  | P   | P   | L   | G   |
| Sulphuric Acid  | P | P | P           | 3  | P  | P | P  | P   | P   | P   | -   |
|   | L | G | L           | P  | G  | P | P  | P   | P   | L   | G   |
|   | L | G | L           | P  | G  | P | P  | P   | P   | L   | G   |
| Toluene   | G | G | G           | G  | -  | L | G  | G   | G   | G   | G   |
|   | L | G | L           | P  | G  | P | P  | P   | P   | L   | G   |
|   | L | G | L           | P  | G  | P | P  | P   | P   | L   | G   |
| Toloul  | G | G | G           | G  | -  | G | -  | G   | G   | -   | G   |
|   | G | G | G           | G  | -  | G | -  | G   | G   | -   | G   |
|   | G | G | G           | G  | -  | G | -  | G   | G   | -   | G   |
| Transmission Fluid  | G | G | G           | P  | G  | - | -  | G   | G   | -   | G   |
|   | P | L | P           | L  | G  | P | P  | P   | P   | G   | G   |
|   | L | G | P           | G  | G  | G | G  | P   | L   | G   | G   |
| Trichloroethylene   | L | G | P           | G  | G  | G | G  | P   | P   | G   | G   |
|   | L | G | P           | G  | G  | G | G  | P   | P   | G   | G   |
|   | L | G | P           | G  | G  | G | G  | P   | P   | L   | G   |
| Trisodium Phosphate Solutions   | G | G | G           | P  | G  | G | G  | P   | P   | L   | G   |
|   | G | G | G           | P  | G  | G | G  | P   | P   | L   | G   |
|   | G | G | G           | P  | G  | G | G  | P   | P   | L   | G   |
| Turpentine  | G | G | L           | L  | G  | P | P  | P   | P   | G   | G   |
|   | G | G | L           | G  | G  | - | -  | L   | G   | -   | G   |
|   | G | G | L           | G  | G  | - | -  | L   | G   | -   | G   |
| Ucon<br>(hydraulic fluid-water glycol base)   | G | G | L           | G  | G  | - | -  | L   | G   | -   | G   |
|   | G | G | L           | G  | G  | - | -  | L   | G   | -   | G   |
|   | G | G | L           | G  | G  | - | -  | L   | G   | -   | G   |
| Varnish   | G | G | G           | P  | G  | G | L  | G   | G   | -   | G   |
|   | L | G | L           | G  | G  | G | G  | L   | L   | G   | G   |
|   | G | G | G           | G  | G  | G | G  | L   | G   | G   | G   |
| Vinegar (6)   | L | G | L           | G  | G  | G | G  | L   | L   | G   | G   |
|   | L | G | L           | G  | G  | G | G  | L   | L   | G   | G   |
|   | G | G | G           | G  | G  | G | G  | L   | G   | G   | G   |
| Water (to 135°F) (6)  | G | G | G           | P  | G  | G | G  | L   | L   | G   | G   |
|   | P | G | P           | L  | G  | G | G  | P   | P   | P   | G   |
|   | P | G | P           | L  | G  | G | G  | P   | P   | P   | G   |
| Water (above 135°F) (6)   | P | G | P           | L  | -  | P | P  | P   | P   | P   | L   |
|   | L | G | L           | G  | G  | L | L  | L   | L   | G   | G   |
|   | P | G | P           | L  | -  | P | P  | P   | P   | P   | G   |
| Water Glycols (to 135°F)  | G | G | G           | P  | L  | - | -  | P   | P   | P   | G   |
|   | P | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
|   | P | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
| Water Glycols (above 135°F)   | G | G | G           | P  | L  | - | -  | P   | P   | P   | G   |
|   | P | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
|   | P | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
| Water in oil Emulsions (to 135°F)   | G | G | L           | G  | G  | - | -  | L   | G   | -   | G   |
|   | P | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
|   | G | G | L           | G  | G  | G | G  | G   | G   | G   | G   |
| Water in oil Emulsions (above 135°F)  | P | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
|   | G | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
|   | G | G | P           | L  | G  | - | -  | P   | P   | P   | G   |
| Whiskey, Wines (6)  | G | G | L           | G  | G  | G | G  | G   | G   | G   | G   |
|   | G | G | L           | G  | G  | G | G  | G   | G   | G   | G   |
|   | G | G | L           | G  | G  | G | G  | G   | G   | G   | G   |
| Wood Oils   | G | G | L           | G  | G  | - | -  | G   | G   | -   | G   |
|   | L | G | P           | P  | G  | P | P  | P   | P   | L   | G   |
|   | G | G | G           | G  | P  | G | G  | G   | G   | G   | G   |
| Xylene  | G | G | L           | G  | G  | - | -  | G   | G   | -   | G   |
|   | L | G | P           | P  | G  | P | P  | P   | P   | L   | G   |
|   | G | G | P           | P  | G  | P | P  | P   | P   | L   | G   |
| Zinc Chloride   | G | G | G           | G  | P  | G | G  | G   | G   | G   | G   |
|   | G | G | G           | G  | P  | G | G  | G   | G   | G   | G   |
|   | G | G | G           | G  | P  | G | G  | G   | G   | G   | G   |
| Footnotes for Fluid Compatibility Guides: (1) The Fluid Compatibility Guides are simplified rating tabulations based on immersion tests at 75°F. Higher temperatures tend to reduce ratings. Since final selection depends on pressure, fluid and ambient temperature and other factors not known to Parker Hannifin Co., no performance guarantee is expressed or implied. Ratings do not imply compliance with specialized codes such as FDA, NSF, AGA or UL and do not cover possible fluid discoloration, taste or odor effects. For conveying foodstuffs use FDA sanctioned materials, and for potable water use NSF listed materials. For chemicals not listed, or for advice on particular applications, please consult Product Engineering, Parflex Div., Ravenna, Ohio. (2) Hose applications for these fluids must take into account legal and insurance regulations. This does not imply AGA or UL compliance. (3) Satisfactory at some concentrations and temperatures, unsatisfactory in others. (4) For high pressure gases, the cover should be pinpricked and the pressure must not be released quickly. Chain or restrain the hose to prevent personal injury in the event of damage or failure. (5) Chemical compatibility does not imply low permeation rates. Consult the Parker factory for a recommendation for your specific requirement. (6) Does not imply NSF or FDA compliance. (7) Chemical compatibility does not imply acceptability for use in airless paint spray applications. These applications require a special conductive hose. (8) Teflon is chemically compatible with Anhydrous Ammonia. However, extreme caution must be used in dealing with Anhydrous Ammonia since it can cause severe injuries such as blindness and/or chemical burns. |   |   |             |    |    |   |    |     |     |     |     |

## Media to Hose Material Compatibility (Hybrid)

The following tables are based on reliable information. Care should be taken to use this data as a guide only, and to take into account such variables as temperature, concentration and fluid contamination. **All ratings are given at room temperature, unless stated otherwise.** For High Temperature Applications, contact Parflex. **WARNING! Never use brass couplings with any ammonia based fluids.**

### Key to Ratings

|       |   |   |
|-------|---|---|
| Blank | = | No known data available                       |
| A     | = | Excellent, little or no swelling or softening |
| B     | = | Good, swelling or softening is moderate       |
| C     | = | Fair, conditional service may be expected     |
| D     | = | Unsatisfactory, not recommended               |
| -     | = | Not tested                                    |

| MEDIA                      | EPDM | POLYESTER | NEOPRENE | URETHANE |
|----------------------------|------|-----------|----------|----------|
| Acetaldehyde               | A    | B         | D        | D        |
| Acetic Acid, 10%           | C    | C         | A        | D        |
| Acetic Acid, 20%           | A    | C         | A        | D        |
| Acetic Acid, 30%           | A    | C         | A        | D        |
| Acetic Acid, 50%           | C    | C         | D        | D        |
| Acetic Acid, Glacial       | B    | D         | D        | D        |
| Acetic Anhydride           | B    | C         | B        | D        |
| Acetone                    | A    | C         | D        | D        |
| Acetylene                  | A    | B         | B        | C        |
| Acrylonitrile              | D    | -         | D        | D        |
| Adipic Acid                | A    | -         | A        | A        |
| Alum                       | A    | D         | A        | D        |
| Aluminum Chloride Solution | A    | B         | A        | B        |
| Aluminum Sulfate Solution  | A    | B         | A        | B        |
| Ammonia, Gas               | D    | D         | D        | D        |
| Ammonia, Liquid            | D    | D         | D        | D        |
| Ammonium Carbonate         | A    | C         | A        | A        |

| MEDIA                       | EPDM | POLYESTER | NEOPRENE | URETHANE |
|-----------------------------|------|-----------|----------|----------|
| Ammonium Chloride           | A    | A         | A        | B        |
| Ammonium Hydroxide Solution | A    | D         | A        | D        |
| Ammonium Nitrate            | A    | C         | A        | A        |
| Ammonium Sulfate Solution   | A    | C         | A        | B        |
| Amyl Acetate                | A    | A         | D        | D        |
| Amyl Alcohol                | A    | D         | A        | D        |
| Anhydrous Ammonia           | D    | D         | D        | D        |
| Aniline                     | B    | D         | D        | D        |
| Animal Oils & Fats          | B    | B         | B        | D        |
| Argon                       | A    | A         | D        | A        |
| Astm Oil No. 1              | D    | A         | A        | A        |
| Astm Oil No. 2              | D    | A         | B        | B        |
| Astm Oil No. 3              | D    | B         | B        | A        |
| Astm Ref. Fuel A            | D    | A         | B        | B        |
| Astm Ref. Fuel B            | D    | A         | D        | B        |
| Astm Ref. Fuel C            | D    | B         | D        | C        |
| Asphalt                     | D    | B         | C        | B        |

## Media to Hose Material Compatibility (Hybrid)

| MEDIA                    | EPDM | POLYESTER | NEOPRENE | URETHANE |
|--------------------------|------|-----------|----------|----------|
| Aviation Gasoline        | D    | C         | D        | B        |
| Barium Chloride          | A    | C         | A        | A        |
| Barium Hydroxide         | A    | B         | A        | D        |
| Benzaldehyde             | B    | B         | D        | D        |
| Benzene                  | D    | B         | D        | D        |
| Benzyl Alcohol           | C    | C         | C        | -        |
| Borax Solution           | A    | B         | A        | A        |
| Boric Acid               | A    | B         | A        | A        |
| Bromine                  | D    | D         | D        | D        |
| Butane                   | D    | A         | A        | D        |
| Butanol                  | B    | B         | A        | D        |
| Butanone                 | A    | A         | D        | D        |
| Butyl Acetate            | D    | B         | D        | D        |
| Calcium Chloride         | A    | A         | A        | A        |
| Calcium Hydroxide        | A    | C         | A        | D        |
| Calcium Hypochlorite, 6% | A    | B         | C        | B        |
| Calcium Bisulfide        | A    | B         | C        | C        |
| Calcium Nitrate          | A    | A         | A        | D        |
| Carbon Dioxide           | B    | A         | B        | D        |
| Carbon Monoxide          | A    | A         | A        | A        |
| Carbon Tetrachloride     | D    | D         | C        | D        |
| Carbonic Acid            | A    | D         | A        | A        |
| Castor Oil               | B    | B         | A        | B        |
| Chlorine Gas, Dry        | D    | D         | C        | D        |
| Chlorine Gas, Wet        | D    | D         | D        | D        |
| Chloroacetic Acid        | B    | D         | A        | D        |
| Chlorobenzene            | D    | D         | D        | B        |
| Chloroform               | D    | D         | D        | D        |
| Chlorosulfonic Acid      | D    | D         | D        | D        |
| Chromic Acid, 10%        | D    | D         | C        | D        |
| Chromic Acid, 50%        | D    | D         | D        | D        |
| Citric Acid Solution     | A    | B         | A        | A        |
| Coal Oil                 | D    | A         | B        | C        |
| Copper Chloride Solution | A    | A         | A        | B        |
| Copper Sulfate Solution  | A    | B         | A        | C        |
| Creosote                 | D    | D         | D        | C        |
| Cresol                   | D    | D         | D        | D        |
| Cyclohexane              | D    | A         | D        | B        |

| MEDIA                   | EPDM | POLYESTER | NEOPRENE | URETHANE |
|-------------------------|------|-----------|----------|----------|
| Cyclohexanol            | D    | C         | B        | -        |
| Cyclohexanone           | C    | B         | D        | D        |
| DDT Preparations        | D    | -         | D        | D        |
| Diammonium Phosphate    | A    | C         | A        | D        |
| Dibutyl Ether           | C    | -         | D        | D        |
| Dibutyl Phthalate       | B    | B         | D        | D        |
| Dichloro Benzene        | D    | D         | D        | D        |
| Dichloro Ethylene       | D    | D         | D        | C        |
| Diesel Fuel             | D    | B         | D        | C        |
| Diethyl Ether           | D    | B         | D        | A        |
| Diethyl Sebacate        | B    | A         | D        | D        |
| Diocetyl Phthalate      | B    | B         | D        | D        |
| Ethanol                 | A    | C         | A        | D        |
| Ethyl Acetate           | B    | C         | D        | D        |
| Ethyl Chloride          | C    | D         | D        | C        |
| Ethylene Chlorohydrin   | B    | D         | B        | D        |
| Ethylene Dichloride     | D    | D         | D        | D        |
| Ethylene Glycol @ 70° F | A    | A         | A        | B        |
| Ethylene Oxide          | C    | A         | D        | D        |
| Fatty Acid Esters       | D    | B         | B        | D        |
| Ferric Chloride         | A    | B         | A        | A        |
| Ferric Nitrate          | A    | C         | A        | A        |
| Ferric Sulfate          | A    | C         | A        | B        |
| Ferrous Chloride        | A    | A         | A        | B        |
| Ferrous Sulfate         | A    | C         | A        | A        |
| Fluorine                | D    | D         | D        | D        |
| Formaldehyde            | A    | C         | B        | D        |
| Formic Acid             | A    | D         | A        | D        |
| Freon 12                | C    | A         | C        | C        |
| Freon 22                | D    | D         | A        | D        |
| Freon 113               | D    | A         | A        | C        |
| Freon 502               | A    | -         | A        | -        |
| Furfural                | B    | B         | C        | D        |
| Furfuryl Alcohol        | B    | B         | D        | D        |
| Gas, Coal               | A    | B         | A        | B        |
| Gas, High Octane        | D    | A         | D        | C        |
| Gasoline                | D    | A         | D        | A        |
| Glycerine               | A    | A         | A        | D        |

## Media to Hose Material Compatibility (Hybrid)

| MEDIA                        | EPDM | POLYESTER | NEOPRENE | URETHANE |
|------------------------------|------|-----------|----------|----------|
| Greases                      | D    | A         | D        | A        |
| Helium                       | A    | A         | A        | A        |
| Heptane                      | D    | B         | B        | B        |
| n-Hexane                     | D    | A         | A        | B        |
| Hydrazine                    | A    | D         | B        | D        |
| Hydraulic Fluid (Petroleum)  | D    | A         | B        | B        |
| Hydrochloric Acid, 10%       | A    | B         | A        | B        |
| Hydrochloric Acid, 20%       | A    | C         | B        | C        |
| Hydrocyanic Acid             | A    | D         | B        | D        |
| Hydrofluoric Acid            | C    | D         | B        | D        |
| Hydrogen Gas                 | A    | A         | A        | A        |
| Hydrogen Peroxide, 20%       | C    | D         | D        | D        |
| Hydrogen Sulfide, (wet)      | A    | A         | C        | D        |
| Iodine Pentafluoride         | D    | -         | D        | D        |
| Iodoform                     | D    | -         | D        | -        |
| Isobutyl Alcohol             | A    | -         | A        | D        |
| Isooctane                    | D    | A         | B        | A        |
| Isopropyl Acetate            | B    | C         | D        | D        |
| Isopropyl Alcohol            | A    | C         | B        | D        |
| Isopropyl Ether              | D    | -         | D        | B        |
| JP - 4 Fuel                  | D    | A         | D        | C        |
| Kerosene                     | D    | A         | C        | B        |
| Ketones                      | A    | D         | D        | D        |
| Lacquer Solvents             | D    | D         | D        | D        |
| Lactic Acid                  | A    | D         | A        | B        |
| Lard                         | B    | B         | B        | C        |
| Lead Acetate                 | A    | -         | B        | D        |
| Lead Nitrate                 | A    | -         | A        | -        |
| Lime Bleach                  | A    | -         | B        | -        |
| Linoleic Acid                | D    | -         | D        | -        |
| Linseed Oil                  | C    | B         | B        | B        |
| Liquified Petroleum Gas      | D    | B         | C        | C        |
| Lubricating Oils (Petroleum) | D    | A         | B        | B        |
| Magnesium Chloride (Aq)      | A    | B         | A        | A        |
| Magnesium Hydroxide (Aq)     | A    | C         | A        | D        |
| Magnesium Sulfate (Aq)       | A    | B         | A        | D        |
| Maleic Acid                  | B    | -         | D        | D        |
| Maleic Anhydride             | D    | -         | D        | -        |

| MEDIA                    | EPDM | POLYESTER | NEOPRENE | URETHANE |
|--------------------------|------|-----------|----------|----------|
| Mercury Chloride (Aq)    | A    | -         | B        | -        |
| Methane                  | D    | B         | C        | C        |
| Methanol                 | A    | C         | B        | D        |
| Methyl Acetate           | A    | B         | D        | D        |
| Methyl Acrylate          | B    | -         | D        | D        |
| Methyl Bromide           | D    | D         | D        | D        |
| Methyl Cellusolve        | B    | -         | C        | D        |
| Methyl Chloride          | C    | D         | D        | D        |
| Methyl Ethyl Ketone      | A    | B         | D        | D        |
| Methyl Isobutyl Ketone   | B    | D         | D        | D        |
| Methyl Methacrylate      | D    | -         | D        | D        |
| Methylene Chloride       | C    | D         | D        | D        |
| Mineral Oil              | D    | A         | B        | A        |
| Monochlorobenzene        | D    | C         | D        | D        |
| Naphtha                  | D    | A         | D        | C        |
| Naphthalene              | D    | C         | D        | B        |
| Natural Gas              | D    | B         | A        | C        |
| Neon Gas                 | A    | -         | A        | A        |
| Nickel Acetate (Aq)      | A    | -         | B        | D        |
| Nickel Chloride (Aq)     | A    | D         | A        | D        |
| Nickel Sulfate (Aq)      | A    | D         | A        | C        |
| Nitric Acid (10%)        | B    | D         | B        | D        |
| Nitric Acid (conc.)      | D    | D         | D        | D        |
| Nitric Acid (Red Fuming) | D    | D         | D        | D        |
| Nitro Benzene            | A    | D         | D        | D        |
| Nitroethane              | B    | -         | C        | D        |
| Nitrogen                 | A    | A         | A        | A        |
| Nitrous Oxide            | A    | -         | B        | B        |
| n-Octane                 | D    | A         | D        | D        |
| Octyl Alcohol            | C    | -         | B        | D        |
| Oleic Acid               | D    | C         | C        | B        |
| Oleum Spirit             | D    | B         | D        | C        |
| Oxalic Acid              | A    | D         | B        | D        |
| Oxygen                   | A    | B         | A        | A        |
| Ozone                    | A    | B         | C        | A        |
| Paint Thinner            | D    | -         | D        | -        |
| Palmitic Acid            | B    | A         | B        | A        |
| Perchloric Acid          | B    | D         | B        | D        |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

## Media to Hose Material Compatibility (Hybrid)

| MEDIA                        | EPDM | POLYESTER | NEOPRENE | URETHANE |
|------------------------------|------|-----------|----------|----------|
| Perchloroethylene            | D    | D         | D        | D        |
| Petroleum                    | D    | A         | B        | B        |
| Phenol                       | D    | D         | D        | D        |
| Phosphate Esters, 72° F      | A    | A         | D        | D        |
| Phosphoric Acid, 40%         | A    | D         | A        | D        |
| Picric Acid                  | C    | D         | C        | D        |
| Potassium Chloride (Aq)      | A    | B         | A        | A        |
| Potassium Cyanide            | A    | B         | A        | A        |
| Potassium Dichromate (Aq)    | A    | B         | A        | B        |
| Potassium Hydroxide (Aq) 50% | A    | D         | B        | D        |
| Potassium Nitrate (Aq)       | A    | B         | A        | A        |
| Potassium Sulfate (Aq)       | A    | B         | A        | A        |
| Propane                      | D    | B         | B        | C        |
| Propyl Alcohol               | A    | -         | A        | A        |
| Propyl Nitrate               | B    | -         | D        | D        |
| Propylene                    | D    | -         | D        | D        |
| Propylene Glycol 70°F        | A    | -         | C        | B        |
| Pydraul 50E                  | B    | A         | D        | D        |
| Pydraul 312C                 | D    | B         | D        | D        |
| Resorcinol                   | B    | D         | D        | D        |
| SAE No. 10 Oil               | D    | A         | -        | A        |
| Sea Water                    | A    | A         | A        | D        |
| Silicate Esters              | D    | C         | A        | A        |
| Silicone Grease              | A    | A         | A        | A        |
| Silicone Oil                 | A    | B         | A        | A        |
| Silver Nitrate               | A    | -         | A        | A        |
| Skydrol 500                  | A    | B         | D        | D        |
| Soap Solution                | A    | A         | B        | C        |
| Soda Ash                     | A    | B         | A        | B        |
| Sodium Acetate (Aq)          | A    | -         | B        | D        |
| Sodium Chloride (Aq)         | A    | A         | A        | A        |
| Sodium Hydroxide, 50%        | A    | C         | A        | B        |
| Sodium Hypochlorite (Aq)     | B    | B         | B        | D        |
| Sodium Sulfide               | A    | B         | A        | A        |
| Sodium Nitrate               | A    | B         | B        | B        |
| Sodium Peroxide              | A    | B         | B        | D        |
| Stannic Chloride (Aq)        | A    | B         | C        | B        |
| Steam, 212° F                | A    | D         | D        | D        |

| MEDIA                          | EPDM | POLYESTER | NEOPRENE | URETHANE |
|--------------------------------|------|-----------|----------|----------|
| Stearic Acid                   | B    | B         | B        | A        |
| Styrene                        | D    | D         | D        | D        |
| Sulfur Chloride                | D    | C         | D        | C        |
| Sulfur Dioxide                 | A    | D         | D        | D        |
| Sulfuric Acid (Diluted)        | A    | A         | A        | D        |
| Sulfuric Acid (Concentrated)   | D    | D         | D        | D        |
| Tannic Acid                    | A    | A         | A        | A        |
| Tar, Bituminous                | D    | B         | C        | B        |
| Tartaric Acid                  | C    | B         | B        | A        |
| Tertiary Butyl Alcohol         | B    | -         | B        | D        |
| Tertiary Butyl Mercaptan       | D    | -         | D        | D        |
| Tetrachloroethylene            | D    | -         | D        | D        |
| Tetra Hydrofuran (THF)         | D    | C         | D        | D        |
| Toluene                        | D    | C         | D        | D        |
| Transformer Oil                | D    | -         | B        | B        |
| Transmission Fluid, type A     | D    | B         | B        | B        |
| Tributyl Phosphate             | D    | C         | D        | D        |
| Trichloroacetic Acid           | B    | D         | D        | D        |
| Trichloroethane                | D    | D         | D        | D        |
| Trichloroethylene              | D    | D         | D        | D        |
| Trisodium Phosphate            | A    | A         | A        | B        |
| Tung Oil                       | D    | B         | A        | C        |
| Turpentine                     | D    | B         | D        | D        |
| Urea                           | A    | B         | A        | B        |
| Uric Acid                      | -    | D         | -        | D        |
| Vinegar                        | A    | C         | B        | D        |
| Vinyl Chloride                 | D    | -         | D        | -        |
| Water, 72° F                   | A    | A         | A        | A        |
| Water, 140° F                  | A    | B         | A        | D        |
| Water, 212° F                  | A    | D         | D        | D        |
| Water/Glycol solutions; 72°F   | A    | A         | A        | C        |
| Water/Glycol solutions; 125° F | -    | B         | A        | D        |
| Water/Glycol solutions; 180° F | -    | D         | A        | D        |
| Water, Soda                    | A    | A         | -        | -        |
| White Oil                      | D    | -         | B        | A        |
| Wood Oil                       | D    | B         | B        | C        |
| Xylene                         | D    | C         | D        | D        |
| Zinc Chloride (Solution)       | A    | C         | A        | B        |

# Media to Plastic Tubing Material Compatibility

| MEDIA                 | PE | HDPE | PP | N | NR | PV | U | FRPE | FEP | PFA | TFE |
|-----------------------|----|------|----|---|----|----|---|------|-----|-----|-----|
| Acetone               | P  | L    | G  | G | G  | P  | P | L    | G   | G   | G   |
| Acetyl Bromide        | L  | L    | L  | P | P  | P  | - | -    | -   | -   | -   |
| Acetyl Chloride       | L  | L    | L  | P | P  | P  | - | -    | G   | G   | G   |
| Air                   | G  | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
| Alcohols              | G  | G    | G  | G | G  | L  | L | G    | G   | G   | G   |
| Aluminum Salts        | G  | G    | G  | G | G  | G  | G | G    | -   | -   | -   |
| Ammonia               | G  | G    | G  | G | G  | G  | G | L    | -   | -   | -   |
| Amyl Acetate          | G  | G    | G  | G | G  | P  | L | -    | G   | G   | G   |
| Aniline               | L  | G    | L  | P | P  | P  | P | -    | G   | G   | G   |
| Animal Oils (6)       | P  | L    | L  | G | G  | G  | G | -    | -   | -   | G   |
| Arsenic Salts         | G  | G    | G  | G | G  | G  | G | G    | -   | -   | -   |
| Aromatic Hydrocarbons | P  | L    | L  | G | G  | P  | L | P    | -   | -   | G   |
| Barium Salts          | G  | G    | G  | G | G  | G  | G | G    | -   | -   | -   |
| Benzaldehyde          | P  | L    | L  | L | L  | P  | L | P    | G   | G   | G   |
| Benzene               | P  | L    | L  | G | G  | P  | L | P    | G   | G   | G   |
| Benzyl Alcohol        | P  | G    | L  | L | L  | G  | L | P    | G   | G   | G   |
| Bleaching Liquors     | G  | L    | G  | L | L  | L  | L | -    | -   | -   | -   |
| Boric Acid Solutions  | G  | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
| Bromine               | L  | L    | P  | P | P  | F  | P | -    | G   | L   | G   |
| Butane (2)            | L  | G    | G  | G | G  | L  | P | -    | #   | #   | #   |
| Butanol               | G  | G    | G  | G | G  | G  | G | -    | -   | -   | -   |
| Butyl Acetate         | G  | G    | L  | G | G  | P  | L | G    | G   | G   | G   |
| Calcium Hypochlorite  | L  | L    | P  | P | L  | L  | P | L    | G   | G   | G   |
| Calcium Salts         | G  | G    | G  | G | G  | G  | G | G    | -   | -   | -   |
| Carbon Dioxide        | G  | G    | G  | G | G  | G  | G | G    | #   | #   | #   |
| Carbon Disulfide      | L  | L    | L  | L | L  | P  | L | -    | #   | #   | #   |
| Carbon Tetrachloride  | P  | P    | L  | L | L  | L  | P | P    | G   | G   | G   |
| Caustic Potash        | G  | G    | G  | G | G  | L  | G | -    | G   | G   | G   |
| Caustic Soda          | G  | G    | G  | G | G  | L  | G | -    | G   | L   | G   |
| Chloracetic Acid      | L  | G    | L  | L | L  | P  | P | -    | G   | L   | G   |
| Chlorine (Dry)        | L  | L    | L  | P | P  | G  | P | -    | #   | #   | #   |
| Chlorine (Wet)        | L  | L    | L  | P | P  | G  | L | -    | G   | G   | G   |
| Chlorobenzene         | P  | L    | L  | L | L  | P  | L | P    | G   | G   | G   |
| Chloroform            | P  | L    | P  | P | P  | P  | P | P    | G   | G   | G   |
| Chromic Acid          | L  | L    | L  | P | P  | G  | P | -    | L   | G   | G   |
| Copper Salts          | G  | G    | G  | G | G  | G  | G | G    | -   | -   | -   |
| Cresol                | P  | L    | L  | P | P  | L  | P | P    | G   | G   | G   |
| Cyclohexanone         | L  | L    | L  | L | L  | P  | P | -    | G   | G   | G   |
| Ethers                | L  | L    | P  | G | G  | L  | P | -    | G   | G   | G   |
| Ethyl Acetate         | G  | G    | G  | G | G  | P  | L | -    | G   | G   | G   |
| Ethyl Alcohol         | G  | G    | G  | L | L  | L  | G | -    | -   | -   | -   |
| Ethylamine            | L  | G    | L  | L | L  | P  | L | -    | -   | -   | -   |
| Ethyl Bromide         | P  | L    | L  | L | L  | P  | - | P    | -   | -   | -   |
| Ethyly Chloride       | P  | L    | P  | L | L  | P  | - | P    | G   | G   | G   |
| Fatty Acids           | L  | L    | L  | G | G  | L  | L | P    | G   | G   | G   |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

| MEDIA                           | PE                        | HDPE | PP | N | NR | PV | U | FRPE | FEP | PFA | TFE |
|---------------------------------|---------------------------|------|----|---|----|----|---|------|-----|-----|-----|
| Ferric Salts                    | G                         | G    | G  | G | G  | G  | G | -    | -   | -   | -   |
|                                 | G                         | G    | G  | L | L  | L  | P | -    | G   | G   | G   |
|                                 | G                         | G    | G  | P | P  | G  | P | G    | G   | G   | G   |
| Formaldehyde                    | L                         | L    | L  | G | G  | P  | L | -    | #   | #   | #   |
|                                 | P                         | G    | L  | G | G  | P  | L | P    | G   | G   | G   |
|                                 | G                         | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
| Formic Acid                     | G                         | G    | G  | P | P  | G  | L | G    | G   | G   | G   |
|                                 | L                         | G    | G  | G | G  | G  | - | -    | -   | -   | -   |
|                                 | G                         | G    | G  | G | G  | G  | P | -    | G   | L   | G   |
| Freon                           | L                         | L    | L  | G | G  | P  | L | -    | #   | #   | #   |
|                                 | P                         | G    | L  | G | G  | P  | L | P    | G   | G   | G   |
|                                 | G                         | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
| Gasoline (2)                    | G                         | G    | G  | G | G  | G  | L | G    | G   | G   | G   |
|                                 | L                         | G    | G  | G | G  | G  | - | -    | -   | -   | -   |
|                                 | G                         | G    | G  | G | G  | G  | P | G    | G   | G   | G   |
| Glucose                         | G                         | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
|                                 | L                         | G    | G  | G | G  | G  | - | -    | -   | -   | -   |
|                                 | G                         | G    | G  | G | G  | G  | P | G    | G   | G   | G   |
| Glycerin                        | G                         | G    | G  | G | G  | G  | L | G    | G   | G   | G   |
|                                 | L                         | G    | G  | P | P  | G  | - | -    | -   | -   | -   |
|                                 | L                         | G    | G  | L | L  | L  | P | -    | G   | L   | G   |
| Hydriodic Acid                  | L                         | G    | G  | L | L  | L  | P | -    | G   | L   | G   |
|                                 | L                         | L    | G  | P | P  | L  | P | -    | G   | -   | G   |
|                                 | L                         | G    | G  | L | L  | L  | G | -    | -   | -   | -   |
| Hydrochloric Acid. (Conc.)      | L                         | G    | G  | L | L  | L  | P | -    | G   | L   | G   |
|                                 | L                         | L    | G  | P | P  | L  | P | -    | G   | -   | G   |
|                                 | L                         | G    | L  | L | L  | L  | G | -    | -   | -   | -   |
| Hydrochloric Acid. (Med. Conc.) | L                         | G    | G  | L | L  | L  | P | -    | G   | L   | G   |
|                                 | L                         | L    | G  | P | P  | L  | P | -    | G   | -   | G   |
|                                 | L                         | G    | L  | L | L  | L  | G | -    | -   | -   | -   |
| Hydrofluoric Acid               | L                         | G    | G  | L | L  | L  | P | -    | G   | -   | G   |
|                                 | L                         | G    | G  | P | P  | L  | P | -    | G   | -   | G   |
|                                 | L                         | G    | G  | L | L  | L  | G | -    | -   | -   | -   |
| Hydrogen Peroxide (Conc.)       | L                         | G    | L  | G | G  | G  | G | -    | -   | -   | -   |
|                                 | G                         | G    | G  | G | G  | G  | P | -    | G   | G   | G   |
|                                 | L                         | G    | G  | G | G  | L  | L | -    | G   | G   | G   |
| Hydrogen Peroxide (Dil.)        | L                         | G    | L  | G | G  | G  | G | -    | -   | -   | -   |
|                                 | G                         | G    | G  | G | G  | G  | P | -    | G   | G   | G   |
|                                 | L                         | G    | G  | G | G  | L  | L | -    | G   | G   | G   |
| Hydrogen Sulfide                | Kerosene (2)              | L    | L  | L | G  | G  | L | L    | G   | G   | G   |
|                                 | Ketones                   | G    | G  | G | G  | G  | P | P    | -   | G   | G   |
|                                 | Lacquer Solvents          | L    | L  | L | G  | G  | P | -    | L   | G   | G   |
| Lactic Acid                     | Lactic Acid               | G    | G  | G | G  | G  | G | -    | G   | G   | G   |
|                                 | Lead Acetate              | G    | G  | G | G  | G  | G | -    | G   | G   | G   |
|                                 | Linseed Oil               | L    | G  | G | G  | L  | G | -    | G   | G   | G   |
| Magnesium Salts                 | Magnesium Salts           | G    | G  | G | G  | G  | G | -    | -   | -   | G   |
|                                 | Naphtha                   | L    | L  | L | G  | G  | P | L    | G   | G   | G   |
|                                 | Natural Gas               | L    | L  | L | G  | G  | G | -    | 2   | 2   | 2   |
| Nickel Salts                    | Nickel Salts              | G    | G  | G | G  | G  | G | -    | -   | -   | -   |
|                                 | Nitric Acid (Conc.)       | P    | L  | P | P  | P  | L | P    | G   | L   | L   |
|                                 | Nitric Acid (Dil.)        | P    | G  | L | L  | G  | P | P    | P   | L   | G   |
| Nitrobenzene                    | Nitrobenzene              | P    | L  | G | L  | L  | P | P    | P   | G   | G   |
|                                 | Nitrogen Oxides           | L    | L  | G | L  | L  | G | -    | -   | -   | -   |
|                                 | Nitrous Acid              | L    | L  | G | L  | L  | G | -    | G   | G   | G   |
| Oils (Animal and Mineral)       | Oils (Animal and Mineral) | L    | L  | L | G  | G  | L | G    | -   | G   | G   |
|                                 | Oils (Vegetable)          | L    | L  | L | G  | G  | L | G    | -   | G   | G   |
|                                 | Oxygen (5) (6)            | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
| Perchloric Acid                 | Perchloric Acid           | P    | G  | L | P  | P  | L | P    | P   | L   | G   |
|                                 | Phenols                   | P    | G  | G | P  | P  | L | P    | P   | -   | G   |
|                                 | Potassium Salts           | G    | G  | G | G  | G  | G | G    | -   | -   | -   |
| Pyridine                        | Pyridine                  | L    | L  | L | L  | P  | P | P    | -   | G   | G   |
|                                 | Silver Nitrate            | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
|                                 | Soap Solutions            | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
| Sodium Salts                    | Sodium Salts              | G    | G  | G | G  | G  | G | G    | -   | -   | -   |
|                                 | Stearic Acid              | L    | L  | L | G  | G  | P | L    | -   | G   | G   |
|                                 | Sulfur Chloride           | L    | L  | P | L  | L  | L | -    | -   | G   | G   |
| Sulfuric Acid (Conc.)           | Sulfuric Acid (Conc.)     | P    | G  | G | P  | P  | L | P    | -   | -   | -   |
|                                 | Sulfuric Acid (Dil.)      | P    | G  | G | L  | L  | G | L    | -   | -   | -   |
|                                 | Sulfurous Acid            | P    | G  | L | L  | G  | L | P    | G   | G   | G   |

# Media to Plastic Tubing Material Compatibility

| MEDIA               | PE | HDPE | PP | N | NR | PV | U | FRPE | FEP | PFA | TFE |
|---------------------|----|------|----|---|----|----|---|------|-----|-----|-----|
| Tannic Acid         | G  | G    | G  | G | G  | G  | P | -    | G   | G   | G   |
| Tanning Extracts    | G  | G    | G  | G | G  | G  | P | -    | -   | -   | -   |
| Titanium Salts      | G  | G    | G  | G | G  | G  | G | -    | -   | -   | -   |
| Toluene             | P  | L    | P  | G | G  | P  | L | P    | G   | G   | G   |
| Trichloracetic Acid | L  | L    | L  | P | P  | P  | P | -    | -   | -   | -   |
| Trichloroethylene   | P  | L    | P  | L | L  | P  | P | P    | G   | G   | G   |
| Turpentine          | P  | P    | L  | G | G  | L  | L | -    | G   | G   | G   |
| Urea                | G  | G    | G  | G | G  | G  | G | -    | G   | L   | G   |
| Uric Acid           | G  | G    | G  | G | G  | G  | G | -    | G   | G   | G   |
| Water (6)           | G  | G    | G  | G | G  | G  | G | G    | G   | G   | G   |
| Xylene              | P  | L    | P  | G | G  | P  | P | P    | G   | G   | G   |
| Zinc Chloride       | G  | G    | G  | G | G  | G  | G | -    | G   | L   | G   |

**Footnotes for Fluid Compatibility Guides:** (1) The Fluid Compatibility Guides are simplified rating tabulations based on immersion tests at 75°F. Higher temperatures tend to reduce ratings. Since final selection depends on pressure, fluid and ambient temperature and other factors not known to Parker Hannifin Co., no performance guarantee is expressed or implied. Ratings do not imply compliance with specialized codes such as FDA, NSF, AGA or UL and do not cover possible fluid discoloration, taste or odor effects. For conveying foodstuffs use FDA sanctioned materials, and for potable water use NSF listed materials. For chemicals not listed, or for advice on particular applications, please consult Product Engineering, Parflex Div., Ravenna, Ohio. (2) Hose applications for these fluids must take into account legal and insurance regulations. This does not imply AGA or UL compliance. (3) Satisfactory at some concentrations and temperatures, unsatisfactory in others. (4) For high pressure gases, the cover should be pinpricked and the pressure must not be released quickly. Chain or restrain the hose to prevent personal injury in the event of damage or failure. (5) Chemical compatibility does not imply low permeation rates. Consult the Parker factory for a recommendation for your specific requirement. (6) Does not imply NSF or FDA compliance. (7) Chemical compatibility does not imply acceptability for use in airless paint spray applications. These applications require a special conductive hose. (8) Fluoropolymer is chemically compatible with Anhydrous Ammonia. However, extreme caution must be used in dealing with Anhydrous Ammonia since it can cause severe injuries such as blindness and/or chemical burns.

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index



| MEDIA                 | PE | PP | N | NR | A | B-N | F | EPDM | V |
|-----------------------|----|----|---|----|---|-----|---|------|---|
| Acetaldehyde          | L  | G  | L | L  | L | L   | P | L    | P |
| Acetates              | G  | G  | L | L  | L | L   | L | L    | P |
| Acetic Acid           | L  | G  | L | L  | L | L   | L | L    | P |
| Acetic Anhydride      | L  | G  | L | L  | - | P   | P | L    | P |
| Acetone               | G  | G  | G | G  | L | P   | L | G    | P |
| Acetyl Bromide        | L  | L  | P | P  | - | -   | L | P    | - |
| Acetyl Chloride       | L  | L  | P | P  | - | P   | L | P    | G |
| Air                   | G  | G  | G | G  | G | G   | G | G    | G |
| Alcohols              | G  | G  | G | G  | G | -   | G | G    | L |
| Aluminum Salts        | G  | G  | G | G  | L | G   | G | G    | G |
| Ammonia               | G  | G  | G | G  | G | G   | P | G    | P |
| Amyl Acetate          | G  | G  | G | G  | L | P   | L | L    | P |
| Aniline               | L  | L  | L | L  | L | P   | L | L    | P |
| Animal Oils           | L  | L  | G | G  | L | G   | G | L    | G |
| Arsenic Salts         | G  | G  | G | G  | - | G   | G | G    | L |
| Aromatic Hydrocarbons | P  | L  | G | G  | - | G   | - | P    | G |
| Barium Salts          | G  | G  | G | G  | L | G   | G | G    | G |
| Benzaldehyde          | P  | L  | L | L  | L | P   | L | G    | P |
| Benzene (Benzol)      | P  | L  | G | G  | G | P   | L | P    | G |
| Benzyl Alcohol        | P  | L  | L | L  | - | P   | G | L    | G |
| Bleaching Liquors     | G  | G  | L | L  | - | L   | G | G    | G |
| Boric Acid Solution   | G  | G  | G | G  | L | G   | G | G    | G |
| Bromine               | L  | L  | P | P  | - | P   | L | P    | G |
| Butane                | L  | G  | G | G  | G | G   | G | P    | G |
| Butanol               | G  | G  | G | G  | - | G   | - | L    | G |
| Butyl Acetate         | G  | G  | G | G  | - | -   | L | L    | P |
| Calcium Hypochlorite  | L  | P  | P | L  | L | P   | G | G    | G |
| Calcium Salts         | G  | G  | G | G  | G | G   | G | G    | G |
| Carbon Dioxide        | G  | G  | G | G  | G | G   | G | G    | G |
| Carbon Disulfide      | L  | L  | L | L  | - | P   | L | P    | G |
| Carbon Tetrachloride  | P  | G  | L | L  | G | L   | G | P    | G |
| Caustic Potash        | G  | G  | G | G  | - | -   | L | G    | L |
| Caustic Soda          | G  | G  | G | G  | - | -   | L | G    | L |
| Chlorine (Dry)        | L  | L  | P | P  | P | P   | G | -    | L |
| Chlorine (Wet)        | L  | L  | P | P  | P | P   | G | -    | L |
| Chloroacetic Acid     | L  | L  | L | L  | - | -   | P | P    | L |
| Chlorobenzene         | P  | L  | L | L  | - | P   | L | P    | G |
| Chloroform            | P  | G  | L | L  | G | P   | L | P    | G |
| Chromic Acid          | L  | L  | P | P  | P | -   | L | -    | L |
| Copper Salts          | G  | G  | G | G  | L | G   | G | G    | G |
| Cresol                | P  | L  | P | P  | - | P   | L | P    | L |
| Cyclohexanone         | L  | L  | L | L  | L | P   | L | L    | P |
| Ethers                | L  | G  | G | G  | G | P   | L | L    | P |
| Ethyl Acetate         | G  | G  | G | G  | L | P   | P | L    | P |
| Ethyl Alcohol         | G  | G  | L | L  | G | G   | G | G    | P |

# Media to Plastic Fitting Material Compatibility

| MEDIA                          | PE | PP | N | NR | A | B-N | F | EPDM | V |
|--------------------------------|----|----|---|----|---|-----|---|------|---|
| Ethyl Amine                    | L  | L  | L | L  | - | -   | - | -    | P |
| Ethyl Bromide                  | P  | L  | L | L  | - | L   | - | P    | G |
| Ethyl Chloride                 | P  | L  | L | L  | - | G   | - | L    | G |
| Ethylene Glycol                | G  | G  | G | G  | L | G   | G | G    | G |
| Fatty Acids                    | L  | L  | G | G  | - | L   | G | L    | G |
| Ferric Salts                   | G  | G  | G | G  | L | G   | G | G    | L |
| Formaldehyde                   | G  | G  | L | L  | L | L   | L | L    | P |
| Formic Acids                   | L  | G  | P | P  | P | -   | G | G    | L |
| Freon                          | L  | L  | G | G  | - | L   | G | L    | P |
| Gasoline                       | P  | L  | G | G  | G | G   | G | P    | G |
| Glucose                        | G  | G  | G | G  | G | G   | G | G    | G |
| Glycerine                      | G  | G  | G | G  | G | G   | G | G    | G |
| Hydriodic Acid                 | L  | G  | P | P  | - | -   | G | L    | L |
| Hydrochloric Acid (Conc.)      | L  | G  | L | L  | P | L   | G | L    | L |
| Hydrochloric Acid (Med. Conc.) | L  | G  | L | L  | P | L   | G | L    | L |
| Hydrochloric Acid              | L  | G  | P | P  | P | -   | G | L    | G |
| Hydrogen Peroxide (Conc.)      | L  | L  | L | G  | P | P   | L | P    | G |
| Hydrogen Peroxide (Dil.)       | L  | L  | G | G  | P | L   | G | G    | G |
| Hydrogen Sulfide               | G  | G  | G | G  | P | L   | G | G    | P |
| Iodine                         | L  | G  | G | G  | L | L   | L | L    | G |
| Kerosene                       | L  | L  | G | G  | G | G   | G | P    | G |
| Ketones                        | G  | G  | G | G  | - | -   | P | G    | P |
| Lacquer Solvent                | L  | L  | L | L  | - | P   | - | P    | P |
| Lactic Acid                    | G  | G  | G | G  | L | G   | L | G    | G |
| Lead Acetate                   | G  | G  | G | G  | L | L   | G | G    | P |
| Linseed Oil                    | L  | G  | G | G  | L | G   | G | L    | G |
| Magnesium Salts                | G  | G  | G | G  | G | G   | G | G    | G |
| Mobil Oil (SHC 626, 629, 630)  | P  | P  | G | G  | G | L   | G | P    | G |
| Naphtha                        | L  | L  | G | G  | - | L   | G | P    | G |
| Natural Gas                    | L  | L  | G | G  | L | G   | - | P    | G |
| Nickel Salts                   | G  | G  | G | G  | L | G   | G | G    | G |
| Nitric Acid (Conc.)            | P  | L  | P | P  | P | P   | L | P    | G |
| Nitric Acid (Dil.)             | P  | L  | L | L  | P | P   | L | L    | L |
| Nitrobenzene                   | P  | G  | L | L  | - | P   | L | G    | L |
| Nitrogen Oxides                | L  | G  | L | L  | - | -   | L | L    | P |
| Nitrous Acid                   | L  | G  | L | L  | P | -   | L | G    | L |
| Oils (Animal & Mineral)        | L  | L  | G | G  | L | G   | G | L    | L |
| Oils (Vegetable)               | L  | L  | G | G  | G | G   | G | L    | G |
| Oxygen                         | G  | G  | G | G  | G | L   | G | G    | G |
| Perchloric Acid                | P  | L  | P | P  | P | P   | L | L    | G |
| Phenol                         | P  | G  | P | P  | L | P   | L | P    | G |
| Potassium Salts                | G  | G  | G | G  | G | G   | G | G    | G |
| Pyridine                       | L  | L  | L | G  | L | P   | P | L    | P |
| Silver Nitrate                 | G  | G  | G | G  | L | L   | G | G    | G |
| Soap Solutions                 | G  | G  | G | G  | G | G   | G | G    | G |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

| MEDIA                 | PE | PP | N | NR | A | B-N | F | EPDM | V |
|-----------------------|----|----|---|----|---|-----|---|------|---|
| Sodium Bisulfite      | G  | G  | L | L  | P | G   | G | G    | G |
| Sodium Hypochlorite   | L  | L  | P | L  | P | P   | G | G    | G |
| Sodium Salts          | G  | G  | G | G  | L | G   | G | G    | G |
| Stearic Acid          | L  | L  | G | G  | L | L   | G | L    | L |
| Sulfur Chloride       | L  | L  | L | L  | P | P   | L | P    | G |
| Sulfuric Acid (Conc.) | P  | G  | P | P  | P | P   | L | L    | G |
| Sulfuric Acid (Dil.)  | P  | G  | L | L  | P | L   | G | G    | G |
| Sulfurous Acid        | P  | L  | L | L  | P | L   | L | L    | G |
| Tannic Acid           | G  | G  | G | G  | L | G   | G | G    | G |
| Tanning Extracts      | G  | G  | G | G  | - | -   | L | -    | L |
| Titanium Salts        | G  | G  | G | G  | - | -   | L | P    | G |
| Toluene (Toluol)      | P  | L  | G | G  | G | P   | L | P    | G |
| Trichloracetic Acid   | L  | L  | P | P  | - | L   | L | L    | P |
| Trichlorethylene      | P  | L  | L | L  | L | L   | G | P    | G |
| Turpentine            | L  | L  | G | G  | G | G   | G | P    | G |
| Urea                  | G  | G  | G | G  | L | -   | G | L    | G |
| Uric Acid             | G  | G  | G | G  | - | -   | - | -    | - |
| Water                 | G  | G  | G | G  | G | G   | G | G    | L |
| Xylene (Xylol)        | P  | L  | G | G  | - | P   | G | P    | G |
| Zinc Chloride         | G  | G  | G | G  | - | G   | G | G    | G |

**PE**=Polyethylene Tube, **PP**=Polypropylene Tube, **N**=Flexible Nylon Tube, **NR**=Rigid Nylon Tube, **A**=Acetal Fitting Body, **B-N**=Buna-N O-Ring, **EPDM**=EPDM O-Ring, **F**=Kynar Fitting Body, **V**=Viton O-Ring.

**Ratings Code:**  
**G** = Good to excellent. Little or no swelling, tensile or surface changes. Preferred choice.  
**L** = Marginal or conditional. Noticeable effects but not necessarily indicating lack of serviceability. Further testing suggested for specific application. Very long-term effects such as stiffening or potential for crazing should be evaluated.  
**P** = Poor or unsatisfactory. Not recommended without extensive and realistic testing.  
**-** = Indicates that this was not tested.

## Approvals & Guides

|                                    |         |
|------------------------------------|---------|
| Government & Agency Approval ..... | 298     |
| Parker Safety Guide .....          | 299-301 |

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

| Agency and Specifications   | Approved Parflex Products  |
|---|--|
| <b>Flame Resistance:</b><br>MSHA 1C 40/28<br>UL94V-0<br>UL94V-2<br>UL94HB<br>USCG, 46CFR<br>SAEJ1942  | 83FR<br>55FR, 53FR<br>FRPE<br>NN, NB, NR, NBR (Wall Thickness Above .033")<br>520N, 540N, 560, 590, 919 (With Fire Sleeve)<br>919 (With Fire Sleeve)       |
| <b>Dry Food Contact:</b><br>FDA, CFR21 Part 177   | E, PP, PV, 1038, 1041, 540P, BTH, HTL, GPH-FDA,<br>Fast & Tite N and P, ParBarb N and P, TrueSeal™,<br>FEP (Natural), 919, 929, 936, 960 (Natural)         |
| <b>Natural Gas Service:</b><br>European Safety Standard (TUV)<br>Kraftfahrt-Bundesamt ECE R110 Requirement<br>Vehicles and Dispensing Systems<br>ANSI IAS NGV4.2 - CSA 12.52  | 5CNG-3, 5CNG-8<br>3CNG, 4CNG, 5CNG, 3CNGLT, 4CNGLT, 5CNGLT,<br>3CNGFR, 4CNGFR, 5CNGFR  |
| <b>Potable Water, Liquid Foods:</b><br>NSF Standard 51*<br><br>NSF Standard 61<br>Naval Standard MIL-767C   | E, PP, 1038, 1041, Fast & Tite N and P,<br>ParBarb N and P, TrueSeal™, BTH, HTL, GPH-FDA<br>E Series Polyethylene Tubing, TrueSeal Acetal Fittings<br>540P |
| <b>Hydraulic Service:</b><br>SAE 100R7<br>SAE 100R8<br>SAE 100R14<br>SAE 100R18   | 540N, 55FR, 55LT, 510, 510A, 510C, 518C<br>520N, 580N, 588N<br>919<br>53LT, 538LT  |
| <b>WASTEC WRP05-1996</b><br>(Waste Equipment Technology Association)  | S4, S5, S6, S9   |
| <b>International Standards:</b><br>ISO (International Standards Organization)<br>ISO 3949-1<br>ISO 3449-2   | 540N<br>520N, 580N, 588N   |
| <b>DIN</b> (Deutsches Institut Für Normung):<br>DIN 20-078 (excluding hex size dimensions)<br>DIN 24951-2KT<br>DIN 20022-1SN (performance requirements)<br>DIN 73378, DIN 74324, DIN 74323  | 55 and 58 SERIES METRIC FITTINGS<br>515H, 540N, 558H<br>560<br>DINLP, DINHP, DINUHP, Metric BRAKCOIL®, Dollycoil™,<br>Duo-Coil™, SliderCoil™               |
| <b>Refrigeration:</b><br>UL1963, R502   | 510A-2, 510  |
| <b>Transportation:</b><br>SAE J844 (FMVSS106)<br>SAE J1394  | PFT-A, PFT-B, BRAKCOIL®, DollyCoil™, Duo-Coil™, SliderCoil™<br>PFTM-A, PFTM-B  |
| <b>Electrical Non-Conductivity:</b><br>SAE J517, Pitman E-00094<br>Ontario Hydro, SAE J517  | 518C, HP8<br>518C, 528N, 588N  |
| <b>DNV**:</b><br><br>Det Norski (Norwegian) Veritas Marine Steel<br>Ships, Mobile Offshore and Fixed Offshore<br>Drilling Units<br>Cert. No. P-11464<br>Cert. No. P-11463<br>Cert. No. P-11462<br>Cert. No. P-11465<br>Cert. No. P-11466<br>Cert. No. P-10717<br>Cert. No. P-10674, P-9566<br>Cert. No. P-11419 | 520N, 580N, 588N, H580N<br>518C<br>540N<br>573X, 575X<br>HP, HP8<br>590, 593, 1032<br>560<br>573LH, 575LH  |
| <b>Breathing Air Applications:</b><br>CGA (Compressed Gas Association)- G-7.1-1997<br>Grade E Breathing Air<br>NFPA 1901  | 526BA<br>526BA   |

\* Indicates that products shown have been tested and certified by NSF International to the requirements of Standard 51. NSF does not express or imply an approval on any product.

\*\* Products certified to DNV type approval 5.791.70 only with Parflex 55, 58, LV, LH, HP fittings.



# Parker Safety Guide

## for Selecting and Using Hose, Tubing, Fittings, and Related Accessories

Parker Publication No. 4400-B.1

Revised: May 2002

**WARNING:** Failure or improper selection or improper use of hose, tubing, fittings, assemblies or related accessories ("Products") can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- Fittings thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Electrocution from high voltage electric power lines.
- Contact with suddenly moving or falling objects that are controlled by the conveyed fluid.
- Injections by high-pressure fluid discharge.
- Dangerously whipping Hose.

- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion caused by static electricity buildup or other sources of electricity.
- Sparking or explosion while spraying paint or flammable liquids.
- Injuries resulting from inhalation, ingestion or exposure to fluids.

Before selecting or using any of these Products, it is important that you read and follow the instructions below. Only Hose from Parker's Stratoflex Products Division is approved for in flight aerospace applications, and no other Hose can be used for such in flight applications.

### 1.0 GENERAL INSTRUCTIONS

- 1.1 Scope:** This safety guide provides instructions for selecting and using [including assembling, installing, and maintaining] these Products. For convenience, all rubber and/or thermoplastic products commonly called "hose" or "tubing" are called "Hose" in this safety guide. All assemblies made with Hose are called "Hose Assemblies". All products commonly called "fittings" or "couplings" are called "Fittings". All related accessories [including crimping and swaging machines and tooling] are called "Related Accessories". This safety guide is a supplement to and is to be used with, the specific Parker publications for the specific Hose, Fittings and Related Accessories that are being considered for use.
- 1.2 Fail-Safe:** Hose, and Hose Assemblies and Fittings can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the Hose or Hose Assembly or Fitting will not endanger persons or property.
- 1.3 Distribution:** Provide a copy of this safety guide to each person that is responsible for selecting or using Hose and Fitting products. Do not select or use Parker Hose or Fittings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.
- 1.4 User Responsibility:** Due to the wide variety of operating conditions and applications for Hose and Fittings, Parker and its distributors do not represent or warrant that any particular Hose or Fitting is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
  - Making the final selection of the Hose and Fitting.
  - Assuring that the user's requirements are met and that the application presents no health or safety hazards.
  - Providing all appropriate health and safety warnings on the equipment on which the Hose and Fittings are used.
  - Assuring compliance with all applicable government and industry standards.
- 1.5 Additional Questions:** Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to [www.parker.com](http://www.parker.com), for telephone numbers of the appropriate technical service department.

### 2.0 HOSE AND FITTING SELECTION INSTRUCTIONS

- 2.1 Electrical Conductivity:** Certain applications require that the Hose be nonconductive to prevent electrical current flow. Other applications require the Hose and the Fitting and the Hose/Fitting interface to be sufficiently conductive to drain off static electricity. Extreme care must be exercised when selecting Hose and Fittings for these or any other applications in which electrical conductivity or nonconductivity is a factor.
- The electrical conductivity or nonconductivity of Hose and Fittings is dependent upon many factors and may be susceptible to change. These factors include but are not limited to the various materials used to make the Hose and the Fittings, Fitting finish (some Fitting finishes are electrically conductive while others are nonconductive), manufacturing methods (including moisture control), how the Fittings contact the Hose,

age and amount of deterioration or damage or other changes, moisture content of the Hose at any particular time, and other factors.

The following are considerations for electrically nonconductive and conductive Hose. For other applications consult the individual catalog pages and the appropriate industry or regulatory standards for proper selection.

- 2.1.1 Electrically Nonconductive Hose:** Certain applications require that the Hose be nonconductive to prevent electrical current flow or to maintain electrical isolation. For these applications that require Hose to be electrically nonconductive, including but not limited to applications near high voltage electric lines, only special nonconductive Hose can be used. The manufacturer of the equipment in which the nonconductive Hose is to be used must be consulted to be certain that the Hose and Fittings that are selected are proper for the application. Do not use any Parker Hose or Fitting for any such application requiring nonconductive Hose, including but not limited to applications near high voltage electric lines, unless (i) the application is expressly approved in the Parker technical publication for the product, (ii) the Hose is marked "nonconductive", and (iii) the manufacturer of the equipment on which the Hose is to be used specifically approves the particular Parker Hose and Fitting for such use.

- 2.1.2 Electrically Conductive Hose:** Parker manufacturers special Hose for certain applications that require electrically conductive Hose. Parker manufactures special Hose for conveying paint in airless paint spraying applications. This Hose is labeled "Electrically Conductive Airless Paint Spray Hose" on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in all airless paint spraying applications. Do not use any other Hose for airless paint spraying, even if electrically conductive. Use of any other Hose or failure to properly connect the Hose can cause a fire or an explosion resulting in death, personal injury, and property damage.

Parker manufactures a special Hose for certain compressed natural gas ("CNG") applications where static electricity buildup may occur. Parker CNG Hose assemblies comply with AGA Requirements 1-93, "Hoses for Natural Gas Vehicles and Fuel Dispensers". This Hose is labeled "Electrically Conductive for CNG Use" on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate dangerous static charge buildup, which occurs in, for example, high velocity CNG dispensing or transfer. Do not use any other Hose for CNG applications where static charge buildup may occur, even if electrically conductive. Use of other Hoses in CNG applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. Care must also be taken to protect against CNG permeation through the Hose wall. See section 2.6, Permeation, for more information. Parker CNG Hose is intended for dispenser and vehicle use at a maximum temperature of 180°F. Parker CNG Hose should not be used in confined spaces or unventilated areas or areas exceeding 180°F. Final assemblies must be tested for leaks. CNG Hose Assemblies should be tested on a monthly basis for conductivity per AGA 1-93.

Parker manufacturers special Hose for aerospace in flight applications. Aerospace in flight applications employing Hose to transmit fuel,

Hydraulic &amp; Pneumatic Hose &amp; Fit.

PTFE Hose &amp; Fittings

Thermoplastic Tubing

Coiled Air Hose, Fittings &amp; Accessories

Truck (Fleet) Products

Tooling &amp; Equipment

Hose Accessories

Technical &amp; Design Information

Approvals &amp; Guides

Alphanumerical Index

lubricating fluids and hydraulic fluids require a special Hose with a conductive inner tube. This Hose for in flight applications is available only from Parker's Stratoflex Products Division. Do not use any other Parker Hose for in flight applications, even if electrically conductive. Use of other Hoses for in flight applications or failure to properly connect or ground this Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. These Hose assemblies for in flight applications must meet all applicable aerospace industry, aircraft engine, and aircraft requirements.

- 2.2 Pressure:** Hose selection must be made so that the published maximum recommended working pressure of the Hose is equal to or greater than the maximum system pressure. Surge pressures or peak transient pressures in the system must be below the published maximum working pressure for the Hose. Surge pressures and peak pressures can usually only be determined by sensitive electrical instrumentation that measures and indicates pressures at millisecond intervals. Mechanical pressure gauges indicate only average pressures and cannot be used to determine surge pressures or peak transient pressures. Published burst pressure ratings for Hose is for manufacturing test purposes only and is no indication that the Product can be used in applications at the burst pressure or otherwise above the published maximum recommended working pressure.
- 2.3 Suction:** Hoses used for suction applications must be selected to insure that the Hose will withstand the vacuum and pressure of the system. Improperly selected Hose may collapse in suction application.
- 2.4 Temperature:** Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the Hose. Temperatures below and above the recommended limit can degrade Hose to a point where a failure may occur and release fluid. Properly insulate and protect the Hose Assembly when routing near hot objects (e.g. manifolds). Do not use any Hose in any application where failure of the Hose could result in the conveyed fluids (or vapors or mist from the conveyed fluids) contacting any open flame, molten metal, or other potential fire ignition source that could cause burning or explosion of the conveyed fluids or vapors.
- 2.5 Fluid Compatibility:** Hose Assembly selection must assure compatibility of the Hose tube, cover, reinforcement, and Fittings with the fluid media used. See the fluid compatibility chart in the Parker publication for the product being considered or used. This information is offered only as a guide. Actual service life can only be determined by the end user by testing under all extreme conditions and other analysis. Hose that is chemically compatible with a particular fluid must be assembled using Fittings and adapters containing likewise compatible seals.
- 2.6 Permeation:** Permeation (that is, seepage through the Hose) will occur from inside the Hose to outside when Hose is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials as helium, diesel fuel, gasoline, natural gas, or LPG). This permeation may result in high concentrations of vapors which are potentially flammable, explosive, or toxic, and in loss of fluid. Dangerous explosions, fires, and other hazards can result when using the wrong Hose for such applications. The system designer must take into account the fact that this permeation will take place and must not use Hose if this permeation could be hazardous. The system designer must take into account all legal, government, insurance, or any other special regulations which govern the use of fuels and refrigerants. Never use a Hose even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the Hose Assembly.
- Permeation of moisture from outside the Hose to inside the Hose will also occur in Hose assemblies, regardless of internal pressure. If this moisture permeation would have detrimental effects (particularly, but not limited to refrigeration and air conditioning systems), incorporation of sufficient drying capacity in the system or other appropriate system safeguards should be selected and used.
- 2.7 Size:** Transmission of power by means of pressurized fluid varies with pressure and rate of flow. The size of the components must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.
- 2.8 Routing:** Attention must be given to optimum routing to minimize inherent problems (kinking or flow restriction due to Hose collapse, twisting of the Hose, proximity to hot objects or heat sources).
- 2.9 Environment:** Care must be taken to insure that the Hose and Fittings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, sunlight, heat, ozone, moisture, water, salt water, chemicals, and air pollutants can cause degradation and premature failure.
- 2.10 Mechanical Loads:** External forces can significantly reduce Hose life

or cause failure. Mechanical loads which must be considered include excessive flexing, twist, kinking, tensile or side loads, bend radius, and vibration. Use of swivel type Fittings or adapters may be required to insure no twist is put into the Hose. Unusual applications may require special testing prior to Hose selection.

- 2.11 Physical Damage:** Care must be taken to protect Hose from wear, snagging, kinking, bending smaller than minimum bend radius, and cutting, any of which can cause premature Hose failure. Any Hose that has been kinked or bent to a radius smaller than the minimum bend radius, and any Hose that has been cut or is cracked or is otherwise damaged, should be removed and discarded.
- 2.12 Proper End Fitting:** See instructions 3.2 through 3.5. These recommendations may be substantiated by testing to industry standards such as SAE J517 for hydraulic applications, or MIL-A-5070, AS1339, or AS3517 for Hoses from Parker's Stratoflex Products Division for aerospace applications.
- 2.13 Length:** When establishing a proper Hose length, motion absorption, Hose length changes due to pressure, and Hose and machine tolerances and movement must be considered.
- 2.14 Specifications and Standards:** When selecting Hose and Fittings, government, industry, and Parker specifications and recommendations must be reviewed and followed as applicable.
- 2.15 Hose Cleanliness:** Hose components may vary in cleanliness levels. Care must be taken to insure that the Hose Assembly selected has an adequate level of cleanliness for the application.
- 2.16 Fire Resistant Fluids:** Some fire resistant fluids that are to be conveyed by Hose require use of the same type of Hose as used with petroleum base fluids. Some such fluids require a special Hose, while a few fluids will not work with any Hose at all. See instructions 2.5 and 1.5. The wrong Hose may fail after a very short service. In addition, all liquids but pure water may burn fiercely under certain conditions, and even pure water leakage may be hazardous.
- 2.17 Radiant Heat:** Hose can be heated to destruction without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the Hose.
- 2.18 Welding or Brazing:** When using a torch or arc-welder in close proximity to hydraulic lines, the hydraulic lines should be removed or shielded with appropriate fire resistant materials. Flame or weld spatter could burn through the Hose and possibly ignite escaping fluid resulting in a catastrophic failure. Heating of plated parts, including Hose Fittings and adapters, above 450°F (232°C) such as during welding, brazing, or soldering may emit deadly gases.
- 2.19 Atomic Radiation:** Atomic radiation affects all materials used in Hose assemblies. Since the long-term effects may be unknown, do not expose Hose assemblies to atomic radiation.
- 2.20 Aerospace Applications:** The only Hose and Fittings that may be used for in flight aerospace applications are Hose available from Parker's Stratoflex Products Division. Do not use any other Hose or Fittings for in flight applications. Do not use any Hose or Fittings from Parker's Stratoflex Products Division with any other Hose or Fittings, unless expressly approved in writing by the engineering manager or chief engineer of Stratoflex Products Division and verified by the user's own testing and inspection to aerospace industry standards.
- 2.21 Unlocking Couplings:** Ball locking couplings or other couplings with disconnect sleeves can unintentionally disconnect if they are dragged over obstructions or if the sleeve is bumped or moved enough to cause disconnect. Threaded couplings should be considered where there is a potential for accidental uncoupling.

### 3.0 HOSE AND FITTING ASSEMBLY AND INSTALLATION INSTRUCTIONS

#### 3.1 Component Inspection:

Prior to assembly, a careful examination of the Hose and Fittings must be performed. All components must be checked for correct style, size, catalog number, and length. The Hose must be examined for cleanliness, obstructions, blisters, cover looseness, kinks, cracks, cuts or any other visible defects. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion or other imperfections. Do NOT use any component that displays any signs of nonconformance.

**3.2 Hose and Fitting Assembly:** Do not assemble a Parker Fitting on a Parker Hose that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Do not assemble a Parker Fitting on another manufacturers Hose or a Parker Hose on another manufacturers Fitting unless (i) the engineering manager or chief engineer of the appropriate Parker division approves the Assembly in writing or that combination is expressly approved in the appropriate Parker literature for the specific Parker product, and (ii) the user verifies the Assembly and the application through analysis and testing. For Parker Hose that does not specify a Parker Fitting, the user is solely

responsible for the selection of the proper Fitting and Hose Assembly procedures. See instruction 1.4.

The Parker published instructions must be followed for assembling the Fittings on the Hose. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1-800-CPARKER, or at [www.parker.com](http://www.parker.com).

**3.3 Related Accessories:** Do not crimp or swage any Parker Hose or Fitting with anything but the listed swage or crimp machine and dies in accordance with Parker published instructions. Do not crimp or swage another manufacturers Fitting with a Parker crimp or swage die unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.

**3.4 Parts:** Do not use any Parker Fitting part (including but not limited to socket, shell, nipple, or insert) except with the correct Parker mating parts, in accordance with Parker published instructions, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.

**3.5 Field Attachable/Permanent:** Do not reuse any field attachable (Field Attachable) Hose Fitting that has blown or pulled off a Hose. Do not reuse a Parker permanent Hose Fitting (crimped or swaged) or any part thereof. Complete Hose Assemblies may only be reused after proper inspection under section 4.0. Do not assemble Fittings to any previously used hydraulic Hose that was in service, for use in a fluid power application.

**3.6 Pre-Installation Inspection:** Prior to installation, a careful examination of the Hose Assembly must be performed. Inspect the Hose Assembly for any damage or defects. Do NOT use any Hose Assembly that displays any signs of nonconformance.

**3.7 Minimum Bend Radius:** Installation of a Hose at less than the minimum listed bend radius may significantly reduce the Hose life. Particular attention must be given to preclude sharp bending at the Hose to Fitting juncture. Any bending during installation at less than the minimum bend radius must be avoided. If any Hose is kinked during installation, the Hose must be discarded.

**3.8 Twist Angle and Orientation:** Hose Assembly installation must be such that relative motion of machine components does not produce twisting.

**3.9 Securement:** In many applications, it may be necessary to restrain, protect, or guide the Hose to protect it from damage by unnecessary flexing, pressure surges, and contact with other mechanical components. Care must be taken to insure such restraints do not introduce additional stress or wear points.

**3.10 Proper Connection of Ports:** Proper physical installation of the Hose Assembly requires a correctly installed port connection insuring that no twist or torque is transferred to the Hose when the Fittings are being tightened or otherwise during use.

**3.11 External Damage:** Proper installation is not complete without insuring that tensile loads, side loads, kinking, flattening, potential abrasion, thread damage, or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.

**3.12 System Checkout:** All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Hose maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.

**3.13 Routing:** The Hose Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame, or sparks, a fire or explosion may occur. See section 2.4.

#### **4.0 HOSE AND FITTING MAINTENANCE AND REPLACEMENT INSTRUCTIONS**

**4.1** Even with proper selection and installation, Hose life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a possible Hose failure, and experience with any Hose failures in the application or in similar applications should determine the frequency of the inspection and the replacement for the Products so that Products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.7.

**4.2 Visual Inspection Hose/Fitting:** Any of the following conditions require immediate shut down and replacement of the Hose Assembly:

- Fitting slippage on Hose,
- Damaged, cracked, cut or abraded cover (any reinforcement exposed);
- Hard, stiff, heat cracked, or charred Hose;
- Cracked, damaged, or badly corroded Fittings;

- Leaks at Fitting or in Hose;
- Kinked, crushed, flattened or twisted Hose; and
- Blistered, soft, degraded, or loose cover.

**4.3 Visual Inspection All Other:** The following items must be tightened, repaired, corrected or replaced as required:

- Leaking port conditions;
- Excess dirt buildup;
- Worn clamps, guards or shields; and
- System fluid level, fluid type, and any air entrapment.

**4.4 Functional Test:** Operate the system at maximum operating pressure and check for possible malfunctions and leaks. Personnel must avoid potential hazardous areas while testing and using the system. See section 2.2.

**4.5 Replacement Intervals:** Hose assemblies and elastomeric seals used on Hose Fittings and adapters will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Hose Assemblies and elastomeric seals should be inspected and replaced at specific replacement intervals, based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage, or injury risk. See section 1.2.

**4.6 Hose Inspection and Failure:** Hydraulic power is accomplished by utilizing high-pressure fluids to transfer energy and do work. Hoses, Fittings, and Hose Assemblies all contribute to this by transmitting fluids at high pressures. Fluids under pressure can be dangerous and potentially lethal and, therefore, extreme caution must be exercised when working with fluids under pressure and handling the Hoses transporting the fluids. From time to time, Hose Assemblies will fail if they are not replaced at proper time intervals. Usually these failures are the result of some form of misapplication, abuse, wear, or failure to perform proper maintenance. When Hoses fail, generally the high-pressure fluids inside escape in a stream which may or may not be visible to the user. Under no circumstances should the user attempt to locate the leak by "feeling" with their hands or any other part of their body. High-pressure fluids can and will penetrate the skin and cause severe tissue damage and possibly loss of limb. Even seemingly minor hydraulic fluid injection injuries must be treated immediately by a physician with knowledge of the tissue damaging properties of hydraulic fluid.

If a Hose failure occurs, immediately shut down the equipment and leave the area until pressure has been completely released from the Hose Assembly. Simply shutting down the hydraulic pump may or may not eliminate the pressure in the Hose Assembly. Many times check valves, etc., are employed in a system and can cause pressure to remain in a Hose Assembly even when pumps or equipment are not operating. Tiny holes in the Hose, commonly known as pinholes, can eject small, dangerously powerful but hard to see streams of hydraulic fluid. It may take several minutes or even hours for the pressure to be relieved so that the Hose Assembly may be examined safely.

Once the pressure has been reduced to zero, the Hose Assembly may be taken off the equipment and examined. It must always be replaced if a failure has occurred. Never attempt to patch or repair a Hose Assembly that has failed. Consult the nearest Parker distributor or the appropriate Parker division for Hose Assembly replacement information.

Never touch or examine a failed Hose Assembly unless it is obvious that the Hose no longer contains fluid under pressure. The high-pressure fluid is extremely dangerous and can cause serious and potentially fatal injury.

**4.7 Elastomeric seals:** **Elastomeric seals will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Elastomeric seals should be inspected and replaced.**

**4.8 Refrigerant gases:** Special care should be taken when working with refrigeration systems. Sudden escape of refrigerant gases can cause blindness if the escaping gases contact the eye and can cause freezing or other severe injuries if it contacts any other portion of the body.

**4.9 Compressed natural gas (CNG):** Parker CNG Hose Assemblies should be tested after installation and before use, and at least on a monthly basis per AGA 1-93 Section 4.2 "Visual Inspection Hose/Fitting". The recommended procedure is to pressurize the Hose and check for leaks and to visually inspect the Hose for damage.

Caution: **Matches, candles, open flame or other sources of ignition shall not be used for Hose inspection. Leak check solutions should be rinsed off after use.**

Hydraulic &  
Pneumatic  
Hose & Fit.

PTFE  
Hose &  
Fittings

Thermoplastic  
Tubing

Coiled Air Hose,  
Fittings  
& Accessories

Truck (Fleet)  
Products

Tooling &  
Equipment

Hose  
Accessories

Technical &  
Design  
Information

Approvals &  
Guides

Alphanumeric  
Index

| Part Number  | Page             | Part Number    | Page | Part Number  | Page | Part Number  | Page |
|--------------|------------------|----------------|------|--------------|------|--------------|------|
| <b>0</b>     |                  | 10691NRD ..... | 151  | 13D58 .....  | 102  | 1FC93N ..... | 167  |
| 015301 ..... | 223              | 10693N .....   | 165  | 13DHY .....  | 127  | 1FN91N ..... | 159  |
| 015302 ..... | 221              | 10694 .....    | 169  | 13E55 .....  | 54   | 1FU55 .....  | 72   |
| 015303 ..... | 221              | 10695 .....    | 169  | 13E58 .....  | 79   | 1FU58 .....  | 95   |
| 015304 ..... | 221              | 106HY .....    | 118  | 14155 .....  | 62   | 1FV91N ..... | 159  |
| 015305 ..... | 221              | 106LV .....    | 41   | 14158 .....  | 88   | 1G155 .....  | 72   |
| 015306 ..... | 214, 215, 216    | 10755 .....    | 57   | 14191N ..... | 155  | 1G158 .....  | 97   |
| 015307 ..... | 214, 215, 216    | 10758 .....    | 82   | 141HY .....  | 120  | 1G255 .....  | 72   |
| 015308 ..... | 220              | 10791N .....   | 152  | 14K93N ..... | 167  | 1G258 .....  | 97   |
| 015309 ..... | 220              | 107HY .....    | 115  | 15555 .....  | 43   | 1GJHY .....  | 122  |
| 015310 ..... | 217              | 10855 .....    | 57   | 15858 .....  | 43   | 1GU55 .....  | 71   |
| 015311 ..... | 217              | 10858 .....    | 82   | 16191N ..... | 156  | 1GU58 .....  | 96   |
| 015411 ..... | 217              | 10891N .....   | 153  | 16755 .....  | 63   | 1GUHY .....  | 128  |
| 015412 ..... | 217              | 108HY .....    | 121  | 16758 .....  | 88   | 1HV91N ..... | 163  |
| 015413 ..... | 217              | 108MS .....    | 42   | 16791N ..... | 156  | 1J055 .....  | 65   |
| 015414 ..... | 217              | 10GHY .....    | 116  | 16792 .....  | 104  | 1J058 .....  | 92   |
| 015415 ..... | 217              | 10LHY .....    | 117  | 167HY .....  | 123  | 1J0HY .....  | 124  |
| 015736 ..... | 214, 215, 216    | 11155 .....    | 58   | 16955 .....  | 64   | 1J155 .....  | 66   |
| 025349 ..... | 220              | 11158 .....    | 83   | 16958 .....  | 89   | 1J158 .....  | 91   |
| 025399 ..... | 217, 219         | 11192 .....    | 103  | 16991N ..... | 157  | 1J158H ..... | 91   |
| 025411 ..... | 215              | 111HY .....    | 122  | 16992 .....  | 104  | 1J191N ..... | 160  |
| 090 .....    | 149              | 11255 .....    | 58   | 169HY .....  | 123  | 1J1HY .....  | 126  |
| <b>1</b>     |                  | 11258 .....    | 83   | 17791N ..... | 157  | 1J755 .....  | 67   |
| 10155 .....  | 53               | 11355 .....    | 59   | 177HY .....  | 121  | 1J758 .....  | 91   |
| 10158 .....  | 78               | 11358 .....    | 84   | 17991N ..... | 158  | 1J758H ..... | 91   |
| 10158H ..... | 78               | 11358H .....   | 84   | 179HY .....  | 121  | 1J791N ..... | 161  |
| 10191N ..... | 150              | 113HY .....    | 114  | 19255 .....  | 76   | 1J793N ..... | 168  |
| 10193N ..... | 165              | 11D55 .....    | 74   | 19258 .....  | 100  | 1J7HY .....  | 125  |
| 101HY .....  | 114              | 11D58 .....    | 99   | 19291N ..... | 164  | 1J955 .....  | 67   |
| 101SQ .....  | 110              | 11L55 .....    | 59   | 193HY .....  | 120  | 1J958 .....  | 92   |
| 10255 .....  | 53               | 11L58 .....    | 84   | 1AL55 .....  | 69   | 1J958H ..... | 92   |
| 10258 .....  | 78               | 11LHY .....    | 115  | 1AL55N ..... | 68   | 1J991N ..... | 161  |
| 10293N ..... | 165              | 12891N .....   | 153  | 1AL58 .....  | 94   | 1J993N ..... | 168  |
| 102HY .....  | 115              | 12892 .....    | 103  | 1AL58N ..... | 93   | 1J9HY .....  | 126  |
| 1032 .....   | 298              | 128HY .....    | 123  | 1AL91N ..... | 158  | 1JC55 .....  | 65   |
| 10355 .....  | 54               | 129HY .....    | 124  | 1B155 .....  | 76   | 1JC58 .....  | 90   |
| 10358 .....  | 79               | 13491N .....   | 154  | 1B158 .....  | 100  | 1JC58H ..... | 90   |
| 1035A .....  | 35, 231, 282     | 134HY .....    | 122  | 1B255 .....  | 77   | 1JC91N ..... | 162  |
| 1035HT ..... | 35, 36, 231, 282 | 134MS .....    | 42   | 1B258 .....  | 101  | 1JC93N ..... | 168  |
| 10391N ..... | 150              | 13755 .....    | 60   | 1B291N ..... | 164  | 1JCHY .....  | 124  |
| 103HY .....  | 117              | 13758 .....    | 85   | 1C655 .....  | 73   | 1JS55 .....  | 64   |
| 1041 .....   | 282, 298         | 13758H .....   | 85   | 1C658 .....  | 98   | 1JS58 .....  | 89   |
| 10455 .....  | 55               | 13791N .....   | 154  | 1C955 .....  | 73   | 1JS58H ..... | 89   |
| 10458 .....  | 80               | 13793N .....   | 166  | 1C958 .....  | 98   | 1JSHY .....  | 125  |
| 10555 .....  | 55               | 137HY .....    | 119  | 1D055 .....  | 73   | 1JSLV .....  | 41   |
| 10558 .....  | 80               | 13955 .....    | 61   | 1D058 .....  | 98   | 1L955 .....  | 63   |
| 105HY .....  | 116              | 13958 .....    | 86   | 1D0HY .....  | 127  | 1L958 .....  | 87   |
| 10655 .....  | 56               | 13991N .....   | 155  | 1D255 .....  | 74   | 1LF91N ..... | 162  |
| 10658 .....  | 81               | 13993N .....   | 166  | 1D258 .....  | 99   | 1MC93N ..... | 167  |
| 10658H ..... | 81               | 139HY .....    | 119  | 1D955 .....  | 75   | 1MU55 .....  | 71   |
| 10691N ..... | 151              | 13D55 .....    | 75   | 1D958 .....  | 101  | 1MU58 .....  | 96   |
|              |                  | 1D9HY .....    | 127  | 1P655 .....  | 69   |              |      |

**Note:** When seeking hose assembly and crimp specification information on any Parflex hose, visit: [www.parker.com/parflex](http://www.parker.com/parflex), click on the Services → Crimp Source folder.

| Part Number  | Page | Part Number     | Page     | Part Number            | Page      | Part Number       | Page     |
|--------------|------|-----------------|----------|------------------------|-----------|-------------------|----------|
| 1P658 .....  | 94   | 29251 .....     | 51       | <b>6</b>               |           | 222, 224          |          |
| 1P691N ..... | 159  | 2B151 .....     | 52       | 6-2CTXS.....           | 217       | 82C-R02-PFD ....  | 214, 215 |
| 1Q191N ..... | 162  | 2B251 .....     | 52       | 6-6CTXS.....           | 217       | 83C-081-PFD ..... | 222      |
| 1TU55 .....  | 68   | 2C351 .....     | 47       | 60 HAB .....           | 149       | 83FR .....        | 26       |
| 1TU58 .....  | 93   | 2C451 .....     | 47       | 61 HAB .....           | 149       | 85C-061-PFD ..... | 222      |
| 1TU91N ..... | 163  | 2C551 .....     | 48       | 631076 .....           | 226       | 85C-0HP-PFD ..... | 223      |
| 1UT55 .....  | 70   | 2C651 .....     | 48       | 631140 .....           | 226       | 85C-OEP .....     | 223      |
| 1UT58 .....  | 95   | 2C951 .....     | 48       | 631975 .....           | 226       | 85C-R01-PFD ....  | 222, 224 |
| 1UTHY .....  | 128  | 2D051 .....     | 49       | 662451 .....           | 226       | 88C-082-PFD ..... | 222      |
| 1VH91N ..... | 163  | 2D251 .....     | 49       | 662452 .....           | 226       |                   |          |
| 1XUHY .....  | 128  | 2D951 .....     | 51       | 662453 .....           | 226       | <b>9</b>          |          |
| <b>2</b>     |      | <b>3</b>        |          | 662454 .....           | 226       | 919 .....         | 133      |
| 20090 .....  | 149  | 316-PFD .....   | 226      | 662455 .....           | 226       | 919B .....        | 133      |
| 20151 .....  | 44   | 332T-115V ..... | 226      | 6CTXS .....            | 217       | 919J .....        | 134      |
| 20190 .....  | 142  | 3PSG .....      | 229      | <b>7</b>               |           | 919U .....        | 135      |
| 201BA .....  | 105  | <b>4</b>        |          | 702-OIL.....           | 232       | 929 .....         | 136      |
| 201BG .....  | 108  | 432.....        | 226      | 731512-Blue, Red ..... | 210       | 929B .....        | 136      |
| 20351 .....  | 44   | 432-115V .....  | 226      | 731513-Blue, Red ..... | 210       | 929BJ .....       | 137      |
| 203BA .....  | 105  | <b>5</b>        |          | 731516 .....           | 210       | 939 .....         | 138      |
| 203BG .....  | 108  | 510A .....      | 16       | 731522 .....           | 210       | 939B .....        | 138      |
| 20651 .....  | 45   | 510C .....      | 17       | 731611-Blue, Red ..... | 210       | 943B .....        | 139      |
| 20690 .....  | 142  | 515H .....      | 17       | 731612-Blue, Red ..... | 210       | 94C-080-PFD ....  | 218, 219 |
| 206BA .....  | 106  | 518C .....      | 18       | 741526 .....           | 210       | 950B .....        | 139      |
| 206BG .....  | 109  | 520N .....      | 19       | 741590-Blue, Red ..... | 210       |                   |          |
| 20851 .....  | 45   | 526BA .....     | 33       | 751597 .....           | 210       | <b>A</b>          |          |
| 20890 .....  | 143  | 528N .....      | 19       | 751634 .....           | 212       | AS-Y .....        | 230      |
| 208BA .....  | 106  | 538LT .....     | 21       | 751641 .....           | 210       | AUFS .....        | 204      |
| 208MS .....  | 42   | 53LT .....      | 20       | 751655 .....           | 210       | AX .....          | 197      |
| 21151 .....  | 46   | 540N .....      | 22       | 751656-Blk .....       | 210       | <b>B</b>          |          |
| 213BG .....  | 109  | 540P .....      | 33       | 751657 .....           | 213       | B9 .....          | 9        |
| 21D51 .....  | 50   | 55AG .....      | 229, 231 | 751658-Blue, Red ..... | 213       | <b>C</b>          |          |
| 22890 .....  | 141  | 55LT .....      | 23       | 751659 .....           | 213       | CNG .....         | 32       |
| 23490 .....  | 143  | 55SG .....      | 229, 231 | 751660-Blue, Red ..... | 213       | <b>D</b>          |          |
| 23790 .....  | 144  | 55SSG .....     | 229      | <b>8</b>               |           | D6 .....          | 9        |
| 237BA .....  | 106  | 56DH .....      | 34       | 801048 .....           | 211       | <b>E</b>          |          |
| 23951 .....  | 46   | 560.....        | 14       | 801595 .....           | 211       | E .....           | 298      |
| 23990 .....  | 145  | 563.....        | 14       | 801632 .....           | 211       | <b>F</b>          |          |
| 239BA .....  | 107  | 568DH .....     | 34       | 80C-081-PFD .....      | 222       | FC .....          | 201      |
| 23D51 .....  | 50   | 573X .....      | 23       | 80C-R01-PFD ....       | 222, 224  | FEP .....         | 298      |
| 241BA .....  | 107  | 573XL .....     | 231, 282 | 811537 .....           | 210, 212  | FL .....          | 201      |
| 24398 .....  | 226  | 575X .....      | 24       | 821072 .....           | 250       | FN .....          | 202      |
| 2613 .....   | 230  | 580661 .....    | 226      | 822011 .....           | 217       | FR .....          | 202      |
| 26190 .....  | 145  | 580N .....      | 24       | 822012 .....           | 217       | FRPE .....        | 298      |
| 2625 .....   | 230  | 588N .....      | 25       | 822031 .....           | 217       | FS .....          | 198      |
| 26790 .....  | 146  | 590.....        | 15       | 82C-061-PFD .....      | 222       |                   |          |
| 26990 .....  | 147  | 593.....        | 15       | 82C-OEP .....          | 223       |                   |          |
| 2740 .....   | 230  |                 |          | 82C-R01 .....          | 217       |                   |          |
| 27790 .....  | 147  |                 |          | 82C-R01-PFD ....       | 218, 219, |                   |          |
| 2799 .....   | 230  |                 |          |                        |           |                   |          |
| 27990 .....  | 148  |                 |          |                        |           |                   |          |

**Note:** When seeking hose assembly and crimp specification information on any Parflex hose, visit: [www.parker.com/parflex](http://www.parker.com/parflex), click on the Services → Crimp Source folder.



| Part Number      | Page | Part Number       | Page          | Part Number | Page | Part Number | Page |
|------------------|------|-------------------|---------------|-------------|------|-------------|------|
| FS-F .....       | 230  | <b>S</b>          |               |             |      |             |      |
| <b>H</b>         |      | S4 .....          | 30            |             |      |             |      |
| H580N .....      | 24   | S5 .....          | 30            |             |      |             |      |
| H6 .....         | 10   | S6 .....          | 31            |             |      |             |      |
| HBR .....        | 228  | S9 .....          | 31            |             |      |             |      |
| HFS.....         | 11   | Series E .....    | 177, 179      |             |      |             |      |
| HFS2.....        | 11   | Series EB .....   | 177, 179      |             |      |             |      |
| HJK.....         | 27   | Series FRPE ..... | 180           |             |      |             |      |
| HLB .....        | 27   | Series HDPE.....  | 180           |             |      |             |      |
| Hoze-Oil .....   | 232  | Series HU .....   | 188           |             |      |             |      |
| HPS .....        | 28   | Series HUM .....  | 189           |             |      |             |      |
| HTB .....        | 12   | Series LU.....    | 190           |             |      |             |      |
|                  |      | Series N .....    | 181, 182      |             |      |             |      |
| <b>M</b>         |      | Series NR .....   | 184           |             |      |             |      |
| M8.....          | 12   | Series PAT .....  | 183           |             |      |             |      |
| MC .....         | 200  | Series PE.....    | 178           |             |      |             |      |
| MCB.....         | 206  | Series PP .....   | 185           |             |      |             |      |
| ME .....         | 200  | Series PPB .....  | 185           |             |      |             |      |
| MG .....         | 230  | Series U.....     | 186, 187      |             |      |             |      |
| ML .....         | 201  | SG .....          | 202           |             |      |             |      |
| MLB.....         | 206  | SQ-101.....       | 239, 253      |             |      |             |      |
| MSH.....         | 28   | SQ Mender .....   | 110           |             |      |             |      |
| MTH.....         | 29   |                   |               |             |      |             |      |
| <b>N</b>         |      | <b>T</b>          |               |             |      |             |      |
| NB .....         | 298  | TS .....          | 202           |             |      |             |      |
| NBR.....         | 298  |                   |               |             |      |             |      |
| NN .....         | 298  | <b>U</b>          |               |             |      |             |      |
| NR .....         | 298  | UC.....           | 202           |             |      |             |      |
|                  |      | UFS.....          | 205           |             |      |             |      |
| <b>P</b>         |      |                   |               |             |      |             |      |
| PDH .....        | 282  | <b>V</b>          |               |             |      |             |      |
| PFT .....        | 208  | VBL.....          | 226, 240, 244 |             |      |             |      |
| PFT-FL .....     | 209  | VBS.....          | 226, 240, 244 |             |      |             |      |
| PP .....         | 298  |                   |               |             |      |             |      |
| PTC.....         | 226  |                   |               |             |      |             |      |
| PTC-001-RB ..... | 226  |                   |               |             |      |             |      |
| PTH.....         | 29   |                   |               |             |      |             |      |
| PV .....         | 191  |                   |               |             |      |             |      |
| <b>R</b>         |      |                   |               |             |      |             |      |
| R6 .....         | 13   |                   |               |             |      |             |      |

**Note:** When seeking hose assembly and crimp specification information on any Parflex hose, visit: [www.parker.com/parflex](http://www.parker.com/parflex), click on the Services → Crimp Source folder.

## Offer of Sale

- 1. Terms and Conditions of Sale:** All descriptions, quotations, proposals, offers, acknowledgments, acceptances and sales of Seller's products are subject to and shall be governed exclusively by the terms and conditions stated herein. Buyer's acceptance of any offer to sell is limited to these terms and conditions. Any terms or conditions in addition to, or inconsistent with those stated herein, proposed by Buyer in any acceptance of an offer by Seller, are hereby objected to. No such additional, different or inconsistent terms and conditions shall become part of the contract between Buyer and Seller unless expressly accepted in writing by Seller. Seller's acceptance of any offer to purchase by Buyer is expressly conditioned upon Buyer's assent to all the terms and conditions stated herein, including any terms in addition to, or inconsistent with those contained in Buyer's offer. Acceptance of Seller's products shall in all events constitute such assent.
- 2. Payment:** Payment shall be made by Buyer net 30 days from the date of delivery of the items purchased hereunder. Amounts not timely paid shall bear interest at the rate of 1-1/2% for each month or a portion thereof that Buyer is late in making payment. Any claims by Buyer for omissions or shortages in a shipment shall be waived unless Seller receives notice thereof within 30 days after Buyer's receipt of the shipment.
- 3. Delivery:** Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.
- 4. Warranty:** Seller warrants that the items sold hereunder shall be free from defects in materials or workmanship for a period of 365 days from the date of shipment to Buyer, or 2,000 hours of use, whichever expires first. **THIS WARRANTY COMPRISSES THE SOLE AND ENTIRE WARRANTY PERTAINING TO ITEMS PROVIDED HEREUNDER. SELLER MAKES NO OTHER WARRANTY, GUARANTEE, OR REPRESENTATION OF ANY KIND WHATSOEVER. ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR PURPOSE, WHETHER EXPRESS, IMPLIED, OR ARISING BY OPERATION OF LAW, TRADE USAGE, OR COURSE OF DEALING ARE HEREBY DISCLAIMED.**

**NOTWITHSTANDING THE FOREGOING, THERE ARE NO WARRANTIES WHATSOEVER ON ITEMS BUILT OR ACQUIRED WHOLLY OR PARTIALLY, TO BUYER'S DESIGNS OR SPECIFICATIONS.**

- 5. Limitation Of Remedy: SELLER'S LIABILITY ARISING FROM OR IN ANY WAY CONNECTED WITH THE ITEMS SOLD OR THIS CONTRACT SHALL BE LIMITED EXCLUSIVELY TO REPAIR OR REPLACEMENT OF THE ITEMS SOLD, OR REFUND OF THE PURCHASE PRICE PAID BY BUYER, AT SELLER'S SOLE OPTION. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND OR NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS ARISING FROM OR IN ANY WAY CONNECTED WITH THIS AGREEMENT OR ITEMS SOLD HEREUNDER, WHETHER ALLEGED TO ARISE FROM BREACH OF CONTRACT, EXPRESS OR IMPLIED WARRANTY, OR IN TORT, INCLUDING WITHOUT LIMITATION, NEGLIGENCE, FAILURE TO WARN OR STRICT LIABILITY.**
- 6. Changes, Reschedules and Cancellations:** Buyer may request to modify the designs or specifications for items sold hereunder as well as the quantities and delivery dates thereof, or may request to cancel all or part of an order, however, no such requested modification or cancellation shall become part of the contract between Buyer and Seller unless accepted by Seller in a written amendment to this Agreement. Acceptance of any such requested modification or cancellation shall be at Seller's discretion, and shall be upon such terms and conditions as Seller may require.
- 7. Special Tooling:** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges therefor by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer therefor. Unless otherwise

agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

- 8. Buyer's Property:** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished to Seller by Buyer, or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.
- 9. Taxes:** Unless otherwise indicated, all prices and charges are exclusive of excise, sales, use, property, occupational or like taxes which may be imposed by any taxing authority upon the manufacture, sale or delivery of the items sold hereunder. If any such taxes must be paid by Seller, or if Seller is liable for the collection of such tax, the amount thereof shall be in addition to the amounts for the items sold. Buyer agrees to pay all such taxes or to reimburse Seller therefor upon receipt of its invoice. If Buyer claims exemption from any sales, use or other tax imposed by any taxing authority, Buyer shall save Seller harmless from and against any such tax, as well as any interest or penalties thereon which may be assessed if the items are held to be taxable.
- 10. Indemnity For Infringement of Intellectual Property Rights:** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Part 10. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets (hereinafter 'Intellectual Property Rights'). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that an item sold pursuant to this contract infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions, including all negotiations for settlement or compromise. If an item sold hereunder is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using said item, replace or modify said item so as to make it noninfringing, or offer to accept return of said item and return the purchase price less a reasonable allowance for depreciation.

Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to items delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any item sold hereunder. The foregoing provisions of this Part 10 shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

If a claim is based on information provided by Buyer or if the design for an item delivered hereunder is specified in whole or in part by Buyer, Buyer shall defend and indemnify Seller for all costs, expenses or judgements resulting from any claim that such item infringes any patent, trademark, copyright, trade dress, trade secret or any similar right.

- 11. Force Majeure:** Seller does not assume the risk of and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter 'Events of Force Majeure'). Events of Force Majeure shall include without limitation, accidents, acts of God, strikes or labor disputes, acts, laws, rules or regulations of any government or government agency, fires, floods, delays or failures in delivery of carriers or suppliers, shortages of materials and any other cause beyond Seller's control.
- 12. Entire Agreement/Governing Law:** The terms and conditions set forth herein, together with any amendments, modifications and any different terms or conditions expressly accepted by Seller in writing, shall constitute the entire Agreement concerning the items sold, and there are no oral or other representations or agreements which pertain thereto. This Agreement shall be governed in all respects by the law of the State of Ohio. No actions arising out of the sale of the items sold hereunder or this Agreement may be brought by either party more than two (2) years after the cause of action accrues.

The items described in this document are hereby offered for sale at



Parker Hannifin Corporation  
6035 Parkland Blvd.  
Cleveland, Ohio 44124-4141  
Telephone: (216) 896-3000  
Fax: (216) 896-4000  
[www.parker.com](http://www.parker.com)

## Parker Hannifin Corporation

### About Parker Hannifin Corporation

Parker Hannifin is a leading global motion-control company dedicated to delivering premier customer service. A Fortune 500 corporation listed on the New York Stock Exchange (PH), our components and systems comprise over 1,400 product lines that control motion in some 1,000 industrial and aerospace markets. Parker is the only manufacturer to offer its customers a choice of hydraulic, pneumatic, and electromechanical motion-control solutions. Our Company has the largest distribution network in its field, with over 7,500 distributors serving nearly 400,000 customers worldwide.

### Parker's Charter

To be a leading worldwide manufacturer of components and systems for the builders and users of durable goods. More specifically, we will design, market and manufacture products controlling motion, flow and pressure. We will achieve profitable growth through premier customer service.

### Product Information

North American customers seeking product information, the location of a nearby distributor, or repair services will receive prompt attention by calling the Parker Product Information Center at our toll-free number: 1-800-C-PARKER (1-800-272-7537). In Europe, call 00800-C-PARKER-H (00800-2727-5374).

**The Aerospace Group** is a leader in the development, design, manufacture and servicing of control systems and components for aerospace and related high-technology markets, while achieving growth through premier customer service.



**The Climate & Industrial Controls Group** designs, manufactures and markets system-control and fluid-handling components and systems to refrigeration, air-conditioning and industrial customers worldwide.



**The Fluid Connectors Group** designs, manufactures and markets rigid and flexible connectors, and associated products used in pneumatic and fluid systems.



**The Seal Group** designs, manufactures and distributes industrial and commercial sealing devices and related products by providing superior quality and total customer satisfaction.



**The Hydraulics Group** designs, produces and markets a full spectrum of hydraulic components and systems to builders and users of industrial and mobile machinery and equipment.



**The Filtration Group** designs, manufactures and markets quality filtration and clarification products, providing customers with the best value, quality, technical support, and global availability.



**The Automation Group** is a leading supplier of pneumatic and electro-mechanical components and systems to automation customers worldwide.



**The Instrumentation Group** is a global leader in the design, manufacture and distribution of high-quality critical flow components for worldwide process instrumentation, ultra-high-purity, medical and analytical applications.



# Fluid Connectors Group

## Regional Sales Offices & Service Centers

**Your complete source** for quality tube fittings, hose & hose fittings, brass fittings & valves, quick-disconnect couplings, and assembly tools, locally-available from a worldwide network of authorized distributors.

**Fittings & Couplings:** Available in inch and metric sizes covering SAE, BSP, DIN, GAZ, JIS and ISO thread configurations, manufactured from steel, stainless steel, brass, aluminum, nylon and thermoplastic.

**Hose, Tubing and Bundles:** Available in a wide variety of sizes and materials including rubber, wire-reinforced thermoplastic, hybrid and custom compounds.

**Worldwide Availability:** Parker operates Fluid Connectors manufacturing locations and sales offices throughout North America, South America, Europe and Asia-Pacific.

**For information**, contact the nearest Regional Sales Office listed, or **call toll-free:**  
**1-800-C-PARKER**  
(1-800-272-7537)

**Central Region**  
Sales Office & Service Center  
Hiawatha, IA  
(319) 393-1221  
(319) 393-1224 FAX

**Cleveland Region**  
Sales Office  
Cleveland, OH  
(216) 896-3000  
(216) 896-4022 FAX  
Service Center  
Toledo, OH  
(419) 878-7000  
(419) 878-7001 FAX

**Great Lakes Region**  
Sales Office  
Otsego, MI  
(269) 694-2550  
(269) 692-6634 FAX  
Service Center  
Toledo, OH  
(419) 878-7000  
(419) 878-7001 FAX  
Service Center  
Ft. Wayne, IN  
(260) 747-3111  
(260) 747-3026 FAX

**Minneapolis Region**  
Sales Office & Service Center  
Minneapolis, MN  
(952) 469-5000  
(952) 469-5729 FAX  
Service Center  
Oshkosh, WI  
(920) 426-8471  
(920) 426-8570 FAX

**Northeast Region**  
Sales Office & Service Center  
Trenton, NJ  
(609) 586-5151  
(609) 586-3149 FAX

**Pacific Region**  
Sales Office & Service Center  
Portland, OR  
(503) 283-1020  
(503) 283-2201 FAX  
Service Center  
Buena Park, CA  
(714) 522-8840  
(714) 994-1183 FAX

**Southeast Region**  
Sales Office & Service Center  
Greensboro, NC  
(336) 373-1761  
(336) 378-0913 FAX  
Service Center  
Conyers, GA  
(770) 929-0330  
(770) 929-0230 FAX

**Southwest Region**  
Sales Office & Service Center  
Mansfield, TX  
(817) 473-4431  
(817) 473-8078 FAX

**Canada**  
Sales Office & Service Center  
Grimsby, ON  
(905) 945-2274  
(905) 945-3946 FAX  
(Contact Grimsby for other Service Center locations.)



**Parker Hannifin Corporation**  
Parflex Division  
1300 North Freedom Street  
Ravenna, Ohio 44266  
[www.parker.com/parflex](http://www.parker.com/parflex)

