Flange-Seal Fitting

Parker’s new Flange-Seal™ fitting provides an efficient and economical method to connect a tube assembly to another tube line or hose assembly (see figure 1). It can replace the conventional O-ring face seal braze-type fitting. The elimination of the brazing operation provides several advantages, such as faster, cleaner and safer tube line fabrication, resulting in cost reduction opportunities. The Flange-Seal fitting also replaces the more expensive tube union connection.

Leak-Free Design

The Flange-Seal fitting utilizes Parker’s proven Parflange® process to create a 90° flange on the tube end. As shown in Figure 1, a bonded elastomeric seal is positioned between the Flange-Seal tube line and its mating tube/hose assembly. The seal is designed with rubber tabs on its outer diameter, allowing it to be securely positioned within the tube nut or hose swivel prior to assembly. When assembled, the seal is compressed between the two flat faces, providing a leak-tight connection (see Figure 2).

Parflange® Technology

Parker’s patented Parflange process utilizes an orbital spindle process that cold forms a 90° flat face on the end of tube (see Figure 3). For over ten years, it has been the preferred method of preparing tube ends for use with o-ring face seal fittings, virtually eliminating the brazing method. This same, proven technology can now be utilized to attach a male flat face fitting to a tube end, again eliminating another braze operation.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Advantage</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elastomeric Seal</td>
<td>Tolerant of surface imperfections</td>
<td>Provides leak-free connection</td>
</tr>
<tr>
<td>Parflange method of assembly</td>
<td>Several times faster than brazing</td>
<td>Reduces assembly cost</td>
</tr>
<tr>
<td></td>
<td>No special pre- and post-braze cleaning</td>
<td>Reduces tube preparation cost</td>
</tr>
<tr>
<td></td>
<td>No open flame or heat source required</td>
<td>Improves operator safety</td>
</tr>
<tr>
<td></td>
<td>No braze joint or potential leak path</td>
<td>Provides consistency in quality</td>
</tr>
<tr>
<td></td>
<td>Allows for the use of plated components, e.g.</td>
<td>Eliminates special corrosion-resistant</td>
</tr>
<tr>
<td></td>
<td>fitting and tubing</td>
<td>post-treatment</td>
</tr>
<tr>
<td>Rubber tabs on seal</td>
<td>Aligns and retains the seal within nut</td>
<td>Assures a more positive and reliable seal</td>
</tr>
<tr>
<td>Direct tube to tube/hose connection</td>
<td>Replacement of union fitting</td>
<td>Reduces number of seal points and component cost</td>
</tr>
</tbody>
</table>
Specifications

Rated Pressure: Refer to LHP chart below
Material: Steel, zinc gold chromate plating
Seal Material: NBR (Nitrile), 90 durometer
Parflange Tooling:
  Pin: Standard 90° Parflange pin
  Die: Uniquely designed for Flange-Seal fitting
Test Requirements:
The Flange-Seal fitting has been tested in accordance with SAE J1453, meeting or exceeding the performance requirements of impulse, leakage, burst and over-torque.

Recommended Assembly Torque

<table>
<thead>
<tr>
<th>Fitting Dash Size</th>
<th>Thread Size</th>
<th>Assembly Torque (+10% -0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.-lb.</td>
<td>ft.-lb.</td>
</tr>
<tr>
<td>4</td>
<td>220</td>
<td>18</td>
</tr>
<tr>
<td>6</td>
<td>360</td>
<td>30</td>
</tr>
<tr>
<td>8</td>
<td>480</td>
<td>40</td>
</tr>
<tr>
<td>10</td>
<td>720</td>
<td>60</td>
</tr>
<tr>
<td>12</td>
<td>1020</td>
<td>85</td>
</tr>
<tr>
<td>16</td>
<td>1320</td>
<td>110</td>
</tr>
</tbody>
</table>

Flange-Seal Fitting
LHP

<table>
<thead>
<tr>
<th>Tube Fitting Part #</th>
<th>Tube O.D. (inch)</th>
<th>Tube End Thread UN/UNF-2A</th>
<th>D Drill (inch)</th>
<th>H Hex (inch)</th>
<th>L (inch)</th>
<th>Standard From Stock Dynamic Pressure (psi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 LHP</td>
<td>1/4</td>
<td>9/16-18</td>
<td>1/4</td>
<td>5/8</td>
<td>0.59</td>
<td>9200</td>
</tr>
<tr>
<td>6 LHP</td>
<td>3/8</td>
<td>11/16-16</td>
<td>3/8</td>
<td>3/4</td>
<td>0.69</td>
<td>9200</td>
</tr>
<tr>
<td>8 LHP</td>
<td>1/2</td>
<td>13/16-16</td>
<td>1/2</td>
<td>7/8</td>
<td>0.79</td>
<td>9200</td>
</tr>
<tr>
<td>10 LHP</td>
<td>5/8</td>
<td>1-14</td>
<td>5/8</td>
<td>1 1/16</td>
<td>0.95</td>
<td>6000</td>
</tr>
<tr>
<td>12 LHP</td>
<td>3/4</td>
<td>1 3/16-12</td>
<td>3/4</td>
<td>1 1/4</td>
<td>1.00</td>
<td>6000</td>
</tr>
<tr>
<td>16 LHP</td>
<td>1</td>
<td>1 7/16-12</td>
<td>1</td>
<td>1 1/2</td>
<td>1.02</td>
<td>6000</td>
</tr>
</tbody>
</table>

Bonded Seal
PLS

<table>
<thead>
<tr>
<th>Seal Part #</th>
<th>Fitting Dash Size</th>
<th>Tube O.D. (inch)</th>
<th>ID (inch)</th>
<th>W (inch)</th>
<th>Standard From Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>4PLS</td>
<td>4</td>
<td>1/4</td>
<td>0.23</td>
<td>0.08</td>
<td>N0702*</td>
</tr>
<tr>
<td>6PLS</td>
<td>6</td>
<td>3/8</td>
<td>0.34</td>
<td>0.08</td>
<td>•</td>
</tr>
<tr>
<td>8PLS</td>
<td>8</td>
<td>1/2</td>
<td>0.46</td>
<td>0.08</td>
<td>•</td>
</tr>
<tr>
<td>10PLS</td>
<td>10</td>
<td>5/8</td>
<td>0.61</td>
<td>0.08</td>
<td>•</td>
</tr>
<tr>
<td>12PLS</td>
<td>12</td>
<td>3/4</td>
<td>0.78</td>
<td>0.08</td>
<td>•</td>
</tr>
<tr>
<td>16PLS</td>
<td>16</td>
<td>1</td>
<td>1.00</td>
<td>0.08</td>
<td>•</td>
</tr>
</tbody>
</table>

*Nitrile (NBR)
**Fluorocarbon
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).

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