PermaSeal® Crimp Style Fitting System

Two-Piece Unit for Maximum Working Pressure
Flexible Components developed the PermaSeal® Crimp Style fitting system to enable a hose assembly to be used to the maximum working pressure of the particular hose style and size. The two-piece unit — fitting insert (stem) and crimp ferrule (collar) — is 360º radially compression crimped to hose for a positive lock.

Fittings are locked to the Chemfluor® fluoropolymer inner tube with fitting stem grooves. The crimp ferrule compresses the reinforcing braid or rubber cover and Chemfluor® tube onto the hose barb, assuring a tight liquid/gas seal. Ferrule and stem are positively locked together with a dog-lock groove.

This carefully engineered design means hose assemblies will exceed hose pressure rating without fitting pull-off or blow-off.

Note: All PermaSeal® crimp ferrules (collars) are manufactured from 304 stainless steel.

Important:
All pressure ratings given are for fittings only. Consult actual hose pressure rating; use lower of hose/fitting combination to determine MAWP (maximum working pressure).

Sanitary style fittings (not shown) of 316L stainless steel incorporate an internal chamfer for a smooth transitional flow that minimizes pressure drop and the potential for bacteria entrapment.

Smooth internal finish.

PermaSeal® Crimp Style fittings assure a total leak-proof seal between the Chemfluor® fluoropolymer inner tube and the fitting insert, even at extreme temperature and pressure variations.

Smooth radial crimp won’t snag on equipment or cut workers’ hands.

Dog-lock engagement assures that ferrule and stem are totally locked together as an assembly.

End of hose is fully protected; no foreign material can come into contact. The cover prevents abrasion and won’t allow hose to catch on sharp objects.

types of PermaSeal® fittings

NPT

Flange

Sanitary

Cam and Groove

Instrumentation

Miscellaneous
All male and female NPT fittings are stocked in type 316 stainless steel. Numerous sizes are available in zinc-plated carbon steel; some are stocked in Monel®. Many have been manufactured of various metal alloys — including brass, Hastelloy® grades, titanium or alloy 20 CB-3 — as well as plastic. Consult factory for more information.

Flexible Components NPT fittings can be manufactured to ISO standards with either a 24° or 60° truncated cone; British BSPT (British Standard Pipe Taper) and BSPP (British Standard Pipe Parallel) are offered. J.I.S. (Japanese Industrial Standard) fittings have also been produced.

**pipe thread fittings products**

- J.I.C. Female Swivel, Style 02
- Male NPT, Style 03
- Female NPT, Style 06 (Hex)/Style 05 (Round with Wrench Flats)
- J.I.C. Adapter Union Male, Style 08

**NPT Thread Sizing Guide**

To obtain the nominal dimensions of an NPT thread, place the threaded end on the appropriate circle and read the diameter.
PermaSeal® J.I.C.
J.I.C. Female Swivel • Style 02

**description**
- J.I.C. female
- SAE J514-37° sealing surface
- Swivel fitting

**standards**
- Joint Industrial Conference SAE J514

**materials**
- 316 stainless steel wetted surface
- 304 stainless steel swivel nut
- Standard zinc-plated steel available for WCS/BCS series hose (1/2" - 2")

**alternative styles**
- Can be supplied with different materials in the wetted surface area; consult factory for more details

**technical data**
- 37° sealing surface machined to accept SAE taper of 45° in all sizes except 3/8" (-6) and 3/4" (-12), where threads differ
- Utilizing a female J.I.C. swivel style fitting with a J.I.C. by male pipe adapter results in a union fitting, enabling male by male or male by female FNPT connections to be made

**J.I.C. Female Swivel fitting specifications • Style 02**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inside Diameter</th>
<th>A Fitting Length</th>
<th>H Hex Size</th>
<th>I Inner Dia. at Hose</th>
<th>J.I.C. Thread</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
</tr>
<tr>
<td>1602025KN</td>
<td>0.19 3.18</td>
<td>1.29 32.77</td>
<td>0.49 10.92</td>
<td>0.10 2.54</td>
<td>5/8 24</td>
</tr>
<tr>
<td>1604025KN</td>
<td>0.25 6.35</td>
<td>1.38 35.05</td>
<td>0.56 14.22</td>
<td>0.19 4.83</td>
<td>7/16 20</td>
</tr>
<tr>
<td>1604025USKN</td>
<td>0.25 6.35</td>
<td>1.43 36.32</td>
<td>0.69 15.88</td>
<td>0.19 4.83</td>
<td>9/16 20</td>
</tr>
<tr>
<td>1606025KN</td>
<td>0.38 9.53</td>
<td>1.68 42.67</td>
<td>0.68 17.27</td>
<td>0.30 7.62</td>
<td>9/16 18</td>
</tr>
<tr>
<td>1608025KN</td>
<td>0.50 12.70</td>
<td>2.02 51.81</td>
<td>0.87 22.10</td>
<td>0.40 10.16</td>
<td>5/4 16</td>
</tr>
<tr>
<td>1608025USKN</td>
<td>0.50 12.70</td>
<td>2.15 54.61</td>
<td>1.00 25.40</td>
<td>0.40 10.16</td>
<td>7/8 14</td>
</tr>
<tr>
<td>3812025KN</td>
<td>0.75 19.05</td>
<td>2.59 65.79</td>
<td>1.35 34.75</td>
<td>0.65 16.51</td>
<td>5/16 12</td>
</tr>
<tr>
<td>3816025KN</td>
<td>1.00 25.40</td>
<td>2.68 68.07</td>
<td>1.50 38.10</td>
<td>0.87 22.10</td>
<td>5/8 12</td>
</tr>
<tr>
<td>3820025KN</td>
<td>1.25 31.75</td>
<td>3.81 96.77</td>
<td>2.25 57.15</td>
<td>1.30 22.94</td>
<td>7/8 12</td>
</tr>
<tr>
<td>3824025KN</td>
<td>1.50 38.10</td>
<td>3.81 96.77</td>
<td>2.25 57.15</td>
<td>1.37 34.80</td>
<td>7/8 12</td>
</tr>
<tr>
<td>3832025KN</td>
<td>2.00 50.80</td>
<td>4.75 120.65</td>
<td>2.88 78.95</td>
<td>1.75 44.45</td>
<td>2-1/2 12</td>
</tr>
</tbody>
</table>

![Style 02 Diagram](image-url)
PermaSeal® NPT Fittings
Male NPT • Style 03

**description**
- Fixed male hex style
- Pipe threads: NPTF design

**standards**
- American National Standard — NPTF hex style

**materials**
- 316 stainless steel
- Monel®
- Brass
- Zinc-plated carbon steel
- Hastelloy®
- Titanium
- Alloy 20 CB-3
- Plastics

**alternative styles**
- Metric
- BSPT/ BSPP
- J.I.S. (special order)

**technical data**
- 2-1/2" and larger provided with milled wrench flats
- Male pipe threads (MNPT) are manufactured to American National Standard taper pipe thread specifications — ANSI B2.1
- Pipe thread fittings can be manufactured to ISO standards with either a 24° or 60° truncated cone
- British BSPT (British Standard Pipe Taper) and BSPP (British Standard Pipe Parallel) are also offered

**J.I.S. (Japanese Industrial Standard) fittings have also been produced**
- NPSH coupling threads are available in specific sizes. It is possible to connect the swivel fitting of the NPSH to a standard NPT tapered thread using a gasket to seal the joint. Consult factory for availability.

**Male NPT fitting specifications • Style 03**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inside Diameter</th>
<th>A Fitting Length</th>
<th>H Hex Size</th>
<th>I Inner Dia. at Hose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
</tr>
<tr>
<td>16G0203XKO</td>
<td>0.13</td>
<td>3.38</td>
<td>1.26</td>
<td>32.00</td>
</tr>
<tr>
<td>16G0403XKO</td>
<td>0.25</td>
<td>6.35</td>
<td>1.72</td>
<td>48.69</td>
</tr>
<tr>
<td>16G0603XKO</td>
<td>0.38</td>
<td>9.53</td>
<td>1.80</td>
<td>46.64</td>
</tr>
<tr>
<td>16G0803XKO</td>
<td>0.50</td>
<td>12.70</td>
<td>2.24</td>
<td>56.77</td>
</tr>
<tr>
<td>38G1203XKO</td>
<td>0.75</td>
<td>19.05</td>
<td>2.51</td>
<td>69.65</td>
</tr>
<tr>
<td>38G1603XKO</td>
<td>1.00</td>
<td>25.40</td>
<td>2.91</td>
<td>78.91</td>
</tr>
<tr>
<td>38G2003XKO</td>
<td>1.25</td>
<td>31.75</td>
<td>3.69</td>
<td>93.79</td>
</tr>
<tr>
<td>38G2403XKO</td>
<td>1.50</td>
<td>38.30</td>
<td>3.92</td>
<td>99.57</td>
</tr>
<tr>
<td>38G3203XKO</td>
<td>2.00</td>
<td>50.80</td>
<td>4.60</td>
<td>116.84</td>
</tr>
<tr>
<td>38G4003XKO</td>
<td>2.50</td>
<td>63.50</td>
<td>C.F.</td>
<td>162.56</td>
</tr>
<tr>
<td>38G4803XKO</td>
<td>3.00</td>
<td>76.20</td>
<td>C.F.</td>
<td>162.56</td>
</tr>
<tr>
<td>38G6003XKO</td>
<td>4.00</td>
<td>100.60</td>
<td>C.F.</td>
<td>193.25</td>
</tr>
</tbody>
</table>

*Important: Zinc plated carbon steel available in stock for 1/2" to 2" WCS/BCS Series Hose only.*
PermaSeal® NPT Fittings
Female NPT • Style 05 (Round with Wrench Flats)/ Style 06 (Hex)

description
• Fixed female hex style
• Pipe threads: NPTF design

standards
• American National Standard — NPTF hex style

materials

standard
• 316 stainless steel

non-standard (special order)
• Monel®
• Brass
• Zinc-plated carbon steel
• Hastelloy®
• Titanium
• Alloy 20 CB-3
• Plastics: PVDF, polypropylene

alternative styles
• Metric
• BSPT / BSPP
• J.I.S. (all as special orders)

technical data
• Optional design may incorporate wrench flats milled on round bar stock in larger sizes; change part no. designation to Style 05 382405SKO (1 1/2”) or 383205SKO (2”)
• NPSH coupling threads are available in specific sizes. It is possible to connect the swivel fitting of the NPSH to a standard NPT tapered thread using a gasket to seal the joint. Consult factory for availability.
• Female pipe threads (F/NPT) are manufactured to American National Standard taper pipe thread specifications — ANSI B2.1
• Pipe thread fittings can be manufactured to ISO standards with either a 24° or 60° truncated cone
• British BSPT (British Standard Pipe Taper) and BSPP (British Standard Pipe Parallel) are also offered
• J.I.S. (Japanese Industrial Standard) fittings have also been produced

Female NPT Hex fitting specifications • Style 06

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inside Diameter</th>
<th>A Fitting Length</th>
<th>H Hex Size</th>
<th>I Inner Dia. at Hose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
</tr>
<tr>
<td>160406SKO</td>
<td>0.25</td>
<td>6.45</td>
<td>1.66</td>
<td>42.16</td>
</tr>
<tr>
<td></td>
<td>0.35</td>
<td>8.95</td>
<td>1.81</td>
<td>45.97</td>
</tr>
<tr>
<td>160606SKO</td>
<td>0.38</td>
<td>9.53</td>
<td>1.81</td>
<td>45.97</td>
</tr>
<tr>
<td></td>
<td>0.88</td>
<td>22.23</td>
<td>0.98</td>
<td>9.13</td>
</tr>
<tr>
<td>160806SKO</td>
<td>0.50</td>
<td>12.70</td>
<td>2.22</td>
<td>56.26</td>
</tr>
<tr>
<td></td>
<td>1.18</td>
<td>28.58</td>
<td>0.98</td>
<td>9.13</td>
</tr>
<tr>
<td>381206SKO</td>
<td>0.75</td>
<td>19.05</td>
<td>2.65</td>
<td>67.18</td>
</tr>
<tr>
<td></td>
<td>1.21</td>
<td>31.75</td>
<td>0.69</td>
<td>16.00</td>
</tr>
<tr>
<td>381606SKO</td>
<td>1.00</td>
<td>25.40</td>
<td>3.00</td>
<td>76.20</td>
</tr>
<tr>
<td></td>
<td>1.50</td>
<td>38.10</td>
<td>0.85</td>
<td>21.59</td>
</tr>
</tbody>
</table>

Female NPT Round with Wrench Flats fitting specifications • Style 05

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inside Diameter</th>
<th>A Fitting Length</th>
<th>H Hex Size</th>
<th>I Inner Dia. at Hose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
</tr>
<tr>
<td>382405SKO</td>
<td>1.50</td>
<td>38.10</td>
<td>4.23</td>
<td>106.93</td>
</tr>
<tr>
<td></td>
<td>2.35</td>
<td>59.69</td>
<td>1.87</td>
<td>34.80</td>
</tr>
<tr>
<td>383205SKO</td>
<td>2.00</td>
<td>50.80</td>
<td>4.92</td>
<td>124.97</td>
</tr>
<tr>
<td></td>
<td>2.75</td>
<td>69.85</td>
<td>1.75</td>
<td>44.45</td>
</tr>
</tbody>
</table>
PermaSeal® J.I.C.
J.I.C. Adapter Union Male • Style 08

## Description
- Fixed male
- Swivel male/female union style
- Pipe threads: NPTF design

## Standards
- American National Standard — NPTF hex style

## Materials
- 316 stainless steel wetted surface
- 304 stainless steel ferrule and nut

## Optional Materials
- Monel®
- Brass
- Zinc-plated carbon steel

## Technical Data
- Also available Female Adapter Union, Style 07 (1/8” - 1”); consult factory for availability
- Utilizing a female J.I.C. swivel style fitting with a J.I.C. by male adapter results in a union fitting, enabling male by male or male by female FNPT connections to be made

## J.I.C. Adapter Union Male Fitting Specifications • Style 08

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size in.</th>
<th>Fitting Inner Diameter in.</th>
<th>H Hex 1 Size in.</th>
<th>D Hex 1 Size in.</th>
<th>D Hex 2 Size in.</th>
<th>A Fitting Length in.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1602085K0</td>
<td>0.03</td>
<td>0.33</td>
<td>0.10</td>
<td>2.54</td>
<td>0.56</td>
<td>0.56</td>
</tr>
<tr>
<td>1604085K0</td>
<td>0.25</td>
<td>6.35</td>
<td>0.19</td>
<td>4.83</td>
<td>0.62</td>
<td>0.62</td>
</tr>
<tr>
<td>1606085K0</td>
<td>0.38</td>
<td>9.65</td>
<td>0.30</td>
<td>7.62</td>
<td>0.64</td>
<td>0.64</td>
</tr>
<tr>
<td>1608085K0</td>
<td>0.50</td>
<td>12.7</td>
<td>0.40</td>
<td>10.16</td>
<td>0.87</td>
<td>0.87</td>
</tr>
<tr>
<td>3812085K0</td>
<td>0.75</td>
<td>19.05</td>
<td>0.65</td>
<td>16.31</td>
<td>1.25</td>
<td>1.25</td>
</tr>
<tr>
<td>3816085K0</td>
<td>1.00</td>
<td>25.40</td>
<td>0.87</td>
<td>22.10</td>
<td>1.50</td>
<td>1.50</td>
</tr>
<tr>
<td>3824085K0</td>
<td>1.50</td>
<td>38.10</td>
<td>1.37</td>
<td>34.80</td>
<td>2.16</td>
<td>2.16</td>
</tr>
<tr>
<td>3832085K0</td>
<td>2.00</td>
<td>50.80</td>
<td>1.75</td>
<td>44.45</td>
<td>2.88</td>
<td>2.88</td>
</tr>
</tbody>
</table>

⚠️ Important:
Consult factory for Style 07 female NPT union availability and technical information.
PermaSeal® flange fittings feature a 316L stainless steel machined stub end, which is far more durable and corrosion resistant than industry standard 304 stainless steel. Thanks to the unique swivel design of the stub end and the fact that the flange “backs up” the stub end and is not in direct contact with corrosive media (as is common with fixed flange designs), the user has the option to choose less costly epoxy-coated carbon steel or low cost plastic flanges.

The machined stub end has an extremely smooth internal surface finish that surpasses the quality normally found with some “as cast” or “mill finish” stainless steel stub ends. In fact, Flexible Components stainless steel stub ends are machined to Type A Schedule 40 or thicker standards.

### flange fittings products

- Flange Retainer, Lap-Joint
  - Style, 316L Stainless Steel, Style 12
- Flange Retainer, Lap-Joint
  - Style, Chemfluor® PFA Encapsulated, Style 12T

### Nominal Flange Dimensions

<table>
<thead>
<tr>
<th>Size NPS inches</th>
<th>Class 150</th>
<th>Class 300</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Outer Diameter</td>
<td>Thickness</td>
</tr>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
</tr>
<tr>
<td>3/4</td>
<td>3-1/2</td>
<td>98.9</td>
</tr>
<tr>
<td>1</td>
<td>4-1/4</td>
<td>127.00</td>
</tr>
<tr>
<td>1-1/2</td>
<td>7-1/2</td>
<td>152.4</td>
</tr>
<tr>
<td>2</td>
<td>3-1/4</td>
<td>177.8</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>228.6</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>279.4</td>
</tr>
<tr>
<td>8</td>
<td>15-1/2</td>
<td>342.9</td>
</tr>
</tbody>
</table>
PermaSeal® Flange Fittings
Flange Retainer, Lap-Joint Style • 316L Stainless Steel • Style 12

description

• Swivel flange, lap-joint style

standards

• ANSI B16.5 150# and 300# ratings
• ASTM A.182
• Optional:
  - DIN P/N 16
  - BS 10 table E
  - BS 4504
  - J.I.S. and other various international specifications

materials

• Flange insert (stub end): 316L stainless steel
  - Polypropylene or PVDF (Kynar®)
    available on special order

• Flange: epoxy coated steel, 316 or 304 stainless steel, PVDF (Kynar®), polypropylene or PVC;
  consult factory for availability

alternative styles

• Can be supplied with different materials in the wetted surface area; consult factory

technical data

• Unique swivel design of stub end allows use of less costly epoxy-coated carbon steel or low cost plastic flanges
  - Because the flange “backs up” the stub end and is not in direct contact with corrosive media (as is common with fixed flange designs)

• Machined stub end has an extremely smooth internal surface finish that surpasses the quality normally found with some “as cast” or “mill finish” stainless steel stub ends
  - Flexible Components stainless steel stub ends are machined to Type A Schedule 40 or thicker standards

316L Stainless Steel Flange Retainer fitting specifications • Style 12

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Fitting Inner Dia.</th>
<th>Flange Inner Dia.</th>
<th>D Flare Dimensions</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1603125KO</td>
<td>0.50</td>
<td>12.70</td>
<td>9.91</td>
<td>3.50</td>
<td>88.90</td>
</tr>
<tr>
<td>3B12125KO</td>
<td>0.75</td>
<td>19.05</td>
<td>16.05</td>
<td>3.88</td>
<td>98.55</td>
</tr>
<tr>
<td>3B16125KO</td>
<td>1.00</td>
<td>25.40</td>
<td>21.59</td>
<td>4.25</td>
<td>107.95</td>
</tr>
<tr>
<td>3B24125KO</td>
<td>1.50</td>
<td>38.10</td>
<td>34.80</td>
<td>5.00</td>
<td>127.00</td>
</tr>
<tr>
<td>3B32125KO</td>
<td>2.00</td>
<td>50.80</td>
<td>44.46</td>
<td>6.00</td>
<td>152.40</td>
</tr>
<tr>
<td>3B40125KO</td>
<td>2.50</td>
<td>63.50</td>
<td>55.88</td>
<td>7.00</td>
<td>177.80</td>
</tr>
<tr>
<td>3B48125KO</td>
<td>3.00</td>
<td>76.20</td>
<td>71.12</td>
<td>7.50</td>
<td>190.50</td>
</tr>
<tr>
<td>3B64125KO</td>
<td>4.00</td>
<td>101.60</td>
<td>95.25</td>
<td>9.00</td>
<td>228.60</td>
</tr>
</tbody>
</table>

*C/F – consult factory
PermaSeal® Flange Fittings
Flange Retainer, Lap-Joint Style • Chemfluor® PFA Encapsulated • Style 12T

**description**
- Swivel flange, lap-joint style, Chemfluor® PFA encapsulated
- Constructed of Chemfluor® PFA individually molded around stainless steel base material
- Minimum Chemfluor® PFA thickness on any portion of fitting is .050”
- Chemfluor® PFA is dovetail-locked to flange faces, and secured internally and throughout the serrated areas of the fitting by multiple drillings

**standards**
- ANSI B16.5 150# and 300# rating

**materials**
- Flange insert (stub end): PFA encapsulated stainless steel

**technical data**
- Ideal applications include all-purpose chemical transfer, pharmaceutical preparations, deionized water transfer, and handling of etching solutions
- Precision moldings assure uniformity
- Each style fitting of the same size has identical orifice openings, eliminating potential entrainment at fitting connections
- Generally larger openings than conventional lined fittings, for maximum flow rates
- Because Chemfluor® PFA is locked to stainless steel base, liner "flare-away" on flange faces is eliminated
- Ultimate corrosion and contamination resistance

**Chemfluor® PFA Encapsulated Flange Retainer fitting specifications • Style 12T**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Fitting Inner Dia.</th>
<th>Flange Outer Dia.</th>
<th>D Flare Dimensions</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>381212T00</td>
<td>0.75</td>
<td>19.05</td>
<td>0.50</td>
<td>12.70</td>
<td>9.88</td>
</tr>
<tr>
<td>381612T00</td>
<td>1.00</td>
<td>25.40</td>
<td>0.66</td>
<td>16.76</td>
<td>4.25</td>
</tr>
<tr>
<td>382412T00</td>
<td>1.50</td>
<td>38.10</td>
<td>1.15</td>
<td>29.22</td>
<td>5.00</td>
</tr>
<tr>
<td>383212T00</td>
<td>2.00</td>
<td>50.80</td>
<td>1.54</td>
<td>40.13</td>
<td>6.00</td>
</tr>
<tr>
<td>384012T00</td>
<td>2.50</td>
<td>63.50</td>
<td>2.10</td>
<td>50.84</td>
<td>7.00</td>
</tr>
<tr>
<td>384812T00</td>
<td>3.00</td>
<td>76.20</td>
<td>2.50</td>
<td>63.50</td>
<td>7.50</td>
</tr>
</tbody>
</table>

**Stainless steel retainer dimensions**
- Chemfluor® PFA internal surface to external areas
- Maximum I.D.
- Ferrule lock groove
- Chemfluor® PFA encapsulated insert
PermaSeal® Sanitary Fittings

Standard material utilized in the manufacture of sanitary hose fittings is 316L stainless steel.

To assure aseptic integrity and guarantee sterility of all hose assemblies, Flexible Components’ sanitary fittings are machined internally to a surface finish with a maximum roughness average (Ra) of 15 or better. For applications requiring even smoother material surfaces, fittings electropolished to 8 Ra can be supplied.

The internal surface is also chamfered to prevent material build-up or entrapment at the end-point where the fitting stem contacts the Chemfluor® fluoropolymer inner tube.


These schematics are designed to eliminate sizing errors when specifying sanitary fittings. The fitting outside diameter (0.984") is the same for 1/2" and 3/4" ID Mini fittings (Style 11). Likewise, the fitting outside diameter (1.984") is the same for the 1" and 1-1/2" ID sanitary clamp style fittings.

Benefits of Electropolishing for Sanitary Fittings

- Smooths surface roughness, lowering the coefficient of friction and minimizing the area exposed to microbial growth or corrosive attack
- Passivates surface, providing additional chemical resistance
- Removes any contamination from the fitting surface
- Helps with fitting inspection by exposing any potential defects in the surface that may have been camouflaged by mechanical polishing

Flexible Components stocks electropolished versions of a number of popular fitting styles and sizes for immediate shipment.
PermaSeal® Sanitary Fittings
Sanitary Clamp/Step Up • Style 10 / 10U

**description**
- Jump (or step-up) styles are designed with “blended” internal surfaces to prevent material build-up or entrapment
- Internal surface chamfered to prevent material build-up or entrapment at end-point where fitting stem contacts Chemfluor® fluoropolymer inner tube

**standards**
- To industry standards
- Gasket face dimensions are standard to industry specifications
- BPE compliant fittings available

**materials**
- 316L stainless steel

**surface finish**
- Average 15 Ra or better
- For applications requiring even smoother material surfaces, fittings electropolished to 10 Ra can be supplied

**technical data**

**temperature/pressure ratings**
- Pressure and temperature ratings of Flexible Components’ sanitary assemblies are dependent on clamp pressure ratings and gasket material temperature ratings
  - **Clamps:**
    - Standard weight style: 150 PSI @ 70°F (21°C), 125 PSI @ 250°F (121°C)
    - Heavyweight style: 500 PSI @ 70°F (21°C), 125 PSI @ 250°F (121°C)
    - High pressure bolt style: 1500 PSI @ 70°F (21°C), 125 PSI @ 250°F (121°C)
  - **Gaskets:**
    - Above 250°F (121°C), PTFE, Viton® or silicone gaskets are recommended

**Sanitary Clamp/Step Up fitting specifications • Style 10 / 10U**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Fitting Inner Diameter</th>
<th>D Flange Diameter</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
<td>in.</td>
<td>mm</td>
</tr>
<tr>
<td>160410SKO</td>
<td>0.25</td>
<td>6.35</td>
<td>0.19</td>
<td>4.89</td>
</tr>
<tr>
<td>160410SKO</td>
<td>0.38</td>
<td>9.53</td>
<td>0.28</td>
<td>7.11</td>
</tr>
<tr>
<td>160410SKO</td>
<td>0.50</td>
<td>12.70</td>
<td>0.38</td>
<td>9.53</td>
</tr>
<tr>
<td>160810USK</td>
<td>0.50</td>
<td>12.70</td>
<td>0.38</td>
<td>9.53</td>
</tr>
<tr>
<td>381210SKO</td>
<td>0.75</td>
<td>19.05</td>
<td>0.65</td>
<td>16.51</td>
</tr>
<tr>
<td>381210USK</td>
<td>0.75</td>
<td>19.05</td>
<td>0.65</td>
<td>16.51</td>
</tr>
<tr>
<td>381610SKO</td>
<td>1.00</td>
<td>25.40</td>
<td>0.87</td>
<td>22.10</td>
</tr>
<tr>
<td>381610USK</td>
<td>1.00</td>
<td>25.40</td>
<td>0.87</td>
<td>22.10</td>
</tr>
<tr>
<td>382410SKO</td>
<td>1.50</td>
<td>38.10</td>
<td>1.37</td>
<td>34.67</td>
</tr>
<tr>
<td>382410USK</td>
<td>1.50</td>
<td>38.10</td>
<td>1.37</td>
<td>34.67</td>
</tr>
<tr>
<td>383210SKO</td>
<td>2.00</td>
<td>50.80</td>
<td>1.75</td>
<td>44.45</td>
</tr>
<tr>
<td>384010SKO</td>
<td>2.50</td>
<td>63.30</td>
<td>2.22</td>
<td>56.99</td>
</tr>
<tr>
<td>384410SKO</td>
<td>3.00</td>
<td>76.20</td>
<td>2.80</td>
<td>71.32</td>
</tr>
<tr>
<td>386410SKO</td>
<td>4.00</td>
<td>101.60</td>
<td>3.75</td>
<td>95.25</td>
</tr>
</tbody>
</table>

⚠️ Important:
Drawings shown are not BPE compliant
PermaSeal® Sanitary Fittings
90° Elbow Full Size/Mini • Style 10L/11L

**description**
- 90° sanitary elbows in mini and sanitary clamp styles
- Sanitary connection matches hose barb size

**standards**
- To industry standards
- Gasket face dimensions are standard to industry specifications
- BPE compliant fittings available

**materials**
- 316L stainless steel

**surface finish**
- Average 15 Ra or better

**alternative styles**
- 1/2” and 3/4” are mini style (straight sizes only)
- 1” through 4” sanitary clamp style (straight sizes only; no “step up” sizes available)
- Standard in 90° elbow configurations (45° elbows available by special order)
- Electropolished version available

**technical data**
- Reduces strain on hoses by eliminating 90° hose configuration
- Eliminates entrapment, reduces connection points and potential bacteria growth areas
- Smaller installed dimensional envelope

**temperature/pressure ratings**
- Pressure and temperature ratings of Flexible Components’ sanitary assemblies are dependent on clamp pressure ratings and gasket material temperature ratings

**Clamps:**
- Standard weight style: 150 PSIG @ 70°F (21°C), 125 PSIG @ 250°F (121°C)
- Heavyweight style: 500 PSIG @ 70°F (21°C), 125 PSIG @ 250°F (121°C)
- High pressure bolt style: 1500 PSIG @ 70°F (21°C), 125 PSIG @ 250°F (121°C)

**Gaskets:**
- Above 250°F (121°C), PTFE, Viton® or silicone gaskets are recommended

---

**90° Elbow Full Size/Mini fitting specifications • Style 10L/11L**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>A Centerline to Fitting End</th>
<th>B Centerline to Face</th>
<th>C Wall Thickness</th>
<th>D Fitting Outer Dia.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
</tr>
<tr>
<td>160410LSK</td>
<td>0.50</td>
<td>12.70</td>
<td>4.47</td>
<td>113.41</td>
<td>1.63</td>
</tr>
<tr>
<td>161210LSK</td>
<td>0.75</td>
<td>19.05</td>
<td>4.79</td>
<td>120.02</td>
<td>1.63</td>
</tr>
<tr>
<td>381610LSK</td>
<td>1.00</td>
<td>25.40</td>
<td>4.90</td>
<td>124.93</td>
<td>2.00</td>
</tr>
<tr>
<td>381215LSK</td>
<td>1.50</td>
<td>38.10</td>
<td>6.36</td>
<td>167.54</td>
<td>2.75</td>
</tr>
<tr>
<td>380820LSK</td>
<td>2.00</td>
<td>50.80</td>
<td>8.02</td>
<td>209.58</td>
<td>3.50</td>
</tr>
<tr>
<td>380425LSK</td>
<td>2.50</td>
<td>63.50</td>
<td>C/F</td>
<td>C/F</td>
<td>4.25</td>
</tr>
<tr>
<td>380040LSK</td>
<td>3.00</td>
<td>76.20</td>
<td>10.16</td>
<td>258.04</td>
<td>5.00</td>
</tr>
<tr>
<td>380640LSK</td>
<td>4.00</td>
<td>101.60</td>
<td>12.61</td>
<td>320.24</td>
<td>6.63</td>
</tr>
</tbody>
</table>
PermaSeal® Sanitary Fittings
Mini Sanitary Clamp • Style 11

**description**
- Mini/fractional size sanitary fitting

**standards**
- To industry standards
- Interchangeable with ALL standard manufacturers’ designs
- BPE compliant fittings available

**materials**

**standard**
- 316L stainless steel

**non-standard (special order)**
- Polypropylene
- PVDF
- Titanium
- Other materials

**surface finish**
- Average 15 Ra or better

**alternative styles**
- 1/4”, 3/8” and 1/2” hose barbs are 1/2” mini-sized
- Consult factory for “step-up” for 1/4”, 3/8” and 1/2” hose barb to 3/4” mini-size sanitary
- 3/4” hose barb is 3/4” mini-sized
- Standard in 90° elbow configurations (45° elbows available by special order)
- Electropolished version available

**technical data**

**pressure ratings (mini fitting only)**
- 1500 PSIG @ 70°F (21°C); 1200 PSIG @ 250°F (with heavyweight clamp)
- Consult actual hose pressure rating; use lower of hose/fitting combination to determine MAWP (maximum working pressure)

**Mini Sanitary Clamp fitting specifications • Style 11**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Inner Diameter</th>
<th>D Flange Diameter</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>160411SKO</td>
<td>0.25</td>
<td>6.15</td>
<td>0.19</td>
<td>0.98</td>
</tr>
<tr>
<td>160611SKO</td>
<td>0.38</td>
<td>9.53</td>
<td>0.28</td>
<td>1.21</td>
</tr>
<tr>
<td>160811SKO</td>
<td>0.50</td>
<td>12.70</td>
<td>0.37</td>
<td>1.40</td>
</tr>
<tr>
<td>381211SKO</td>
<td>0.75</td>
<td>19.05</td>
<td>0.63</td>
<td>1.60</td>
</tr>
</tbody>
</table>

⚠️ **Important:**

Drawings shown are not BPE compliant
PermaSeal® Sanitary Fittings
Bevel Seat • Style 20

**Description**
- Sanitary bevel seat fitting with Acme nut provides simple threaded connections and assembly/disassembly

**Standards**
- To industry standards
- BPE compliant fittings available

**Materials**
- Insert material: 316L stainless steel
- Acme nut material: 304 stainless steel

**Surface Finish**
- Average 15 Ra or better

**Alternative Styles**
- Consult factory for availability of other sizes

---

**Style 20**

---

**Bevel Seat fitting specifications • Style 20**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Inner Dia.</th>
<th>Outer Dia.</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
<td>in.</td>
<td>mm</td>
</tr>
<tr>
<td>381620SKN</td>
<td>1.00</td>
<td>25.40</td>
<td>0.87</td>
<td>22.10</td>
</tr>
<tr>
<td>382420SKN</td>
<td>1.50</td>
<td>38.10</td>
<td>1.37</td>
<td>34.80</td>
</tr>
</tbody>
</table>
PermaSeal® Sanitary Fittings
Male with Threads • Style 40

**description**
- Internal surface chamfered to prevent material build-up or entrapment at end-point where fitting stem contacts Chemfluor® fluoropolymer inner tube

**standards**
- To industry standards
- BPE compliant fittings available

**materials**
- 316L stainless steel

**surface finish**
- Average 15 Ra or better
- For applications requiring even smoother material surfaces, fittings electropolished to 10 Ra can be supplied.

**alternative styles**
- Consult factory for availability of other sizes

---

**Male with Threads fitting specifications • Style 40**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>I Fitting Inner Dia.</th>
<th>B Fitting Outer Dia.</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
<td>in.</td>
<td>mm</td>
</tr>
<tr>
<td>381640SK0</td>
<td>1.00</td>
<td>25.40</td>
<td>0.85</td>
<td>22.10</td>
</tr>
<tr>
<td>382440SK0</td>
<td>1.50</td>
<td>38.10</td>
<td>1.37</td>
<td>34.80</td>
</tr>
</tbody>
</table>
**PermaSeal® Sanitary Fittings**

**Butt Weld / Tube Size • Style 41**

**description**
- Internal surface chamfered to prevent material build-up or entrapment at end-point where fitting stem contacts Chemfluor® fluoropolymer inner tube

**standards**
- To industry standards
- BPE compliant fittings available

**materials**
- 316L stainless steel

**surface finish**
- Average 15 Ra or better
- For applications requiring even smoother material surfaces, fittings electropolished to 10 Ra can be supplied

**technical data**
- Available for welding to existing systems
- Care should be exercised so weld heat is not conducted to Chemfluor® fluoropolymer tube

**Style 41**

**Butt Weld / Tube Size fitting specifications • Style 41**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>A Butt Weld Outer Dia.</th>
<th>B Overall Length</th>
<th>C Butt Weld Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>3604325KO*</td>
<td>0.25</td>
<td>6.35</td>
<td>6.35</td>
<td>1.70</td>
</tr>
<tr>
<td>3606325KO*</td>
<td>0.50</td>
<td>12.70</td>
<td>12.70</td>
<td>2.01</td>
</tr>
<tr>
<td>360945KO</td>
<td>0.50</td>
<td>12.70</td>
<td>12.70</td>
<td>1.87</td>
</tr>
<tr>
<td>3812415KO</td>
<td>0.75</td>
<td>19.05</td>
<td>19.05</td>
<td>2.12</td>
</tr>
<tr>
<td>3816415KO</td>
<td>1.00</td>
<td>25.40</td>
<td>25.40</td>
<td>2.42</td>
</tr>
<tr>
<td>3824415KO</td>
<td>1.50</td>
<td>38.10</td>
<td>38.10</td>
<td>3.26</td>
</tr>
<tr>
<td>3832415KO</td>
<td>2.00</td>
<td>50.80</td>
<td>50.80</td>
<td>4.17</td>
</tr>
<tr>
<td>3840415KO</td>
<td>2.50</td>
<td>63.50</td>
<td>63.50</td>
<td>4.94</td>
</tr>
<tr>
<td>3848415KO</td>
<td>3.00</td>
<td>76.20</td>
<td>76.20</td>
<td>5.81</td>
</tr>
</tbody>
</table>

*1/4” and 3/8” use compression tube adapter.*
PermaSeal® Sanitary Fittings
Male/Female “I” Line • Style 50/Style 51

**description**
- Internal gasket seal design provides easy assembly and alignment with male/female connections

**standards**
- To industry standards
- BPE compliant fittings available

**materials**
- 316L stainless steel

**surface finish**
- Average 15 Ra or better

**technical data**
- Also available in Flare-Thru design with Chemfluor® fluoropolymer hose inner core (see page 40)

---

**Male “I” Line fitting specifications • Style 50**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Fitting Inner Dia.</th>
<th>Fitting Outer Dia.</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
<td>in.</td>
<td>mm</td>
</tr>
<tr>
<td>381650SKO</td>
<td>1.00</td>
<td>25.40</td>
<td>0.85</td>
<td>21.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.00</td>
<td>50.80</td>
</tr>
<tr>
<td>382450SKO</td>
<td>1.50</td>
<td>38.10</td>
<td>1.97</td>
<td>34.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.00</td>
<td>50.80</td>
</tr>
<tr>
<td>383250SKO</td>
<td>2.00</td>
<td>50.80</td>
<td>1.75</td>
<td>44.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.69</td>
<td>69.33</td>
</tr>
<tr>
<td>384050SKO</td>
<td>2.50</td>
<td>63.50</td>
<td>2.20</td>
<td>55.88</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.32</td>
<td>84.33</td>
</tr>
<tr>
<td>384850SKO</td>
<td>3.00</td>
<td>76.20</td>
<td>2.70</td>
<td>68.54</td>
</tr>
<tr>
<td></td>
<td>C/F</td>
<td>C/F</td>
<td>C/F</td>
<td>C/F</td>
</tr>
</tbody>
</table>

*Special purchase

---

**Female “I” Line fitting specifications • Style 51**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Fitting Inner Dia.</th>
<th>Fitting Outer Dia.</th>
<th>Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
<td>in.</td>
<td>mm</td>
</tr>
<tr>
<td>381651SKO</td>
<td>1.00</td>
<td>25.40</td>
<td>0.87</td>
<td>22.10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.00</td>
<td>50.80</td>
</tr>
<tr>
<td>382451SKO</td>
<td>1.50</td>
<td>38.10</td>
<td>1.97</td>
<td>34.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.00</td>
<td>50.80</td>
</tr>
<tr>
<td>383251SKO</td>
<td>2.00</td>
<td>50.80</td>
<td>1.75</td>
<td>44.45</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2.65</td>
<td>67.31</td>
</tr>
<tr>
<td>384051SKO</td>
<td>2.50</td>
<td>63.50</td>
<td>2.22</td>
<td>56.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.32</td>
<td>84.25</td>
</tr>
<tr>
<td>384851SKO</td>
<td>3.00</td>
<td>76.20</td>
<td>2.80</td>
<td>71.12</td>
</tr>
<tr>
<td></td>
<td>C/F**</td>
<td>C/F**</td>
<td>C/F**</td>
<td>C/F**</td>
</tr>
</tbody>
</table>

*Special Purchase

**C/F** = consult factory.
Cam and groove fittings feature a full swivel design on the coupler-half, which allows positioning for easy leverage to seal the cam arms. Other advantages of the cam and groove design include the dog-lock groove (found on all Flexible Components fittings), which provides a positive lock to the hose, and machined, rather than cast metal, internal surfaces.

Chemfluor® PFA encapsulated cam and groove fittings will convey almost any material corrosion-free; in addition, a full complement of Chemfluor® fluoropolymer encapsulated adapters and sealing gaskets are offered. The gaskets comprise Chemfluor® PFA over silicone for a resilient seal with no exposed elastomers.

**Cam and Groove Fittings Products**

- **Female 316 Stainless Steel Swivel, Style 16**
- **Female Chemfluor® PFA Encapsulated, Style 16T**
- **Male 316 Stainless Steel, Style 17**
- **Male Chemfluor® PFA Encapsulated, Style 17T**
PermaSeal® Cam and Groove Fittings
Female 316 Stainless Steel Swivel • Style 16

**description**
- Female cam and groove “D” type, swivel style
- Full swivel design on the coupler-half
  - Allows positioning for easy leverage advantage to seal cam arms
- Positive lock to the hose
  - Fitting design incorporates the dog-lock groove found in all Flexible Components fittings
  - Prevents fitting pull-off
- Machined internal surfaces
  - Not a cast metal surface
  - Higher purity, larger ID for better flow rate, reduced entrainment

**standards**
- Manufactured to specification MIL-C-27487
- All styles fully interchangeable with all other manufacturers’ designs when made to this specification

**materials**
- 316 stainless steel
- Coupler is cast 316 stainless steel; insert is machined 316L stainless steel
- Standard gasket material: Buna N rubber

**technical data**
- Recommended operating conditions
  - 1/2" - 2" — 250 MAWP (psi)
  - 2-1/2" and 3" — 150 MAWP (psi)
    - 212°F with Buna N gaskets
    - 400°F with Chemfluor® PFA encapsulated gaskets
- Pressure ratings are for fittings only. When determining hose assembly maximum allowable working pressure, hose pressure ratings at temperature must be considered. Use the lower of the two ratings as the hose assembly MAWP.
- Locking style available; replace SKS with SLKS in part number

**alternative styles**
- Locking mechanism available to prevent accidental release of locking cam arms

---

**Female Cam and Groove (Stainless Steel) Fitting Specifications • Style 16**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>I Fitting Inner Dia.</th>
<th>D Inside Dimension</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
<td>in. mm</td>
</tr>
<tr>
<td>1608165KS</td>
<td>0.50</td>
<td>12.70</td>
<td>0.99</td>
<td>9.91</td>
</tr>
<tr>
<td>3812165KS</td>
<td>0.75</td>
<td>19.05</td>
<td>0.63</td>
<td>16.00</td>
</tr>
<tr>
<td>3816165KS</td>
<td>1.00</td>
<td>25.40</td>
<td>0.85</td>
<td>21.59</td>
</tr>
<tr>
<td>3824165KS</td>
<td>1.50</td>
<td>38.10</td>
<td>1.37</td>
<td>34.80</td>
</tr>
<tr>
<td>3832165KS</td>
<td>2.00</td>
<td>50.80</td>
<td>1.75</td>
<td>44.45</td>
</tr>
<tr>
<td>3840165KS</td>
<td>2.50</td>
<td>63.50</td>
<td>2.20</td>
<td>55.88</td>
</tr>
<tr>
<td>3848165KS</td>
<td>3.00</td>
<td>76.20</td>
<td>2.76</td>
<td>70.10</td>
</tr>
</tbody>
</table>

*C/F - consult factory.*
PermaSeal® Cam and Groove Fittings
Female Chemfluor® PFA Encapsulated Swivel • Style 16T

**description**
- Female cam and groove “D” type, swivel style
- Chemfluor® PFA encapsulated
- Full swivel design on the coupler-half
  - Allows positioning for easy leverage advantage to seal cam arms
- Positive lock to the hose
  - Fitting design incorporates the dog-lock groove found in all Flexible Components fittings
  - Prevents fitting pull-off

**standards**
- Manufactured to specification MIL-C-27487
- All styles fully interchangeable with all other manufacturers’ designs when made to this specification

**materials**
- Chemfluor® PFA encapsulated with stainless steel base
- Coupler is cast 316 stainless steel; insert is Chemfluor® PFA encapsulated with stainless steel base
- Chemfluor® PFA encapsulated sealing gasket
  - Chemfluor® PFA over silicone

**technical data**
- Chemfluor® PFA encapsulated designs will convey almost any material corrosion-free
- Chemfluor PFA encapsulated sealing gasket provides resilient seal with no exposed elastomers
- Full complement of Chemfluor® fluoropolymer encapsulated adapters available

**recommended operating conditions**
- 3/4” - 2” — 250 MAWP (psi)
- 2-1/2” and 3” — 150 MAWP (psi)
  - 212°F with Buna N gaskets
  - 400°F with Chemfluor® PFA encapsulated gaskets
- Pressure ratings are for fittings only. When determining hose assembly maximum allowable working pressure, hose pressure ratings at temperature must be considered. Use the lower of the two ratings as the hose assembly MAWP.
- Locking style available; replace TKS with TLKS

**alternative styles**
- Female cam and groove swivel style (Style 16TLK), locking arms with Chemfluor® PFA encapsulated insert and 316 stainless steel body

**Female Cam and Groove (Chemfluor® PFA Encapsulated) fitting specifications • Style 16T**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>I Fitting Inner Dia.</th>
<th>D Inside Dimension</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm</td>
<td>in.</td>
<td>mm</td>
</tr>
<tr>
<td>381216TKS</td>
<td>0.75</td>
<td>19.05</td>
<td>0.50</td>
<td>12.70</td>
</tr>
<tr>
<td>381616TKS</td>
<td>1.00</td>
<td>25.40</td>
<td>0.66</td>
<td>16.76</td>
</tr>
<tr>
<td>382416TKS</td>
<td>1.50</td>
<td>38.10</td>
<td>1.13</td>
<td>29.21</td>
</tr>
<tr>
<td>383216TKS</td>
<td>2.00</td>
<td>50.80</td>
<td>1.58</td>
<td>40.33</td>
</tr>
<tr>
<td>384016TKS</td>
<td>2.50</td>
<td>63.50</td>
<td>2.00</td>
<td>53.36</td>
</tr>
<tr>
<td>384816TKS</td>
<td>3.00</td>
<td>76.20</td>
<td>2.50</td>
<td>63.50</td>
</tr>
</tbody>
</table>

*C/F – consult factory.
PermaSeal® Cam and Groove Fittings
Male 316 Stainless Steel • Style 17

**description**
- Male cam and groove “E” type
- Face sealing surface features dove-tail locking design

**standards**
- Manufactured to specification MIL-C-27487
- All styles fully interchangeable with all other manufacturers’ designs when made to this specification

**materials**
- 316 stainless steel machined surface to V32

**technical data**

**recommended operating conditions**
- 1/2” - 2” — 250 MAWP (psi)
- 2-1/2” and 3” — 150 MAWP (psi)
  - 212°F with Buna N gaskets
  - 400°F with Chemfluor® PFA encapsulated gaskets
- Pressure ratings are for fittings only.
  When determining hose assembly maximum allowable working pressure, hose pressure ratings at temperature must be considered. Use the lower of the two ratings as the hose assembly MAWP.

---

### Male Cam and Groove (Stainless Steel) fitting specifications • Style 17

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>I Inner Dia.</th>
<th>Fitting Inner Dia.</th>
<th>D Inside Dimension</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>160B17SKO</td>
<td>0.50</td>
<td>12.70</td>
<td>0.39</td>
<td>9.91</td>
<td>11.18</td>
</tr>
<tr>
<td>3B1217SKO</td>
<td>0.75</td>
<td>19.05</td>
<td>0.63</td>
<td>16.90</td>
<td>1.26</td>
</tr>
<tr>
<td>3B1617SKO</td>
<td>1.00</td>
<td>25.40</td>
<td>0.87</td>
<td>22.30</td>
<td>1.44</td>
</tr>
<tr>
<td>3B2417SKO</td>
<td>1.50</td>
<td>38.10</td>
<td>1.17</td>
<td>34.80</td>
<td>2.09</td>
</tr>
<tr>
<td>3B3217SKO</td>
<td>2.00</td>
<td>50.80</td>
<td>1.35</td>
<td>44.46</td>
<td>2.49</td>
</tr>
<tr>
<td>3B4017SKO</td>
<td>2.50</td>
<td>63.50</td>
<td>2.20</td>
<td>55.88</td>
<td>C/F*</td>
</tr>
<tr>
<td>3B4817SKO</td>
<td>3.00</td>
<td>76.20</td>
<td>2.76</td>
<td>70.10</td>
<td>3.60</td>
</tr>
</tbody>
</table>

*C/F* - consult factory.
PermaSeal® Cam and Groove Fittings
Male Chemfluor® PFA Encapsulated • Style 17T

**Description**
- Male cam and groove “E” type
- Chemfluor® PFA encapsulated
- Face sealing surface features dove-tail locking design

**Standards**
- Manufactured to MIL-C-27487
- All styles fully interchangeable with all other manufacturers’ designs when made to this specification

**Materials**
- 316 stainless steel machined to V32 (Style 17) or Chemfluor® PFA encapsulated (Style 17T)
- Available in PVDF (Kynar®), polypropylene
- Other materials (special order)

**Technical Data**
- Ultimate corrosion-resistant design
- Vacuum resistant
- Inside diameters match all Chemfluor® PFA encapsulated fitting designs

**Recommended Operating Conditions**
- 3/4” - 2” — 250 MAWP (psi)
- 2-1/2” — 150 MAWP (psi)
- -212°F with Buna N gaskets
- 400°F with Chemfluor® PFA encapsulated gaskets

**Pressure Ratings** are for fittings only.
When determining hose assembly maximum allowable working pressure, hose pressure ratings at temperature must be considered. Use the lower of the two ratings as the hose assembly MAWP.
- Consult factory for male cam and groove Flare-Thru availability by hose style

---

**Male Cam and Groove (Chemfluor® PFA Encapsulated) Fitting Specifications • Style 17T**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Hose Size</th>
<th>Inner Dia.</th>
<th>D Inside Dimension</th>
<th>A Overall Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>383217TK0</td>
<td>0.75</td>
<td>19.05</td>
<td>0.50</td>
<td>12.70</td>
</tr>
<tr>
<td>381617TK0</td>
<td>1.00</td>
<td>25.40</td>
<td>0.66</td>
<td>16.76</td>
</tr>
<tr>
<td>382417TK0</td>
<td>1.50</td>
<td>38.10</td>
<td>1.15</td>
<td>29.21</td>
</tr>
<tr>
<td>383317TK0</td>
<td>2.00</td>
<td>50.80</td>
<td>1.58</td>
<td>40.19</td>
</tr>
<tr>
<td>384017TK0</td>
<td>2.50</td>
<td>63.50</td>
<td>2.10</td>
<td>53.34</td>
</tr>
</tbody>
</table>

*C/F – consult factory.*