

# Cheminert® Fittings and Accessories

Cheminert fittings are ideally suited for applications requiring an inert, biocompatible, metal-free flowpath. Wetted materials are PFA, FEP, CTFE, or PEEK, and uniform flow passages minimize mixing. All connections have zero dead volume.

## High Pressure Fittings

Cheminert high pressure fittings are rated at 5000 psi with fingertight nuts, well beyond the burst strength of most PEEK tubing. These fittings are machined from high quality inert polymers to the same exacting tolerances as our popular Valco zero dead volume fittings, and the taper angle and detail design conform to the industry standard established by the Valco line.

## High Pressure Nanovolume® Fittings

Nanovolume generally refers to components with bore sizes of 100-150 µm (.004" - .006"). The minimal transfer volume contributed by nanovolume components makes them especially beneficial in applications with flow rates in the µl/min range, when the transfer volume can be critical.

### NEW 360 Micron Nanovolume Fittings

Our newest high pressure fittings permit direct connection of 360 micron OD fused silica, PEEK, stainless, or electroformed nickel tubing without the use of liners. The ferrule snaps into the nut so that the fitting is "one-piece", but the ferrule remains free to rotate as the nut is tightened so that the tube doesn't twist. Because of the compact size and fine 2-56 threads, a leak-free connection that seals at pressures in excess of 20,000 psi can be easily formed with the available manual tool.

### 1/32" Nanovolume Fittings

1/32" Cheminert nanovolume fittings, with 100 µm or 150 µm bore, are ideal for high resolution capillary chromatography. Rated at 5,000 psi with fingertight nuts, they will remain leak-tight well beyond the burst strength of most PEEK tubing. These fittings are machined from high quality inert polymers to the same exacting tolerances as our popular Valco zero dead volume fittings, and the taper angle and detail design conform to the industry standard established by the Valco line.

### MORE INFORMATION

High pressure Cheminert fittings ..... pp 63-67  
Low pressure Cheminert fittings ..... 68-81  
Nanovolume fittings ..... 57-62  
Valco fittings ..... 6-55

### TECH TIP

For optimal zero dead volume connections, make sure your tubing meets the best industry standards. OD tolerance should be nominal dimension  $\pm .002$ ".

Fractional dimension	Nominal dimension
1/32"	.031
1/16"	.062
1/8"	.125
1/4"	.250
3/8"	.375
1/2"	.500

10,000 psi = 689.5 bar  
20,000 psi = 1,378.9 bar

50 µm	= .002"
100 µm	= .004"
150 µm	= .006"
0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm

CHROMalytic TECHNOlogy Pty Ltd AUSTRALIAN Distributors e-mail: [sales@chromtech.net.au](mailto:sales@chromtech.net.au) Tel: 03 9762 2034



2009 #60



- For direct connection of 360  $\mu$ m tubing
- Work with metal, fused silica, or PEEK
- Up to 20,000 psi with metal tubing
- Snap-in rotating ferrule for "one-piece" fitting with no tubing twist
- Eliminate use of troublesome liners

Our new high pressure fittings permit direct connection of 360 micron OD fused silica, PEEK, stainless, or electroformed nickel tubing without the use of liners. The ferrule snaps into the nut so that the fitting is "one-piece", but the ferrule remains free to rotate as the nut is tightened so that the tube doesn't twist. Because of the compact size and fine 2-56 threads, a leak-free connection that seals at pressures in excess of 20,000 psi can be easily formed with the available manual tool.

360  $\mu$ m fittings are dedicated for use with either fused silica, metal, or PEEK tubing; components cannot be mixed or used with a different tubing material.

Tees and crosses offer a choice of three bore sizes, and feature a "quick-mount" base with adhesive backing to make sure that the fitting is stable and fragile tubing doesn't get broken. There is also a quick-mount PEEK union.

#### MORE INFORMATION

Nanovolume fittings  
For fused silica tubing,  
10,000+ psi . . . . pg 58  
For metal tubing,  
up to 20,000 psi . . . . 58

1/32" Nanovolume  
fittings . . . . . 59-60  
Injectors with  
360 micron fittings. . 152

#### For PEEK or fused silica tubing — up to 10,000 psi

These fittings are constructed from premium grade natural PEEK material. They are intended for use with PEEK or fused silica tubing at pressures up to 10,000 psi, or the maximum pressure for which the tubing is rated, whichever is lower. Quick-mount versions have integral base with double stick tape to secure fittings to a surface.

#### Nut/ferrules, caps, plugs, tightening tool

for 360  $\mu$ m tubing

	Prod No	Price
Nut/ferrule	C360NFPKG	
Cap	C360CPKG	
Plug	C360PPK	
Tightening tool	C360ET	

#### Unions and reducing unions

for 360  $\mu$ m tubing

Bore size:	50 micron		100 micron		150 micron	
	Prod No	Price	Prod No	Price	Prod No	Price
Union, quick mount	C360QUPKG2		C360QUPKG4	\$65	C360QUPKG6	
Union	C360UPKG2		C360UPKG4	48	C360UPKG6	
Reducing union, 1/16" to 360 $\mu$ m	—		—		C360RU1PK6	

#### Tees and crosses

for 360  $\mu$ m tubing

Bore size:	50 micron		100 micron		150 micron	
	Prod No	Price	Prod No	Price	Prod No	Price
Tee, quick mount	C360QTPKG2		C360QTPKG4	\$82	C360QTPKG6	
Cross, quick mount	C360QXPKG2		C360QXPKG4	100	C360QXPKG6	

CHROMalytic TECHNOlogy Pty Ltd AUSTRALIAN Distributors e-mail: [sales@chromtech.net.au](mailto:sales@chromtech.net.au) Tel: 03 9762 2034

## NEW 360 µm Nanovolume Fittings



2009 #60

### For fused silica tubing — 10,000 psi and above

These fittings are constructed from HPLC grade stainless steel, with stainless steel nut and a special ferrule which is precision machined from electroformed nickel. For optimal sealing characteristics, the ferrule is gold plated.

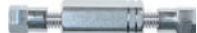


#### Nut/ferrules and caps

for 360 µm FS tubing

	Prod No	Price
 Nut/ferrule	C360NFFS	
 Cap	C360CFS	

#### Unions and reducing unions

for 360 µm FS tubing



	50 micron		100 micron		150 micron	
	Prod No	Price	Prod No	Price	Prod No	Price
 Union	C360UFS2		C360UFS4		C360UFS6	
 Reducing unions, 1/32" to 360 µm	C360RU.5FS2		C360RU.5FS4		C360RU.5FS6	
 Reducing unions, 1/16" to 360 µm	—		—		C360RU1FS6	

### For metal tubing — up to 20,000 psi

Our highest pressure Nanovolume fittings are constructed of HPLC grade stainless steel, including stainless steel nut and ferrule. These fittings are optimized for use with stainless or electroformed nickel tubing.




#### Nut/ferrules and caps

for 360 µm tubing

	Prod No	Price
 Nut/ferrule	C360NFS6	
 Cap	C360C	

#### Unions and reducing unions

for 360 µm tubing

	50 micron		100 micron		150 micron	
	Prod No	Price	Prod No	Price	Prod No	Price
 Union	C360US62		C360US64		C360US66	
 Reducing unions, 1/32" to 360 µm	C360RU.5S62		C360RU.5S64		C360RU.5S66	
 Reducing unions, 1/16" to 360 µm	—		—		C360RU1S66	

#### NEW INTERNAL REDUCERS FOR 360 µm TUBING

Directly connect 360 µm tubing into a 1/32" Valco valve or fitting detail, providing a positive leak-free seal with zero dead volume. The same patented design as our larger internal reducers (page 34). Both versions have a stainless steel body.

Tubing OD	Nut/ferrule material	Prod No	Price
1/32" to 360 µm	Stainless	C360IZR.5S6	\$34
	PEEK	C360IZR.5S6PK	34

#### MORE INFORMATION

360 µm fittings for use  
below 10,000 psi..... 57  
360 µm tubing  
Electroformed nickel. 87  
PEEK ..... 88  
1/32" Nanovolume  
fittings ..... 59-60

#### TECH TIP

Use these **metal 360 micron nuts** with nano injectors:  
C72MU ..... p 152  
C72MX ..... 152

50 µm	= .002"
100 µm	= .004"
150 µm	= .006"
0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm



## Nanovolume Fittings for 1/32" Tubing

Designed for high resolution capillary HPLC, Cheminert nanovolume connectors include our one-piece 1/32" fingertight fittings, with a patented collapsible ferrule that makes fingertight nanovolume connections a snap. These fittings

work with a variety of tubing, including PEEK, fused silica, and 1/32" electroformed nickel. Liners adapt the fittings for use with fused silica.

To avoid potential confusion, all fittings utilizing the Cheminert collapsible ferrule are made of black PEEK; fittings with a standard Valco ZDV fitting detail are natural PEEK.



### Nuts and ferrules

for 1/32" tubing

Valves and fittings are supplied with the appropriate quantity of nuts and ferrules. However, if additional fittings are required, they may be ordered separately. The two internal nuts include collapsible ferrules as an integral part of the fitting; the external nut must be used with the separate ferrule listed below.

Prod No Price each:



**Internal nut** with collapsible ferrule

C-NNFFPK

For use with:

Fittings on pages 60-62

6 port valve CN2-4346, page 154

4 port internal sampling injector CN4-4344, page 155



**Internal nut** with collapsible ferrule

C-NNFLPK

For use with:

10 port nanovolume valve CN2-4340, page 154



**External nut**

C-EN.5FPKB

For use with:

Unions on page 61

Column end fittings on page 62

Note: Requires collapsible PEEK ferrule, below



**Collapsible PEEK ferrule**

ZGF.5PK

For use with:

External nut, above

### MORE INFORMATION

360 µm fittings . . . pp 57-58

1/32" Nanovolume  
column end fittings . . 62

Tubing

PEEK . . . . . 88-89

Electroformed

nickel. . . . . 87

### TECH TIP

Use these **collapsible ferrule-nuts** with:

1/32" Nanovolume  
fittings . . . . . pp 60-62  
and with injectors:

CN2 . . . . . 154

CN4 . . . . . 155

### Plugs

for 1/32" tubing



**Internal plug**

Prod No Price each:

C-NPFPK

For use with:

Fittings on page 60

Nanovolume valves on pages 154-155



## Nanovolume Unions, Tees, Y's, and Crosses for 1/32" Tubing

2009 #60

## Unions

for 1/32" tubing

100 µm bore		150 µm bore	
Prod No	Price	Prod No	Price
C-NEU.5XFPK	\$43	C-NEU.5FPK	

Union for 1/32" PEEK or electroformed nickel tubing  
Does not require or include liners.



## Reducing unions

for 1/32" tubing

200 µm bore	
Prod No	
ZERU1.5FPK	

Reducing union, 1/32" to 1/16" tubing, natural PEEK



## Tees, y's, and crosses

for 1/32" tubing or FS\* tubing

100 µm bore		150 µm bore	
Prod No	Price	Prod No	Price
C-NTXFPK	\$105	C-NTFPK	
C-NYXFPK	105	C-NYFPK	
C-NXXFPK	120	C-NXFPK	

Tee 1/32" tubing or fused silica\*  
Y 1/32" tubing or fused silica\*  
Cross 1/32" tubing or fused silica\*

\*A liner is needed for use with fused silica. Order 27 mm length, page 61.



## Fill ports

for 1/32" nanovolume® valves

These fill ports provide direct syringe connections to Model CN2 nanovolume valves. For use with 26 gauge blunt tip needle.

Prod No
C-NVISF

Fill port for 1/32" CN2 series HPLC injectors



## 1/32" Nanovolume frits

These frits are the answer to filtration of 1/32" nanovolume fitting connections. A mere .25 mm (0.010") thin and 1/32" in diameter, they can be placed in any 1/32" fitting detail and add minimal volume. Price is for a package of 5 frits.

Pkg/5:	Pore size	Prod No
	0.2 micron	.2FR.5-5
	0.5 micron	.5FR.5-5

## MORE INFORMATION

Unions for fused silica  
... p. 18, 19, 57-58, 61

100 µm	= .004"
150 µm	= .006"
0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm

## TECH TIP

Liners adapt nanovolume fittings for use with fused silica tubing. They are included with nanovolume **unions** for fused silica, but must be ordered separately for other fittings.



Liners ..... page 61



## Nanovolume Unions and Liners for FS Tubing

### Unions

for fused silica tubing



Union for fused silica tubing  
Includes liners.

FS tubing OD

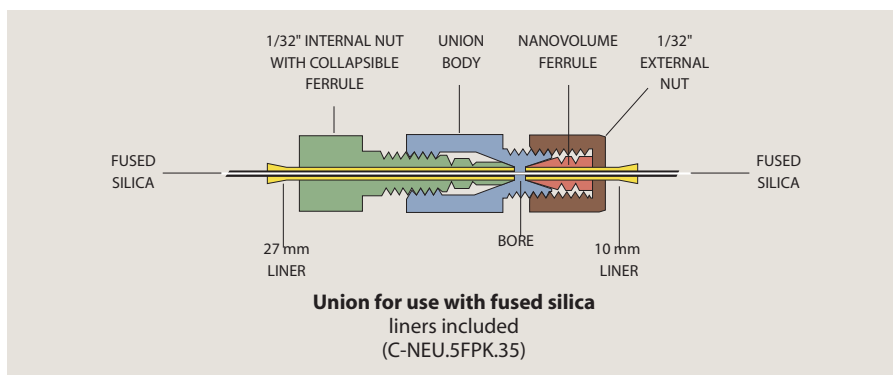
100  $\mu$ m bore  
Prod No

150  $\mu$ m bore  
Prod No

125 - 175  $\mu$ m  
175 - 225  $\mu$ m  
225 - 275  $\mu$ m  
275 - 325  $\mu$ m  
325 - 375  $\mu$ m

C-NEU.5XFPK.15  
C-NEU.5XFPK.20  
C-NEU.5XFPK.25  
C-NEU.5XFPK.30  
C-NEU.5XFPK.35

C-NEU.5FPK.15  
C-NEU.5FPK.20  
C-NEU.5FPK.25  
C-NEU.5FPK.30  
C-NEU.5FPK.35



### MORE INFORMATION

360  $\mu$ m fittings . .pp 57-58  
1/32" nanovolume  
Fittings . . . . . 59-60  
External nuts . . . . . 59  
Internal nuts with  
collapsible ferrules . 59  
Liners for column end  
fittings . . . . . 62

### TECH TIP

Use 27 mm liners



with internal nuts with  
collapsible ferrules:



Use 10 mm liners



with external nuts:



### Liners for 1/32" connectors

for use with fused silica tubing

Use these liners with nanovolume connectors to adapt to the most common sizes of fused silica tubing. Natural PEEK.

The 27 mm liners are for internal nuts with collapsible ferrules. 10 mm liners are for use with external nuts. Sold in packages of 5.

#### 27 mm liners

Use with internal nuts C-NNFFPK or C-NNFLFPK

For tubing OD	Prod No
125 - 175 $\mu$ m	C-NL.15L-5
175 - 225 $\mu$ m	C-NL.20L-5
225 - 275 $\mu$ m	C-NL.25L-5
275 - 325 $\mu$ m	C-NL.30L-5
325 - 375 $\mu$ m	C-NL.35L-5

#### 10 mm liners

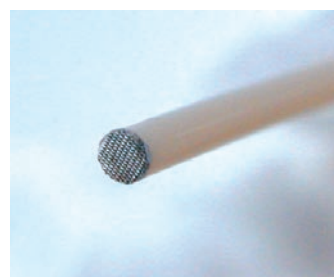
Use with external nut C-EN.5FPKB

For tubing OD	Prod No
125 - 175 $\mu$ m	C-NL.15S-5
175 - 225 $\mu$ m	C-NL.20S-5
225 - 275 $\mu$ m	C-NL.25S-5
275 - 325 $\mu$ m	C-NL.30S-5
325 - 375 $\mu$ m	C-NL.35S-5

## Nanovolume Column End Fittings for FS Capillaries

Nanovolume column end fittings include two liners to adapt the 1/32" fitting to fused silica. The 27 mm liner, used inside the internal nut, has a 1 µm 316 stainless steel screen embedded in the PEEK to provide closure for fused silica columns. The 10 mm liner is used with the external nut.

Like other nanovolume fittings, they include our one-piece 1/32" fingertight fittings, with a patented\* collapsible ferrule. To avoid potential confusion, all fittings utilizing the Cheminert collapsible ferrule are made of black PEEK. The liners are natural PEEK.

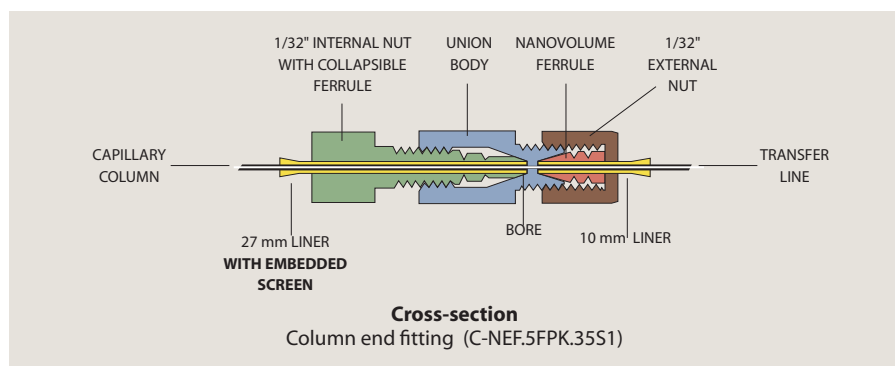


Screen embedded in end of liner for column end fittings

### Column end fittings

for 1/32" tubing

Each:	For tubing OD	100 µm bore Prod No	150 µm bore Prod No
Column end fitting	125 - 175 µm	C-NEF.5XFPK.15S1	C-NEF.5FPK.15S1
for fused silica tubing	175 - 225 µm	C-NEF.5XFPK.20S1	C-NEF.5FPK.20S1
Includes liners	225 - 275 µm	C-NEF.5XFPK.25S1	C-NEF.5FPK.25S1
	275 - 325 µm	C-NEF.5XFPK.30S1	C-NEF.5FPK.30S1
	325 - 375 µm	C-NEF.5XFPK.35S1	C-NEF.5FPK.35S1



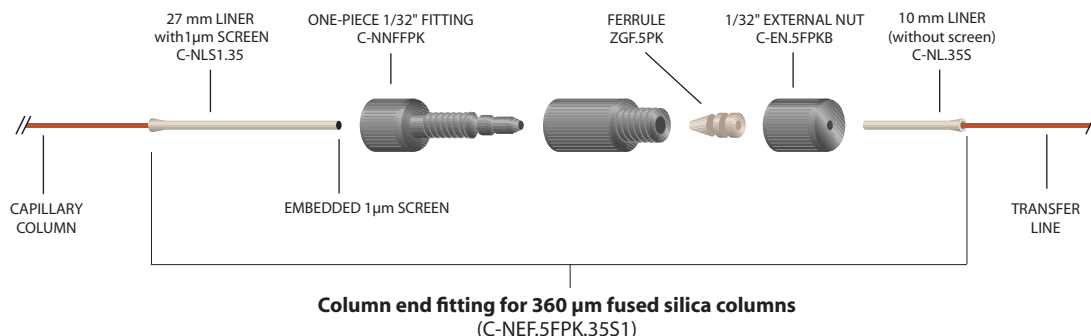
### Replacement liners for column end fittings

for FS capillaries

Use these liners with nanovolume column end fittings to adapt to the most common sizes of fused silica tubing. Natural PEEK, with embedded screen to provide full closure for fused silica capillaries. Sold individually.

#### 27 mm liners for column end fittings

	For tubing OD	Prod No
	125 - 175 µm	C-NL S1.15
	175 - 225 µm	C-NLS1.20
	225 - 275 µm	C-NLS1.25
	275 - 325 µm	C-NLS1.30
	325 - 375 µm	C-NLS1.35



\*U.S. patent no. 6,575,501.

**MORE INFORMATION**  
Liners for  
1/32" fittings .. page 61

#### TECH TIP

Liners with embedded screens are also available for 1/16" PEEK tubing. Consult the factory for sizes and product numbers.



2009 #60

**No twist one-piece fittings**

10-32 for 1/16" tubing

These new fittings offer the convenience of a one-piece fitting while solving a problem inherent to such designs. In other one-piece designs, the ferrule rotates against the fitting detail, creating particulates. The no twist design has a separate ferrule that snaps into the nut, so it's attached but still free to avoid rotation during tightening.

Since the ferrule is not machined onto the nut, it can be made from a different material. PEEK nut with PEEK ferrule, or PEEK nut with CTFE ferrule – the possibilities are endless.

Package of 5:	Glass-filled PEEK ferrule	PEEK ferrule	CTFE ferrule
Nut type Length	Prod No	Prod No	Prod No
PEEK, hex short	ZNF1PKG-5	ZNF1PK-5	ZNF1KF-5
PEEK, hex medium	MZNF1PKG-5	MZNF1PK-5	MZNF1KF-5
PEEK, hex long	LZNF1PKG-5	LZNF1PK-5	LZNF1KF-5
PEEK, fingertight	ZNF1FPKG-5	ZNF1FPK-5	ZNF1FKF-5

Optional ferrule materials available – FEP, PFA, PTFE, and glass-filled PTFE. Call for availability.  
Some 1/32" versions are available. Call for details.

Patent No. 7,316,777

**Internal nuts – high pressure PEEK**

PEEK nuts are used in Cheminert polymeric valves with zero dead volume fittings. They can also be used as alternatives to standard stainless steel Valco nuts when polymeric ferrules are used (up to approximately 175°C). Fingertight nuts have a knurled surface designed to provide sufficient sealing force on the ferrule without wrenches. Hex style nuts allow wrench tightening; however, since they are polymeric, they can break and are recommended for use only when space is limited and fingers won't fit.

**Caution:** PEEK nuts are intended for use only with polymeric ferrules, which seal with lower force than their stainless steel counterparts. Overtightening can result in breakage.

Package of 10:	Prod no	Length
1/32" fingertight	ZN.5FPK-10	.42"
1/32" fingertight	LZN.5FPK-10	.54"
1/16" fingertight	ZN1FPK-10	.88"
1/16" hex	ZN1PK-10	.45"
1/16" hex	MZN1PK-10	.62"
1/16" hex	LZN1PK-10	.87"
1/8" hex	ZN2PK-10	.62"

**Ferrules – high pressure PEEK**

PEEK ferrules seal by the increased friction from compression.

Package of 10:	Prod No	Pkg of 10:
1/32"	ZF.5PK-10	1/4"
1/16"	ZF1PK-10	3/8"
1/8"	ZF2PK-10	1/2"

**Ferrules – grooved PEEK**

These patented ferrules\* feature a grooved design that permits the ferrule to grip the tube in multiple places. They work great on tubing that is softer than the ferrule material. For example, PEEK grooved ferrules work well on PTFE or FEP tubing. They are not generally recommended if the tubing is the same material as the ferrule.

Package of 10:	Prod No
1/32"	ZGF.5PK-10
1/16"	ZGF1PK-10

**MORE INFORMATION**

Tightening tool for  
hex-head PEEK nuts. . 67

**POLYMERS  
AT A GLANCE**

PEEK .....PK

Chemical resistance;  
up to 225°C

100 µm = .004"  
150 µm = .006"

0.25 mm = .010"  
0.50 mm = .020"  
0.75 mm = .030"

1.0 mm = .040"  
1.5 mm = .060"  
2.0 mm = .080"

4.6 mm = .180"  
6.0 mm = .236"  
6.4 mm = .253"

7.0 mm = .275"  
10.0 mm = .400"

27.0 mm = 1.08"

1/32" = 0.8 mm  
1/16" = 1.6 mm  
1/8" = 3.2 mm

1/4" = 6.4 mm  
3/8" = 9.5 mm  
1/2" = 12.7 mm



## High Pressure PEEK Fittings



2009 #60

### Plugs and caps – high pressure PEEK

Polymeric plugs and caps are available in knurled finger-tight and wrench-tight hex nut designs, for use in valves or fittings. See discussion of PEEK nuts on page 63. PEEK caps include a PEEK nut and ferrule. For high pressure polymeric valve plugs, see below. For low pressure valve plugs, see page 71.



Description	Length of nut*	PEEK plugs	PEEK caps
		Prod No	Prod No
1/32" fingertight	.42"	ZP.5FPK	ZC.5FPK
1/32" fingertight	.54"	LZP.5FPK	---
1/16" fingertight	.87"	ZP1FPK	ZC1FPK
1/16" hex	.62"	MZP1PK	ZC1PK
1/16" long hex	.87"	LZP1PK	---
1/8" hex	.62"	ZP2PK	ZC2PK

### PEEK plugs for high pressure polymeric valves

These PEEK plugs are for use **only** in Cheminert HPLC polymeric valves (C1-C5 series) since the fitting detail in these valves is unique.

Description	Length of nut*	Prod No
1/16" hex	.62"	C-MZP1PK
1/16" long hex	.87"	C-LZP1PK
1/16" fingertight	.88"	C-ZP1FPK



### Tees and crosses – high pressure PEEK

Tees connect three lines. Crosses connect four lines. The 1/32" and 1/16" nuts are fingertight; 1/8" nuts are hex, for wrench tightening.

Tubing OD	Bore	PEEK tees	PEEK crosses
		Prod No	Prod No
1/32"	0.25 mm	ZT.5FPK	ZX.5FPK
	0.50 mm	ZT.5LFPK	ZX.5LFPK
1/16"	0.25 mm	ZT1CFPK	ZX1CFPK
	0.50 mm	ZT1MFPK	ZX1MFPK
	0.75 mm	ZT1FPK	ZX1FPK
	1.00 mm	ZT1LFPK	ZX1LFPK
1/8"	0.75 mm	ZT2PK	ZX2PK
	2.00 mm	ZT2LPK	ZX2LPK



#### POLYMERS AT A GLANCE

PEEK ..... PK  
Chemical resistance;  
up to 225°C

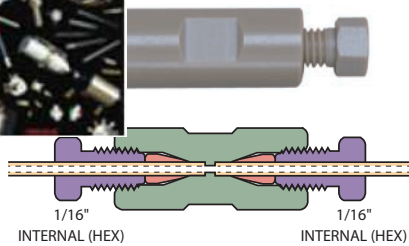
#### TECH TIP

Ferrules for high pressure PEEK fittings are available in PEEK and PFA.

PEEK ferrules .... page 63  
PFA ferrules ..... 13

0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm

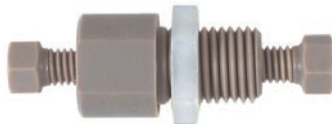
2009 #60



**Internal union – PEEK**  
Standard bore version  
(ZU1PK)



**Bulkhead fingertight  
internal union – PEEK**  
(ZBU1FPK)



**Bulkhead hex  
internal union – PEEK**  
(ZBU1PK)

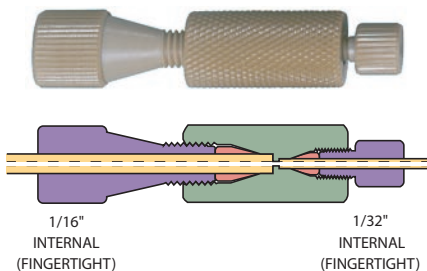
### Internal unions – high pressure PEEK

The 1/32" nuts are fingertight; 1/16" nuts are available in a choice of fingertight or hex; and 1/8" nuts are hex, for wrench tightening.

Tubing OD      Bore	Standard Prod No	Bulkhead Prod No	Bulkhead panel hole diameter
1/32" fingertight			
0.25 mm	ZU.5FPK	ZBU.5FPK	5/16"
0.50 mm	ZU.5LFPK	ZBU.5LFPK	5/16"
1/32"	ZU.5TFPK	ZBU.5TFPK	5/16"
1/16" fingertight			
0.25 mm	ZU1CFPK	ZBU1CFPK	3/8"
0.50 mm	ZU1MFPK	ZBU1MFPK	3/8"
0.75 mm	ZU1FPK	ZBU1FPK	3/8"
1/16"	ZU1TFPK	ZBU1TFPK	3/8"
1/16" hex			
0.25 mm	ZU1CPK	ZBU1CPK	3/8"
0.50 mm	ZU1MPK	ZBU1MPK	3/8"
0.75 mm	ZU1PK	ZBU1PK	3/8"
1/16"	ZU1TPK	ZBU1TPK	3/8"
1/8" hex			
0.75 mm	ZU2PK	ZBU2PK	7/16"
2.0 mm	ZU2LPK	ZBU2LPK	7/16"
1/8"	ZU2TPK	ZBU2TPK	7/16"

### Internal reducing unions – high pressure PEEK

These unions connect two different sizes of tubing, with zero dead volume internal fittings on each end. In the bulkhead version, the bulkhead nut is on the side with smaller tubing. The 1/32" and 1/16" nuts are fingertight; 1/8" nuts are hex, for wrench tightening. A version with 1/16" and 1/8" hex nuts is also available.



**Internal reducing union – PEEK**  
Standard bore  
(ZRU1.5FPK)



**Bulkhead internal reducing union – PEEK**  
(ZBRU1.5FPK)

Tubing OD      Bore	Standard Prod No	Bulkhead Prod No	Bulkhead panel hole diameter
1/16" to 1/32"			
0.25 mm	ZRU1.5FPK	ZBRU1.5FPK	5/16"
0.50 mm	ZRU1.5LFPK	ZBRU1.5LFPK	5/16"
1/32"	ZRU1.5TFPK	ZBRU1.5TFPK	5/16"
1/8" to 1/32"			
0.25 mm	ZRU2.5FPK	ZBRU2.5FPK	3/8"
0.50 mm	ZRU2.5LFPK	ZBRU2.5LFPK	3/8"
1/32"	ZRU2.5TFPK	ZBRU2.5TFPK	3/8"
1/8" to 1/16"			
0.25 mm	ZRU21CFPK	ZBRU21CFPK	3/8"
0.75 mm	ZRU21FPK	ZBRU21FPK	3/8"
1.00 mm	ZRU21LFPK	ZBRU21LFPK	3/8"
1/16"	ZRU21TFPK	ZBRU21TFPK	3/8"

## High Pressure Specialty PEEK Fittings

### One-piece fingertight fittings – color-coded PEEK

These molded fingertight fittings are rated to 5000 psi (350 bar), so they can be used in virtually any HPLC fitting detail with 10-32 threads. Six colors allow easy identification of tubing lines.

Package of 5:

Color	Prod No
Natural	JR-55020-5
Black	JR-55021-5
Red	JR-55022-5
Yellow	JR-55023-5
Blue	JR-55024-5
Green	JR-55025-5



### One-piece PEEK fingertight fittings – narrow hex-head

This natural PEEK machined fitting has a narrow hex head and 10-32 threads.

Package of 5:

Color	Prod No
Natural	JR-5508-5



### Color-It fingertight adapters

Use Color-It snap-on extensions to color-code our 1/4" hex-head nuts, and turn the nut into a fingertight fitting at the same time. Color-It adapters are available in six different colors, and can be used with PEEK and stainless hex-head nuts.

Package of 5:

Color	Prod No
Blue	JR-55010-5
Yellow	JR-55011-5
Green	JR-55012-5
Black	JR-55013-5
White	JR-55014-5
Red	JR-55015-5

Package of 12:

Color	Prod No
Multi-color	JR-55016-12 (2 of each color)



#### MORE INFORMATION

Color-coded  
PEEK tubing ... page 89

#### CAUTION

One-piece combination nuts and ferrules are not for high pressure gas service.

0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm





### PEEK starter kit

In LC applications involving proteins, peptides, nucleic acids, or other samples of biological origin, metal systems may interact with samples or release transition metals that will deactivate columns. The PEEK starter kit facilitates replacement of stainless steel tubing, fittings, ferrules, mobile phase filters, etc., to create a biocompatible environment for samples and mobile phase.

*Prod No*

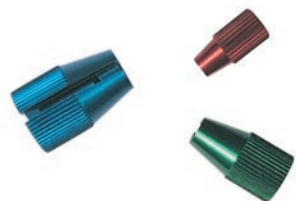
PEEK starter kit

JR-35P

#### *Includes:*

- 1 Plastic box
- 10 PEEK one-piece fittings, 10-32
- 5 PEEK handtight fittings
- 5 PEEK nuts, hex-head long
- 20 PEEK ferrules, double-ended 1/16"
- 1 PEEK union, HP body only, 10-32
- 2 Tubing elbows 90°
- 2 Tubing elbows 180°
- 1 PEEK filter, in-line,  
incl. PAT frit 5 µm
- 1 Clean-cut tubing cutter
- 1 Last Drop PTFE filter 5 µm
- 3m PEEK tubing, 1/16" x 0.25 mm ID,  
blue stripe
- 3m PEEK tubing, 1/16" x 0.50 mm ID,  
orange stripe
- 1 Tweezers

### Tightening tools for PEEK fittings



These handy tools make it fast and easy to tighten PEEK hex-head fittings. The red version is for use with the C360 series fittings shown on page 57. The green tool is for any 1/32" PEEK fitting with a 3/16" hex head nut, and the blue version fits the 1/4" hex common in fittings for 1/16" tubing.

Color	For use with	Prod No
Red	360 µm fittings	C360ET
Green	1/32" fittings	CNFT
Blue	1/16" fittings	ZNFT

#### MORE INFORMATION

Hex-head PEEK fittings  
 360 µm..... page 57  
 1/32" .....63-65  
 1/16"  
 High pressure...63-65  
 Low pressure ..... 71



## Low Pressure Flangeless Tube End Fittings

Cheminert low pressure fittings are ideally suited for flow injection analysis, low pressure liquid chromatography, and stream sampling devices. They may be safely used at pressures up to 500 psi and temperatures to 50°C. Two designs of low pressure tube end fittings are available. *Flangeless* tube end fittings

utilize our new collapsible ferrule, which grips the tubing as the fitting is tightened without significantly reducing the tube ID. *Standard* tube end fittings are retained on polymeric tubing by a flange formed with a Cheminert flanging tool.

2009 #60

### Flangeless tube end fittings

1/4-28

Flangeless tube end fittings eliminate the flanging tool required with standard tube end fittings. The nut turns on the tubing as freely as with our flanged fitting, eliminating the possibility of cracking or unscrewing that can occur when plastic tubing is subjected to twisting as fittings are connected.

Cheminert flangeless fittings include our patented\* collapsible ferrule design. This innovative design utilizes a one-piece ferrule engineered to collapse as it is tightened. The collapse takes place in a very narrow area, resulting in a very effective seal with virtually no distortion of the tubing ID and no dead volume. The assembly is rated at 500 psi liquid when tightened by hand. Since only the tubing and the ferrule come into contact with the solution, the result is an inert system. Use CTFE ferrules for soft tubing (PTFE, FEP, etc.), but use PEEK ferrules for harder tubing (PEEK, ETFE, polyurethane, etc.)

Cheminert tube end fittings work with any 1/16" or 1/8" OD polymeric tubing, and come in twelve different colors for system color coding.



#### Flangeless fittings with CTFE ferrules

	1/16" OD		1/8" OD	
(pkg/5)	Prod No	Price	Prod No	Price
Black	CFL-1BK		CFL-2BK	
Blue	CFL-1BE		CFL-2BE	
Brown	CFL-1BR		CFL-2BR	
Dark gray	CFL-1DG		CFL-2DG	
Green	CFL-1G		CFL-2G	
Lavender/pink	CFL-1L		CFL-2L	
Natural	CFL-1N		CFL-2N	
Orange	CFL-1E		CFL-2E	
Purple	CFL-1P		CFL-2P	
Red	CFL-1R		CFL-2R	
White	CFL-1W		CFL-2W	
Yellow	CFL-1Y		CFL-2Y	

Assorted (pkg/12, one of each color)

with ferrule:

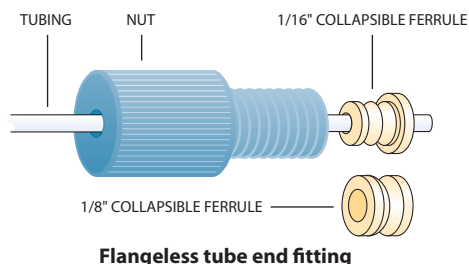
CTFE	CFL-1A	CFL-2A
PEEK	CFL-1A-PK	CFL-2A-PK

#### Replacements

PEEK ferrules (pkg/10)	CFL-CB1PK	CFL-CB2PK
CTFE ferrules (pkg/10)	CFL-CB1KF	CFL-CB2KF
PEEK nuts (pkg/5)	CFL-1PK	CFL-2PK

#### Setting tool

CST	CST
-----	-----



0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm

Patent No. 6,575,501

CHROMalytic TECHnology Pty Ltd AUSTRALIAN Distributors e-mail: [sales@chromtech.net.au](mailto:sales@chromtech.net.au) Tel: 03 9762 2034

## Low Pressure Standard Tube End Fittings and External Nuts

## Standard flanged tube end fittings

1/4-28



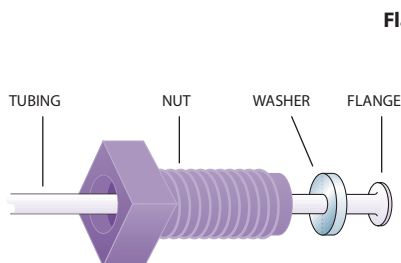
2009 #60



The basic component of the Cheminert system is the polypropylene nut, retained on PTFE or FEP tubing by a flange formed with a Cheminert flanging tool (*page 70*). This is an excellent method for connecting fluorocarbon tubing, as there is no reduction of the inside diameter and no binding or twisting of the tubing when the fitting is tightened. A mating of the parts is achieved with zero dead volume, making this an ideal fitting for biological systems.

Cheminert tube end fittings come in twelve different colors for system color coding, and are available for 1/16" or 1/8" OD fluorocarbon tubing. (While in theory other polymers could be molded to form a flange, only fluorocarbons such as PTFE or FEP have low-temperature malleability and good form retention at operating temperatures.) Tube end fittings attach directly to Cheminert valves and fittings, and are easily joined to each other with a union. Tightening by hand is all that is required to make a leak-free seal at 500 psi liquid, although for long term reliability a wrench could be used to apply an additional 1/8 turn.

Packages include the same number of washers as fittings.



Flanged tube end fitting

## MORE INFORMATION

High pressure fittings ..... pp 63-66  
PTFE and FEP tubing ..... 90

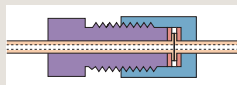
## TECH TIP

To make up standard flanged tube end fittings, use the flanging tool on page 70.

A flanging starter kit, complete with flanging tool, flanging tips, and an array of tubing and fittings, is also available. (*See page 70.*)

## TECH TIP

Use our external nut tube end fittings to make true zero volume butt connections without a coupling.



## Flanged fittings

(pkg/10)

## 1/16" OD

Prod No

Price

## 1/8" OD

Prod No

Price

Black

CF-1BK

CF-2BK

Blue

CF-1BE

CF-2BE

Brown

CF-1BR

CF-2BR

Dark gray

CF-1DG

CF-2DG

Green

CF-1G

CF-2G

Lavender/pink

CF-1L

CF-2L

Natural

CF-1N

CF-2N

Orange

CF-1E

CF-2E

Purple

CF-1P

CF-2P

Red

CF-1R

CF-2R

White

CF-1W

CF-2W

Yellow

CF-1Y

CF-2Y

Assorted (pkg/12, one of each color)

CF-1A

CF-2A

Washers

(pkg/10)

CF-W1

CF-W2

## External nuts for flanged tube ends

1/4-28

External nuts with female 1/4-28 threads are designed for use on tubing with a flanged end, just like the standard tube end fittings. Use them instead of a union or coupling to make a zero volume butt connection.

Package of 5:

Tubing  
OD

## PEEK

Prod No

Price

## CTFE

Prod No

Price

1/16"

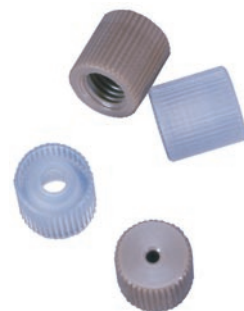
CEN1PK

CEN1KF

1/8"

CEN2PK

CEN2KF

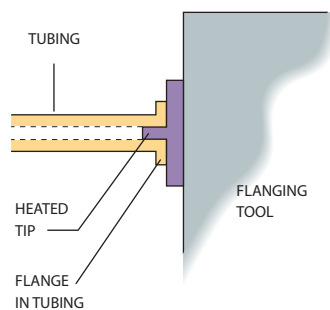


## Flanging Tool, Starter Kit

### Cheminert flanging tools

The flanging tool makes the flange which retains the standard 1/4-28 tube end fitting and washer on PTFE or FEP tubing. With this tool, lengths of tubing may be easily assembled to any required dimension. The time required is approximately 5 to 10 seconds per flange.

Flanging tools are available for 110 VAC or 230 VAC, and come complete with tips for 0.75 mm, 1.0 mm, and 2.00 mm ID tubing, a tubing holder for gripping the tubing during the flanging operation, a razor blade for tube cutting, and instructions.



Flange being made on tubing

	Prod No	Price
<b>Flanging tools</b>		
110 VAC	CFT-110	
230 VAC	CFT-220	
<b>Flanging tool accessories</b>		
Flanging tips		
for tubing ID $\leq 0.25$ mm	CFT-TXC	
for tubing ID $\leq 0.75$ mm	CFT-TC	
for tubing ID $\leq 1.00$ mm	CFT-TM	
for tubing ID $\leq 1.50$ mm	CFT-TL	
for tubing ID $\leq 2.00$ mm	CFT-TXL	
Razor blades (pkg /10)	CFT-R	
Tubing holder	CFT-H	



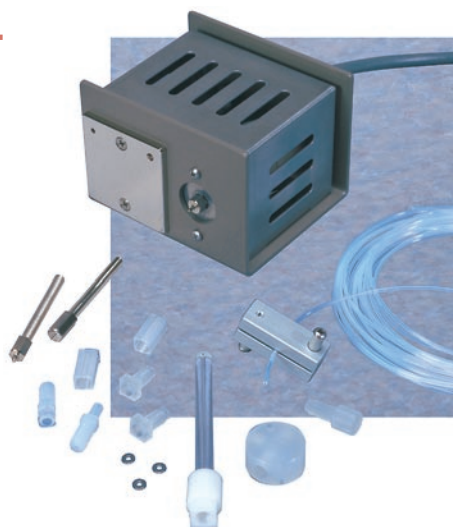
### Cheminert starter kits

Starter kits come in either 1/16" or 1/8" versions, with flanging tools for 110 VAC or 230 VAC.

	110 VAC		230 VAC	
	Prod No	Price	Prod No	Price
<b>Starter kits</b>				
1/16" tubing	CFT1K-110		CFT1K-220	
1/8" tubing	CFT2K-110		CFT2K-220	

The starter kit includes:

- 1 flanging tool with 3 flanging tips
- 1 tubing holder
- 20 standard tube end fittings
- 20 stainless steel washers
- 10 couplings
- 20 feet of PTFE tubing  
(1/16" OD x 0.030" ID  
or  
1/8" OD x .060" ID)
- 1 male luer adapter
- 1 female luer adapter
- 1 plug
- 1 tee
- 1 glass connector



### MORE INFORMATION

Standard tube end fittings .....	page 69
Stainless steel washers .....	69
Couplings .....	72
Male luer adapter.....	76
Female luer adapter ...	76
Plug.....	71
Tee .....	74
Glass connector .....	75





## Starter Kit, Low Pressure Plugs and Caps



## Easy-Flange kit

The Easy-Flange flange-rolling tool uses mechanical force to form a flange on 1/16" - 1/8" OD PTFE tubing, offering an excellent non-electric alternative to the heated flanging tool.

The quality of the flange is excellent, since it is formed without stressing the tubing by heat. The specially designed negative conical profile of the flange-forming component yields an ideal shape for maximum sealing properties.

	Prod No	Price
Easy-Flange kit	JR-201540	
<i>Includes:</i>		
Plastic box		
Flanging discs with:		
0.5 mm SS pin for PEEK tubing		
0.8 mm polymer pin		
0.8 mm titanium pin		
1.3 mm polymer pin		
1.3 mm titanium pin		
Clean-cut tubing cutter		
PTFE tubing, 1/16" x 0.75 mm ID, 6 ft.		

## Plugs

1/4-28

Plugs can be used to close off an unused port in a 1/4-28 valve or manifold.

	PEEK		CTFE	
Package of 5:	Prod No	Price	Prod No	Price
	CPPK		CPKF	

## Low pressure PEEK plugs

10-32

These all-PEEK plugs are for use in Cheminert PEEK fittings and low pressure polymeric valves (C20Z and C30Z series). For high pressure polymeric valves (C1-C5 series), use plugs on page 64.

			PEEK	
Package of 1: Length of nut*			Prod No	Price
1/16" hex	.62"		MZP1PK	
1/16" long hex	.87"		LZP1PK	
1/16" fingertight	.88"		ZP1FPK	

## Caps

1/4-28

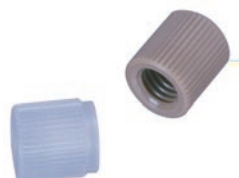
Caps are used to close off lines with 1/4-28 tube end fittings.

	PEEK		CTFE	
Package of 5:	Prod No	Price	Prod No	Price
	CCPK-5		CCKF-5	

## MORE INFORMATION

Clean-cut tubing  
cutter ..... page 90  
Tightening tool for  
hex-head PEEK nuts... 67

0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm





## Low Pressure Unions

2009 #60

### Unions *Cheminert to Cheminert* 1/4-28 to 1/4-28

Includes flangeless 1/4-28 fittings for tubing OD indicated. Polypropylene unions are for use with flanged tubing only.

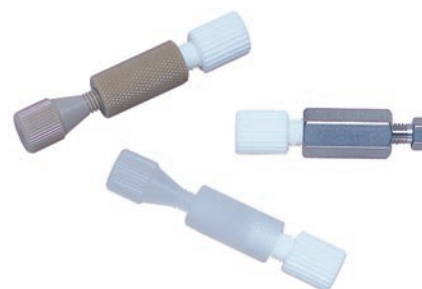
Tubing OD	Bore	PEEK		CTFE		Polypropylene	
		Prod No	Price	Prod No	Price	Prod No	Price
1/16"	0.25 mm	CUCPK		CUCKF		—	
1/16"	0.50 mm	CUPK		CUKF		—	
1/16"	0.75 mm	CUMPK		CUMKF		—	
1/8"	1.50 mm	CULPK		CULKF		—	
1/8"	Butt connection	CUTPK		CUTKF		CUTPP *	(* pkg/5)



### Unions *Cheminert to 1/16" ZDV* 1/4-28 to 10-32

Includes flangeless 1/4-28 and ZDV 10-32 fittings for 1/16" tubing.

Tubing OD	Bore	PEEK		CTFE		316 Stainless	
		Prod No	Price	Prod No	Price	Prod No	Price
1/16"	0.25 mm	CZUCPK		CZUCKF		CZUCS6	
1/16"	0.50 mm	CZUPK		CZUKF		CZUS6	
1/16"	0.75 mm	CZUMPK		CZUMKF		CZUMS6	



### Unions *Cheminert to 1/4" tubing* 1/4-28 to 1/2-20

Includes flangeless 1/4-28 and 1/2-20 fittings.

Tubing OD	Bore	PEEK		CTFE	
		Prod No	Price	Prod No	Price
1/8" to 1/4"	1.50 mm	CU4LPK		CU4LKF	

Components	Prod No	Price
1/2-20 nut, CTFE	CFL-4KF	
1/2-20 nut, Delrin	CFL-4D	
CTFE ferrule	CFL-CB4KF-S	



0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm



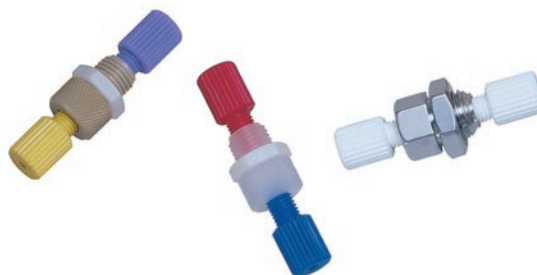
### Bulkhead unions

*Cheminert to Cheminert*

*1/4-28 to 1/4-28*

Includes flangeless 1/4-28 fittings for tubing OD indicated.

Tubing OD	Bore	PEEK		CTFE		316 Stainless	
		Prod No	Price	Prod No	Price	Prod No	Price
1/16"	0.25 mm	CBUCPK		CBUCKF		CBUCS6	
1/16"	0.50 mm	CBUPK		CBUKF		CBUS6	
1/16"	0.75 mm	CBUMPK		CBUMKF		CBUMS6	
1/8"	1.50 mm	CBULPK		CBULKF		CBULS6	



### Bulkhead unions

*Cheminert to 1/16" ZDV*

*1/4-28 to 10-32*

Includes flangeless 1/4-28 and ZDV 10-32 fittings for 1/16" OD tubing.

Tubing OD	Bore	PEEK		CTFE		316 Stainless	
		Prod No	Price	Prod No	Price	Prod No	Price
1/16"	0.25 mm	CZBUCPK		CZBUCKF		CZBUCS6	
1/16"	0.50 mm	CZBUPK		CZBUKF		CZBUS6	
1/16"	0.75 mm	CZBUMPK		CZBUMKF		CZBUMS6	



## Low Pressure Tees, Crosses, and Manifolds

2009 #60

### Tees

1/4-28

Includes flangeless 1/4-28 fittings for tubing OD indicated.

Tubing OD	Bore	PEEK		CTFE	
		Prod No	Price	Prod No	Price
1/16"	0.25 mm	CTCPK		CTCKF	
1/16"	0.50 mm	CTPK		CTKF	
1/16"	0.75 mm	CTMPK		CTMKF	
1/8"	1.50 mm	CTLPK		CTLKF	



### Crosses

1/4-28

Includes flangeless 1/4-28 fittings for tubing OD indicated.

Tubing OD	Bore	PEEK		CTFE	
		Prod No	Price	Prod No	Price
1/16"	0.25 mm	CXCPK		CXCKF	
1/16"	0.50 mm	CXPK		CXKF	
1/16"	0.75 mm	CXMPK		CXMKF	
1/8"	1.50 mm	CXLPK		CXLKF	



### Manifolds

1/4-28

Includes flangeless 1/4-28 fittings for tubing OD indicated.

Tubing		PEEK		CTFE	
OD	Bore	Prod No	Price	Prod No	Price
5 ports					
1/16"	0.75 mm	C5M1PK		C5M1KF	
1/8"	1.50 mm	C5M2PK		C5M2KF	
9 ports					
1/16"	0.75 mm	C9M1PK		C9M1KF	
1/8"	1.50 mm	C9M2PK		C9M2KF	



### MORE INFORMATION

Flangeless tube end  
fittings ..... page 68

0.25 mm	=	.010"
0.50 mm	=	.020"
0.75 mm	=	.030"
1.0 mm	=	.040"
1.5 mm	=	.060"
2.0 mm	=	.080"
4.6 mm	=	.180"
6.0 mm	=	.236"
6.4 mm	=	.253"
7.0 mm	=	.275"
10.0 mm	=	.400"
27.0 mm	=	1.08"
1/32"	=	0.8 mm
1/16"	=	1.6 mm
1/8"	=	3.2 mm
1/4"	=	6.4 mm
3/8"	=	9.5 mm
1/2"	=	12.7 mm



## Mixing Tees and Glass Connectors



## Mixing tees

1/4-28

Includes flangeless 1/4-28 fittings for tubing OD indicated.

Tubing		PEEK		CTFE	
OD	Bore	Prod No	Price	Prod No	Price
1/16"	0.75 mm	CM1XPK		CM1XKF	
1/8"	1.50 mm	CM2XPK		CM2XKF	

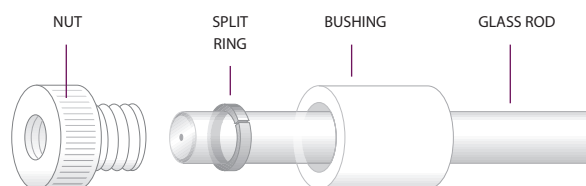


## Glass connectors

1/4-28 female to 1/4" glass tube

Glass connectors join a Cheminert tube end fitting to 1/4" OD glass tubing. They are available as individual components or as complete assemblies. Assemblies include a bushing and nut, a polypropylene or CTFE split ring, and a 1/4" OD x 3-1/4" long piece of 1 mm or 2 mm ID glass tube. This connector works only with our glass tubes.

Description	Acetal		CTFE	
	Prod No	Price	Prod No	Price
<b>Complete assembly</b>				
1 mm ID glass tubing	CGC41		CGC41KF	
2 mm ID glass tubing	CGC42		CGC42KF	
<b>Components</b>				
Bushing	CGCB		CGCBKF	
Nut	CGCN		CGCNKF	
Glass rod, 3-1/4" long				
1 mm ID	CGCG41		—	
2 mm ID	CGCG42		—	
Split rings (package of 5)	CGCR		CGCRKF	



Glass connector



## Adapters

2009 #60

### Tube adapters

1/4-28

Tube adapters have male 1/4-28 threads going to 1/4" or 1/8" OD tubing.

Tubing OD	Bore	PEEK		CTFE		316 Stainless	
		Prod No	Price	Prod No	Price	Prod No	Price
1/8"	1.5 mm	CTA2PK		CTA2KF		CTA2S6	
1/4"	1.5 mm	CTA4PK		CTA4KF		CTA4S6	



### Luer adapters

Luer to 1/4-28 or 10-32

Luer adapters make a leak-tight connection from male or female luer to 1/4-28 threads.

Description	Bore	PEEK		CTFE		PFA	
		Prod No	Price	Prod No	Price	Prod No	Price
Female luer to 1/4-28	1.50 mm	CFLAPK		CFLAKF		CFLAPFA	
to 10-32	0.75 mm	ZUFLPK		ZUFLKF		—	
Male luer to 1/4-28	1.50 mm	CMLAPK		CMLAKF		CMLAPFA	



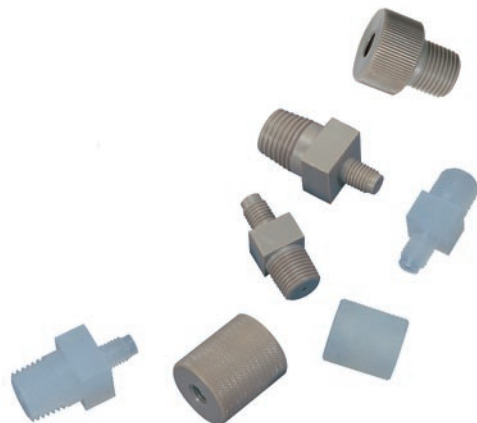
### Luer adapter bulkhead unions

Luer to 1/4-28 or 10-32

Our luer adapter bulkhead union connects a male or female luer to 1/4-28 or 10-32 fittings. These are the ideal fittings for through-the-panel syringe injections. The 1/4-28 versions include flangeless fittings for 1/16" OD tubing. Versions with 10-32 connections (for 1/16" OD tubing) include a fingertight PEEK nut and a ferrule of the same material as the union.



Description	Bore	PEEK		CTFE	
		Prod No	Price	Prod No	Price
Female luer to 1/4-28	1.50 mm	CBUFLPK		CBUFLKF	
to 10-32	1.00 mm	ZBUFLPK		ZBUFLKF	
Male luer to 10-32	1.00 mm	ZBUMLPK		ZBUMLKf	

**Pipe adapters***1/4-28 to NPT*

Versions adapt male or female 1/4-28 fittings to male or female NPT.

PEEK			CTFE		
<i>NPT</i>	<i>Bore</i>	<i>Prod No</i>	<i>Price</i>	<i>Prod No</i>	<i>Price</i>
<b>Female 1/4-28 to male NPT</b>					
1/8"	1.5 mm	CPA2PK		CPA2KF	\$18
1/4"	1.5 mm	CPA4PK		CPA4KF	
<b>Male 1/4-28 to male NPT</b>					
1/8"	1.5 mm	CEPA2PK		CEPA2KF	
1/4"	1.5 mm	CEPA4PK		CEPA4KF	
<b>Female 1/4-28 to female NPT</b>					
1/8"	1.5 mm	CFPA2PK		CFPA2KF	
1/4"	1.5 mm	CFPA4PK		CFPA4KF	



NUT NOT  
INCLUDED

**Cheminert 1/4-28 to Valco 10-32 ZDV adapter**

This adapter permits Valco 10-32 fittings to be installed into any 1/4-28 fitting detail. (Nut and ferrule are not included.)

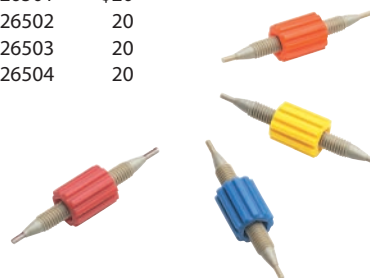
Description	Bore	Prod No	Price
Port adapter	0.50 mm	ZLCA1PK	

**One-piece fingertight column coupler**

Choose from a variety of coupler IDs, indicated by the color of the sleeve (which parallels the color-coding of our PEEK tubing on page 89). A unique feature of this column coupler is that it adapts automatically to fit all pilot lengths – Valco, Waters, Upchurch, Rheodyne, etc. Since the tubing bottoms out in any fitting detail, added void volume is minimal. Material is PEEK.

0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm

Color	Bore	Prod No	Price
Red	0.13 mm ID	JR-26501	\$20
Yellow	0.17 mm ID	JR-26502	20
Blue	0.25 mm ID	JR-26503	20
Orange	0.50 mm ID	JR-26504	20



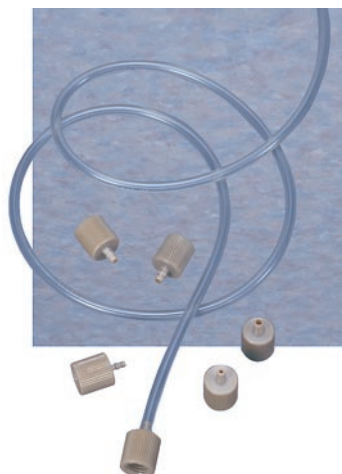
## Filters and Perifit Fittings



### Perifit fittings for peristaltic pump tubing

The Cheminert Perifit is a unique fitting with a barb on one end and a 1/4-28 female fitting on the other end, for connecting a FIA line with the most commonly used peristaltic tubing. The fitting is compact and easy to install while providing a secure, trouble-free connection. A Perifit can be used as a "stop" on standard inexpensive Tygon® tubing, eliminating the need to buy the more expensive pre-cut tubing with pre-installed stops. Unlike many competitive systems, Perifits are reusable as the tubing wears.

Three sizes of Perifits are available to cover the range of tubing most commonly used in FIA.



For use with tubing sizes	Prod No	Price
0.50 to 1.02 mm ID	C-PFS	
1.12 to 1.65 mm ID	C-PFM	
1.85 to 2.29 mm ID	C-PFL	
Kit with 2 of each size above	C-PF	

### In-line filters

1/4-28

These convenient filters can be simply dropped into any 1/4-28 fitting detail. Constructed of PTFE and CTFE, with 316 stainless low-pressure-drop screen. (Fitting shown is not included.)



Pore size	Prod No	Price
2 micron	CFE-S2	
10 micron	CFE-S10	
75 micron	CFE-S75	

### Biocompatible filter

This all-PEEK filter can be placed in any 1/16" line, providing filtration to 0.5 microns. The filter can be changed without tools, since both the filter housing and the fittings are designed to be hand tightened.

Tubing OD	Bore	Prod No	Price
1/16"	0.5 mm	ZU1FPK.5	



#### Replacement elements (PEEK-encapsulated titanium)

Pore size	Prod No	Price
0.5 micron	C-F1.5TI	

0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm



### Last Drop mobile phase filter

The Last Drop mobile phase filter allows more analyses per batch of mobile phase and helps reduce hazardous waste. The flat filter element sits parallel to the bottom of the reservoir, allowing the Last Drop to filter all but the last 2% of the mobile phase from the reservoir without drawing air into the system. Compare this with conventional cylindrical filters that can begin to draw air into the system when nearly 10% of the solvent remains in the reservoir.

The Last Drop mobile phase filter consists of a 316 stainless or PTFE filter element pressed into an inert PTFE housing. The top of the housing has a PEEK tripod which slips into 1.5, 2.2, or 3.5 mm ID pump inlet lines. It will also work with our 1/16" and 1/8" flangeless fittings.

Use the metal-free PTFE version for sensitive biochromatography applications where metal surfaces may corrode or interact with samples.

	Filter element	Prod No	Price
Last drop filter, 2.5µm	PTFE	JR-9000-0520	
	Stainless steel	JR-9000-0530	



### Last Drop filter/spargers

The Last Drop filter/sparger combines filtration and sparging in a single unit. The PTFE housing contains a mobile phase filter with either a stainless steel or a PTFE filter element. The filter/sparger features a PEEK tripod connector for the solvent line, and a nut and ferrule for the sparging line.

	Filter element	Prod No	Price
Last drop filter/sparger 2.5 µm filter, 10 µm sparger	PTFE	JR-9000-0602	
	Stainless steel	JR-9000-0640	



## Filters

2009 #60

### No-Met biocompatible mobile phase filter

Stainless steel in the flowpath is not acceptable in a growing number of applications involving the separation of biomolecules. High salt buffers can corrode stainless steel, and the metal ions released from metallic filters may contaminate or otherwise react with the biomolecules of interest.

The No-Met polyethylene filter is designed for these applications, with inert polymeric fittings and 20 µm filter effectively eliminating metal contamination from the fluid path. Use them for IC and biochromatography applications.

Because they are hydrophobic, No-Met filters may initially require some priming with methanol or acetonitrile.



	Prod No	Price
No-met mobile phase filter, 1/8"	JR-32178	
Replacement element	JR-32179	

### Stainless steel mobile phase filters and helium spargers

Mobile phase filters protect your HPLC system from small particles in the mobile phase. These filters are made from 316 stainless and PEEK or PTFE, and are suitable for use with most solvents.

Helium spargers offer an inexpensive way to prepare and maintain mobile phases free of dissolved gases. Connect these spargers to a regulated supply of helium gas (0-400 ml/min) to remove dissolved gases from the mobile phase. Spargers are made from 10 micron porosity stainless steel.



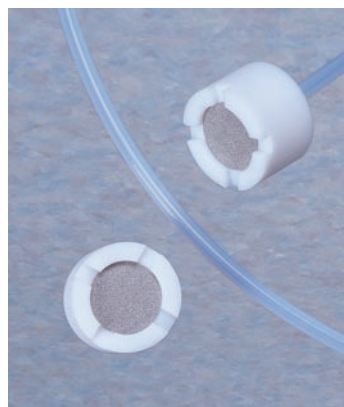
Tubing OD	Porosity	Suggested Max. Flow Rate (ml/min)	Prod No	Price
1/16"	2 µm	8	JR-367016-2	
1/16"	10 µm	20	JR-367016-10	
1/16"	20 µm	20	JR-367016-20	
1/8"	2 µm	8	JR-367008-2	
1/8"	10 µm	20	JR-367008-10	
1/8"	20 µm	20	JR-367008-20	

### Mobile phase filters

Direct connect

Cheminert mobile phase filters provide point-of-use filtering of common HPLC or FIA solvents. They are designed to connect directly to 1/8" OD PTFE or PEEK tubing using a simple press fit. The filter housing is PTFE and includes a 2 or 10 micron titanium frit.

Pore size	Prod No	Price
2 micron	C-MPFTI2	
10 micron	C-MPFTI10	



0.25 mm	= .010"
0.50 mm	= .020"
0.75 mm	= .030"
1.0 mm	= .040"
1.5 mm	= .060"
2.0 mm	= .080"
4.6 mm	= .180"
6.0 mm	= .236"
6.4 mm	= .253"
7.0 mm	= .275"
10.0 mm	= .400"
27.0 mm	= 1.08"
1/32"	= 0.8 mm
1/16"	= 1.6 mm
1/8"	= 3.2 mm
1/4"	= 6.4 mm
3/8"	= 9.5 mm
1/2"	= 12.7 mm

**Mobile phase or solvent reservoirs**

1/4-28

These high density polyethylene reservoirs for in-line solvent use come with polypropylene caps, 1/4-28 flangeless fittings, and 1/8" PTFE tubes for one or two lines plus vent. Plugs are included for conversion to solvent storage when the reservoir is removed from the system. Optional PTFE filters with titanium frits are available on the facing page.

Capacity	Cap	Prod No	Price
0.5 liter	2-hole	C-MPR2	
0.5 liter	3-hole	C-MPR3	
0.5 liter	plain	C-BOT16	
1.0 liter	plain	C-BOT32	

**VICI-cap**

The VICI-cap is the most economical way to helium sparge and deliver HPLC mobile phases. The insert is manufactured from PTFE with an EPDM\* O-ring and a polypropylene screw cap.

The VICI-cap is available for either GL45 or S40 threaded bottles. It has a 1/4-28 female port and three ports for tubing insertion: two 1/8" tubing ports and a 1/16" tubing port. The tubing ports are made so that you push the tubing through the hole, while 1/4-28 fittings provide the best connection. Unused ports can be plugged as required.

	Prod No	Price
VICI-cap GL-45	JR-9000-0001	
VICI-cap S40	JR-9000-0006	

**Valves for vials**

The screw-cap Mininert is available in a variety of sizes. The crimp-top valve for 13 mm ID glassware slides into the neck of the vial and features a threaded flange, which is turned to provide a leak-tight fit.

Pkg/12:	Cap/thread size	Prod No	Price
	13 mm-425	PS-614158	
	15 mm-425	PS-614160	
	18 mm-400	PS-614161	
	20 mm-400	PS-614170	
	24 mm-400	PS-614163	
	Crimp top	PS-614250	

**MORE INFORMATION**

Bulkhead  
connectors . . . . page 73  
Flangeless fittings . . . . 68  
Plugs . . . . . 71  
Polymeric  
tubing . . . . . 90

**TECH TIP**

The VICI-cap is not usable for building up a helium atmosphere within the solvent bottle. It is only designed for continuous helium sparging.

\*Ethylene Propylene Diene Monomer