

## 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.

### 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:

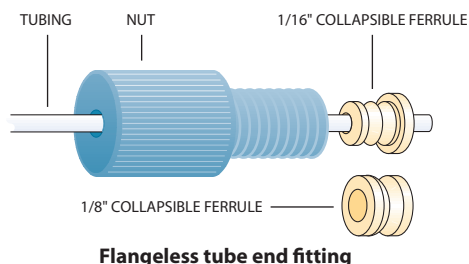
CTFE	CFL-1A	CFL-2A
PEEK	CFL-1A-PK	CFL-2A-PK

#### 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
-----	-----



Flangeless tube end fitting

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

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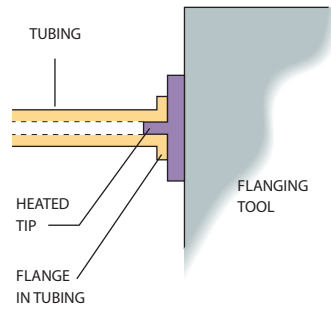


## Flanging Tool, Starter Kit

### 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 ≤ 0.25 mm	CFT-TXC	
for tubing ID ≤ 0.75 mm	CFT-TC	
for tubing ID ≤ 1.00 mm	CFT-TM	
for tubing ID ≤ 1.50 mm	CFT-TL	
for tubing ID ≤ 2.00 mm	CFT-TXL	
Razor blades ( <i>pkg /10</i> )	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
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## 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.

	<i>Prod No</i>	<i>Price</i>
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	
<i>Package of 5:</i>	<i>Prod No</i>	<i>Price</i>	<i>Prod No</i>	<i>Price</i>
	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.

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

### Caps

1/4-28

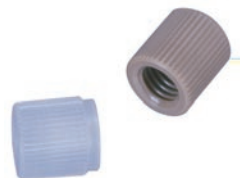
Caps are used to close off lines with 1/4-28 tube end fittings.

	PEEK		CTFE	
<i>Package of 5:</i>	<i>Prod No</i>	<i>Price</i>	<i>Prod No</i>	<i>Price</i>
	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"
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## Low Pressure Unions

### 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.

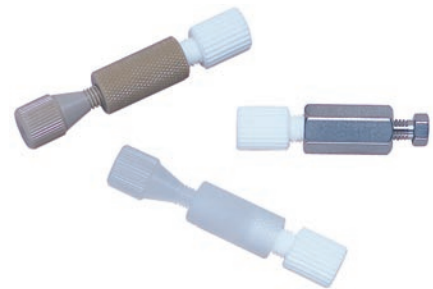
Tubing OD	Bore	PEEK		CTFE		Polypropylene	
		Prod No	Price	Prod No	Price	Prod No	Price
1/16"	0.25 mm	CUCPK		CUCKF		-	
1/16"	0.50 mm	CUPK		CUKF		-	
1/16"	0.75 mm	CUMPK		CUMKF		-	
1/8"	1.50 mm	CULPK		CULKF		-	
1/8"	Butt connection	CUTPK		CUTKF		CUTPP *	(* pkg/5)



### 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	



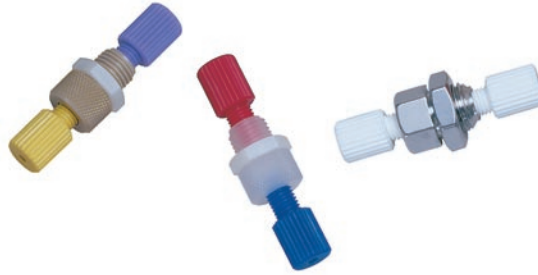
0.25 mm = .010"
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1/4" = 6.4 mm
3/8" = 9.5 mm
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## Low Pressure Bulkhead Unions

### **Bulkhead unions** *Cheminert to Cheminert* *1/4-28 to 1/4-28*

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

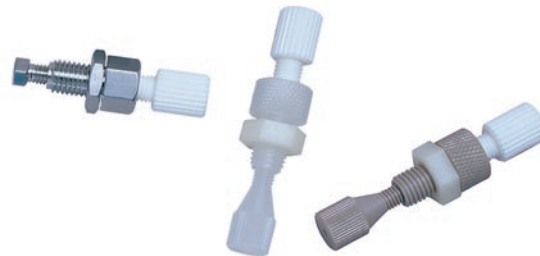
Tubing OD	Bore	PEEK		CTFE		316 Stainless	
		Prod No	Price	Prod No	Price	Prod No	Price
1/16"	0.25 mm	CBUCPK		CBUCKF		CBUCS6	
1/16"	0.50 mm	CBUPK		CBUKF		CBUS6	
1/16"	0.75 mm	CBUMPK		CBUMKF		CBUMS6	
1/8"	1.50 mm	CBULPK		CBULKF		CBULS6	



### **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

### 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"	0.25 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		PEEK		CTFE	
OD	Bore	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
<b>5 ports</b>					
1/16"	0.75 mm	C5M1PK		C5M1KF	
1/8"	1.50 mm	C5M2PK		C5M2KF	
<b>9 ports</b>					
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

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	

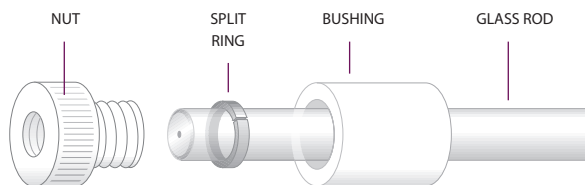


### Glass connectors

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

### 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	



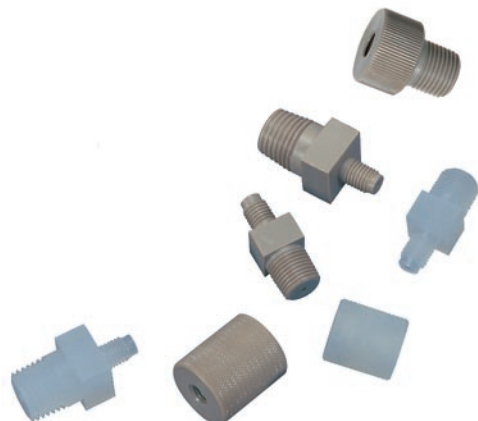
### Luer adapter bulkhead unions

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.

NPT	Bore	PEEK		CTFE	
		Prod No	Price	Prod No	Price
<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	



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

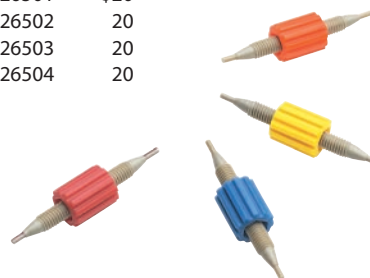
This adapter permits Valco 10-32 fittings to be installed into any 1/4-28 fitting detail. (Nut and ferrule are not included.)

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.

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



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