

HPLC Column End Fittings

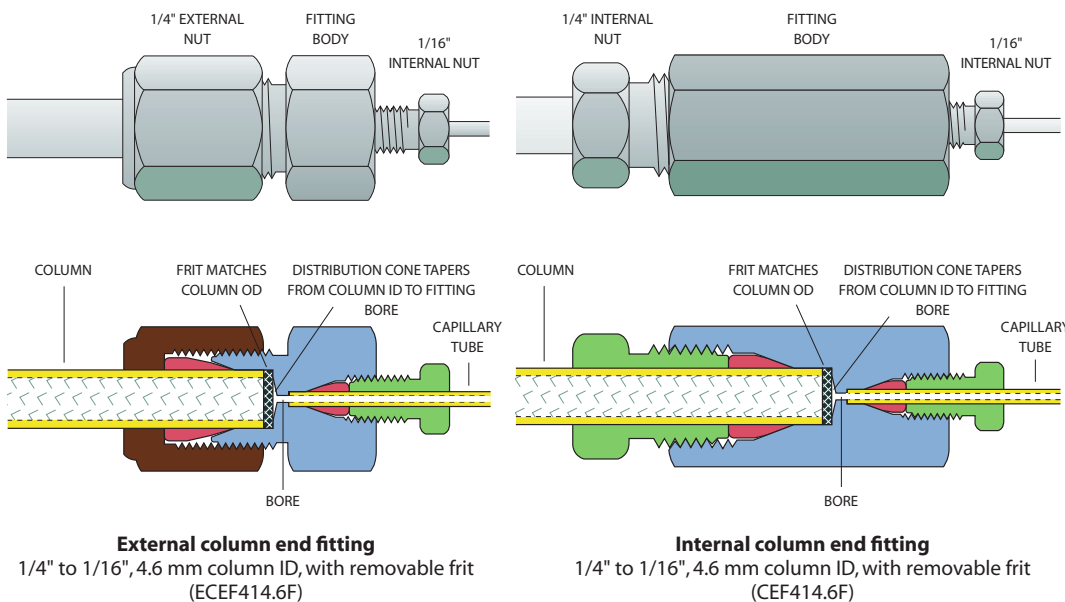
Although our column end fittings look like ordinary reducing unions, they are machined with a conical recess to match a specific column ID so that there are no abrupt or irregular diameter changes which can cause loss of theoretical plates. (See illustrations, below.) This optimization results in an assortment of column end fittings for each column OD. To receive full benefit of this design, use column end fittings only with the specific column ID for which they are intended. We can design special fittings for unusual sizes or OEM use.

If a temporary frit is used during column packing, the frit OD should match the column OD. Permanent frits should have an OD matched to the column ID, and should be pressed in to give the lowest dead volume. Our frits are available in a variety of pore sizes,

and we offer titanium and Hastelloy C frits for systems sensitive to exposed stainless steel.

All column end fittings are rated to 10,000 psi. However, the functional limit is dictated by the yield strength of the tubing used with the fitting. Standard 1/4", 3/8", and 1/2" columns are usually packed at 8,000-10,000 psi, which is right at the yield strength for the tubing commonly used. Columns with 1" ID have a yield strength of 6,000-8,000 psi, and the fitting will not hold if the system pressure exceeds that limit.

The newest addition to the line is the Nanovolume® column end fitting. (See page 62.) These all-PEEK fittings feature fingertight zero dead volume connections with 100 or 150 micron bore. PEEK sleeves permit use with any fused silica tubing.



MORE INFORMATION
Frits..... page 45

TECH TIP
Standard column end fittings are Type 316 stainless, but since the column wall and frit form over 99% of the column surface area, standard fittings with titanium frits can generally be used on inert columns.

TECH TIP
When packing columns, use Valco "through-type" unions to couple the column to the packing reservoir.

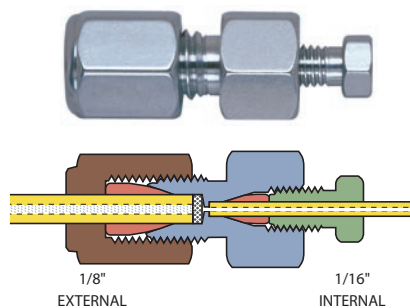
Size	Prod No
1/16" union	ZU1T
1/8" union	ZU2T
1/4" union	ZU4T

Through-type unions for packing columns..... page 26

Microbore column end fittings*(1.0 mm – 2.0 mm column ID)*

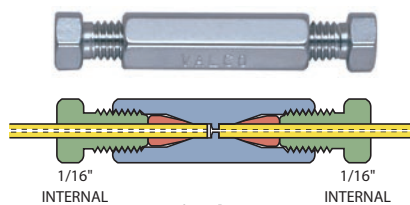
Standard material is Type 316 stainless steel.

	Bore	Column ID	Without frit		Removable 2 μ frit	
			Prod No	Price	Prod No	Price
External column end fittings						
1/16" to 1/16"	0.25 mm	1.0 mm	ECEF111.0		ECEF111.0F	
1/8" to 1/16"	0.25 mm	1.0 mm	ECEF211.0		ECEF211.0F	



**Microbore
external column end fitting**
(ECEF211.0F)

	Bore	Column ID	Without frit		Removable 2 μ frit	
			Prod No	Price	Prod No	Price
Internal column end fittings						
1/16" to 1/32"	0.25 mm	1.0 mm	CEF1.5		CEF1.5F	
1/16" to 1/16"	0.25 mm	1.0 mm	CEF1		CEF1F	
1/8" to 1/32"	0.25 mm	1.0 mm	CEF2.51.0		CEF2.51.0F	
1/8" to 1/16"	0.25 mm	1.0 mm	CEF211.0		CEF211.0F	
1/8" to 1/16"	0.25 mm	2.0 mm	CEF212.0		CEF212.0F	



**Microbore
internal column end fitting**
(CEF1F)

**NANOBORE COLUMN
END FITTINGS**See our complete line of 100 μ m and 150 μ m bore fittings on page 62.

100 μ m	= .004"
150 μ m	= .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 Tel: 03 9762 2034

HPLC Column End Fittings

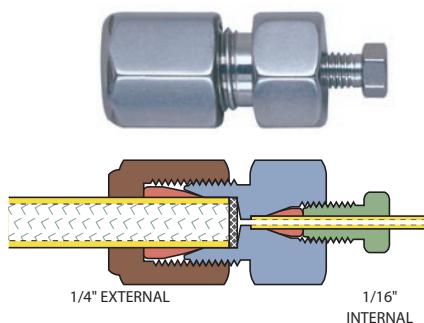


2009 #60

Analytical column end fittings *(2.0 mm – 4.6 mm column ID)*

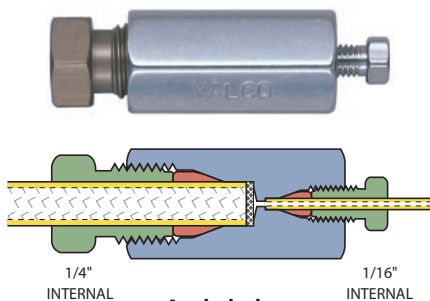
Standard material is Type 316 stainless.

	Bore	Column ID	Without frit		Removable 2 μ frit	
			Prod No	Price	Prod No	Price
External column end fittings						
1/4" to 1/16"	0.4 mm	2.1 mm	ECEF412.1		ECEF412.1F	
1/4" to 1/16"	0.4 mm	3.0 mm	ECEF413.0		ECEF413.0F	
1/4" to 1/16"	0.4 mm	4.0 mm	ECEF414.0		ECEF414.0F	
1/4" to 1/16"	0.4 mm	4.6 mm	ECEF414.6		ECEF414.6F	



Analytical external column end fitting with removable frit (ECEF414.6F)

	Bore	Column ID	Without frit		Removable 2 μ frit	
			Prod No	Price	Prod No	Price
Internal column end fittings						
1/4" to 1/16"	0.4 mm	2.1 mm	CEF412.1		CEF412.1F	
1/4" to 1/16"	0.4 mm	3.0 mm	CEF413.0		CEF413.0F	
1/4" to 1/16"	0.4 mm	4.0 mm	CEF414.0		CEF414.0F	
1/4" to 1/16"	0.4 mm	4.6 mm	CEF414.6		CEF414.6F	



Analytical internal column end fitting with removable frit (CEF414.6F)

NANOBORE COLUMN END FITTINGS

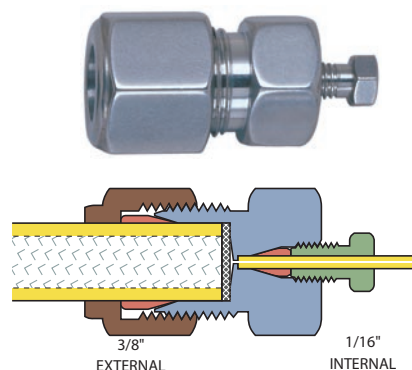
See our complete line of 100 μ m and 150 μ m bore fittings on page 62.

100 μ m	= .004"
150 μ m	= .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

Semi-preparative and preparative column end fittings

Standard material is Type 316 stainless.

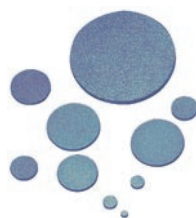
	Bore	Column ID	Without frit		Removable 2 μ frit	
			Prod No	Price	Prod No	Price
External column end fittings						
3/8" to 1/16"	0.40 mm	6.0 mm	ECEF616.0		ECEF616.0F	
3/8" to 1/16"	0.40 mm	7.0 mm	ECEF617.0		ECEF617.0F	
1/2" to 1/16"	0.75 mm	9.0 mm	ECEF819.0		ECEF819.0F	
1/2" to 1/16"	0.75 mm	10.0 mm	ECEF8110.0		ECEF8110.0F	
1" to 1/16"	0.75 mm	20.0 mm	ECEF1K1		ECEF1K1F	



**Semi-preparative
external column end fitting**
(ECEF616.0F)

Replacement frits

1/16", 1/8" and 1/4" frits are sold in packages of 10. 3/8", 1/2", and 1" frits are sold individually. Other sizes may be available or special-ordered in OEM quantities.



	Pore Size	Frit thickness	Stainless steel		Hastelloy C		Titanium	
			Prod No	Price	Prod No	Price	Prod No	Price
<i>Package of 10:</i>								
1/16" frits	0.5 μ	0.75 mm	.5FR1-10		.5FR1HC-10		-	
	2 μ	0.75 mm	2FR1-10		2FR1HC-10		2FR1TI-10	
	10 μ	0.75 mm	10FR1-10		-		-	
1/8" frits	0.5 μ	1.00 mm	.5FR2-10		-		-	
	2 μ	1.00 mm	2FR2-10		2FR2HC-10		2FR2TI-10	
	10 μ	1.00 mm	10FR2-10		-		-	
1/4" frits	0.5 μ	1.00 mm	.5FR4-10		-		-	
	2 μ	1.00 mm	2FR4-10		2FR4HC-10		2FR4TI-10	
	10 μ	1.00 mm	10FR4-10		10FR4HC-10		-	
<i>Each:</i>								
3/8" frits	2 μ	1.00 mm	2FR6		2FR6HC		2FR6TI	
1/2" frits	2 μ	1.00 mm	2FR8		2FR8HC		2FR8TI	
1" frits	2 μ	1.50 mm	2FR1K		2FR1KHC		2FR1KTI	