



## User guide

### Introduction

The 0.5 µm PEEK precolumn micro filter (pn 260.0100) protects SweetSep™ anion-exchange columns for HPAEC-PAD analysis from particulate contaminations and extends the column life-time. The very small swept volume of only 0.5 µL assures minimal dilution and peak broadening enabling fast, high-resolution analysis of carbohydrates, amino acids and other analytes. It can connect to both micro- and standard bore columns. Its metal-free design based on a PEEK housing and frit eliminates the possibility of release of metal ion contaminations which can be both detrimental to separation and pulsed amperometric detection in HPAEC-PAD. The 0.5 µm precolumn filter is equipped with a replaceable PEEK filter frit and standard delivered with 4 spare PEEK frits. The frits can be reordered as 10 pack (pn 260.0110).

### Specifications

The specifications of the 0.5 µm PEEK precolumn micro filter (pn 260.0100) are listed in table 1 below.

Table 1

#### Specifications

Frit material	PEEK frit in PCTFE sealing ring*
Housing material	PEEK
Frit porosity	0.5 µm
Swept volume	0.5 µL
Pressure rating	4000 psi (276 bar)
For tubing OD	1/16"
Thread port configuration coned	10-32 UNF

\*)PEEK = Polyetheretherketone, PCTFE = Polychlorotrifluoroethylene

### Installation instruction

To install the 0.5 µm precolumn filter follow the steps described below and exploded view in figure 1:

- Finger tighten the preassembled unit into the inlet port of your column.
- Remove the female nut (P-416) and the micro ferrule (F-172) from the precolumn filter assembly.
- Insert the 1/16" OD inlet tubing in the filter holder.

- Finger tighten the nut and ferrule back onto the unit, while continuing to firmly push the tubing against the bottom of the receiving port in the precolumn filter.
- The 0.5 µm precolumn filter is now assembled and ready for use.

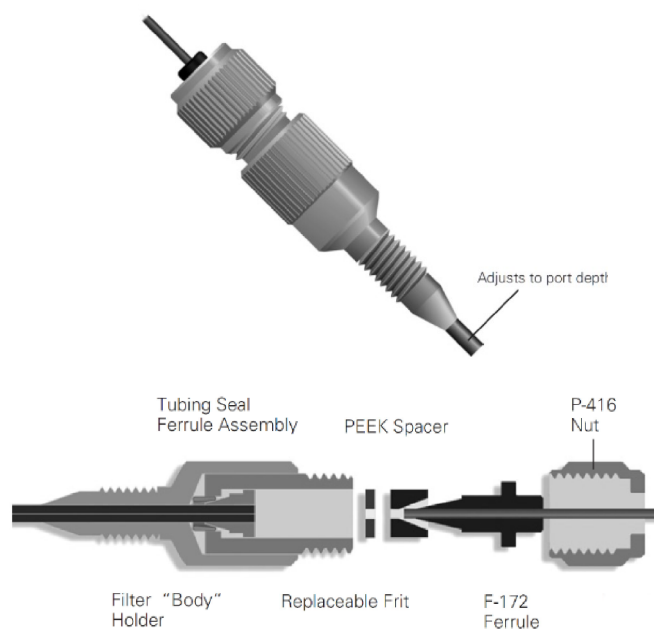


Figure 1. Top: adjustment of PEEK tubing end into the coned 10-32 UNF inlet port of the column. Bottom: exploded view of the precolumn filter assembly.

The replaceable frits can be exchanged in case the frit is blocked by accumulated particulate matter, leading to split peaks and high backpressure.



Figure 2. Replaceable 0.5 µm PEEK frit (0.045" x 0.033" x 0.192") of the precolumn filter. This metal-free and biocompatible frit is embedded in a PCTFE sealing ring enhancing sealing properties and excellent chemical resistance.



Sources of particles include mobile phases (especially when buffers are mixed with organic solvents which may lead to precipitation), leaking pump and injector seals, and samples.

Replace the PEEK filter frit in the case of clogging (high back pressure) or loss of performance (deterioration of peak shape, peak splitting).

## Precautions

To assure an optimal lifetime of the replaceable PEEK filters, mobile phases and flush/storage solutions must be clean, filtered and prepared from high purity chemicals as they are in direct contact with the column. Make sure that samples are free of particulates and impurities. Proper sample preparation prevents column blockage. If possible filter aqueous samples over a 0.2 µm Polyethersulfone (PES) syringe filter. Perform regular maintenance on the LC pump and autosampler or injector. Pump and injection valve seals may release particles due to wear and tear. Use an pump outlet filter or inline filter with a porosity of 2 µm or smaller between pump and injector. The metal-free P6.1L pump of Antec Scientific is standard equipped with a 2 µm outlet filter to prevent particulates from pump seals etc. to enter the high pressure flow path of the HPAEC-PAD system. The maximum pressure limit of the prefilter is 276 bar/ 4000 psi. Do not operate the prefilter beyond the rated pressure limit, because it can lead to leakage or damage.

## Ordering information

Precolumn filter & spares	
260.0100	Pre-column filter PEEK, 0.5 µm
260.0110	Replacement filters PEEK, 0.5 µm, 10 pcs

**A precolumn filter is considered a LC consumable and limited warranty applies. Optimal column performance cannot be guaranteed when the above-mentioned requirement and precautions are not met.**

In case of any further questions do not hesitate to contact us using the contact information below or visit our website:

<https://antecscientific.com/products/columns/>

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