94-0422

Application Brief No. 1005

Preparing Food and Beverage Samples with Ultrafree® - PF Filter Units

Highlights

Ultrafree - PF filter units are pressure driven, self-contained disposable ultrafiltration devices for preparing food and beverage samples for chromatographic analysis. The Ultrafree - PF unit consists of a reservoir/filter cup, a removable cap with a check valve, a collection/filtrate cup and a stopper. Air pressure is supplied either by a plastic syringe or bottled gas through a Luer inlet.

The units filter sample components based on molecular weight cutoffs. Large soluble materials (proteins, lipids, polysaccharides) larger in size than the membrane cutoff, can be removed from samples without precipitation or centrifugation.

Ultrafree - PF Filter Units are typically used to recover amino acids, sugars, ions and vitamins from complex food and beverage matrices. These matrices include, but are not limited to, milk, meat extract, cheese extract, fruit juice, pet food extract, flour extract and molasses.

The adjacent table lists the available Ultrafree - PF products. Please note that NMWL stands for nominal molecular weight limit and the regenerated cellulose membrane exhibits the lowest binding of amino acids, peptides and proteins.

Membrane	Filter Code	Part Number
10,000 NMWL Polysulfone	PTGC	30645
10,000 NMWL Regenerated Cellulose	PLGC	30646
30,000 NMWL Polysulfone	PTTK	30647
100,000 NMWL Polysulfone	PTHK	30648

Operating Conditions

Specifications

Materials: Molded polypropylene filter cup and cap
Silicone check valve in cap
Silicone rubber O-ring in cap
Polystyrene filtrate collection cup
Polypropylene Luer slip stopper

Filter Cup Capacity: 0.3 ml minimum - 3.0 ml maximum

Flow: Varies with protein and lipid content of sample

Pressure: 60 psi maximum

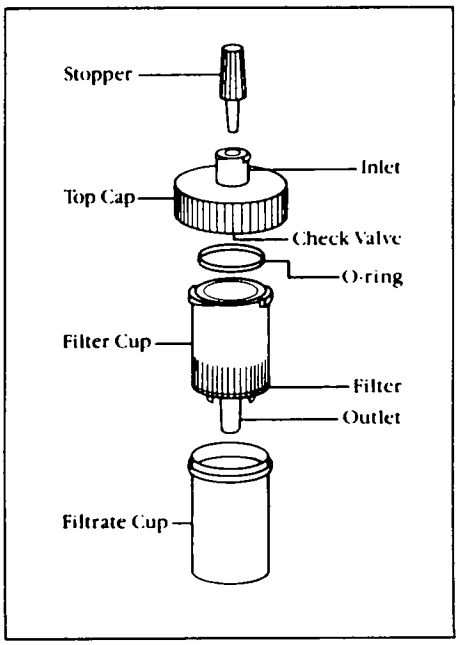
Temperature: 50°C maximum

Chemicals: pH 1-14 with acids/bases at 0.1M
50% alcohols

Packaging:

Quantity	Item
24	Filter cups
24	Fitrate collection cups
4	Top caps
4	Luer stoppers

Ultrafree - PF Filter Unit

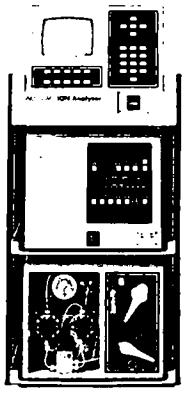


Reference

Ultrafree - PF Filter Units, Operation and Maintenance Manual
P-16975, Millipore Corporation

Waters Chromatography Division, Millipore Corporation, 34 Maple Street, Milford, MA 01757 (508) 478-2000

Ion Chromatography

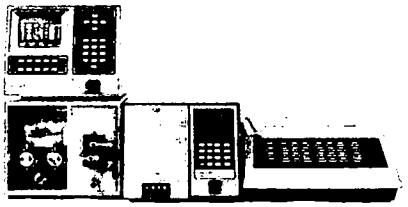


Stainless steel and non-metallic systems. Innovative detectors. Linear quantitation over a wide concentration range with single point calibration. If you need to analyze for mono- and divalent cations, ionic surfactants, organic acids, anions, metals, and metal complexes, talk to Waters.

Data management

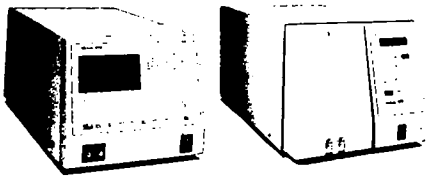
Single and multi-system data acquisition and control. Networking computers. Baseline,™ Maxima,™ and Expert™ Ease Chromatography Software. NEC and DEC hardware. From integrators to networking computers, Waters has a data solution to meet your every need.

PowerLine™ Systems



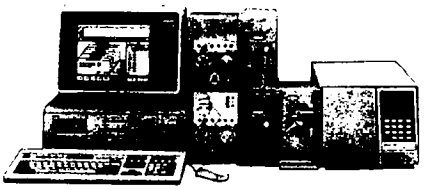
Single keyboard control and programming of pumps, injectors, and detectors with or without a separate personal computer. Waters PowerLine HPLC Systems put HPLC power where it belongs—at your fingertips. All Waters PowerLine HPLC, IC, GPC, GC and Preparative Chromatography Systems are controlled from the keyboard of the 600E PowerLine Module.

Detection



UV/Vis: photodiode array, fixed, variable and programmable wavelength. Refractive index. Conductivity. Electrochemical. Fluorescence: fixed and programmable/scanning wavelength. Waters offers the food technologist the best choice of detectors to solve separations problems now and in the future.

Special-purpose systems



Waters offers special-purpose systems for polymer analysis, amino acid analysis, peptide analysis, carbamate analysis, preparative chromatography, LC-MS, and sugar analysis. These systems come with installation and training, optimized methods, quality-tested chemistries, and the right combination of pumps, injectors, and detectors for reproducible analyses.

Chemical Products

Analytical to pilot plant scale chemistries. Bulk media. Specialty columns for amino acids, peptides, proteins, fatty acids, carbohydrates, organic acids, carbamate pesticide residues and polymers. Guard columns. Solid phase extraction cartridges. Radial compression technology. Sample filtration. Robotics. From sample preparation to post-column derivatization, Waters chemical products are essential for doing high-resolution chromatography.

Support and Service

Waters technical and service representatives are the best in the business. Along with Waters applications chemists, they create a support network which guarantees your satisfaction.

Waters
Division of MILLIPORE

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