

EA2000 Electrical Flow FFF Series

Electrical Asymmetrical Flow FFF



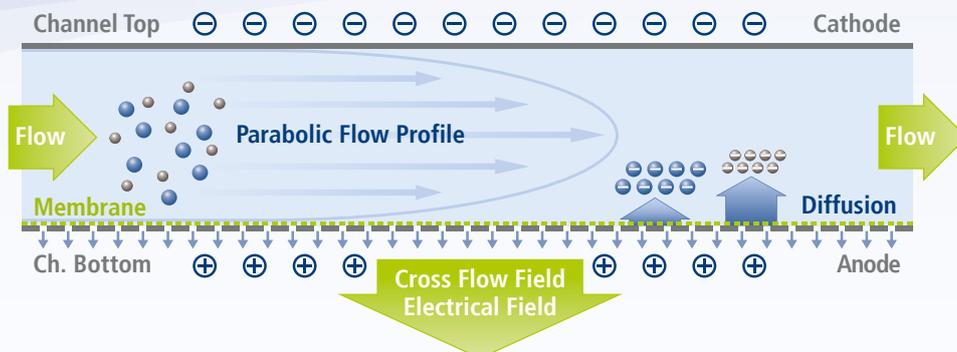
Universal Particle/Polymer/Protein Separator

EAF2000 Electrical Flow FFF Series

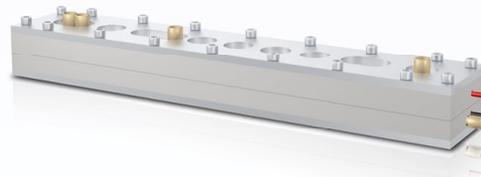
Simultaneous Electrical and Asymmetrical Flow FFF

Principle of EAF4

The EAF4 technology combines the principle of Electrical and Asymmetrical Flow FFF in one system. Electrical and Cross Flow fields are applied simultaneously across the FFF channel. Separations by particle size and particle charge based on electrophoretic mobility can be achieved.



EAF2000 Electrical Flow FFF Channel



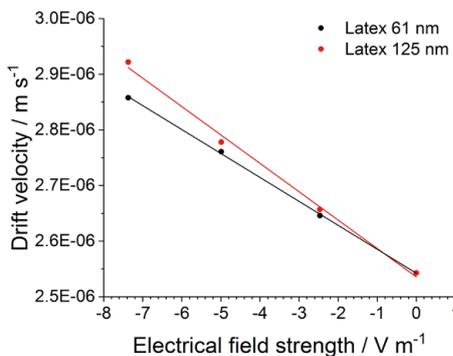
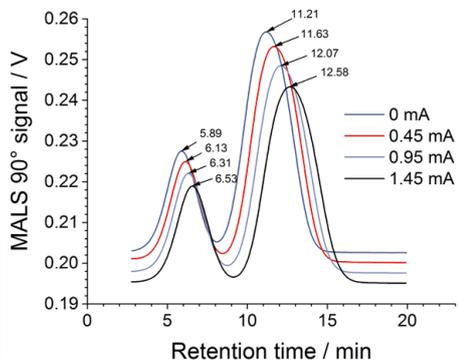
PN2411 Electrical FFF Module



Hardware & Software

The EAF2000 System is based on the AF2000 Asymmetrical Flow FFF module, with additional Electrical FFF module, special EAF4 channel and software module:

- PN2411 Electrical FFF module for precise control of the Electric Field allowing constant and reproducible separation conditions including permanent monitoring of pH and conductivity. Permanent online pH and conductivity measurement within a linear range of pH 3-10.
- EAF2000 Electrical Flow FFF channel with special built-in pole-reversible electrodes and resistant membrane for cross flow. Electrode material available in titan (standard) or platinum.
- Software module for constant current operation and data evaluation for electrophoretic mobility calculation



Applications of EAF2000

Biopharm : Proteins, Antibodies, Antibody Aggregates, Viruses, Liposomes and Drug Delivery
 Environment : Environmental Nanoparticles such as Humics, Fulvics, Clay Particles, Silica, TiO₂
 Nanomaterials : Polystyrene Latex Beads, any charged Nanoparticle or high-tech Nanomaterial

The Postnova EAF2000 Electrical Flow FFF technology is compatible with any existing AF2000.

Technical specifications are subject to change without further notice.

Specifications

EAF4 Unit

- Carrier Liquids:
Aqueous: any aqueous liquid, pH from 2 - 11, ionic strength from DI water to saline
Organic: THF, MeOH, etc.
- Detectors:
UV, RI, laser light scattering, viscometry, fluorescence and more; multiple detectors in-line
- System Software:
NovaFFF AF2000 Control
NovaFFF Analysis
- Temperature Range:
Room temperature
- PC Requirements:
Windows, min. 8 GB RAM, 2 Ethernet-LAN ports, 1 RS232 port

PN2411 Electrical FFF Module

- Output / E-Field:
Current: +/- 75 mA *
Max. voltage: +/- 22.5 V
Resolution: 10 µA
Precision: <1 % **
Reproducibility: <0.5 % RSD **
- Status Control:
Current read back
Voltage read back
Polarity
Discharge
- User Control:
Current
Selection of polarity
Electrode discharge to make sure E-field is zero
- pH/Conductivity Monitoring:
Permanent online pH and conductivity measurement within a linear range of pH 3-10.
Permanent online conductivity measurement.
- Safety:
Short-circuit proof
- Status Indications LED:
Red = field OFF
Green = field active
- Environmental Conditions:
Relative humidity 20 – 80 % (non-condensing) at an operating temperature range of 10 – 40 °C
- Power Requirements:
100 – 240 VAC @ 50 – 60 Hz
- Dimensions (DxWxH):
430 x 270 x 90 mm
- Weight:
5 kg

* Depends on used solvents and channels. Very low conductivities will cause lower currents.

** Valid only for an output current between 0.5 mA and 70 mA.

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