POSTNOVA

EAF2000 Electrical Flow FFF Series

Electrical Asymmetrical Flow FFF

Universal Virus/Vesicle/Protein Analyzer

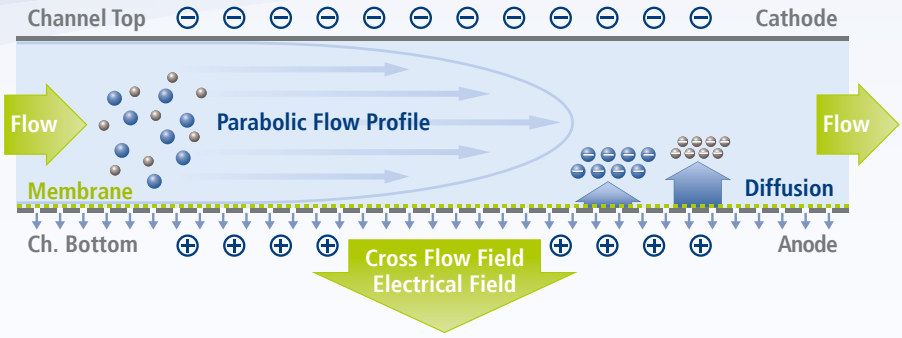
www.postnova.com

EAF2000 Electrical Asymmetrical Flow FFF Series

Simultaneous Electrical and Asymmetrical Flow FFF

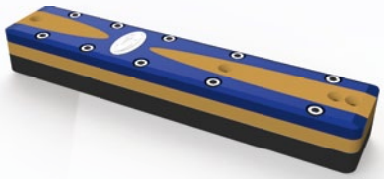
Principle of EAF4

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.



Hardware & Software

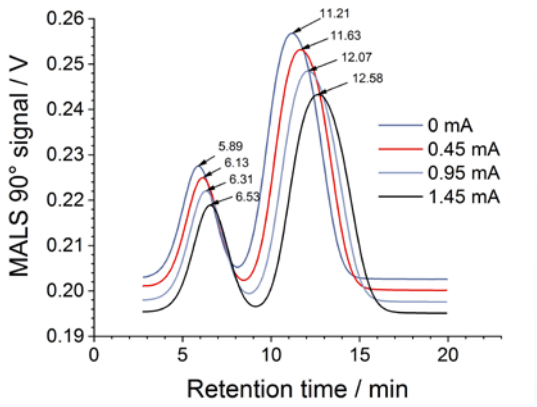
EAF2000 Electrical Flow FFF Channel

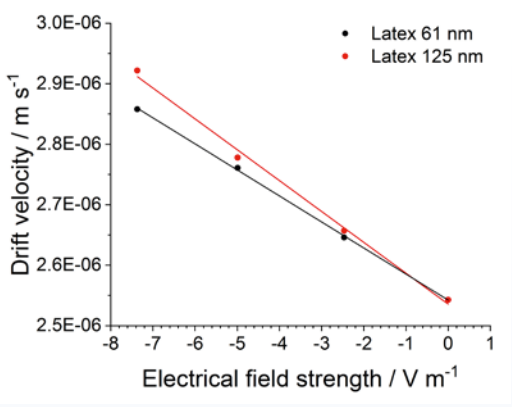


PN2411 Electrical FFF Module

The EAF2000 System consists of the AF2000 Asymmetrical Flow FFF module, an additional EAF4 module, EAF4 channel and a software module:

- PN2411 Electrical FFF module for precise control of the electrical field allowing constant and reproducible separation conditions including permanent monitoring of pH and conductivity. Permanent online pH and conductivity measurement within a range of pH 3-12.
- EAF2000 Electrical Asymmetrical 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 allows system control and data evalulation of electrophoretic mobility and zeta potential.





Applications of EAF2000

Biopharm : Proteins, Antibodies, Antibody Aggregates, Viruses, Liposomes and Drug Delivery
Environment : Environmental Nanoparticles such as Humics, Fulvics, Clay Particles, Silica, TiO_2
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, fluorescence and more; multiple detectors in-line
- System Software:
  NovaFFF AF2000 Control
  NovaAnalysis
- Temperature Range:
  5-90°C
  Recommended: Stabilization at 25° for correct field calculations
- 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 Monitoring:
  Permanent online pH measurement within a pH range of 3-12 ***
- Conductivity Monitoring:
  Permanent online conductivity measurement. within a conductivity meter measurement range of 10 µS/cm - 16 mS/cm
- 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.
** Valid for an output current between 0.5 mA and 70 mA.
*** linear pH range between 3-10.

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