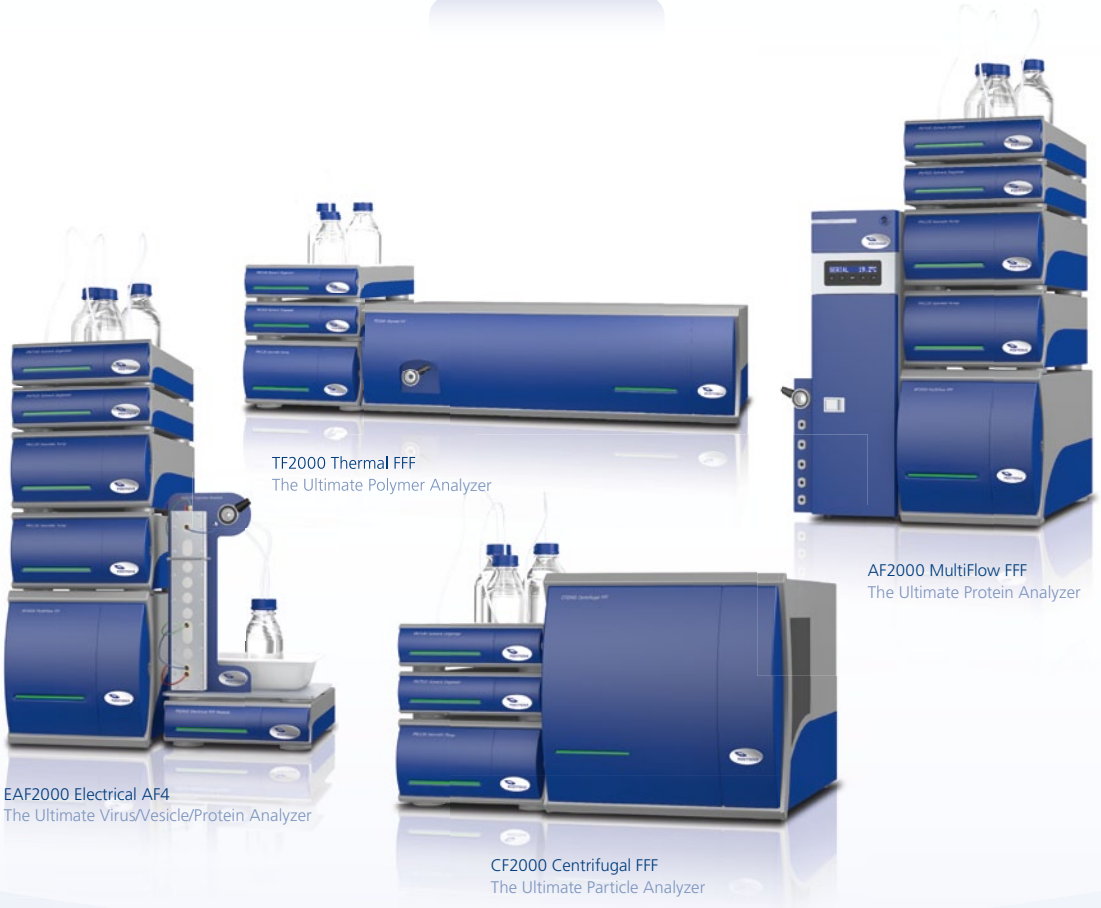
POSTNOVA

NovaAnalysis Software

FFF Analysis Software for FFF Systems

NovaAnalysis



TF2000 Thermal FFF
The Ultimate Polymer Analyzer

AF2000 MultiFlow FFF
The Ultimate Protein Analyzer

EAF2000 Electrical AF4
The Ultimate Virus/Vesicle/Protein Analyzer

CF2000 Centrifugal FFF
The Ultimate Particle Analyzer

www.postnova.com

NovaAnalysis Software

Field-Flow Fractionation (FFF) is a very powerful and adaptable separation technology that provides excellent results even in difficult applications. Since the performance is highly dependent on the selected instrument flow profiles, often several test measurements are necessary to develop the best method for an unknown sample. Optimization via simulation helps our FFF users to save instrument time and sample in finding optimum separation parameters.

NovaAnalysis is a new and dynamic evaluation software package with integrated method simulation based on published FFF theory. The NovaAnalysis software has been developed based on the theoretical work of Prof. Giddings, who invented the technique, and the many years of continuous research and development since. With its aid, the user can significantly reduce the time required for method development in FFF by running a series of virtual experiments. All method parameters such as channel flow, cross-flow profile, channel dimensions and focusing conditions can be varied and their effect on the results simulated and checked immediately. The resulting virtual method can be loaded into the AF4 or EAF4 instrument and used to make a real analytical run with the sample.

Features

Simulating an FFF Run

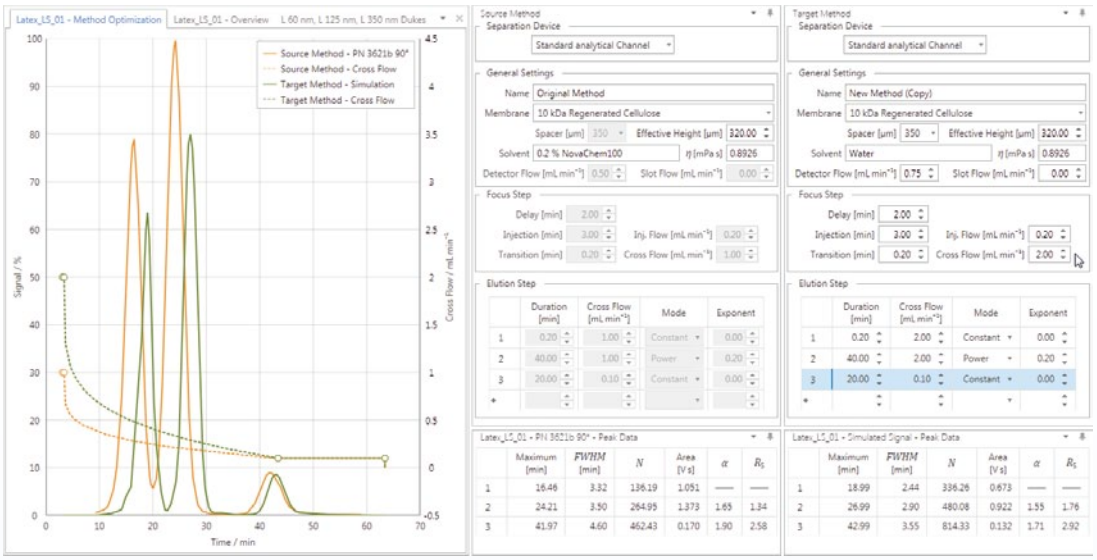
The software fully simulates separations on an advanced Postnova AF2000 (AF4), EAF2000 (EAF4), CF2000 (CF3) or TF2000 (TF3) system, including the ability to enter sample information and all possible dimensional variants of FFF channels and the corresponding flows. Any method parameter can be applied to virtual runs and compared with other sets of parameters. The simulation avoids performing multiple real fractionation runs and consuming sample material, and also reduces laboratory analysis time.

Optimizing FFF Methods

Advanced software features allow the optimization of FFF methods by simulating fractionation runs with different parameters to find the best combination of parameters to achieve optimal measurement results. After optimizing the method by simulation, a real fractionation can be performed by exporting the optimized method and then running it on the AF2000 or EAF2000 system.

EAF4 Module

EAF4 allows a size-resolved determination of the electrophoretic mobility and zeta potential of components in complex mixtures. There are 3 calculation models selectable: Smoluchowski, Hückel and Debye length. Calculations are based on the effective E-field strength from conductivity at each shifted peak.



Ordering Information

P-NVA-FFF-005	NovaAnalysis Software Basic License incl. FFF Theory, Simulation, Evaluation, Reporting and Optimization
P-NVA-FFF-006	NovaAnalysis Software EAF4 Add-on License
P-NVA-FFF-008	NovaAnalysis Software MALS Add-on License
P-NVA-FFF-009	NovaAnalysis Software Viscometer Add-on License

Technical specifications are subject to change without further notice.

Specifications

- Supported Operating Systems:
  Windows 7 – 64 bit
  Windows 8 – 64 bit
  Windows 8.1 – 64 bit
  Windows 10 – 64 bit (*)
  (*recommended)

  .NET Framework 4.6.1 must be installed. Windows 10 normally contains this framework.
- Hardware Requirements:
  Intel® Core® i3 – 530 (2.93 GHz) recommended Intel® Core® i5 – 7500 (3.41 GHz) or better

  4 GB RAM
  recommended 8 GB or more

  Color Display 1280 x 720
  recommended 1920 x 1080

  USB port for the software dongle
- Security Certification:
  SHA256/SHA1

Processing

- Signal alignments for multiple detectors
- Automatic baseline detection
- Automatic peak detection
- Despiking
- Smoothing

Calibration

- Signal alignments
- Effective height
- Particle size (relative)
- Molar mass (relative)
- Quantitative with matching peaks
- Quantitative by direct injection

Calculation

- Particle size (R_h) from FFF theory and by relative calibration
- Electrophoretic mobility, zeta potential, net charge
- Molar mass by relative calibration:
  Differential
  Cumulative
  Average signals for samples
- Quantitative results by peak integration with calibrations
- Compositional analysis of copolymer, viral vector analysis and payload with RI and UV
- Cargo-Mass evaluation with CF3

Import

- *.dat files with data and methods from NovaFFF software
- *.txt, *.csv files with data from external software as e.g. ICPMS
- Import of CFR part 11 files

Report

- Fully integrated rich text editor
- One click to PDF-document or MS-Word *.docs file

Contact

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