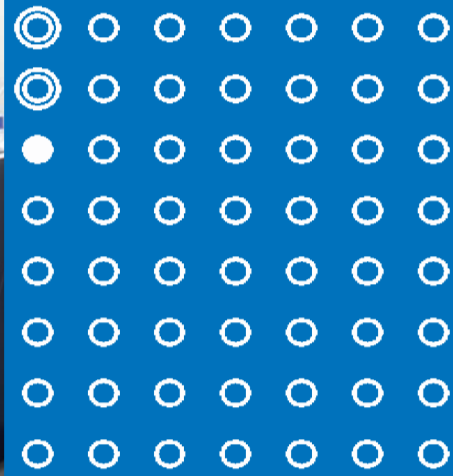


Bruker **Daltonics**



EASY-nLC

- Tailored HPLC for nano-LC-MS Proteomics

think forward

Nano-HPLC

World-Class Performance with a Small Footprint

Bruker Daltonics presents a nano-LC system, perfectly integrated with mass spectrometry: The EASY-nLC™.

“One Click” separation of components

It is easy to handle, steady and reliable. It is a 1D-nanoflow HPLC system tailored to the requirements of today's proteomics applications. It is the straightforward gateway to proteomics discovery and provides the researcher with:

- Simplicity: Easy installation & operation
- Reliability: Robust & steady
- Low-Maintenance: Split-free gradient mixing
- Efficiency: minimum peak widths < 5 sec.
- Compact Design with small footprint

Ease Of Use and Split-Free Flows

The EASY-nLC is a compact, innovative and affordable nano-HPLC system for state-of-the-art proteomics laboratories. Split-free binary gradient mixing down to the low nanolitre/min range are made possible by precise direct drive pumps. Bruker Daltonics' Compass™ software environment fully integrates the EASY-nLC with Bruker Daltonics mass spectrometry systems.

Maximize productivity

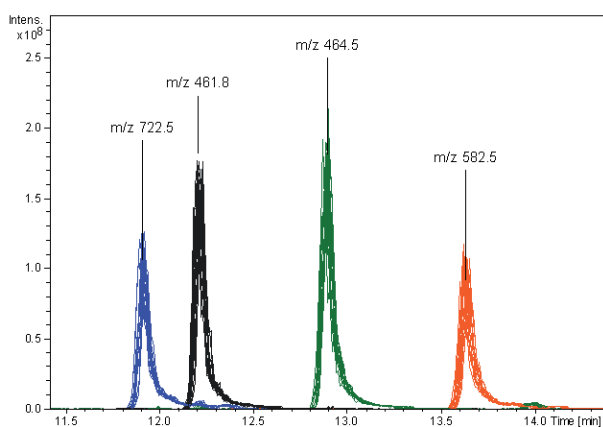
Easy-nLC operation is optimized for Bruker Daltonics mass spectrometry instrumentation, whether it is connected online to HCT ion traps, microTOF ESI-TOF systems, the apex FTMS systems or the PROTEINEER-fc MALDI sample collector for offline measurements with FLEX series MALDI-TOF/TOF instruments. Intuitive and simple software allows the integrated control of the whole experiment.



● Reliable Operation for LC-MS Applications



Samples overlay demonstrate reproducibility

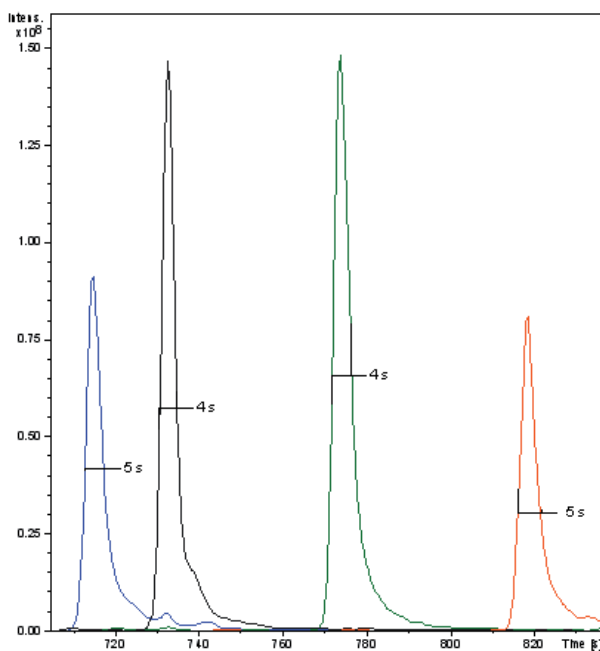


Excellent chromatographic reproducibility. 15 chromatograms of 100 fmol BSA are shown in overlay. Retention time reproducibility for m/z 722.5: RSD = 0.11%.

Excellent reproducibility with complex samples

Using a standard configuration consisting of trapping and analytical column, the system delivers excellent chromatographic reproducibility even in very short gradients of 10 min and complete acquisition runtimes of 20 min.

Rapidness: 4 seconds peak widths



Chromatographic performance

Outstanding performance is achieved by optimization of dead volumes and flow paths. This results in Extracted Ion Chromatograms with peak widths of 4 seconds as shown for 100 fmol BSA on column. MS measurement was performed with HCTultra system. Thus, mass spectrometry based evaluation is enhanced by superior separation capabilities at the front end.

● Performance in Sample Separation

The comprehensive solution for complex proteomics samples

EASY-nLC in combination with Bruker Daltonics' mass spectrometers guarantees excellent data and evaluation options.

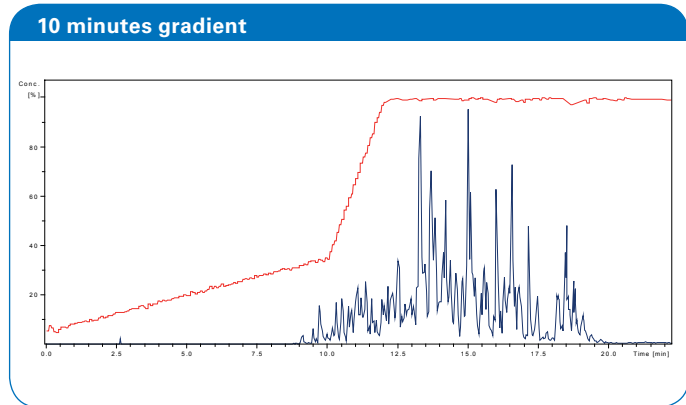
Benefit from the advanced LC-MS combination in applications like proteomics profiling, bottom-up analysis, and characterization of post-translational modifications (PTM) or quantitation.

It's robust, fast and reliable

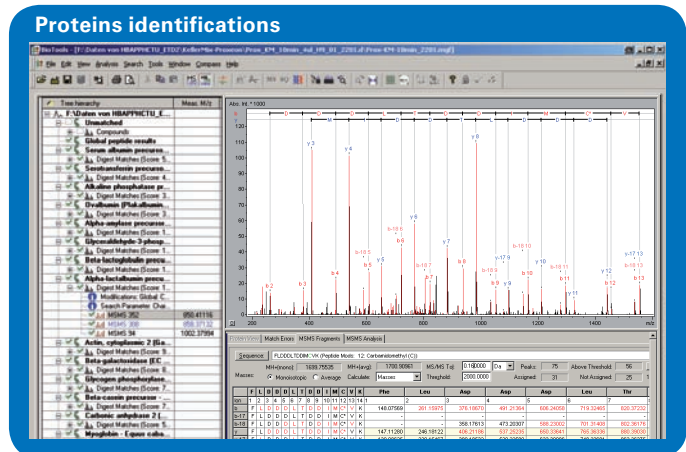
A nano-LC run can readily be performed in 20 minutes using the EASY-nLC. Within the Compass software environment, BioTools™ software precisely lists all identification results in less than 45 minutes. Designed for the interpretation of MS and MS/MS spectra of protein digests and peptides, BioTools benefits from EASY-nLC's superior separation capabilities. Combined with Bruker Daltonics' MS instrumentation, accelerated data evaluation is enabled for demanding mass spectrometric analysis.

Finally, ProteinScope™ provides overview and organization of all project data. Enhanced reporting and easy navigation allows for appropriate data output, like sequence view, LC-MS survey view and search results on protein and peptide level. Furthermore, ProteinScope enables automated analysis by handling interaction with database search engines, improving identification rates, generating non-redundant protein lists and quantitative proteomics for label-free as well as stable isotope labeled samples.

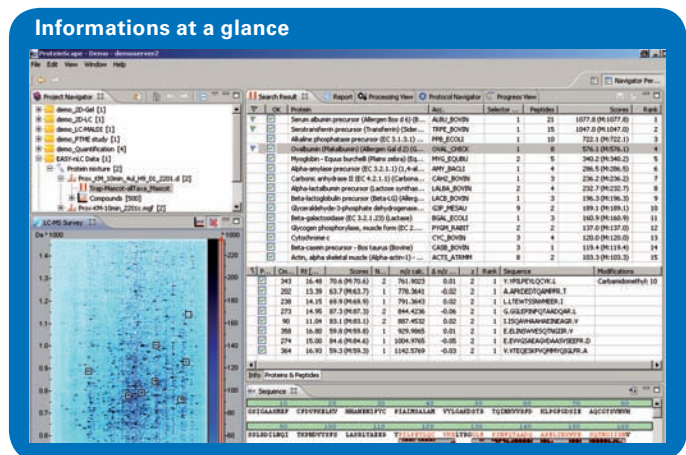
At a glance: ProteinScope 2 shows protein and peptide table, protein sequence and a LC-MS-survey view. Evaluation was performed from the same sample as above.



Base peak chromatogram of a mix of 15 proteins (200 fmol each on column) using a C 18-column (10 cm length, 75 µm ID, 3 µm particle size).



Identification result of m/z 850.41 (a peptide of α -Lactalbumin) with BioTools: The annotated spectrum shows excellent b- and y-ion series. A mix of 15 proteins (200 fmol/protein) was evaluated with an acquisition time of 25 minutes. The sample was measured on an HCUltra.



● Delivering Excellent Results in Proteomics

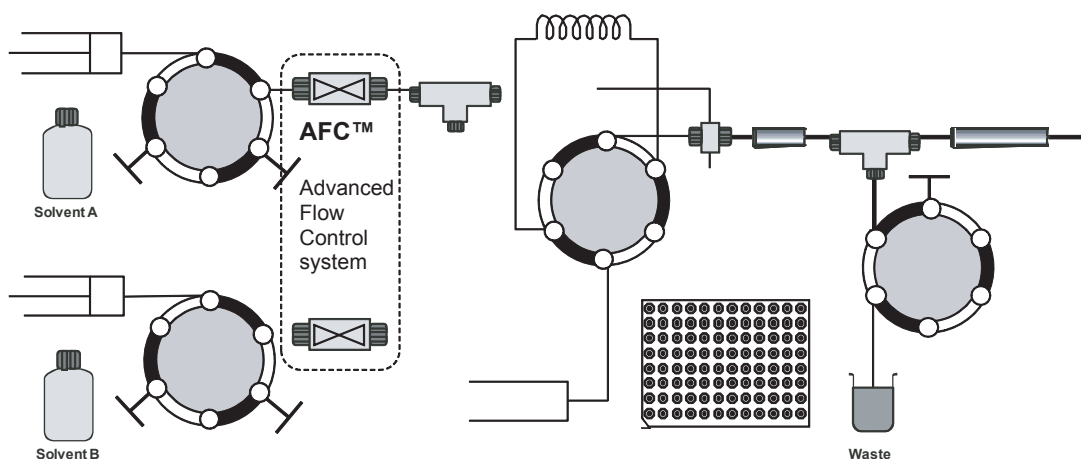
Easy installation and handling

The EASY-nLC is the first “plug&play” HPLC system for today’s proteomics applications. The system is easily controlled by the intuitive and familiar Bruker Compass™ HyStar™ software from hardware setup to method definition, sample definition and data acquisition. While standard HPLC operations, like solvent purging, air removal and column flushing are performed automatically, first analytical data are easily available 4 hours after power-up.

Split free liquid flow system

Precise nanolitre pumps allow very exact split free binary gradient mixing. Advanced Flow Control (AFC™) ensures accuracy and reproducibility with two nanoflow sensors – one for each mobile phase – and also allows individual and automatic calibration of the two solvents. The system is optimized for low dead volumes and short flow paths, minimizing solvent use and waste. Without flow-splitting, a reproducible low flow starting at 20 nL/min is possible.

The liquid flow system. The split-free nanoflow starts at 20 nL/min.



All components are laid out in a logical and easily accessible manner.

Performance

Outstanding chromatographic performance is demonstrated by immediate delivery of chromatograms with peak widths (FWHM) around 3 - 5 seconds. In a standard automatic configuration, the system delivers a chromatographic reproducibility in complex mixtures with retention time RSDs (Relative Standard Deviation) better than 0.4%, typically between 0.15% and 0.25%.

Comprehensive support

Bruker Daltonics’ comprehensive service concept includes instrument features like automated self-diagnosis routines and remote service capabilities for online support. System components can be easily accessed for straightforward service and maintenance to enhance turnaround times.

Technical Specifications

Performance

- Easy operation
- Split-free flow down to 20 nL/min
- Pulse-free flow
- Innovative design for 1D separations with and without trapping column
- AFC allows automatic calibration of solvents
- Highly reproducible chromatograms
- Chromatographic performance with peak widths around 3 - 5 seconds
- No online degassing required
- Pre-defined routines for purging and bubble removal

Layout

- Cooled autosampler (down to 4 °C)
- Accommodates 24 sample vials or 1 microtiter plate with 96 or 384 wells.
- 3 nanolitre pumps, capable of up to 340 bar
- 4 high pressure valves
- Pressure sensors on each pump and accurate nano-flow sensors

Compass software suite

- Integration in Compass Software Interface for hardware setup, method definition, sample setup, and data acquisition.
- Optional Compass Security Pack for work in regulated environments (21CFR part 11 compliance)

Service features

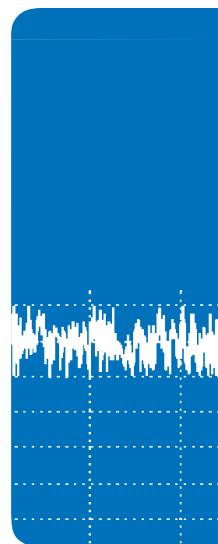
- Remote on-line service capability via Internet sessions
- Extended self diagnostics
- Supplementary IQ/OQ/PV procedures available

Integration

EASY-nLC is optimized for online measurements with Bruker Daltonics' esquire and HCT series ion traps, micrOTOF ESI-TOF mass spectrometers, apex ultra series FTMS and the PROTEINEER fc fraction collector for offline MALDI-TOF/TOF measurements with FLEX series instruments.

For research use only. Not for use for diagnostic purposes.

EASY-nLC™ is a trademark of Proxeon A/S, Odense, Denmark



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