EASY-Spray technology

Plug-and-spray with state-of-the-art performance
Effortless nano electrospray ionization

Integrated design

Nano-flow LC-MS relies critically on perfect connections between several pieces of nano-bore tubing and high-voltage electrodes for the spray ionization. Thermo Scientific™ EASY-Spray™ technology provides an integrated and temperature-controlled column-emitter design using a single Thermo Scientific™ Dionex™ nanoViper™ connection between the LC and the EASY-Spray source to remove the most error-prone and difficult connections.

Plug-and-spray nano-electrospray ionization combined with industry-proven columns: the Thermo Scientific EASY-Spray.
“The optimization and reproducibility achievable by years of nanospray experience are built into the device. Heated UHPLC 50 cm column chromatography was not easy until now!”

— Paul Taylor, PhD
Hospital for Sick Children, Toronto, Canada.

More than ever before
Thermo Scientific proteomics solutions are designed to give you more than ever before: more throughput, more sensitivity, more separation power and more ease of use.

Thermo Scientific™ EASY-nLC 1200 system coupled with Thermo Scientific™ Orbitrap Fusion™ Lumos™ Tribrid™ mass spectrometer
Plug-and-spray
nano-electrospray ionization

The EASY-Spray columns are high-tech assemblies that are carefully manufactured to the highest standards in nano-flow chromatography.

Circular design allows column to be coiled up, accommodating long columns.

Integrated column heating (30-60 °C operating range)

The metal cylinder provides a trouble-free high-voltage connection from the source to the eluent.

Precision positioned glass emitter with uniform ID and untapered flow path

nanoViper™ fitting

Integrated ZDV union

Spray tip
Excellent spray stability

Sample: Singly charged polytyrosine peptide
MS: Thermo Scientific LTQ Velos
Source setup: EASY-Spray source direct infusion emitter

Camera provides light and a convenient, magnified view of the emitter tip

Simply press until it clicks into place

Forward/backward adjustment knob

Power and sensor cable for EASY-Spray columns

Temperature control display
State-of-the-art performance

Achieving state-of-the-art performance from nano-flow LS-MS was never easier: simply plug-and-spray

EASY-Spray delivers performance, reproducibility and reliable results.

Outstanding reproducibility

7 BSA runs on a Thermo Scientific TSQ Vantage triple stage quadrupole mass spectrometer. Retention time precision less than 0.2% RSD.

Courtesy of Paul Taylor and Thomas Kislinger, Hospital for Sick Children, Toronto, Canada.

Reliable results every time

EASY-Spray provides stable performance over time to match today’s requirements for proteomics researchers.

Selected base peak chromatograms from 500 ng samples of E. coli digest analyzed on a Velos Pro Orbitrap instrument with over 45 repeat runs. A 50 μm ID × 15 cm column was used for the separation. The gradient was 5% B to 30% B in 60 min at 300 nL/min. The column heater was set at 35 °C.

“The right off the shelf, with absolutely no optimization, the first injection gave me beautiful peaks with FWHM times of 2.5-3 seconds!”

— Duncan Smith, PhD Paterson Institute for Cancer Research, Manchester, England.
Now, EASY-Spray technology immediately before the MS inlet increases run to run reproducibility and allows the use of even longer columns and/or smaller particle sizes since elevated temperatures lower eluent viscosity and reduce the overall backpressure.

Amazing peak capacity

The entire assembly is designed for heavy use so you can utilize the full pressure range of your UHPLC front-end (up to 1000 bar) and benefit from small particles and long columns. Longer columns and longer gradients both contribute to more identifications.

Temperature control

Column temperature control immediately before the MS inlet increases run to run reproducibility and allows the use of even longer columns and/or smaller particle sizes since elevated temperatures lower eluent viscosity and reduce the overall backpressure.

4,087 unique proteins were identified from a single HPLC separation of a 1000 ng human cell digest with a 50 cm EASY-Spray column.
Full compatibility

EASY-Spray source is fully compatible with the following Thermo Scientific mass spectrometers and columns:

- **Thermo Scientific™ EASY-Spray™ source**
- **Thermo Scientific™ Q Exactive™ HF hybrid quadrupole-Orbitrap mass spectrometer**
- **Thermo Scientific™ Orbitrap Fusion™ Lumos™ Tribrid™ mass spectrometer**
- **Thermo Scientific™ TSQ Quantiva™ triple quadrupole mass spectrometer**

- **EASY-nLC 1200 system**
  Operational simplicity and excellent performance

- **Thermo Scientific™ Dionex™ UltiMate™ 3000 RSLCnano system**
  Versatility and unsurpassed precision

Find out more at [thermofisher.com/EasySpray](https://www.thermofisher.com/EasySpray)