



Simple ion generation

using world-leading ion sources for nano electrospray

- Easily interfaced with leading MS systems

■ Over 800 Proxeon ion sources in use worldwide

Mass spectrometry (MS) based discovery and characterization of biomolecules such as proteins and peptides has revolutionized biological research. Modern instrumentation provides high mass accuracy, resolution and sensitivity.

For more than a decade Proxeon has supplied researchers with reliable, high performance nanoelectrospray ion sources for nanoflow electrospray ionization – the method of choice for MS analysis of proteins and peptides.

Proxeon ion sources enable the use of nanoscale flow rates and maintain excellent spray stability to ensure evaporation and ionization of liquid samples – the key to achieving the highest sensitivity.



Proxeon ion source kits are supplied complete with all necessary accessories, ready to install.

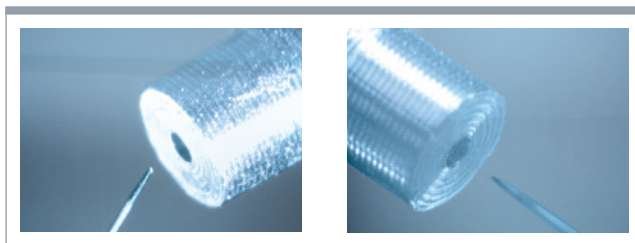
■ Fast and flexible route for ion generation

To ensure compatibility with MS instruments from leading suppliers, several Proxeon ion source kits are available. Each kit contains all accessories and tools needed for immediate installation.

- Single set-up for all online nanoflow applications
- Easily interfaced with online nanoscale LC separation techniques
- Switched in seconds to offline borosilicate emitters in a classical nano ES workflow

■ Designed for simplicity and ease of use

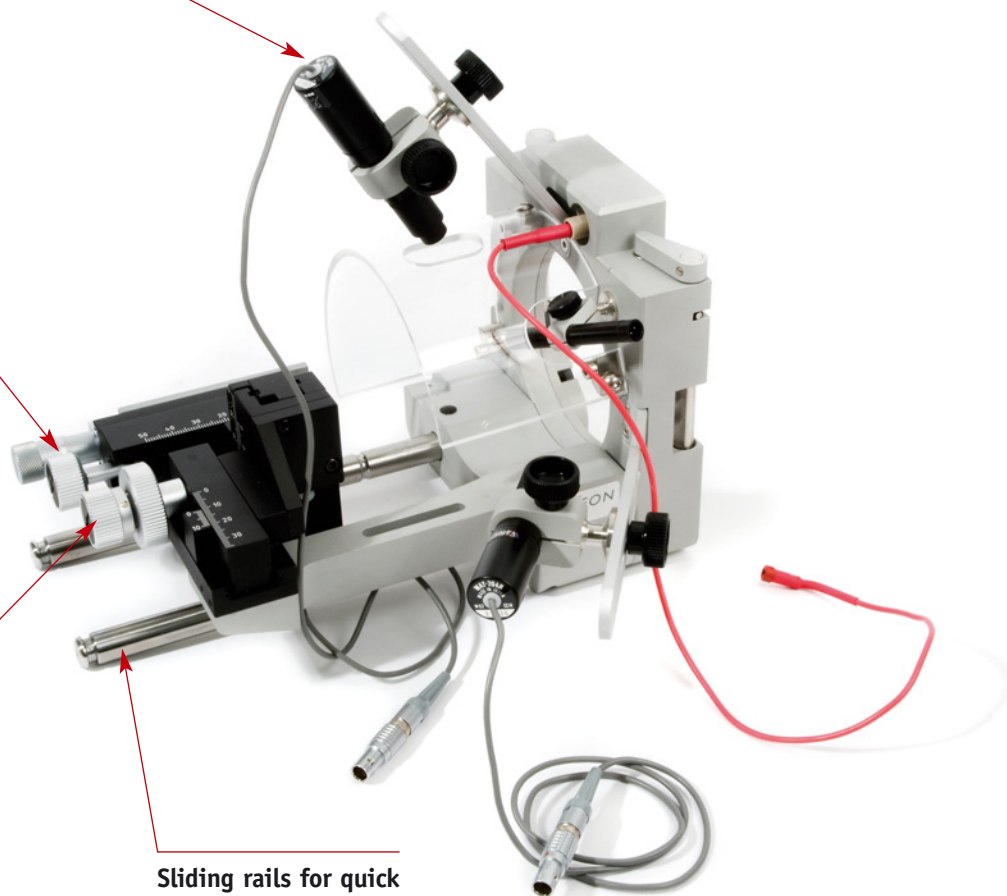
Dual camera, monitor and light source to visualize emitter



Easy access to knobs and emitter/column adaptors

Sturdy X-Y-Z manipulator for accurate positioning

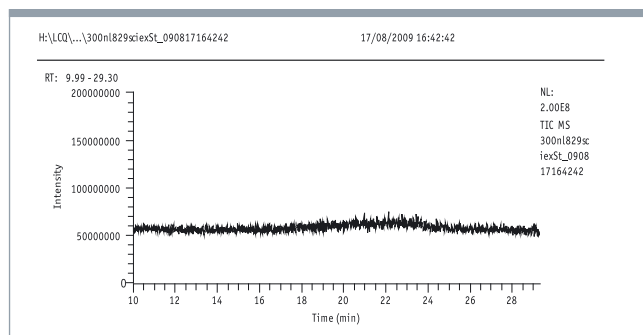
Sliding rails for quick retraction of emitter



■ Excellent spray stability

An unstable spray can negatively influence both signal intensity and peak shape, reducing sensitivity and giving poor RSD values and calibration curves. The figure below clearly demonstrates the ability of Proxeon ion sources to deliver

a highly stable spray over a long run time, contributing significantly to the overall performance of a mass spectrometer.



Raw data, no smoothing applied!

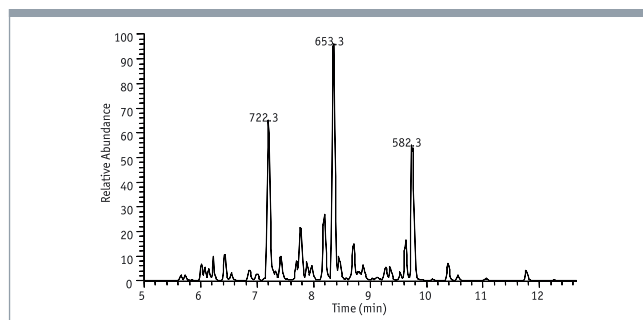
Sample: A singly charged peptide (N-ALILTLVS-C)

MS: Thermo Fisher LCQ

Source setup: Proxeon Ion Source, DirectJunction, Stainless steel emitter.

Experiment: Direct infusion at 300 nL/min.

■ Yielding excellent high resolution results



With Thermo Fisher LCQ mass spectrometer

System: EASY-nLC™ (Proxeon)

Sample: 100 fmol tryptic BSA digest

Analytical column: EASY-Column™, 10 cm, ID75 µm, 3 µm, C18-A2 (Proxeon)

Gradient: 300 nL/min, 5-35% B in 10 min
Solvent A: 0.1% formic acid
Solvent B: acetonitrile, 0.1% formic acid
FWHM ~3.5 sec

What customers say

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"I would certainly recommend the Proxeon nano-source. It gives a beautifully stable spray and we have suffered just a single blocked emitter in 5 months continual running! If I hadn't seen it myself I would not believe it either."

Dr. Duncan Smith, PICR Molecular Biology Core Facility Mass Spec Services, Paterson Institute for Cancer Research, UK

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"The Proxeon system provides excellent nano-flow interfacing for many mass spectrometers. The system is rugged, accessible and complete so that any mass spectrometer can be outfitted for nanospray applications."

Ronald A. Miller, Research Biochemist, Merck Research Laboratories

■ Total flexibility with DirectionJunction

ZDV connection between column and emitter

Stainless steel emitter



HV clamp for metal emitter

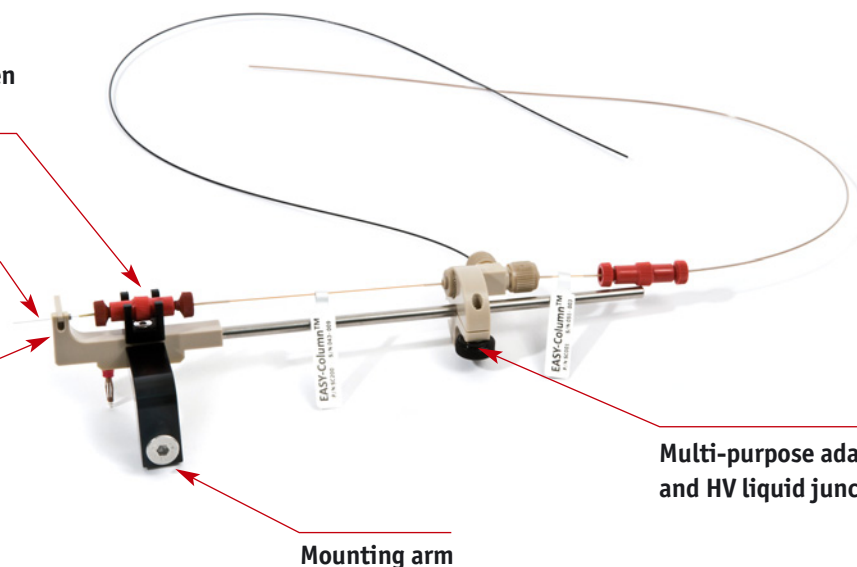
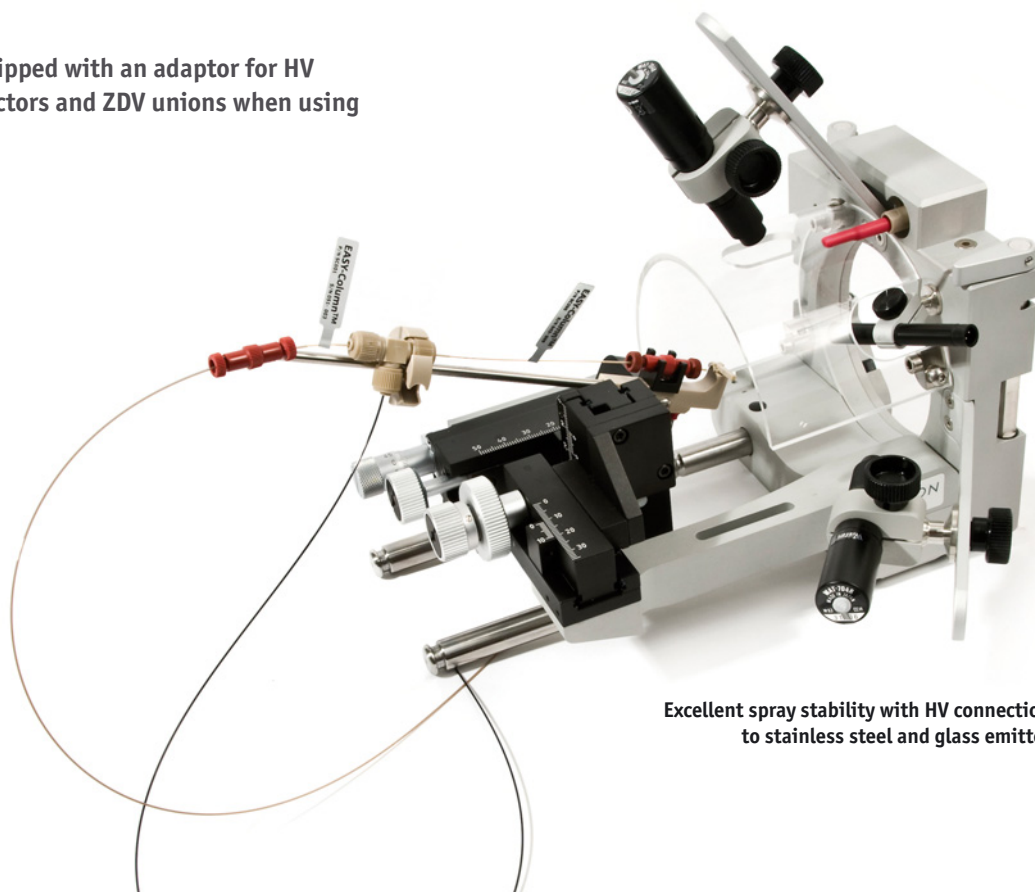


Figure shows a DirectJunction™ adaptor fitted with a pre-column and analytical column from the EASY-Column range and a stainless steel emitter. Every ion source kit contains a DirectJunction.

■ Single set-up for all online nanoflow applications

- Optimized for easy handling and perfect, zero dead volume (ZDV) connections
- Built-in options for direct HV connection to stainless steel emitters
- Mounting system equipped with an adaptor for HV liquid junction connectors and ZDV unions when using glass emitters



■ Compatible with mass spectrometers from leading suppliers

Proxeon ion source kits are supplied complete with all necessary accessories, ready to install. Kits are named according to their compatibility with current MS instruments as shown in the table below.

Order Code	Product Name	Description	Content
ES041	Ion source kit Micromass Q-TOF series, 220V/110V	Nano ES ion source housing with XYZ manipulator & fittings, Direct Junction (ES236), including a 1/32" zero dead-volume union (SC600), 2 CCD cameras with magnifying optics, integrated light source with 1 replacement lamp (ES292), 2 monitors (2 x ES215), AC/DC adapter for cameras & light source, interlock cable, high voltage cable, BNC cables & cable ties, 4 nanobore Stainless Steel Emitters (ES542), StageTips (SP201), Nano ES ion source installation & operation manual.	1 kit
ES050	Ion source kit Sciex Q-TRAP 4000 (and API 4000), 220V/110V	Nano ES ion source housing with XYZ manipulator & fittings, Direct Junction (ES236), including a 1/32" zero dead-volume union (SC600), 2 CCD cameras with magnifying optics, 2 monitors (2 x ES215), 2 camera mounts, integrated light source with 1 replacement lamp (ES292), AC/DC adapter for cameras & light source, BNC cables & cable ties, 4 nanobore Stainless Steel Emitters (ES542), StageTips (SP201), Nano ES installation & operation manual.	1 kit
ES051	Ion source kit Sciex Q-STAR, 220V/110V	Nano ES ion source housing with XYZ manipulator & fittings, Direct Junction (ES236), including a 1/32" zero dead-volume union (SC600), 2 CCD cameras with magnifying optics, 2 camera mounts, 2 monitors (2 x ES215), integrated light source with 1 replacement lamp (ES292), high voltage mains cable, replacement curtain plate for Nano ES mode, AC/DC adapter for cameras & light source, BNC cables & cable ties, 4 nanobore Stainless Steel Emitters (ES542), StageTips (SP201), Nano ES installation & operation manual.	1 kit
ES060	Ion source kit Bruker Esquire/Agilent Ion Trap, 220V/110V	Nano ES ion source housing with XYZ manipulator & fittings, Direct Junction (ES236), including a 1/32" zero dead-volume union (SC600), ground cable, Teflon high voltage shield, camera and light source device, 2 CCD cameras with magnifying optics, integrated light source with 1 replacement lamp (ES292), 2 monitors (2 x ES215), AC/DC adapter for cameras & light source, BNC cables & cable ties, 4 nanobore Stainless Steel Emitters (ES542), StageTips (SP201), adapter flange for XP, Nano ES installation & operation manual.	1 kit
ES070	Ion source kit Thermo LTQ (+FT/OrbiTrap), TSQ Quantum, (Access/Discovery max/Ultra), LCQ Deca XP max, 220V/110V	Nano ES ion source housing with XYZ manipulator & fittings, Direct Junction (ES236), including a 1/32" zero dead-volume union (SC600), 2 CCD cameras with magnifying optics, 2 camera mounts, 2 monitors (2 x ES215), integrated light source with 1 replacement lamp (ES292), high voltage main cable, AC/DC adapter for cameras & light source, BNC cables & cable ties, 4 nanobore Stainless Steel Emitters (ES542), StageTips (SP201), Nano ES ion source installation & operation manual.	1 kit

- For a complete listing of accessories and spares for Proxeon ion sources, visit www.proxeon.com or consult the Proxeon Product Catalogue

■ Conserve sample and retain a strong signal – use Proxeon ion sources with Proxeon emitters

Optimal performance generally requires flow rates from 10 nL/min to 500 nL/min. The very narrow orifices of Proxeon emitters (1-30 μm) ensure that such low flow rates are achievable.

Proxeon emitters and ion sources ensure a strong signal while using the lowest possible flow rate and conserving sample. Their design takes advantage of the fact that the signal intensity observed in ES-MS is concentration dependent and not a function of total sample consumption.

Stainless steel online emitters

- Maintain stable spray over a wide flow rate range – from less than 50 nL/min to more than 1500 nL/min
- Easily re-initiated after intermissions
- Exceptional durability – reliable performance in excess of 1000 hours
- Low risk of blockage since the tip is not tapered inside



Borosilicate offline emitters

- Stable spray – from 10 nL/min to 40 nL/min
- Long length emitters to achieve slower flow rates
- Medium length emitters for samples with higher viscosity and easier “start up”
- Double coating of Au/Pd for use with original Micromass sources and whenever a stronger coating is useful



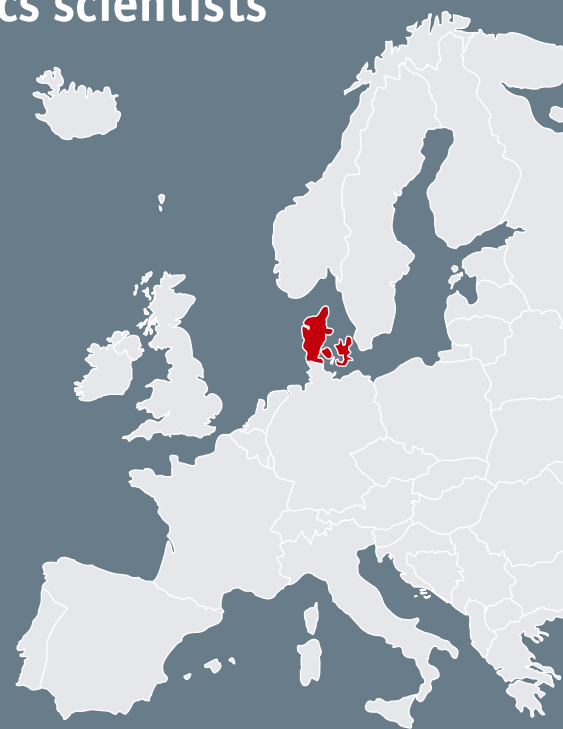
- For a complete listing of all Proxeon emitters, visit www.proxeon.com or consult the Proxeon Product Catalogue

■ For proteomics scientists – by proteomics scientists

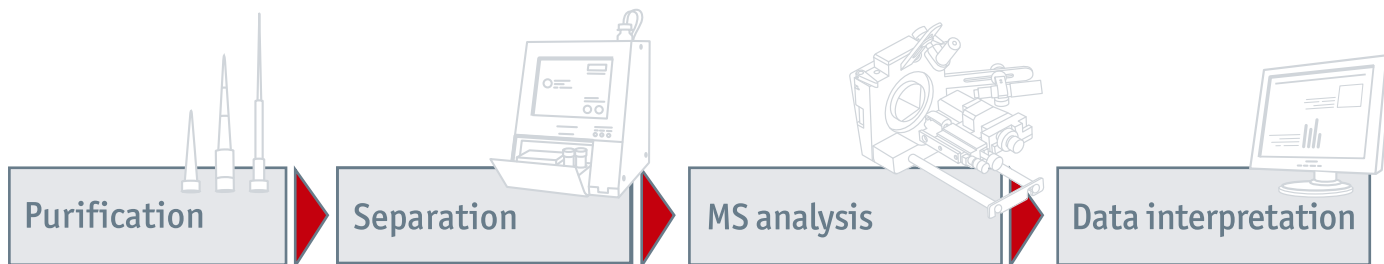
Proxeon is headquartered in Odense, Denmark, a city that has a long association with proteomics and where leading scientists face the same challenges as proteomics scientists around the world. They look for new ways to increase productivity and push analytical techniques to their limits in order to achieve the most

comprehensive, reliable results as quickly and routinely as possible.

Working closely with the global proteomics community, scientists at Proxeon focus on developing products and solutions to enhance performance, solve technical challenges, and accelerate the proteomics workflow.



From sample preparation to data interpretation



StageTips™ Microcolumns for fail-safe purification of peptide and protein samples

EASY-nLC™ and EASY-Column™: effortless, split-free nano LC and chromatographic excellence for LC-MS

World-renowned ion sources and emitters to enhance nano ES performance

ProteinCenter™: confident interpretation of complex data – in minutes

PROXEON

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