

SUPPORTING SUSTAINABILITY WITH NEXION ICP-MS



Today's sustainable solutions are opening exciting new ways for businesses to fuel economic growth, while minimizing adverse impact on people and the planet. Laboratories are also working sustainability into their business plans to reduce downtime, waste, and costs – and in many cases, improve their economic outlook.

Looking to enhance the sustainability of *your* trace elemental analysis lab? Discover all the benefits PerkinElmer's NexION® ICP-MS series has to offer.

The NexION Difference

The NexION series boasts a host of features that help laboratories reduce running costs, improving their bottom line – and be *much* more sustainable. And the fact that they are the lowest maintenance ICP-MS systems on the market minimizes the number of replacement parts needed over the instrument's lifetime, which reduces electronic and material waste.

Plus, they're manufactured in PerkinElmer's facilities in Shelton, Connecticut, a zero-landfill site, as well as in Singapore, in a certified Green Building. Both facilities employ a number of water-, electricity-, and gas-saving measures, utilizing solar energy, and possessing strong recycling initiatives.

And finally, they meet the full scope of global compliance measures, including RoHS 2 amendment EU 2015/863 (also known as RoHS 3), which guarantees extremely low levels of a series of hazardous elements and compounds, in addition to WEEE and REACH certifications.



NexION 1100 ICP-MS



NexION 2200 ICP-MS



NexION 5000 ICP-MS

Sustainability at a Glance

- Reduced Landfill Waste**
 - Lowest maintenance ICP-MS
 - Peristaltic pump Tubing Saver feature
 - Lifetime-guaranteed LumiCoil™ RF coil
 - Zero-landfill production site
 - All Matrix Solution (AMS)
 - Extended Dynamic Range (EDR)
- Circularity**
 - Platinum Cone Recycling Program*
 - Refurbished Instrument Program#
- Power Consumption Savings**
 - All Matrix Solution (AMS)
 - Extended Dynamic Range (EDR)
 - High Throughput System (HTS)
 - LED status lighting
- Reduced Plasma Gas Consumption**
 - Extended Dynamic Range (EDR)
 - All Matrix Solution (AMS)
- Reduced Solvent/Water Usage and Chemical Waste Production**
 - All Matrix Solution (AMS)
 - Extended Dynamic Range (EDR)

* Only available in certain countries

Depending upon availability

NexION ICP-MS Series Features and Benefits

Extended Dynamic Range (EDR)

Our unique EDR technology allows selective attenuation of the analyte signal, reducing or eliminating the need to rerun samples for low- and high-concentration elements separately. Because there's no need to rerun samples, you can reduce:

- Electrical energy consumption and time spent rerunning samples
- Water consumption, for diluting samples
- Filters and other consumables used for deionized and ultrapure water supply systems due to increased usage
- Disposal of high-purity acids, solvents, and other chemicals used in sample and calibration standard preparation
- Need for plastic tubes, bottles, and pipette tips used during dilution and addition of acids, solvents, and other chemicals, reducing waste disposal needs
- Chemical waste creation, minimizing the volume of waste generated that needs specialized disposal

EDR's fully selective electronic attenuation eliminates the need to add expensive gases, such as helium, into the cell to attenuate the signal. While helium is only able to effectively attenuate the signal for low-mass analytes, EDR can attenuate any analyte present in high concentrations in your matrix, improving detector lifetimes while reducing electronic waste and the consumption of expensive high-purity helium gas.

LumiCoil RF Coil

Proprietary, maintenance-free LumiCoil™ technology replaces traditional copper RF coils with no-tarnish aluminum. Unlike traditional coils, which require active water or gas cooling, LumiCoil technology is passively cooled as air passes over it. With a lifetime guarantee and no cleaning required, LumiCoil technology reduces cost and system downtime and eliminates landfill disposal needs.

Universal Cell Technology

This unique quadrupole collision/reaction cell with dynamic bandpass tuning can control the reaction in the cell and prevent higher order product ions from forming, while using low flows of gas to remove interferences:

- Standard mode: No cell gas usage
- Collision mode: Typical helium flows of less than 4 mL/min, a lower carbon footprint than traditional collision cell
- Reaction mode: Typical reaction gas consumption of less than 1 mL/min

All Matrix Solution (AMS)

AMS allows online gas dilution of your samples, improving efficiency and reducing opportunities for contamination, while also supporting the analysis of samples with high total dissolved solids (TDS), allowing accurate dilutions up to 200x. This reduces the need to dilute and rerun samples, which in turn minimizes consumption of a host of laboratory supplies:

- Water, for supporting purification systems needed for sample dilutions
- Filters and other consumables used for deionized and ultrapure water supply systems due to increased usage
- Disposal of high-purity acids, solvents, and other chemicals used in sample and calibration standard preparation
- Need for plastic tubes, bottles, and pipette tips used during dilution and addition of acids, solvents, and other chemicals, reducing waste disposal
- Chemical waste creation, reducing the volume of waste generated that needs specialized disposal

High Throughput System (HTS)

The optional HTS configuration dramatically reduces sample and washout run times, saving your lab electrical energy and time.

Tubing Saver

With most labs replacing their peristaltic pump tubing every day, the Tubing Saver feature on the NexION series decreases usage and replacement needs, thereby reducing plastic waste, specialized disposal needs and the volume of these materials entering landfills.

LED Lighting

Easily visible LED lighting on some of our models provides important information about the instrument status and requires little energy to run. This allows early intervention of issues and reductions in:

- Electrical energy consumption due to faster responses to issues which would otherwise have gone unnoticed during a sample run
- Water consumption from needing to re-prepare samples
- Chemical waste creation by intervening before you've run multiple samples, reducing waste, specialized disposal requirements, and associated costs

**For more information about the unique capabilities of the NexION ICP-MS offering,
visit www.perkinelmer.com/nexion**

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