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Nu Plasma II
Multi-Collector ICP-MS

Nu Plasma 1700
Multi-Collector ICP-MS

Nu TIMS
Thermal Ionisation MS

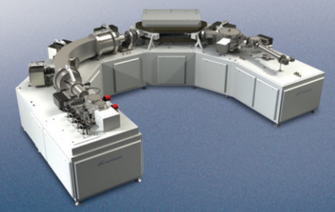
Attom
High Resolution ICP-MS

Astrum
Glow Discharge MS

Evolution
HR Gas Analysis MS

Noblesse
Noble Gas MS

Panorama
HR Stable Isotope Ratio MS



Horizon
Stable Isotope Ratio MS

Perspective
Stable Isotope Ratio MS

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nu TIMS

THERMAL IONISATION MASS SPECTROMETER

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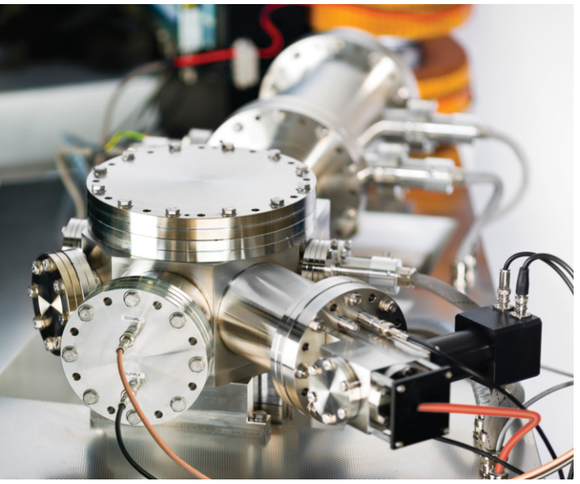
Nu TIMS



Thermal ionisation mass spectrometry (TIMS) is a technique that precisely and accurately measures elemental isotopic ratios.

The Nu TIMS has been developed using our field-proven variable dispersion multi-collector technology to improve the versatility and overall performance of this long established analytical technique. It combines design advances in filament assembly, ion optics and electronics control with ease of use and high precision. The Nu TIMS utilises our unique, patented Zoom lens system to ensure perfect peak alignment without the requirement of moving detectors. The optional ion-counting mini Daly, capable of precise measurement of small samples and low abundance isotopes, provides the ultimate in stability, linearity and dynamic range

Nu TIMS Features

- Completely new optimised astigmatic ion optic arrangement with fully laminated 30 cm radius magnet
- All stainless steel construction with rapid pump down for high throughput
- Independent electrostatic vertical and horizontal focussing
- Turret constructed from a single piece of stainless steel to minimise trapped volumes
- Single and dual filament configuration
- Enclosed filament assembly designed to remove any possibility for cross contamination
- Optional degas bench for rapid outgassing of filaments in batches of up to 40
- Patented Zoom Optics for perfect peak alignment and no moving parts
- Proven Faraday design with active inner surface and ultra-long lifetime
- User configurable detector array with optional ion-counting systems
- Full size ion-counting electron multipliers with proven performance and long lifetime
- Optional new mini Daly
- High abundance filter option
- Complete dry pumping system
- Extra bypass valve to overcome deadspace "trapped" volume between defining slit and LOS valve
- Easily dismountable lens stack and extraction lens plate for simple disassembly and cleaning
- Modern comprehensive software suite. Data can be exported for analysis using NICE, MS Excel, or to user configurable VB code via inter process communication
- Positive and negative mode with O_2 bleed
- 55V dynamic range preamplifiers

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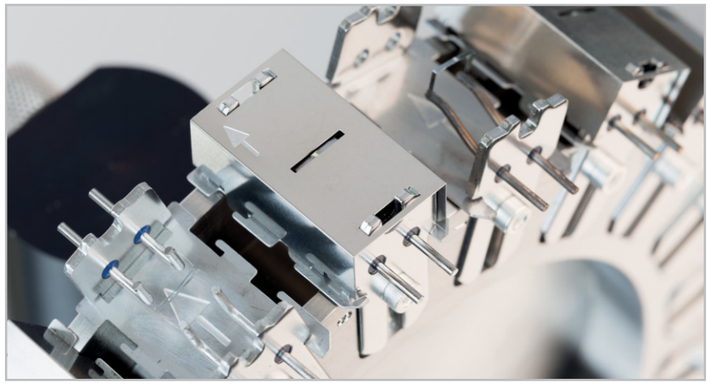
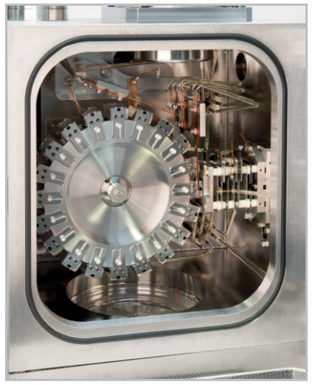




Source

The source has been designed for ease of use and robustness. Constructed out of a single piece of stainless steel, the sample turret is designed for minimal trapped volume. It holds 20 single or double filaments. Position of the turret is controlled by visible light sensing technology. Individual filament assemblies are completely enclosed to remove the possibility of cross contamination. An optional degas bench can be supplied to enable rapid outgassing of filaments in batches of 40.

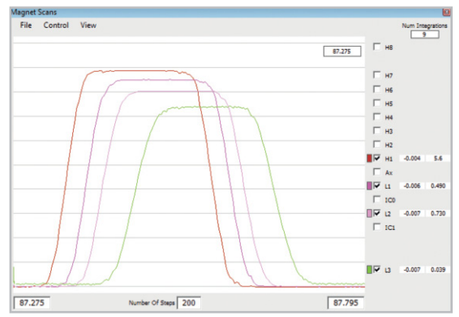
Zoom Optics

During a multi-dynamic acquisition the mass spectrometer jumps the magnet through a series of magnet positions on different sets of Faraday buckets. With conventional collector systems, compromised positions need to be set up to allow for multiple cycle measurements. The Nu TIMS Zoom Optics allows instantaneous mass dispersion switching, providing perfect peak alignment of all peaks in all configurations for multi-dynamic acquisition of five cycles or more.

The traces show peak coincidence with and without Zoom Optics on cycle five of a five cycle multi-dynamic routine.

In both cases, the instrument was set up for peak coincidence for the middle (3rd) cycle of the run. With the Zoom Optics employed, perfect coincidence is achieved for every cycle (although only the last one is shown), whilst without it in operation, the peaks would gradually lose coincidence.

Cycle 5 Without Zoom Optics



With Zoom Optics