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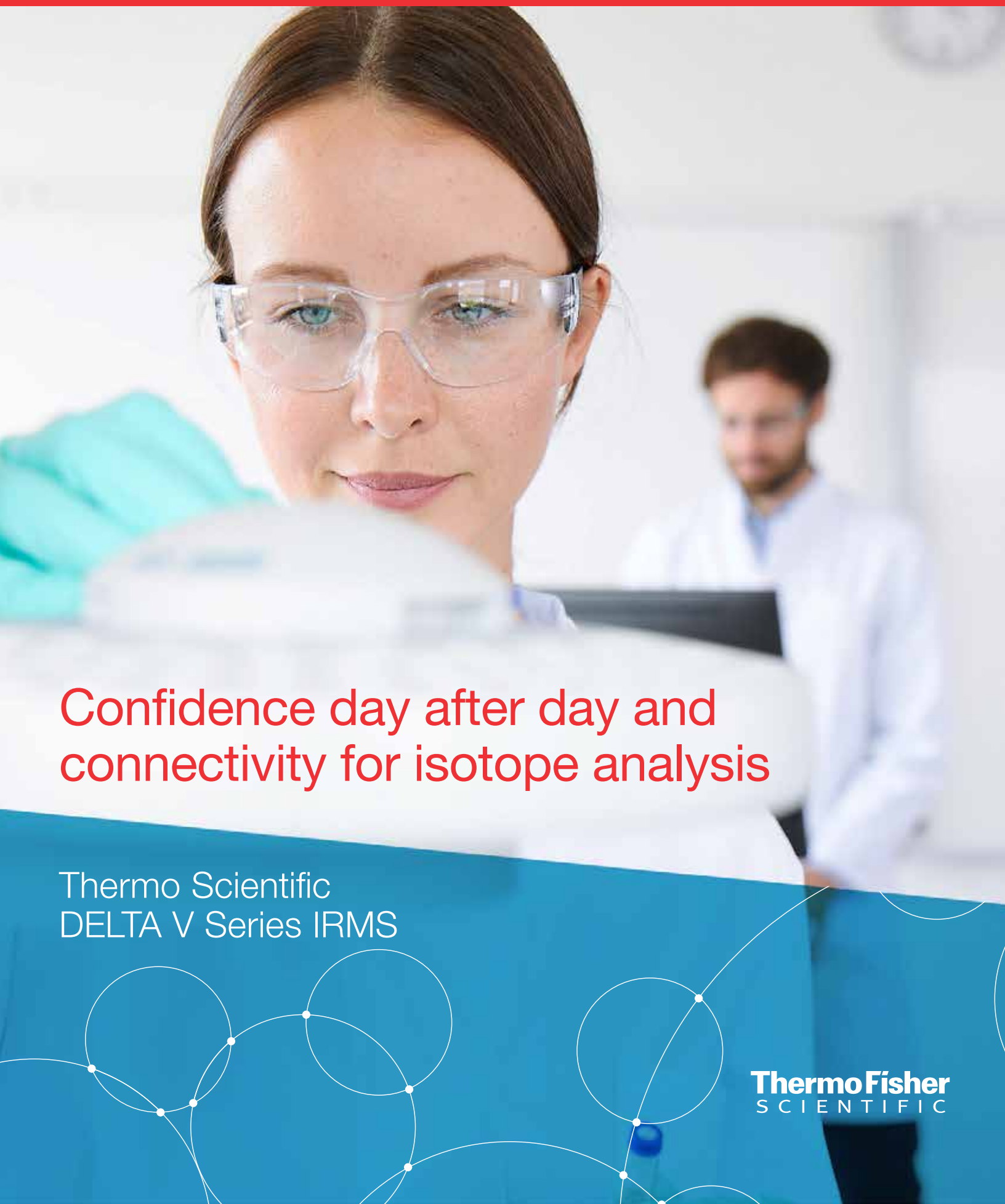


Confidence day after day and connectivity for isotope analysis

Thermo Scientific
DELTA V Series IRMS

ThermoFisher
SCIENTIFIC

Proven performance and full automation for stable isotope analysis

Laboratories investigating the origin, history, and potential adulteration of samples need results they can trust.

The Thermo Scientific™ DELTA V™ Series Isotope Ratio Mass Spectrometry (IRMS) combines proven performance with unprecedented robustness and ease of use. Demanding applications such as adulteration of food and beverages, origin of pollution and of materials for criminal forensics can be routinely tackled by connecting the DELTA V IRMS with a wide range of peripherals (for example elemental analyzers, GC and LC). Find the connection that suits your analytical needs and add isotopic answers to your daily analysis.

- Ideal for routine applications where robustness and confidence in results are paramount
- Additional functionality and connectivity for widest scope of applications

Future-proof platform through connectivity

For expanding analytical needs for IRMS applications, the DELTA V IRMS is designed to be seamlessly connected with a wide range of Thermo Scientific™ peripherals, aimed at supporting varying investigations including food authenticity, criminal and environmental forensics, and doping control.

Confidence in results for the most demanding analysis

Research and routine applications require a reliable and robust solution with precise results at low operational costs. This is delivered by a uniquely designed analyzer ensuring simplified maintenance and low detection limits.

Maximize laboratory uptime

For over 60 years, Thermo Fisher Scientific has been the leading supplier of isotope ratio instrumentation around the world. Our worldwide network of world-class service and support personnel offers specialized, end-to-end services that help you maximize operational productivity throughout the life of your instrument.

User-friendly for productivity

Reliable IRMS platform providing ease-of-use, by the unique analyzer design. Full control and automation, including peripherals and preparation devices is offered by the Thermo Scientific™ Software Suite, with intuitive operation for both high-throughput and research applications.

Analytical versatility powered by software-hardware integration

For unattended productivity, the Software Suite provides seamless control and automation of the DELTA V IRMS and its peripherals for routine applications.
No matter the operator use or the final application, the Software Suite meets automation requirements for high-volume routine applications, yet featuring the potential for customization of reports and method development.
The auto-diagnostics ensures important aspects of the instrument are monitored, maximizing uptime.

When connected with Thermo Scientific peripherals using integrated software control, the DELTA V IRMS provides precise and sensitive measurement of the isotope fingerprints– C, N, S, O and H isotopes— a unique chemical signature of samples, helping you gain unique insights into their history and origin.

Food authenticity and origin

Is the label declaration on my food correct?

Complexities in the food supply chain present opportunities for economically motivated fraud. From fruits and vegetables, to wine and coffee, the DELTA V IRMS provides isotopic fingerprints ideally suited to determining food integrity.

- Food Adulteration
- Food and Beverage Origin

Environmental

Where does the pollution in the soil, water or air come from?

An assessment of individual organic pollutants in soil, ground water, and air contamination can be traced with C, N, and S isotope fingerprints. For example, the source of high-concentration sub-micron (PM2.5) pollutants in air can be identified.

- Agronomy
- Ecology and Biology

Sports Doping

Has this athlete taken performance-enhancing substances?

Analysis of stable carbon isotope ratios are routinely applied in doping control labs to distinguish endogenous steroids from their synthetic analogs in order to identify use of performance enhancing substances.
- Nutrition
- Medical research

Forensics

How do isotope fingerprints support forensic investigations?

From tracing explosives, illegal drugs, counterfeit currency, animal tissues like ivory, and crime scene evidence, forensic investigations examine samples to determine how similar or different they are, or to identify their origin.
- Archeology
- Provenance

Geosciences

What was the weather like millions of years ago?

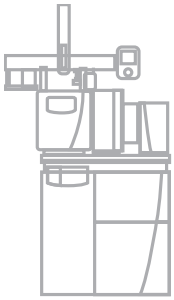
By analyzing materials such as sediments, ice cores, and speleothems, the DELTA V IRMS makes it possible to understand epochal changes in vegetation, rainfall patterns, and temperature. The isotope composition of samples allow an understanding of processes in modern and ancient environments.
- Soil Science
- Palaeoclimatology research

Connectivity for origin and authenticity

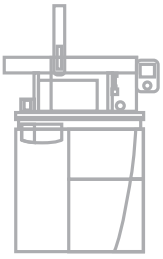
High throughput, unattended operation, and flexibility for demanding analysis is brought to routine laboratories through the DELTA V IRMS and the connecting peripherals that are fully controlled by the Software Suite.

The Thermo Scientific™ EA IsoLink™ IRMS System is an automated, easy-to-use solution for isotopic analysis of carbon, hydrogen, nitrogen, sulfur and oxygen of bulk samples powered by chromatography driven technology with high sensitivity on small samples.

The Thermo Scientific™ LC IsoLink™ IRMS System connects HPLC with IRMS, allowing sensitive, accurate determination of $^{13}C/^{12}C$ ratios of polar compounds and bulk samples.



The Thermo Scientific™ GC IsoLink II™ IRMS System provides seamless solutions combining the separation power of capillary GC with IRMS with high sensitivity for the analysis ofGC amenable compounds.



The Thermo Scientific™ GasBench II System facilitates automated preparation and analyses of headspace samples, including water equilibration, carbonates, and atmospheric gases.

The Thermo Scientific™ Dual Inlet and Multiport Modules for automated analysis of isotopes in air, allowing precise and accurate comparison of clean sample and reference gases.

Find out more at **thermofisher.com/DELTAV**

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