Expand your capabilities without getting boxed in

A flexible EA-IRMS platform that grows with you

Thermo Scientific EA IsoLink IRMS Platform

thermo scientific

All your elemental analysis on one platform

The EA IsoLink IRMS Platform leverages the existing technological platform of the EA IsoLink IRMS System and FlashSmart EA.

More freedom. More flexibility.

With the Thermo Scientific™ EA IsoLink™ IRMS Platform, you can leverage familiar technology and your staff's existing know-how for expanded CNSOH isotope analysis, enabling you to perform all your elemental analysis on one technological platform. With different configurations to choose from, your lab can get the capabilities it needs today, with flexibility for the future. Featuring software-driven automation and scalability to grow as you do.

Choose the configuration that's right for you.

The EA IsoLink IRMS System is an automated, easy-to-use solution for isotopic analysis of carbon, nitrogen, sulfur, oxygen and hydrogen—using bulk samples powered by chromatography-driven technology with high sensitivity on small samples. Available in basic configurations with upgradeability options, this platform offers high throughput and unattended operation, so your lab can get more done in less time.

The EA IsoLink IRMS System features:

- Thermo Scientific™ Flash™ IRMS EA for sample preparation for IRMS analysis
- Thermo Scientific™ ConFlo IV Universal Interface
- Thermo Scientific™ DELTA™ Q IRMS

The FlashSmart EA features:

- Thermo Scientific™ FlashSmart™ EA for weight percentage characterization of CNSHO

EA IsoLink CN and CN/OH

A powerful solution for C and N, O and H analysis—upgradeable for S analysis

EA IsoLink OH

Offering dedicated oxygen and hydrogen analysis—with scalability to expand your capabilities to C, N and S

EA IsoLink CNSOH

A fully automated single system for C, N and S analysis by flash combustion, and O and H analysis by high temperature conversion

Connectivity with Thermo Scientific™ IRMS Portfolio

The Flash EA Series connected to the DELTA Q IRMS provides precise and sensitive measurement of the isotope fingerprints—C, N, S, O and H isotopes—a unique chemical signature of samples. This helps you gain unique insights into food history and origin, as well as environmental pollutants, forensics and geosciences.

More automation. More scalability. All in a single platform.

Delivering proven performance with unprecedented robustness and ease of use, the EA IsoLink IRMS Platform can help your lab drive efficiency, improve cost-effectiveness, and minimize training for new operators.

Low cost per sample for reduced operational costs

Less helium consumption: Helium consumption is reduced by more than 60% for NCS and NC sample analysis, and reduced by more than 30% for OH sample analysis (compared with previous systems).

Less replication: Because the EA IsoLink IRMS System measures high and low concentrations in the same sample (wide dynamic range), it reduces the need for replicate analysis (e.g., high carbon and low sulfur, such as in food authenticity or ecology applications).

High throughput: Fast analysis provides high sample throughput, resulting in lower cost per sample.

High sensitivity driven by chromatography—even for the smallest sample size

Temperature-ramped GC: Equipped with a temperature-ramped GC feature, the EA IsoLink System gives your lab the highest performance on small sample sizes through optimal baseline separation of analyte gases and sharp peak shapes.

Performance synergies: The combination of in-line flash combustion technology and temperature-ramped GC separation significantly improves the performance for all your EA-IRMS applications.

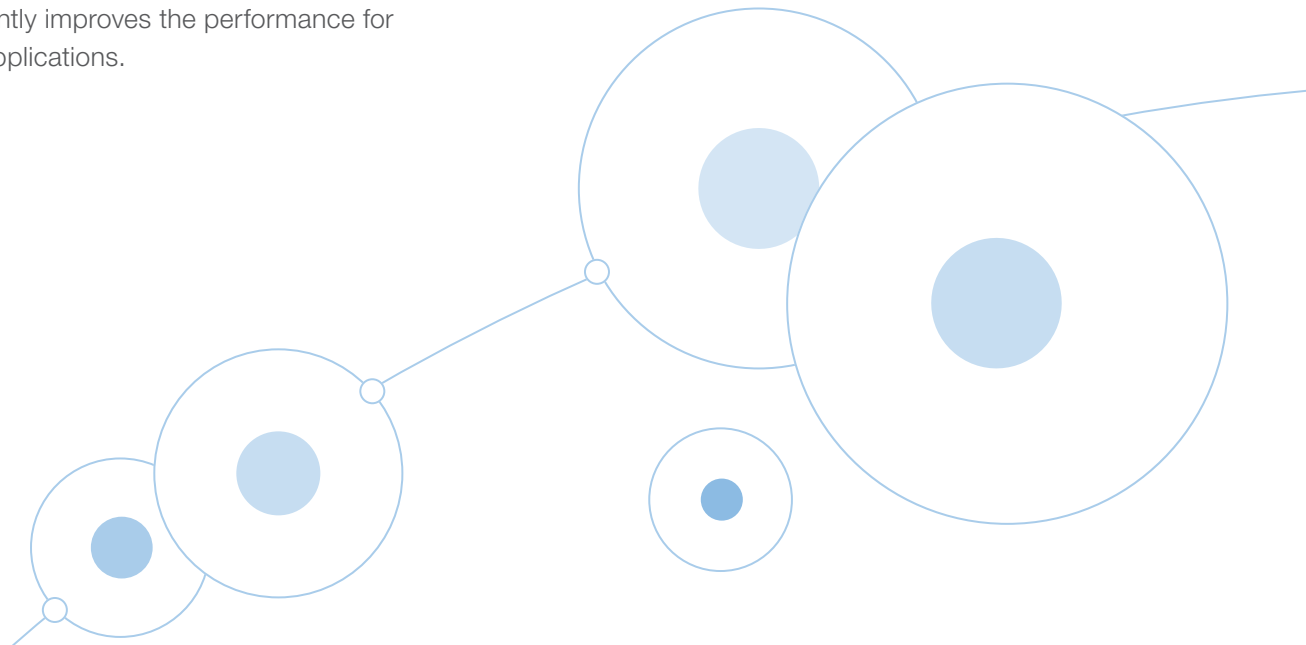
System modularity for future-proof investment

The EA IsoLink IRMS System's modular design provides the highest flexibility for all applications—enabling you to adapt and scale to new analyses in the future. Through smart upgrade paths, you can easily modify the system to increase performance and productivity as your needs grow over time. Boost your CN system with an S upgrade or add CNS to your OH isotope fingerprints.

Thermo Scientific™ MAS Plus Autosampler provides a 125-position helium-purged sample chamber, low blank autosampler for CNS and OH analysis.

Thermo Scientific™ AS 1610 Liquid Autosampler offers a versatile solution for injecting liquid samples.

Macro reactors enable CNS Analysis of large sample sizes (greater than 60 mg) and higher throughput on standard sample sizes to mg range.



Added flexibility with flash EA series

The flexibility of the Flash EA Series helps you meet growing analytical needs in IRMS and Organic Elemental Analysis (OEA).

The FlashSmart Elemental Analyzer for OEA delivers accuracy and precision with internationally recognized certifications. Its straightforward modular design offers a variety of optimized application configurations, including CHN, CHNS, S, N/Protein, CN, CNS, CHNS/O and more. High throughput with 24/7 operation, low cost per sample and optimized helium consumption are all driven by our fully automated dedicated OEA software, Thermo Scientific™ EagerSmart™ Data Handling Software, which can grow with your analytical needs without need for an upgrade.

Smart automation for ease of use

Because of its intelligent software and intuitive design, the EA IsoLink Platform allows operators to leverage familiar technology for higher productivity.

Software Platform: The Thermo Scientific™ Qtegra™ Intelligent Scientific Data Solution (ISDS) Software provides seamless control and automation for unattended operation and improved productivity. Regardless of operator skills or the final application, the Qtegra ISDS Software offers logical, streamlined interface allowing straight forward measurement set-up through analytical Workflows. The software includes auto-stop, standby modes, and other features to minimize intervention. It also allows for integrated data evaluation strategies, customized reports and method development. All of the auto-diagnostics ensure important aspects of the instrument are monitored, maximizing uptime.

Thermo Scientific™ smartEA option: This option allows you to focus on your research by combining ease-of-use and unattended analysis to deliver high-precision results. The smartEA option uses the analyzer's Thermal Conductivity Detector (TCD) trace to define the required sample dilutions in the ConFlo IV Universal Interface. The straightforward automated workflow allows you to analyze very small amounts, such as nitrogen and sulfur, along with highly abundant elements, such as carbon—all from the same sample.

Addressing a world of applications

For origin and authenticity questions, the EA IsoLink IRMS Platform 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?

From fruits and vegetables, to wine, honey and coffee, the EA IsoLink IRMS Platform provides isotopic fingerprints ideally suited to determining food integrity.

- Food adulteration
- Food and beverage origin
- Agronomy

Environmental

What is the source of pollution in the soil, water or air?

An assessment of individual organic pollutants particles in air contamination (e.g. PM2.5) will be traced with C, N, and S isotope fingerprints.

- Marine science
- Ecology and biology
- Petroleum and exploration

Geosciences

What was the weather like thousands of years ago?

By analyzing materials such as sediments, ice cores and speleothems, researchers can understand epochal changes in vegetation, rainfall patterns and temperature.

- Soil science
- Palaeoclimatology research

Forensics

How can we investigate provenance and dietary preferences?

From tracing explosives, illegal drugs, counterfeit currency, animal tissues such as ivory, dietary preferences and crime scene evidence, forensic investigations based on isotope fingerprints examine samples' origin.

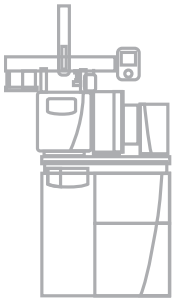
- Archaeology
- Provenance

Connectivity for origin and authenticity

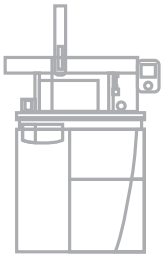
Your lab can focus on isotopic investigations by taking advantage of having one partner and one platform for your elemental and isotope analysis. Thanks to the connectivity of the DELTA Q IRMS and the connecting peripherals that are fully controlled by the Qtegra ISDS Software, you can also leverage the high throughput, unattended operation and flexibility for demanding analysis, regardless of the applications.

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™ II 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 of GC amenable compounds.



The Thermo Scientific™ GasBench Plus 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.