SMART NOTE 42282

# SmartNotes

## How many configurations are available on the Flash EA Series? How flexible will my analyses be?

Traditionally, quantitative elemental analysis and isotope ratio measurements required the use of dedicated analytical systems. With the Thermo Scientific™ Flash™ Elemental Analyzer Series, laboratories can have an all-in one solution to perform quantitative elemental analysis and isotope ratio determination by coupling with a Thermo Scientific™ DELTA Q™ IRMS.

The flexibility of the Flash EA Series allows you to meet your growing analytical needs in Organic Elemental Analysis (OEA) and Isotope Ratio Mass Spectrometry (IRMS) for research and routine quality control for the characterization of raw, intermediates and final products. The Flash EA Series meets the demand of:

- Laboratories already performing quantitative analysis and isotope ratios analysis
- Laboratories that are performing quantitative analysis and plan to add isotope analysis to their analytical portfolio.

**The Thermo Scientific Flash EA portfolio includes:**

- Thermo Scientific™ FlashSmart™ EA, for quantitative elemental determinations of CHNSO
- Thermo Scientific™ Flash IRMS™ for isotope ratio analysis, which is part of the Thermo Scientific™ EA IsoLink™ IRMS System.


**Figure 1. The Flash EA Series used as Flash*Smart* Elemental Analyzer for organic elemental analysis.**

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### Flexibility in Flash EA Series

Thanks to the modularity of the Flash EA, laboratories gain over 20 analytical configurations in one instrument for elemental and isotopic analyses. This means that the Flash*Smart* EA can be used for IRMS analysis and the Flash IRMS can be used for quantitative elemental analysis, with complete automation.

Each optimized configuration requires only changes in consumable which are tailored for specific applications.

### Flash*Smart* EA

The Flash*Smart* Elemental Analyzer operates according to the dynamic flash combustion of the sample (modified Dumas method) for CHNS determination while for oxygen analysis, the system operates in pyrolysis mode.

For weight percent determination, the Thermo Scientific™ Eager*Smart*™ Data Handling Software adds automation to the elemental analysis. In addition, the Eager*Smart* Data Handling Software automatically calculates Heat Values, $CO_2$ Emission Trade, Protein determination and Empirical Formula for all OEA application fields.

### Flash IRMS for EA IsoLink IRMS System

For isotope analysis, with the coupling of the Flash IRMS to the Thermo Scientific DELTA Q IRMS, the data evaluation is undertaken by the Thermo Scientific™ Qtegra™ Intelligent Scientific Data Solution (ISDS) Software, which provides easy and fast method and sequence set-up for IRMS, and the complete control and automation of all interface functions for sample preparation and data acquisition.

### Summary

Elemental and isotope analysis can be performed with the Thermo Scientific Flash Series, which enables to meet the growing analytical demand of laboratories analyzing quantitative elemental and isotope analysis, while ensuring flexibility and preparing laboratories for the future analytical demands.

The Flash*Smart* EA and Flash IRMS are hardware and software ready as true all-in-one EA solution for elemental and isotope analysis.

**Figure 2. The Flash EA Series coupled to the Thermo Scientific DELTA Q IRMS.**

Find out more at **thermofisher.com/OEA and thermofisher.com/EAIsoLink**


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