

iso FLOW

The most versatile stable isotope sample handling platform ever created



High sensitivity



Great flexibility



High data quality



Ease of use

iso FLOW

An agile solution
for complex problems

Today's stable isotope lab must be prepared for a plethora of applications ranging from climate to medicine and all points in between. So we at Isoprime have leveraged Elementar's industry-defining leadership in elemental analysis to develop a new concept in separation science, UltiTrap™ (patent pending), to form the backbone of the iso FLOW.

The iso FLOW is the first complete platform solution for trace to pure analysis of simple gases derived from air, carbonates, water, and life. Driven by a new concept in separation science, the UltiTrap™ permits cryogen-free concentration prior to dynamic chromatographic separation.

A powerful combination.

Market leading **precisIOn**
stable isotope analyzer

iso **FLOW** powered by
UltiTrap™



Industry-leading versatility

Isoprime is fully devoted to stable isotope analysis, so we understand the demands placed on stable isotope labs to generate cutting-edge science. This is why we designed iso FLOW from the bottom-up with these demands in mind. Capable of challenging measurements such as deuterium in methane, or small carbonates right out of the box, while flexible enough to permit routine measurements even within the same task list. The iso FLOW can take any gas sample, whether it be the headspace of a reaction vial, a grab bag, or a positive pressure flow.

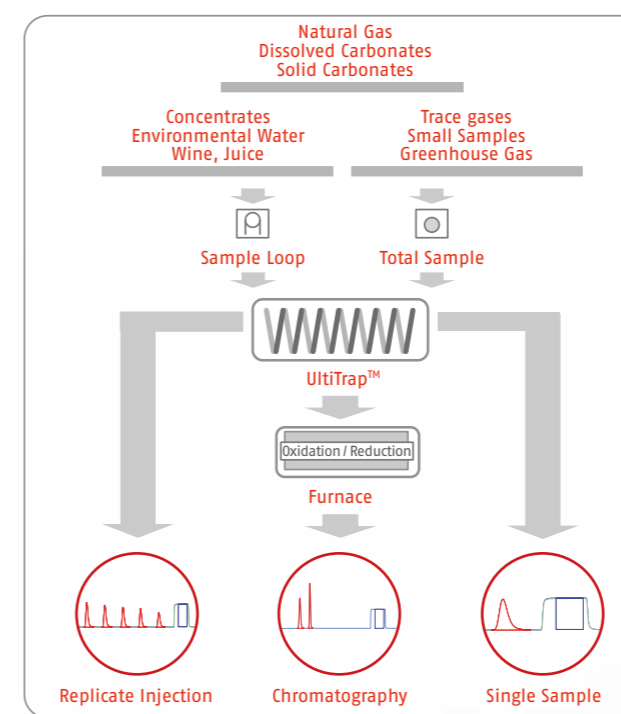
CUTTING-EDGE SOLID STATE COOLING

The iso FLOW eliminates cryogenics and refrigerants with low-power solid state cooling. Achieve sub-freezing temperatures without ever having to stop an analytical run to refill a Dewar flask, or maintain an external chiller. Minimize the cost and complications usually incurred in applications that call for freezing temperatures. Simply plug it in to see how cool it is!

A new concept in separation science

Derived from Elementar's gold-standard Advanced Purge and Trap (APT) technology, UltiTrap™ (patent pending) blends the line between pre-concentration device and separation column. UltiTrap™ takes up a minimal footprint and shifts

temperatures at rates up to 200 °C per minute enabling pre-concentration followed by chromatographic separation in dynamic mode for trace applications. Or for routine analyses, it can simply purify a gas of interest in isothermal mode.



iso FLOW KEY FEATURES

- Powered by UltiTrap™
- Solid-state cooling eliminates cryogenics, refrigerants, and chillers.
- Completely driven by IONOS
- Simple modular design results in a complete platform solution
- Fixed-volume sample loop or flow-through concentration.
- Optional fully automated sample preparation, 180-position heated sample tray
- Unique dual-core microvolume needle for carbonate sample preparation and analysis
- Optional high temperature furnace for δD or $\delta^{13}C$ of methane.



Gas and headspace analysis has never been easier!

	CARBONATES	WATER	GASES	GHG
MEDICAL		●	●	
GEOLOGY	●	●	●	●
SOIL	●	●	●	●
FOOD	●	●		
OIL & GAS	●		●	●
ARCHAEOLOGY	●			
ECOLOGY		●	●	●
OCEAN	●	●	●	●
POLLUTION		●	●	●
CLIMATE	●	●	●	●

CARBONATE ANALYSIS

With iso **FLOW**'s unique design, the analyst can measure carbonates in three modes: The Routine Mode is appropriate for high precision and "standard" sample sizes. Fast Mode works at lightening-speed for high throughput. Finally, Trace Mode takes full advantage of the properties of UltiTrap™, preconcentrating the evolved CO₂ for highest sensitivity.

GREENHOUSE GAS ANALYSIS

Since iso **FLOW** utilizes a unique solid state cooling, the need for cryogenics has been eliminated, so the only thing the analyst needs to worry about is loading the samples. With the optional high temperature furnace, it is also possible to measure the δD in addition to the δ¹³C of methane.

ISOTOPES OF WATER

By exploiting the technique of headspace equilibrium, the iso **FLOW** is immune from interfering or contaminating species such as alcohols and dissolved organics so messy samples can be measured confidently and without complication.

GAS ANALYSIS

Measuring stable isotope tracers in biological gases, whether enriched or at natural abundance, can help delineate the complex biochemical pathways that define life, and by extension the impact of these pathways on the surrounding environment.

⊕ Automated sample preparation and handling



⊕ Optional high-temperature furnace for reduction or oxidation of methane



High sensitivity

Analyze the most challenging samples with the highest degree of confidence.



Great flexibility

Ready-built for a variety of samples, from trace gases to pure carbonates.



High data quality

Achieve the highest analytical performance with the most precise instrument available.



Ease of use

Easy, labor-saving instrument operation and sample preparation. Simplified maintenance.

Elementargroup – your partner for elemental analysis

Elementargroup is the world leader in high performance analysis of organic elements. Continuous innovation, creative solutions and comprehensive support form the foundation of the Elementar and Isoprime brands ensuring our products continue to advance science across agriculture, chemical, environmental, energy, materials and forensics markets in more than 80 countries.

Isoprime Ltd | Isoprime House · Earl Road · Cheadle Hulme · SK8 6PT UK |
Phone: +44 (0) 161 488 3660 | info@isoprime.co.uk | www.isoprime.co.uk



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