



**Thermo Scientific**  
FLASH 2000 Elemental Analyzer



## Adapt your lab to **meet any challenge**

Discover the capabilities of the FLASH 2000 OEA.  
Cover all possibilities for CHNS/O,  
NC and N/Protein determinations

**Thermo**  
SCIENTIFIC



# Unlock the future-proof lab

Discover over 20 configurations with an elemental analyzer that grows with your needs

## Prepare for current and future challenges with one solution

Simplify your CHNS/O analysis with the Thermo Scientific™ FLASH™ 2000 Organic Elemental Analyzer (OEA). Discover how the FLASH 2000 OEA solves your laboratory challenges, improves workflow and minimizes downtime.

## Expand your fields of application

The extensive modularity, and the integration capabilities with a range of accessories and analytical systems, such as the Thermo Scientific Isotope Mass Spectrometer, allows you to add extra configurations easily.



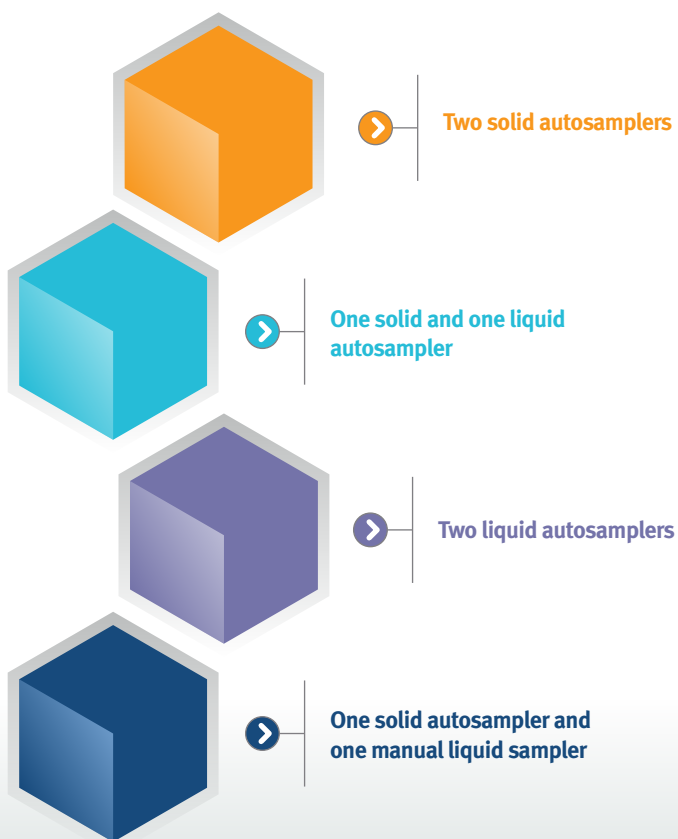
24/7  
automated  
operation

Determine  
1 to 5  
elements

## How quickly could you adapt, if the requirement changed?

Industries and academia shift more frequently than ever before. Only a flexible system allows you to keep your laboratory up-to-date and ready to compete in new markets.

### The FLASH 2000 OEA can accept:



### Reconfigure for any activity

Achieve maximum productivity with the determination of four elements (CHNS) simultaneously. Detect oxygen and sulfur without an extended module and utilize single or double reactor options for higher throughput and stay at the forefront of your application.

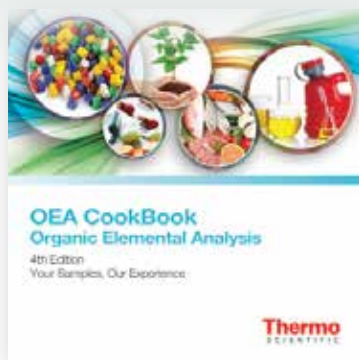
### Instantly connect:

- Thermal Conductivity Detector (TCD)
- Flame Photometric Detector (FPD) for trace sulfur analysis
- Isotope Ratio Mass Spectrometer (IRMS)

### Extra carrier gas options:

- Helium
- Argon option for cost-efficiency and regular supply

The Electronic Flow Control (thermo-regulated) improves the analytical stability and consequently the reproducibility of results.



### Exclusive OEA cookbook

Contains over 5000 determinations to help you get the most from your FLASH 2000 OEA



# FLASH 2000 Organic Elemental Analyzer

Rely on solutions that fit the unique needs of your laboratory

## A demanding market, which is always changing, puts daily pressure on busy labs.

Flexible systems help you to adapt so you can achieve more and deliver more. Configure the FLASH 2000 OEA to suit any requirement. This way, your lab can easily handle varying sample types, obtain extra element determinations and achieve maximum sample throughput.

- FLASH 2000 CHN
- FLASH 2000 CHN/O
- FLASH 2000 CHNS
- FLASH 2000 CHNS/O

### ORGANIC CHEMISTRY AND PHARMACEUTICALS



- Fine chemicals
- Pharmaceuticals products
- Organo-metallic compounds
- Polymers
- Plastic
- Synthetic rubbers
- Fibers
- Explosives
- Catalysts
- Textiles
- Pesticides
- Detergents
- Fluorine-compounds

### CHNS/O analyzer configuration:

Perform analysis and trace sulfur determination with an added flame photometric detector.

- FLASH 2000 CHNS
- FLASH 2000 CHNS/O
- FLASH 2000 NCS
- FLASH 2000 NC
- Soils/Sediments/Filters

- FLASH 2000 CHNS
- FLASH 2000 CHNS/O
- FLASH 2000 N Lubricants

### PETRO-CHEMISTRY AND ENERGY



- Coals
- Cokes
- Crude oils
- Gasoline/diesel
- Alternative fuels
- Petroleum derivates
- Lubricants
- Oil additives
- Graphite

### ENVIRONMENTAL



- Soils, sediments, and rocks
- Composts
- Wastes
- Sewage/sludge
- Pesticides
- Water solution
- Waste water
- Particulates in air by filters
- Particulates in water by filters
- Woods

## AGRONOMY AND MARINE SCIENCE



- FLASH 2000 N Org
- FLASH 2000 NC Org
- FLASH 2000 NCS
- FLASH 2000 NC Soils/  
Sediments/Filters

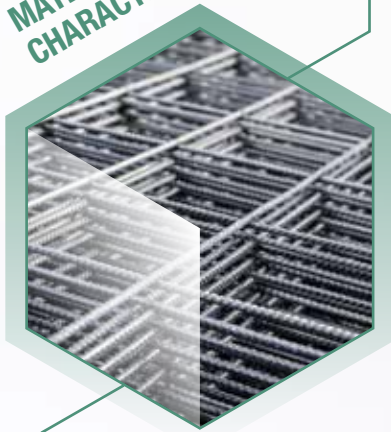
- Soil
- Plants (leaves, roots, fruit)
- Sediments
- Humus
- Algae
- Plankton
- Particulate matter  
in water by filters
- Water
- Fertilizer

### CFR21 validation:

Required for the pharmaceutical, cosmetic and food safety industries.

- FLASH 2000 CHNS
- FLASH 2000 CHNS/O
- FLASH 2000 N Org
- FLASH 2000 NC Org
- FLASH 2000 NCS
- FLASH 2000 NC Soils/  
Sediments/Filters

## MATERIAL CHARACTERIZATION



- Glue/resins
- Papers
- Rubbers
- Cement
- Ceramics
- Carbon/glass fibers
- Tires
- Pigments & dyes
- Refractory materials
- Building materials
- Inorganic materials
- Metals
- Textile fibers
- Wood powders

### NCS analyzer configuration:

Achieve nitrogen, carbon and sulfur determination by TCD detector and trace sulfur determination with a flame photometric detector.

- FLASH 2000 N/Protein
- FLASH 2000 N Brew

## FOOD SAFETY



- Human food and animal feed
- Beverages (beer, juice, milk, wine, soft drinks...)

### N analyzer configuration:

Determine crude protein in human food and animal feed using quality certified Food Reference Materials that are included with the FLASH 2000 OEA as standard.

Analyze  
from  
**few ppm,**  
to **100%**





# Lab transformation and optimization

Optimize uptime and efficiency for higher throughput

## Equip your team to achieve more

Single or double reactors allow for simultaneous analysis and higher throughput every single day. A powerful combination of user-led design and automation makes the FLASH 2000 OEA simple to use and easy to maintain. User actions for the optimization of the method are completely minimized, for a simplified route to final results.

### Automated functions:

- Auto-Start
- Auto-Ready
- Auto-Standby
- Auto-Off
- Auto Leak Test



Kjeldahl  
alternative for  
N/Protein

## Expand your capabilities, optimize your current and future workflow

Respond to challenges and stay at the forefront of your field. When the need or opportunity arises to test more elements, you can adapt the FLASH 2000 OEA, easily on-site. More options, enhanced capabilities and quick solutions keep your lab agile.

### Calibration modes:

- K Factor
- Linear Fit
- Quadratic Fit

## Switch to argon for cost-effective analysis

The increase in helium prices and possible supply shortages can hinder productivity. The FLASH 2000 OEA offers the same excellent performance and results when using Argon as a carrier gas. Data remains reliable and consistent, allowing you to take advantage of cheaper prices and to rely on a steady supply.



## Integrate IRMS in your analysis

When the FLASH 2000 OEA is coupled with the Thermo Scientific™ Delta V™ Isotope Ratio Mass Spectrometer, you have a fully-automated elemental analyzer that is optimized for isotope analysis of C, N, S, O and H. This meets growing demand for multi-element isotope analysis for geological applications, quality control of pharmaceuticals, detection of adulteration of food, beverage and flavours, environmental and forensics analysis.



## Unleash the full potential of your lab with the complete and fully automated OEA software

### The Thermo Scientific Eager Xperience Data Handling Software for 24/7 output:

Simply leave the instrument running and return to completed samples with full, user-friendly reports. Use this intelligent software to control all analytical parameters, flows, autosamplers and detectors.

To improve the maintenance of your analyzer, the software allows you to monitor the ongoing status of your consumables, such as crucibles, catalysts and filters.



#### Data output:

- Automated transfer from the Thermo Scientific™ Eager Xperience Data Handling Software to Microsoft Excel or to LIMS
- Automated transfer of the sample weight from the balance to the computer
- Automated evaluation of heat value for fuels and alternative fuels
- CO<sub>2</sub> Emission Trade for environmental control
- Different protein factors for food and animal feed
- Automated Minimal Formula determination for pharmaceutical or fine chemicals applications
- Automated evaluation of C/N, C/H and C/S ratio
- Inserting of the Humidity value for solid samples and of the Density for liquid samples

#### Unique OxyTune Function - ONLY with the FLASH 2000 OEA:

The Thermo Scientific™ OxyTune™ Function automatically evaluates the oxygen used for combustion, according to the weight and nature of your sample.

#### Approved by official organizations:

- ✓ AOAC – Association of Official Analytical Chemists
- ✓ AOCS – American Oil Chemists Society
- ✓ AACC – American Association of Cereal Chemists
- ✓ ASTM – American Society for Testing and Materials
- ✓ ASBC – American Society of Brewing Chemists
- ✓ ISO – International Organization for Standardization
- ✓ EN – European Standard
- ✓ CEN – European Committee for Standardization
- ✓ EPA – Environmental Protection Agency
- ✓ IFFO – International Fishmeal and Fish Oil Organization

With the FLASH 2000 OEA you can achieve unparalleled accuracy and precision, required by Official Methods.





# Customer support

Local support, long-term

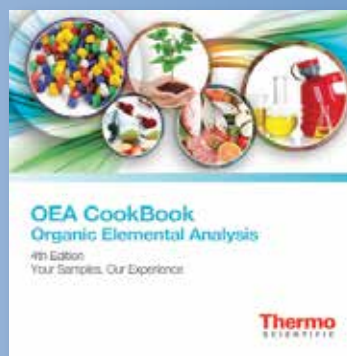


With over 50 years of experience in the Organic Elemental Analysis field, Thermo Fisher Scientific is your reliable partner for organic elemental analysis. No matter how remotely you work, **you'll always get the support you need, globally.**



## Learn more

Learn how you can discover new ways to achieve more, every day. Visit [www.thermoscientific.com/OEA](http://www.thermoscientific.com/OEA) for more information or locate your local supplier by visiting [www.thermoscientific/OEdealers](http://www.thermoscientific/OEdealers) and take the next step in CHNS/O analysis.



Register now and access the exclusive OEA Cookbook!



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