

# EUROVECTOR EA3000 SERIES

EURO EA  
Elemental Analyzer

At EuroVector, we design, manufacture and sell Elemental Analysers for Stand Alone applications, including Protein Analyser, as well as instrumentation dedicated to IRMS. We are committed to excellence in CHNS-O analysis through continuous innovation and generation of new products.



## EA3000 Elemental Analyser

EuroVector EA3000 Series of CHNS-O Elemental Analysers, with its dedicated SW Callidus, allows for the most exact determination of Carbon, Nitrogen, Hydrogen and Sulphur in virtually all existing substances. This is achieved through only three basic steps: sample combustion at high temperature, fast separation of the resultant gaseous species and TCD detection.

The straightforward and reliable analytical layout avoids unnecessary complications introduced by the use of purge and trap cycles, gas splitting and aliquot dosing devices, thus preserving precision and accuracy of results.

Determination of Oxygen content is performed on the same instrument in pyrolysis mode by a quick change of configuration.

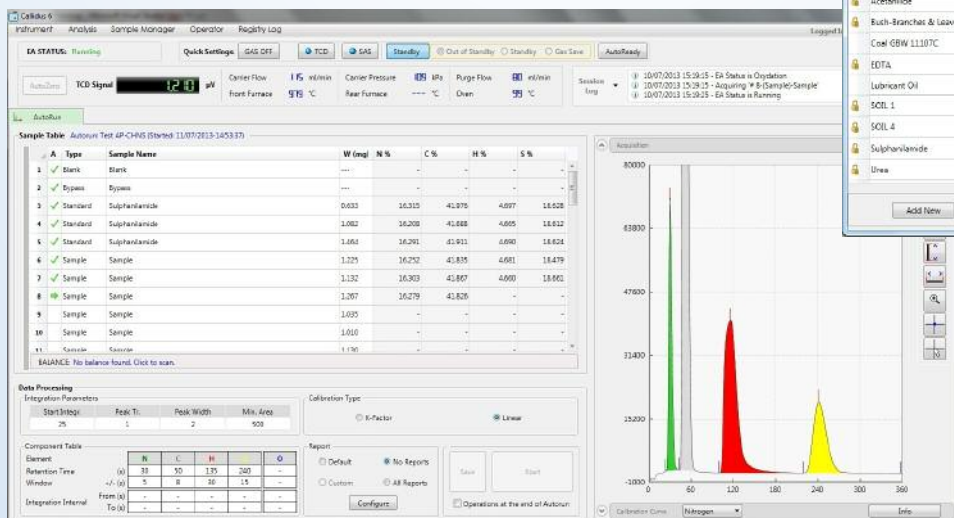
**Patented TurboFlash™ Combustion Technology** synchronizes sample admission with pressurized Oxygen injection independently from Helium carrier gas flow rate ensuring complete combustion and quantitative results.

**High Speed Chromatography** separates gas peaks to baseline cutting down analysis time at an unbeatable 5 minutes, saving Helium and granting much higher number of analyses per day.

**Supersensitive TCD Technology.** The high sensitivity detector allows for measurements from low ppm traces up to 100% on all Elements, granting linearity and perfect stability.

**Quick configuration change.** Flexibility makes the EA3000 a unique instrument in the market. It allows quick configuration changes from CHNS, CHN, CN to Oxygen determination in few simple user-friendly steps, facing any kind of samples needs and reducing run time.

**Callidus™** is a mature software dedicated to EA3000. It supervises full automatic instrument control from setting parameters up to results printout. It also allows for data reprocessing, preventive maintenance prompting, gas leak test and full diagnostic. Graphic tools review is at the highest level of completeness and ease of use for the most elegant solutions. From a single page, its comprehensive design allows to monitor all functionalities using toggle buttons for quick settings; it also provides Element % results through Linear Regression calibration, allows to follow the progress of analysis, while fine inspecting chromatogram, fully reviewing calibration and printing out final results report. Empirical Formula, Heat Values calculation as well as 100% compliance to CFR 21 art.11 are also provided.



| Standard Name          | N %    | C %    | H %    | S %    | O %    |
|------------------------|--------|--------|--------|--------|--------|
| Acetonide              | 10.363 | 71.089 | 6.712  | 0.000  | 11.837 |
| Buch-Branches & Leaves | 3.500  | 0.000  | 0.000  | 0.730  | 0.000  |
| Coal GBW 11107C        | 1.400  | 76.830 | 4.630  | 0.920  | 0.000  |
| EDTA                   | 9.586  | 41.099 | 5.518  | 0.000  | 43.797 |
| Lubricant Oil          | 1.090  | 82.070 | 13.620 | 3.220  | 0.000  |
| SCIL 1                 | 0.216  | 3.500  | 0.000  | 0.000  | 0.000  |
| SCIL 4                 | 0.048  | 2.417  | 0.000  | 0.000  | 0.000  |
| Sulphanilamide         | 16.267 | 41.848 | 4.663  | 18.621 | 18.582 |
| Urea                   | 46.646 | 28.000 | 6.713  | 0.000  | 26.641 |

SMASH THE COMBUSTION BARRIER!!

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## EuroVector introduces "Samples by Category"

Each Sample is identified by a "Significant Category" allowing for selection of the optimal Analytical Configuration: the lower the sample size, the lower are the residues, allowing saving Helium and increasing number of analyses per day.



### **Biomass, Biofuel, Wastes**

**(CHN-O)**

EuroVector patented combustion system, with its ability to burn from simple to complex matrices, makes the EA3000 an essential partner for the Research in one of the most challenging target today: discovering new forms of clean and sustainable energy, keeping under control heat values and pollutants such as nitrates and sulfates.



### **Soils, Sediments, Rocks**

**(CNS)**

Carbon/Nitrogen ratio as well as Organic/Inorganic Carbon ratio and Sulphur concentration set the EA3000 as a key tool for wise agriculture based on balancing elements in the soil mechanism, which outcomes in better production quality and full respect of the environment.



### **Plants, Branches, Leaves, Roots, Vegetables**

**(CHNS-O)**

Determination of micronutrients concentration in plants and vegetables is an invaluable aid to nutrient management decisions, both in agronomy and ecosystems preservation. Quantitative measurement of Sulphur and Nitrogen in mature tissues is readily achieved by EA3000, taking advantage of super-sensitive detector and total absence of memory effect of the analytical layout.



### **Food, Feed, Oil Seeds, Sunflowers, Cereals, Corn, Brewing, Malt, Worth and Milled products**

**(N-Prot)**

The EuroVector N-Protein Analyser is a modern environmental friendly alternative to the Kjeldahl Method. The instrument, based on Dumas principle, offers superior specifications in the widest variety of Nitrogen-Protein samples providing confidence in accurate results.



### **Coal, Coke, Peat**

**(CHN-S-O)**

Maximization of calorific power and the concurrent reduction of polluting elements have become strong requirements in the energy production field. The ability to reduce sample sizes up to submilligrams in the analysis of substances with more than 50% ashes is a key factor for keeping a high throughput, while preserving high reliability and accuracy in results.



### **Petroleum & Lubricants**

**(CHN-S-O)**

The vast variety of different solid, semisolid and liquid samples faced in the petroleum refining industry such as Bitumen, Wax, Catalysts, Kerosene, Jet fuels and Diesel, are easily analyzed by the EA3000 in line to ASTM Standards, to monitor production process and for Quality Control. Dedicated user-friendly tools grant smooth sample preparation of the more challenging volatile substances.



### **Organics, Synthetic Compounds, Polymers, Textiles, Pharma, Fertilizers**

**(CHNS-O)**

Characterization of Inorganic and Synthetic Organic molecules is historically the natural field of application for EA3000, both for its detection limit in the submicrograms level and for the unbeatable 5 minutes analysis run time in CHNS. Oxygen is routinely and reliably analysed in Pyrolysis in 3 minutes, followed by chromatographic separation of CO equivalent to Oxygen % content.

**Catalysts and consumables.** EuroVector is the manufacturer and supplier of a complete line of catalysts and consumables for advanced Instruments. In many application areas catalysts have been proven to be a key factor for reliable analysis. Prioritizing stringent specifications, EuroVector established a dedicated line for Isotope Grade (IG) items for EA-IRMS



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EuroVector was incorporated in 1996 for selling and supporting LIMS (Laboratory Information Management Systems) as well as Isotopic Ratio Mass Spectrometry (IRMS). In the same period, EuroVector developed the EuroEA3000 Elemental Analyzer, for release in year 2000, including Callidus Software, key patents and generating proprietary "Application Notes". A number of improvements have been released so far.

The manufacturing facilities were further implemented at the highest level of industry standard providing comprehensive final test procedure also taking advantage from Callidus SW powerful features.

EuroVector established a w/w Distributors Network and related local sales representatives familiarizing them with the EA3000 Series.

Service Engineers are accredited after comprehensive Training Course, supported by EuroVector staff for Hardware and Software, to sustain the well proven superior performances of the instrument and fully support customers during operations.

ABOUT US



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