

Solutions for Environment & Agriculture Analysis



LECO

EMPOWERING RESULTS

Elemental Analysis | GC Mass Spectrometry | Metallography

Solutions for Environment & Agriculture Analysis

Preserving Our World & Resources, Ensuring the World's Food Supply



Whether you are evaluating pesticides in soil or determining sulfur in plant tissue, LECO provides innovative, time-saving environmental analysis solutions. Instrumentation is available for analyzing and identifying hundreds of known and emerging environmental threats in soils, plants, fertilizers, grains, pesticides, and feeds. For select instruments, software includes an Environmental Protection Agency reporting package, allowing you to create customized reports directly from your sample data.

832 Series Sulfur/Carbon

LECO's 832 Series of Elemental Determinators are specifically designed to perform carbon and sulfur analysis in wide range of organic and some inorganic materials. The 832 Series is a valuable resource for the environmental and agricultural sector because of its ability to provide fast and accurate analysis of soil, plant tissue, and feed samples.

- Improved solid-state IR cell design delivers superior analytical performance and stability
- High-efficiency furnace with intelligent control lowers operating costs and optimizes furnace reliability
- Ergonomic design powered by LECO's exclusive Cornerstone[®] brand software with touch-screen interface increases usability and operational control reducing bench space requirements
- Large, reusable ceramic boats with open surface area facilitate ease of sample handling and efficient sample combustion



FP828 Nitrogen/Protein and CN828 Carbon/Nitrogen Elemental Analysis

The FP828 and CN828 make it possible to achieve fast results in organic matrices such as soils, fertilizers, and plant tissues. The dual-stage furnace system operates at temperatures up to 1050 °C with pure oxygen to ensure the complete combustion of all organic samples, without requiring additional metal oxidizing reagents or other carrier gases. A variety of features, including automated sample loaders, increase sample throughput while maintaining a low cost-per-analysis.

- Rapid 2.8 minute analysis times for diverse organic matrices
- Flexible configurations—nitrogen/protein, carbon/nitrogen
- Sample mass up to 500 mg
- Extended reagent lifetimes maximize lab efficiency and lower operating costs
- Optional S832 add-on provides independent sulfur determination
- Complies with AOAC, ASTM, ISO, AACC, and ASBC-approved



TGM800 Thermogravimetric Moisture

The TGM800 is a high precision, automated thermogravimetric moisture determinator that utilizes a direct method for replacing tedious loss-on-drying techniques. It is applicable to a wide variety of sample matrices including food, feed, milled, and agricultural materials.

- Flexible method settings enable configuration of system to match manual loss-on-drying test methods
- Measure up to 16 samples at a time with optimized drying time using mass constancy end point recognition
- Precise oven temperature ramping and set point control up to 175 °C





928 Series Elemental Analysis for Macro Samples

By incorporating state-of-the-art hardware with an on-board touch-screen software platform, the 928 Series allows you to easily handle the most demanding sample applications. Macro sample mass capability (up to 3 grams for Nitrogen/Protein, regardless of sample carbon content) with rapid cycle times and a resulting low cost-per-analysis make the 928 Series ideal for a variety of food, feed, and soil applications.

- Rapid determination of macro sample sizes (up to 3 grams) in as little as 5 minutes
- Extended reagent lifetimes maximize lab efficiency and lower operating costs
- Rugged design meets the demands of difficult applications
- Operator-centered design with touch-screen Cornerstone brand software promotes an ergonomic workspace and optimized workflow



TGA801 Moisture/Ash/Volatile Matter

The TGA801 is your total solution for fast and robust macro thermogravimetric constituent analysis. Determine weight loss as total moisture, ash, volatile content, or LOI in various organic, inorganic, and synthetic materials. The TGA801 is perfect for a variety of industries and applications—including feeds, milling products, foods, and soils

- Determine multiple constituents such as moisture/ash, organic matter, volatile content, and LOI from a single sample in various organic materials
- Analyze 19 samples simultaneously
- Optimize analysis time using automatic end point recognition based on sample mass constancy



PEGASUS® BTX GC-TOFMS

The Pegasus BTX is a Time-of-Flight GC-MS platform that delivers exceptional sensitivity and non-target data acquisition in unison. The improved chemical information transforms workflows from routine to exploratory.

- Single-femtogram sensitivity illuminates a myriad of trace level analytes
- Revolutionary StayClean® Ion Source design eliminates the need for source cleaning, even after sustained matrix exposure
- Advanced deconvolution algorithm yields clean EI spectra with excellent commercial library matching
- Uncover simultaneous targeted and non-targeted information from a single injection without sacrificing sensitivity
- Innovative detector mechanism delivers unparalleled performance, backed by a two-year warranty



PEGASUS BTX 4D GCxGC-TOFMS

The Pegasus BTX 4D pairs the BTX with one of LECO's GCxGC modulators to resolve chromatographic coelutions, improve identifications, and extend quantitation limits in difficult environmental matrices.

- QuadJet™ Thermal Modulator delivers 5 to 10X sensitivity gain and optimized chromatographic control—available with LN₂ or cryogen-free packages
- Paradigm™ Flow Modulator delivers affordable, robust, and simple GCxGC-MS for any sample
- Shift™ Flow Splitter maintains constant split ratio between MS and FID for optimized quantitative capabilities
- Powerful ChromaTOF® Software easily surfaces critical insights from complex GCxGC data





PEGASUS GC-HRT⁺ (High Resolution TOFMS)

The Pegasus HRT equips investigators with every tool for complex sample characterization with High-Resolution Accurate Mass performance, multiple ionization modes, high linear and in-spectrum dynamic range, and powerful software tools illuminate the unknown.

- Folded Flight Path[®] (FFP[®]) delivers spectral resolution >50,000 and mass accuracy <1 ppm for accurate elemental formula determination
- Available with Multi-Mode Source[™] (MMS[™]) for EI, CI, and NCI without any hardware changes or MS venting
- Spectral Analysis Toolkit allows advanced data visualization with mass defect, RDBE, Van Krevlen, and other plots and tools
- High Resolution Deconvolution[®] (HRD[®]) produces spectra with excellent library matching and elemental composition for any mass spectral peak



PEGASUS GC-HRT⁺ 4D

The Pegasus HRT⁺ 4D pairs LECO's most advanced mass spectrometer with the excellent chromatographic resolution of the QuadJet GCxGC system. The result—more analyte identifications with more confidence.

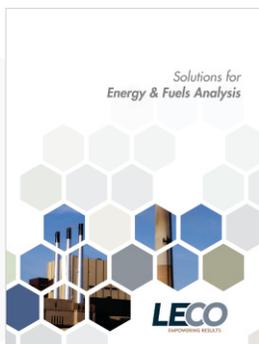
- The best chromatographic resolution paired with high-speed HRMS creates the ultimate discovery tool for environmental research
- HRT 4D delivers resolution >50,000 and mass accuracy <1 ppm, even at GCxGC-capable acquisition rates up to 200 Hz
- Linked GCxGC contour plots and spectral analytical plots unlock chemical discoveries from many thousands of identified compounds



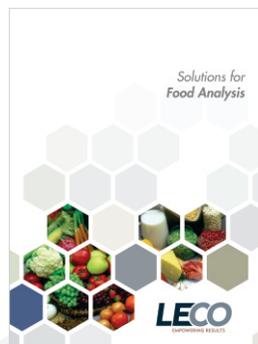
Additional LECO solutions are also featured in the following market-centered brochures.



Metals
209-205-001



Energy & Fuels
209-205-002



Food
209-205-004



Metabolomics
209-240

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