828 Series

Elemental Analysis by Combustion





LECO

EMPOWERING RESULTS

828 Series: Elemental Analysis by Combustion

By incorporating state-of-the-art hardware and an on-board, touch-screen software platform, the 828 Series allows you to easily handle a wide range of sample applications while significantly increasing your productivity. Available in carbon/nitrogen, nitrogen/protein, and carbon/hydrogen/nitrogen configurations, the core capabilities and performance of previous generations of LECO macro combustion instruments have been maintained, while key improvements have been made in throughput, uptime, and reliability. All 828 Series models are compatible with the S832 add-on providing independent sulfur determination. Macro sample mass capability paired with cycle times as fast as 2.8 minutes make the 828 an ideal instrument for a diverse applications base, while delivering unparalleled sample analysis throughput.



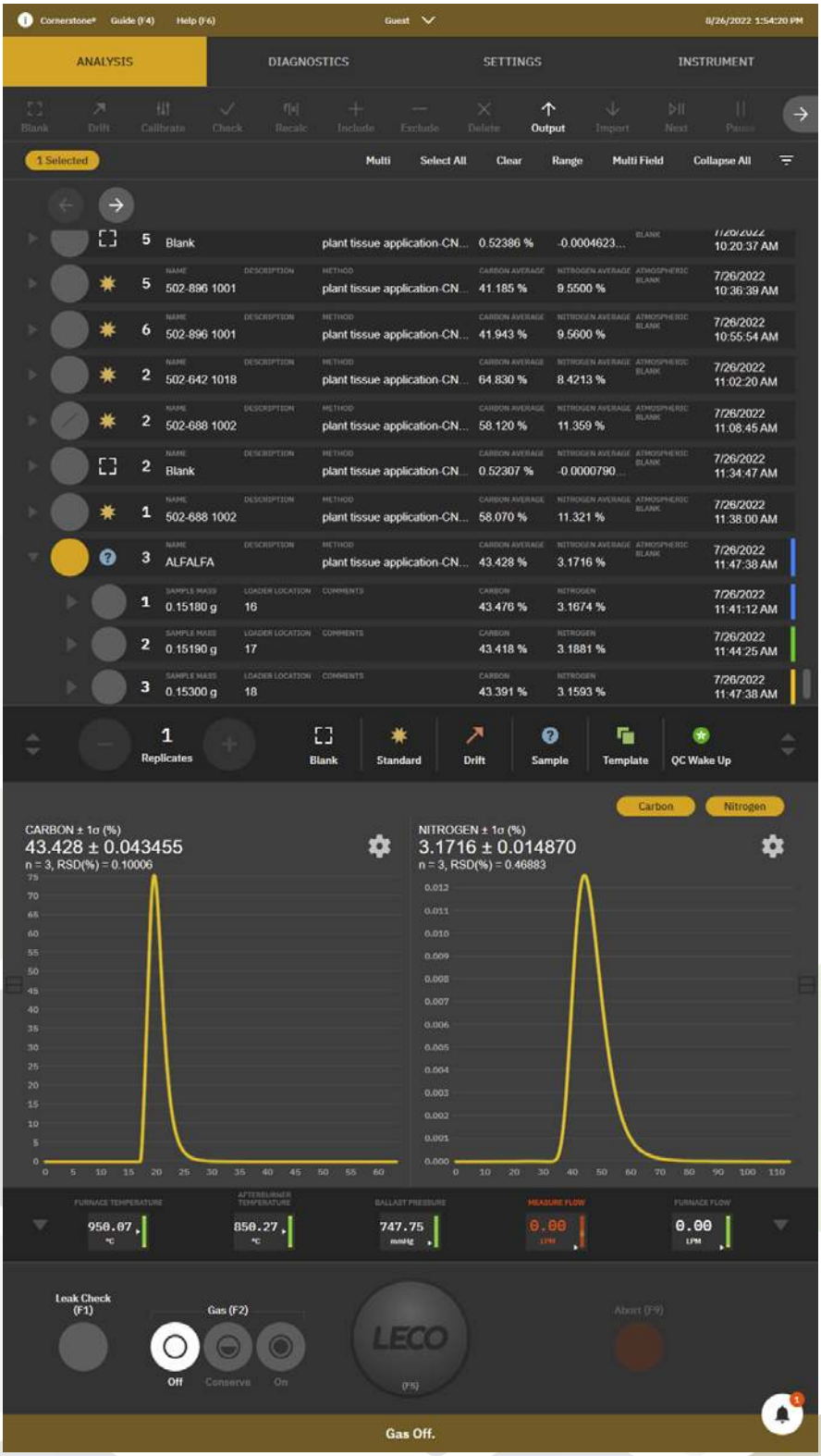
Maximize lab efficiency and productivity with unmatched sample throughput coupled with superior instrument uptime.

- Rapid cycle time of 2.8 minutes for FP/CN models
- Extended reagent lifetimes, including a reduction reagent tube lifetime of over 4,000 samples
- Rugged 30-sample position autoloader with optional expanded capacity for up to 120 samples



User-Friendly Cornerstone® Brand Software

LECO's exclusive *Cornerstone* brand software with touch-screen interface enables complete access to analysis control, method settings, diagnostics, reporting, and more in a highly organized, intuitive, and immersive environment. Designed through a collaboration of customer feedback and innovative engineering, *Cornerstone* features all of the routine day-to-day operations within a single Analysis screen designed for speed and ease-of-use. Our innovative grouping of sample data into sets and replicates simplifies the data output and automatically calculates relevant statistics, alleviating the need for additional data processing.



Analysis

Software Features & Benefits

The software is divided into four main sections—Analysis, Diagnostics, Settings, and Instrument— for simplified navigation and organization. Toolbars, sliders, and drop-down menus make it easy to set parameters for calibration and data processing. The software also includes real-time monitoring of ambient parameters, with fully animated system diagrams and onboard training videos.

Advanced interactive diagnostic features include a thorough digital on-board manual, maintenance animations, photo illustrations, and screen captures that quickly provide the direction needed without having to refer to multiple manuals.

Cornerstone also supports a multilingual interface, user permissions, extended data archiving and filtering, compatibility with various Laboratory Information Management Systems (LIMS), and flexible reporting capabilities. Compliance to FDA regulations 21 CFR Part 11 for a closed analytical system is also supported.



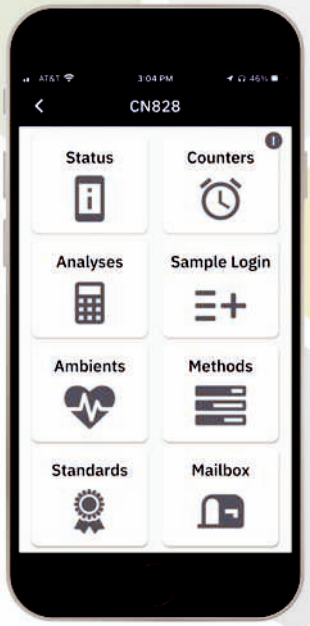
Diagnostics ▶ Ambients



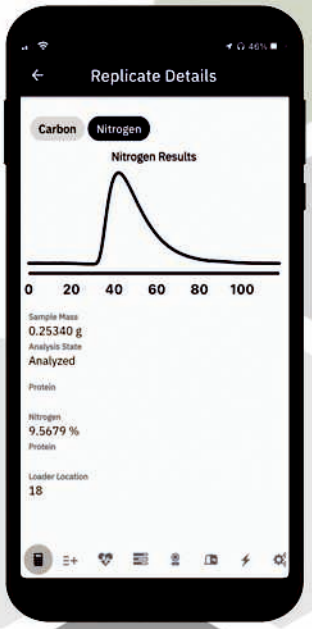
Instrument ▶ Furnace



Settings ▶ Calibration



An optional *Cornerstone* Mobile application feature enables remote viewing of the instrument software from a smartphone, tablet, or PC. It can also be programmed to set automatic notifications from the instrument against predefined software conditions using e-mail, text message, or the *Cornerstone* Mobile application.

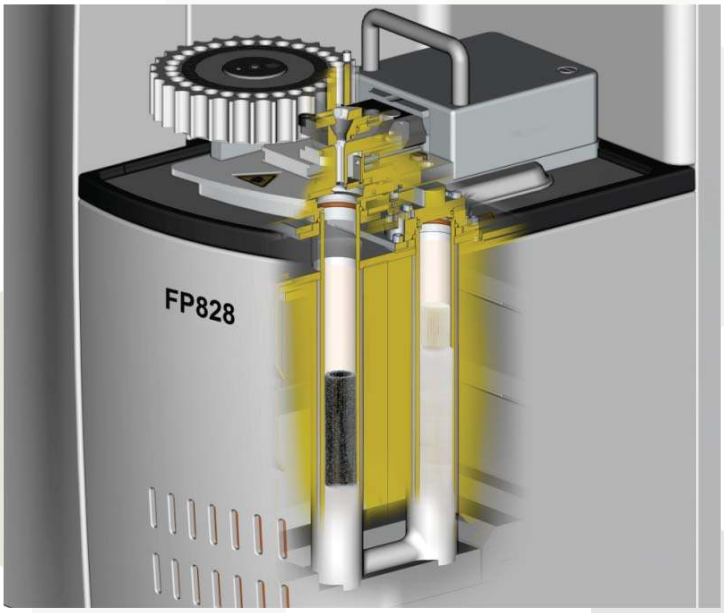


Instrument Highlights and Features



Application Versatility with Superior Uptime

- Quartz dual-stage furnace with exclusive oxygen environment ensures complete combustion of macro samples with maximum temperature up to 1050 °C
- Thermal conductivity cell supports the flexibility of using either helium or argon as a carrier gas without a hardware change
- Dual-loop aliquot doser (available in FP828 performance, CN, and CHN model), provides the flexibility to optimize methods based upon sample element concentration (low/high), or analysis cost and uptime
- S832 add-on provides independent sulfur determination of macro samples



Low Operating Cost

- Reagent-free primary and secondary furnace eliminates the cost and downtime of furnace reagent replenishment in FP/CN models
- Thermoelectric cooler eliminates the use of chemical desiccant reagents for the removal of combustion gas moisture in FP/CN models
- Combustion gas aliquot system provides an extended and consistent reagent lifetime regardless of sample mass, matrix, or carbon content, including a 4000 sample reduction tube reagent lifetime

Operator-Centered Design

- Boom-mounted touch-screen user interface promotes an ergonomic workspace and optimized workflow while reducing system bench space requirements
- Open access to all reagent tubes and common maintenance areas with quick-release features speeds and simplifies preventive maintenance routines, ensuring a robust and reliable instrument with superior uptime
- *Cornerstone* Mobile remote software keeps the user updated from their smartphone on the instrument's analysis batch progress, performance, and status while away





Reliability with Trusted Service and Support

- Knowledgeable sales force with a customer-centered focus dedicated to helping you understand and identify the best instrumentation fit for your application
- State-of-the-art Technical Service Laboratory with experienced technical application chemists to assist in method development and other application-related requests
- Global and regional LECO service network comprised of regional support centers and over 25 international LECO subsidiaries, dedicated to providing service and support offerings, including field service visits over the lifetime of the instrument

Model Availability

Available in various models, the 828 Series is ideal for a diverse applications base and is compliant with ISO, AOAC, AACC, AOCS, and ASBC approved methods of analysis.



FP828

The FP828 delivers fast, accurate, and precise detection of nitrogen/protein in a wide range of food, feed, and other organic matrices, with an analysis cycle time of 2.8 minutes.

- Feeds
- Petfood
- Milled products



CN828

The CN828 delivers fast, accurate, and precise detection of carbon and nitrogen analysis in environmental and agricultural samples with an analysis cycle time of 2.8 minutes.

- Soil
- Plant tissue
- Sediments



CHN828

Determination of carbon, hydrogen and nitrogen in energy, fuels, and specialty materials performed quickly and conveniently using the versatile CHN828.

- Coal
- Coke
- Oils

LECO—Your source for total analytical solutions

TGA801 Thermogravimetric Analyzer

- Determines moisture and ash or other gravimetric methods in various organic samples
- Expanded temperature control (up to 1000 °C) with variable atmospheres and ramp rates
- Automated batch thermogravimetric analysis of up to 19 samples



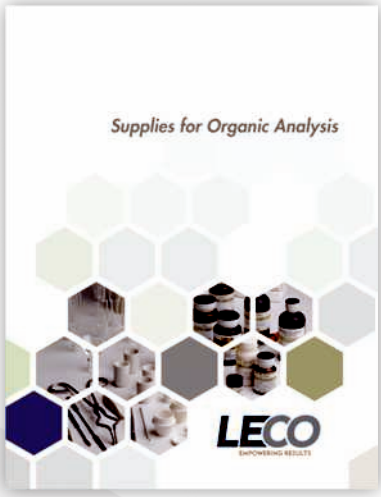


928 Series Carbon/Nitrogen

- Extended reagent lifetimes maximize instrument uptime and lowers operating costs
- Operator-centered design with touch-screen *Cornerstone* brand software promotes an ergonomic workspace and optimized workflow
- 928 Series features a rugged design capable of analyzing macro sample masses up to 3 grams, for easy analysis of the most demanding applications requiring heterogeneous and difficult-to-prepare samples

Organic Consumables

Get the best results from your LECO instrument by using genuine LECO consumables. Visit www.leco.com for featured items, specials, and ordering information (Form number 203-828).



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Form No. 209-266 8/22-REV3
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