



## ONH836 Series: Oxygen/Nitrogen/Hydrogen by Fusion

# ONH836 Series: Oxygen/ Nitrogen/Hydrogen by Fusion

The ONH836 Oxygen/Nitrogen/Hydrogen family of Elemental Analyzers is designed for wide-range measurement of oxygen, nitrogen, and hydrogen content of inorganic materials, ferrous and nonferrous alloys, and refractory materials using the inert gas fusion technique.

These instruments feature a custom software interface designed specifically for touch-screen operation. Developed by combining long-term research with customer feedback, this easy-to-use software gives you complete access to instrument control, analysis settings, diagnostics, reporting, and more—without sacrificing valuable bench space.



# User-Friendly Cornerstone™ Software

LECO's exclusive Cornerstone software with touch interface enables the user to have complete access to analysis control, method settings, diagnostics, reporting, and more in a highly organized and immersive environment. Designed through a collaboration of customer feedback and innovative engineering, Cornerstone allows the user to conduct all of their 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.

The screenshot displays the LECO ONH836 software interface. At the top, it shows the instrument ID 'LECO ONH836' and the user information 'User Name 5/6/2011 11:28 AM'. Below this is a toolbar with icons for SELECT, MULTI, COPY, BLANK, DRIFT, CAL, RECALC, NEXT, PAUSE, INCLUDE, EXCLUDE, EXPORT, TRANSMIT, FILTER, and PRINT.

The main data area contains a table of analysis results:

Name	Description	Method	Oxygen	Nitrogen	Hydrogen	3/9/2011	
502-257 J0385-3	3	Test Method	26.1 ppm	445.5 ppm	2.7 ppm	10:35:13 AM	
501-644 0475-21	3	Test Method	32.0 ppm	93.5 ppm	0.8 ppm	10:44:43 AM	
502-416 0580-65	3	Test Method	49.1 ppm	572.1 ppm	6.9 ppm	10:53:33 AM	
1	Mass	Comments	Operator	3/9/2011	Oxygen	Nitrogen	Hydrogen
1.00960 g				10:47:55 AM	51.2 ppm	570.0 ppm	7.0 ppm
2	Mass	Comments	Operator	3/9/2011	Oxygen	Nitrogen	Hydrogen
1.00880 g				10:50:45 AM	48.7 ppm	570.3 ppm	7.0 ppm
3	Mass	Comments	Operator	3/9/2011	Oxygen	Nitrogen	Hydrogen
1.00900 g				10:53:33 AM	47.5 ppm	576.1 ppm	6.8 ppm
501-645 J0434-4	3	Test Method	110.2 ppm	496.0 ppm	0.4 ppm	11:03:18 AM	
501-149 J0362-5	3	Test Method	675.0 ppm	-3.1 ppm	0.0 ppm	11:14:32 AM	

Below the table is a control bar with 'LOGIN:' and buttons for '+ BLANK', '+ STANDARD', '+ SAMPLE', and '+ GAS DOSE'. A 'REPS' indicator shows '1' with '+' and '-' buttons.

The analysis results are visualized in three graphs:

- Oxygen:**  $49.1 \pm 1.9$  ppm,  $\pm 1\sigma$ ,  $n = 3$ ,  $RSD(\%) = 3.9$
- Nitrogen:**  $572.1 \pm 3.4$  ppm,  $\pm 1\sigma$ ,  $n = 3$ ,  $RSD(\%) = 0.59$
- Hydrogen:**  $6.90 \pm 0.12$  ppm,  $\pm 1\sigma$ ,  $n = 3$ ,  $RSD(\%) = 1.7$

The bottom section of the interface shows various instrument parameters:

- FURNACE CURRENT: 0
- COOLANT TEMPERATURE: 25.0 °C
- INCOMING PRESSURE: 22.3 psi
- DFC PRESSURE: 116 mmHg
- MASS FLOW: 450.1 ccm
- FURNACE POWER: 0

Navigation buttons include ANALYSIS, DIAGNOSTICS, SETTINGS, INSTRUMENT, LEAKCHECK, GAS, VACUUM, GUIDE, HELP, ELECTRODE, CLEAN, and ABORT. The status 'Ready To Analyze.' is displayed at the bottom center.

## Software Features & Benefits

Cornerstone 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 ambient monitors, with fully animated system diagrams. Advanced 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 software also supports extended data archiving and flexible reporting capabilities.



## Instrument Highlights and Features



### Features and Benefits

- LED light ring illuminates the furnace area
- Quick-removal finish scrubber features automatic bypass valve
- Patented Dynamic Flow Compensation ensures stable flow to the TC detector with high oxygen scrubbing
- Non-touch interface systems also available



### High-Efficiency Cooling System

- Reduces or eliminates the need for external cooling
- Dual DC cooling fans provide consistent cooling regardless of line voltage or frequency
- Novel electrode design increases heat transfer efficiency

### Optional Automation

- Available autocleaner minimizes the need for manual cleaning between analyses
- Optional 20-sample batch or 100-sample process loaders available
- High-velocity vacuum cleaner design keeps dust and soot to a minimum



### Improved Detector Design

- Thermostatic construction provides increased protection from ambient temperature fluctuations
- Long-life emitter drive and drift-free detection circuitry improves long-term stability
- Oxygen determination with both CO<sub>2</sub> and CO detectors for complete gas characterization and expanded range

## Models

ONH836 True Simultaneous Oxygen/Nitrogen/Hydrogen Specification Sheet 209-215-001
ON836 True Simultaneous Oxygen/Nitrogen Specification Sheet 209-215-002
OH836 True Simultaneous Oxygen/ Hydrogen Specification Sheet 209-215-003
NH836 True Simultaneous Nitrogen/Hydrogen Specification Sheet 209-215-004
O836 Oxygen Specification Sheet 209-215-005
N836 Nitrogen Specification Sheet 209-215-006
H836 Hydrogen Specification Sheet 209-215-007

## Options

Sample Autoloader	Printer	Interfaced Balance Kit	<b>SmartLine<sup>®</sup></b> Remote Diagnostics
Recirculating Chiller	Power Purifier	Liquid-to-Liquid Heat Exchanger	

## LECO—Your source for total analytical solutions

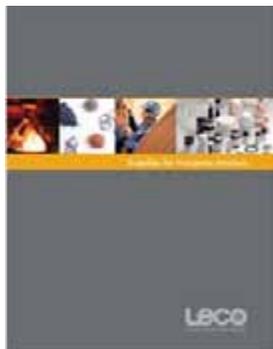


### CS844 Series: Carbon/Sulfur by Combustion

- Carbon and sulfur determination by combustion infrared detection
- Quick, accurate, and affordable determination for both production control and research
- Calibration, analysis, evaluation, and diagnostic functions accessible via user-friendly software

### GDS500A and GDS850A Atomic Emission Spectrometers

- Spectral range from 120 to 800 nm
- Continuous profile of concentration/thickness
- Large, dynamic range with concentrations from ppm to 100% by weight
- Short analysis time (minutes)



### Inorganic Consumables

Get the best results from your LECO instrument by using genuine LECO consumables. Visit [www.leco.com](http://www.leco.com) for featured items, specials, and ordering information. (Form number 203-959)