



**Leco®**  
Delivering the Right Results

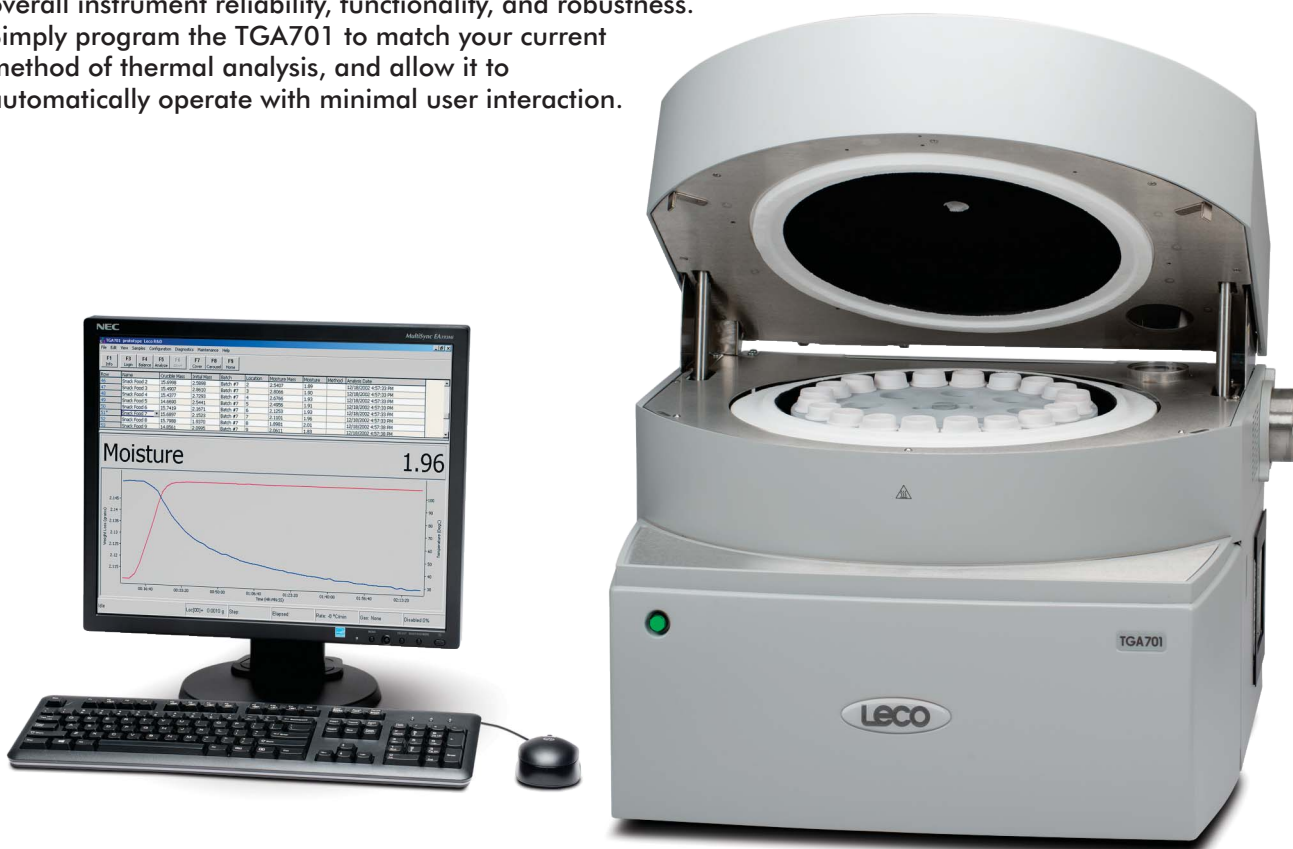
# TGA701 Thermogravimetric Analyzer

## Designed for fast, robust macro-constituent analysis

LECO's latest generation of thermal analysis technology determines weight loss—including moisture, ash, volatile content, and LOI—in various organic, inorganic, and synthetic materials. Complying with ASTM-approved methodologies, the TGA701 is applicable in various industries and applications, including coal/coke, cement, catalysts, foods, feeds, and milling products.

Thermogravimetric analysis replaces traditional analytical techniques that require ovens, desiccators, and analytical balances. The TGA701 offers enhanced capabilities, such as accurate, high-throughput weight measurements, and simultaneous control of system temperature and atmosphere—improving overall instrument reliability, functionality, and robustness.

Simply program the TGA701 to match your current method of thermal analysis, and allow it to automatically operate with minimal user interaction.



## Maximize Productivity and Enhance Accuracy

### High Sample Throughput

- Perform automated batch thermogravimetric analyses without the required cooling and desiccator time of manual methods
- Obtain multiple thermogravimetric analyses such as moisture, volatile matter, and ash from a single sample
- Dual configuration analyzes up to 38 samples simultaneously

### Improved Accuracy and Precision

- Patented temperature prediction algorithm standardizes unit-to-unit heating
- Integrated balance reduces noise and drift
- Pneumatic carousel control mechanism increases long-term reliability by eliminating oscillation and increasing position accuracy

# Instrument Highlights and Features

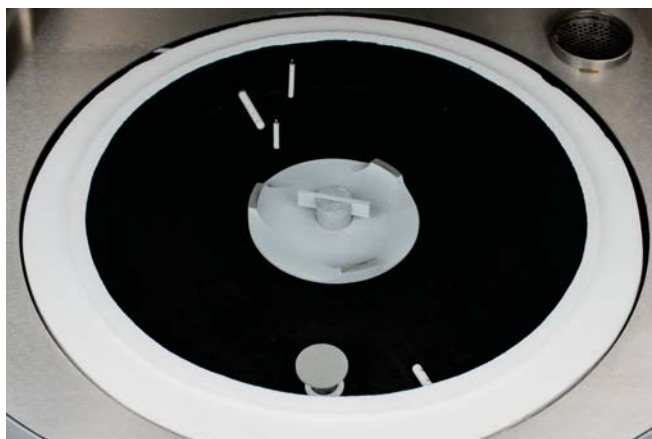


## Robust Furnace

- Temperature control up to 1000°C
- Embedded heating elements within the furnace and lid provide uniform heat
- Black ceramic surface improves heat emissivity

## Furnace Control

- Patented technique accurately predicts temperature inside the crucible
- Allows for excellent temperature accuracy and stability over a wide temperature range
- Provides improved ramp control to reduce temperature overshoot



## Integrated Balance with Ceramic Pedestal

- Integrated balance with 0.0001 g resolution provides weight measurement during analysis
- Monolithic weigh-cell technology ensures rugged, precise, and reliable long-term operation
- Ceramic pedestal provides a weighing surface that insulates the interface between the balance and the furnace

## Ceramic Carousel and Pneumatic Carousel Mechanism

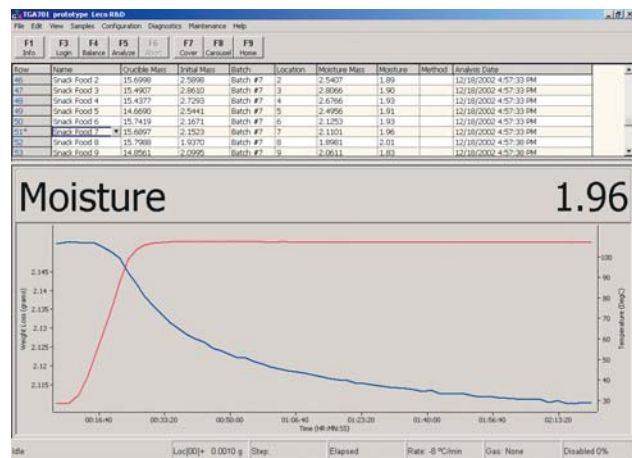
- 19 positions allow for high-throughput analysis
- Robust ceramics prevent warping and corrosion under temperature stress
- Inert ceramic surfaces eliminate possible reaction with sample for accurate, long-term results
- Pneumatic carousel mechanism improves crucible placement accuracy and decreases balance noise



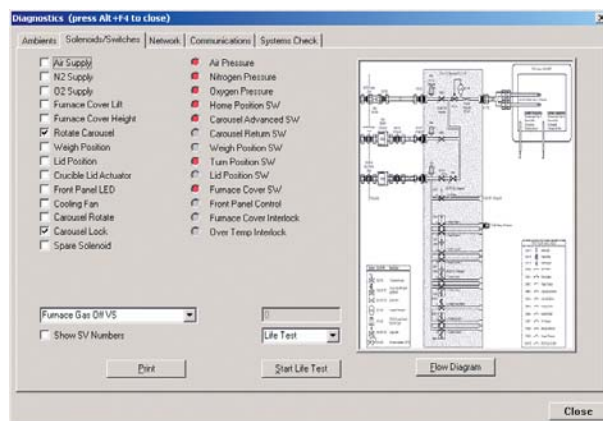
## Intuitive Software

With virtually unlimited storage space and compatibility with various Laboratory Information Management Systems (LIMS), this software is designed for seamless interaction with any operator or laboratory environment. A convenient on-board help manual allows quick access to information without leaving the instrument, with compatibility to **SmartLine®** Remote Diagnostic application.

- Simplified data handling, with convenient storage and customizable reporting and data exporting capabilities
- Flexible user-defined methods allow for a wide range of temperature control and atmosphere types and flow
- User-defined calculations support custom calculations or conversions for data and results



Seamlessly manage data and plots.

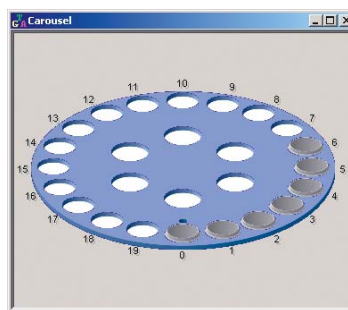


Expanded interactive diagnostic screens to aid in troubleshooting and improve serviceability.

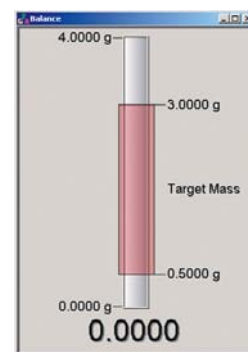
The screenshot shows the 'Method Editor' screen in the TGA701 software. The title bar says 'Method: Canola Seeds - Both Moisture & Ash'. The interface is divided into two sections. The top section is a table with columns: Step Name, Covers, Start Temp, End Temp, Ramp Rate, Ramp Time, Hold Time, Total Time, and Max Time. The bottom section is a large text area for editing the method. At the bottom, there are buttons for 'Help', 'Add', 'Insert', 'Delete', 'Print', 'OK', 'Cancel', and 'Apply'.

Build and customize method parameters for your applications.

TGA701 Software supports compliance to strict FDA regulations (21 CFR Part 11) for a closed analytical system.



Monitor real-time internal component readings.



## LECO—Your source for total analytical solutions



### AC600 Isoperibol Calorimeter

- Fast and accurate calorific measurements
- Ergonomic optimized instrument automation
- Analysis time in as little as five minutes
- 6,000 to 15,000 BTU/lb. for 1 gram sample

### 628 Series

- Rapid analysis times (3-5 minutes) for diverse organic matrices
- Reliable, low-maintenance automation and low cost-per-analysis
- Flexible configurations—nitrogen/protein, carbon/nitrogen, and carbon/hydrogen/nitrogen
- Sulfur add-on module available
- 50 mg to 750 mg sample size range depending on configuration
- Oxygen add-on module for micro oxygen capabilities compatible with carbon/hydrogen/nitrogen configuration

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