

# CHNS Analyzer



EPC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

**Analytical Technologies Limited**

An ISO 9001 Certified Company

[www.analyticalgroup.net](http://www.analyticalgroup.net)

## CHNS-3628 Series Elemental Analysis by Combustion

By incorporating state-of-the-art hardware and software technology with key improvements in overall instrument performance and reliability, the CHNS-3628 series allows you to achieve rapid and precise results in diverse organic matrices from food to fuels. For optimum versatility, this instrument is available in flexible configurations—nitrogen/protein, carbon/nitrogen, and carbon/hydrogen/nitrogen. Shown with Optional Sulfur Module.



### Rapid Analysis Times and Integrated Automation

#### Maximize Throughput While Keeping Cost-Per-Analysis Low

- Unique combustion gas handling and aliquot dosing system significantly extends the lifetime of the reagents used, lowering cost-per-analysis and instrument downtime, while eliminating the need for chromatographic separation techniques and other costly whole gas analyses.
- Simple, gravity-fed autoloader allows for unattended analysis, while increasing long-term reliability of loader.
- Independent detectors used for simultaneous elemental determination, resulting in rapid analysis times



## Instrument Highlights and Features



### Pure Oxygen Combustion System

- 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
- Quartz lance directs oxygen flow directly onto the sample, accelerating the combustion process and providing superior recovery
- Large, porous crucible aids combustion process and extends maintenance intervals

### Improved Design and Accessibility for Maintenance Areas

- To enhance safety and convenience, reagent and reduction tubes are located on front side of the instrument behind a cabinet door, along with specially designed tools and storage to aid in performing maintenance tasks
- Open access to ballast and pinch valve assembly areas with quick-release features simplify preventive maintenance routines
- Replacement tubing kits available with sealed unions and fittings for fast, simple, and long-lasting replacement of ballast flow path area



### Additional Features and Benefits

- Maintenance-free autoloader with optional capacity for up to 120 samples
- Complies with AOAC, ASTM, ISO, AACC, and ASBC-approved methods of analysis
- Nitrogen and carbon/nitrogen configurations utilize a stainless-steel pre-chiller block and thermoelectric cooler to eliminate use of anhydrous for removal of moisture in the furnace combustion gases
- Micro Analytical balance for weighing the sample at atlist 1  $\mu\text{g}$  riadadility.

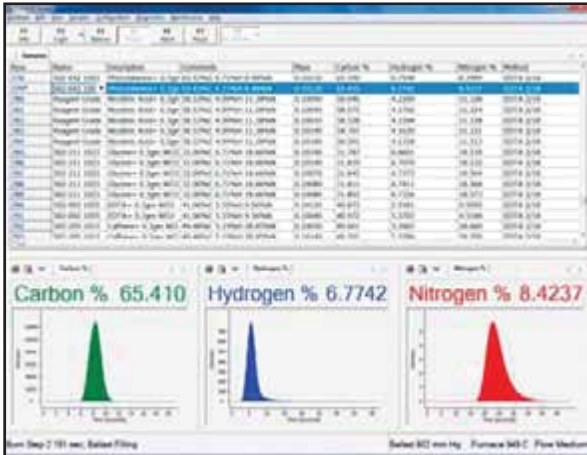
### Options

- Sulfur add-on module provides independent sulfur determination on macro samples (350 mg)
- High-temperature combustion technique allows for sulfur analysis times of less than two minutes for liquid sample analysis up to 1 mL
- Nitrogen and carbon/nitrogen configurations available with liquid autosampler to provide seamless operation

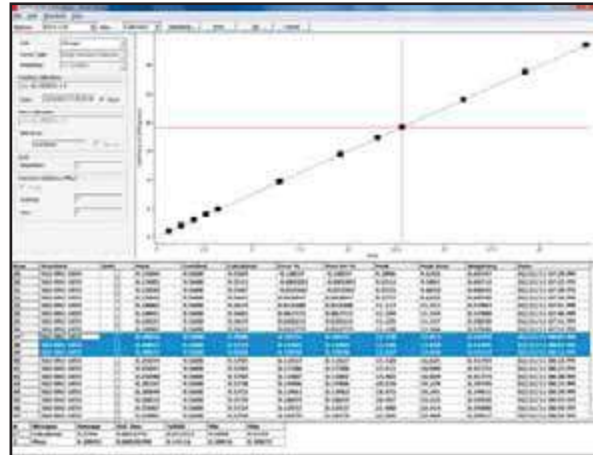


# Easy-to-Use Operating Software

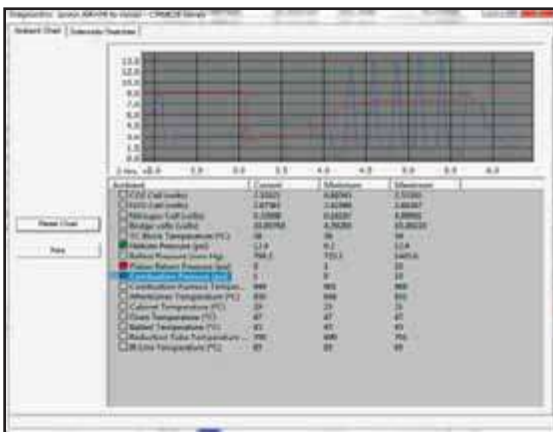
Simplified data handling, customizable data reporting/exporting, and a number of user-defined settings make the CHNS-3628 software flexible and easy to operate. With virtually unlimited storage space and compatibility with various Laboratory Information Management Systems (LIMS), this software is designed for seamless interaction with any operator or customer environment. A convenient on-board help manual allows quick access to information without leaving the instrument. The software also supports compliance to FDA regulations 21 CFR Part 11 for a closed analytical system.



Seamlessly manage data and plots



Perform calibrations and drift corrections



Monitor real-time instrument component readings



Expanded interactive diagnostic screens to aid in troubleshooting and improve serviceability

## Your source for total analytical solutions



TGA-3701 Thermogravimetric Analysis

### 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

- Determines moisture/ash or weight-loss in various organic samples
- Expanded temperature control (up to 1000°C) with variable atmospheres and ramp rates
- Pneumatic carousel mechanism and ergonomic design increases sample throughput, decreases downtime, and improves serviceability
- Complies with AOAC, AACC, and ASTM-approved methodology

# CHNS-3628Series Elemental Determinators

## Specification Sheet



Instrument Range*	Carbon:0.02 to 175 mg Carbon Hydrogen:0.1 to 12 mg Hydrogen Nitrogen:0.04 to 50 mg Nitrogen Sulfur: 0.01 to 20 mg Sulfur
Precision Range	Carbon:0.01 mg or 0.5% RSD, whichever is greater Hydrogen:0.05 mg or 1.0% RSD, whichever is greater Nitrogen:0.02 mg or 0.5% RSD, whichever is greater Sulfur 0.005 mg or 1% RSD (whichever is greater)
Sample Mass	CHN Model:Up to 250 mg, 100 mg nominal CN Model:Up to 500 mg, 250 mg nominal N (FP) Model:Up to 750 mg, 500 mg nominal Sulfur: up to 350 mg, 250 mg nominal
Readability	0.0001%
Analysis Time	4.5 minutes
Detection Method	Carbon/Hydrogen:Non-Dispersive Infrared (IR) Absorption Nitrogen:Thermal Conductivity (TC Cell) Detector
Gases Required	Carrier:Helium (99.99% pure) @ 35 psi (2.4 bar) ±10% Combustion:Oxygen (99.99% pure) @ 35 psi (2.4 bar) ±10% Pneumatic:Compressed air (source must be oil and water free) @ 40 psi (2.8 bar) ±10%
Furnace	Resistance furnace; both primary and afterburner; up to 1100°C
Autoloader	30-position (stackable to 120 samples)
Environmental Conditions	Operating Temp: 15°C to 35°C (59°F to 95°F) Humidity: 20% to 80%, non-condensing
Dimensions**	32 in. H x 27.5 in. W x 30 in. D (81 x 70 x 76 cm)
Weight (approx.)	273 lb. (124 kg) Shipping Weight (approx.): 324 lb. (147 kg)
Electrical PowerRequirements	230 V~ (±10%; at max load), 50/60 Hz, single phase, 12 A; 4,000 BTU/hr

## Regulatory compliances



## Corporate Social Responsibility



Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:

1. Research & Innovation Scientist's awards / QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at [Info@analyticalfoundation.org](mailto:Info@analyticalfoundation.org)

2. Improving quality of life by offering YOGA Training courses, Work shops / Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXIFY human minds, souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

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