

AUTOMATIC PROXIMATE ANALYZER (TGA/ THERMAL GRAVIMETRIC ANALYZER)



LPA4000
Proximate Analysis

Typical Applications



Coal



Cement



Coke



Tobacco



Lime



Food Grains



Feed



It is applicable in the industry such as electrical power, coal, commerce inspection, environment protection, metallurgy, papermaking, petrochemical, earth probe and the research institute or quality inspecting organization to test the content of air-dry basis moisture, ash, LOI, and Volatile Matter in the coal. The instrument can also automatically calculate Calorific Value and the content of fixed carbon and hydrogen in the samples.

The LPA-4000 with integrated balance combines drying, ashing and weighing processes. This improves the efficiency, precision and provides high sample throughput.



Technical Parameters



LPA 4000 provides multi-constituent analysis for up to 19 samples at a time. Typical coal analysis method consists of determination of moisture, volatile matter and ash content. The software allows for customization of the analysis steps such as temperature ramping, start temperature & end temperature, programmable gas flows, placement/removal of crucible lids and mass constancy criteria for a fully flexible instrument optimized for every users unique needs.

Furnace temperature: RT - 1000 °C, Ramp Rate: 50°C /min
Temperature uniformity: ± 2 °C, Heating Rate/ min: 10 -30 °C
Weight of sample: 0.5g - 1.5g / 5g
Sample number: 19 samples per time (+ 1 Reference Sample)
Airflow rate: 400ml/min (oxygen)
500ml/min (Nitrogen)
Output Pressure : 0.2MPa
Weighing Balance: 120g / 0.1mg (Built-in)
Resolution 0.0001g
Accuracy $\pm 0.01\%$
Power Supply: 220V, 50/60HZ
Power: ≤ 2 KW
Dimension: 400mm \times 510mm \times 640 mm, Weight: 65kg
Carousel material: Ceramic, Single, Movement - Bi-directional
Cooling Time: 1000 °C to RT, 90 mins
Testing Precision: Ash -- <10% - 0.2%; 10~20% - 0.3%; >20%, 0.4%
Volatile -- <10% - 0.2%; >10%-0.3%
Inner Moisture -- <3%-0.2%; >3%-0.3%

Features

- Integrated with high precision electronic scale. Using thermogravimetry. Quickly, automatically, and continuously tests 19 samples in every experiment. The air-dry basis moisture, ash and volatile constituent can be tested. Automatically tests the Calorific Value, fixed carbon, and hydrogen content of the sample.
20-Position Sample Carousel (19 Samples + 1 Reference), system is capable to perform two batches in one shift
- Adopting the unique integrated configuration of “three temperature grade, single furnace” the instrument can work in parallel, and hence to reduce the testing time and the constant temperature area in the furnaces do not interfere with each other. So the testing accuracy of air-dry basis moisture, ash, and volatile constituent can be ensured.
- Using the advanced heating element and heat preservation materials to ensure the furnace body in stable condition. Meanwhile, the temperature rise more quickly, temperature control will be more precise, and malfunction rate lower.
- With the advanced and appropriate dust suction and fume exhaust devices, the testing results will be more precise and the laboratory cleaner.
- Data collection, calculation, print, and restoration are automatically done by computer.

- Adopting precise reference source, low temperature drift and high precision operational amplifier, and 12-Bit A/D conversion chip in the controlling card, the instrument has the functions of cold end compensation, over-temperature protection both in hardware and software.
- Adopting the advanced USB technology, one computer can control several instruments. And the synthesized instrument can be composed combined with other instruments.
- Completely support Windows systems; high stability; can link electronic scale and share data in long distance through network.

Application Windows PC Software

- Ensures precise control and operation of the analyzer Tracks the samples and measurement data throughout the analysis process
- Graphic display of temperature vs. weight loss measurements
- Retrieval of sample related information at any given time during analysis
- 16 Editable programs and data transmission to LIMS
- During analytical cycle, display of current parameters such as the real time furnace temperature, sample status and time remaining

LABINDIA



1. Power Switch
2. Cover Heating Indicator (Red)
3. Furnace Heating Indicator (Green)
4. Carousel Turning Button
5. Weighing Balance Window (Cover)
6. Flow Meter



Standard	Sample	Description
ASTM D7582-15	Coal and Coke	Standard Test Methods for Proximate Analysis by Macro Thermogravimetric Analysis
ASTM D5142	Coal and Coke	Standard Test Methods for Proximate Analysis by Instrumental Procedures
ASTM D7348	Solid Combustion Residues	Standard Test Methods for Loss on Ignition (LOI) of Solid Combustion Residues
ASTM E1755	Biomass	Standard Test Method for Ash in Biomass
AS1038	Coal and Coke	Proximate analysis & Testing
DIN 51718	Solid Fuels	Determination of the water content and the moisture of analysis sample
DIN 51719	Solid Fuels	Solid mineral fuels - Determination of ash content
ISO 562	Hard Coal and Coke	Determination of volatile matter
ISO11722	Solid mineral fuels	Hard coal - Determination of moisture in the general analysis test sample by drying in nitrogen
ISO1171	Solid mineral fuels	Determination of Ash
EN 15148	Biomass	Solid biofuels - Determination of the content of volatile matter
EN 14775	Biomass	Solid biofuels - Determination of Ash content
BS1016	Coal & Coke	Proximate analysis



LABINDIA[®]

A N A L Y T I C A L

WHERE COMMITMENT IS CULTURE

HEAD OFFICE:

Thane: 201, Nand Chambers, LBS Marg, Near Vandana Cinema, Thane (W) - 400 602. **Tel.:** +91-22-2598 6000 / 2598 6110 **E-mail:** sales.mfd@labindia.com

REGIONAL OFFICES:

Delhi: Tel.: +91-11-4330 6001 / 10

Chennai: Tel.: +91-44-2434 7008 / 2432 0352 **Kolkatta:** Tel.: +91-33-2466 3362

BRANCH OFFICES:

Bangalore: Tel.: +91 80 4565 6200

Lucknow: Tel.: +91-522-2346 535 / 2346 496 **Hyderabad:** Tel.: 040 4444 3530

Vadodara: Tel.: +91-265-2986 005 / 2986 006 **Pune:** Tel.: +91-20-2545 3386 **Chandigarh:** Tel.: +91-172-4090 001-07 / 4090 009

FACTORY 1: Plot No. EL-72, Electronic Zone, TTC Industrial Area, Thane Belapur Road, Navi Mumbai - 400 705. **Tel.:** +91-22-6107 6666

FACTORY 2: Plot No. W-401, TTC, MIDC Industrial Area, Rabale, Thane-Belapur Road, Navi Mumbai 400 701. **Tel.:** +91-22-6107 6555

APPLICATION & TRAINING CENTRE: R-909, TTC Industrial Area, Thane Belapur Road, Rabale, Navi Mumbai - 400 701. **Tel.:** +91-22-6107 6555



Striving to become the best individuals, we endeavour to foster the best team. Performing sensibly, we try to achieve the best efficiency. Working innovatively, we seek to make the best products. Listening patiently, we excel to offer the best service. So, no matter what you needs are, come to us, **GET THE BEST**

LABINDIA reserve the right to change specification without notice as part of its continuous programme of product development.