JUST INSTRUMENTS

ATC 300A

Automatic Oxygen Bomb Calorimeter

- Automated Operation
- Precise Temperature Control
- Rapid Testing
- Intelligent Dual Control

The ATC 300A Oxygen Bomb Calorimeter is a high-precision instrument designed on the principle of isothermal calorimetry for measuring the heat of combustion of materials. It offers dual ignition options (cotton thread or ignition wire), features full automation, rapid testing, and a wide measurement range. Widely applied across diverse industries such as nutrition, environmental protection, power generation, coal, metallurgy, construction, and petrochemicals, the ATC 300A delivers reliable testing data and robust technical support, driving progress and quality assurance within these sectors.

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Product Features

- Ensures efficient and convenient operation with automated functions: oxygen bomb lifting/identification, oxygen charging/decompression, charging pressure detection, bomb leak testing, precise inner vessel water measurement, and automatic water filling/draining for inner and outer vessels.
- Features a semiconductor-based refrigeration water circulation system with a high-precision filter, enabling real-time water temperature monitoring, rapid adjustment, and effective isolation from ambient interference.
- Intelligently diagnoses ignition wire status and provides short-circuit protection for the ignition circuit.
- Dynamically displays data curves on a color touchscreen for intuitive visualization of the testing process.
- Automatically corrects for calorific value interference from ignition wires, nitric acid, sulfur, etc., providing gross, net, and bomb calorific values with unit conversion support.
- Multi-serial port design supports independent multi-unit control without experimental interference.
- Automatically generates graphs and process data, storing them locally with historical data query capability.
- Supports automatic input of analytical balance data and provides an external printer interface.

Application Fields


Coal


Metallurgy


Electricity


Construction


Petrochemicals

Test Standards

GB 384 GB/T 213 GB/T 30727 GB/T 21614 GB/T 14402 ATSM D5865
ATSM D240 ATSM D4809 ASTM D5468 ASTM E711 ISO 1928

Technical Specifications

Operating Environment	15–30 °C, Maximum Relative Humidity < 80% RH (Non-condensing)
Ignition Method	Cotton Thread or Ignition Wire
Temperature Resolution	0.0001 °C
Test Mode	Isoperibol
Testing Time	Conventional Method < 15 min, Rapid Method < 10 min
Calorific Value Testing Range	≤ 34,000 J
Heat Capacity Precision	≤ 0.10%
Heat Capacity Fluctuation	≤ 0.20%
Maximum Bomb Pressure	240 bar
Bomb Material	Stainless Steel, Hastelloy (Corrosion-Resistant)
Data Storage	≥ 10,000 entries