

BOMB CALORIMETER TORONBC™ -1000



Bomb Calorimeter ToronBC™-1000 is a high-precision instrument for measuring the calorific value of solid and liquid fuels like coal, oil, biomass, and building materials. It features a fixed-volume oxygen bomb, advanced temperature control, and Helix Tube Isothermal Technology for exceptional accuracy and environmental adaptability—without relying on software corrections. Optional benchtop or vertical stands are available.

APPLICATIONS

- **Energy & Power Generation** - Measurement of calorific values for coal, oil, biomass, and alternative fuels to optimize efficiency in thermal power plants.
- **Cement & Building Materials Industry** - Evaluation of raw cement mixes, construction materials, and alternative fuels to ensure consistent quality and process control.
- **Chemical & Petrochemical Industry** - Reliable calorific testing of petroleum-based fuels and byproducts for safety, compliance, and process optimization.
- **Research & Academic Institutions** - Precision calorimetry for teaching, scientific studies, and the development of new fuel and material technologies.
- **Quality Assurance & Certification Labs** - Standardized testing in compliance with ASTM, ISO, and other global standards for certification, regulatory approval, and product validation.
- **Environmental & Waste Management** - Assessment of solid waste and renewable biomass materials for energy recovery and sustainability projects.

FEATURES

Exceptional Environmental Adaptability

Engineered to deliver precise, accurate, and consistent test results across varying conditions.

Helix Tube Multi-Point Isothermal Technology

Creates a highly stable and controllable internal environment—including the jacket and lid—with a temperature differential of less than 0.05°C. This design effectively eliminates external interferences such as airflow and ambient temperature, ensuring dependable test results.

Advanced Semiconductor Temperature Control

Enables both heating and cooling of the jacket without the need for cold water. The system maintains independent jacket and bucket water circuits, and automatically returns bucket water to the tank after each test. This design prevents cross-interference between jacket and bucket water flows, keeping the jacket temperature consistently stable.

Fixed-Volume Oxygen Bomb

Designed to maintain a constant volume regardless of operator handling. The inner bucket's water volume remains unchanged, ensuring consistent heat capacity and accurate results.

Automatic Pipeline Flushing and Water Replacement

Maintains long-term heat capacity stability through automated maintenance features.

Reliable, Software-Free Data Integrity

All results are objective and verifiable—no software correction is required. Supports both cotton and nickel ignition wires for testing flexibility.

TECHNICAL SPECIFICATIONS

Analysis Time	≤14min
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Temperature Resolution	0.0001°C
Heat Capacity Precision	≤ 0.1%
Max Power	0.65kW
Jacket Type	Isoperibol
Heat Capacity Stability	≤0.2% within one year
Standards	ASTM D5865, ASTM D240, ASTM D4809, ASTM E711, ISO 1928, ISO 9831, ISO18125, AS 1038.5, BS EN 15400, BIS1350
Voltage	AC 220V(-15%~10%), 50/60 Hz (110V is also available)



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