

BAC-200AE

Small Battery Adiabatic Calorimeter



Advanced Technology



High Efficiency



Safety



BAC-200AE is an adiabatic calorimeter for small-format battery testing, accommodating pouch cells up to 240 mm, cylindrical cells up to 4680 format, and coin cells. The instrument simulates adiabatic environments to support thermal runaway, gas

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Product Features

- Self-heating detection sensitivity significantly exceeds the standard threshold of 0.02°C/min, delivering high adiabatic performance with minimal guard-to-sample temperature difference.
- Innovative auxiliary heating solution increases experimental efficiency by up to 5×.
- Integrated adiabatic thermal runaway & gas evolution analysis for comprehensive characterization of battery thermal runaway parameters.
- Equipped with comprehensive active and passive safety systems—including rupture discs, pressure relief valves, and audible alarms—the instrument features automated overpressure and overtemperature protection to ensure operator and equipment safety.

Application Value

- Charge/Discharge Calorimetry
- Combined Adiabatic Thermal Runaway & Gas Evolution Test
- Adiabatic Self-Heating Test
- Thermal Runaway & Gas Evolution Test (External Trigger)
- Specific Heat Capacity Measurement
- Battery Material Thermal Stability Test

Technical Specifications

Functional Module

Charge/Discharge Management	Optional
Gas Sampling	Optional
Gas Evolution Monitoring	Standard Configuration
Atmosphere Simulation	Optional
Nail Penetration Module	Optional
Video Monitoring	Optional
Specific Heat Capacity Measurement	Optional
Auxiliary Heating	Optional
Temperature Acquisition	Optional
Low-Temperature Module	Optional
Hot Particle Test	Optional

Calorimeter Main Unit

Adiabatic Furnace Dimensions	200 (Diameter) × 250 mm (Depth)
Temperature Control Range	RT – 450°C, optional low-temperature module to -40°C
Temperature Resolution	0.001°C
Temperature Stability	±0.05°C / 30 min
Self-Heating Detection Sensitivity	0.01 – 0.02°C/min, adjustable via software
Adiabatic Tracking Rate	0.02 – 25°C/min
Guard-to-Sample Temperature Difference (post-calibration)	≤ 0.5°C
Working Pressure	0 – 3 MPa
Pressure Measurement Range	0 – 5 MPa
Pressure Measurement Accuracy	≤ 0.05% FS

Test Standards

GB/T36276-2023	SN/T 3078.1-2012	GB 38031-2025
SAND 99-0497-1999	SAND 2005-3123	SAE J2464-2009
UL9540A UL1973-2022	ASTM E1981-98 (2012)	

Application Fields



New Energy Vehicles



Energy



Consumer Electronics



Energetic Material

