



BAC-420AE

Large Battery Adiabatic Calorimeter



Advanced Technology



High Efficiency



Safety



Large Battery Adiabatic Calorimeter BAC-420AE integrates thermal abuse, electrical abuse, mechanical abuse methods, complemented with visible/infrared imaging, gas collection, and specific heat testing functions, Parameters such as battery specific heat capacity, heat generation during charging/discharging, thermal runaway initiation temperature, maximum thermal runaway rate, and adiabatic temperature rise are obtained, revealing the mechanism of battery thermal runaway and qualitatively analyzing the process of battery heat diffusion and fire heat spread.

Hangzhou Zeal Instruments Science & Technology Co., Ltd.

marketing@zeal-instruments.com www.zealinstruments.com
No. 260, 6th Street, Hangzhou, Zhejiang Province, China

Product Features

- Simulates an ideal adiabatic environment, allowing direct measurement of more accurate thermal behavior parameters like battery thermal runaway onset temperature, maximum rate of temperature rise, and adiabatic temperature rise.
- Simultaneous data acquisition of battery voltage, current, temperature, pressure for thermal runaway analysis.
- Integrated battery charging and discharging module enables mode switching, constant current/constant voltage charging settings, charge/discharge current adjustments, and real-time battery capacity calculations.
- Provides constant power and constant rate specific heat test modes, enhancing the accuracy of battery specific heat measurements through a unique testing process.

Application Fields



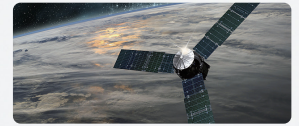
New Energy Vehicles



Energy



Consumer Electronics



Energetic Material

Test Standards

USABC SAND99-0497

SAE J2464-R2009

FreedomCAR SAND 2005-3123: 4.1 Thermal stability

ASTM E1981-98

SN/T 3078.1

GB/T 36276-2023

UL 9540A

UL 1973

Technical Specifications

Adiabatic Furnace Dimensions	Diameter 420mm, Depth 520mm
Self-exothermic Detection Sensitivity	0.02°C/min to 0.05°C/min
Temperature Difference between Furnace and Sample in Constant Temperature	≤0.5°C
Temperature Control Range	RT to 300°C
Temperature Tracking Rate	0.02°C/min to 13°C/min
Sealed Canister Pressure Range	0 to 2MPa
Maximum Needle Travel	Setting through software
Charge and Discharge Column Overcurrent Capability	-500A to 500A

