

Pouch Cell Battery Test Fixture High Current Clamp For Laboratory And Production Testing

Item Number: JA08



Introduction

Engineered for high-current battery R&D, this pouch cell battery test fixture supports up to 100A and operating temperatures up to 125°C. Featuring ultra-low contact resistance and UL94 V-0 flame retardancy, it delivers precise, reliable, and repeatable electrochemical testing data.

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Application	Description	Key Benefit
High-Rate C-Rate Cycling	Subjecting automotive-grade pouch cells to high-current charge and discharge cycles (up to 100A) to assess rate capability and power density.	Prevents artificial voltage drops and excessive contact heating, ensuring true cell performance metrics.
Environmental Chamber Testing	Performing electrochemical evaluations inside climatic chambers at elevated temperatures up to 125°C for accelerated aging studies.	Maintains structural and electrical stability without polymer warping or contact degradation under continuous thermal stress.
Battery Tab Welding Quality Inspection	Conducting quality assurance testing on ultrasonic or laser-welded pouch cell tabs in pilot and production lines.	Uniform clamping pressure ensures consistent baseline contact resistance for accurate joint qualification.
Electrochemical Impedance Spectroscopy (EIS)	Measuring pouch cell internal impedance, charge transfer resistance, and solid electrolyte interphase (SEI) growth across frequencies.	Ultra-low contact resistance and high dielectric isolation eliminate baseline noise and parasitic inductance.
Thermal Runaway and Abuse Testing	Monitoring electrical behavior during forced overcharge, external short-circuiting, or high-temperature abuse protocols.	UL94 V-0 flame-retardant construction prevents fixture combustion and enhances lab safety during extreme cell failure events.
Formation and Grading Lines	Integrating into pilot-scale formation, grading, and capacity sorting racks for continuous production batch qualification.	Durable construction ensures long service life with minimal maintenance over repeated daily clamping cycles.
Solid-State Pouch Cell R&D	Testing next-generation solid-state and lithium-metal pouch cells requiring precise electrical interfaces and moderate thermal stimulation.	Delivers consistent mechanical clamping force without damaging fragile thin-film tabs or sensitive current collectors.

Specification Parameter	Technical Data	Standard / Condition
Product Identifier	JA08	KINTEK Standard Designation
Maximum Operating Current	≤ 100 A	Continuous DC / Pulse Load
Maximum Operating Temperature	≤ 125 °C	Continuous Chamber Environment
Contact Resistance	≤ 25 mΩ	Calibrated Tab Interface
Insulation Resistance	≥ 1 × 10 ⁹ Ω (1 GΩ)	Tested at 500 V DC
Flame Retardancy Rating	UL94 V-0	Self-extinguishing Material Standard
Connection Architecture	4-Wire Kelvin Configuration	Dual Separate Current & Voltage Terminals
Compatible Cell Chemistry	Li-ion, Na-ion, Solid-State, Li-Sulfur	Pouch / Polymer Format