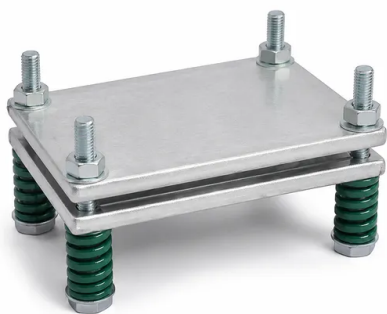


Aluminum Alloy Plate Pouch Cell Pressurization Fixture For Lithium Ion And Lithium Sulfur Battery Cycle Testing

Item Number: JA06



Introduction

Engineered for high precision pouch cell research this aluminum alloy pressure fixture delivers uniform mechanical compression for lithium ion and lithium sulfur battery cycle testing preventing electrode delamination and stabilizing interfacial impedance throughout demanding electrochemical evaluations.

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Application	Description	Key Benefit
Lithium-Sulfur (Li-S) Cycle Testing	Applying continuous, uniform stack pressure to manage severe cathode volume expansion (up to 80%) and maintain electrical contact with conductive carbon matrices.	Mitigates the polysulfide shuttle effect, prevents active mass detachment, and dramatically improves capacity retention over extended cycling.
High-Nickel NMC / NCA Pouch Testing	Maintaining inter-particle and inter-layer contact in high-energy-density lithium-ion pouch cells subjected to aggressive fast-charging protocols.	Suppresses mechanical micro-cracking and impedance rise caused by anisotropic lattice breathing during continuous lithiation/delithiation.
Silicon-Anode Pouch Cell Research	Mitigating severe structural strain and volumetric breathing in silicon-dominant and silicon-graphite composite negative electrodes.	Preserves SEI layer integrity and avoids particle pulverization by providing external mechanical confinement.
Solid-State Battery (SSB) Interface Studies	Delivering essential interfacial pressure to solid-electrolyte / lithium-metal interfaces to overcome high solid-state contact resistance.	Lowens charge transfer resistance across solid-solid boundaries and deters lithium dendrite growth along electrolyte grain boundaries.
In-Situ Electrochemical Impedance Spectroscopy (EIS)	Holding pouch cells under calibrated mechanical loads while conducting multi-frequency impedance and potentiostatic measurements.	Eliminates artifactual resistance shifts caused by fluctuating mechanical contact during extended potentiostatic or galvanostatic testing.
Pressure-Dependent Aging Diagnostics	Evaluating the degradation pathways, gassing behavior, and lifecycle boundaries of pouch cells across varied external compression levels.	Establishes critical operational pressure envelopes required for module-level and pack-level mechanical constraint design.

Parameter	Specification (Item No. JA06)
Product Item Number	JA06
Equipment Type	Pouch Cell Pressurization & Cycling Fixture
Overall Fixture Dimension (W x L x H)	120 mm x 160 mm x 90 mm
Compression Plate Material	High-Strength Aluminum Alloy
Aluminum Plate Dimensions (W x L x T)	120 mm x 160 mm x 8 mm
Plate Surface Finish	Precision Planar Ground & Anodized
Compliant Cushion Material	Elastic Laboratory-Grade Silicone
Silicone Pad Dimensions (W x L)	120 mm x 130 mm
Interfacial Buffer Material	High-Density White Cardboard
White Cardboard Dimensions (W x L)	120 mm x 130 mm
Primary Fastening Hardware	High-Tensile Steel Guide Fasteners & Threaded Clamping Posts

Parameter	Specification (Item No. JA06)
Compatibility	Lithium-Ion, Lithium-Sulfur, Sodium-Ion, Solid-State Pouch Cells
Environmental Working Range	Suitable for gloveboxes, ambient benches, and climatic chambers (-40°C to +85°C)