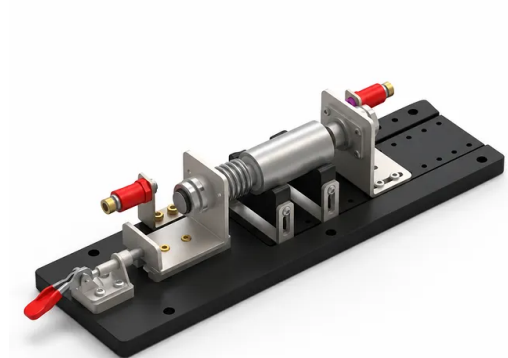


Cylindrical Cell Toggle Clamp Test Fixture For Large Format Battery Testing

Item Number: JA11



Introduction

Engineered for high precision cylindrical battery cell testing this toggle clamp test fixture delivers ultra low contact resistance rapid manual clamping and accurate four wire Kelvin measurement under continuous one hundred ampere loads for battery research and production quality control

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Application	Description	Key Benefit
60140 Cylindrical Cell R&D	Precision electrochemical characterization of next-generation large-format cylindrical battery chemistries and structural designs.	Delivers true four-wire Kelvin voltage accuracy without fixture-induced measurement artifacts.
High-Rate Discharge & Fast-Charge Testing	High-current thermal and electrical performance evaluation under continuous 100A cycling protocols.	Maintains low thermal rise (< 15°C) to safeguard electrochemical integrity and thermal data validity.
Direct Current Internal Resistance (DCIR) Screening	High-throughput pulse power and internal resistance benchmarking across batches of fabricated cells.	Stable sub-0.2 mΩ fixture resistance guarantees repeatable cell-to-cell sorting resolution.
Cell Formation and Pre-Grading	End-of-line quality verification and capacity sorting in pilot manufacturing lines and prototyping facilities.	Rapid toggle clamp engagement accelerates manual loading and unloading cycle times.
Electrochemical Impedance Spectroscopy (EIS)	Broad-frequency impedance characterization under pre-stressed mechanical clamping conditions.	Independent spring-loaded voltage probes isolate contact impedance from bulk cell response.
Accelerated Cycle Life and Degradation Studies	Long-duration continuous cycling testing under varying environmental chamber temperatures.	Heavy gold-plated beryllium copper contacts resist contact degradation and thermal oxidation.

Specification Parameter	Technical Detail / Value
Product Item Number	JA11
Target Cell Form Factor	60140 Cylindrical Cell
Cell Terminal / Pole Diameter Compatibility	8 mm (Flat, smooth terminal surfaces)
Clamping Mechanism	Manual Industrial Toggle Clamp ()
Kinematic Architecture	One fixed current pin end, one movable current pin end
Continuous Testing Current	100 A
Total Fixture Internal Resistance	< 0.2 mΩ
Operating Temperature Rise	< 15 °C at 100 A continuous load
Current Probe Diameter	> 12 mm
Current Probe Material	Phosphor Bronze / Beryllium Copper
Current Probe Contact Spring Force	> 4 kg (> 40 N) at 5 mm compression
Current Probe Surface Plating	Gold plating > 4 mil () 4)
Voltage Probe Diameter	< 2 mm

Specification Parameter	Technical Detail / Value
Voltage Probe Material	Phosphor Bronze
Voltage Probe Contact Spring Force	200 g (approx. 2 N) at 2 mm compression
Power Cable Connection Interface	M10 Threaded Stud / Terminal Lug
Structural Material Composition	High-strength dielectric insulation composite + precision machined metal hardware
Cell Positioning Mechanism	Integrated center alignment block (□□□□□)
Base Mounting Method	Direct benchtop screw fixation