

Polymer Battery Top Sealing Machine Pouch Cell Heat Sealing Equipment

Item Number: CC11



Introduction

Optimize pouch cell assembly with our polymer battery top sealing machine. Featuring precise pneumatic actuation, integrated tab positioning blocks, digital timer control, and uniform heating up to 250°C for consistent, leak-proof hermetic seals in battery research.

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Application	Description	Key Benefit
Pouch Cell Pilot Line Production	Top and tab sealing of lithium-ion polymer pouch cells in pre-commercial batch manufacturing.	High-throughput repeatability with fast cycle times and minimal seal defect rates.
Advanced Battery Chemistry R&D	Sealing experimental solid-state, sodium-ion, and lithium-sulfur pouch cells in laboratory environments.	Precise parameter control over dwell time and temperature for novel laminated materials.
Tab Encapsulation and Leak Prevention	Sealing aluminum-plastic composite film around nickel, copper, and aluminum terminal tabs.	Custom-milled slot dies prevent tab edge shearing while ensuring hermetic bonding.
Supercapacitor Enclosure Sealing	Hermetic sealing of electric double-layer capacitors (EDLC) and hybrid supercapacitor soft packs.	Uniform pneumatic pressure distribution prevents electrolyte evaporation under long-term cycling.
Academic and Materials Testing	Prototyping multi-layer laminate packaging for energy storage validation and stress analysis.	Flexible accommodation of various cell dimensions up to 500 mm in total length.
Quality Assurance Failure Analysis	Controlled fabrication of test cells to benchmark sealing boundary limits, burst pressure, and seal strength.	High temporal (± 0.1 s) and thermal ($\pm 2^\circ\text{C}$) precision for standardized testing protocols.

Specification Parameter	Technical Detail
Product Item Number	CC11
Maximum Cell Sealing Length	500 mm
Sealing Dwell Time Range	1 – 99 s (freely adjustable)
Time Control Accuracy	± 0.1 s
Maximum Sealing Head Temperature	250 °C
Temperature Control Accuracy	± 2 °C
Sealing Head Material	High-grade copper
Sealing Width	5.5 mm (standard)
Sealing Die Slotting	Fully customized per customer engineering drawings
Heating Element Power	800 W heating tube
Power Supply Requirements	AC 220 V $\pm 10\%$, 50/60 Hz, 2.2 kW
Required Pneumatic Pressure	≥ 0.6 MPa compressed air
Operation Actuation	Foot-pedal switch with automatic timed pneumatic return

Specification Parameter	Technical Detail
Tab Positioning System	Integrated mechanical tab alignment blocks
Safety Alarms	Over-temperature / process deviation alert system
Machine Weight	Approx. 120 kg