

Servo Driven Polymer Battery Top And Side Sealing Machine

Solid State Battery Heat Sealing Equipment

Item Number: CC07



Introduction

Discover high precision servo driven polymer battery top and side sealing equipment designed for pouch cell and solid state battery fabrication featuring programmable pressure up to 250kg precise temperature control to 300°C and exceptional seal head parallelism for consistent hermetic sealing

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Application	Description	Key Benefit
Polymer Lithium-Ion Pouch Cell Sealing	Performing hermetic top-edge and side-edge thermal fusion on aluminum laminated film envelopes.	Ensures complete barrier isolation against moisture penetration and prevents hazardous volatile electrolyte leakage.
Solid-State Battery Pouch Encapsulation	Sealing specialized solid-state electrolyte pouch cells requiring precise pressure regulation to avoid internal layer delamination.	Delivers uniform, low-impact mechanical compression that preserves fragile solid electrolyte-electrode interfaces.
Battery R&D and Chemistry Prototyping	Fabricating experimental pouch cell designs with varying tab thicknesses, sealant adhesives, and active material loadings.	Fast parameter adjustment on the digital touchscreen allows researchers to optimize dwell, heat, and force rapidly.
Pilot-Line Battery Manufacturing	Operating as a primary top and side sealing station in semi-automated, low-to-medium volume pilot assembly lines.	High operational reliability ($\geq 99.8\%$ qualification rate) maximizes production throughput and reduces costly material scrap.
Supercapacitor and Ultracapacitor Assembly	Sealing flexible laminated enclosures housing high-energy electrochemical double-layer capacitors.	Provides dependable edge bonding capable of withstanding internal pressure changes during dynamic charge-discharge cycling.
Multi-Tab Cell Packaging	Encapsulating high-rate battery packs equipped with wide nickel, copper, or aluminum terminal tabs.	Superior die parallelism (≤ 0.02 mm) prevents tab seal pinching and micro-channel voids around conductive leads.

Parameter Category	Specification Details (Model: CC07)
Applicable Cell Dimensions	Length ≤ 200 mm, Width ≤ 200 mm (including gas bag); Thickness: 5-25 mm
Standard Sealing Head Width	5 mm (Custom dimensions available upon request)
Seal Head Parallelism	≤ 0.02 mm
Heating Element Power	800 W per individual heating rod
Temperature Control Range	Room temperature to 300°C (Adjustable via touchscreen)
Temperature Control Accuracy	$\pm 3^{\circ}\text{C}$
Sealing Pressure Range	5 kg to 250 kg (Programmable via touchscreen)
Sealing Dwell Time Range	0 to 99 seconds (Programmable via touchscreen)
Production Capacity	≥ 1 PPM (Parts Per Minute, process dependent)
Product Qualification Rate	$\geq 99.8\%$ (Excluding incoming material defects, human error, and external process factors)
Equipment Failure Rate	$\leq 2\%$ (Excluding external utilities and raw material discrepancies)
Pneumatic Supply Requirements	0.5 to 0.7 MPa, Flow Rate: 100 L/min
Electrical Power Supply	Single Phase AC 220V $\pm 10\%$ / 50 Hz, Total Power: 2.5 kW

Parameter Category	Specification Details (Model: CC07)
Equipment Dimensions	Approx. L 570 mm × W 550 mm × H 1320 mm
Equipment Net Weight	Approx. 150 kg