

Pouch Cell Secondary Vacuum Sealing Machine With Pouch Piercing And Final Degassing Function

Item Number: CC08



Introduction

Optimize pouch cell assembly with this advanced secondary vacuum sealing machine with integrated piercing. Delivering uniform thermal distribution, reliable vacuum chamber degassing, and precise pneumatic control, this equipment ensures hermetic edge sealing and high cell longevity.

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Application	Description	Key Benefit
Lithium-Ion Pouch Cell Formation & Degassing	Evacuation of formation-induced decomposition gases and secondary edge sealing of commercial and prototype Li-ion pouch cells.	Eliminates pouch bloating, maximizes energy density, and ensures hermetic packaging integrity.
Solid-State Battery Packaging	Vacuum encapsulation and secondary sealing of moisture-sensitive solid-state and sulfide/polymer-based electrolyte pouch cells.	Ultra-tight seal thickness tolerance (<15 µm variance) prevents volatile solvent loss and environmental ingress.
Lithium-Sulfur & Sodium-Ion Battery R&D	Precision degassing and final sealing of alternative chemistry pouch prototypes with corrosive or volatile electrolyte formulations.	Corrosion-resistant aluminum chamber and copper heads withstand aggressive chemical vapors without degrading.
Supercapacitor Pouch Encapsulation	Final vacuum extraction and thermal sealing of high-power electrochemical double-layer capacitors (EDLC) and hybrid supercapacitors.	Fast pneumatic cycle speeds (≥180 cycles/h) streamline pilot production and multi-sample testing workflows.
Advanced Laminated Film Testing	Qualification and weldability verification of novel aluminum laminated packaging films, barrier coatings, and thermal adhesive layers.	Wide temperature range (RT-250°C) and adjustable pressure (0-7 kg/cm²) enable comprehensive packaging material characterization.
Battery Failure Analysis & Repackaging	Controlled opening, gas extraction, and resealing of experimental cells during lifecycle, calendar aging, and electrochemical diagnostic tests.	Integrated automatic puncture mechanism delivers safe, clean penetration without damaging active electrode stacks.

Specification Parameter	CC08-200	CC08-300
Product Item Identifier	CC08-200	CC08-300
Maximum Sealing Length	200 mm	300 mm
Sealing Width	5 ± 0.4 mm (customizable upon request)	5 ± 0.4 mm (customizable upon request)
Vacuum Chamber Material	Corrosion-resistant structural aluminum alloy	Corrosion-resistant structural aluminum alloy
Ultimate Vacuum Degree	≤ -96 kPa (external vacuum pump required)	≤ -96 kPa (external vacuum pump required)
Sealing Head Operating Temperature	Ambient to 250°C (fully adjustable)	Ambient to 250°C (fully adjustable)
Temperature Control Accuracy	±1.5°C	±1.5°C
Thermal Sealing Pressure	0 to 7 kg/cm² (pneumatically adjustable)	0 to 7 kg/cm² (pneumatically adjustable)
Heat Sealing Dwell Time	0 to 99 s (digitally adjustable)	0 to 99 s (digitally adjustable)
Applicable Film Thickness Range	60 to 300 µm	60 to 300 µm
Sealing Thickness Uniformity	< 15 µm difference between any two points	< 15 µm difference between any two points
Piercing Functionality	Integrated automatic puncture mechanism	Integrated automatic puncture mechanism

Specification Parameter	CC08-200	CC08-300
Sealing Bar Material	High thermal conductivity copper alloy	High thermal conductivity copper alloy
Air Consumption Rate	~0.2 L compressed air per cycle	~0.2 L compressed air per cycle
Pneumatic Operating Speed	≥ 180 cycles/hour	≥ 180 cycles/hour
Required Compressed Air Supply	0.5 to 0.7 MPa	0.5 to 0.7 MPa
Rated Electrical Power	800 W	800 W
Power Supply Requirement	220 V / 50 Hz	220 V / 50 Hz
Overall External Dimensions (L × W × H)	520 mm × 400 mm × 600 mm	500 mm × 350 mm × 500 mm