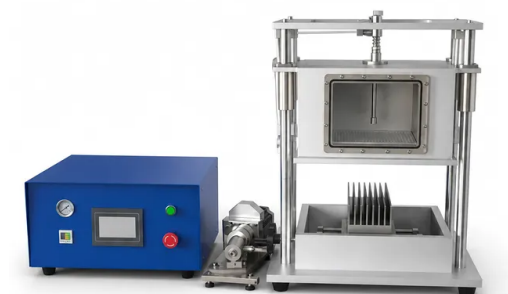


Vacuum Electrolyte Injection Standing And Hot Press Pre Sealing All In One Machine For Battery And Supercapacitor Fabrication

Item Number: JZ07



Introduction

Optimize battery assembly with this all-in-one vacuum electrolyte injection standing and hot press pre-sealing system featuring precise volumetric dosing uniform electrolyte absorption adjustable standing vacuum and high-precision thermal sealing designed for glovebox integration and demanding laboratory pilot lines.

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Application	Description	Key Benefit
Lithium-Ion Pouch Cell Prototyping	Automated electrolyte dosing and vacuum thermal pre-sealing of multi-layer pouch cells for consumer and EV energy storage research.	Eliminates air entrapment, ensures fast separator wetting, and produces robust gas-tight seals with thickness variance under 15 μm .
Solid-State & Semi-Solid Cell Assembly	Specialized vacuum injection and soaking of high-viscosity gel polymer or liquid-infiltrated solid electrolytes into dense solid-state electrode structures.	Deep vacuum cycling forces complete infiltration into micro-porous solid matrices, lowering interfacial resistance.
Supercapacitor & EDLC Manufacturing	Precision injection of high-conductivity organic or ionic electrolytes into wound and stacked electrochemical double-layer capacitor envelopes.	High dispensing speed (up to 6 ml/s) and rapid vacuum standing minimize electrolyte solvent evaporation and improve cycle life.
Sodium-Ion Battery Development	Cell fabrication utilizing alternative ester or ether-based sodium electrolytes requiring strict moisture-free and gas-free processing environments.	Glovebox-ready compact footprint and 316 stainless steel fluid path prevent ambient contamination and corrosion.
Electrolyte Additive & Wetting Studies	Comparative laboratory evaluation of novel wetting agents, fluorinated co-solvents, and functional additives under controlled soak times.	Programmable standing timers up to 9999 minutes allow exact kinetic modeling of electrolyte uptake in novel separators.
Pilot-Scale Cell Packaging Lines	Pre-sealing of pouch cells with dedicated gas bag pockets prior to primary formation, aging, and secondary degas finishing.	Reconfigurable seal widths and adjustable 0-5 kg/cm ² pressure ensure uniform edge quality across varied pouch foil laminates.

Technical Parameter	Specification Value (Model: JZ07)
Model Item Number	JZ07
Integrated Core Functions	Vacuum Electrolyte Injection, Vacuum Standing/Soaking, Thermal Pre-Sealing
Applicable Cell Dimensions	Length: 20-200 mm (including tabs) Width: 20-200 mm (including gas bag area) Thickness: 0-15 mm
Dispensing Capacity Range	0.2 ml to continuous / infinite (regulated via injection pump)
Cell Liquid Injection Volume	0.2 g to continuous / infinite (regulated via injection pump)
Electrolyte Injection Accuracy	$\pm 1\%$
Dispensing Fluid Speed	6 ml/s (adjustable)
Fluid Inlet / Outlet Tubing	$\Phi 6$ mm chemically resistant flexible tubing

Technical Parameter	Specification Value (Model: JZ07)
Vacuum Chamber Construction	Welded aluminum alloy structure, corrosion-resistant and high-stability
Wetted & Critical Parts Material	AISI 304 and AISI 316 stainless steel
Vacuum Standing Parameters	Independent low/high vacuum adjustment; dwell time programmable up to 9999 min
Thermal Sealing Temperature Range	Ambient to 250 °C (continuously adjustable)
Temperature Control Accuracy	±2 °C
Thermal Sealing Pressure Range	0 to 5 kg/cm ² (adjustable via precision pressure regulator)
Thermal Sealing Dwell Time	0 to 99 seconds (digitally adjustable)
Sealing Edge Width	5 ± 0.4 mm (customizable upon request)
Maximum Sealing Length	200 mm
Sealing Thickness Parallelism	Any two-point thickness variance < 15 μm
Sealing Head Material	High thermal conductivity copper alloy
Die / Lid Motion Mechanism	Pneumatic cylinder drive with dual linear guide bushings & rotating guide sleeves
Observation Mechanism	Integrated transparent optical inspection window
Heating Element Rating	300 W heating cartridge; ~0.6 kW active heating power consumption
Total Power Supply & Load	Single-phase AC 220 V / 50 Hz, 1.0 kW total rated load
Overall Equipment Dimensions	L 510 mm × W 400 mm × H 650 mm
Equipment Net Weight	90 kg
Operating Environment	Glovebox (argon/nitrogen atmosphere) or Dry Room compatible