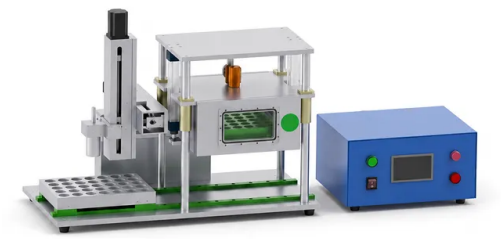
Vacuum Electrolyte Filling And Standing Integrated Machine

Item Number: JZ04



Introduction

Optimize battery electrolyte filling and wetting with this automated vacuum injection and standing integrated machine. Engineered with ±0.5% dosing precision, corrosion-resistant fluidics, and glovebox compatibility, it delivers unmatched batch repeatability for advanced lithium-ion and supercapacitor cell pilot lines.

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Application	Description	Key Benefit
Cylindrical Lithium-Ion Cells	Automated vacuum injection and soaking for standard cylindrical formats such as 18650, 21700, and custom dimensions up to 35 mm OD.	Accelerates electrolyte uptake across tightly wound jelly rolls, eliminating dry spots and reducing formation cycling scrap rates.
Supercapacitor Pilot Assembly	Rapid electrolyte saturation for high-surface-area porous carbon electric double-layer capacitors (EDLCs).	Deep vacuum evacuation removes micro-air pockets within high-capacitance electrode matrices for lower equivalent series resistance (ESR).
Next-Generation Solid-State & Semi-Solid R&D	Precision dosing of gel polymers and specialized liquid electrolyte carriers under an inert glovebox atmosphere.	Prevents atmospheric moisture contamination, preserving sensitive lithium metal anodes and exotic electrolyte additives.
Pouch Cell Electrolyte Metering	Non-vacuum injection tailored for fragile aluminum laminated pouch formats prior to final vacuum pre-sealing.	Delivers exact dosing accuracy (±0.5%) without risking blister expansion or seal damage from chamber vacuum cycles.
Coin Cell and Button Supercapacitor Testing	Micro-volume quantitative dispensing (down to 0.2 ml / 0.2 g) for academic screening and novel material formulation evaluations.	Eliminates manual pipetting errors and ensures reproducible electrochemical impedance spectroscopy (EIS) baselines.

Technical Parameter	Specification Value (JZ04)
Item Identifier	JZ04
Supported Cell Types	Cylindrical cells, Supercapacitors, Coin cells, Pouch cells (non-vacuum mode)
Core Functions	Integrated vacuum electrolyte injection & pressure-retention standing (soaking)
Batch Processing Capacity	Up to 35 cylindrical cells per batch
Compatible Cylindrical Dimensions	• 13 mm OD × 27 mm H • 16 mm OD × 37 mm H • 18 mm OD × 27 mm H (and 18650 class) • 22 mm OD × 44 mm H • 30 mm OD × 50 mm H • 35 mm OD × 82 mm H
Injection Volume Range	0.2 ml to 100 ml (0.2 g to 100 g per cell)
Dosing Accuracy	±0.5%
Dispensing Speed Range	0.1 to 20 ml/s (continuously adjustable)
Adjustable Operational Settings	Pre-vacuum level, injection volume, dispensing speed, soaking duration, standing pressure
Wetted Component Materials	SUS304 / SUS316 Stainless Steel, Chemical-Resistant Polymer Tubing
Required Compressed Air Supply	Dried, filtered, regulated ≥ 4.0 kg/cm² (glovebox setups use identical working gas)
Required Vacuum Source	Vacuum pump ≥ 2 L/s (ultimate vacuum ≥ -98 kPa) or central vacuum supply (≥ -98 kPa)

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Power Configuration	AC 220V ±10%, 50 Hz, Single Phase, 1.0 kW
Main Machine Dimensions	L900 mm × W450 mm × H640 mm
Control Box Dimensions	L450 mm × W420 mm × H255 mm
Equipment Net Weight	180 kg
Operating Environment	Ambient room temperature; compatible with Glovebox (Ar/N_2) and Dry Room integration