

Vacuum Electrolyte Filling And Standing Integrated Machine For Battery Capacitor Cells

Item Number: YZ14



Introduction

Vacuum electrolyte filling and standing integrated machine for battery and capacitor production, delivering adjustable vacuum, precise dosing, consistent absorption, corrosion resistant construction, PLC touchscreen control, and reliable operation in gloveboxes or dry rooms for demanding research and pilot manufacturing.

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Application	Description	Key Benefit
Lithium-ion pouch cell development	Applies electrolyte under vacuum before controlled standing for laboratory pouch cells within the specified dimensional range.	Improves absorption consistency and reduces variation between experimental cells.
Battery prototype fabrication	Supports repeatable electrolyte dosing during research, formulation screening, and prototype assembly.	Provides adjustable process control for changing cell designs and electrolyte quantities.
Supercapacitor and capacitor production	Performs controlled electrolyte filling and standing for capacitor formats requiring accurate dosing and reliable wetting.	Combines two process stages in one compact platform to simplify development workflows.
Glovebox-based cell assembly	Operates inside a glovebox for air- and moisture-sensitive electrolyte handling.	Helps preserve controlled-atmosphere conditions throughout the filling process.
Dry-room pilot production	Supports small-batch or pilot-scale cell processing in dry-room environments.	Enables consistent filling without removing cells from controlled environmental conditions.
Electrolyte absorption studies	Allows researchers to vary vacuum level, filling rate, quantity, and standing time during process optimization.	Generates more controlled comparisons when studying wetting and absorption behavior.
Battery process validation	Provides programmable, repeatable filling conditions for evaluating production methods and cell designs.	Supports traceable parameter control before larger-scale equipment investment.

Parameter	Specification
Product identifier	YZ15
Integrated functions	Electrolyte filling and standing
Process sequence	Vacuum extraction followed by electrolyte filling and standing
Vacuum setting	Low and high vacuum levels adjustable
Vacuum and standing time	Adjustable; each time setting can be configured up to 9999 min
Filling speed	Adjustable, up to 6 mL/s
Filling quantity	Adjustable according to the filling pump; 0.2 mL to unlimited capacity
Electrolyte filling mass	Adjustable according to the filling pump; 0.2 g to unlimited capacity
Filling accuracy	±1%
Pressure holding condition	Adjustable

Parameter	Specification
Standing time	Adjustable
Applicable cell length	20-200 mm, including tabs
Applicable cell width	20-200 mm, including gas-bag position
Applicable cell thickness	0-15 mm
Inlet and outlet tubing	Φ6 tubing
Critical wetted materials	Stainless steel 304 and stainless steel 316 corrosion-resistant materials
Vacuum chamber construction	Welded aluminum, corrosion-resistant and structurally stable
Chamber cover drive	Pneumatic cylinder
Chamber cover guidance	Rotating guide sleeve
Observation	Transparent viewing window for monitoring chamber changes during operation
Control system	PLC control with touchscreen operation
Operating environment compatibility	Suitable for operation in a glovebox or dry room
Overall dimensions	L510 mm × W400 mm × H650 mm
Power supply	AC220V / 50Hz / 1 kW
Weight	90 kg