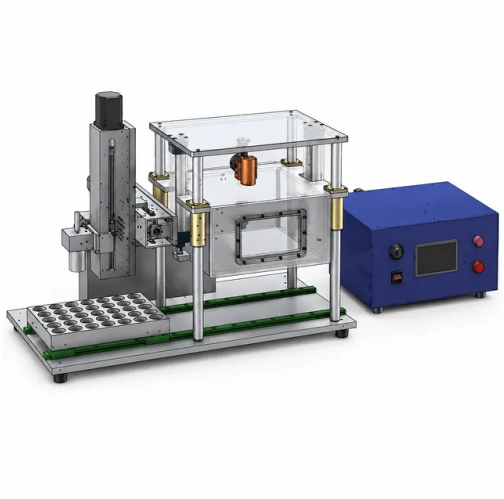
Electrolyte Vacuum Filling And Soaking Integrated Machine

Item Number: YZ13



Introduction

Electrolyte vacuum filling and soaking integrated machine delivers ±0.5% dosing accuracy for cylindrical, coin, and pouch battery cells, combining programmable vacuum, inert-gas filling, and controlled resting to improve electrolyte uptake consistency in advanced battery manufacturing and laboratory research workflows.

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Application	Description	Key Benefit
Cylindrical lithium-ion cell development	Fills supported cylindrical cell formats during battery R&D, pilot trials, and controlled sample preparation.	Processes up to 35 specified cylindrical cells in one loading cycle with adjustable dosing and resting settings.
Coin-cell research	Supports electrolyte filling and soaking workflows for coin-cell samples used in electrode, separator, and electrolyte evaluation.	±0.5% filling accuracy supports more consistent electrolyte quantities across comparative test cells.
Pouch-cell electrolyte preparation	Dispenses electrolyte into pouch cells in a dry-room or glove-box workflow; pouch cells do not undergo vacuum extraction.	Provides controlled filling capability for pouch-cell processing while respecting the specified non-vacuum method.
Battery capacitor filling operations	Performs electrolyte injection and static resting for battery capacitor-related processes requiring controlled dosing.	Integrates two process stages in one system to simplify handling and standardize operator workflow.
Electrolyte formulation screening	Prepares cells using different electrolyte quantities, dispense speeds, and rest durations during formulation studies.	Adjustable process variables allow teams to align the filling sequence with defined experimental conditions.
Glove-box battery prototyping	Enables electrolyte filling in an inert controlled environment for development work requiring glove-box operation.	Vacuum or inert-gas filling capability provides flexibility for controlled-atmosphere process integration.
Dry-room pilot processing	Supports repeatable electrolyte dispensing and soaking in dry-room battery assembly areas.	PLC and touchscreen controls provide programmable, repeatable process settings for routine operation.
Cell process optimization	Evaluates the effect of vacuum degree, fill quantity, dispense speed, and pressure-hold rest time on sample preparation.	Brings key adjustable variables into a single automated station for structured process studies.

Specification	Value
Site-facing identifier	YZ13
Applicable cell types	Cylindrical battery capacitor cells, coin cells, and pouch cells
Pouch-cell vacuum operation	Pouch cells do not undergo vacuum extraction
Core functions	Electrolyte filling and soaking/resting
Filling environment	Vacuum or inert-gas environment
Process sequence	Vacuum extraction before electrolyte filling, followed by resting
Adjustable parameters	Filling speed, filling quantity, vacuum degree, pressure-hold resting time
Filling precision	±0.5%
Filling precision basis	Precision after electrolyte is delivered to the cell
Stated filling quantity range	0.2 ml-200 ml

Specification	Value
Technical capacity range	0.2 ml-100 ml
Cell electrolyte filling quantity	0.2 g-100 g
Dispense/output speed	0.1-20 ml/s, adjustable
Cylindrical cells per cycle	35
Supported cylindrical format 1	13 mm OD x 27 mm H
Supported cylindrical format 2	16 mm OD x 37 mm H
Supported cylindrical format 3	18 mm OD x 27 mm H
Supported cylindrical format 4	22 mm OD x 44 mm H
Supported cylindrical format 5	30 mm OD x 50 mm H
Supported cylindrical format 6	35 mm OD x 82 mm H
Critical-part materials	304 and 316 corrosion-resistant stainless steel
Inlet and outlet connection	Chemical-corrosion-resistant flexible tubing
Control system	PLC and touchscreen operation
Automation	High degree of automated programming with flexible parameters
Installation location	Glove box or dry room
Ambient temperature requirement	Determined by the customer's factory environment
Power supply requirement	220V, 50HZ; voltage fluctuation range: +10% to -10%
Configured power supply	AC220V/50Hz/1KW
Compressed-air requirement	Dried, filtered, and pressure-regulated air; outlet pressure greater than 4.0 kg/cm2
Glove-box compressed-gas requirement	Gas used must be consistent with the gas inside the glove box
Vacuum-source requirement	Vacuum pump 2 liters/second, -98KPa or above; or pipeline vacuum (-98KPa or above)
Main machine dimensions	L900mm x W450mm x H640mm
Control box dimensions	L450mm x W420mm x H255mm
Weight	180kg