

Automated Coin Cell Assembly Machine With Precision Electrolyte Filling And Ccd Inspection

Item Number: CC04



Introduction

Automated coin cell assembly machine for 20 and 24 series batteries, featuring precision electrolyte filling, automatic material handling, tray switching, sealing, CCD inspection, PLC control, and glovebox-compatible operation for consistent laboratory cell fabrication and advanced battery research workflows.

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Application	Description	Key Benefit
Lithium Battery R&D	Assemble and seal laboratory coin cells after electrode, separator, and shell materials have been prepared. The equipment manages component retrieval, electrolyte injection, stacking, and sealing in a repeatable sequence.	Supports consistent prototype preparation and reduces repetitive manual handling during battery development.
Solid State Battery Research	Use controlled tray loading and programmable assembly order for experimental cells requiring carefully sequenced layer placement. The compact format is suitable for glovebox-based research.	Improves workflow organization while supporting assembly in controlled environments.
Electrode Coating Evaluation	Record electrode alignment and coating quality through CCD inspection during coin cell fabrication. Captured inspection data can be associated with each manufactured battery for later review.	Helps researchers connect electrode preparation quality with downstream cell performance.
Electrolyte Formulation Studies	Set the required injection volume through the precision injection pump when comparing electrolyte compositions or filling conditions.	Provides controlled liquid addition across comparative research batches.
Advanced Materials Research	Assemble coin cells used to evaluate new active materials, coatings, separators, and electrode structures. Flexible sequencing accommodates changing experimental procedures.	Gives materials laboratories a configurable platform for repeatable cell fabrication.
Academic and Pilot-Scale Cell Fabrication	Load multiple trays manually and allow the machine to retrieve materials and complete successive assembly cycles. Finished batteries are returned to their corresponding trays.	Increases practical throughput for laboratory programs while retaining operator control over material preparation.

Parameter	Specification
Product Item Number	CC04
Applicable Battery Range	20 and 24 series coin batteries
Assembly Method	Reverse assembly; the negative shell is positioned at the bottom and components are stacked layer by layer
Loading Method	Manual tray loading with automatic material retrieval
Tray Capacity per Cycle	10 batteries, for reference
Equipment Speed	60 batteries per hour, for reference
Electrolyte Injection System	High-precision injection pump
Injection Volume	Settable
Material Transfer	Tray-clamp transfer design with automatic tray switching
Visual Inspection	CCD vision inspection for electrode alignment and coating quality
Inspection Display	Real-time inspection image display

Parameter	Specification
Data Recording	Records electrode alignment, coating quality, and inspection data for each manufactured battery
Injection Port Connection	Chemically resistant flexible tubing
Operating Environment	Glovebox or dry room
Control System	PLC control with touchscreen operation
Process Settings	Battery quantity, injection volume, running speed, and other configurable process parameters
Overall Dimensions	L800 mm x W550 mm x H710 mm
Power Supply	AC220 V / 50 Hz
Rated Power	2 kW
Weight	250 kg