

Z Type Semi Automatic Battery Electrode Stacking Machine

Item Number: RB03



Introduction

Z type semi automatic battery electrode stacking machine delivers controlled separator guided layering, wide electrode compatibility, foot pedal pneumatic operation, and digital counting for efficient laboratory cell fabrication workflows across research and pilot production environments with straightforward setup in compact installations.

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Application	Description	Key Benefit
Lithium-ion battery cell R&D	Builds alternating positive-electrode, separator, and negative-electrode stacks during development of laboratory battery cells.	Provides a controlled, repeatable manual process for preparing electrode stacks with a defined layer count.
Pouch-cell prototype assembly	Produces Z-stacked electrode assemblies for experimental pouch-cell formats within the supported electrode dimensions.	Accommodates electrode sheets up to 200 mm by 200 mm for flexible prototype format selection.
Electrode material evaluation	Supports cell assembly after researchers prepare electrodes using different active materials, coatings, or formulations.	Allows teams to assemble comparative samples using the same stacking sequence and separator-feed method.
Battery process development	Enables evaluation and refinement of manual stacking procedures before applying a selected process to further development work.	Foot-pedal pneumatic actuation gives the operator direct control of separator-covering movement at each layer.
Academic battery laboratories	Supports teaching, research projects, and experimental cell fabrication where operators need a visible, step-by-step stacking procedure.	Simple adjustment, operation, and maintenance support practical use in shared laboratory environments.
Small-batch cell sample preparation	Prepares limited quantities of electrode stacks for internal testing, characterization, and experimental validation.	The digital counter helps operators work toward a preselected stacking quantity for each sample.
Separator and electrode compatibility studies	Combines chosen separator roll material with positive and negative electrode sheets during experimental cell construction.	Supports systematic assembly work with roll-fed separator material and positioned electrode layers.

Parameter	Specification
Site-facing identifier	RB03
Stacking method	Z-type stacking
Maximum separator roll loading	Roll separator material, 3-inch roll core, diameter phi 200 mm
Applicable electrode specification	Length (20-200) mm, width (20-200) mm, thickness within 18 mm
Swing-roller movement stroke	300 mm
Power supply	AC220V/50Hz
Power	200W
Air pressure source	0.4MPa-0.7MPa
Equipment dimensions	L650mm W400mm H700mm
Control box dimensions	L200mm W300mm H380mm
Weight	30Kg

Maintenance Item	Required Action	Operational Purpose
Swing roller	Wipe regularly and keep clean.	Maintains a clean separator-contact surface during stacking.
Stacking table	Wipe regularly and keep clean.	Keeps the electrode placement area suitable for positioning work.
Bearing-slide moving parts	Apply lubricating oil.	Helps maintain smooth movement of moving components.
Long-term storage	Clean the machine surface and store the unit wrapped with packing tape when not used for a long period.	Helps keep the stored equipment surface clean.
Screws, nuts, pins, and fasteners	Inspect regularly for looseness.	Helps prevent equipment-quality and personal-safety incidents associated with loose fasteners.