

Horizontal Hot Press Formation Machine For Pouch Lithium Ion Batteries

Item Number: RB36



Introduction

Horizontal hot press formation equipment for pouch lithium ion batteries combines 32-point clamping, 6A charge-discharge capability, controlled heating, and pneumatic pressure for efficient, flat, stable cell activation with reduced handling and shorter manufacturing cycles for manufacturers.

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Application	Description	Key Benefit
Polymer lithium battery production	Performs the hot press formation step for polymer lithium batteries after initial cell formation.	Combines heating, compression, and cell activation within one dedicated process.
Single-tab pouch cell formation	Processes pouch lithium-ion cells with a single electrode-tab outlet and the specified tab geometry.	Accommodates tab lengths of 18 to 25 mm, tab widths up to 25 mm, and tab spacing of at least 10 mm.
Pouch cell activation	Applies suitable low current to the electrode terminals to activate active materials inside an initially formed battery.	Supports charge-discharge current up to 6A during the formation operation.
Separator-to-electrode bonding	Uses heat and pressure to promote melting of binder coating on the separator and close bonding with positive and negative electrode materials.	Helps establish direct, close contact between electrode sheets and separator materials.
Post-assembly cell shaping	Clamps cells between heated plates to support a firmer overall appearance and reduced cell thickness.	Produces a more compact pouch cell with increased physical strength.
Degassing and sealing workflow support	Supports hot press formation before or alongside the process sequence that includes pouch-cell degassing and sealing.	Helps make the battery flatter after degassing and sealing.
Battery line cycle reduction	Replaces the separate baking and shaping step used in an existing formation process.	Shortens formation time, reduces the battery production cycle, and lowers manual work requirements.

Parameter	Specification
Product Item Number	RB36
Equipment design options	Horizontal and vertical designs are available in the product family.
Configuration supplied	Horizontal design.
Intended use	Formation process for single-tab pouch lithium-ion batteries.
Formation method	Heated aluminum plates clamp the cell; fast heat conduction is used for cell formation.
Cell loading and clamping	Place the cell between pressure plates; pneumatic cylinders provide clamping.
Operating points	32 points per unit.
Fixture configuration	One fixture group.
Maximum charge-discharge current	6A
Equipment dimensions	Approximately 1650 x 700 x 1800 mm (length x width x height).
Equipment weight	Approximately 500 kg.

Parameter	Specification
Equipment color	Computer white or customer-specified color.
Compressed-air requirement	Air must be dried, filtered, and pressure-stabilized. Outlet pressure greater than 5.0 to 7.0 kgf/cm ² (0.5 to 0.7 MPa).
Working air pressure	5.0 to 7.0 kgf/cm ² (0.5 to 0.7 MPa).
Electrical supply	AC220V/380V/50Hz/60Hz.
Rated power	Approximately 5 kW, excluding the power cabinet; subject to the actual unit.
Temperature range	Room temperature to 90 degrees C.
Temperature accuracy	Plus or minus 3 degrees C.
Initial heating time	30 minutes or less, target temperature: 80 degrees C.
Heating method	Silicone heating plate.
Pressure range	300 to 1800 kg.
Pressure accuracy	Plus or minus 20 kg.

Applicable Pouch Cell Dimension	Requirement
Length, L1	80 to 150 mm
Width, W1	80 to 100 mm
Thickness, T	4 to 12 mm
Tab length, S	18 to 25 mm
Minimum tab spacing, W2	At least 10 mm
Tab width, W4	25 mm or less