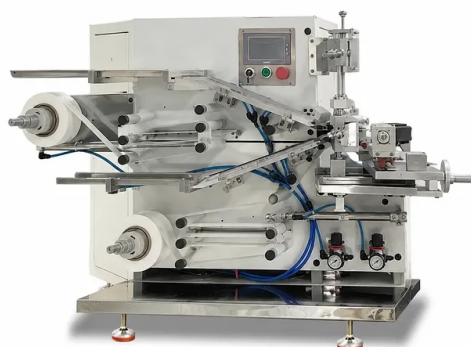


Semi Automatic Cylindrical Prismatic Lithium Ion Battery Winding Machine

Item Number: FX02



Introduction

Semi automatic cylindrical and prismatic lithium ion battery winding machine delivers consistent electrode alignment controlled tension and high throughput for research and pilot cell production with adaptable mandrels touchscreen settings and continuous separator handling for demanding laboratory workflows.

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Application	Description	Key Benefit
Cylindrical lithium-ion cell development	Forms wound cylindrical cells using interchangeable Phi3.5-Phi5 mm mandrel assemblies. Operators load electrode sheets, and the system performs the winding and mandrel-withdrawal stages.	Supports cylindrical-format process development with a stated output of 5-7 ppm at the 750 mm electrode-length reference condition.
Prismatic lithium-ion cell development	Configures the winding process for prismatic cells through a combined winding-width range of 38-60. The selected mandrel assembly adapts the equipment to the required cell format.	Provides a defined prismatic winding configuration with a stated output of 3-5 PPM at the reference electrode length.
Oil-based electrode processing	Winds cells using oil-based electrode sheets together with applicable separator materials. The adjustable guide plate supports material entry into the winding process.	Allows the unit to be applied to electrode processing routes that use oil-based sheets.
Water-based electrode processing	Processes water-based electrode sheets within the same semi-automatic operating sequence. The loading order can be selected according to the process requirement.	Extends applicability to water-based electrode workflows without changing the core winding system.
Separator-integrity-focused cell assembly	Maintains a continuous separator through winding while controlling its tension relative to the electrode sheets.	Reduces manual contact during winding and supports consistent separator placement in the cell roll.
Capacity and resistance uniformity studies	Produces wound cells with relatively consistent electrode tension, separator tension, and material positions.	Supports evaluation of cell capacity and internal-resistance uniformity by improving consistency in the winding stage.
Process-route evaluation	Enables positive-electrode-first or negative-electrode-first sheet entry, with separator-overwrap or electrode-overwrap ending options.	Lets teams compare reference-backed loading and end-wrap configurations according to their established process requirements.

Parameter	FX02 Specification	Notes
Equipment application	Semi-automatic winding machine for cylindrical or prismatic lithium-ion batteries	Mandrel assemblies are changed to adapt to cylindrical or prismatic cell winding.
Operating sequence	Manual electrode-sheet loading, automatic mandrel withdrawal, automatic winding, manual tape application, and manual unloading	
Applicable electrode sheets	Oil-based electrode sheets; water-based electrode sheets	
Applicable separator materials	Various separator materials	
Feed-slot or guide-plate width	Adjustable, single-side adjustment	
Winding-shaft drive	Stepper motor drive	Maintains constant winding speed.
Winding accuracy	<=0.5 mm	

Parameter	FX02 Specification	Notes
Control parameter setting	Touchscreen operating interface; working parameters can be set	
Electrode entry method	Positive electrode first then negative electrode, or negative electrode first then positive electrode	Select according to process requirements.
Outer-wrap ending method	Separator outer wrapping or electrode-sheet outer wrapping	Select according to process requirements.
Cylindrical mandrel	Phi3.5-Phi5 mm	Cylindrical cell configuration.
Prismatic winding range	Combined width 38-60	Prismatic cell configuration.
Cylindrical production pace	5-7 ppm	Based on an electrode-sheet length of 750 mm. Actual cycle time depends on electrode length, operator proficiency, and electrode-sheet quality.
Prismatic production pace	3-5 PPM	Based on an electrode-sheet length of 750 mm. Actual cycle time depends on electrode length, operator proficiency, and electrode-sheet quality.
Qualified rate	>=98%	
Utilization rate	>=95%	
Equipment appearance color	International standard warm gray 1C	Customer-specified color is available.
Operating interface language	Chinese	
Equipment noise	80 dB	Measured 1 m from the equipment; excludes noise caused by materials, such as tape-peeling sound.
Equipment nameplate	Includes equipment name, model, power supply, and factory serial number	
Safety standard	Reference GB 5226.1	Mechanical, electrical, and protective safety requirements.
Compressed air	0.4 ~ 0.8Mpa, flow rate 50L/min	Required operating utility.
Ambient temperature	20 ~ 35°C	Required operating environment.
Relative humidity	5 ~ 55%HR	Required operating environment.
Environmental cleanliness	Not lower than Class 100,000	Site must be free of corrosive gases, liquids, and explosive gases.
Power supply	AC220V, single phase	
Voltage fluctuation	Less than +/-10%	
Power	1.0KVA	
Equipment weight	Approximately 200 kg	Subject to actual weight; total weight-to-load-bearing-area ratio <=500kg/m2.