

Desktop Continuous Film Coating Testing Machine For 18650 Cylindrical Batteries

Item Number: TB10



Introduction

Desktop continuous coating machine for lithium battery electrodes 18650 cylindrical cell research ceramic films crystal films and nanofilms offering adjustable coating width precise thickness control automatic rewinding and independent PID oven temperature regulation for university laboratories and small scale production

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Application	Description	Key Benefit
Lithium-Ion Battery Cathode Coating	Applies positive-electrode slurry continuously onto aluminum foil for formulation screening and electrode process development.	Enables controlled coating-gap adjustment, adjustable width, continuous coating, and automatic take-up.
Lithium-Ion Battery Anode Coating	Coats negative-electrode slurry onto copper foil for laboratory evaluation and small-batch electrode preparation.	Supports repeatable processing across copper substrates with adjustable feed and rewinding tension.
18650 Cylindrical Battery Research	Produces continuous coated electrode material for development activities associated with 18650 cylindrical cell fabrication.	Provides a compact platform for laboratory-scale coating trials before larger-scale process decisions.
University Battery Research	Supports teaching laboratories, graduate research, and repeatable coating experiments involving different slurry formulations.	Combines compact dimensions, straightforward operation, and controllable coating and drying conditions.
Ceramic Thin-Film Coating	Applies ceramic materials to suitable flexible substrates for film-development experiments and small-batch trials.	Extends the equipment beyond battery electrodes while retaining adjustable width and thickness control.
Crystal Thin-Film Processing	Used for continuous coating trials involving crystal-based film materials and related research samples.	Offers controlled material transport, adjustable coating parameters, and integrated oven drying.
Specialized Nanofilm Development	Supports laboratory-scale coating experiments for special nanofilm formulations where controlled deposition and drying are required.	Provides a practical continuous platform for testing coating windows and process repeatability.

Specification Category	Parameter	Value
Identification	Model	TB10
Electrical	Machine power supply	AC 220 V single phase 50 Hz
Electrical	Machine power	Approximately 3 kW
Coating	Coating thickness range	0.01 mm-2 mm
Coating	Thickness adjustment method	Precise fine adjustment of the upper scraper coating gap
Coating	Coating width	50 mm-150 mm
Coating	Coating-width adjustment	Adjusted by two guide plates inside the coating slot
Coating	Coating length	Unlimited coating length for positive and negative electrode slurry, subject to available feed material
Coating	Material collection	Automatic rewinding
Speed	Coating speed	2 m/min, stepless variable speed

Specification Category	Parameter	Value
Drying	Oven length	1100 mm
Drying	Maximum operating temperature	100°C
Drying	Temperature control	Independent high-precision PID temperature control with digital display controller
Substrate Compatibility	Aluminum foil thickness	0.01 mm-0.03 mm
Substrate Compatibility	Copper foil thickness	0.006 mm-0.020 mm
Mechanical Construction	Machine body material	Stainless steel
Mechanical Construction	Surface treatment	Spray treatment
Tension Control	Unwinding tension	Adjustable through feed roll shaft adjustment knob and screw
Tension Control	Rewinding tension	Adjustable mechanical tension control through the take-up roll shaft
Overall Dimensions	Machine dimensions	1800 × 350 × 580 mm, length × width × height
Weight	Machine weight	Approximately 130 kg
Packaging	Package dimensions	2000 × 660 × 750 mm
Packaging	Package weight	Approximately 160 kg
Intended Use	Primary process	Continuous coating trials or small-scale production
Intended Use	Battery materials	Lithium-ion battery positive and negative electrode slurry
Intended Use	Additional materials	Ceramic thin films, crystal thin films, and specialized nanofilms