Lithium Ion Battery Electrode Transfer Coating Machine Roll To Roll Slurry Coater

Item Number: TB30

Introduction

Engineered for advanced battery research and pilot lines, this precision roll-to-roll transfer coating machine ensures uniform electrode slurry deposition, stable web tension control, and efficient electric drying up to 140°C to optimize cathode and anode manufacturing yields and cell performance.

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Application	Description	Key Benefit
Lithium-Ion Cathode Fabrication	Precision transfer coating of high-viscosity cathode slurries (NMC, LFP, LCO, NCA) onto continuous aluminum current collector foils.	Maintains homogeneous areal loading and prevents binder migration during thermal drying, maximizing energy density.
Lithium-Ion Anode Fabrication	High-uniformity coating of graphite, silicon-carbon, or hard carbon slurries onto thin copper foil substrates.	Eliminates pinholes and surface irregularities, ensuring stable SEI formation and long cycle life.
Solid-State Battery R&D	Roll-to-roll deposition of composite solid electrolyte slurries and dry-film precursors onto carrier films or treated electrodes.	Provides tight thickness tolerance essential for low interfacial resistance in solid-state cell architectures.
Supercapacitor Electrode Coating	Deposition of high-surface-area activated carbon slurry onto etched aluminum foils for electric double-layer capacitors (EDLC).	Ensures deep mechanical interlocking and low internal resistance (ESR) through uniform web drying.
Sodium-Ion Battery Production	Continuous slurry application for hard carbon anodes and Prussian blue or transition metal oxide cathodes onto aluminum collectors.	Adapts seamlessly to diverse solvent chemistries and rheological profiles without requiring hardware modifications.
Advanced Pilot-Scale Cell Manufacturing	Rapid prototyping and pilot validation of novel binder formulations, conductive additives, and specialized battery chemistries.	Minimizes raw material waste with rapid roll-change capability and precise web handling during short test runs.

Parameter Category	Specification Details (TB30)
Product Model Identifier	TB30
Roller Surface Width	400 mm
Mechanical Speed (No-Load)	Max. 3 m/min
Unwinding Roll Diameter	Max. φ200 mm
Unwinding Maximum Load	Max. 100 kg
Unwinding Core Dimensions	Inner Diameter: 3 inches (~76.2 mm); Length: ≤ 450 mm
Unwinding Core Material Compatibility	Metal, ABS Plastic, Paper Core
Rewinding Roll Diameter	Max. φ200 mm
Rewinding Maximum Load	Max. 100 kg
Rewinding Core Dimensions	Inner Diameter: 3 inches (~76.2 mm); Length: ≤ 450 mm
Rewinding Core Material Compatibility	Metal, ABS Plastic, Paper Core
Drying Oven Architecture	Single layer, 1 Section × 2 m / section (Total Length: 2 m)
Drying Heating Method	High-efficiency Electric Heating

Parameter Category	Specification Details (TB30)
Maximum Oven Temperature	Max. 140°C
Functional Modular Sections	Unwinding Unit, Coating Head, Drying Oven, Traction Unit, Rewinding Unit, Electrical Control System