

400Mm Continuous And Intermittent Gap Coating Machine

Item Number: TB19



Introduction

400mm continuous and intermittent gap coating machine for precise lithium ion battery electrode coating with electric drying, controlled web handling, and configurable extrusion coating for cathode and anode production.

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Application	Description	Key Benefit
Lithium iron phosphate cathode preparation	Applies LFP slurry in NMP onto aluminum foil for positive-electrode sheet preparation.	Supports cathode coating widths up to 300 mm and coating mass from 100 to 250 g/m ² .
Ternary cathode electrode development	Coats ternary and similar positive-electrode slurry systems onto aluminum foil before drying and rewinding.	Provides a defined cathode slurry window of 40 to 85 wt% solids and 5,000 to 15,000 mPa.s viscosity.
Graphite anode sheet production	Applies graphite slurry in DI-Water onto copper foil for negative-electrode processing.	Supports anode slurry conditions of 35 to 65 wt% solids and 3,000 to 8,000 mPa.s viscosity.
Intermittent electrode pattern coating	Produces separated coated segments for electrode designs requiring uncoated gaps between coated areas.	Minimum gap length is 5 mm and minimum coating length is 30 mm when coating speed is ≤5 m/min.
Continuous electrode web coating	Produces continuously coated aluminum-foil or copper-foil electrode web for subsequent cell-fabrication operations.	Combines coating, 2 m electric drying, traction, and rewinding in one defined material path.
Battery R&D process optimization	Evaluates the relationship between material system, coating thickness, solids content, temperature, and coating speed.	The stated coating-speed range of 0.5 to 1.5 m/min provides a defined operating reference for both electrode types.
Pilot-scale foil handling trials	Runs specified electrode foil widths and thicknesses through unwind, coating, drying, traction, and rewind stages.	Accommodates 100 to 320 mm aluminum or copper foil within the listed foil-thickness ranges.

Product Item Number	Parameter	Specification
TB19	Equipment purpose	Precision coating of lithium-ion battery positive and negative electrode sheets; uniformly coats prepared slurry onto substrate, dries it, and rewinds it for subsequent processing.
TB19	Coating configuration	Extrusion coating; customizable according to user requirements.
TB19	Main equipment components	Unwind unit, coating unit, oven unit, traction unit, rewind unit, electrical control system.
TB19	Unwind unit quantity	1 set.
TB19	Unwind configuration	Single position; manual roll change.
TB19	Coating unit quantity	1 set.
TB19	Oven unit quantity	1 set.
TB19	Oven configuration	Single layer; 2 m × 1 section = 2 m; electric heating.
TB19	Traction unit quantity	1 set.
TB19	Rewind unit quantity	1 set.
TB19	Rewind configuration	Single position; manual roll change.

Product Item Number	Parameter	Specification
TB19	Electrical control system quantity	1 set.
TB19	Roller-face width	400mm.
TB19	Mechanical speed, no load	Max:3m/min.
TB19	Unwind roll diameter	Max.φ200mm.
TB19	Unwind load capacity	Max.100kg.
TB19	Unwind core specification	Internal diameter 3 inches, approximately 76.2mm; length ≤450mm.
TB19	Unwind core material	Metal, ABS plastic, paper core.
TB19	Rewind roll diameter	Max.φ200mm.
TB19	Rewind load capacity	Max.100kg.
TB19	Rewind core specification	Internal diameter 3 inches, approximately 76.2mm; length ≤450mm.
TB19	Rewind core material	Metal, ABS plastic, paper core.
TB19	Oven heating method	Electric heating.
TB19	Oven structure	1 section × 2m/section = 2m; single layer.
TB19	Oven temperature	Max□ 140°C.

Product Item Number	Substrate Parameter	Positive Electrode	Negative Electrode
TB19	Substrate	Aluminum foil	Copper foil
TB19	Width (mm)	100□ 320	100□ 320
TB19	Thickness (μm)	9□ 25	6□ 20

Product Item Number	Slurry Parameter	Positive Electrode	Negative Electrode
TB19	Material	Lithium iron phosphate, ternary, etc.	Graphite
TB19	Solvent	NMP	DI-Water
TB19	Solids content (wt%)	40□ 85	35□ 65
TB19	Slurry specific gravity (g/cm3)	1.5□ 3.0	1.0□ 2.0
TB19	Viscosity (mPa.s)	5000-15000	3000-8000

Product Item Number	Coating Parameter	Positive Electrode	Negative Electrode
TB19	Coating method	Continuous coating, intermittent gap coating	Continuous coating, intermittent gap coating
TB19	Coating width (mm)	Max:300	Max300
TB19	Single-side coating dry thickness (μm)	50□ 250	50□ 250
TB19	Single-side coating weight (g/□)	100□ 250	80□ 200
TB19	Coating speed (m/min)	0.5□ 1.5	0.5□ 1.5