

Fully Automatic Lithium Ion Battery Electrode Sheet Die Cutting Machine

Item Number: MQ08



Introduction

Fully automatic lithium ion battery electrode sheet die cutting machine integrates unwinding, alignment, tab forming, CCD inspection, dust removal and rewinding for accurate high speed continuous coated electrode production.

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Application	Description	Key Benefit
Power lithium battery electrode production	Forms tabs on continuously coated roll electrode sheets for power battery manufacturing processes.	Integrates roll handling, tab cutting, inspection, and rewinding for a coordinated production sequence.
Lithium ion cell electrode preparation	Produces electrode sheets with lengths from 150-500 mm, including the tab, for subsequent cell assembly operations.	Supports controlled electrode dimensions with specified accuracy of ± 0.2 mm.
Continuous coating line downstream processing	Handles coated electrode rolls after continuous coating, using automatic unwinding and correction before die cutting.	Reduces manual roll handling within the electrode forming process.
Electrode tab manufacturing	Creates formed electrode tabs while maintaining stated burr limits in both longitudinal and transverse directions.	Supports edge-quality control with longitudinal burrs ≤ 15 μ m and transverse burrs ≤ 10 μ m.
In-line electrode quality inspection	Uses CCD defect detection and CCD dimensional detection during continuous electrode processing.	Adds inspection functions directly into the production workflow.
High-volume electrode roll conversion	Processes feed rolls with an outside diameter of ≥ 750 mm and weight of ≤ 500 Kg, then automatically rewinds output rolls.	Supports sustained material processing with production speed ≥ 35 m/min.
Battery manufacturing process control	Provides defined performance targets for product qualification rate and equipment failure rate.	Supports production planning around a qualified-product rate $\geq 99.5\%$ and equipment failure rate $\leq 2\%$.

Parameter	Specification
Product Item Number	MQ08
Primary Function	Power lithium battery electrode sheet forming for continuous coating processes
Applicable Material Form	Roll electrode sheet / continuous coated electrode sheet
Process Functions	Automatic roll electrode unwinding; electrode correction; tab die cutting; CCD defect inspection; electrode dust removal; CCD dimensional inspection; automatic electrode rewinding
Electrode Sheet Length	150-500mm (including tab)
Feed Roll Core Inner Diameter	6 inch
Feed Roll Outside Diameter	≥ 750 mm
Feed Roll Weight	≤ 500 Kg
Take-Up Roll Outside Diameter	≤ 750 mm
Equipment Production Speed	≥ 35 M/min (design ≥ 45 M/min)

Parameter	Specification
Electrode Sheet Dimensional Accuracy	+/-0.2mm
Mold Life	More than 1 million cycles per use; more than 10 grinding operations
Longitudinal Burr	<=15um
Transverse Burr	<=10um
Rewinding Neatness	+/-1mm
Equipment Noise	<=75 db (at a distance of 1M from the machine)
Electrical Supply	AC380V+/-5%, three-phase 50Hz
Starting Power	<=40Kw
Operating Power	<=30Kw
Air Supply	Compressed air 0.5-0.6Mpa
Air Consumption	1000L/min
Equipment Dimensions	Approximately 9500x2300x2700 (main body)
Standard Appearance Color	Standard warm gray 1C; customer color requests require a color card
Equipment Weight	Approximately 15000Kg
Qualified Product Rate	>=99.5%
Equipment Failure Rate	<=2%
Applicable Ambient Temperature	0-50 C°