

Laboratory Hydraulic Balanced Electric Two Roll Mill For Battery Electrode Rolling

Item Number: DG08



Introduction

Laboratory hydraulic balanced electric two roll mill for battery electrode rolling delivers precise pressure, uniform gap control, durable chromium plated rolls, PLC HMI operation, and monitored force curves for consistent cathode and anode processing in demanding research environments.

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Application	Description	Key Benefit
Battery Cathode Electrode Rolling	Compresses and calibrates cathode sheets after coating to support controlled electrode thickness and density before cell assembly.	Improves electrode uniformity and provides repeatable rolling conditions for process development.
Battery Anode Electrode Rolling	Processes anode materials where consistent roll force and gap control are required to achieve stable sheet quality.	Helps reduce variation across the electrode width and along the rolling direction.
Lithium Battery Pilot Processing	Supports laboratory and pilot-scale investigation of rolling speed, pressure, gap, and electrode response.	Enables controlled parameter studies with recorded rolling-force curves.
Advanced Materials Research	Rolls research materials and functional sheets when precise compression and surface quality are important.	Provides a compact, adjustable platform for repeatable materials experiments.
University and Institute Laboratories	Serves battery engineering, materials science, and electrochemical research laboratories that need controlled electrode preparation.	Combines industrial-style precision with a practical laboratory footprint and mobile configuration.
Continuous Coil Material Processing	Uses the optional unwind and rewind assembly for continuous processing of coiled electrode material.	Increases workflow efficiency and supports pilot-scale production trials.

Parameter	Specification
Product Item Number	DG08
Pressure Control System	Imported servo hydraulic proportional valve system
Rolling Pressure	Maximum 40 T
Roll Gap	0-3 mm adjustable
Rolling Speed	0.3-4 m/min
Roll Dimensions	Diameter $\Phi 196 \times 330$ mm
Roll Face Width	330 mm
Maximum Substrate Width	300 mm
Roll Surface Hardness	HRC65-70
Hardened Layer Thickness	≥ 15 mm
Roll Runout	Better than $\pm 2 \mu\text{m}$
Roll Material	9Cr3Mo
Roll Surface Treatment	Hard chromium plated

Parameter	Specification
Hard Chromium Layer Thickness	≥ 0.15 mm
Rolling Precision	± 2 μ m
Maximum Mill Opening	3 mm
Drive Motor	1.5 KW AC variable-frequency motor
Recommended Ambient Temperature	$25 \pm 3^{\circ}\text{C}$
Permitted Humidity	30-90 RH
Environmental Conditions	No vibration and no electromagnetic interference
Electrical Voltage	Single-phase 220 VAC $\pm 10\%$
Frequency	50 Hz
Total Power	2 KW
Overall Dimensions	L1400 mm x W500 mm x H1300 mm
Weight	Approximately 530 kg
Frame Construction	Integrated gantry frame
Frame and Component Finish	Hard chromium treatment on components for an attractive, corrosion-resistant surface
Gap Display	Digital dial indicator
Work Area Visibility	Integrated lighting device
Mobility	Universal casters
Optional Configuration	Unwind and rewind assembly for continuous coil rolling
Included System Components	Servo hydraulic proportional valve system, pressure measurement system, AC variable-frequency motor, reducer, gear distribution box, precision coupling, pressing-down mechanism, roll assembly, mill body, protective panels, PLC touchscreen, and electrical control system