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Electrode Calendering / Rolling Presses Catalog

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>>> About Us

KINTEK Solution is a technology-driven innovator specializing in comprehensive laboratory equipment for battery R&D and advanced materials research. Our portfolio spans the entire cell fabrication workflow—from mixing, coating, and precision pressing (automatic, heated, isostatic) to cell assembly and testing. Also essential in ceramics and powder metallurgy, our systems prioritize precision, safety, and repeatability, empowering researchers and industrial labs to achieve groundbreaking results.



Automatic Laboratory Unwind Rewind Machine And Unwind Rewind Device For Battery Electrodes Optical Films And Functional Materials

Item Number: DG09



Introduction

Automatic laboratory unwind rewind machine with servo tension control optical web guiding and split structure for lithium battery electrodes optical films and functional roll materials delivering accurate continuous rewinding and slitting performance for demanding research and production workflows.

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Application	Description	Key Benefit
Lithium-ion battery electrode rolling	Connect the unwind and rewind sections with a hydraulic two-roll press to process lithium-ion battery positive and negative electrode sheets in roll form.	Automatic tension and edge control support stable electrode transport and more consistent rolling results.
Battery electrode rewinding	Rewind coated or rolled electrode materials after laboratory processing and prepare them for storage or later cell fabrication steps.	Controlled winding helps maintain orderly rolls and reduces alignment variation during handling.
Optical film rewinding	Process optical films in roll-to-roll laboratory workflows where web position and surface handling must remain stable.	Photoelectric web guiding helps preserve edge alignment during continuous rewinding.
Functional film slitting and rewinding	Use the equipment for research and pilot-scale processing of functional films and other flexible roll materials.	Adjustable tension from 0 to 50 N accommodates controlled handling across development trials.
Materials science roll processing	Support experimental work involving flexible, coated, or laminated roll materials in university and industrial research laboratories.	An independent control system provides a repeatable platform for process comparison and parameter evaluation.

Parameter	Specification
Model	DG09
Equipment type	Automatic unwind and rewind device
Primary functions	Roll material rewinding and slitting
Unwind control	Servo automatic tension control
Rewind control	Servo automatic tension control
Web guiding	Photoelectric automatic edge alignment for unwind and rewind
Tension control range	0 to 50 N
Unwind and rewind diameter	250 mm
Winding accuracy	±0.5 mm
Running method	Continuous operation
Guide roller width	350 mm
Mechanical speed	Max. 6 m/min
Control system	Independent electrical control system

Parameter	Specification
Structural configuration	Separate unwind and rewind sections
Equipment integration	Can be connected with a hydraulic two-roll press
Unwind installation dimensions	W450 mm × D850 mm × H615 mm
Rewind installation dimensions	W650 mm × D850 mm × H615 mm
Unwind weight	Approximately 200 kg
Rewind weight	Approximately 237 kg
Standard power supply	Single-phase 220 VAC ±10%
Optional power supply	110 VAC, customizable
Power frequency	50 Hz/60 Hz
Rated power	1 kW

2 96 Mm Laboratory Heated Electric Vertical Two Roll Mill

Battery Roller Press Electric Rolling Roller Press

Item Number: DG01



Introduction

Heated electric vertical two roll mill with adjustable gap speed and temperature for precise lithium battery electrode rolling research and advanced materials processing in laboratories with reversible operation durable chrome plated rolls and controlled thickness for consistent electrode

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Application	Description	Key Benefit
Lithium Battery Electrode Preparation	Roll coating or electrode sheet materials between the heated rollers to reduce thickness and increase material density.	Produces controlled electrode compression for repeatable battery material development.
Clean Energy Materials Research	Process lithium battery and related energy materials under selected room temperature or heated conditions.	Allows researchers to compare thermal and non thermal rolling conditions using one unit.
Battery R&D Process Development	Evaluate roller gap, feed speed, and temperature combinations during laboratory scale electrode process optimization.	Provides adjustable process variables for systematic development and small batch trials.
Powder Metallurgy	Compact and reduce the thickness of suitable powder based sheets and strip materials under controlled roller pressure.	Supports repeatable dimensional processing before subsequent material evaluation.
Ceramic Materials Research	Conduct controlled rolling trials on compatible ceramic sheet or strip formulations where adjustable thickness is required.	Offers a precise laboratory method for studying material densification and sheet formation.
Academic Advanced Materials Research	Prepare and compare experimental material sheets across different rolling speeds, gaps, and temperatures.	Combines compact installation with practical controls for teaching and research workflows.

Parameter	Specification
Product Item Number	DG01
Product Type	Laboratory heated electric vertical two roll mill and battery roller press
Roller Quantity and Diameter	2-Φ96 mm
Roller Hardness	HRC62
Roller Surface Finish	0.4μm
Roller Cylindricity	≤±2μm
Rolling Thickness or Roller Gap	0~3mm, adjustable
Sheet Pressing Width	0~180mm
Roller Arrangement	Vertical
Rolling Temperature	Room temperature~250°C, adjustable
Maximum Operation at 250°C	Work at 250°C must not exceed 40 min
Operating Mode	Electric
Forward and Reverse Operation	Available

Parameter	Specification
Voltage and Frequency	AC220V/50Hz
Power	2000W
Feed Speed	0~40mm/s, adjustable
Adjustable Parameters	Sheet thickness, speed, and heating temperature
Overall Dimensions	L600mmW220mmH320mm
Equipment Weight	85KG
Standard Configuration	One set of hexagonal socket wrenches, 2 dial indicators, and 1 feeler gauge

100Mm Laboratory Heated Electric Vertical Two Roll Mill

Electric Rolling Roller Press

Item Number: DG02



Introduction

100mm laboratory heated electric vertical two roll mill for precise battery electrode rolling, adjustable thickness, independent temperature control, high hardness rolls, and consistent small batch materials processing for lithium battery nonferrous metal precious metal and advanced materials research applications

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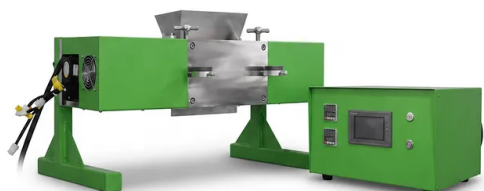
Application	Description	Key Benefit
Lithium Battery Electrode Development	Roll lithium battery electrode sheets to reduce thickness and increase material density during cathode, anode, and electrode process development.	Adjustable gap, speed, and temperature support repeatable electrode preparation and parameter comparison.
Battery Materials Research	Process small quantities of experimental battery powders and coated materials under controlled heated or unheated conditions.	Independent roll heating and digital monitoring help researchers evaluate thermal effects on material compression.
Copper and Aluminum Rolling	Perform laboratory-scale rolling of copper, aluminum, and other nonferrous materials when controlled thickness reduction is required.	Motorized reversible operation provides convenient handling for small samples and development batches.
Precious Metal Materials	Roll limited quantities of gold, silver, and related precious metal materials for laboratory investigation and sample preparation.	Compact construction and adjustable thickness reduce material waste during small-volume trials.
Advanced Materials Research	Study the relationship between rolling gap, feed speed, temperature, and material density in experimental processing programs.	Digitally displayed operating values improve test documentation and process repeatability.
Powder Metallurgy and Ceramic Processing	Support controlled compression and sheet-forming investigations for powder-based materials where laboratory-scale rolling is appropriate.	Fine gap adjustment enables controlled trial conditions across different sample compositions.
University and Institutional Laboratories	Provide a practical rolling platform for teaching, process demonstrations, materials characterization, and research projects.	Simple electric operation and direct digital displays shorten setup time and simplify routine use.

Parameter	Specification
Product Item Number	DG02
Product Type	100mm laboratory heated electric vertical two roll mill and electric rolling roller press
Roll Diameter	Φ100 mm
Roll Arrangement	Vertical placement
Roll Hardness	HRC62
Roll Surface Finish	Ra0.4 or better
Roll Cylindricity	≤±2 μm
Rolling Thickness	0 to 2 mm, adjustable gap
Adjustable Gap	0 to 2 mm
Heated Width	80 mm
Rolling Temperature	Upper and lower rolls independently heated; room temperature to 130°C adjustable; digital display

Parameter	Specification
Temperature Control	Independent upper and lower temperature controllers
Temperature Control Accuracy	±0.5°C
Temperature Resolution	0.1°C
Operating Mode	Electric
Rolling Direction	Forward and reverse operation
Feed Speed	0 to 40 mm/s, digitally displayed and adjustable
Thickness Display	Digital display available for sheet thickness adjustment and observation
Speed Display	Digital display
Heating Selection	Heated or unheated operation selectable
Power Supply	AC220V/50Hz
Power	1 kW
Overall Dimensions	L670 mm × W220 mm × H330 mm
Equipment Weight	70 kg
Standard Accessories	One set of hexagonal wrenches, two digital dial indicators, one feeler gauge

Laboratory Heated Horizontal Double Roll Machine With Dual Servo Motors

Item Number: DG06



Introduction

Laboratory heated horizontal double roll machine with dual servo motors delivers adjustable thickness, accurate speed control, and digital heating for consistent battery electrode rolling and advanced materials processing in compact research laboratories and pilot scale development environments applications

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Application	Description	Key Benefit
Lithium Battery Electrode Sheet Rolling	Reduce the thickness of lithium battery electrode sheets while increasing material density under controlled rolling conditions.	Supports repeatable electrode preparation for battery research and cell fabrication studies.
Heated Battery Material Processing	Process battery materials at selected temperatures between room temperature and 130°C, with the option to work without heating.	Enables comparison of heated and ambient rolling conditions during formulation and process development.
Nonferrous Material Rolling	Roll nonferrous laboratory materials that require adjustable thickness, controlled speed, or temperature-assisted processing.	Provides a flexible platform for material development without requiring a large industrial rolling line.
Advanced Materials Research	Evaluate how roll gap, feed speed, and temperature affect the density, thickness, and handling characteristics of research samples.	Gives researchers direct control over key process variables for repeatable experiments.
Powder and Sheet Densification Studies	Use controlled roll clearance and electric drive operation to investigate material compaction and thickness reduction behavior.	Supports structured parameter studies with consistent mechanical processing.
Academic Laboratory Sample Preparation	Prepare small batches or research samples for subsequent characterization, assembly, or performance testing.	Compact dimensions and simple operation make the equipment practical for shared laboratory environments.

Parameter	Specification
Item Number	DG06
Drive Configuration	Dual servo motors drive the rolls
Roll Diameter	Φ96 mm
Roll Length	200 mm
Roll Hardness	HRC62
Roll Surface Finish	Ra0.4 or better
Roll Cylindricity	≤±2 um
Rolling Thickness	0 to 3 mm, adjustable gap
Adjustable Gap	0 to 3 mm
Roll Arrangement	Horizontal placement
Thickness Adjustment	Adjustable
Speed Adjustment	Adjustable

Parameter	Specification
Heating Temperature Adjustment	Adjustable
Rolling Temperature	Room temperature to 130°C, adjustable; digitally displayed value
Temperature Control Accuracy	±0.5°C
Temperature Resolution	0.1°C
Operating Mode	Electric
Feed Speed	0 to 40 mm/s, adjustable
Voltage and Frequency	AC220V/50Hz
Power	1.5 kW
External Dimensions	L820 mm × W450 mm × H400 mm
Equipment Weight	100 kg
Control Box Configuration	Control box separated from the main machine body
Rolling Direction	Forward and reverse operation
Heating Selection	Heated or unheated operation

Heated Roll To Roll Roller Press Battery Electrode Two Roll Mill Laboratory Two Roll Mill

Item Number: DG07



Introduction

Heated laboratory roll to roll roller press for battery electrode calendaring and nonferrous materials with adjustable gap independent heating digital temperature control and continuous web handling for repeatable research scale processing and dense electrode development in advanced laboratories

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Application	Description	Key Benefit
Lithium Battery Electrode Calendaring	Reduce the thickness of lithium battery electrode sheets and increase active-layer density under adjustable mechanical and thermal conditions.	Supports controlled electrode compaction and repeatable clean energy material development.
Heated Battery Materials Research	Study how rolling temperature, gap, and feed speed affect electrode structure, thickness, and density.	Enables parameter-by-parameter process evaluation on a laboratory scale.
Continuous Electrode Strip Processing	Feed electrode web material from an unwind roll through the heated rolls and onto a rewind roll for continuous operation.	Improves handling consistency for longer samples and repeated strip experiments.
Copper and Aluminum Materials	Process small quantities of copper, aluminum, and other nonferrous materials at selected temperatures and adjustable thickness settings.	Provides electrically driven, temperature-assisted rolling for specialized material studies.
Gold and Silver Material Research	Perform controlled rolling trials on small quantities of precious-metal materials where sample conservation and process observation are important.	Offers adjustable reduction with a compact laboratory setup.
Advanced Materials Laboratories	Investigate the relationship between thermal-mechanical processing and material densification in research samples.	Combines controlled temperature, gap, speed, and web tension in one platform.
University and Pilot Research	Support repeatable experiments in battery engineering, materials science, and related laboratory programs.	Provides accessible operation and digital parameter monitoring for routine research workflows.

Parameter	Specification
Product item number	DG07
Equipment type	Heated electric laboratory roll to roll roller press and two roll mill
Roll diameter	Φ100 mm
Roll hardness	HRC62
Roll surface finish	Ra0.4 or better
Roll cylindricity	≤±2 μm
Rolling thickness	0 to 2 mm; gap adjustable
Adjustable gap	0 to 2 mm
Heating width	80 mm
Roll arrangement	Vertically positioned
Rolling temperature	Upper and lower rolls independently heated; room temperature to 130°C adjustable; digitally displayed

Parameter	Specification
Temperature control accuracy	±0.5°C
Temperature resolution	0.1°C
Operation method	Electric
Feed speed	0 to 40 mm/s; digitally displayed with precise speed observation and adjustment
Continuous operation	Continuous running
Guide roll width	200 mm
Mechanical speed	Maximum 1.5 m/min
Tension control	Maximum 20 N
Unwind and rewind core	3 inch roll core
Maximum unwind and rewind diameter	200 mm
Rolling unit voltage and frequency	AC220V/50Hz
Rolling unit power	1 kW
Rolling unit dimensions	L670 mm × W220 mm × H330 mm
Rolling unit weight	70 kg

Parameter	Unwind Component	Rewind Component
Installation dimensions	W300 mm × D250 mm × H280 mm	W300 mm × D350 mm × H280 mm
Weight	Approximately 15 kg	Approximately 20 kg

Parameter	Specification
Combined unwind and rewind weight	35 kg total
Power supply	Single-phase 220 VAC ±10%; 110 VAC customizable
Power supply frequency	50 Hz/60 Hz
Unwind and rewind power	100 W

Laboratory Manual Vertical Double Roller Mill Manual Rolling Press With Two 100 Mm Rollers

Item Number: DG04



Introduction

Laboratory manual vertical double roller press with 100 mm rollers, adjustable 0 to 2 mm rolling gap, up to 200 mm sheet width, high hardness chromium plated rollers, and precise battery electrode material rolling for consistent density and repeatable results

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Application	Description	Key Benefit
Lithium Battery Electrode Rolling	Reduce the thickness and increase the density of lithium battery electrode sheets after coating or material preparation.	Supports controlled electrode densification and more consistent sheet dimensions.
Clean Energy Materials Research	Process experimental battery materials and investigate the relationship between rolling conditions, density, and final electrode performance.	Enables rapid manual adjustment during formulation and process development.
Battery R&D Scale-Up Studies	Evaluate rolling gaps, material widths, and operating speeds before transferring a process to larger production equipment.	Provides a practical laboratory reference for early-stage process optimization.
Advanced Materials Laboratories	Roll and compact research sheets, strips, and other compatible materials during materials development programs.	Offers flexible width and thickness adjustment within a compact laboratory unit.
Academic Materials Science Research	Conduct repeatable demonstrations and experiments involving mechanical densification, thickness reduction, and sheet processing.	Simple operation supports efficient teaching, testing, and repeatable laboratory work.
Powder Metallurgy and Ceramics Research	Investigate rolling-based forming or densification behavior for suitable powder-derived sheets and experimental materials.	Delivers controlled mechanical processing without requiring complex automated systems.

Parameter	DG04-100	DG04-200
Roller diameter	2-Φ100mm	2-Φ100mm
Roller cylindricity	≤±2um	≤±2um
Roller hardness	HRC62	HRC62
Roller surface finish	0.4μm	0.4μm
Rolling thickness or gap	0~2mm, gap adjustable	0~2mm, gap adjustable
Sheet rolling width	0~100mm	0~200mm
Roller arrangement	Vertical	Vertical
Operating method	Manual	Manual
Feed speed	0~40mm/s, determined by hand-crank rotation speed	0~40mm/s, determined by hand-crank rotation speed
Overall dimensions	L360mmW200mmH350mm	L460mmW200mmH350mm
Equipment weight	45KG	70KG

200Mm Roll To Roll Film Unwinding And Rewinding Machine

Item Number: DG03



Introduction

200mm roll to roll unwinding and rewinding machine for laboratory film processing lithium battery electrode calendaring optical films functional films continuous operation constant torque tension control with 1.5 m/min speed 50 N tension capacity and three inch cores

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Application	Description	Key Benefit
Lithium-ion battery positive electrode rolling	Supports the controlled unwinding and rewinding of positive electrode sheets while a compatible laboratory twin-roll machine performs the rolling process.	Maintains an organized material path for continuous electrode processing and sample collection.
Lithium-ion battery negative electrode rolling	Handles negative electrode roll material during laboratory calendaring and related process development work.	Enables repeatable web movement and active collection of processed electrode sheets.
Electrode calendaring research	Connects roll handling with a small laboratory rolling line for testing speed, tension, and material behavior during electrode densification studies.	Reduces manual intervention and supports more consistent process comparisons.
Optical film processing	Transfers optical film rolls through a laboratory-scale winding and unwinding workflow.	Provides controlled handling for roll-based film development and evaluation.
Functional film development	Supports continuous movement of functional films used in materials research and process trials.	Offers a compact roll-to-roll platform with defined width, speed, and tension limits.
Roll material collection	Rewinds processed continuous materials onto three-inch cores after laboratory treatment or rolling.	Produces a practical collected roll format for inspection, storage, or subsequent testing.
Academic materials research	Provides a small-scale web handling solution for university and research laboratory experiments involving continuous sheet materials.	Combines compact dimensions, low power consumption, and configurable electrical input for laboratory installation.

Specification Category	Parameter	Value
Product identification	Site-facing identifier	DG03
System configuration	Equipment structure	Unwind and rewind sections are separate; requires matching use with a compatible laboratory twin-roll machine
Operating mode	Web transport mode	Continuous running
Web handling	Guide roller width	200mm
Web handling	Mechanical speed	Max. 1.5 m/min
Tension control	Control method	Open-loop constant-torque tension control
Tension control	Maximum tension	Max. 50 N
Roll compatibility	Unwind and rewind core	Three-inch roll core
Roll compatibility	Maximum unwind and rewind diameter	Max. 200mm
Unwind section	Installation dimensions	W300mm × D250mm × H280mm
Rewind section	Installation dimensions	W300mm × D350mm × H280mm

SpecificationCategory	Parameter	Value
Electrical supply	Voltage	Single-phase 220 VAC $\pm 10\%$; 110 VAC can be customized
Electrical supply	Frequency	50Hz/60Hz
Power	Rated power	100W
Weight	Unwind section	Approximately 15kg
Weight	Rewind section	Approximately 20kg
Weight	Total system weight	Approximately 35kg

Laboratory Electric Vertical Two Roll Mill 100Mm 200Mm 300Mm Width

Item Number: DG05

Introduction

Laboratory electric vertical two roll mill with 100 mm 200 mm and 300 mm rolling widths for precise battery electrode thinning density enhancement adjustable thickness and dependable materials research processing for lithium battery materials and clean energy applications

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Application	Description	Key Benefit
Lithium Battery Electrode Densification	Compress and reduce the thickness of lithium battery electrode sheets after coating or material preparation.	Improves control of electrode thickness and material density during cell development studies.
Battery Material Process Development	Compare rolling gaps, feed speeds, and material responses across experimental batches.	Provides repeatable adjustment and direct digital readings for process evaluation.
Clean Energy Material Research	Process sheet-form materials used in emerging energy-storage and clean-energy research programs.	Supports flexible laboratory experimentation within a compact footprint.
Electrode Strip Rolling	Feed strip or sheet materials through vertically arranged rolls for controlled compression.	Simplifies material entry and supports efficient handling of continuous or segmented samples.
Powder Metallurgy Research	Study the rolling and densification behavior of powder-based materials formed into sheets or strips.	Enables controlled thickness reduction and repeatable laboratory-scale comparisons.
Advanced Materials Development	Evaluate the effect of compression, thickness, and rolling speed on experimental material structures.	Combines adjustable operating conditions with precision roll geometry.
Academic Materials Science	Support teaching laboratories and university research involving sheet processing and material densification.	Offers straightforward electric operation and visible adjustment readings for practical experimentation.

Parameter	DG05 100 mm	DG05 200 mm	DG05 300 mm
Roll diameter	Φ100 mm	Φ100 mm	Φ100 mm
Roll cylindricity	≤±2 μm	≤±2 μm	≤±2 μm
Roll hardness	HRC62	HRC62	HRC62
Roll surface finish	0.4 or better	0.4 or better	0.4 or better
Rolling thickness	0 to 2 mm adjustable gap	0 to 2 mm adjustable gap	0 to 2 mm adjustable gap
Sheet rolling width	0 to 100 mm	0 to 200 mm	0 to 300 mm
Roll placement	Vertical	Vertical	Vertical
Sheet thickness display	Digital gauge display; digital display and adjustment for precise, clear operation	Digital gauge display; digital display and adjustment for precise, clear operation	Digital gauge display; digital display and adjustment for precise, clear operation
Operating method	Electric	Electric	Electric
Voltage and frequency	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz

Parameter	DG05 100 mm	DG05 200 mm	DG05 300 mm
Power	120 W	200 W	200 W
Feed speed	0 to 40 mm/s	0 to 40 mm/s	0 to 40 mm/s
External dimensions	L520 mm × W220 mm × H350 mm	L620 mm × W220 mm × H350 mm	L720 mm × W220 mm × H350 mm
Equipment weight	60 kg	85 kg	105 kg
Standard accessories	One set of hexagon socket wrenches; two digital gauges; one feeler gauge	One set of hexagon socket wrenches; two digital gauges; one feeler gauge	One set of hexagon socket wrenches; two digital gauges; one feeler gauge

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

Integrated Dual Servo Heated Horizontal Two Roll Mill For Battery Electrode Calendering

Item Number: DG10



Introduction

Integrated dual servo heated horizontal two roll mill for battery electrode calendering provides adjustable thickness independent temperature control precise speed regulation reversible electric operation and PLC control with hard chromium plated rollers for consistent laboratory processing and material density control

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Application	Description	Key Benefit
Lithium Battery Electrode Densification	Roll battery electrode sheets to reduce thickness and increase material density during laboratory cell-material development.	Supports controlled electrode geometry and repeatable densification studies.
Clean-Energy Material Research	Process nonferrous clean-energy materials under selected thermal conditions using electrically driven rolling.	Allows direct comparison of heated and unheated rolling conditions.
Battery Electrode Thickness Development	Adjust the roll gap and feed speed while observing digitally displayed thickness and speed values.	Helps researchers establish suitable thickness and processing windows efficiently.
Thermally Assisted Material Rolling	Independently heat the upper and lower rolls from room temperature to 130°C during material processing.	Provides controlled thermal conditions for temperature-sensitive rolling experiments.
Powder-to-Sheet Laboratory Processing	Feed powder-form material through the supplied hopper for electrically driven compaction and rolling trials.	Simplifies powder introduction and supports small-scale process development.
Advanced Materials Research	Evaluate the effects of roll speed, temperature, gap, and rolling direction on material behavior.	Provides flexible control of multiple variables in a compact research platform.

Parameter	Specification
Product Item Number	DG10
Product Type	Integrated dual servo heated horizontal two-roll mill
Primary Function	Electrically driven rolling of battery materials and other nonferrous materials at selected temperatures
Roll Diameter	Φ96 mm
Roll Cylindricity	≤±2 μm
Roll Hardness	HRC62
Roll Surface Finish	0.8
Roll Surface Treatment	Hard chromium plating
Rolling Thickness	0-3 mm; gap adjustable
Sheet Width	0-200 mm
Roll Arrangement	Horizontal
Rolling Temperature	Upper and lower rolls independently heated; room temperature to 130°C adjustable

Parameter	Specification
Temperature Display	Digital display
Temperature Resolution	0.1°C
Temperature Control Accuracy	±2°C
Heating Mode	Selectable heated or unheated operation
Drive and Operation Mode	Electric
Servo Control	Upper and lower servo control; precise independent speed adjustment; asynchronous rotation available
Rotation Direction	Forward and reverse operation
Speed Adjustment	Upper and lower roll speeds can be adjusted independently
Feed Speed	0-40 mm/s
Control System	PLC screen control
Thickness Display	Digital display
Speed Display	Digital display
Material Feeding	Hopper included for powder-form feeding
Voltage and Frequency	AC220V/50Hz
Power	1.5 kW
Overall Dimensions	L770 mm × W540 mm × H530 mm
Equipment Weight	105 kg



Kintek Solution

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