

Pouch Cell Equipment

Vacuum Drying Systems



KZ50L



ZKX-3M

Technical Specifications

Model	KZ50L	ZKX-3M
Chamber structure	Single chamber	3-layer independent chambers
Temperature control accuracy	±1°C	±1°C
Vacuum level	≤ -0.1 MPa	≤ -0.098 MPa for ≥24 h
Temperature range	RT to 250°C	RT to 180°C
Equipment capacity	50 L	450 L total (3-layer configuration)
Temperature control mode	Standard PID control	AISET PID + independent layer control
Heating system	Electric heating	Independent hot-air circulation per layer
Chamber material	SUS304 stainless steel	SUS304 stainless steel
Recommended use	Battery material pre-treatment drying, Electrode powder moisture removal, Laboratory-scale vacuum thermal processing	Electrode sheet vacuum drying before cell assembly, Pouch cell pre-electrolyte baking process, Multi-batch electrode thermal conditioning
Options	Temperature range, chamber volume, and vacuum system configuration are customizable; other requirements available upon request.	



Vacuum Drying Oven

ANR-KZ50L



KZ50L

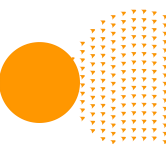
Product Overview

KZ50L is a laboratory-scale vacuum drying oven designed for material drying, sterilization, and thermal treatment under vacuum conditions. It is widely used in laboratory environments for battery material pre-treatment and moisture removal processes. The system provides a stable vacuum environment combined with precise temperature control, ensuring reliable drying performance for research applications.

Research Advantages

- **Efficient vacuum drying:** Enables stable moisture removal under controlled vacuum conditions
- **Uniform thermal distribution:** Ensures consistent heating performance across the chamber
- **Flexible process control:** Supports adjustable temperature and vacuum levels for different materials

Technical Specifications	Typical Applications
<ul style="list-style-type: none">● Chamber volume: 50 L● Temperature range: RT to 250°C● Vacuum level: ≤ -0.1 MPa● Temperature control accuracy: $\pm 1^\circ\text{C}$● Temperature resolution: 0.1°C● Power: 1.4 kW● Working voltage: 220 V, 50Hz● Dimensions: 710 × 560 × 550 mm	<ul style="list-style-type: none">● Battery material pre-drying and moisture removal● Electrode precursor drying in laboratory research● Thermal treatment of functional powder materials● Vacuum sterilization and sample conditioning processes





Three-door Vacuum Drying Oven

ANR-ZKX-3M



ZKX-3M

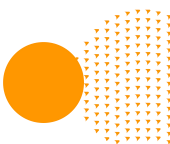
Product Overview

ZKX-3M is a three-chamber vacuum drying oven designed for lithium battery manufacturing processes, specifically for electrode drying and pre-electrolyte-filling cell baking. The system adopts advanced uniform temperature control technology to ensure stable and consistent thermal processing conditions under vacuum environments. It is suitable for laboratory and small-scale production environments requiring reliable vacuum drying performance for pouch cell fabrication workflows.

Research Advantages

- **Multi-chamber processing design:** Enables simultaneous operation of multiple chambers for improved experimental throughput
- **Uniform temperature control system:** Ensures stable and consistent thermal distribution for reproducible drying performance
- **High safety and stability:** Multiple over-temperature protection systems ensure reliable long-duration operation under vacuum conditions

Technical Specifications	Typical Applications
<ul style="list-style-type: none">● Chamber structure: 450 L total (3-layer configuration)● Temperature range: RT to 180°C● Temperature control accuracy: ±1°C● Overall dimensions: 1880 × 1050 × 1100 mm● Power: 10.5 kW total (3.5 kW per layer, peak)● Power supply: Three-phase 380 V● Vacuum level: ≤ -0.098 MPa for ≥24 h● Materials: SUS304 stainless steel	<ul style="list-style-type: none">● Vacuum drying of lithium battery electrode sheets before cell assembly● Pre-treatment drying of electrode materials in pouch cell fabrication● Vacuum baking of cells prior to electrolyte filling process● Moisture removal and thermal conditioning of battery materials● Laboratory-scale vacuum heat treatment of functional powders



Slurry Mixing Systems



VQM-8



XJB-4



XJB-7

Technical Specifications

Model	VQM-8	XJB-4	XJB-7
Core function	Powder blending	Vacuum mixing and dispersion	Dispersion and mixing
Processing Object	Dry powder materials	Electrode slurry / powder and ceramic materials	High-viscosity electrode slurry
Mixing capacity	3 L	0.5 L	5 L
Mixing speed	Max. 90 rpm	Max. 600 rpm	Max. 98 rpm
Mixing time	Max. 900 min	Max. 600 min	Adjustable
Dimensions	650 x 500 x 850 mm	330 x 320 x 570 mm	1060 x 860 x 1200 mm
Weight	30 kg	35 kg	600 kg
Recommended use	Dry powder pre-mixing; multi-component powder homogenization; low-shear formulation screening	Small-batch electrode slurry preparation; vacuum mixing and deaeration; R&D-level slurry formulation	High-viscosity slurry dispersion; high-solid-content slurry homogenization; pilot-scale slurry process optimization
Options	Mixing capacity and vessel configuration are customizable according to slurry preparation requirements; other requirements available upon request.		

Laboratory-scale V-shaped Mixer

ANR-VQM-8



VQM-8

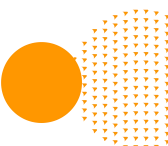
Product Overview

VQM-8 is a laboratory-scale V-type mixing device designed for powder blending applications. It uses a mechanical transmission system to drive a V-shaped cylindrical chamber with unequal height structure, enabling reciprocating tumbling and rolling motion of materials inside the vessel. This motion achieves uniform mixing with no dead corners and no material accumulation. The equipment is made of stainless steel and is designed for fast mixing with short processing time.

Research Advantages

- **V-type tumbling motion:** Establishes continuous material reorientation through asymmetric chamber rotation, enabling uniform powder blending under low shear conditions
- **Dead-zone-free chamber design:** Eliminates material accumulation by enabling full-volume circulation within the V-shaped structure, improving mixing consistency
- **Low shear mixing mechanism:** Preserves particle integrity while enabling homogeneous distribution of multi-component powder systems
- **Adjustable process control:** Enables controlled operation through variable rotation speed and programmable mixing time for flexible experimental conditions

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Mixing vessel volume: 3 L ● Mixing time range: 1–900 min ● Rotation speed: 20–90 rpm ● Recommended loading factor: 0.3–0.4 ● Chamber material: Stainless steel ● Control system: Adjustable speed + digital timer ● Dimensions: 650 x 500 x 850 mm ● Weight: 30 kg 	<ul style="list-style-type: none"> ● Dry premixing of lithium-ion battery electrode powder materials ● Homogenization of conductive additives, binders, and active materials in dry state ● Laboratory-scale formulation and composition screening of multi-component powders ● Mixing of ceramic powders and functional material precursors for research use



Laboratory-scale Planetary Vacuum Mixer

ANR-XJB-4



Product Overview

XJB-4 is a small planetary vacuum mixer used in the slurry preparation stage of battery test workflows. The equipment integrates vacuum mixing and dispersion in one system for positive and negative electrode slurry mixing, as well as powder and ceramic material mixing. Its primary function is to process slurry materials under vacuum-controlled stirring conditions.

Research Advantages

- **Vacuum mixing environment:** Removes entrained gas during stirring to support bubble-controlled slurry processing
- **Forward-reverse stirring control:** Drives high-viscosity slurry circulation with improved mixing uniformity
- **Multi-stage speed programming:** Separates process steps by preset stirring motion and dwell time
- **Dual-shaft planetary structure:** Combines orbital mixing and screw-type agitation for stable material turnover
- **Support-frame operation design:** Stabilizes the vessel interface during vacuum stirring and improves operating safety

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Mixing speed: Max. 600 rpm ● Mixing tank volume: 0.5 L ● Mixing time range: 0-600 min ● Vacuum degree: -0.08 MPa ● Power supply: AC 220 V ● Rated power: 0.2 kW ● Dimensions: 330 x 320 x 570 mm ● Weight: 35 kg 	<ul style="list-style-type: none"> ● Laboratory-scale preparation of lithium-ion battery electrode slurries ● Vacuum mixing and deaeration for small-batch slurry formulation ● R&D-level dispersion of powders and solvents for battery and ceramic materials

Planetary Vacuum Mixer

ANR-XJB-7



XJB-7

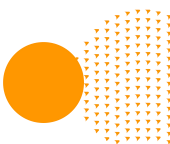
Product Overview

XJB-7 is a planetary vacuum mixer for slurry preparation processes requiring combined dispersion and mixing. The equipment includes low-speed stirring components and high-speed dispersion components, with planetary gear transmission driving the stirring blades through rotation and revolution. Its primary function is to turn over, disperse, and mix slurry materials within the preparation workflow.

Research Advantages

- **Planetary gear transmission:** Couples rotation and revolution to drive vertical and circumferential material movement
- **Dual-dispersion blade structure:** Promotes material turnover across the vessel for fast slurry homogenization
- **Variable-frequency drive control:** Matches stirring speed and torque output to process viscosity requirements
- **Integrated dispersion-mixing architecture:** Combines low-speed agitation and high-speed dispersion in one mixing system

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Effective capacity: 5 L ● Mixing vessel dimension: $\varnothing 250 \times 150$ mm ● Mixing speed range: 0–98 rpm ● Planetary rotation speed: 0–43 rpm ● Dispersion speed: 0–6200 rpm ● Vacuum performance: Static vacuum retention ≥ 12 h, leakage $\leq 15\%$ ● Viscosity range: 1,000–1,000,000 cP ● Solid content range: 30%–80% ● Mixing / Dispersion power: 2.2 kW $\times 2$ ● Temperature control range: 7–80°C ● Dimensions: 1060 \times 860 \times 1200 mm ● Weight: 600 kg 	<ul style="list-style-type: none"> ● High-viscosity electrode slurry dispersion and homogenization ● Stable conductive network formation in complex multi-component systems (PVDF, CNT, conductive additives) ● Pilot-scale slurry preparation for process optimization and reproducibility validation



Rheology Testing Systems

Rotational Viscometer

ANR-NDJ5S



Product Overview

NDJ-5S is a digital rotary viscometer designed for precise measurement of liquid viscosity under controlled rotational shear conditions. It is used to determine both Newtonian fluid viscosity and apparent viscosity of non-Newtonian systems. The instrument integrates microcomputer control, stable torque sensing, and digital display output, enabling reliable and repeatable viscosity characterization in laboratory and quality control environments.

Research Advantages

- **Stable torque conversion mechanism:** Ensures accurate transformation of rotational resistance into viscosity signals with high measurement stability
- **Multi-speed shear control system:** Provides selectable rotational speeds to simulate different shear environments for rheological characterization
- **Interchangeable spindle architecture:** Enables flexible measurement across a wide viscosity range through standardized spindle configurations
- **Digital real-time parameter output:** Displays viscosity, torque, spindle type, and rotational speed simultaneously for improved data transparency

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Measurement range: 1–100,000 mPa·s ● Rotational speed: 6, 12, 30, 60 rpm ● Measurement accuracy: ±1% (full scale) ● Repeatability: ±0.5% (full scale) ● Power supply: AC 220 V, 50 Hz ● Dimensions: 80 × 105 × 258 mm ● Weight: 1.5 kg 	<ul style="list-style-type: none"> ● Liquid viscosity measurement in laboratory and industrial quality control ● Rheological characterization of Newtonian and non-Newtonian fluids ● Formulation consistency testing of chemical and functional liquid systems ● Process monitoring of liquid mixing and blending operations

Slurry Filtration Systems



GL-1

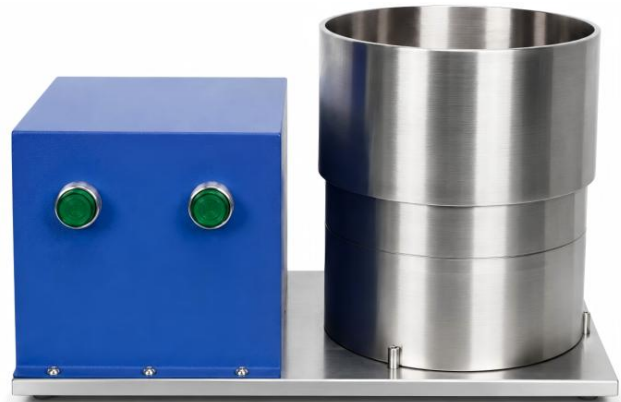


GL-2

Model	GL-1	GL-2
Capacity	0.5 L	2 L
Pump flow rate	3 L/min	2 L/min
Magnetic field strength	N/A	8000–10000 Gauss
Filter mesh	Recommended 80–150 mesh; optional up to 1000 mesh	Standard 100 mesh; optional up to 1000 mesh
Dimensions	145 × 150 × 200 mm	500 × 340 × 510 mm
Weight	4 kg	35 kg
Material	Stainless steel	Stainless steel
Vacuum degree	65 kPa	65 kPa
Power supply	AC 220 V ±10%, 50 Hz	AC 220 V ±10%, 50 Hz
Recommended use	Small-batch slurry filtration; nano-scale slurry purification; basic laboratory filtration testing	Magnetic impurity removal; higher-capacity slurry filtration; electrode slurry purification requiring iron-particle control
Options	Filter mesh and filtration capacity are customizable according to slurry filtration requirements; other requirements available upon request.	

Slurry Filtration Device

ANR-GL-1



GL-1

Product Overview

GL-1 is a laboratory slurry filtration device designed for nano-scale slurry filtration applications. It is mainly used for slurry purification in experimental environments. The system adopts a stainless steel structure and vacuum-assisted filtration design, providing a simple and flexible solution for laboratory slurry processing tasks.

Research Advantages

- **Stainless steel structure design:** Provides corrosion resistance and facilitates cleaning during slurry processing operations
- **Vacuum-assisted filtration system:** Enables slurry filtration under vacuum conditions to improve separation efficiency
- **Configurable filter mesh system:** Supports different mesh configurations according to experimental requirements
- **Compact laboratory design:** Suitable for small-scale slurry filtration operations with simple operation

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Capacity: 0.5 L ● Vacuum degree: 65 kPa ● Filter mesh: Recommended 80–150 mesh (optional below 1000 mesh) ● Pump flow rate: 3L/Min ● Material: Stainless steel ● Power supply: AC 220 V \pm10%, 50 Hz ● Dimensions: 145 × 150 × 200 mm ● Weight: 4 kg 	<ul style="list-style-type: none"> ● Nano-scale slurry filtration in laboratory environments ● Electrode slurry purification in research processes ● Small-batch slurry preparation and filtration testing

Magnetic Slurry Filter

ANR-GL-2



GL-2

Product Overview

GL-2 is a laboratory slurry filtration device integrating vacuum filtration and iron removal functions. It is designed for experimental slurry processing that requires removal of iron particles. The system adopts a stainless steel structure and supports vacuum-assisted operation, suitable for laboratory slurry filtration and purification processes.

Research Advantages

- **Magnetic iron removal integration:** Enables effective adsorption and removal of iron particles from slurry
- **Vacuum-assisted filtration system:** Improves filtration efficiency under reduced pressure conditions
- **SUS304 stainless steel structure:** Provides durability and chemical resistance for repeated slurry processing

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Capacity: 2 L (customizable) ● Vacuum degree: 65 kPa ● Pump flow rate: 2 L/min ● Magnetic field strength: 8000–10000 Gauss ● Slurry viscosity range: ≤ 20000 cP ● Solid content: $\leq 80\%$ ● Filter mesh: 100 mesh (optional below 1000 mesh) ● Material: SUS304 stainless steel ● Power supply: AC 220 V $\pm 10\%$, 50 Hz ● Dimensions: 500 × 340 × 510 mm ● Weight: 35 kg 	<ul style="list-style-type: none"> ● Iron particle removal in slurry preparation processes ● Electrode slurry filtration requiring impurity control ● Laboratory slurry purification and separation experiments

Electrode Coating Systems



DTM260



SY300-1J



SY330J

Model	DTM260	SY300-1J	SY330J
Max coating width	Not specified	300 mm	300 mm
Web width	Not specified	330 mm	330 mm
Coating speed	0–6 m/min	0.2–0.9 m/min	Up to 5 m/min
Coating thickness	10–3500 μm	40–200 μm	40–200 μm
Coating length	Max. 0.25 m	Max. 1 m	Max. 4.5 m
Coating accuracy	Not specified	$\pm 3 \mu\text{m}$; edge $\pm 5 \mu\text{m}$	$\pm 3 \mu\text{m}$; edge $\pm 5 \mu\text{m}$
Drying temperature	Not specified	RT to 120°C	RT to 120°C
Power supply	AC 220 V, 50 Hz	AC 220 V, 50 Hz	AC 380 V, 50 Hz
Max power	Not specified	Max 5 kW	Max 30 kW
Dimensions	500 × 310 × 260 mm	1800 × 1200 × 1200 mm	6600 × 1200 × 1600 mm
Weight	50 kg	1000 kg	2000 kg
Recommended use	Small-area film coating, heated substrate coating, early-stage coating research	R&D electrode coating, intermittent coating development, small-scale battery preparation	Pilot-scale electrode coating, process scale-up, higher-throughput validation
Options	Coating width and process configuration can be customized according to electrode coating requirements; other requirements available upon request.		

Heated Flat-plate Coater

ANR-DTM260



DTM260

Product Overview

DTM260 is a laboratory heated flat plate coating system designed for high-temperature film preparation. It is widely used for coating research of battery materials, ceramic films, crystal films, and nanomaterials. The system integrates bottom heating and a vacuum aluminum substrate platform to support controlled film formation in laboratory coating processes.

Research Advantages

- **Uniform thermal control:** Bottom heating ensures stable solvent evaporation during coating
- **Stable substrate fixation:** Vacuum platform prevents material displacement during film formation
- **Precision coating control:** Adjustable coating speed and blade gap improve film consistency
- **Process flexibility:** Supports multiple slurry systems for laboratory coating research

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Coating speed: 0–100 mm/s ● Maximum stroke: 250 mm ● Vacuum plate size: 365 × 200 × 30 mm ● Blade gap range: 0.01–3.5 mm ● Power supply: 220 V, 50Hz ● Weight: 50 kg ● Dimensions: 500 × 310 × 260 mm 	<ul style="list-style-type: none"> ● Battery electrode coating research ● Ceramic thin film coating ● Crystal and nanomaterial film preparation

Intermittent Laboratory Coater

ANR-SY300-1J



Product Overview

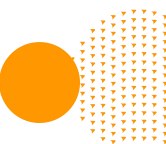
SY300-1J

SY300-1J is a three-roll transfer coating machine designed for laboratory electrode coating processes. It supports both continuous and intermittent coating modes and is suitable for lithium-ion batteries, supercapacitors, nickel batteries, and other secondary battery R&D and small-scale preparation.

Research Advantages

- **Dual-mode coating operation:** Enables both continuous and intermittent coating processes for flexible experimental design
- **Three-roll transfer system:** Stabilizes slurry transfer behavior to improve coating uniformity across the substrate
- **Tension-controlled substrate transport:** Maintains stable web movement to reduce coating fluctuation
- **Thermal airflow drying system:** Enhances solvent removal efficiency through coordinated top and bottom air heating
- **PLC-based process control:** Enables precise adjustment and monitoring of coating parameters via integrated control interface

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Coating method: intermittent / continuous ● Web width: 330 mm ● Max coating width: 300 mm ● Mechanical speed: 200–900 mm/min ● Coating accuracy: $\pm 3 \mu\text{m}$ (edge $\pm 5 \mu\text{m}$) ● Coating thickness: 40–200 μm ● Tension control: max 60 N (adjustable) ● Oven length: 1 section \times 1 m ● Drying temperature: RT to 120°C ● Power supply: AC 220 V, 50Hz, Max 5 kW ● Dimensions: 1800 \times 1200 \times 1200 mm ● Weight: 1000 kg 	<ul style="list-style-type: none"> ● Lithium-ion battery electrode coating (R&D) ● Supercapacitor electrode preparation ● Secondary battery coating process development



Intermittent Pilot Coater ANR-SY330J



SY330J

Product Overview

SY330J is a three-roll transfer coating system designed for continuous and intermittent coating processes. It is suitable for surface coating process development and pilot-scale electrode coating with extended drying capacity and higher processing throughput.

Research Advantages

- **Dual-mode coating architecture:** Supports both intermittent and continuous coating for scalable process development
- **Extended multi-zone drying system:** Improves solvent evaporation capacity through staged thermal treatment
- **High-speed coating capability:** Supports pilot-scale throughput for process scale-up validation
- **Tension stability control:** Maintains consistent substrate tension to ensure coating uniformity at scale
- **Modular system design:** Enables flexible configuration for different pilot production requirements

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Coating method: intermittent / continuous ● Web width: 330 mm ● Max coating width: 300 mm (customizable) ● Mechanical speed: up to 5 m/min ● Coating accuracy: $\pm 3 \mu\text{m}$ (edge $\pm 5 \mu\text{m}$) ● Coating thickness: 40–200 μm ● Unwinding diameter: $\phi 300 \text{ mm}$ ● Tension control: max 60 N (adjustable) ● Oven length: 3 sections \times 1.5 m (total 4.5 m) ● Drying temperature: RT to 120°C ● Power supply: 380 V, 50Hz, Max 30 kW ● Dimensions: 6600 \times 1200 \times 1600 mm ● Weight: 2000 kg 	<ul style="list-style-type: none"> ● Electrode coating process development ● Pilot-scale coating validation ● Battery slurry coating scale-up studies

Calendering Systems



JS100N



DG300

Model	JS100N	DG300
Rolling force	Not specified	Max. 25 T
Rolling accuracy	Not specified	±2.5 μm
Rolling thickness range	0–2 mm	Not specified
Roller diameter	φ96 mm	φ200 mm
Roller width	100 mm	300 mm
Roller hardness	HAC62+	HRC 62–68
Power supply	AC 220 V	AC 380 V
Power	0.2 kW	1.5 kW
Dimensions	L500 × W360 × H620 mm	L1500 × W600 × H1300 mm
Weight	70 kg	1000 kg
Recommended use	Small-format electrode rolling; laboratory thickness adjustment; small-scale calendering studies	Electrode densification; high-precision thickness control; laboratory rolling process development
Options	Roller width and calendering configuration can be customized according to electrode rolling requirements; other requirements available upon request.	

Internally Heated Electric Vertical Calendering Machine

ANR-JS100N



JS100N

Product Overview

JS100N is an inner heating electric rolling machine designed for laboratory electrode rolling and compaction processes. It is used for small-format electrode materials, enabling controlled rolling thickness adjustment and stable mechanical processing in battery material preparation workflows.

Research Advantages

- **Adjustable rolling control:** Enables flexible thickness and speed regulation
- **Bidirectional operation:** Supports forward and reverse rolling processes
- **Stable gear transmission:** Ensures consistent electrode compaction quality
- **Material adaptability:** Compatible with small-format electrode processing

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Rolling thickness range: 0–2 mm ● Feed speed: 0–40 mm/s ● Roller diameter: φ96 mm ● Press width: 0–100 mm ● Surface hardness: HAC62+ ● Surface roughness: ≥0.4 ● Roller placement: Horizontal ● Power supply: AC 220 V, 50Hz ● Power: 0.2 kW ● Dimensions: 500 × 360 × 620 mm ● Weight: 70 kg 	<ul style="list-style-type: none"> ● Laboratory electrode sheet rolling ● Small-scale battery material calendering ● Electrode thickness adjustment and compaction studies

Hydraulic-Balanced Electric Calendering Machine

ANR-DG300



DG300

Product Overview

DG300 is a hydraulic electrode calendering machine designed for laboratory battery material processing. It is used for rolling and densifying electrode sheets, improving material density and structural uniformity for lithium-ion battery research applications.

Research Advantages

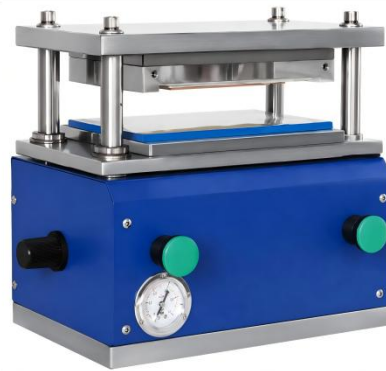
- **Stable hydraulic pressure:** Ensures repeatable electrode densification performance
- **High-precision rolling system:** Maintains consistent electrode thickness control
- **Wear-resistant roller design:** Enhances long-term operational stability
- **Structural rigidity control:** CNC frame improves alignment and rolling accuracy

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Max rolling force: 25T ● Rolling accuracy: $\pm 2.5 \mu\text{m}$ ● Rolling speed: Max 6 m/min ● Roller diameter: $\varnothing 200 \text{ mm}$ ● Roller width: 300 mm ● Roller hardness: HRC 62–68 ● Surface roughness: Ra 0.4 ● Material: 9Cr3Mo alloy steel ● Power supply: 380 V ● Power: 1.5 kW ● Air pressure: 0.5–0.8 MPa ● Dimensions: L1500 × W600 × H1300 mm ● Weight: 1000kg 	<ul style="list-style-type: none"> ● Lithium-ion battery electrode densification ● Electrode calendering and thickness control ● High-precision laboratory rolling process development

Electrode Die Cutting Systems



MQ280



QMQ85

Model	MQ280	QMQ85
Max cutting size	280 × 180 mm	85 × 65 mm
Cutting accuracy	±0.1 mm	±0.1 mm
Air pressure	0.5–0.8 MPa	0.5 MPa
Power supply	AC 220 V, 50 Hz	N/A
Power	0.1 kW	N/A
Dimensions	550 × 455 × 900 mm	350 × 230 × 300 mm
Weight	180 kg	32 kg
Recommended use	Pouch-cell electrode die cutting; positive and negative electrode shaping; small-scale electrode prototyping	Coin / pouch cell electrode punching; glovebox electrode preparation; small-format test sample fabrication
Options	Cutting size and die template can be customized according to electrode preparation requirements; other requirements available upon request.	

Semi-Automatic Electrode Die-Cutting Machine

ANR-MQ280



MQ280

Product Overview

MQ280 is a semi-automatic electrode die-cutting machine used for forming positive and negative electrodes in lithium battery pouch cell production. It supports both roll-fed and sheet-fed electrode materials and is designed for laboratory and small-scale production environments. The system uses a gas-liquid booster cylinder-driven die-cutting mechanism to achieve electrode shaping through interchangeable die templates.

Research Advantages

- **Stable punching force:** Gas-liquid booster ensures consistent cutting pressure
- **Flexible die configuration:** Enables rapid switching for different electrode shapes
- **High cutting precision:** Ensures low burr formation and dimensional accuracy
- **Multi-material compatibility:** Supports both sheet and roll electrode processing

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Max cutting size: 280 × 180 mm (customizable) ● Punching force: 3 T ● Cutting accuracy: ±0.1 mm ● Air pressure: 0.5–0.8 MPa ● Power supply: AC 220 V, 50 Hz ● Power: 0.1 kW ● Dimensions: 550 × 455 × 900 mm ● Weight: 180 kg 	<ul style="list-style-type: none"> ● Lithium-ion pouch cell electrode die-cutting ● Positive and negative electrode shaping in laboratory preparation ● Small-scale electrode prototyping for battery research ● Electrode sample preparation for experimental cell assembly

Pneumatic Electrode Die-Cutting Machine

ANR-QMQ85



QMQ85

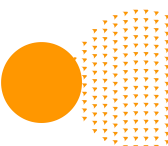
Product Overview

QMQ85 is a pneumatic electrode die-cutting device designed for shaping lithium battery positive and negative electrodes. It is suitable for glovebox operation and laboratory environments. The system uses a pneumatic actuation structure combined with a four-column guiding mechanism to ensure precise and stable electrode punching.

Research Advantages

- **Four-column guiding structure:** Ensures stable vertical motion and alignment accuracy during cutting
- **Long die service life:** Supports $\geq 30,000$ punching cycles under normal operation conditions
- **High cutting quality:** Produces minimal burr formation with no powder shedding or indentation defects
- **Compact glovebox-compatible design:** Enables operation in controlled atmosphere environments
- **Safety protection system:** Equipped with feeding-area safety protection for operational safety

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Max cutting size: 85 × 65 mm (customizable) ● Cutting accuracy: ± 0.1 mm ● Stroke length: 35 mm ● Cutting pressure: Max 1 T (recommended 0.5 MPa \approx 500 kg) ● Horizontal burr: ≤ 20 μm ● Vertical burr: ≤ 12 μm ● Die lifetime: $\geq 30,000$ cycles ● Air pressure: 0.5 MPa ● Dimensions: 350 × 230 × 300 mm ● Weight: 32 kg 	<ul style="list-style-type: none"> ● Lithium-ion battery electrode punching for coin and pouch cells ● Laboratory electrode preparation under glovebox environment ● Small-format electrode prototyping and validation experiments ● Electrochemical test sample fabrication



Cell Stacking Systems



BDP200-B



BDP200-C



ZDP200

Model	BDP200-B	BDP200-C	ZDP200
Stacking precision	±0.5 mm	≤0.5 mm	≤0.3 mm
Cell size range	Min 44 × 44 mm Max 200 × 150 mm	Min 62 × 46 mm Max 200 × 200 mm	Min 120 × 80 mm Max 200 × 150 mm
Stack thickness	Max 12 mm	Max 30 mm	Max 60 mm
Stack layers	Not specified	Max 500 layers	Not specified
Separator roll diameter	Max 220 mm	Max 250 mm	Not specified
Power supply	AC 220 V	AC 220 V (110 V optional)	AC 220 V
Power	Not specified	1 kW	2.5 kW
Air pressure	0.4–0.6 MPa	0.5–0.8 MPa	0.5–0.8 MPa
Dimensions	512 × 820 × 580 mm	1200 × 800 × 900 mm	1950 × 1580 × 1800 mm
Weight	50 kg	500 kg	800 kg
Recommended Use	Laboratory Z-type stacking; small-format pouch cell assembly; battery R&D prototype fabrication	Higher-layer-count pouch cell stacking; pilot-scale assembly; stacking process optimization	High-precision pouch cell assembly; automated multi-layer prototype development; supercapacitor cell fabrication
Options	Cell / electrode size range, stacking fixture, and stack thickness can be customized according to cell stacking requirements; other requirements available upon request.		

Semi-Automatic Stacking Machine

ANR-BDP200-B



BDP200-B

Product Overview

BDP200-B is a semi-automatic Z-type stacking machine used for lithium-ion battery electrode and separator stacking. It is designed for laboratory and small-batch production, enabling Z-shaped stacking of positive and negative electrodes with separator films. The equipment uses a tension-controlled separator system and cantilever structure to support stacking operations.

Research Advantages

- **Separator tension control system:** Ensures stable separator tension during stacking process
- **Z-type stacking motion mechanism:** Enables left-right separator movement to form Z-shaped stacking
- **Foot-switch controlled operation:** Improves basic operational control of stacking action
- **Semi-automatic stacking mode:** Supports manual assistance with mechanical stacking execution

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Stacking precision: ± 0.5 mm ● Cell size range: Min 44 × 44 mm / Max 200 × 150 mm (including tab length) ● Stack thickness: Max 12 mm ● Separator roll diameter: Max 220 mm ● Installation size: 512 × 820 × 580 mm ● Weight: 50 kg ● Power supply: AC 220 V ● Air pressure: 0.4–0.6 MPa 	<ul style="list-style-type: none"> ● Laboratory Z-type lithium-ion cell stacking ● Small-format pouch cell assembly ● Electrode–separator alignment experiments ● Battery R&D prototype cell fabrication

Semi-Automatic Stacking Machine

ANR-BDP200-C



BDP200-C

Product Overview

BDP200-C is a semi-automatic electrode stacking machine designed for Z-type lithium-ion cell assembly. It enables manual electrode loading followed by automated positioning and stacking processes. The system is suitable for laboratory and pilot-scale pouch cell fabrication with improved automation in stacking alignment and operation control.

Research Advantages

- **Automatic positioning and stacking control:** Enables controlled stacking sequence based on preset parameters
- **Electrode positioning assistance system:** Supports automatic electrode alignment and stacking after manual loading
- **Compatibility-based fixture design:** Allows adaptation to different cell sizes via adjustable fixtures
- **PLC-based operation control:** Provides stable process control and simplified operation interface

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Stacking accuracy: ≤ 0.5 mm ● Cell size range: Min 62 × 46 mm / Max 200 × 200 mm ● Stack thickness: Max 30 mm ● Stack layers: Max 500 layers ● Separator roll diameter: Max 250 mm ● Installation size: 1200 × 800 × 900 mm ● Weight: 500 kg ● Power supply: AC 220 V $\pm 10\%$ (110 V optional), 50/60 Hz ● Power: 1 kW ● Air pressure: 0.5–0.8 MPa 	<ul style="list-style-type: none"> ● Pouch cell electrode stacking with higher layer count ● Laboratory and pilot-scale lithium-ion battery assembly ● Electrode alignment and stacking process optimization ● R&D multi-layer cell structure development

Fully Automatic Stacking Machine

ANR-ZDP200



ZDP200

Product Overview

ZDP200 is a fully automatic Z-type stacking machine designed for lithium-ion batteries and supercapacitor cell assembly. It automates electrode and separator stacking into Z-shaped structures. The system is engineered for high-precision alignment and automated stacking workflows in laboratory and small-scale production environments.

Research Advantages

- **Multi-layer electrode feeding protection system:** Prevents double-sheet feeding during electrode loading
- **Servo-driven positioning platform:** Ensures precise and stable stacking alignment
- **Independent electrode transfer mechanisms:** Enables controlled handling of positive and negative electrodes
- **Active separator tension system:** Maintains stable separator feeding during stacking process
- **Automated discharge transport system:** Reduces misalignment during cell output handling

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Stacking precision: ≤ 0.3 mm ● Electrode size range: 120–200 mm (customizable) ● Electrode width range: 80–150 mm ● Stack thickness: 1–60 mm (customizable) ● Separator roll diameter: Max 220 mm ● Dimensions: 1950 × 1580 × 1800 mm ● Weight: Approx. 800 kg ● Power supply: AC 220 V, 50 Hz ● Power: 2.5 kW ● Air pressure: 0.5–0.8 MPa 	<ul style="list-style-type: none"> ● High-precision Z-type lithium-ion pouch cell assembly ● Battery prototype development with multi-layer structures ● Electrode–separator alignment process research ● Laboratory-scale supercapacitor cell fabrication

Electrode Slitting Systems



FT300



LFT400

Model	FT300	LFT400
Cutting width range	20–300 mm	20–330 mm; optional 20–380 mm
Applicable thickness	80–300 µm	100–300 µm
Burr level	≤25 µm	≤25 µm
Blade diameter	100 mm	100 mm
Slitting speed	Max. 4 m/min	Max. 4 m/min
Power supply	AC 220 V, 50 Hz	AC 220 V ±10%, 50/60 Hz
Power	0.2 kW	1 kW
Dimensions	850 × 920 × 400 mm	1000 × 980 × 450 mm
Weight	100 kg	100 kg
Recommended use	Electrode sheet slitting after coating; positive / negative electrode width adjustment; laboratory electrode preparation	Continuous slitting of lithium-ion battery electrode foils; roll-to-roll electrode material processing; metal foil and functional thin film slitting
Options	Slitting width and blade configuration can be customized according to electrode slitting requirements; other requirements available upon request.	

Electric Slitting Machine

ANR-FT300



FT300

Product Overview

FT300 is an electric electrode slitting machine designed for lithium-ion battery electrode sheets after coating. It is used to cut electrode materials into defined widths with controlled edge quality and dimensional consistency. The equipment adopts an upper-lower circular knife rolling structure and is suitable for laboratory electrode processing.

Research Advantages

- **Synchronized knife transmission:** Ensures stable and continuous slitting motion
- **Accurate width control:** Adjustable guide system improves alignment precision
- **Clean cutting performance:** Reduces burr formation and improves edge quality
- **Safe operation design:** Protective cover enhances laboratory safety

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Slitting width: 20–300 mm ● Applicable thickness: 80–300 μm ● Burr level: ≤25 μm ● Blade diameter: 100 mm ● Slitting speed: Max 4 m/min (adjustable) ● Power supply: AC 220 V, 50Hz ● Power consumption: 0.2 kW ● Dimensions: 850 × 920 × 400 mm ● Weight: 100 kg 	<ul style="list-style-type: none"> ● Lithium-ion battery electrode sheet slitting after coating ● Positive/negative electrode width adjustment ● Laboratory electrode preparation for cell assembly ● Small-scale battery material processing

Roll-to-Roll Continuous Slitting Machine

ANR-LFT400



LFT400

Product Overview

LFT400 is a roll-to-roll continuous slitting machine designed for precision cutting of electrode foils and thin film materials. It is widely used in lithium-ion battery and functional film processing. The system supports continuous slitting using upper and lower circular knives with adjustable spacing and precision blade assembly.

Research Advantages

- **Ultra-fine tungsten steel blade system:** Provides long-life and stable cutting performance
- **Precision slitting structure:** Ensures cutting quality with no burrs, waves, or indentation defects
- **Adjustable cutting engagement system:** Enables control of blade penetration depth
- **Independent blade station design:** Improves structural stability and supports dust removal configuration
- **Tension-controlled feeding system:** Maintains stable material tension during continuous slitting

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Cutting width range: 20–330 mm (optional 20–380 mm) ● Applicable thickness: 100–300 μm ● Burr level: ≤25 μm ● Blade diameter: 100 mm ● Slitting speed: Max 4 m/min ● Tension control: ≤50 N ● Power supply: AC 220 V ±10%, 50/60 Hz ● Power consumption: 1 kW ● Dimensions: 1000 × 980 × 450 mm ● Weight: 100 kg ● Operating environment: 25 ±3°C, 30–90% RH, vibration-free 	<ul style="list-style-type: none"> ● Continuous slitting of lithium-ion battery electrode foils ● Roll-to-roll electrode material processing ● Metal foil and functional thin film slitting ● Precision width adjustment in energy material research

Cell Winding Systems



JR90

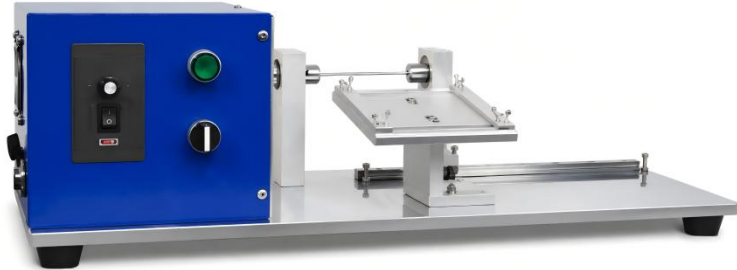


BJR70

Model	JR90	BJR70
Automation level	Manual operation	Semi-automatic
Cell size range	$\leq \varphi 30$ mm	$\varphi 17-32$ mm / length 25–70 mm
Winding speed	Max. 170 rpm	Max. 300 rpm
Winding precision	Not specified	≤ 0.5 mm
Power supply	AC 220 V, 50 Hz	AC 220 V, 50 Hz
Power	0.04 kW	1 kW
Air pressure	N/A	0.5–0.7 MPa
Dimensions	360 × 310 × 280 mm	1660 × 1300 × 1570 mm
Weight	20 kg	800 kg
Recommended use	Manual cylindrical cell winding; winding process training; small-format cylindrical cell assembly	Cylindrical lithium-ion cell winding; electrode–separator winding studies; small-batch cylindrical cell preparation
Options	Winding mandrel, electrode guide configuration, and cell size compatibility can be configured according to cylindrical cell winding requirements; other requirements available upon request.	

Manual Winding Machine

ANR-JR90



JR90

Product Overview

JR90 is a manual cylindrical cell winding machine used for lithium-ion battery electrode and separator winding. It is designed for laboratory use to assemble cylindrical cells by manually controlling electrode alignment and winding operations. The device provides adjustable mechanical guidance for electrode positioning during winding.

Research Advantages

- **Controlled manual winding:** Enables precise bidirectional operation
- **Stable alignment guidance:** Multi-directional adjustment improves winding accuracy
- **Low runout structure:** Reduces spindle deviation during operation
- **Compact laboratory design:** Suitable for cylindrical cell assembly and training

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Cell type: Cylindrical lithium-ion cell ($\leq \phi 30$ mm) ● Winding speed: 0–170 rpm (adjustable) ● Power supply: AC 220 V, 50 Hz ● Power consumption: 0.04 kW ● Dimensions: 360 × 310 × 280 mm ● Weight: 20 kg 	<ul style="list-style-type: none"> ● Cylindrical lithium-ion cell manual winding ● Laboratory electrode–separator winding experiments ● Small-format cylindrical cell assembly ● Basic winding process training and research use

Semi-Automatic Cylindrical Winding Machine

ANR-BJR70



BJR70

Product Overview

BJR70 is a semi-automatic cylindrical cell winding machine used for lithium-ion battery electrode and separator assembly. It is designed for improved winding operation compared to manual systems, integrating automatic separator feeding, winding, and cutting functions. The equipment is suitable for laboratory and small-scale cylindrical cell fabrication.

Research Advantages

- **Constant tension separator feeding system:** Maintains stable separator tension during winding
- **Adjustable electrode guide structure:** Supports adaptation to different electrode widths
- **Automated winding and cutting functions:** Enables automatic separator feeding, winding, and cutting operation sequence
- **HMI operation control system:** Provides interface-based machine operation and parameter setting

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Mandrel type: $\phi 3.5$ mm standard ● Cell size range: $\phi 17-32$ mm diameter / 25-70 mm length ● Winding precision: ≤ 0.5 mm ● Guide channel length: 1200 mm ● Cutting method: Automatic cutting ● Winding speed: Max 300 rpm ● Separator roll diameter: Max 250 mm ● Power supply: AC 220 V, 50 Hz ● Power consumption: 1 kW ● Air pressure: 0.5-0.7 MPa 	<ul style="list-style-type: none"> ● Cylindrical lithium-ion battery cell winding ● Laboratory cylindrical cell fabrication ● Electrode-separator winding process studies ● Small-batch cylindrical cell preparation

Tab Welding Systems

Ultrasonic Metal Spot Welding Machine

ANR-DH1000



Product Overview

DH1000 is an ultrasonic metal spot welding machine used for metal joining in lithium battery electrode assembly, applicable to both winding and stacking processes. It uses high-power ultrasonic vibration to convert electrical signals into mechanical energy, enabling metal-to-metal bonding at the interface for electrode tab connection without additional consumables.

Research Advantages

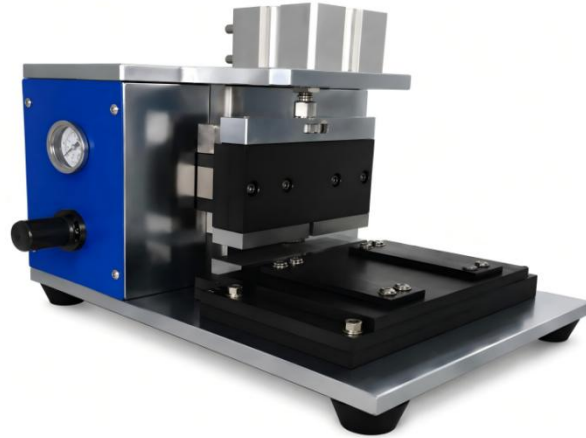
- **Ultrasonic vibration energy conversion:** Converts high-frequency electrical signals into mechanical energy for metal interface welding
- **No auxiliary materials required:** Enables welding without solder, flux, or surface pretreatment
- **Low-resistance joint formation:** Produces welded connections with very low electrical resistance
- **Fast welding process:** Enables rapid welding within short cycle time operation

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Ultrasonic frequency: 40 kHz ● Welding time: 0–1 s ● Input power: 0–1000 VA ● Working air pressure: 0.5–0.7 MPa ● Power supply: AC 220 V, 50 Hz ● Device weight: Approx. 60 kg ● Control box size: 360 × 480 × 200 mm ● Generator size: 300 × 460 × 270 mm 	<ul style="list-style-type: none"> ● Lithium battery electrode tab ultrasonic welding ● Metal foil electrical connection in cell assembly ● Winding process electrode tab joining ● Stacking process electrode interconnection

Tab Cutting Systems

Electrode Tab Cutting Machine

ANR-JRZX200



JRZX200

Product Overview

JRZX200 is a precision electrode tab cutting and trimming system for pouch cell manufacturing. It is used for post-cut tab flattening and edge finishing in electrode assembly processes. Pneumatic-driven pressing combined with guide rail positioning ensures high repeatability and stable processing quality.

Research Advantages

- **Linear guide rail alignment system:** Ensures high-precision alignment of upper and lower molds for stable forming
- **Pneumatic-driven pressing mechanism:** Ensures stable tab flattening and positioning through cylinder-driven actuation and guide rail alignment
- **Fixture-assisted loading system:** Supports electrode placement using auxiliary fixtures for positioning stability

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Applicable cell size: $\leq 200 \times 200$ mm ● Cutting width range: 2–10 mm (adjustable) ● Electrode thickness: Max 0.2 mm + 30 layers copper foil (Cu foil ≤ 0.025 mm) ● Cutting accuracy: $< \pm 0.2$ mm ● Parallelism: 0.05 mm ● Flatness: 0.5 mm ● Mold lifetime: 3,000,000 cycles (with regrinding) ● Temperature range: RT to 250°C ● Upper/lower platen distance: > 50 mm ● Cutting speed: 600 cycles/hour ● Dimensions: L230 × W200 × H250 mm ● Weight: 27 kg 	<ul style="list-style-type: none"> ● Electrode tab cutting after pouch cell electrode fabrication ● Post-processing shaping of battery electrode tabs ● Electrode alignment and trimming in cell assembly ● Laboratory electrode tab forming experiments



Micro Short-Circuit Testing Systems

Hot Press Forming & Micro Short-Circuit Testing Machine

ANR-DRY350



DRY350

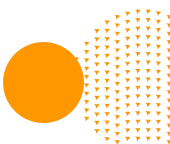
Product Overview

DRY350 is a hot-press forming and micro short-circuit testing machine designed for pouch cell electrode stack processing. The system integrates controllable heating, adjustable pressure, and electrical safety testing within a single workstation. It is used in laboratory and production environments for electrode stack compression and electrical insulation safety evaluation during pouch cell assembly.

Research Advantages

- **Thermal press forming:** Controlled heating and pressure enable electrode stack densification and structural stabilization under defined thermal-mechanical conditions
- **Pressure uniformity control:** Adjustable compression system ensures consistent stacking thickness
- **Micro short-circuit screening:** Insulation resistance measurement enables detection of internal short risks

Technical Specifications	Typical Applications
<ul style="list-style-type: none">● Working force: 0–900 kgf (± 3 kgf)● Working distance: 0–80 mm● Heating temperature range: RT to 130°C● Temperature control accuracy: $\pm 4^\circ\text{C}$● Leakage current: $\leq 50 \mu\text{A}$● Insulation resistance range: up to 199 MΩ● Test cycle time: 0–99 s (adjustable)● Power supply: AC 220 V, 50Hz● Power: 2 kW● Air pressure: 0.5–0.8 MPa● Dimensions: 450 × 420 × 650 mm● Device weight: 180 kg● Battery size limit: 350 × 280 × 70 mm	<ul style="list-style-type: none">● Pouch cell electrode stack hot pressing and thickness calibration during cell assembly● Pouch Cell stack forming to improve layer uniformity before electrolyte filling● Micro short-circuit screening of pouch cells after stacking and before sealing● Pre-formation structural stabilization of laminated electrode stacks in pouch cell fabrication



Pouch Case Forming Systems



QSC85



SCK200

Model	QSC85	SCK200
Forming size	Max. 65 × 50 mm	Max. 200 × 150 mm
Forming depth	Max. 5 mm	Max. 6 mm
Applicable film thickness	0.10–0.20 mm	Not specified
Power supply	N/A	AC 220 V, 50 Hz
Power	N/A	0.1 kW
Air pressure	0.5–0.7 MPa	0.5–0.7 MPa
Dimensions	380 × 240 × 400 mm	460 × 320 × 925 mm
Weight	30 kg	180 kg
Recommended use	Laboratory-scale pouch case forming; glovebox-compatible aluminum-laminated film punching; small pouch cell housing preparation	Larger pouch cell aluminum-laminated film forming; semi-automatic pouch cell shell punching; laboratory and pilot-scale pouch cell casing fabrication
Options	Forming size and mold configuration can be customized according to pouch case forming requirements; other requirements available upon request.	

Pneumatic Aluminum-Laminated Film Forming Machine

ANR-QSCK85



QSCK85

Product Overview

QSCK85 is a pneumatic aluminum-laminated film forming machine designed for pouch cell casing punching and forming. It is used for aluminum-laminated film shaping in pouch cell fabrication. The equipment adopts a pneumatic control system and can be operated without an external power supply, making it suitable for laboratory and glovebox use.

Research Advantages

- **Pneumatic-driven operation:** Pure pneumatic control system eliminates the need for electrical power
- **Guided column forming structure:** Upper and lower smooth movement improves forming accuracy
- **Stable deep forming capability:** Compared with similar equipment, forming depth is more stable
- **Precision mold design:** Prevents fish-tail edges, corner collapse, and surface defects after forming

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Applicable film thickness: 0.10–0.20 mm ● Forming size: 65 × 50 mm (customizable) ● Forming depth: ≤5 mm ● Throughput: 200–400 cycles/hour ● Air pressure: 0.5–0.7 MPa ● Weight: 30 kg ● Dimensions: 380 × 240 × 400 mm 	<ul style="list-style-type: none"> ● Pouch battery aluminum-laminated film casing forming ● Laboratory-scale pouch cell shell punching ● Pre-assembly pouch cell housing preparation ● Aluminum-laminated film shaping before electrolyte filling

Semi-Automatic Aluminum-Laminated Film Forming Machine

ANR-SCK200



SCK200

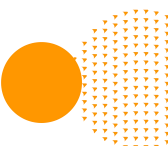
Product Overview

SCK200 is a semi-automatic aluminum-laminated film forming machine for pouch cell shell fabrication. It uses a pressure cylinder mechanism to convert pneumatic pressure into high-force output, enabling aluminum-laminated film punching and forming for pouch cell applications.

Research Advantages

- **Pneumatic pressure amplification system:** Converts pneumatic pressure into higher forming force
- **Four-column guiding structure:** Ensures stable and precise upper/lower mold movement
- **Deep forming stability:** Improves forming depth consistency for aluminum-laminated films
- **Safety operation design:** Equipped with light curtain and dual-hand button protection system

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Applicable size: Max 200 × 150 mm ● Pressing force: 3T (adjustable) ● Forming depth: Max 6 mm ● Mold surface roughness: 0.4 ● Upper/lower mold flatness: 0.02 mm ● Power supply: AC 220 V, 50Hz ● Power: 0.1 kW ● Air pressure: 0.5–0.7 MPa ● Counting method: Counter display ● Weight: 180 kg ● Dimensions: 460 × 320 × 925 mm 	<ul style="list-style-type: none"> ● Pouch battery aluminum-laminated film forming process ● Semi-automatic pouch cell shell punching and shaping ● Laboratory and pilot-scale pouch cell casing fabrication ● Pre-sealing aluminum-laminated film forming in battery assembly workflow



Top & Side Sealing Systems

Top & Side Sealing Machine

ANR-SFZ200



SFZ200

Product Overview

SFZ200 is a sealing machine designed for pouch lithium battery top and side edge sealing. It is used in the pouch cell packaging process to complete edge sealing of battery cells. The equipment provides controlled heating, pressure, and alignment to ensure uniform and stable sealing quality of pouch cell edges.

Research Advantages

- **Dual heating sealing structure:** Independent upper and lower sealing heads with adjustable temperature control
- **Pneumatic guiding pressure system:** Cylinder-driven structure ensures stable sealing alignment and parallelism
- **Adjustable sealing pressure and temperature:** Supports process tuning for different pouch cell requirements

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Sealing length: 200 mm ● Applicable size: Side ≤ 200 mm, Top ≤ 200 mm (including gas bag) ● Sealing width: 5 mm (3–10 mm optional) ● Sealing temperature: RT to 300°C ● Sealing time: 2–3 s (0–99 s adjustable) ● Air pressure: 0.5–0.8 MPa ● Working pressure: 5–8 kg/cm² ● Production rate: ≥ 400 cycles/hour ● Power supply: AC 220 V, 50Hz ● Power: 0.5 kW ● Weight: 35 kg ● Dimensions: 430 × 330 × 480 mm 	<ul style="list-style-type: none"> ● Pouch lithium battery top edge sealing after electrolyte injection ● Side edge sealing during pouch cell assembly process ● Aluminum-laminated pouch cell enclosure sealing in laboratory fabrication ● Final sealing preparation before formation and testing process

Vacuum Standing & Pre-Sealing Systems



Model	YFJZ200	JZ300	YF200
Product type	Vacuum Standing & Pre-Sealing Integrated Machine	Vacuum Standing Box	Vacuum Pre-Sealing Machine
Core function	Vacuum standing + sealing in one system	Vacuum standing only	Vacuum-assisted sealing
Vacuum degree	Not specified	≥ -95 kPa	≥ -95 kPa
Sealing function	Yes	N/A	Yes
Sealing length	200 mm	N/A	200 mm
Sealing width	5 mm	N/A	5 mm
Sealing temperature	RT to 300°C	N/A	RT to 300°C
Sealing pressure	5–7 kg/cm ²	N/A	5–7 kg/cm ²
Air pressure	0.5–0.8 MPa	0.5–0.7 MPa	0.5–0.7 MPa
Power supply	AC 220 V, 50 Hz	AC 220 V, 50 Hz	AC 220 V, 50 Hz
Power	1 kW	0.05 kW	Not specified
Dimensions	510 × 328 × 620 mm	470 × 330 × 420 mm	470 × 485 × 435 mm
Weight	50 kg	40 kg	50 kg
Recommended use	Integrated vacuum standing, pre-sealing for pouch cells	Electrolyte soaking / vacuum standing before sealing	Vacuum-assisted pre-sealing of pouch cells
Options	Vacuum level, sealing configuration, chamber size, and process timing control can be customized according to pouch cell electrolyte treatment requirements; other requirements available upon request.		

Vacuum Standing & Pre-Sealing Integrated Machine

ANR-YFJZ200



YFJZ200

Product Overview

YFJZ200 is an integrated vacuum standing and pre-sealing machine used in pouch lithium battery production after electrolyte injection. It combines vacuum standing and pre-sealing functions in one unit for pouch cell post-filling processing.

Research Advantages

- **Integrated vacuum standing and pre-sealing function:** Combines two process steps in one machine
- **Vacuum operation environment:** Supports processing under vacuum conditions
- **Thermal sealing control system:** Provides controllable heat sealing function

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Sealing length: 200 mm ● Sealing width: 5 mm ● Sealing temperature: RT to 300°C ● Sealing time: 0–99 s ● Pressure: 5–7 kg/cm² ● Air pressure: 0.5–0.8 MPa ● Temperature accuracy: ±2°C ● Power supply: AC 220 V, 50Hz ● Power: 1 kW ● Weight: 50 kg ● Dimensions: 510 × 328 × 620 mm 	<ul style="list-style-type: none"> ● Vacuum standing and pre-sealing after electrolyte injection in pouch cells ● Post-electrolyte treatment in pouch cell assembly process ● Pouch cell sealing preparation before formation process

Vacuum Standing Box

ANR-JZ300



JZ300

Product Overview

JZ300 is a vacuum standing box used for pouch lithium battery electrolyte standing after injection. It is designed to provide a vacuum environment for pouch cell post-filling processing.

Research Advantages

- **Vacuum environment control:** Provides vacuum condition for cell standing
- **Timed operation function:** Supports adjustable standing time
- **Compact chamber structure:** Suitable for laboratory use

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Vacuum degree: ≤ -95 kPa ● Chamber size: 330 × 200 × 150 mm ● Time control: 0–99.99 s ● Power supply: 220 V, 50Hz ● Power: 0.05 kW ● Air pressure: 0.5–0.7 MPa ● Control box size: 460 × 220 × 340 mm ● Device weight: 40 kg 	<ul style="list-style-type: none"> ● Electrolyte vacuum standing after injection in pouch cell production ● Post-filling electrolyte soaking stage in pouch cell assembly ● Vacuum holding process before sealing operation

Vacuum Pre-Sealing Machine

ANR-YF200



YF200

Product Overview

YF200 is a vacuum pre-sealing machine used for pouch lithium battery sealing after electrolyte injection. It performs pre-sealing under vacuum conditions during pouch cell assembly.

Research Advantages

- **Vacuum-assisted sealing process:** Enables sealing under vacuum condition
- **Thermal sealing control:** Adjustable sealing temperature system
- **Stable sealing structure:** Ensures consistent pouch edge sealing quality

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Vacuum degree: ≥ -95 kPa ● Sealing length: 200 mm ● Sealing width: 5 mm ● Sealing temperature: RT to 300°C ● Sealing time: 0–99 s ● Pressure: 5–7 kg/cm² ● Air pressure: 0.5–0.7 MPa ● Flatness accuracy: ≤ 0.02 mm ● Power supply: AC 220 V, 50Hz ● Weight: 50 kg ● Dimensions: 470 × 485 × 435 mm 	<ul style="list-style-type: none"> ● Pre-sealing of pouch cells after electrolyte filling ● Edge sealing in pouch cell assembly process ● Sealing preparation before formation and testing process

Thermal Press Formation Systems



RY200



W32CH-5V6A

Model	RY200	W32CH-5V6A
Pressure range	Max. 1000kg	Max. 2000 kg
Temperature range	Not specified	RT to 90°C
Temperature accuracy	Not specified	±3°C
Power	1 kW	5 kW
Air pressure	0.5 – 0.7 MPa	0.5 – 0.7 MPa
Dimensions	320 × 320 × 430 mm	Not specified
Weight	60 kg	1000 kg
Recommended use	Lab-scale electrode stack hot pressing, Pouch cell structural flattening after winding, Basic thermal forming process optimization	High-throughput pouch cell hot press processing, Multi-cell batch thermal formation, Process parameter standardization & scale-up study
Options	Pressure configuration, forming area, and functional modules can be customized according to thermal press formation requirements; other requirements available upon request.	

Hot Press Forming Machine

ANR-RY200



RY200

Product Overview

RY200 is a hot press forming machine used for pouch lithium battery electrode stack hot pressing after winding. It is applied to shape and flatten pouch cells, improving structural consistency before subsequent assembly processes.

Research Advantages

- **Constant temperature control system:** Enables stable hot press forming conditions
- **Adjustable pressure control:** Supports continuous pressure regulation during operation
- **Copper-based heating structure:** Improves heating performance of the system
- **Stable and safe operation design:** Ensures reliable machine operation during forming process

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Effective pressing area: 200 × 200 mm ● Throughput: 300–500 times/hour ● Pressure range: 0–1 T ● Heating power: 1 kW ● Air pressure: 0.5–0.7 MPa ● Power supply: AC 220 V, 50Hz ● Dimensions: 320 × 320 × 430 mm ● Weight: 60 kg 	<ul style="list-style-type: none"> ● Pouch cell electrode stack hot pressing after winding process ● Electrode stack shaping for pouch cell assembly ● Pouch battery structural flattening before casing process

Multi-Station Hot Press Formation System

ANR-W32CH-5V6A



W32CH-5V6A

Product Overview

W32CH-5V6A is a multi-station hot press formation system designed for pouch cell electrode formation and hot pressing. It is used for batch processing of pouch cell electrode stacks after winding, enabling multi-position thermal pressing operation.

Research Advantages

- **Multi-station parallel processing:** Enables efficient batch hot pressing
- **Stable pressure control:** Hydraulic–pneumatic system ensures uniform force output
- **Programmable process control:** PLC system enables repeatable operation conditions
- **Safety protection design:** Overpressure and overtemperature protection ensure reliability

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Temperature range: RT to 90°C ● Temperature accuracy: ±3°C ● Initial heating time: ≤ 30 min (80°C target) ● Pressure range: 300–2000 kg ● Pressure accuracy: ±20 kg ● Working air pressure: 5–7 kg/cm² ● Rated power: 5 kW ● Power supply: AC 220 V, 50Hz 	<ul style="list-style-type: none"> ● Pouch cell electrode stack hot pressing after winding process ● Multi-cell batch hot press processing in pouch cell production ● Electrode structure formation and thermal shaping before packaging

Final Sealing Systems

Secondary Vacuum Sealing Machine

ANR-BFZ200



BFZ200

Product Overview

BFZ200 is a secondary vacuum sealing machine used in pouch lithium battery packaging after electrolyte standing. It integrates vacuum pumping and thermal sealing functions to complete vacuum-assisted sealing of aluminum-laminated pouch cells.

Research Advantages

- **Secondary vacuum sealing process:** Integrates vacuum and heat sealing in one operation cycle
- **Adjustable vacuum environment:** Supports controllable vacuum level during sealing process
- **Thermal sealing control system:** Provides stable heat sealing for pouch cell packaging

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Vacuum degree: ≤ -95 kPa ● Sealing temperature: RT to 250°C ● Temperature accuracy: ± 1.5°C ● Hot sealing pressure: 0–7 kg/cm² ● Sealing time: 0–99 s ● Sealing width: 5 mm ● Max sealing length: 200 mm ● Power supply: AC 220 V, 50Hz ● Power: 0.9 kW ● Air pressure: 0.5–0.7 MPa ● Dimensions: 1500 × 500 × 700 mm 	<ul style="list-style-type: none"> ● Secondary vacuum sealing of pouch cells after electrolyte standing process ● Vacuum-assisted sealing of aluminum-laminated pouch batteries ● Edge sealing process in pouch cell packaging workflow ● Pre-formation sealing preparation for pouch cell

Cell Shaping Systems



TP200



QP200



ZP200



QZT300

Model	TP200	QP200	ZP200	QZT300
Process type	Hot pressing & shaping	Edge trimming	Edge folding	Integrated cutting & forming
Throughput	Manual process	≥600 pcs/hour	300 pcs/hour	160–220 pcs/hour
Pressure System	N/A	0.5–0.7 MPa	0.5–0.8 MPa	0.5–0.7 MPa
Accuracy	N/A	Cutting width precision 2.5–8 mm	N/A	Cutting accuracy ±0.1 mm
Power	1.5 kW	N/A	N/A	2.5 kW
Dimensions	280 × 200 × 165 mm	320 × 160 × 340 mm	320 × 300 × 420 mm	1350 × 750 × 1800 mm
Weight	20 kg	50 kg	25 kg	300 kg
Recommended use	Electrode stack hot pressing, Post-assembly densification, Pre-packaging structure flattening	Electrode edge trimming, Dimensional edge finishing, Post-cutting alignment correction	Electrode edge folding, Pre-sealing edge preparation, Stack alignment shaping	Integrated electrode processing line, Cutting-forming process integration, Lab-to-pilot scale standardization
Options	Pressure configuration, forming area, and process control settings are configurable; other requirements available upon request.			

Hot Press Shaping Machine

ANR-TP200



TP200

Product Overview

TP200 is a hot press shaping machine used for pouch cell electrode stack thermal pressing and shaping after electrode assembly. It is designed for electrode stack flattening and forming in pouch cell production.

Research Advantages

- **Temperature-controlled hot pressing system:** Enables adjustable thermal forming conditions
- **Precision pressing structure:** Ensures stable electrode stack shaping
- **Stable heating platform design:** Provides uniform heat transfer during processing

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Effective pressing area: 200 × 155 mm ● Temperature range: 0–250°C ● Heating power: 250 W ● Power supply: AC 220 V, 50Hz ● Total power: 1.5 kW ● Dimensions: 280 × 200 × 165 mm ● Weight: 20 kg 	<ul style="list-style-type: none"> ● Pouch cell electrode stack hot pressing after assembly ● Electrode stack shaping in pouch cell fabrication ● Battery electrode flattening before packaging

Pneumatic Edge Cutting Machine

ANR-QP200



QP200

Product Overview

QP200 is a pneumatic edge cutting machine used for pouch cell electrode edge trimming after assembly. It is applied for electrode edge processing in pouch cell production.

Research Advantages

- **Pneumatic cutting system:** Provides stable trimming force
- **Adjustable cutting width design:** Supports flexible edge trimming range
- **Guided positioning structure:** Ensures cutting alignment accuracy

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Cutting length: 200 mm ● Throughput: ≥ 600-pcs/hour ● Cutting width: 2.5–8 mm (adjustable) ● Air pressure: 0.5–0.7 MPa ● Power supply: AC 220 V, 50Hz ● Dimensions: 320 × 160 × 340 mm ● Weight: 50 kg 	<ul style="list-style-type: none"> ● Pouch battery electrode edge trimming after assembly ● Electrode margin finishing before sealing ● Battery electrode edge standardization process

Pneumatic Folding Machine

ANR-ZP200



ZP200

Product Overview

ZP200 is a pneumatic folding machine used for pouch cell electrode edge folding and shaping in electrode processing workflow.

Research Advantages

- **Stable pneumatic control:** Ensures consistent folding motion performance
- **Precise alignment guidance:** Linear structure improves folding accuracy
- **Reliable mechanical stability:** Maintains uniform bending quality
- **Flexible operation design:** Supports pouch cell electrode edge processing

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Folding length: 200 mm ● Folding width: adjustable ● Throughput: 300 cycles/hour ● Air pressure: 0.5–0.8 MPa ● Power supply: AC 220 V, 50Hz ● Dimensions: 320 × 300 × 420 mm ● Effective folding width requirement: >1 mm 	<ul style="list-style-type: none"> ● Pouch battery electrode edge folding after cutting ● Electrode stack edge shaping in pouch cell assembly ● Electrode preparation before sealing process

Integrated Cutting–Forming Machine

ANR-QZT300



QZT300

Product Overview

QZT300 is an integrated cutting, shaping, and forming machine used for pouch cell electrode processing. It integrates multiple electrode processing steps into one system.

Research Advantages

- **Multi-process integration design:** Combines cutting and forming functions
- **Automated processing system:** Supports continuous operation
- **Stable mechanical structure:** Ensures consistent processing results

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Throughput: 160–220 pcs/hour ● Cutting accuracy: ± 0.1 mm ● Air pressure: 0.5–0.7 MPa ● Device size: 1350 × 750 × 1800 mm ● Weight: 300 kg ● Power supply: AC 220 V ● Total power: 2.5 kW ● Operating temperature: 10–40°C ● Humidity range: 20–90% ● Blade life: 1 million strokes 	<ul style="list-style-type: none"> ● Pouch battery electrode cutting and forming integration process ● Electrode preparation in pouch cell production line ● Multi-step electrode processing before stacking and sealing

Controlled Atmosphere Processing Systems



Super



Universal

Model	Super	Universal
Workstations	Single workstation	Dual workstation
Dimensions	1220 × 750 × 900 mm	2440 × 1000 × 900 mm
Atmosphere purity	99.999% inert gas	99.999% inert gas
H ₂ O / O ₂ level	< 1 ppm	< 1 ppm
Pressure control	PLC control, ±15 mbar	PLC control, ±12 mbar
Material	SUS304 stainless steel, 3mm thickness	SUS304 stainless steel, 3mm thickness
Front window	8 mm tempered glass	8 mm tempered glass
Gloves	Butyl rubber, 0.4mm thick, 8" dia., 32" length	Butyl rubber, 0.4mm thick, 8" dia., 32" length
Recommended use	Standard inert-atmosphere experiments, Routine material handling in glovebox, Small-scale battery material research	Multi-user parallel laboratory workflows, High-throughput battery material processing, Advanced air-sensitive synthesis & assembly
Options	Gas atmosphere composition, vacuum pump system, and workstation accessories can be customized according to routine inert-atmosphere experimental requirements; other requirements available upon request.	

Single-Station Glove Box

ANR-Super



Super

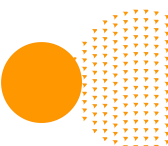
Product Overview

Super is a single-station glove box designed for laboratory battery research and material handling under controlled atmosphere conditions. It provides an enclosed operation environment for sensitive electrochemical and battery-related experimental processes.

Research Advantages

- **Sealed controlled atmosphere workspace:** Provides isolated operating environment for experimental handling
- **Single-station compact design:** Supports independent laboratory operation workflow
- **Integrated experimental platform structure:** Facilitates basic battery research and material processing tasks

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Oxygen & moisture content: < 1 ppm ● Circulation flow rate: 900 m³/h ● Vacuum pump ultimate pressure: < 2 × 10⁻¹ Pa ● Main chamber size: 1220 × 750 × 900 mm ● Transition chamber: Ø360 × 600 mm ● Pumping speed: 12 m³/h ● Circulation flow: Integrated blower 90 m³/h ● Material: SUS304 stainless steel, 3 mm thickness ● Front window: 8 mm tempered safety glass ● Glove material: Butyl rubber, 0.4 mm thickness ● Glove size: 8 inch diameter, 32 inch length 	<ul style="list-style-type: none"> ● Lithium battery material handling under controlled atmosphere ● Pouch cell electrode preparation in inert environment ● Battery component assembly in laboratory conditions ● Electrochemical experiment sample preparation ● Sensitive material transfer and storage for battery research



Dual-Station Glove Box

ANR-Universal



Universal

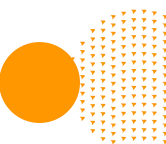
Product Overview

The Universal dual-station glove box is a sealed controlled-atmosphere system designed for electrochemical and battery laboratory research. It integrates purification, vacuum, circulation, control, and display systems to provide an oxygen-free and moisture-free working environment for sensitive material handling and experimental operations.

Research Advantages

- **Closed-loop inert atmosphere system:** Enables oxygen-free and moisture-free operation environment
- **Integrated purification and regeneration system:** Maintains stable working gas quality
- **PLC-based automated control system:** Supports pressure control, circulation, and regeneration operations
- **Dual-station operation design:** Allows multi-user experimental workflow inside controlled environment
- **Modular system integration:** Combines vacuum, purification, display, and circulation systems

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Oxygen & moisture content: < 1 ppm ● Main chamber size: 2440 × 1000 × 900 mm ● Vacuum ultimate pressure: < 2 × 10⁻¹ Pa ● Pumping speed: 12 m³/h ● Regeneration gas: Working gas / H₂ (5–10%) ● Pressure control range: ±15 mbar ● Circulation system flow: 90 m³/h ● Transition chamber: Ø360 × 600 mm ● Power supply: AC 220 V, 50Hz ● Total power: 3 kW 	<ul style="list-style-type: none"> ● Lithium battery electrode material preparation under inert atmosphere ● Pouch cell assembly and electrolyte handling in oxygen-free environment ● Battery R&D experimental operations requiring controlled atmosphere ● Sensitive material transfer, storage, and processing in electrochemical research ● Laboratory-scale cell fabrication and testing workflows



Charge–Discharge Testing Systems

8 Channel Battery Testing System

ANR-BTS8



Product Overview

BTS8

BTS8 is an 8-channel battery testing system designed for comprehensive performance evaluation of various types of batteries. It is widely used in universities and research institutes. The system provides 8 independent programmable channels with precise control capability and a Windows-based software interface for experimental operation and data acquisition.

Research Advantages

- **8 independent programmable channels:** Each channel operates independently for parallel testing
- **Fully independent control architecture:** Each channel can run different test modes simultaneously
- **Programmable testing system:** Supports flexible step-based test parameter configuration via software interface

Parameter	BTS8-5V1mA	BTS8-5V10mA	BTS8-5V3A
Input power	AC 110–220 V	AC 110–220 V	AC 110–220 V
Power	0.03 kW	0.03 kW	0.03 kW
Voltage range	0–5V	0–5V	0–5V
Current range	±0.002–1 mA	±0.1–10 mA	±3–3000 mA
Current accuracy	±0.2% rdg ± 0.1% FS	±0.2% rdg ± 0.1% FS	±0.2% rdg ± 0.1% FS
Voltage accuracy	±0.1% rdg ± 0.05% FS	±0.1% rdg ± 0.05% FS	±0.1% rdg ± 0.05% FS
Cycle count range	1–9999 cycles	1–9999 cycles	1–9999 cycles
Input impedance	≥ 10 MΩ	≥ 10 MΩ	≥ 10 MΩ
Dimensions	480 × 380 × 130 mm	480 × 380 × 130 mm	480 × 380 × 130 mm

Typical Applications

- Battery charge/discharge cycle testing for material evaluation
- Performance characterization of lithium-ion and other battery systems
- Electrode material electrochemical behavior testing
- Laboratory-scale battery aging and cycling experiments

Auxiliary Support Systems

Solvent Treatment System

ANR-NMP-1



NMP-1

Product Overview

NMP-1 is a solvent treatment system based on water bath absorption principle, designed for NMP waste gas recovery during lithium battery electrode coating processes. It is used to treat solvent vapor emissions generated in the coating stage of pouch cell production.

Research Advantages

- **Two-stage water bath treatment unit:** Provides effective recovery of NMP and dust
- **Fully welded stainless steel inner tank:** Improves corrosion resistance during operation
- **Water bath absorption principle system:** Enables recovery of NMP exhaust gas from coating process
- **Self-priming air inlet design:** Allows direct use of tap water for operation

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Treatment capacity: 600 m³/h ● Inlet temperature: ≤ 150°C ● Recovery rate: > 80% ● Target medium: Water-soluble solvent ● Power supply: AC 380 V, 50Hz ● Power: 1.5 kW ● Dimensions: 1000 × 860 × 1750 mm 	<ul style="list-style-type: none"> ● NMP vapor recovery during lithium battery electrode slurry coating ● Exhaust gas treatment in pouch cell electrode manufacturing line ● Solvent emission control during coating process in battery production

Dual-Stage Rotary Vane Vacuum Pump

ANR-VRD Series



VRD Series

Product Overview

VRD series dual-stage rotary vane vacuum pumps are designed to provide vacuum generation for laboratory and industrial applications. The system delivers stable pumping performance for use in battery testing and vacuum processing environments.

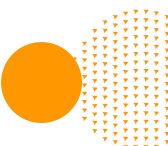
Research Advantages

- **Dual-stage rotary vane structure:** Provides stable vacuum pumping operation
- **Wide frequency compatibility:** Supports both 50 Hz and 60 Hz operation
- **Low-noise operation design:** Ensures reduced operating noise level during use

Parameter	VRD-8	VRD-16
Pumping speed (50 Hz)	8 m ³ /h (2.2 L/s)	16 m ³ /h (4.4 L/s)
Pumping speed (60 Hz)	9.6 m ³ /h (2.6 L/s)	19.2 m ³ /h (5.2 L/s)
Ultimate pressure (gas ballast off)	5 × 10 ⁻² Pa	4 × 10 ⁻² Pa
Ultimate total pressure (gas ballast off)	5 × 10 ⁻¹ Pa	4 × 10 ⁻¹ Pa
Ultimate total pressure (gas ballast on)	3 Pa	8 × 10 ⁻¹ Pa
Motor power	0.4 kW / 0.37 kW	0.75 kW / 0.55 kW
Motor speed	1440 / 1720 rpm	1440 / 1720 rpm
Inlet connection	KF25	KF25
Oil capacity	0.6–1 L	0.9–1.5 L
Operating temperature	5–40°C	5–40°C
Noise level	≤ 56 dB	≤ 58 dB
Weight	21 kg	30 kg

Typical Applications

- Vacuum evacuation in lithium battery laboratory testing processes
- Degassing operations in pouch cell experimental workflows
- Vacuum assistance during battery electrode and electrolyte handling
- Supporting vacuum requirements in electrochemical experiments



Air Compressor

ANR-YH series



YH Series

Product Overview

The YH series oil-free air compressor is designed to provide compressed air for laboratory and industrial equipment. It features multiple tank capacities and supports stable air output for pneumatic-driven systems.

Research Advantages

- **Oil-free air compression design:** Provides oil-free compressed air output
- **Multi-model capacity configuration:** Supports different storage tank volumes
- **Stable pressure control system:** Maintains consistent air pressure during operation

Parameter	YH28L	YH45L	YH70L	YH100L	YH150L
Tank capacity	28 L	45 L	70 L	100 L	150 L
Air displacement	>60 L/min	150 L/min	170 L/min	200 L/min	260 L/min
Rated power	600 W	1100 W	1600 W	1800 W	2400 W
Rated voltage	AC 220 V ±10% 50Hz	AC 220 V ±10% 50Hz	AC 220 V ±10% 50Hz	AC 220 V ±10% 50Hz	AC 220 V ±10% 50Hz
Motor speed	1400 rpm	1400 rpm	1400 rpm	1400 rpm	1400 rpm
Noise level	≤58 dB(A)	≤62 dB(A)	≤62 dB(A)	≤65 dB(A)	≤65 dB(A)
Start pressure	0.45 MPa	0.45 MPa	0.45 MPa	0.45 MPa	0.45 MPa
Stop pressure	0.75 MPa	0.75 MPa	0.75 MPa	0.75 MPa	0.75 MPa
Dimensions	400 × 400 × 520 mm	400 × 400 × 650 mm	420 × 650 × 650 mm	400 × 850 × 640 mm	420 × 1200 × 750 mm
Weight	25 kg	48 kg	50 kg	75 kg	90 kg
CE certification	Yes	Yes	Yes	No	No

Typical Applications

- Pneumatic air pressure for pouch cell manufacturing equipment
- Compressed air support for battery laboratory instruments
- Air-driven operation for electrochemical testing systems
- General pneumatic supply in battery fabrication workflows

Coin Cell Equipment

Slurry Preparation



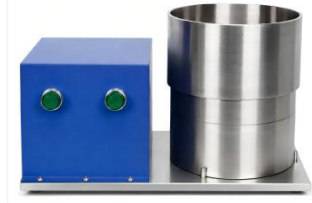
KZ50L



ZQM-3



XJB-4



GL-1



VQM-8



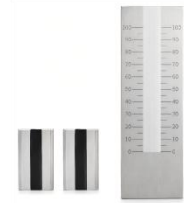
CJB19-2



DHS-10A



NDJ5S



QXD-150

Vacuum Drying Oven

ANR-KZ50L



Product Overview

KZ50L is a laboratory-scale vacuum drying oven designed for material drying, sterilization, and thermal treatment under vacuum conditions. It is widely used in laboratory environments for battery material pre-treatment and moisture removal processes. The system provides a stable vacuum environment combined with precise temperature control, ensuring reliable drying performance for research applications.

Research Advantages

- **Efficient vacuum drying:** Enables stable moisture removal under controlled vacuum conditions
- **Uniform thermal distribution:** Ensures consistent heating performance across the chamber
- **Flexible process control:** Supports adjustable temperature and vacuum levels for different materials

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Chamber volume: 50 L ● Temperature range: RT to 250°C ● Vacuum level: ≤ -0.1 MPa ● Temperature control accuracy: $\pm 1^\circ\text{C}$ ● Temperature resolution: 0.1°C ● Power: 1.4 kW ● Working voltage: 220 V, 50Hz ● Dimensions: 710 × 560 × 550 mm 	<ul style="list-style-type: none"> ● Battery material pre-drying and moisture removal ● Electrode precursor drying in laboratory research ● Thermal treatment of functional powder materials ● Vacuum sterilization and sample conditioning processes

High-Speed Vibrating Ball Mill

ANR-ZQM-3



ZQM-3

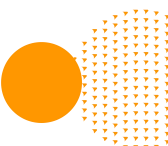
Product Overview

ZQM-3 is a laboratory-scale milling system designed for efficient grinding and mixing of powder materials under both dry and wet processing conditions. It is suitable for processing materials with different particle sizes and hardness levels, enabling rapid homogenization and particle refinement for laboratory sample preparation.

Research Advantages

- **High-efficiency vibrational milling:** Provides rapid grinding and mixing through high-frequency vibration
- **Dry and wet processing capability:** Supports both dry milling and slurry-based wet mixing applications
- **Compact laboratory design:** Suitable for small-batch experimental use in limited laboratory space

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Vibration frequency: 1200 rpm ● Timer range: 0–120 min ● Feed particle size: < 1 mm ● Output particle size: down to 0.1 μm ● Maximum loading capacity: 1/3 of milling jar volume ● Standard milling Jar volume: 80 mL ● Dimensions: 405 × 265 × 260 mm ● Power: 180 W ● Power supply: AC 220 V, 50 Hz 	<ul style="list-style-type: none"> ● Electrode powder pre-treatment and size reduction prior to slurry formulation ● Mixing and homogenization of active materials, conductive additives, and binders in dry blending stage ● Laboratory-scale preparation of electrode material precursors for slurry processing ● Small-batch material grinding for battery R&D and formulation screening



Laboratory-scale V-shaped Mixer

ANR-VQM-8



VQM-8

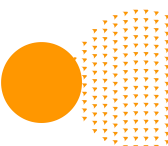
Product Overview

VQM-8 is a laboratory-scale V-type mixing device designed for powder blending applications. It uses a mechanical transmission system to drive a V-shaped cylindrical chamber with unequal height structure, enabling reciprocating tumbling and rolling motion of materials inside the vessel. This motion achieves uniform mixing with no dead corners and no material accumulation. The equipment is made of stainless steel and is designed for fast mixing with short processing time.

Research Advantages

- **V-type tumbling motion:** Establishes continuous material reorientation through asymmetric chamber rotation, enabling uniform powder blending under low shear conditions
- **Dead-zone-free chamber design:** Eliminates material accumulation by enabling full-volume circulation within the V-shaped structure, improving mixing consistency
- **Low shear mixing mechanism:** Preserves particle integrity while enabling homogeneous distribution of multi-component powder systems
- **Adjustable process control:** Enables controlled operation through variable rotation speed and programmable mixing time for flexible experimental conditions

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Mixing vessel volume: 3 L ● Rotation speed: 20–90 rpm ● Mixing time range: 1–900 min ● Recommended loading factor: 0.3–0.4 ● Chamber material: Stainless steel ● Control system: adjustable speed with digital timer ● Dimensions: 650 × 500 × 850 mm ● Weight: 30 kg 	<ul style="list-style-type: none"> ● Dry premixing of lithium-ion battery electrode powder materials ● Homogenization of conductive additives, binders, and active materials in dry state ● Laboratory-scale formulation and composition screening of multi-component powders ● Mixing of ceramic powders and functional material precursors for research use



Magnetic Stirrer with Heating Plate

ANR-CJB19-2



CJB19-2

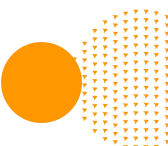
Product Overview

CJB19-2 is designed for laboratory liquid heating and stirring applications. It enables controlled temperature heating combined with stable magnetic stirring for sample dissolution, solution preparation, and chemical mixing processes. The system is suitable for laboratory-scale experimental environments requiring precise temperature control and stable agitation performance.

Research Advantages

- **Integrated heating and stirring function:** Enables simultaneous temperature control and magnetic agitation in a single platform
- **Precise temperature regulation:** Supports stable thermal control for laboratory solution processing
- **Wide operational range:** Suitable for a variety of laboratory liquid mixing and heating conditions

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Stirring volume: 10 L ● Stirring speed: 50–1500 r/min ● Heating power: 1000 W ● Temperature range: up to 350°C ● Temperature control accuracy: ±0.5°C ● Timer range: 0–9999 min ● Stirring torque: 130 mN·m ● Stirrer bar length : Max 80 mm ● Heating plate diameter: Ø200 mm ● External temperature sensor: PT100 ● Display: LED ● Power supply: AC 220 V ±10% ● Weight: 4.8 kg ● Dimensions: 375 × 220 × 110 mm 	<ul style="list-style-type: none"> ● Preparation of electrolyte solutions for coin cell assembly ● Mixing and thermal dissolution of binders, salts, and conductive additives for electrode slurry formulation ● Laboratory-scale homogenization of electrode slurry components prior to coin cell electrode coating ● Temperature-controlled stirring during electrolyte additive screening and formulation optimization for coin cell systems



Laboratory-scale Planetary Vacuum Mixer

ANR-XJB-4



Product Overview

XJB-4 is a small planetary vacuum mixer used in the slurry preparation stage of battery test workflows. The equipment integrates vacuum mixing and dispersion in one system for positive and negative electrode slurry mixing, as well as powder and ceramic material mixing. Its primary function is to process slurry materials under vacuum-controlled stirring conditions.

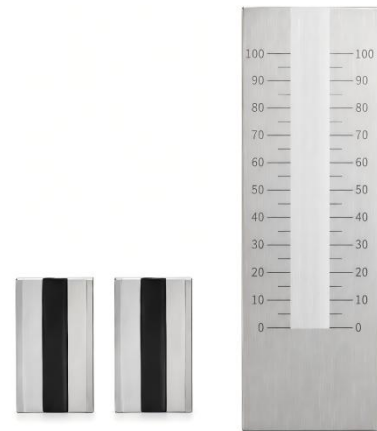
Research Advantages

- **Vacuum mixing environment:** Removes entrained gas during stirring to support bubble-controlled slurry processing
- **Forward-reverse stirring control:** Drives high-viscosity slurry circulation with improved mixing uniformity
- **Multi-stage speed programming:** Separates process steps by preset stirring motion and dwell time
- **Dual-shaft planetary structure:** Combines orbital mixing and screw-type agitation for stable material turnover
- **Support-frame operation design:** Stabilizes the vessel interface during vacuum stirring and improves operating safety

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Mixing speed: Max. 600 rpm ● Mixing tank volume: 0.5 L ● Mixing time range: 0-600 min ● Vacuum degree: -0.08 MPa ● Power supply: AC 220 V ● Rated power: 0.2 kW ● Dimensions: 330 x 320 x 570 mm ● Weight: 35 kg 	<ul style="list-style-type: none"> ● Laboratory-scale preparation of electrode slurry for coin cell battery fabrication ● Mixing and thermal dissolution of binders, conductive additives, and electrolyte components for coin cell systems ● Homogenization of electrode formulation materials prior to coin cell assembly and coating ● Temperature-controlled stirring during electrolyte formulation and additive screening for CR-series coin cells

Fineness Gauge

ANR-QXD-150



QXD-150

Product Overview

QXD-150 Fineness Gauge is designed in accordance with GB/T 1724-93 standard for the determination of dispersion fineness in coatings, inks, and slurry-based materials. It is used to evaluate the particle size distribution and dispersion quality of pigments, fillers, and other solid particulate systems in liquid media. The instrument provides a simple and visual method for assessing material fineness in laboratory quality control and formulation development.

Research Advantages

- **Standardized measurement design:** Complies with GB/T 1724-93 for fineness evaluation of dispersed systems
- **High sensitivity resolution:** Enables visual detection of particle dispersion and agglomeration level
- **Simple and rapid operation:** Suitable for routine laboratory quality control and formulation screening

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Gauge plate dimensions: 155 × 50 × 12 mm ● Groove size: 13 × 120 mm (QXD-150 scale, 1:1000, 5 μm resolution) ● Scraper dimensions: 68 × 40 × 6 mm ● Flatness accuracy (gauge plate surface): 0.003 mm ● Flatness accuracy (QXD-25 reference range): 0.002 mm (within scale line region) ● Flatness accuracy (groove bottom surface): 0.003 mm ● Flatness accuracy (scraper blade surface): 0.002 mm ● Gloss level (gauge plate surface): 10 ● Gloss level (groove bottom surface): 8 ● Gloss level (scraper blade surface): 8 	<ul style="list-style-type: none"> ● Fineness evaluation of electrode slurry dispersion prior to coin cell electrode coating ● Particle dispersion quality control of cathode/anode slurry systems for CR-series coin cell fabrication ● Assessment of conductive agent and binder dispersion uniformity in coin cell electrode formulations ● Quality screening of slurry preparation consistency in laboratory-scale coin cell research

Electronic Halogen Moisture Rapid Analyzer

ANR-DHS-10A



DHS-10A

Product Overview

DHS-10A Electronic Halogen Moisture Rapid Tester is designed for rapid moisture content determination based on halogen heating and thermogravimetric loss measurement. The instrument measures sample moisture by continuously tracking weight change during heating and automatically calculates moisture content. It is widely used for fast moisture analysis in laboratory and material quality control applications.

Research Advantages

- **Halogen rapid heating technology:** Enables fast and efficient sample drying
- **High-precision gravimetric measurement:** Ensures accurate moisture determination during testing
- **Integrated touchscreen operation:** Supports intuitive control and real-time test display

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Maximum weighing capacity: 50 g ● Moisture measurement range: 0–100% ● Moisture readability: ±0.05% ● Temperature range: 50–180 °C ● Temperature accuracy: ±1 °C ● Heating power: 350 W ● Display: 5-inch HD touchscreen ● Heating time range: 0–99 min ● Communication interface: RS232 ● Sample pan diameter: Ø100 mm ● Power supply: 220 V, 50 Hz 	<ul style="list-style-type: none"> ● Moisture content analysis of electrode active materials prior to coin cell slurry preparation ● Moisture control of binders and conductive additives used in CR-series coin cell electrode formulation ● Moisture screening of electrolyte components in coin cell assembly research ● Quality control of raw materials in laboratory-scale coin cell fabrication processes

Rotational Viscometer

ANR-NDJ5S



Product Overview

NDJ-5S is a digital rotary viscometer designed for precise measurement of liquid viscosity under controlled rotational shear conditions. It is used to determine both Newtonian fluid viscosity and apparent viscosity of non-Newtonian systems. The instrument integrates microcomputer control, stable torque sensing, and digital display output, enabling reliable and repeatable viscosity characterization in laboratory and quality control environments.

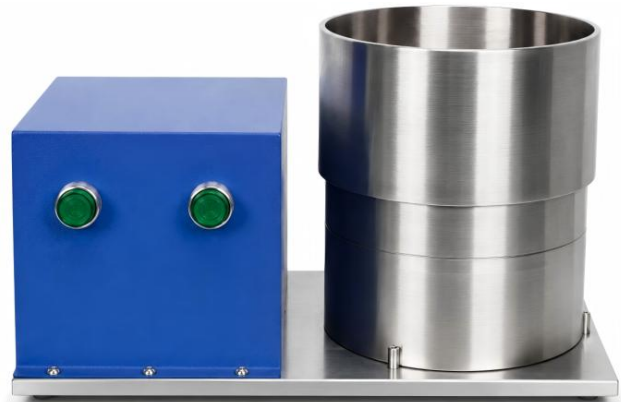
Research Advantages

- **Stable torque conversion mechanism:** Ensures accurate transformation of rotational resistance into viscosity signals with high measurement stability
- **Multi-speed shear control system:** Provides selectable rotational speeds to simulate different shear environments for rheological characterization
- **Interchangeable spindle architecture:** Enables flexible measurement across a wide viscosity range through standardized spindle configurations
- **Digital real-time parameter output:** Displays viscosity, torque, spindle type, and rotational speed simultaneously for improved data transparency

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Measurement range: 1–100,000 mPa·s ● Rotational speed: 6, 12, 30, 60 rpm ● Measurement accuracy: ±1% (full scale) ● Repeatability: ±0.5% (full scale) ● Power supply: AC 220 V, 50 Hz ● Dimensions: 80 × 105 × 258 mm ● Weight: 1.5 kg 	<ul style="list-style-type: none"> ● Liquid viscosity measurement in laboratory and industrial quality control ● Rheological characterization of Newtonian and non-Newtonian fluids ● Formulation consistency testing of chemical and functional liquid systems ● Process monitoring of liquid mixing and blending operations

Slurry Filtration Device

ANR-GL-1



GL-1

Product Overview

GL-1 is a laboratory slurry filtration device designed for nano-scale slurry filtration applications. It is mainly used for slurry purification in experimental environments. The system adopts a stainless steel structure and vacuum-assisted filtration design, providing a simple and flexible solution for laboratory slurry processing tasks.

Research Advantages

- **Stainless steel structure design:** Provides corrosion resistance and facilitates cleaning during slurry processing operations
- **Vacuum-assisted filtration system:** Enables slurry filtration under vacuum conditions to improve separation efficiency
- **Configurable filter mesh system:** Supports different mesh configurations according to experimental requirements
- **Compact laboratory design:** Suitable for small-scale slurry filtration operations with simple operation

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Capacity: 0.5 L ● Vacuum degree: 65 kPa ● Filter mesh: Recommended 80–150 mesh (optional below 1000 mesh) ● Pump flow rate: 3L/Min ● Material: Stainless steel ● Power supply: AC 220 V ±10%, 50 Hz ● Dimensions: 145 × 150 × 200 mm ● Weight: 4 kg 	<ul style="list-style-type: none"> ● Nano-scale slurry filtration in laboratory environments ● Electrode slurry purification in research processes ● Small-batch slurry preparation and filtration testing

Electrode Preparation



TMH250



TM300



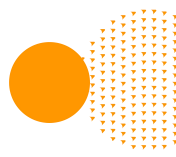
JS100N



DG300



CP60



Heated Flat-plate Coater

ANR-TMH250



TMH250

Product Overview

TMH250 Automatic Film Coating & Drying Machine is designed for laboratory-scale electrode slurry coating and film formation. It enables controlled coating of slurry on substrate surfaces with adjustable process parameters, and supports vacuum-assisted operation for improved sample handling and process stability. The system is widely used in battery material research for electrode film preparation.

Research Advantages

- **Precise coating control:** Adjustable coating speed and coating stroke for reproducible film formation
- **Adjustable blade gap system:** Enables flexible control of coating thickness
- **Vacuum chamber design:** Improves sample handling stability during coating process

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Coating speed range: 0–100 mm/s ● Maximum stroke length: 250 mm ● Blade gap range: 0.1–3.5 mm ● Vacuum chamber size: 365 × 200 × 30 mm ● Power supply: 220 V, 50 Hz ● Dimensions: 500 × 310 × 330 mm ● Weight: 50 kg 	<ul style="list-style-type: none"> ● Electrode slurry coating for coin cell battery electrode fabrication ● Preparation of cathode and anode thin films for CR-series coin cell research ● Laboratory-scale electrode film formation prior to drying and assembly processes ● Material screening and formulation optimization for coin cell electrode development

Automatic Film Coating Machine

ANR-TM300



Product Overview

TM300 Automatic Film Coating Machine is designed for laboratory-scale coating research of functional thin films. It is suitable for coating studies of ceramic films, crystalline materials, battery electrode materials, and nano-scale functional coatings. The system provides controllable coating motion and vacuum-assisted substrate handling for stable film formation in laboratory environments.

Research Advantages

- **Adjustable coating speed control:** Coating speed is continuously adjustable within a defined operating range
- **Vacuum substrate platform:** Vacuum aluminum plate enables fast placement and removal of substrates for improved handling efficiency
- **Precision coating stroke system:** Adjustable travel distance supports stable and repeatable coating processes
- **Micron-level blade gap control:** Equipped with adjustable coating blade for fine thickness regulation

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Coating speed: 0–100 mm/s ● Maximum stroke length: 300 mm ● Coating width: 0–150 mm (customizable) ● Blade gap adjustment range: 0–3.5 mm ● Vacuum plate type: Vacuum aluminum plate (with oil-free vacuum pump) ● Vacuum plate dimensions: 410 × 200 × 30 mm ● Power supply: 220 V, 50 Hz ● Dimensions : 550 × 310 × 330 mm ● Weight: 50 kg 	<ul style="list-style-type: none"> ● Electrode slurry coating for coin cell (CR-series) battery electrode fabrication ● Laboratory-scale preparation of cathode and anode thin films for coin cell research ● Thin film coating of battery electrode materials for process optimization ● Functional material coating studies for coin cell electrode development

Internally Heated Electric Vertical Calendering Machine

ANR-JS100N



JS100N

Product Overview

JS100N is an inner heating electric rolling machine designed for laboratory electrode rolling and compaction processes. It is used for small-format electrode materials, enabling controlled rolling thickness adjustment and stable mechanical processing in battery material preparation workflows.

Research Advantages

- **Adjustable rolling control:** Enables flexible thickness and speed regulation
- **Bidirectional operation:** Supports forward and reverse rolling processes
- **Stable gear transmission:** Ensures consistent electrode compaction quality
- **Material adaptability:** Compatible with small-format electrode processing

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Rolling thickness range: 0–2 mm ● Feed speed: 0–40 mm/s ● Roller diameter: $\varphi 96$ mm ● Press width: 0–100 mm ● Surface hardness: HAC62+ ● Surface roughness: ≥ 0.4 ● Roller placement: Horizontal ● Power supply: AC 220 V, 50Hz ● Power: 0.2 kW ● Dimensions: 500 × 360 × 620 mm ● Weight: 70 kg 	<ul style="list-style-type: none"> ● Laboratory electrode sheet rolling ● Small-scale battery material calendering ● Electrode thickness adjustment and compaction studies

Hydraulic-Balanced Electric Calendering Machine

ANR-DG300



DG300

Product Overview

DG300 is a hydraulic electrode calendering machine designed for laboratory battery material processing. It is used for rolling and densifying electrode sheets, improving material density and structural uniformity for lithium-ion battery research applications.

Research Advantages

- **Stable hydraulic pressure:** Ensures repeatable electrode densification performance
- **High-precision rolling system:** Maintains consistent electrode thickness control
- **Wear-resistant roller design:** Enhances long-term operational stability
- **Structural rigidity control:** CNC frame improves alignment and rolling accuracy

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Max rolling force: 25T ● Rolling accuracy: $\pm 2.5 \mu\text{m}$ ● Rolling speed: Max 6 m/min ● Roller diameter: $\varnothing 200 \text{ mm}$ ● Roller width: 300 mm ● Roller hardness: HRC 62–68 ● Surface roughness: Ra 0.4 ● Material: 9Cr3Mo alloy steel ● Power supply: 380 V ● Power: 1.5 kW ● Air pressure: 0.5–0.8 MPa ● Dimensions: L1500 × W600 × H1300 mm ● Weight: 1000kg 	<ul style="list-style-type: none"> ● Lithium-ion battery electrode densification ● Electrode calendering and thickness control ● High-precision laboratory rolling process development

Coin Cell Electrode Punching Machine

ANR-CP60



CP60

Product Overview

CP60 Coin Cell Electrode Punching Machine is a laboratory die-cutting device designed for punching and blanking of thin sheet materials. It is used for preparing electrode discs and separator sheets for coin cell assembly. The system supports interchangeable dies with different diameters, enabling precise punching of electrode materials with controlled thickness range.

Research Advantages

- **High-precision punching guidance system:** Ensures clean cutting with no burrs, no deformation, and no indentation
- **Quick die replacement design:** Enables fast mold change without alignment adjustment
- **Compact laboratory structure:** Suitable for glovebox operation and space-saving laboratory use

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Die diameter range: $\Phi 3$–$\Phi 24$ mm (optional configuration) ● Material thickness range: 0.005–0.5 mm (electrode materials) ● Punching stroke: 25 mm ● Dimensions: 110 × 150 × 220 mm ● Weight: 6 kg 	<ul style="list-style-type: none"> ● Punching of electrode discs for CR-series coin cell assembly ● Cutting of separator sheets for coin cell battery fabrication ● Preparation of cathode and anode samples for laboratory-scale coin cell research ● Sample preparation of thin electrode materials for electrochemical testing

Cell Assembly



Super



A01



BD-200 μ L

Single-Station Glove Box

ANR-Super



Super

Product Overview

Super is a single-station glove box designed for laboratory battery research and material handling under controlled atmosphere conditions. It provides an enclosed operation environment for sensitive electrochemical and battery-related experimental processes.

Research Advantages

- **Sealed controlled atmosphere workspace:** Provides isolated operating environment for experimental handling
- **Single-station compact design:** Supports independent laboratory operation workflow
- **Integrated experimental platform structure:** Facilitates basic battery research and material processing tasks

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Oxygen & moisture content: < 1 ppm ● Circulation flow rate: 900 m³/h ● Vacuum pump ultimate pressure: < 2 × 10⁻¹ Pa ● Main chamber size: 1220 × 750 × 900 mm ● Transition chamber: Ø360 × 600 mm ● Pumping speed: 12 m³/h ● Circulation flow: Integrated blower 90 m³/h ● Material: SUS304 stainless steel, 3 mm thickness ● Front window: 8 mm tempered safety glass ● Glove material: Butyl rubber, 0.4 mm thickness ● Glove size: 8 inch diameter, 32 inch length 	<ul style="list-style-type: none"> ● Lithium battery material handling under controlled atmosphere ● Pouch cell electrode preparation in inert environment ● Battery component assembly in laboratory conditions ● Electrochemical experiment sample preparation ● Sensitive material transfer and storage for battery research

Electronic Pipette

ANR-BD-200 μL



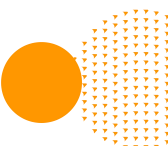
Product Overview

BD-200 μL is a digital liquid handling instrument with a working volume range of 20–200 μL . It is designed for precise liquid transfer, dispensing, and sample handling operations. The device is widely used in laboratory research and is particularly suitable for electrolyte dispensing in coin cell assembly processes.

Research Advantages

- **Multiple operation modes:** Supports PIP, PIPmix, Reverse PIP, GEL, and DISP functions
- **High-precision liquid handling:** Enables accurate micro-volume pipetting with stable repeatability
- **Rechargeable operation system:** Supports up to 4000 pipetting cycles per full charge
- **Flexible liquid compatibility:** Suitable for high-viscosity, high vapor pressure, and foaming liquids

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Volume range: 20–200 μL ● Minimum increment: 0.2 μL ● Accuracy: $\leq \pm 0.8\%$ / $\pm 1.6 \mu\text{L}$ ● Precision (CV): $\leq \pm 0.2\%$ / $\leq 0.4 \mu\text{L}$ ● Operation modes: PIP / PIPmix / Reverse PIP / GEL / DISP ● Battery endurance: Up to 4000 operations per full charge ● Sterilization: Autoclavable at 121 °C for 20 min ● Calibration: Tool-free calibration system ● Power supply: 220 V 	<ul style="list-style-type: none"> ● Electrolyte injection for CR-series coin cell assembly ● Micro-volume dispensing of additives and solvents in electrolyte formulation ● Liquid transfer in electrode and electrolyte preparation processes ● Precise sample handling in laboratory-scale electrochemical research



2-in-1 Hydraulic Crimping/De-crimping Machine ANR-A01



Product Overview

A01 is a compact manual hydraulic tool designed for coin cell crimping and post-test de-crimping. It integrates crimping and de-crimping functions in one benchtop device, allowing users to switch between operations by adding a block rather than changing separate die sets. The system is designed for battery research laboratories, especially workflows requiring CR-series coin cell assembly, de-crimping, and glovebox-compatible operation.

Research Advantages

- **2-in-1 crimping and de-crimping design:** Integrates coin cell sealing and disassembly in one compact device
- **Simplified function switching:** Allows switching between crimping and de-crimping by adding a block, reducing die-changing and alignment work
- **Glovebox-friendly footprint:** Compact body is intended to fit into most glovebox transition chambers without disassembly
- **Pressure monitoring support:** Equipped with an electronic pressure gauge for pressure reading during sealing operation

Technical Specifications	Typical Applications
<ul style="list-style-type: none"> ● Max crimping force: 2 tons ● Die material: Corrosion-resistant die alloy with PTFE anti-corrosion attachment ● Body material: Galvanized aluminum ● Dimensions : 165 × 132 × 185 mm, without handle ● Weight: 10 kg 	<ul style="list-style-type: none"> ● CR/LIR 20-series coin cell crimping during laboratory battery assembly ● De-crimping of coin cells for post-test inspection and failure analysis ● Glovebox-based coin cell sealing workflows for air-sensitive materials ● Small-batch coin cell fabrication and disassembly in battery R&D laboratories

Battery Testing



BTS8



BT

8 Channel Battery Testing System

ANR-BTS8



BTS8

Product Overview

BTS8 is an 8-channel battery testing system designed for comprehensive performance evaluation of various types of batteries. It is widely used in universities and research institutes. The system provides 8 independent programmable channels with precise control capability and a Windows-based software interface for experimental operation and data acquisition.

Research Advantages

- **8 independent programmable channels:** Each channel operates independently for parallel testing
- **Fully independent control architecture:** Each channel can run different test modes simultaneously
- **Programmable testing system:** Supports flexible step-based test parameter configuration via software interface

Parameter	BTS8-5V1mA	BTS8-5V10mA	BTS8-5V3A
Input power	AC 110–220 V	AC 110–220 V	AC 110–220 V
Power	0.03 kW	0.03 kW	0.03 kW
Voltage range	0–5V	0–5V	0–5V
Current range	±0.002–1 mA	±0.1–10 mA	±3–3000 mA
Current accuracy	±0.2% rdg ± 0.1% FS	±0.2% rdg ± 0.1% FS	±0.2% rdg ± 0.1% FS
Voltage accuracy	±0.1% rdg ± 0.05% FS	±0.1% rdg ± 0.05% FS	±0.1% rdg ± 0.05% FS
Cycle count range	1–9999 cycles	1–9999 cycles	1–9999 cycles
Input impedance	≥ 10 MΩ	≥ 10 MΩ	≥ 10 MΩ
Dimensions	480 × 380 × 130 mm	480 × 380 × 130 mm	480 × 380 × 130 mm

Typical Applications

- Battery charge/discharge cycle testing for material evaluation
- Performance characterization of lithium-ion and other battery systems
- Electrode material electrochemical behavior testing
- Laboratory-scale battery aging and cycling experiments

Battery Voltage & Internal Resistance Testing System

ANR-BT



BT

Product Overview

BT is designed for secondary battery testing applications, including lead-acid, nickel-cadmium, nickel-metal hydride, lithium-ion, and lithium polymer batteries. It enables precise measurement of open-circuit voltage and AC internal resistance, providing fast and reliable electrical characterization for battery quality inspection and laboratory testing.

Research Advantages

- **Dual-parameter measurement:** Measures battery voltage and AC internal resistance
- **1 kHz AC test method:** Ensures stable and standardized impedance measurement
- **Multi-chemistry compatibility:** Applicable to multiple rechargeable battery systems
- **Fast sampling system:** Supports efficient testing workflow

Test Item	Measurement Range	Resolution	Basic Accuracy (RD)
Voltage	0–5 V	0.001 V	$\pm(0.5\% \text{ RD} + 0.003 \text{ V})$
Voltage	0–50 V	0.01 V	$\pm(0.5\% \text{ RD} + 0.003 \text{ V})$
Internal resistance	0.01–40 m Ω	0.01 m Ω	$\pm(0.5\% \text{ RD} + 0.05 \text{ m}\Omega)$
Internal resistance	0.1–400 m Ω	0.1 m Ω	$\pm(0.5\% \text{ RD} + 0.5 \text{ m}\Omega)$
Internal resistance	1–4000 m Ω	1 m Ω	$\pm(0.5\% \text{ RD} + 5 \text{ m}\Omega)$
Frequency	1 kHz, Sampling rate 100 times/s		
Display refresh rate	5 times/s		
Test current	Max AC 20 mA		
Preheating time	$\geq 3 \text{ min}$		

Typical Applications

- Voltage and internal resistance testing of secondary battery cells
- Quality inspection of lithium-ion, lithium polymer, and other rechargeable batteries
- Electrical performance screening during battery production and laboratory testing
- Consistency evaluation of battery cells in research and manufacturing processes