

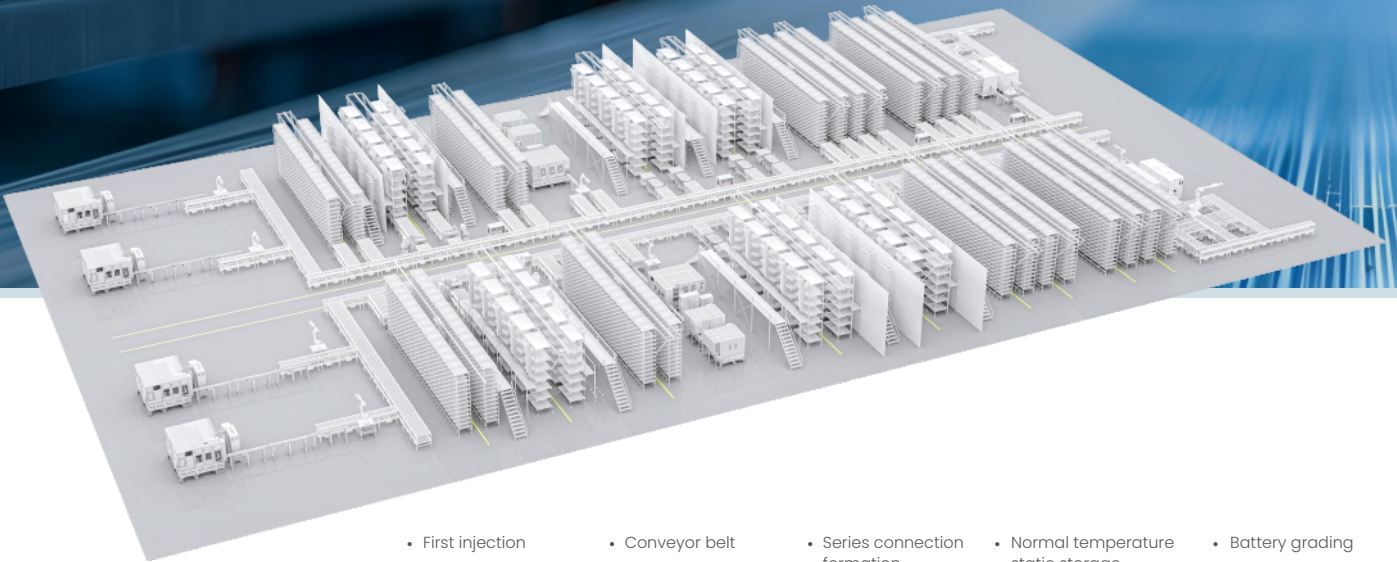


Battery Formation & Grading Intelligent Manufacturing

Energy saving and efficient battery production line solution

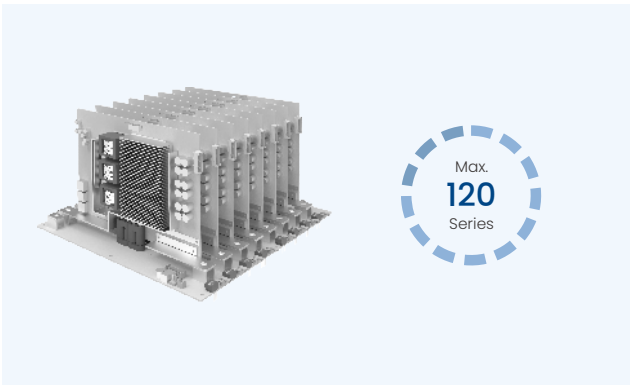
High-Voltage Series Formation Solution

RePower's battery series connection formation & grading system is an energy-saving and efficient production line solution.



- First injection
- Injection unloading
- Battery pack
- Conveyor belt
- High temperature static storage
- Pin Pulling
- Series connection formation
- Pin Inserting
- OCV
- Normal temperature static storage
- Secondary injection Sealing welding Airtightness detection
- Battery grading
- Normal temperature static storage
- Cells sorting

Switchboard



The switchboard supports any number of series. Single channel independent control of switching board, fast acquisition/judgment, fast disassembly and replacement.

High frequency and high voltage power module



Independently developed high frequency and high voltage power module, using high frequency silicon carbide technology, small size, high power density;

800V busbar technology

The equipment adopts high voltage series system, up to 800V busbar technology.

800V

High cell consistency

The current of the series circuit is highly consistent, effectively improving the consistency of the cell;



High equipment efficiency

Adopts a high-voltage module, with a charge-discharge efficiency of up to 96%, saving significant electricity costs;

96%

Low wire cost

The high-voltage series scheme can greatly simplify the cable, reduce the cost and loss of wire, while significantly decreasing commissioning workload;



Heat energy recycling

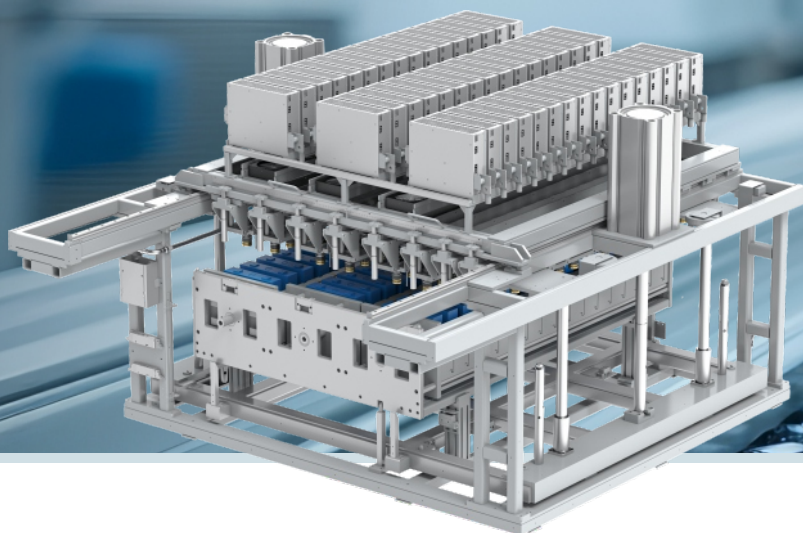
The thermal energy cycle technology is adopted to realize the stable operation of the power supply under high temperature environment, and realize the heat recovery and utilization of the power supply synchronously.



Solution Advantages



Ultra-large Cell Formation and Grading System



High Voltage
DC Busbar



SiC/GaN
Water-cooled
Power Supply



Highly Efficient
Water Cooling



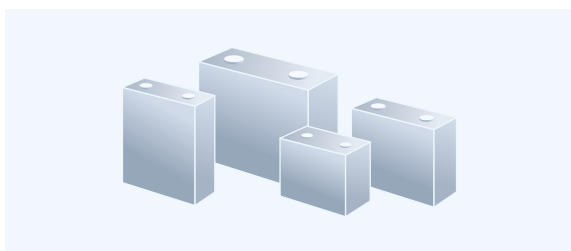
Independent
Control Of
Storage Positions



Compatible
with Automatic
Model Switching

Flexible Compatibility

Automatic model switching with multi-model battery compatibility. Supports automatic switching between 24-48 channels and compatibility with 314/587/1130...2700Ah battery cells.



High voltage DC bus with SiC/GaN power module

85 %

Discharge
efficiency

0.02% F.S

Voltage
accuracy

50 %

Consumption
decrease

±2°C

Battery temperature uniformity

20 %

Production efficiency increase

Energy Saving & Cost Reduction

Integrated liquid-cooled system significantly reduces production line construction, equipment, and operational costs.

30 %

Space Efficiency

8.2 million kWh/year

Saved in IGWH grading process

Strong Scalability

Reserved photovoltaic expansion interface for efficient collaboration with solar-storage systems, enabling "peak reduce & valley filling" and clean energy utilization in production electricity consumption.

Minimalist Series – Connected Formation System

≥ 85%

Max. Grid feedback efficiency

0.02% F.S

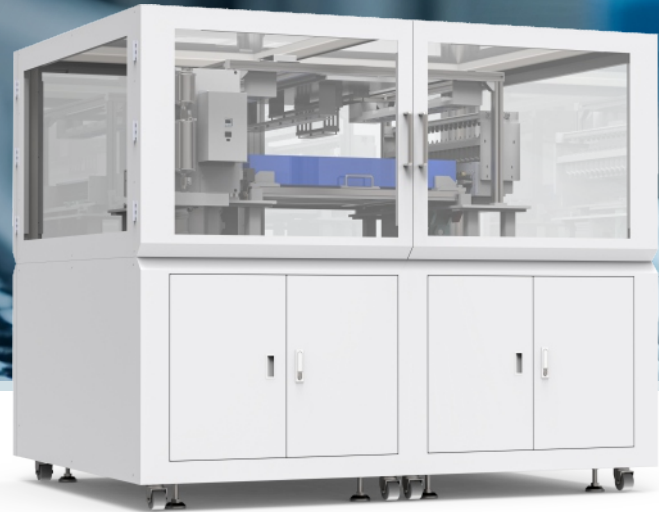
Voltage / Current accuracy

30%

Energy saving increased

600V

Voltage



Minimalist series architecture



Support up to 120 in series at most



Independent Control Of Storage Positions



Negative pressure servo motor adjustment



Multiple safety protections

Simplified Structural Design

Simplified Structural Design to remove large amount of branch circuits and junction nodes, to reduce line loss and enhance system stability and reliability, increase 50% of energy-saving and consumption-reducing, achieving cost reduction, efficiency and quality improvement.

Serial Constant Voltage Formation and CV Bypass Technology

Ensure battery formation in perfect voltage situations, significantly improve battery consistency with charge/discharge efficiency of up to 85% .

Switching board arbitrary series connection technology

Extensive system compatibility supports any number of batteries connecting in series within 120 seconds, with independent control of battery positions, significant enhancing battery performance and reliability.

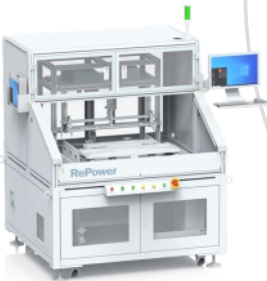
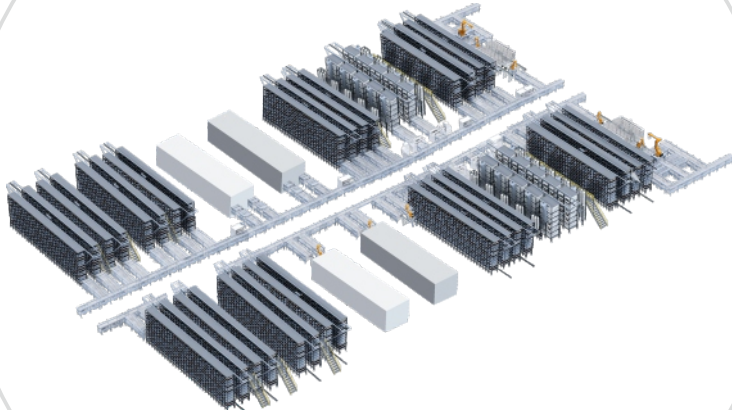
Integrated Intelligent Manufacturing Solution for Solid-State Battery



Solid-State Battery Formation System



Solid-State Battery Capacity Grading System



Solid-State Battery OCV Test System

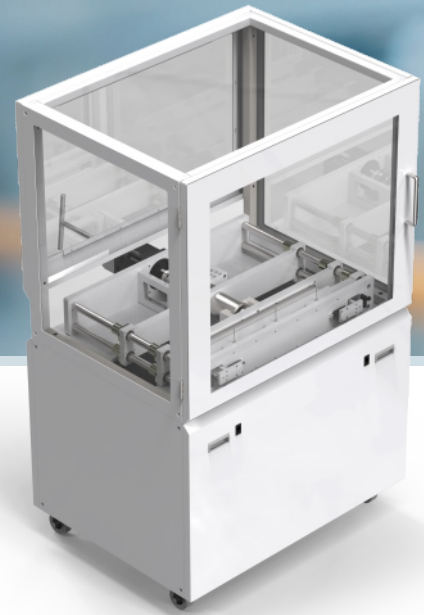


Solid-State Battery DCIR Test System



Solid-state Battery On-board Cooling/heating Ultra-high Pressure Monitoring System

Solid-state Battery On-board Cooling/heating Ultra-high Pressure Monitoring System



Suitable for pressure and temperature control tests of solid-state battery cells. Through feedback data of pressure sensors, the product is convenient for testers to conduct accurate analysis of battery cells.

Support cold or hot pressurization test

Support cold or hot pressurization test, real-time adjustment and feedback according to pressure sensor value, ensuring solid-state battery charging and discharging between the appropriate temperature and pressure.

0~120 t

Output Pressure

±0.4 t

Controlling Precision

≤0.2 t

Pressure Deviation of Different Channels

Real-time monitoring of uniform pressurization

Pressure deviation of different channels: ≤0.2t, guaranteeing long-term equalization and stability of channel pressure, enhancing consistency and performance stability of batteries.

Modular design

Module combination choosing based on demands, quickly establish targeted test platform, flexible customizing in different experimental scenarios to meet with variety of pressurization test needs.

High utilization rate

Deep integration of Isostatic pressure fixture and devices, compact and reasonable structure layout with space reducing, process gap shortening, comprehensive utilization rate of equipment enhancing and operating costs lowering.



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