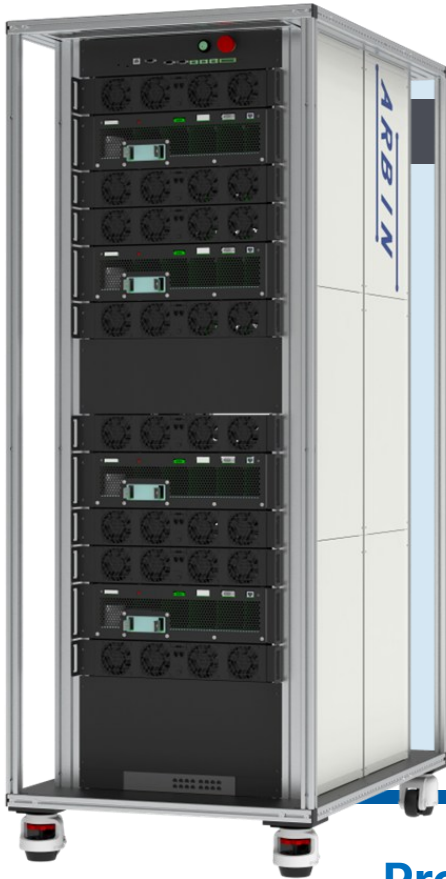




Key Features

- ✓ **Reduce Energy Consumption:** Efficient regenerative circuitry can return up to 92% of discharge energy back to the system and/or grid
- ✓ **Channel Density:** Up to 6 channels per chassis, capable of output currents ranging from ± 50 A up to $\pm 1,200$ A per chassis
- ✓ **Minimize Floor Space** with up to 6 channels and up to 360 kW per chassis in a compact footprint
- ✓ **Series or Parallelable** so channels can be connected to increase the voltage or current handling capability
- ✓ **Flexible and robust** CAN 2.0 and CAN-FD for BMS communication and facility integration

Precision Meets Efficiency

As the demand for energy storage solutions grows, so does the need for regenerative technology that not only accurately tests and characterizes batteries, but also contributes to a sustainable future.

Arbin's Regenerative Battery Testing (**RBT-Pack**) series combines high-precision measurements and **fully digital control, SiC-based** regenerative technology to reduce the overall energy cost of your testbed. This innovative technology enables researchers to generate reliable and repeatable data without compromising on results in the pursuit of energy efficiency.

Standard Configurations

Model	Voltage Range		Current Ranges per Channel(±)	Number of Channels	Chassis Power Options
	Min	Max			
RBT43012	20 V	300 V	200 A, 100 A	Up to 6	45 kW to 240 kW
		400 V			45 kW to 320 kW
		500 V			45 kW to 360 kW
RBT44012	30 V	600 V	150 A, 75 A		45 kW to 360 kW
		750 V			45 kW to 360 kW
RBT45012	40 V	1,000 V	100 A, 50 A		
RBT46012	60 V	1,500 V	150 A	Up to 2	100 kW to 360 kW

System Information

System Characteristics	
Channels per Chassis	Up to 6
Current Ranges per Channel	Up to 2 (auto switching)
Channel Parallel per Chassis	Up to 1,200 A
Current Rise Time	<2 ms
Charge Efficiency	Up to 94%
Regenerative Efficiency	Up to 92%
Control & Measurement Specifications	
Accuracy, Voltage	±0.02% FSR
Accuracy, Current	±0.02% FSR
Precision	±0.02% FSR
Measurement Resolution	16 Bit
Control Resolution	16 Bit
Time Resolution	50 µs
Data Acquisition Rate	Up to 1 kHz
Chassis Specifications	
Cooling	Air-cooled with built-in variable speed fans
Input Power	340V3P – 450V3P 440V3P – 520V3P
Chassis Size	Width: 30" (762 mm) Depth: 45" (1,143 mm) Height: 78" (1,982 mm)

Powerful Software Integration

Arbin's RBT-Pack system, powered by our latest MITS software, optimizes the battery testing process by simplifying control of the testing process, and integrating the test station into a test facility.

- ✓ Create and manage test schedules, monitor real-time testing, and analyze results.
- ✓ Integration with third-party hardware and automation software.
- ✓ Suitable for both laboratory and production environments.
- ✓ Test data securely stored in a range of robust databased formats including MS SQL, PostgreSQL, or utilize Apache Kafka for additional flexibility.

Application Focus



Facility integration to interface with temperature chambers, test facilities, or other third party systems.



Data Sampling and Logging: Powerful embedded controllers provide ultra-fast data sampling and logging.



Comprehensive safety features for lithium-ion battery testing.



Dynamic data acquisition based on changes in time, voltage, and current to capture more data when it's needed and maintain efficient file sizes.



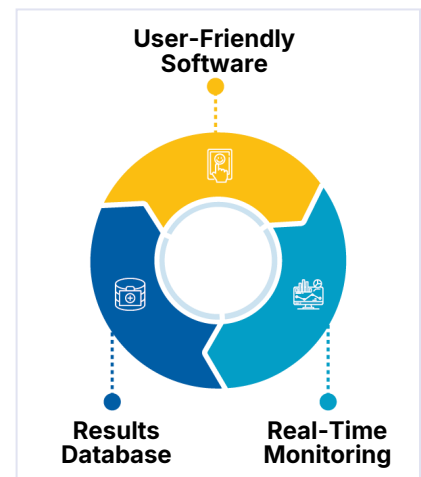
Simulation of Real World Test Profiles



Battery Pack R&D



Battery Pack End-of-Line (EOL)



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