Replacement Guide

Preparing for NHR 9200/9300 End of Service: A Modern Path Forward with Mi-BEAM Power Rack

Overview

The NHR 9200/9300 has supported high-power battery and electrification testing across automotive, aerospace, energy storage and other industrial applications but test requirements have evolved and so must the equipment that supports them.

The retirement of all remaining NHR products was publicly announced on September 8, 2025, with standard service for the NHR 9200/9300 ending December 31, 2026. For laboratories built around these systems, that raises one important question, **what platform will support the next generation of high-power DC testing?**

For organizations beginning that transition, the AMETEK Programmable Power Mi-BEAM Power Rack provides a modern, compact, modular alternative for many of the same high-power applications, including battery testing and simulation, electric powertrain development, energy storage and other bidirectional DC applications. Further, because the Mi-BEAM utilizes TCP/IP and SCPI protocols, the integration with existing systems is that much simpler, meaning no additional software layers are required.

More Than a Replacement

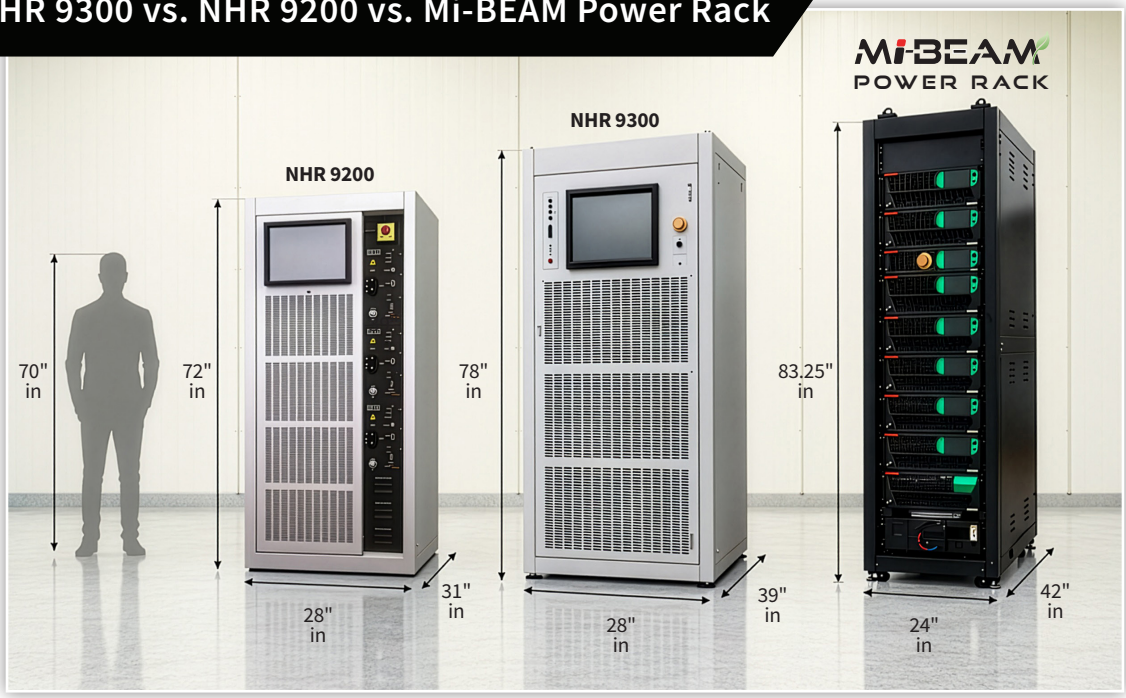
Rather than replacing one fixed system with another, Mi-BEAM creates an opportunity to improve power density, scalability, serviceability, and long-term flexibility.

Instead of sizing a system around a fixed 100 kW cabinet, the Mi-BEAM Power Rack uses modular 37.5 kW power building blocks. Each 42U rack supports up to seven Mi-BEAMs for 262.5 kW per rack, with multiple racks configurable for systems up to 8.6 MW. Individual units can also be isolated and replaced, simplifying service and enabling spare-module strategies.

With configurations from 80 V to 2,000 V and up to ±7,000 A per rack, Mi-BEAM supports applications ranging from high-current, low-voltage testing to emerging high-voltage architectures.

Native TCP/IP, SCPI, CAN bus, and GPIB controls help simplify integration with existing test environments, including platforms such as Enerchron and LabVIEW.

NHR 9300 vs. NHR 9200 vs. Mi-BEAM Power Rack



Start Planning the Transition

For organizations planning the next generation of high-power testing, the Mi-BEAM Power Rack provides a scalable path forward. Plan the next system around future power, voltage, current, integration, and service requirements. Build for future test requirements with a system that integrates with the existing environment and is manufactured in the USA.

Specification	NHR 9200	NHR 9300	Mi-BEAM Power Rack
Dimensions	Standalone cabinet (72 × 28 × 39 in; H × W × D); approximately 7.6 sq. ft.	Standalone cabinet (78 × 28 × 39 in; H × W × D); approximately 7.6 sq. ft.	Modular 42U rack (83.25 × 24 × 42 in; H × W × D); approximately 7 sq. ft.
Power per Cabinet/Rack	36 kW per cabinet (asymmetric charge/discharge limits)	100 kW per cabinet	Up to 262.5 kW per rack
Maximum System Power	Up to 432 kW	Up to 2.4 MW	Up to 8.6 MW*
Voltage Options	40/120/600 V ranges	600/1200 V ranges	80/400/600/800/1200/1500/2000 V
Maximum Current	±40/120/600 A ranges	±333 A per cabinet (600V) ±166 A per cabinet (1200V)	Up to ±7,000 A per rack, configuration dependent
Operation	Bidirectional source/load	Bidirectional source/load	Bidirectional source/load
Regenerative	Yes; >87% typical	Yes; >95% typical	Yes; >95% typical
Operating States	Charge/discharge, load, battery emulation	Charge/discharge, load, battery emulation	Battery simulation, charge/discharge testing, load
Operating Modes	CV, CC, CP, Series Resistance	CV, CC, CP, Series Resistance	CV, CC, Series Resistance, CV/CC, CC/CV, CV/CP, CC/CP, CP/CC
Transient Specifications	Voltage Regulation: 20ms Current Regulation: 1ms	Voltage Regulation: 20ms Current Regulation: 1ms	Voltage Regulation: 10ms Current Regulation: 0.5ms
Control	Touchscreen, LAN, LabVIEW drivers, IVI drivers, SCPI	Touchscreen, LAN, LabVIEW drivers, IVI drivers, SCPI	Touchscreen, LAN, CAN, USB, RS-232C, isolated analog programming and monitoring, SCPI, LabVIEW drivers, IVI-C drivers, IVI-COM drivers, and optional GPIB
Software	Enerchron Test Executive	Enerchron Test Executive	Battery application, virtual panels
Expansion	Parallel up to 432 kW	Parallel up to 2.4 MW	Parallel operation up to 8.6 MW
Safety / Compliance	Input AC isolation, output UUT isolation, OV, OC, OP, OTP, EPO, and rear-door interlock	Input AC isolation, output UUT isolation, OV, OC, OP, OTP, EPO, and rear-door interlock	Rack safety: EPO, rack and branch-circuit breakers, door interlock, CE and NRTL certification Mi-BEAM safety: OV, OC, OP, OTP, and anti-islanding
Standard Service	Ends Dec. 31, 2026	Ends Dec. 31, 2026	5-year warranty on Mi-BEAM 2-year warranty on rack

**Parallel racks for up to 8.6 MW, for higher power, please consult the factory.*

Mi-BEAM Power Rack Configuration Guide

