

105 kW Air-Cooled Load Bank

Programmable Power and Thermal Load
Simulation for Data Center Validation

Built for Air-Cooling Validation

The Nexatherm 105 kW Air-Cooled Load Bank simulates the **electrical and thermal demands of air-cooled computing equipment** without requiring production servers. Five independently powered 21 kW modules, variable-speed airflow, and programmable load control enable teams to validate data center power and cooling infrastructure before critical IT equipment is deployed.



105 kW Capacity

Five modular 21 kW air-cooled load units



Precise Load Control

Adjustable from 0–21 kW per module with ≤ 0.5 kW accuracy



Variable Airflow

Adjustable airflow replicates rack cooling conditions



Portable Deployment

Casters & lockable access simplify deployment



Integrated Monitoring

Tracks load, airflow, temperature, input power, & current



Programmable Profiles

Simulates steady-state loads & rapid thermal spikes



Key Specifications

Total Capacity	105 kW
Configuration	5 × 21 kW modules
Rated Voltage	415–460 VAC, 3-phase
Frequency	50–60 Hz
Full-Load Current	180 A
Load Adjustment	0–21 kW per module
Control Interface	10-inch touchscreen HMI
Communications	BACnet/IP & Modbus TCP

Typical Applications

- ◆ Data Center Commissioning
- ◆ Rack-Load Simulation
- ◆ Cooling Performance Testing
- ◆ Electrical Distribution Testing
- ◆ Hot-/Cold-Aisle Validation
- ◆ Thermal-Response Testing

The Nexatherm Difference

Coordinated Multi-Unit Control

Available group-control software synchronizes multiple load banks for repeatable testing of dynamic air-cooled IT load profiles.



Start/Stop Timing



Load Ramp Rate



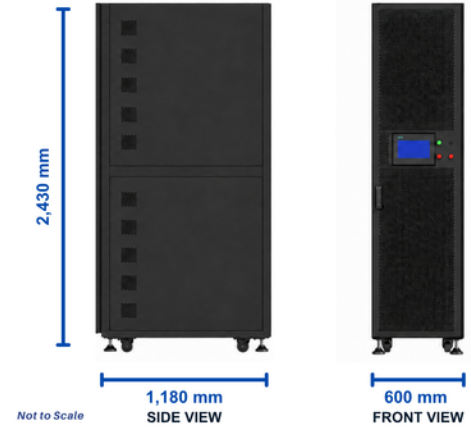
Airflow Rate

105 kW Air-Cooled Load Bank

TECHNICAL SPECIFICATIONS

System Overview

Five modular 21 kW units simulate the electrical and thermal demands of air-cooled data center equipment. Solid-state load control, variable-speed fans, and integrated monitoring support steady-state, programmable, and remote testing.



System Configuration

Total Capacity	105 kW
Configuration	5 × 21 kW air-cooled modules
Load Adjustment	0–21 kW per module
Adjustment Accuracy	≤0.5 kW per module
Load Control	PLC-controlled solid-state switching
Cooling	100% air-cooled

Physical Specifications

Cabinet Dimensions	600 × 1,180 × 2,430 mm (23.62 × 46.46 × 95.67 in.)
Net Weight	480 kg (1,058 lb)
Ambient Temperature	0–50°C (32–122°F)
Relative Humidity	5–95%, non-condensing
Maximum Altitude	1,500 m (4,921 ft)
Protection Class	IP21

Electrical

Rated Voltage	415–460 VAC, 3-phase + PE
Frequency	50–60 Hz
Full-Load Current	180 A
Module Current	34 A
Module Connection	63 A, 5-pole, 6h CEEform male
Insulation Class	Class F

System Controls

User Interface	10-inch touchscreen HMI
Display Parameters	Load, waveform, temperature, airflow, power & current
Communications	BACnet/IP & Modbus TCP
Connection	RJ45 Ethernet
Remote Operation	Supported
System Updates	USB or secure VPN connection

Air-Cooled Module

Module Capacity	21 kW
Adjustable Airflow	200–280 m³/h per kW
Airflow (IP)	Approximately 118–165 CFM/kW
Max. Discharge Temp.	60°C (140°F)
Fan Control	Variable-frequency drive
Noise Level	92 dB(A) at 1 m
Protection Class	IP21

Standard Features

- Five independently powered modules
- Power-on system self-check
- Airflow-based heater interlock
- Overtemperature protection
- Fan-failure shutdown
- Emergency-stop protection
- Outlet-air temperature sensor
- Local & remote monitoring
- Lockable front access
- Rear air discharge