

# 115 kW Liquid-Cooled Load Bank

Portable Power and Thermal Load Simulation  
for Liquid-Cooling System Validation

## Built for Liquid-Cooling Validation

The Nexatherm 115 kW Liquid-Cooled Load Bank **simulates the electrical and thermal demands** of liquid-cooled computing equipment without requiring production servers. Eight selectable load stages, adjustable hydraulic resistance, and integrated system monitoring enable controlled power and cooling testing before critical equipment is deployed.



-  **115 kW Capacity**  
Simulates rack-level electrical & thermal loads
-  **100% Liquid-Cooled**  
Transfers the applied load directly to the liquid loop
-  **8 Selectable Load Stages**  
Individual stages ranging from 2 to 30 kW
-  **Adjustable Flow Resistance**  
Proportional & manual valves simulate system hydraulic conditions
-  **Portable Deployment**  
Casters, forklift pockets, lifting eyes, & lockable access
-  **Integrated Monitoring**  
Tracks load, pressure, temperature, flow, power, & current

## Key Specifications

|                          |                     |
|--------------------------|---------------------|
| <b>Total Capacity</b>    | 115 kW              |
| <b>Rated Voltage</b>     | 460 VAC, 3-phase    |
| <b>Frequency</b>         | 50–60 Hz            |
| <b>Full-Load Current</b> | 160 A               |
| <b>Load Type</b>         | PTC resistive       |
| <b>Load Accuracy</b>     | ±5%                 |
| <b>Control Interface</b> | 10-inch touchscreen |
| <b>Rated Flow</b>        | 1.5 L/min per kW    |

## Typical Applications

- ◆ Liquid-Cooling Commissioning
- ◆ CDU & Loop Testing
- ◆ Rack-Load Simulation
- ◆ Flow and Pressure Verification
- ◆ Hot-Aisle Thermal Testing
- ◆ Site Acceptance Testing

## The Nexatherm Difference

### Coordinated Multi-Unit Control

Available group-control software synchronizes multiple load banks for repeatable testing of liquid-cooled IT loads and hydraulic conditions.

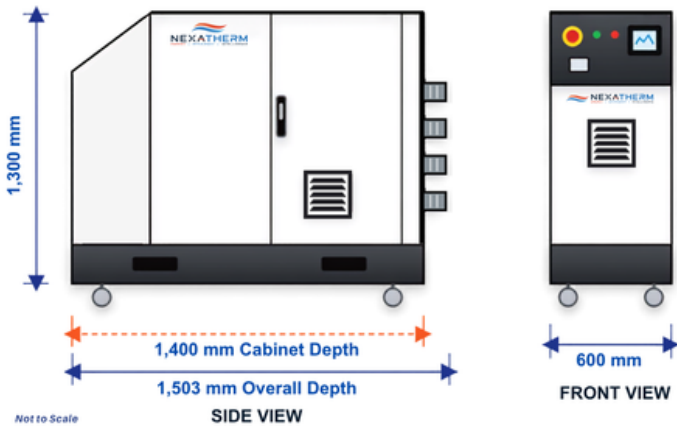
-  **Start/Stop Timing**
-  **Load-Stage Sequencing**
-  **Coolant Flow Rate**

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## TECHNICAL SPECIFICATIONS

### System Overview

Eight independently switched load stages support flexible test configurations, while proportional flow control reproduces a range of hydraulic resistance conditions. Multiple units can be deployed together when additional test capacity is required.



### System Configuration

|                |                                       |
|----------------|---------------------------------------|
| Total Capacity | 115 kW                                |
| Configuration  | Eight selectable load stages          |
| Load Stages    | 30 + 30 + 20 + 15 + 10 + 5 + 3 + 2 kW |
| Load Type      | PTC resistive heating                 |
| Load Accuracy  | ±5%                                   |
| Cooling        | 100% liquid-cooled                    |

### Physical Specifications

|                     |                                                       |
|---------------------|-------------------------------------------------------|
| Cabinet Dimensions  | 600 × 1,400 × 1,300 mm<br>(23.62 × 55.12 × 51.18 in.) |
| Overall Depth       | 1,503 mm (59.17 in.)                                  |
| Net Weight          | 280 kg (617 lb)                                       |
| Ambient Temperature | 0–50°C (32–122°F)                                     |
| Relative Humidity   | 5–95%, non-condensing                                 |
| Maximum Altitude    | 1,500 m (4,921 ft)                                    |

### Electrical

|                   |                              |
|-------------------|------------------------------|
| Design Voltage    | 460 VAC, 3-phase             |
| Frequency         | 50–60 Hz                     |
| Full-Load Current | 160 A                        |
| Power Connections | 4 × 63 A, 5-pole, 6h CEEform |
| Insulation Class  | Class F                      |

### System Controls

|                    |                                                    |
|--------------------|----------------------------------------------------|
| User Interface     | 10-inch touchscreen HMI                            |
| Display Parameters | Load, temperature, pressure, flow, power & current |
| Communication      | Modbus TCP/IP                                      |
| Connection         | RJ45 Ethernet                                      |
| Hydraulic Control  | Proportional valve with manual balancing valve     |

### Liquid System

|                            |                                         |
|----------------------------|-----------------------------------------|
| Compatible Coolants        | Deionized water or 25% propylene glycol |
| Calculated Full-Load Flow  | 172.5 L/min (45.6 GPM)                  |
| Coolant Temperature        | 5–65°C (41–149°F)                       |
| Adjustable Flow Resistance | 60–200 kPa (8.7–29 psi)                 |
| Design/Test Pressure       | 6 bar design/10 bar test (87/145 psi)   |
| Filtration                 | 50 µm (0.002 in.)                       |
| Liquid Connections         | 64 mm (2.52 in.), sanitary-style        |

## Standard Features

- Flow-based heater interlock
- Overtemperature alarm
- Overpressure alarm
- Outlet pressure-relief valve
- Emergency-stop protection
- Low-flow alarm
- Liquid-leak alarm
- Lockable front access panel
- Fixed & swivel casters
- Forklift pockets & lifting eyes