

HIGHEST SINGLE-UNIT CAPACITY

LB700

700kW liquid cooled load bank

The largest single unit in the liquid cooled range, at 700 kW. Twelve 50 kW on/off stages with two 50 kW solid-state switching modules that can be applied to any stage, so a held load and a fast stepped load come from the same machine, in the same footprint as the 500 kW unit.

700kW
Guaranteed heat output at 400V

12 × 50kW
On/off stages

2 × 50kW
Solid-state, applied to any stage

1010A
Full load, 1250A supply

KEY FEATURES

- Guaranteed heat output of 700 kW for commissioning and testing
- Compact enough for server rack cages and narrow access pathways
- Hydronic flow rate from 100 LPM to 900 LPM
- RJ45 Ethernet over IP, simultaneous operation across networked units
- Solid-state switching modules for fast, repeatable load steps
- Operating weight under 1000 kg, drained mobile weight under 750 kg
- Integrated flow, pressure and temperature measurement
- Master only in each 700kW load bank

SOLID-STATE SWITCHES (SSR)

- PWM zero-cross switching
- Fast switching, under 25 ms at 50 Hz and 16.7 ms at 60 Hz
- Low EMI / RFI noise
- 3 leg switching
- Optical isolation between input and output
- No moving parts, for long service life
- Compact design

APPLICATIONS

Initial commissioning
Simulate progressive load increases to verify cooling system performance and stability under controlled conditions.

Thermal testing
Run comprehensive heat load tests to find cooling system weaknesses before production deployment.

Performance validation
Verify cooling capacity meets design specification across load profiles and environmental conditions.

Ongoing certification
Maintain compliance with periodic testing and documentation of cooling system performance.

TECHNICAL SPECIFICATION

Load bank capacity	700 kW at 400V
Step load increment	12 × 50 kW on/off stages, plus 2 × 50 kW of solid-state switching applied to any stage
Inlet / outlet temperature	Min inlet 14 °C, max inlet 35 °C, max outlet 50 °C
Max liquid capacity	700 kW at 400V
Hydronic flow rate	Minimum 100 LPM, maximum 900 LPM
Allowable pressure drop	100 kPa, adjustable
Pipe size	125 mm / 5 in from load bank
Power connection	3 sets in parallel of Powerlock 3P+E, up to 400A each, 1010A full load, 1250A supply
Dimensions (L × W × H)	L 1720 mm (including frame) × W 1055 mm × H 1930 mm
Weight dry / full of PG25	750 kg / 975 kg
Delta T range	8 to 30 °C
Filling capacity	200 L
Master / slave control	Master only in each 700kW load bank
Flow meter	IFM / SA5000
Temperature sensor	IFM / TM5411
Pressure sensor	IFM / PT5404
Control interface	RJ45 Ethernet over IP, web browser, network connection to each load bank, simultaneous operation

PROTECTIONS

- Unit-mounted electrical isolation switch with lock-off functionality
- Dual-channel emergency stop buttons directly on the unit
- Pressure monitoring with dual fail-safes: control transducers and mechanical cut-out
- Thermal safety cut-out with mechanical reset
- High pressure, high temperature, water leak and low flow rate protection
- Independent electrical circuit breaker protection for each resistor bank
- Real-time fluid flow monitoring and safety shutdown

FLUID COMPATIBILITY

- General HVAC chilled water systems
- PG25 direct-to-chip SFN systems, through a fully stainless steel fluid path
- 125 mm / 5 in DN125 PN16 flow and return connections
- Softened or deionised water SFN networks
- Temperature control keeps PG25 below 45°C to preserve fluid integrity

OPTIONAL EXTRAS

- Marechal single 400 mm power connection points with disconnection interlock
- Advanced fluid distribution connection points, bespoke manifold
- Multi point commissioning trolley to simulate the flow and pressure drop of AI-ready server racks
- Lifting eyes for simplified overhead lifting and positioning
- Bespoke pre-startup inspections and maintenance agreements
- IP rating upgrade

CERTIFICATIONS

CE UL

HYDRAULIC ARRANGEMENT

The LB700 is compatible with general HVAC chilled water systems, softened or deionised water SFN networks and PG25 direct-to-chip SFN systems. Its stainless steel heat exchanger with 125 mm / 5 in DN125 PN16 flow and return connections and integrated temperature control keeps PG25 below 45°C, preserving fluid integrity and avoiding the thermal degradation seen in competitor systems.