

AI LIQUID-COOLING COMMISSIONING

LB600

600kW liquid cooled load bank

A compact 600 kW liquid cooled load bank for data centre commissioning, testing and validation. It delivers a guaranteed 600 kW of heat rejection in the same footprint as the 500 kW unit, at a drained mobile weight of less than 800 kg for use on raised floor systems. Solid-state switching is available as an optional extra.

600kW
Guaranteed heat output

<800kg
Drained weight, safe for raised floors

12 × 50kW
Load steps, any combination up to full load

30°C
Delta T control

KEY FEATURES

- Guaranteed heat output of 600 kW for commissioning and testing
- Operating weight under 1000 kg, drained mobile weight under 800 kg
- Integrated flow, pressure and temperature measurement
- Solid-state switching available as an optional extra
- 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
- Colour touchscreen 10.1 in HMI with secure login

ENGINEERED SAFETY AND HANDLING

- Sub-800 kg mobile weight, within raised floor load limits
- Integrated locking wheel system for stable positioning
- End-frame protection for fluid connections to prevent accidental damage
- Premium Powerlock electrical connectors rated up to 1000A
- Protective steel cover doors for HMI and electrical connections
- Electrical panel temperature regulation and active air cooling

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.

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TECHNICAL SPECIFICATION

Load bank capacity	600 kW
Step load increment	12 × 50 kW steps, 1 × 20 kW step, any combination up to 600 kW
Inlet / outlet temperature	Min inlet 14 °C, max inlet 35 °C, max outlet 50 °C
Max liquid capacity	600 kW
Hydronic flow rate	Minimum 100 LPM, maximum 900 LPM
Allowable pressure drop	100 kPa, adjustable
Pipe size	100 mm / 4 in from load bank; from CX manifold 25 mm / 1 in or 50 mm / 2 in
FD83 connection size	25 mm / 1 in or 50 mm / 2 in (optional CX manifold)
Power connection	2 sets in parallel of Powerlock 3P+E, 433A each, 866A total load
Dimensions (L × W × H)	L 1720 mm (including frame) × W 1055 mm × H 1930 mm
Weight dry / full of PG25	800 kg / 1000 kg
Delta T range	8 to 30 °C
Filling capacity	200 L
Master / slave control	Master only in each 600kW 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
- 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
- Split-load electrical connections for multiple data centre tap-offs, removing the need for a single 800A supply
- 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

CERTIFICATIONS

CE UL

HYDRAULIC ARRANGEMENT

The LB600 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 100 mm / 4 in DN100 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.