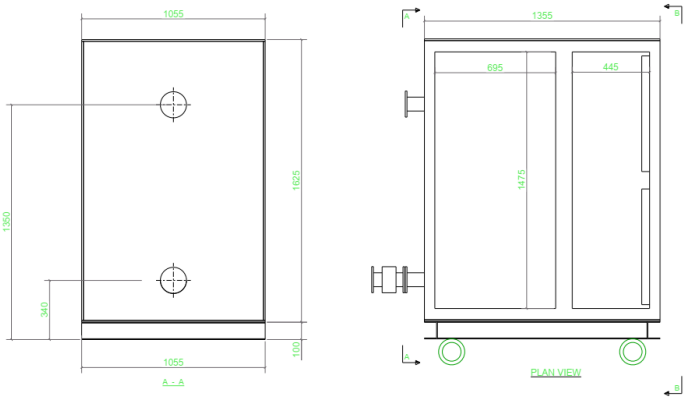
Model LB500i

Data Sheet

The Power Load Model LB500i is ideal for data centre commissioning and testing while integrating seamlessly with existing cooling infrastructure. It is a resistive, AC liquid cooled load bank designed for operation indoors when up to 500 kW of resistive load is required.

- Corrosion resistant stainless-steel piping and tank
- LCD colour touchscreen controller enables networking of liquid or air-cooled load banks
- In-built system data logging capability for detailed test result
- Powder coated Steel enclosure, sturdy welded frame, and heavy-duty casters for durability and long life
- Built-in flow meter visually displays flow rate and monitors for under or overflow conditions



User Control System Interface

The Power Load user friendly LCD colour controller integrates both liquid cooled and air-cooled load banks within the same network. It supports TCP/IP Modbus communication, utilising an Ethernet-based wiring infra-structure for seamless connectivity. The control panel features power on/off functions, master load on/off management, and alarm indicators for low flow, over-temperature, and over-pressure conditions, and control power internal/external switch, as well as a notification for remote mode and quantity (2) Ethernet connections.

An integrated power meter displays AC 3-phase voltage and current, power (kW), frequency, and power factor.

Key operated Manual override switches are provided for additional Authorised personnel.

Emergency stop button is provided.

Power Section

Mains Power Isolator with Off position lockable handle

Powerlock connections for mains 400vac power connection

Short circuit power protection and contactor for each resistor

Safety interlocks for Temperature, Pressure and flow rate

Indicator lamps

Load Bank Hydraulic Arrangement

The LB500i liquid cooled load bank has a stainless steel heat exchanger with DN100 flow and return connections, and high power winding water cooled resistors. The unit is fitted with pressure relief safety valve, manual air vent and manual drain point.

Construction

The LB500i is constructed using heavy gauge steel with Powder coated finish. It is designed for continuous indoor operation. Sturdy welded frame and heavy-duty castors are provided for easy mobility, durability, and long life.

Finish

The LB500i has a high quality powder coated finish to RAL 7035

Stainless steel impact protection frame

FEATURES

Flow:
- Nominal Flow: 8.5 l/s

Sensors:
- High Pressure, High Temperature, Water Leak and Low Flow Rate Protection

Pressure Rating:
- Up to 5.0 bar Working Pressure; 6.0 bar Pressure Relief; 10.0bar Test Pressure

Temperature:
- Operating temperature 5 to 40 degC Up to 30 degC delta T

Control Power:
- Internal with Switch

Inlet/Outlet Connections:
- 4" [DN100] PN16 Flange

Mobility: Heavy duty Nylon Casters
- Lock System: Floor Lock

LOAD BANK RATINGS

500 kW at 400V, 3 PH, 50/60Hz, 10 load steps. Also available at 480V

DIMENSIONS

1725mm high x 1355mm long x 1055mm wide

Rental package is supplied with as standard:

Connection Hoses and Fittings:
4x 2000mm Bauer Rubber 10bar hoses
2x Male 100mm Bauer to PN16 flange connectors

Electrical Power Cables:
4x 25m H07-RNF sets of power cables with powerlock connectors
4x sets of HO7-RNF Powerlock to M12 LUG connection tails

*Additional connection components available on request

USER CONNECTION DATASHEET

Mechanical Installation:

- Confirm that POWERLOAD LB500i has been successfully unloaded from its crate and thoroughly inspected for damage, paying particular attention to external cabinet panels and water circuit pipework.
- POWERLOAD LB500i must be positioned and secured in correct location using lock tabs on the wheels.
- Confirm 1000mm of clearance is available in front and rear of the unit to fully open the access doors.
- Connect the pre-filled Datacool hoses to the relevant FD83 connections to the CDU secondary pipework connections (as shown in user connection schematic).

Electrical installation:

- The POWERLOAD LB500i is supplied with a set of flexible cables; there are 2x 150mm2 H07-RNF cables per L1/L2/L3/N/Earth conductor at a total length of 20m per conductor.
- The POWERLOAD LB500i incoming power cables are connected into the unit via the POWERLOCK connections located in the lower cabinet panel section.
- Sufficient slack should be allowed in the cable run.
- Incoming protection must be provided by the end user in the form of fuses or breakers in accordance with the maximum loads stipulated on the wiring diagram and in accordance with local regulations.
- The electrical panel is divided into two compartments- the upper section is dedicated to the touchscreen user interface and the manual override buttons and indicators.
- The lower section is for mains power connection via POWERLOCKS.

  Note: ALL PANELS WITH SCREW ACCESS MUST ONLY BE REMOVED BY AUTHORISED PERSONEL

Filling the System:

- Using the supplied filling station, position container of pre-treated coolant at the rear of the POWERLOAD LB500i.
- Ensure manual air vent bleed screw is loose, but not removed (located at the top of the flow header)
- Connect fill hose to the ‘filling point’ on the POWERLOAD LB500i
- The fill pressure can be monitored under the POWERLOAD LB500i status screen OR by the manual gauge located on the top flow header, during filling.
- Observe the water level of container and stop the fill pump before refilling the water container. Repeat the process until the fill pump automatically stops.
- Pump will stop when inlet pressure reaches the default 15 psi (1 bar).
- Manually vent air from the POWERLOAD LB500i vessel pipes by opening the air vent valve until all air is removed and fluid is present (fill pump may re-start).
- Check for leaks.
- After the initial fill process, it is advisable to run the CDU at a reduced pump speed to gently circulate the water- enabling any trapped air to vent out through the air vents.