

500 kW Liquid-Cooled Load Bank

The **Delta-Resistel LLLR-500** is a high-performance liquid-cooled load bank designed to test and validate power systems up to **500 kW**.

Operating Principle

Our load banks apply an electrical load (water-cooled) to test the electrical and thermal infrastructure of data centres and white rooms.

Testing ensures safety, thermal performance, and long-term reliability.

The load levels are divided into switchable steps, allowing precise adjustment of the applied power and the execution of customized test sequences.



Technical Specifications

<i>Load Type</i>	Resistive	<i>Height</i>	2035 mm
<i>Rated Power</i>	500 kW	<i>Depth</i>	1200 mm
<i>Rated Voltage</i>	400 Vac +/- 5% 3phase	<i>Length</i>	950 mm
<i>Power Factor</i>	1	<i>Weight</i>	900 kg
<i>Frequency</i>	50 Hz	<i>Cooling</i>	Liquid-Cooled
<i>Resolution</i>	5 kW	<i>Handling</i>	Forklift Pockets + Castors

Technical Architecture

The streamlined architecture of our load bank facilitates installation and operation.

Design		Resistive Elements	
<i>Application</i>	Indoor	<i>Technology</i>	Tubular (Liquid-Cooled)
<i>Frame</i>	Galvanized Steel	<i>Resistive Alloy</i>	Nickel- Chromium
<i>Paint Finish</i>	RAL 7035 Grey, 80 µm	<i>Element Tolerance</i>	+/- 5%
<i>Handling</i>	Handle		

Liquid Cooling System		Full Load Operation	
<i>Water Flow Rate</i>	1,5 L / min / kw	<i>Water Flow Rate (Full Power)</i>	1000 L / min
<i>Liquid temperature elevation (K)</i>	Adjustable from 10 to 20	<i>Maximum Pressure</i>	5 bar
<i>Water Connections</i>	Stainless Steel 316 DN100	<i>Liquid Capacity</i>	150 L

Protections			
<i>Resistive Elements</i>	Fuse Protection		
<i>Safety Devices</i>	Temperature Sensor		
	Pressure Sensor		

Control System

A simple interface for easy operation.

Control System	
Load Step Switching	3-pole AC contactors
Monitoring System	Echo-A (Advanced)
HMI	7" Touchscreen
Manual Mode	☒
Cycle Mode	☒
Measurements (V, A, kW, Hz, PF)	☒
Data Logging	☒
Ballast Mode	N/A
ModBus Communication	Optional
Remote Control	Control Cable, up to 100 m

Connections

The streamlined architecture of our load bank facilitates installation and operation.

Connections	
Power Connections	9 × POWERLOCK 800A Connectors
Auxiliary Supply	1 × 32A Socket, 5G16 mm ²

Environmental Specifications

Designed to operate in all environments.

Environmental parameters		Protection Rating	
Operating Temperature	0°C / +40°C	Electrical Enclosure	IP 43
Storage Temperature	-20°C / +45°C	Air Duct	IP 20
Relative Humidity	95% RH ⁽¹⁾		
Operating Altitude	<1000m		

(1) Relative humidity, non-condensing