## 500kW机柜式液冷假负载
500kW liquid-cooled load bank



液冷负载机柜是专为数据中心、AI工厂、超算中心等高密度算力场景设计的热源模拟设备。产品采用冷板直冷技术，可精准模拟液冷服务器在实际运行中的散热特性，用于数据中心热源模拟测试、AI机架/算力机柜热试验、CDU (冷却分配单元) 验证与调试等场景。
Liquid-Cooled Load Bank is a thermal simulation device designed for high-density computing environments such as data centers, AI factories, and supercomputing centers. The product adopts cold-plate direct liquid cooling technology, accurately replicating the heat dissipation characteristics of liquid-cooled servers under real operating conditions. It is mainly used for data center thermal simulation, AI rack/cabinet heat testing, and CDU (Coolant Distribution Unit) validation and commissioning.

### 应用场景
Application Scenarios

1、智算中心/AI算力机房液冷系统调试与热测试
Thermal testing and commissioning of liquid-cooling systems in intelligent computing centers and Al data halls
2、GB200、GB300、HopperGrace等高密度液冷服务器机架模拟
Simulation of high-densityliguid-cooled servers such asGB200,GB300,and Hopper Grace architectures
3、超算中心液冷CDU验证与热负载评估
Thermal load evaluation and CDU validation in supercomputing centers
4、新建或改造数据中心液冷系统的前期测试与验证
Pre-deployment testing and verification for new or retrofitted data center liquid-cooling systems.

| 负载型号 Model | 冷却介质 Cooling medium | 水流量 Water flow | 设计压力 Design pressure | 冷却接口 Cooling interface | 外形尺寸 宽*深*高 Dimensions: |
|---|---|---|---|---|---|
| LB-500kW-AC415V-J | 纯净水/氟化液 Purified water/fluorinated liquid | 52L/min | 1 MPa | DN80 | 600*1200*2200mm |

### 产品特点
Features

| | |
|---|---|
| 机柜结构 Cabinet Structure | 标准 42U 机柜设计，配备滚轮与固定脚，前后双开门结构，便于安装与维护。Standard 42U cabinet design with casters and leveling feet. Front and rear double-door configuration for easy installation and maintenance. |
| 液冷回路 Liquid Cooling Loop | 采用冷板模块化设计，支持分区独立控制，实现 N+1 冗余配置，运行更可靠。Modular cold-plate design with zoned control, supporting N+1 redundancy for higher operational reliability. |
| 电阻单元 Resistor Unit | 选用高可靠金属合金电阻，具备耐高温、耐腐蚀特性，确保长期稳定工作。Equipped with high-reliability metal alloy resistors featuring excellent heat and corrosion resistance for long-term stable operation. |
| 测控系统 Measurement & Control System | 集成温度传感器、压力传感器、流量计及漏液检测器，实现全方位状态监测。Integrated with temperature sensors, pressure sensors, flow meters, and leak detectors for comprehensive status monitoring. |
| 管路设计 Piping Design | 采用不锈钢或铜镀镍材质，防腐蚀性能优异，接口密封性强。Constructed with stainless steel or nickel-plated copper for superior corrosion resistance and excellent sealing performance. |
| 监控界面 Monitoring Interface | 配备触摸屏，可实时显示功率、流量、压差及进出水温度等数据，支持远程监控接口。Touchscreen interface displays power, flow rate, pressure differential, and inlet/outlet water temperature in real time, with remote monitoring support. |
| 通讯协议 Communication Protocols | 兼容 Modbus TCP/IP、SNMP 等主流通讯协议，方便系统集成。Compatible with Modbus TCP/IP, SNMP, and other standard communication protocols for easy system integration. |
| 控制与报警接口 Control & Alarm Interface | 支持远程启停、功率调节、数据采集功能，具备干接点、以太网及 RS485 报警输出接口。Supports remote start/stop, power adjustment, and data acquisition, with alarm outputs via dry contact, Ethernet, and RS485. |



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FULLDE 500kW液冷负载专为AI与智算中心液冷系统设计，适用于NVIDIA GB200/GB300及更高功率服务器的热负载模拟。模块化设计支持多台并联，功率可扩展至兆瓦级。不锈钢机体高洁净处理，运行安静、维护简便。PLC/HMI智能控制，可远程集中管理多达60台设备，高效支持液冷系统调试、验收及热稳定性验证。
FULLDE 500kW liquid-cooled load bank is designed for AI and high-performance computing data center liquid cooling systems, suitable for thermal load simulation of NVIDIA GB200/GB300 and higher-power servers. Its modular design supports parallel operation of multiple units, scaling power up to the megawatt level. The stainless-steel chassis is high-purity treated for clean liquid circuits, operates quietly, and is easy to maintain. Equipped with PLC/HMI intelligent control, it allows remote centralized management of up to 60 units, efficiently supporting liquid cooling system commissioning, acceptance, and thermal stability verification.

| 负载型号 Model | 冷却介质 Cooling medium | 水流量 Water flow | 冷却接口 Cooling interface | 外形尺寸 宽*深*高 Dimensions: |
|---|---|---|---|---|
| LB-500kW-AC415V-J | 纯净水/PG25 Purified water/PG25 | 60m³/H | DN100 | 1000*1200*2000mm |

### 产品特点
Features

| | |
|---|---|
| 通讯协议 Communication Protocol | 支持 Modbus TCP/IP 和 RTU Supports Modbus TCP/IP and RTU |
| 负载控制 Load Control | 25–50 W 25–50 W load step resolution |
| 结构材料 Structure Material | SS304 不锈钢 SS304 stainless steel |
| 报警与故障 Alarm & Fault | 现场可调 Field-adjustable |
| 部署方式 Deployment | 模块化，可单独或同步控制 Modular deployment, individual or synchronized control |
| 控制系统 Control System | PLC 控制器 + 10 英寸触摸屏 HMI PLC controller with 10-inch touch screen HMI |
| 监测参数 Monitoring Parameters | 功率、温度、流量、压力及液位 Power, temperature, flow, pressure, and liquid level |
| 适用液体 Compatible Fluids | PG/EG（防冻液）及去离子水 PG/EG (antifreeze) and deionized water |

