

LIQUID CHILLER MODULE

LCM-900

DATA SHEET

Part #FP00097

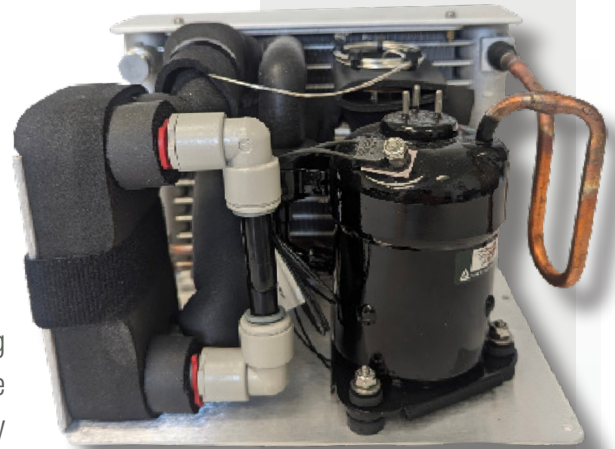
The LCM-900 from Wakefield Thermal is a compact, energy-efficient fluid cooling system designed for applications that require high-capacity cooling while minimizing footprint and power consumption. The module features a hermetically sealed refrigeration system with a miniature variable-speed compressor, fan, expansion valve, and evaporator, pre-charged with R-134a.

Users can integrate their own coolant loop while controlling the compressor speed via the integrated drive board. At Wakefield Thermal, our skilled engineers can modify our standard cooling systems to meet your specific requirements, delivering a solution that is perfectly suited to your needs. By providing the core refrigeration components in a compact, insulated unit, the LCM-900 seamlessly integrates into applications across various industries, including automotive, aerospace, communications, defense, electronics, and medical.

Applications

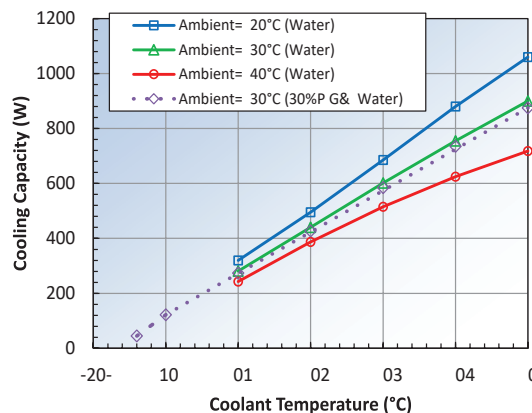
The LCM-900 is ideal for precise cooling across various high-performance applications including:

- Bio-Sample Analyzers
- Electric Vehicles
- Electronics & Enclosures
- Laboratory Equipment
- Laser Cooling
- Medical Device Cooling
- Military Communications
- Patient Cooling
- Sensors & Detectors



System Specifications

Cooling Capacity	See Graph
Maximum Current	15 A
Maximum Power Draw	360 W at 24 VDC
Voltage	22-27 VDC
Operating Ambient Temperature	-20 to 40°C (-4 to 104°F)
Coolant Temperature	-15 to 50°C (5 to 122°F)
Storage Temperature	-20 to 50°C (-4 to 122°F)
Compatible Fluids	Water, Water/Glycol Mix
Refrigerant	R134a
Orientation	Within 30° of vertical
Weight	3 kg (6.6 lbs)
Dimensions	137H X 192W X 224D mm (5.4H X 7.6W X 8.8D in)



*150 cfm airflow, 2L/min water flow



COOLVATION

Innovative Thermal Solutions

COOLED BY WAKEFIELD THERMAL

5 STEP THERMAL ENGINEERING GUIDE From Concept To Cooling

COOLVATION provides thermal management engineering services to improve products' thermal performance while applying cost effective solutions to eliminate unnecessary manufacturing costs. COOLVATION is a seamless resource extension for our customers' thermal & mechanical engineering teams from ideation to lab testing.



Customer Thermal Challenge

- Physical limitations
- Power constraints
- Air flow/ fluid conditions
- Environmental conditions
- Component specifications
- Define ideal state



Execution

- Concept analysis (CFD-ansys/ ice pack, fin optimizations software)
- Solid model
- Analysis & verification
- Cost analysis



Global Manufacturing

- Global manufacturing facilities
- Global warehousing
- Global labs to support future program

01
STEP

02
STEP

03
STEP

04
STEP

05
STEP



Collaboration

- Review conditions
- Statement of work to customer
- Historical consideration along with cutting edge technologies to provide cost effective solution



Solution & Verification

- Dedicated new product development center
- Prototype
- Physical thermal lab testing
- Proven manufacturability