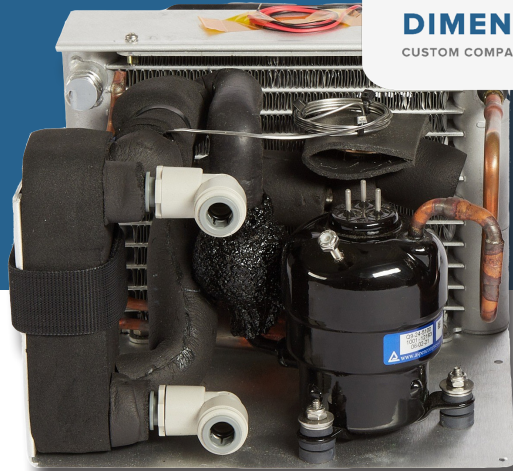


# LCM-650

## Liquid Chiller Module

Part number FP00116



*The LCM-650* is the newest LCM in our lineup. Specifically developed to provide coolant temperature of  $-15^{\circ}\text{C}$  or lower, for a series of critical medical applications, it is the smallest cooling system available that can provide capacities ranging from 50 Watts to over 800 watts.

### Ideal Applications

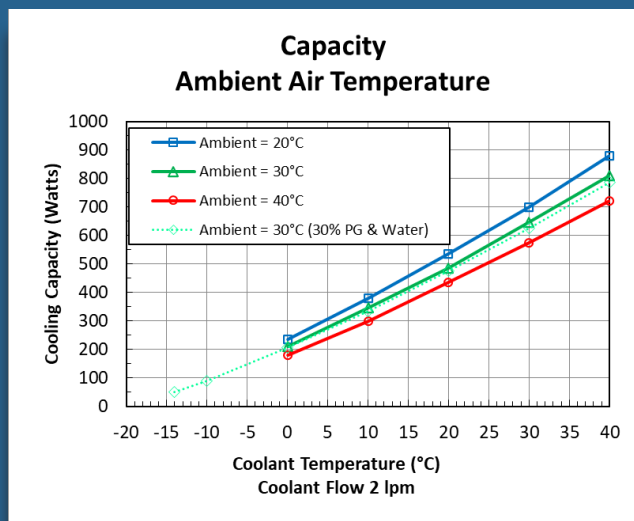
- Medical
- Laboratory Equipment
- Lasers
- Electronics
- Electric Vehicles
- Military Operations

*Aspen's Liquid Chiller Modules* (LCM) are compact vapor compression systems that directly integrate into our clients applications ranging from laboratory equipment to military applications. LCM integration saves your customer precious floor space, and dramatically reduces chiller-induced failures for your system. It provides direct, accurate temperature control. LCMs consist of a compact, hermetically sealed refrigeration system with a compressor, air-cooled condenser, thermostatic expansion valve, and liquid cooling evaporator all packaged onto a sheet metal base. LCMs come with a drive board that accepts a speed control signal to provide wide-ranging capacity and tight temperature tolerance capability of  $\pm 0.1^{\circ}\text{C}$ . These compact, efficient, quiet, reliable, systems are the most effective cooling systems available. We also offer system customization to fit your product specifications.

Aspen Systems is the world leader in miniature refrigeration systems. We have created refrigeration systems to meet specifications for dozens of customers with thousands of installations in Medical, Laboratory, Laser, Electric Vehicle, Electronics, and Military applications. Our modern vapor compression-based systems are replacing thermoelectric coolers in multiple applications because they are quieter, more efficient, smaller, lighter, have equivalent temperature tolerance, and are more reliable.

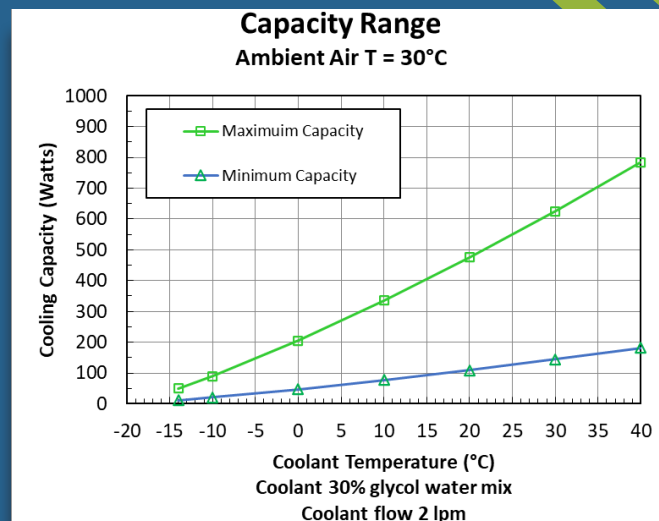
## Wide Temperature Range:

Fully functional over a wide temperature range



## Wide Capacity Range:

Peak capacity is >4X the minimum capacity  
Modulateable to a tolerance of  $< \pm 0.1^\circ\text{C}$



## System Highlights

- Temperature tolerance  $< \pm 0.1^\circ\text{C}$
- Very low temperature operation  $-15^\circ\text{C}$
- Compact footprint
- Efficient
- Versatile - wide capacity & temperature range
- Low noise
- Easy to integrate
- Wide range of ambient temperatures

## Specifications

Nominal Cooling Capacity	See Graph
Compatible Fluids	Water, Glycol/Water Mixtures
Coolant Temp	$0^\circ\text{C}$ to $50^\circ\text{C}$ ( $32^\circ\text{F}$ to $122^\circ\text{F}$ )
Maximum Power Draw	360 Watts (at 24 V)
Voltage	22-30 VDC (24 V Nominal)
Maximum Current	15 Amps
Noise	$< 40$ dBA
Weight	2.7 kg (6.0 lbs)
Dimensions	199 x 161 x 134 mm (7.8 x 6.3 x 5.3 in)
Orientation	Must operate within $30^\circ$ of flat
Operating Ambient Temp	$0^\circ\text{C}$ to $50^\circ\text{C}$ ( $32^\circ\text{F}$ to $122^\circ\text{F}$ )

