

Liquid Chiller Module LCM Series

Robust, compact refrigeration-based chiller modules for nearly every cooling application

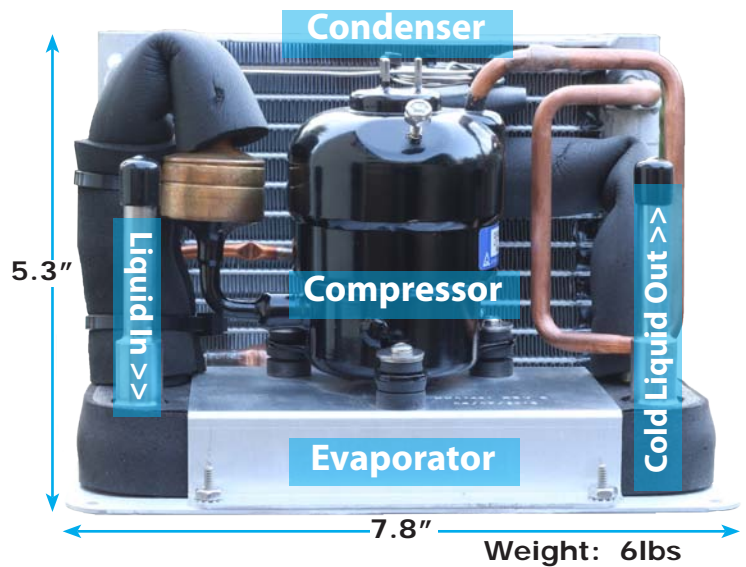
Where size and performance are key, the LCM series refrigeration systems offers unprecedented flexibility for the OEM user or systems integrator.

Aspen developed a liquid chiller module to satisfy the growing number of customers who sought to use Aspen's miniature refrigeration expertise, but ultimately wanted to package and interface the refrigeration circuit into their system. This product provides the core cooling system (compressor, condenser, expansion valve, evaporator) and allows the end user to adapt to the coolant fittings for ultimate flexibility.

Each system is hermetically sealed, charged, and tested prior to shipment.

Typical Applications LCM Series Include:

- | | |
|-----------------------|------------------------|
| » Laser Cooling | » Miniature compressor |
| » Electronics Cooling | » Condenser |
| » Personal Cooling | » Expansion valve |
| » Medical Cooling | » Evaporator |
| » Thermal Regulation | » Drive board |



New LCM-1200 (left) and LCM-600

System Highlights

- » LCM-600: 600 Watts of cooling
- » LCM-1200: 1,200 Watts of cooling
- » 4-6 X the efficiency of thermoelectrics
- » Ultra compact
- » Extremely lightweight
- » >90,000 hour MTBF

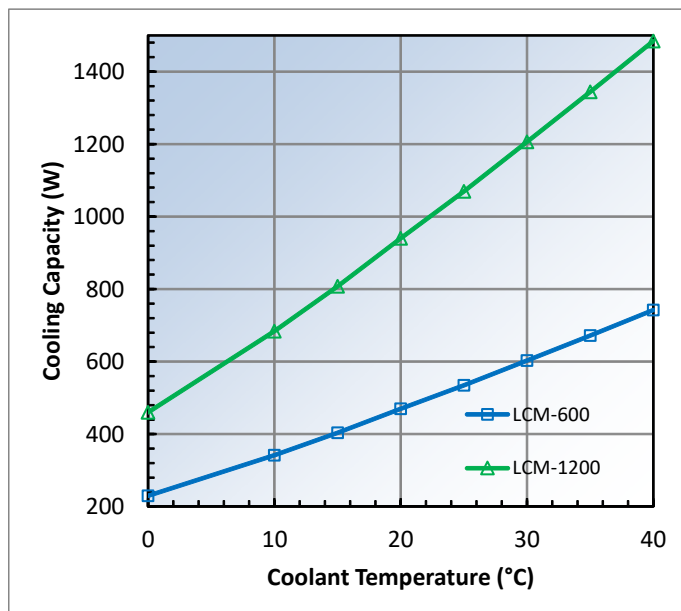
Aspen LCM Series

Specifications	LCM-600	LCM-1200
Cooling Capacity	See graph to the right	
Compatible Fluids	Water, Glycol/Water Mix	
Coolant Temp. °C ¹	0 to 50	
Operating Ambient Temp. °C	0 to 50	
Storage Temp. °C	-20 to 50	
Refrigerant	R-134a or R-404a	
Maximum Tilt Angle (deg.)	30	
Cooling Capacity (BTU/hr.) ²	2,050	4,100
Cooling Capacity (Watts) ²	600	1,200
Input Voltage (VDC)	24	48
Maximum Current (Amps)	15	10
Dimensions LWH (cm)	20 x 16 x 13	34 x 24 x 22
Weight (kg/lbs.)	2.7/6	6.3/13.9

¹ Contact Aspen Systems for <0 °C

² 30 °C coolant temperature, 20 °C ambient

Note: LCM-1200 preliminary specifications



NOTE: Performance at 20 °C ambient, water coolant flow of 2l/min.

Application Example: Laser Chiller



Aspen was tasked by a world leading medical device manufacturer to develop a value-add liquid chiller subassembly for their laser treatment system using the LCM-600 as the foundation. Aspen and our client's engineers worked closely throughout the design, prototype build and ultimately, production quantities. Aspen integrates the controller, condenser fan and pump to fit neatly within the laser unit.

The customer leveraged Aspen's expertise in refrigeration and manufacturing to meet stringent size, weight, performance and cost requirements.

LCM Liquid Chiller Options

Liquid chillers can be integrated into a limitless array of configurations to meet specific requirements. Design constraints such as low temperature, power limits, high pressure liquid, low or high flow, noise limits, and geometry constraints can all be accommodated with a custom design. Talk with one of our application engineers about your cooling requirements.



Compressor drive board included with the LCM series

Need more information? We offer the LCM-600 manual on-line at www.aspensystems.com/lcm-manual. The LCM-1200 will be available July, 2017 in prototype quantities with full production volumes at the end of Q4.

Contact us today for a free evaluation of your application:
508-281-5322 or e-mail info@aspensystems.com

Aspen Background

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 personal cooling, manufacturing, mobile electronics, airborne electronics, lasers, military, and medical.