

## Liquid Chiller Module (LCM)

A robust, compact refrigeration-based chiller module for nearly every cooling application

Part Number: FP00039

### Background

Aspen was frequently approached by customers who wanted to make use of Aspen's miniature refrigeration expertise, but also wanted a system which used their own controls and coolant loop. Based on these inquiries, Aspen developed a compact Liquid Chiller Module (LCM) which provides purely the "guts" of the refrigeration system and allows the end user to adapt the compact module directly into their system.

### System Definition

The LCM consists of a compact, hermetically sealed refrigeration system (including a miniature variable speed compressor and drive board, condenser, thermostatic expansion valve, and an evaporator). The system is fully charged with R-134a, insulated and mounted to a baseplate to drop directly into the end application. The user connects their coolant loop to the evaporator and provides airflow over the condenser. The user can interface with the drive board to provide compressor speed control as desired.

### Typical Applications

- » Laser Cooling
- » Electronics Cooling
- » Personal Cooling
- » Medical Cooling
- » Thermal Regulation



### System Highlights

- » Over 400 W cooling capacity
- » Efficient operation
- » Lightweight
- » Compact footprint
- » Low noise
- » Easy to integrate
- » Low cost

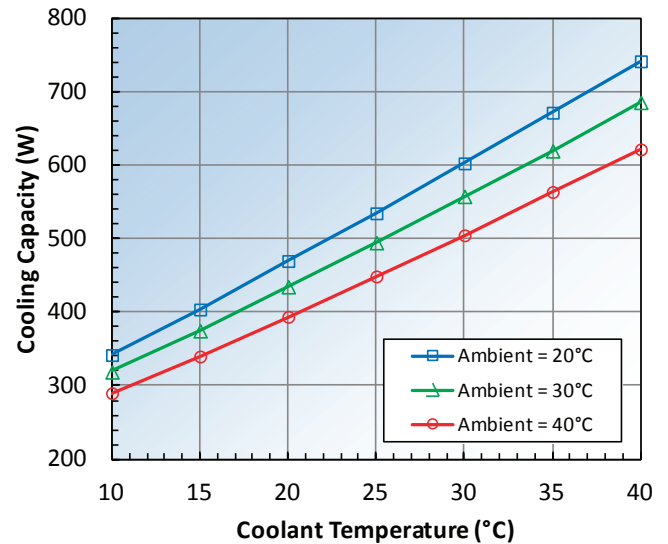
# Aspen LCM

FP00039

## Technical Data

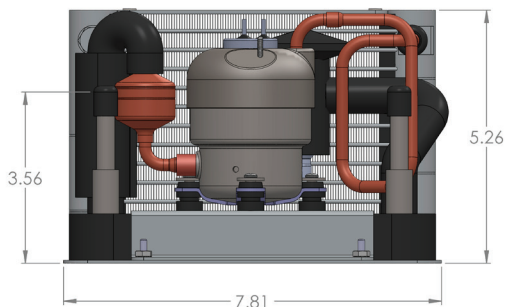
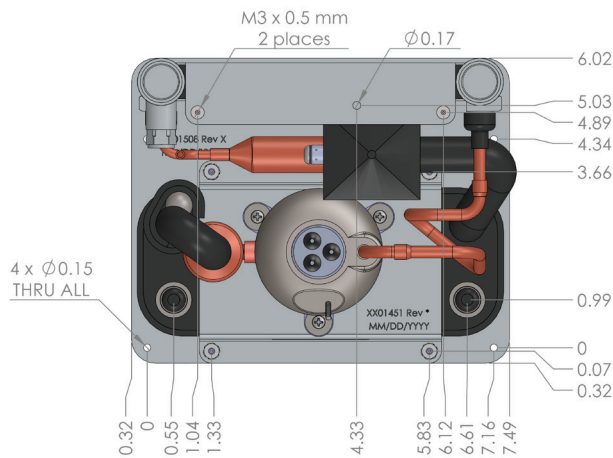
Cooling Capacity	See graph to right
Compatible Fluids	Water, Glycol/Water Mixtures
Coolant Temperature	0°C to 50°C (32°F to 122°F)
Maximum Power Draw	360 Watts (at 24 V)
Voltage	22-32 VDC (24 V nominal)
Maximum Current	15 Amps
Noise	<40 dBA
Weight	2.7 kg (6.0 lbs) (including drive board)
Dimensions	199 x 161 x 134 mm (7.8 x 6.3 x 5.3 in) (L x W x H)
Orientation	Must operate within 30° of flat
Operating Ambient Temperature	0°C to 50°C (32°F to 122°F)
Storage Temperature	-20°C to 50°C (-4°F to 122°F)
Refrigerant	R-134a

## Performance Curves

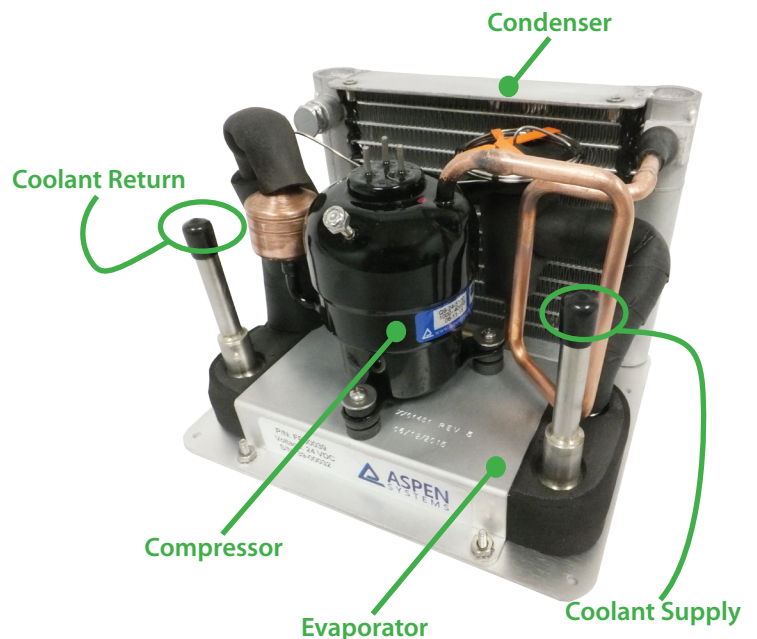


**Note:** All results above obtained with water as the working coolant at a coolant flow of 2 L/min flow and with 150 cfm of air over the condenser.

## Dimensional Information



All dimensions in inches, unless otherwise noted



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