



**NEW**

# Looking For a Reliable/Miniature Process Water Chiller? Your Wait Is Over!



200 / 400 / 800 watts (680 / 1,360 / 2,730 BTU's)

**Lil'Chill "LC" Max; Free-Standing Water Chillers**

**Ideal for Demanding Laser, Medical, Industrial, & Electronics Applications**

## CHILLER MODULE FEATURES

### K-O Concepts Model LC-2, LC-4 & LC-8

- **LC-Max**  
Maximum performance in a minimum package. Plug this “Lil” Chill cooling module into any wall socket around the world. Specially targeted for diode-pumped laser systems.
- **Package**  
Attractive, free-standing packaged water chillers with casters for easy mobility. Weights from only 64 lb. / 29 kg. The chiller is air-cooled for portability.
- **Free Standing Configuration**  
All models: 24.0 H x 12.3 W x 21.7 D inches (dimensions)  
Request interface control drawing (ICD) number 25433500 for detailed dimensions.
- **Selectable Voltage**  
Field Selectable Voltage: 100, 120, 200, 208, 230 VAC, 50 or 60 Hz, 1Ø
- **Accurate Process Water Temperature Control**  
Standard digital “PID” controller accurately maintains the desired process water temperature to within  $\pm 0.1^{\circ}\text{C}$  of set temperature. Dual digital readout displays both set and actual process water temperatures. Our newly developed control system is patent pending.
- **Heating**  
Waste heat is harvested from the system’s compressor to quickly raise the temperature of the process water. Approximately 40% of the BTU rating of the chiller unit is available for heating the process water up to  $35^{\circ}\text{C}$  without any external heat load.
- **Computer Interface**  
Optional 485 computer interface for monitoring of time vs. process water temperature and more.
- **CFC Free Refrigerant**  
All models use environmentally friendly R134a (HFC-134a) refrigerant. Chiller units using this refrigerant can be sold into Europe and Asia. This is the same refrigerant used in all new automobiles.
- **Process Water Pumps**  
Standard positive displacement (sliding vane) style process water pump with eight (8) speed settings provides flow from 3-10 liters per minute @ 70 psi (4.8 bar) available pressure.
- **Optional Deionized (DI) Water Package**  
Includes nickel brazed heat exchanger, stainless steel pump head, DI cartridge assembly, and upgraded 316 stainless steel fittings. Easy service to the DI cartridge is accomplished from the rear panel.
- **Easy To Service & Maintain**  
Chillers are designed for easy service and maintenance. Convenient process water fill & drain features on all models. Options include quick disconnect fittings, particle filter, deionizer cartridge, & umbilical assembly to protect coolant lines.

## Chiller Module Specifications & Options

### K-O Concepts Model LC-2, LC-4 & LC-8

MODEL NUMBERS		LC-2	LC-4	LC-8
Cooling Capacities <sup>1</sup>	Watts	200	400	800
	BTU/hour	680	1,360	2,730
Cooling Process	Compressor	All models use refrigerant based compressors.		
Refrigerant Type	R134a	All models use R134a (HFC-134a) / CFC-free.		
Heat Dissipation <b>Note:</b> Air flows from rear to front of cabinet.	Air (air cooled)	All models dissipate heat to ambient air via fan.		
Process Coolant Temperature Range	°C / °F	5-35° / 41-95°		
Ambient Temperature Range	°C / °F	15-35° / 59-95°		
Process Coolant Temperature Stability <sup>2</sup>	°C	±0.1°		
Process Coolant Tank Capacity	Gallons / liters	0.5 / 1.89		
Process Coolant Maintenance	Fill / drain	All models feature fill & drain via front panel.		
Process Coolant Pump Performance <b>Note:</b> 8 selectable water flow rates. Pump provides same flow & pressure performance @ 50 or 60 Hz.	Gallon / liters per minute	0.75-2.63 / 3-10		
Process Coolant Pressure <b>Note:</b> Other pressures offered.	PSI / bar	70 / 4.8 available pressure.		
Process Coolant Pump Head Materials	Stainless steel	Standard Feature: PDM-3-10-SS		
Process Coolant Connections (FNPT)	Inches	Standard Feature: 3/8" Optional Feature: 1/4"		
Input Power Requirements <b>Note:</b> All models incorporate field selectable voltage feature located on back panel.	Volts AC 50 or 60 Hz Single phase	100, 120, 200, 208, 230		
Full Load Amperage (typical) <b>Note:</b> Typical line current @ 60 Hz.	Amps @ 120 / 230 VAC	2.1 / 1.1	2.5 / 1.3	3.5 / 1.8
Circuit Breaker	SPST (2)	Lighted circuit breakers located on front panel.		
Weight	Dry lbs. / kg.	64-70 / 29-32	64-70 / 29-32	66-72 / 30-33
Cabinet Dimensions (W x D x H)	Width: in / mm Depth: in / mm Height: in / mm	12.3 / 312 21.7 / 551 24.0 / 610		
Process Coolant Temperature Controller		Standard Feature: Digital (PID) controller w/ dual display.		
Electrical Interface Signals <b>Note:</b> All interface signals are contact closures & are normally closed (N.C.) in the passed condition Interface signals accessed via (DA 15S) connector located on the back panel.		Standard Feature: Process water flow signal (reed switch). Standard Feature: Process water level signal (reed switch). Standard Feature: Process water temperature alarm (relay contact). Optional Feature: Compressor temperature warning (thermostat).		
Condenser Fan		Standard Feature: Speed-controlled for quiet operation.		
Air Filter		Standard Feature: Back panel mounted air filter assembly.		
Communications (RS-485) <b>Note:</b> RS-485 serial communication & interface software package is available.		Optional Feature: Serial communications from process coolant temperature controller w/ port via (DA 9S) connector located on back panel.		
Process Coolant Types <b>Note:</b> Coolant additives available.		Standard Feature: Demineralized (steam distilled) water compatible. Optional Feature: Deionized (DI) water compatible. Optional Feature: PAO synthetic coolant oil compatible		
Coolant Particle Filter		Optional Feature: Canister or cartridge style, coolant particle filters.		
Deionized (DI) Water Package		Optional Feature: Materials upgrade for DI water compatibility.		

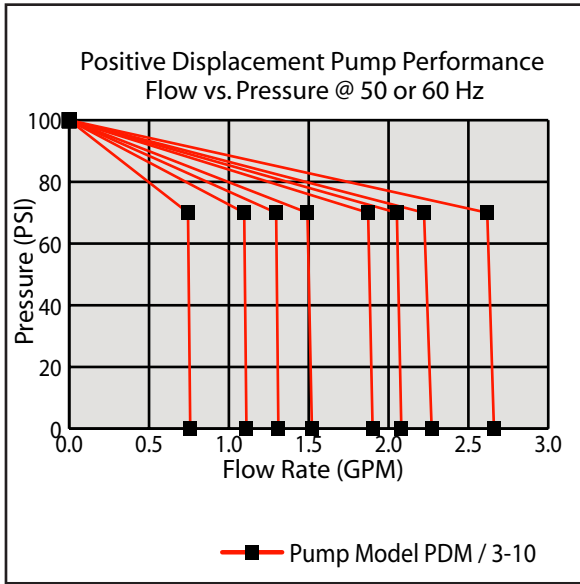
#### Notes:

- <sup>1</sup> Cooling capacity ratings are with process coolant @ 20°C / 68°F.
  - <sup>2</sup> Temperature stability performance requires a stable heat load input.
- \* Data shown is with 30°C / 86°F (unrestricted) ambient air.
  - \* See Thermal Performance chart for cooling capacities @ other process temperatures.
  - \* Specifications are subject to change without notice.

# CHILLER MODULE PERFORMANCE DATA

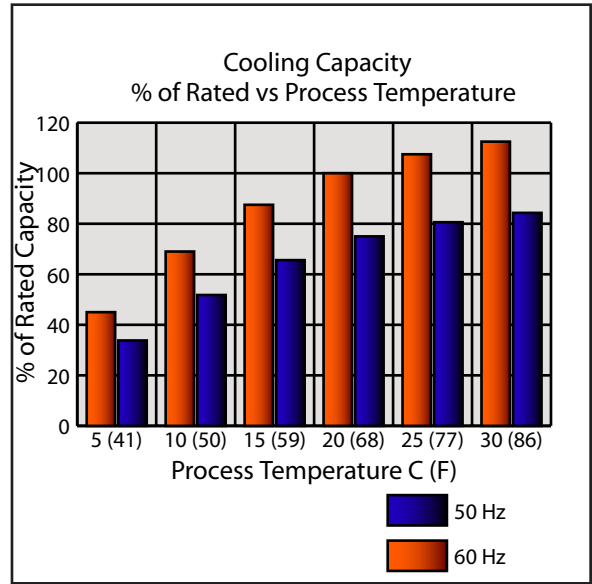
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### Process Water Pump Performance



**Note:** Pump Model "PDM / 3-10" provides eight "8" selectable flow vs. pressure curves as shown. Internal valve setting shown starts coolant bypass @ 70 PSI / 4.8 bar & dead heads @ 100 PSI / 6.8 bar. Other pump curves & bypass values available upon request.

### Thermal Performance



### FEATURES & DIMENSIONS (All Models)

Adobe PDF Interface Control Drawing (ICD) #2543-3500 Supplied on Request.

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