



Looking For a Reliable/Miniature Process Coolant Chiller? We're Out There!

Rack-Mount Version



Free-Standing Version



800 watts (2,730 BTU's)

K-O Model LCR-8-G2

Ideal for Demanding Laser, Medical, Industrial & Aerospace Applications

CHILLER MODULE FEATURES

K-O Concepts Model LCR-8-G2

- **K-O Model LCR-G2**

Second Generation (G-2) rack-mounted coolant chiller. Maximum performance in a minimum package. Plug this “Lil” Chill cooling module into any single phase wall socket around the world. Specially targeted for direct diode & diode-pumped laser systems.

- **Easily Integrated**

Standard 19 inch, rack-mounted configuration allows the cooling module to be integrated with the equipment to be cooled. Fully enclosed cabinet is equipped with handles for ease of installation. Weights from only 49 lb. / 22 kg. The chiller is air-cooled for portability.

- **Standard 19 inch Enclosed Rack-Mount Chassis**

All models: 8.76 H x 17.12 W x 17.13 D inches (cabinet dimensions)

Front panel dimensions: 8.76 H x 19.00 W (5U height cabinet)

Request interface control drawing (ICD) number 25433900 for detailed dimensions.

- **Selectable Voltage**

Field Selectable Voltage: 100, 120, 200, 208, 230 VAC, 50 or 60 Hz, 1Ø

- **Accurate Process Coolant Temperature Control**

New 1/16 DIN “PID” controller offers more communication options and now has a visible symbol when controller is communicating with other devices. Maintains the desired process coolant temperature to within 0.1°C of set temperature.

- **Heating**

Waste heat is harvested from the system’s compressor to quickly raise the temperature of the process coolant.

Approximately 40% of the BTU rating of the chiller unit is available for heating the process coolant up to 50°C without any external heat load.

- **Communication Options**

Standard RS-485 communications or optional RS-232, Modbus RTU, TCP, USB 2.0, DeviceNet or Profibus DP. Optional 2 Digital Input/Output alarm signals via communications.

- **CFC Free Refrigerant**

All models use R134a (HFC-134a) refrigerant. Chiller units using this refrigerant can be sold into Europe and Asia.

- **Process Coolant Pumps**

Standard positive displacement (sliding vane) style process coolant pump with eight (8) speed settings provides flow from 3-10 liters per minute @ 70 psi (4.8 bar) available pressure. Optional centrifugal coolant pump with flow of 2-7.6 liters per minute @ 13 psi (0.9 bar) available pressure.

- **Optional Deionized (DI) Water Package**

Includes nickel-brazed heat exchanger, ion (DI) cartridge assembly, water filter, 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 coolant fill & drain features on all models. Access panels for ease of electrical service.

- **Free - Standing Conversions**

Converts rack-mount cabinet to free-standing chiller with casters.

- **End-User Printed Circuit Board**

The EU-PCB monitors and reports interface signals via front panel LED’s, audible alarms and/or power down on any or all fault signals.

- **Optional Digital Pressure Gauge**

The DPG is an upgrade to the mechanical pressure gauge. The transducer operates from 0-145psi and has a 0.25% BFSL accuracy rating. The transducer has all stainless steel parts with no o-rings. The controller displays “in-range” pressure values in green and “out-of-range” pressure values in red.

Chiller Module Specifications & Options K-O Concepts Model LCR-8-G2

MODEL NUMBERS		LCR-8
Cooling Capacities ¹	Watts	800
	BTU/hour	2,730
Cooling Process	Compressor	Refrigerant based compressor.
Refrigerant Type	R134a	R134a (HFC-134a) / CFC-free.
Heat Dissipation Note: Air flows from front to rear of cabinet.	Air (air cooled)	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 ²	°C	±0.1°
Process Coolant Tank Capacity	Gallons / liters	0.5 / 1.89
Process Coolant Maintenance	Fill / drain	Fill & drain via front panel.
Process Coolant Pump Performance Standard Pump: Positive displacement type. Optional Pump: Centrifugal type.	Gallon / liters per minute	Standard Pump (Model PDM): 0.75-2.63 GPM / 3-10 LPM Optional Pump (Model RD-05): 1.6 GPM / 6.0 LPM (MAX)
Process Coolant Pump Pressures Note: Other pressures offered.	PSI / bar	Standard Pump: 70 / 4.8 available pressure. Optional Pump: 13 / 0.9 available pressure.
Process Coolant Pump Head Materials Standard & Optional Process Coolant Pumps.	Model PDM Model RD-05	Standard Pump: Stainless steel w/ graphite vanes. Optional pump: Glass-reinforced polyethylene
Process Coolant Connections (FNPT)	Inches	Standard Feature: 3/8" Optional Feature: 1/4"
Input Power Requirements Note: Standard feature: Field selectable voltage on back panel via user friendly, mating connectors.	Volts AC 50 or 60 Hz Single phase	100, 120, 200, 208, 230
Full Load Amperage (typical) Note: Typical line current @ 60 Hz.	Amps @ 120 / 230 VAC	3.5 / 1.8
Circuit Breakers	DPST	Lighted circuit breakers (2x) located on front panel.
Weight	Dry lbs. / kg.	49-55 / 22-25
Cabinet Dimensions (W x D x H) Note: Standard 19 inch rack-mount configuration, fully enclosed, w/ 8.76 inch / 5 unit (U) high front panel.	Width: in / mm Depth: in / mm Height: in / mm Panel: in / mm	17.12 / 435 17.13 / 435.1 8.76 / 222.5 19.0 W x 8.76 H / 482.6 W x 222.5 H
Process Coolant Temperature Controller	Standard Feature: 1/16 DIN digital (PID) controller w/ dual display.	
Electrical Interface Signals Note: Interface signals are contact closures & are (N.O.) in a failed condition. Signals are 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). Standard Feature: Compressor temperature warning (bi-metal switch).	
Condenser Fan	Standard Feature: Speed-controlled for quiet operation.	
Air Filter	Standard Feature: Front panel mounted air filter assembly.	
Communications Note: Communication ports located on back panel. RS-485, RS-232 and USB 2.0 via connector (DA-9S). CAT6, DeviceNet and Profibus DP via optional communications port.	Standard: RS-485 serial communication. Optional: RS-232, Modbus RTU, TCP, USB 2.0, DeviceNet, Profibus DP. Optional: 2 Digital Input/Output alarm signals via communications.	
Process Coolant Types Note: Coolant additives (including glycol) 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.	
Free-standing Chiller Version	Optional Feature: Converts rack-mount to free-standing chiller w/ casters.	
End-user printed circuit board	Optional Feature: Monitors and reports interface signals via front panel LED's/audible alarm and/or power down on any/or all fault signal(s).	
Digital Pressure Gauge	Optional Feature: 0-145psi, SS Pressure transducer w/ digital controller.	

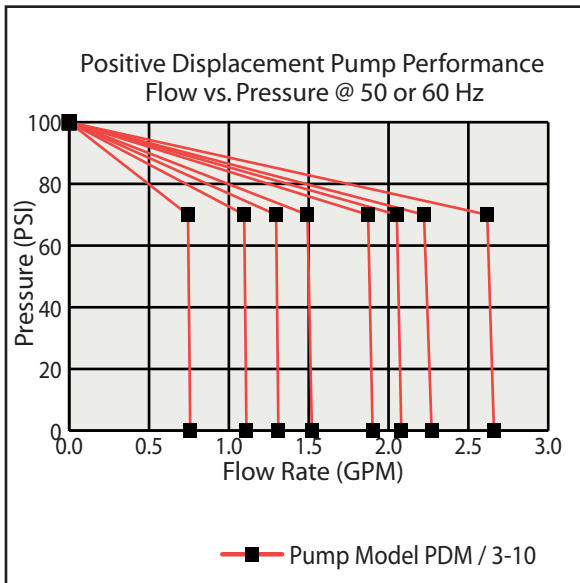
Notes:

- ¹ Cooling capacity ratings are with process coolant @ 20°C / 68°F and 60Hz Input Power.
- ² Temperature stability performance requires a stable heat load input.
- * Data shown is with 27°C / 81°F (unrestricted) ambient air.
- * See Thermal Performance chart for cooling capacities @ other process temperatures.
- * Specifications are subject to change without notice.

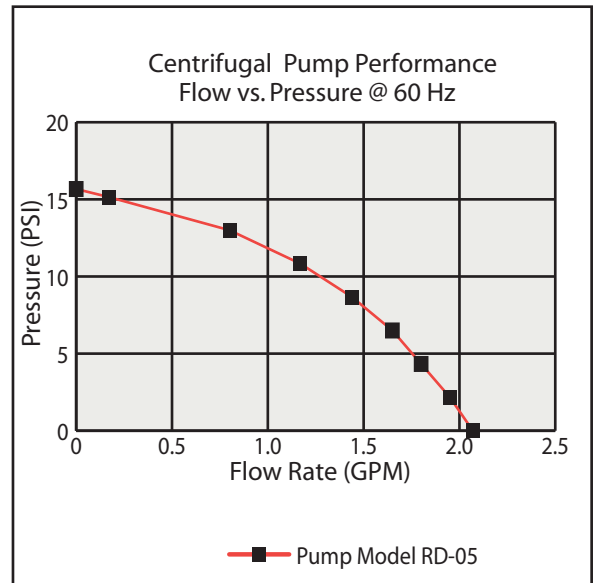
CHILLER MODULE PERFORMANCE DATA

K-O Concepts Model LCR-8-G2

Process Coolant Pump Performance

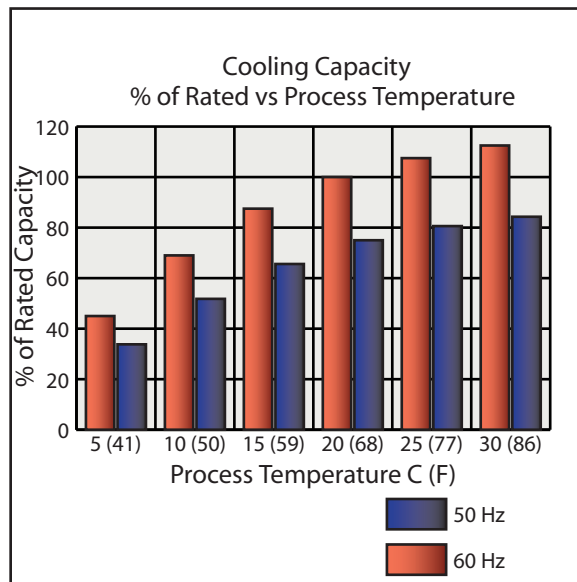


Optional Coolant Pump Performance



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



INTERFACE CONTROL DRAWING #: 25433900 AVAILABLE UPON REQUEST

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