

Operators Manual



Solid State Recirculating Liquid Chillers



Model Numbers:

CRAL150D
CRAL300-115
CRAL300-230
CRAL300D
CRAL300R-115
CRAL300R-230
CRAL300RD
CRAL400-115
CRAL400-230
CRAL400R-115
CRAL400R-230
CRAL400RD
CRAL600-115
CRAL600-230
CRAL800-115
CRAL800-230

1. INTRODUCTION:

CustomChill, Inc. Solid State Recirculating Liquid Chillers are designed to provide cooling for a wide range of water solutions, and can be used in many applications, such as Medical, Laser, and Laboratories. The cooling capacity of our line of chillers is 150, 300, 400, 600 or 800 watts and is sufficient to meet various cooling requirements. Chillers are designed to work in "closed loop" systems, which separate coolant from outside air, protecting the purity of cooled product.

This manual provides the necessary information for proper installation, operation, maintenance and recommendations to achieve the best and most efficient results when using a CustomChill unit.

Failure to comply with any part of this Manual could result in voiding the warranty.

2. INCOMING INSPECTION:

CustomChill units are designed, built and packaged to withstand the shock and vibration normally associated with shipment by common carriers. Occasionally improper handling during shipment such as excessive vibration, crushing, etc. causes damage to the product. Therefore, a thorough inspection should be provided upon receipt of all shipments. Any packaging tears, dents, scratches and loose articles are signs of damage and should be noted on Freight Bill. Packages should be opened promptly and units inspected for concealed damage. **An immediate claim must be filed with the freight carrier and an inspection requested.** Retain all packing materials. CustomChill, Inc. cannot be responsible for Consignee's failure to file a timely freight claim.

3. PRODUCT HANDLING:

DO NOT OPERATE RECIRCULATING CHILLER BEFORE READING THIS MANUAL

Before operating Recirculating Chiller be certain that:

1. Unit is placed in appropriate position.
2. Liquid reservoir is filled with coolant.
3. Air intake and outlet are located at least 12" away from any restrictions and/or heat sources.
4. Make sure that proper voltage is supplied to the unit.

WARNING Electrical Shock Hazard

1. **PLUG UNIT INTO GROUNDED ELECTRICAL OUTLET ONLY**
2. **DO NOT OPERATE UNIT WITHOUT COOLANT IN THE CYCTEM**
3. **MAKE SURE THAT LINE CIRCUIT BREAKER COINCIDES WITH NAMEPLATE MAX. FUSE RATING**

Failure to follow the above precautions could result in electrical shock, fire, personal injury or damage to the unit, and will void warranty.

Class I, Type B equipment

4. INSTALLATION AND OPERATION INSTRUCTION

1. Install Recirculating Chiller on a relatively leveled surface, capable of supporting the weight of the unit. Allow at least 12" clearance around the air inlet and outlet areas, to insure proper air circulation. If obstacles are blocking the airflow, the unit may overheat. This reduces performance, and may lead to early module failure. Keep the unit as far as possible from any kind of heat sources.
2. Fill reservoir 2/3 full with fluid.

3. Connect the unit to the system which needs to be cooled.
4. Connect the unit to the electrical outlet.
5. Turn the unit power switch ON. Purge air from the system as described in Section 5. Add fluid if necessary.
6. Set digital controller to the temperature desired, as instructed in Section 6.
7. Run the unit, check for possible leaks.
8. Unit is ready for continuous operation.

Note 1: For operating unit with leaving fluid temperature above 35°F / 2°C, 100% pure distilled water is recommended.

Note 2: For operating unit with leaving fluid temperature below 35°F / 2°C, a solution of 75% distilled water and 25% glycol or alcohol is recommended.

5. PURGING THE FLUID SYSTEM

1. Connect system tubing to the Recirculating Chiller quick-connect input and output valves.
2. Fill reservoir 2/3 full with appropriate coolant solution.
3. Plug unit to electrical outlet with appropriate voltage.
4. Turn power switch ON for 2-3 seconds and then turn OFF. Repeat two to four times.
5. Check fluid level in the reservoir and add more fluid if necessary to 2/3 level.
6. Turn power switch ON and run the unit.
7. If possible, raise the system above the chiller reservoir level for a few seconds to enable air to gather at the highest point. Then lower system below chiller fluid inlet and outlet connections for a few seconds to allow air to travel to chiller reservoir. If it is not possible to raise system, then lower and raise chiller as instructed above for the system.
8. Repeat this operation if there is any doubt that air still remains in the system. When purging is complete, check fluid level and fill reservoir to the top.

6. DIGITAL CONTROLLER

A. Factory Set Point (leaving fluid temperature) defaults at 5°C (or at value requested by customer)

1. To display Set point:

Press and release "P" button. The display will now show the Set point value. Press "P" button again to switch to actual temperature.

2. To enter new Set point:

When Set point value appears on display press ↑ UP button to increase or ↓ DOWN button to decrease the value. As Set point value is entered, push P button to secure setting. Push and hold ↑ UP or ↓ DOWN arrow until display changes to actual temperature.

B. Operation Mode

Because of complexity of programming the controller, CustomChill advises customers not to access Programming Mode.

C. Programming Mode

Warning: All programmable parameters are factory set with respect to safe and efficient unit operation. Any changes to factory settings are at customer's risk.

To reprogram the Controller, follow Controller's Manual, included with every chiller.

Note: * Temperature units "rou" are factory set for °C. All other temperature settings have a preset value reflecting °C. If it is desired to have temperature units "rou" in °F, please inform factory when entering the order.