



# CAC series Portable Air-Cooled Spot Cooler

ENGINEERING, INSTALLATION AND SERVICE MANUAL



AIR COOLED



OCEANAIRE

6228 Oakton Street Morton Grove, IL. 60053  
1-866-GET-AIRE (438-2473) Phone: (847) 583-0311 Fax: (847) 583-0312  
web-site: [www.oceanaire-inc.com](http://www.oceanaire-inc.com) e-mail: [sales@oceanaire-inc.com](mailto:sales@oceanaire-inc.com)

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## FORWARD

This manual provides the user with basic details for the installation and operation of the OceanAire CAC spot cooler. It is recommended to read and fully understand the instructions outlined within this manual, before operating the unit.

As with all commercial air conditioning equipment, it is recommended to have the CAC sized and installed by a licensed specifying engineer and contractor, in accordance with all local and state codes. The length of service received can be extended by following the installation and preventive maintenance instructions.

## NOTICE

In our ongoing process of continuous improvement, the items and procedures described in this manual are subject to change without notice. Please note model and serial number of the CAC when contacting the factory.

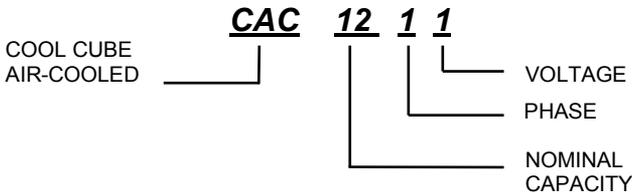
# GENERAL INFORMATION

The OceanAire CAC is a portable air-cooled spot cooler designed for permanent or temporary spot cooling. The entire air conditioning unit has been built in a premium sheet metal cabinet, equipped with heavy-duty casters for mobility. The CAC can be operated as a stand-alone spot cooler, or can be permanently installed in a server rack, or above a drop ceiling. The unit is equipped with a standard 10-foot power cord for electrical connection and added mobility in service.

This spot-cooler is designed to direct air to specific areas or objects through a discharge grille located on the upper-front of the unit, while rejecting heat from the back of the unit. The CAC is a self-contained unit with the entire system, (evaporator and condenser blower assemblies, electrical and refrigeration components) neatly arranged in a black polyester powder coated metal cabinet. When connected to the proper source of electrical power, the unit is controlled by a solid-state electronic controller, with numerous options of temperature and airflow controls, that will provide the desired level of comfort and cooling.

A wide variety of accessories and factory installed options are available for the CAC model, allowing for improved performance and added versatility.

## NOMENCLATURE



## CAPACITY RATING

12.....12,000 BTU/HR

## WARRANTY CARD

It is important that the warranty card be filled out completely and returned to the factory within fourteen (14) days of installation of the unit in order to receive the benefits of the warranty.

# TECHNICAL SPECIFICATIONS

## **MODEL: CAC**

COOLING CAPACITY	12,000 BTU/H
VOLTAGE	115 V
COOLING AMPS	12.0 A
MAX FUSE SIZE	15 A
COOLING WATTS	1180 W
IN RUSH AMPS	63 A
EER	10.0
COMPRESSOR TYPE	ROTARY
COMPRESSOR MOTOR	1 HP
COMPRESSOR RLA	9.5 A
COMPRESSOR LRA	50 A
EVAPORATOR BLOWER	CENTRIFUGAL
EVAP CFM - HIGH	400 CFM
EVAP CFM - LOW	320 CFM
EVAP MOTOR AMPS	1.7 A
EVAP MOTOR WATTS	130 W
CONDENSER BLOWER	CENTRIFUGAL
COND CFM	490 CFM
COND MOTOR AMPS	1.4 A
COND MOTOR WATTS	150 W
POWER CORD	14/3
PLUG TYPE	5-15 P
CORD LENGTH	10 FT
LCDI	ATTACHED
CONDENSATE RESERVOIR CAPACITY	REMOVABLE TANK 2 GALLON
REFRIGERANT CHARGE	R-410A 18 OZ.
HEIGHT WITH CASTERS	24 in.
HEIGHT WITHOUT CASTERS	20 in.
WIDTH	17-1/4 in.
DEPTH	24 in.
NET WEIGHT	130 lb.
SHIPPING WEIGHT	160 lb.
SHIPPING VOLUME	14 cu. ft.

# **STANDARD FEATURES**

## **CABINET**

The CAC Series spot cooler has a cabinet that is constructed of 18 gauge steel with a polyester powder coated finish. The matte black finish compliments any surrounding space, and the cabinet is lined with sound-absorbing insulation for cool, quiet comfort. The CAC comes equipped with handles and premium swivel casters for portability and convenient set-up.

## **DELUXE ELECTRONIC CONTROLLER**

The CAC unit is equipped with a deluxe electronic controller. When power is connected to the unit, the thermostat will cycle the unit to cool a space to the desired temperature. The thermostat is also capable of controlling the fan to operate automatically (when needed), or continuously.

## **AUTO RESTART (FEATURE)**

The controller has auto-restart capability. A built-in memory retains the settings, and the unit will restart to the last set point automatically, after a power failure.

## **FAN SPEED CONTROL**

One of the features of the electronic controller is that the unit supply fan can be controlled automatically or manually. In AUTO mode, the evaporator blower will adjust air flow automatically for added comfort and performance. Or, if desired, the fan speed can be set to MANUAL mode, and the evaporator blower will run continuously at one of six levels of fan speed.

## **CONDENSATE RESERVOIR/TANK**

The CAC unit comes equipped with a Reservoir Tank for handling the condensate generated during the cooling process. When the tank is full, the default condition "CON" will be displayed. The tank can be easily removed from the unit and emptied as needed.

## **FILTERS**

CAC's are equipped with washable filters at the air intakes. Electrostatic mesh air filters located behind the evaporator return air grille serve to filter the air before it is cooled, and behind the condenser return air grille to prevent dust build-up. Both filters can be easily removed and cleaned.

## **HIGH PRESSURE SAFETY SWITCH**

Located on the back of the CAC is a manual re-set high pressure switch, used for the protection of the compressor. If the condensing pressure exceeds the limit setting, the switch will cycle the compressor off, while the evaporator fan remains running. The display will indicate CON. The compressor can be re-started, once the condensing pressure has equalized, by depressing the "RESET" button.

## **POWER CORDS**

CAC units come standard with a 10-foot power cord, allowing for convenient connection and portability. The power cord is equipped with a Leakage Current Detection Interrupt (LCDI) device for added safety.

# APPLICATIONS

## SPOT COOLER

The CAC can be used in an open environment to cool specific objects or "spots". Spot Cooling is a convenient and economical way to provide air conditioning where cooling the entire space is impractical. Cool air is discharged from the unit and is directed where it is needed. Nozzle kits can be used for directional cooling.

## ROOM AIR CONDITIONER

When ducted properly, the CAC can be used as a room air conditioner to cool an enclosed space. Using the condenser return air panel (**CCP-8**) and ceiling discharge kit (**CK-8**), the CAC can operate as a room air conditioner with the condenser air isolated from the conditioned space.

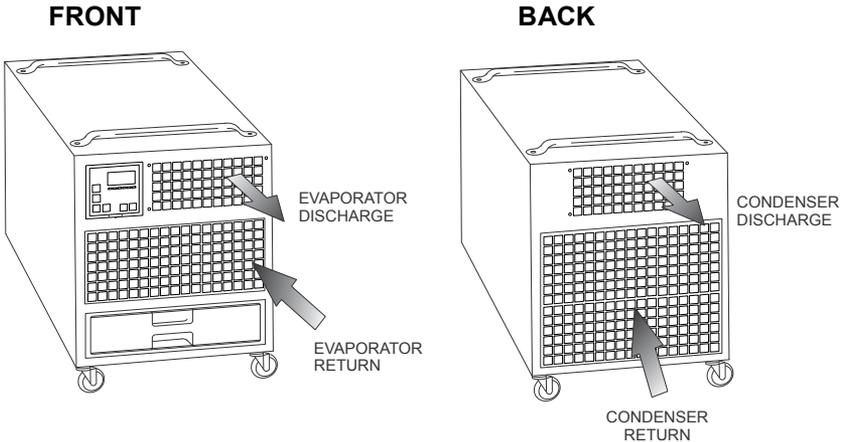
## CEILING MOUNT

The CAC can be secured above a space, or be installed above a drop ceiling, allowing the unit to cool a room/area without taking up any valuable floor space.

## RACK MOUNT

The CAC can be rack mounted inside a 19-inch computer rack, occupying just 12U of rack space.

## CAC OPERATION



# ELECTRICAL CONFIGURATION

## PORTABLE CONFIGURATION

The CAC is equipped with a 10-foot power cord for ease of movement and portability. The cord is to be plugged into a 15 Amp receptacle. A dedicated circuit is required.

MODEL	PLUG CONFIGURATION	RECEPTACLE
CAC	 15A-125 VOLT NEMA 5-15P	NEMA-5-15R

## SERVICE CORD

The CAC is equipped with a 10-foot long service cord with a LCDI (Leakage Current Detection & Interruption) device that serve as a means of electrical protection.

**DO NOT USE THE LCDI AS AN ON/OFF SWITCH FOR THE UNIT**

**A DAMAGED LCDI POWER SUPPLY CORD MUST BE REPLACED WITH A NEW POWER SUPPLY CORD AND NOT REPAIRED**

## USE OF EXTENSION CORDS

**CAUTION:** AN EXTENSION CORD CAN BE USED PROVIDED IT IS RATED AT LEAST 15 AMPS @ 115 VOLTS WITH GROUNDING-TYPE ATTACHMENT PLUG AND GROUNDING TYPE CONNECTOR (LOAD FITTING).

## PERMANENT INSTALLATION

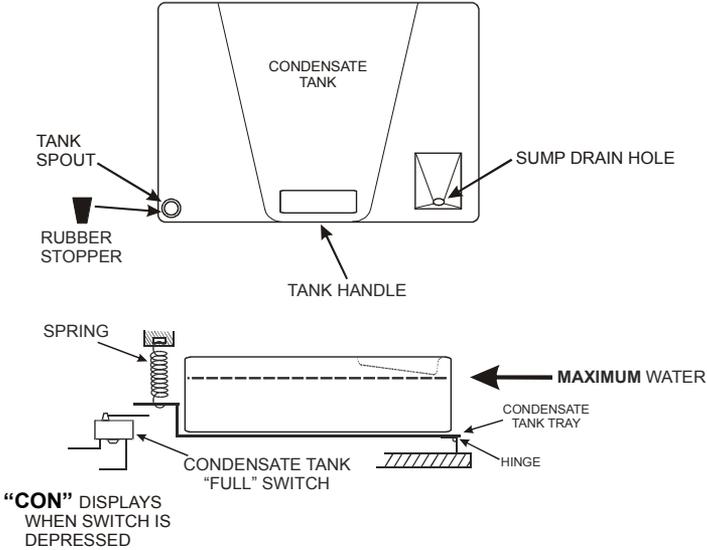
The CAC can be installed in a permanent configuration, as the control box is suitable for field wiring. The unit can be hung from 5/16" threaded rods, or be installed with the use of UniStrut. Instructions for Permanent installations are on Pages 8 and 9 in the manual.

***When hanging and permanently connecting the CAC, all applicable local/state/federal building codes must be followed.***

***The structural beam(s) must be capable of properly supporting the weight of the unit (135 lbs.)***

# CONDENSATE

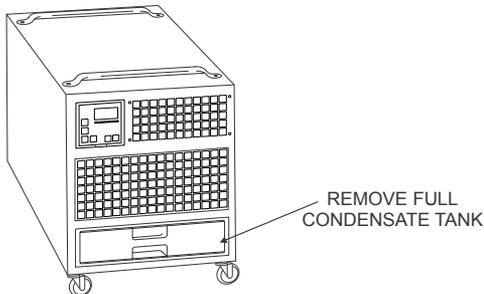
The CAC has a 2-gallon polyethylene tank for collecting condensate. The tank is located in the lower, front section of the unit. When the high water is reached, a cut-out switch will **AUTOMATICALLY** cycle off the compressor/condenser fan. The evaporator fan will continue to run and circulate the air.



## **EMPTYING THE CONDENSATE RESERVOIR TANK**

In the COOL Mode, condensate will collect in the condensate tank. When the tank is full, the Deluxe Controller will shut down the compressor and the fault "CON" will be displayed, along with the room temperature. To empty the tank, do the following:

1. Press the  POWER button, to turn the unit off.
2. Remove the tank from the lower front of the unit, using the handle.
3. Remove the rubber stopper, and empty the tank in a nearby sink.
4. Replace the rubber stopper.
5. Slide tank back into place, making sure it is reinstalled properly.
6. Press the  POWER button to re-start the unit.



# INSTALLATION INSTRUCTIONS

## RECEIVING—INSPECTION

Upon receiving your CAC unit, inspect the packaging for any damage. All units are shipped on a skid, and packaged in a triple-wall carton for added protection.

## BEFORE INSTALLING

Check the unit for any damage. All OceanAire products are thoroughly inspected at the factory and carefully packaged. If any damage is evident, contact OceanAire **IMMEDIATELY**.

## ELECTRICAL REQUIREMENTS

Check the nameplate located on the back of the unit to confirm the proper power is available for the unit. Refer to "**Specifications**" section for voltage and amperage requirements. For proper NEMA receptacles, refer to "Electrical service plug configuration". When using extension cords, use the proper gauge cord, and check cord voltage to the unit.

**TIME DELAY FUSES/CIRCUIT BREAKERS ARE RECOMMENDED**

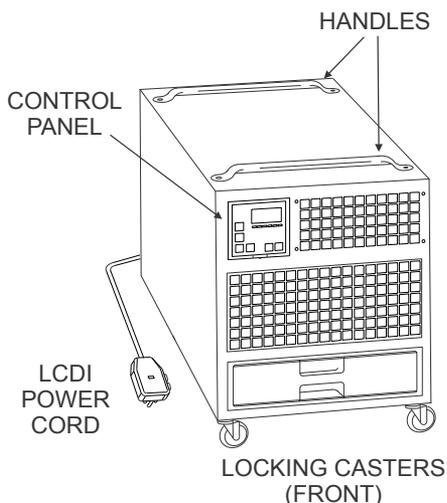
## **WARNING—OPERATING THE UNIT ON IMPROPER VOLTAGE WILL VOID THE WARRANTY**

## ACCESSORIES

Verify that all accessories are correct for the model, and are installed in accordance with all instructions.

## START-UP

Install the unit in accordance with all local and state building codes, and install all accessories. Allow for a clearance around the unit for future maintenance and/or service. Level unit and lock casters, when available. Connect power and test the LCDI on the power cord. Power up unit, via thermostat and check for proper operation. Refer to Thermostat Operation for more details.



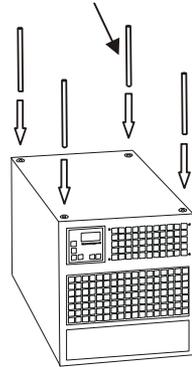
# INSTALLATION—HANGING APPLICATION

The CAC may be suspended above a space, or installed above a drop ceiling. The unit can be hung from a building's structural beam by one of three means:

- Using 5/16" -18 threaded rods secured into the top of the unit at the 4 corners. Make sure there is a minimum of 1/2" thread engagement into panel nuts. Rods are to be secured to upper structure by means of washers and nuts.
- Using 12 ga. Uni-Strut (P1000 Series or equivalent) secured to the top of the unit by 5/16-18 bolts
- Using 12 ga. Uni-Strut (P1000 Series or equivalent) secured beneath the unit by 5/16-18 bolts

***When hanging or permanently installing the CAC, remove the unit casters and handles prior to installation.***

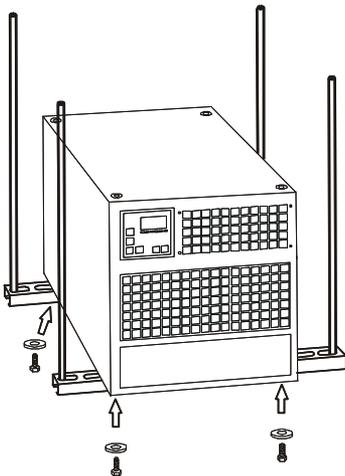
INSTALL (4) 5/16-18  
THREADED RODS INTO  
TOP PANEL OF UNIT



***CAUTION - When hanging or permanently connecting the CAC, all applicable local/state/federal building codes must be followed. The structural beam(s) must be capable of properly supporting the weight of the unit (130 lbs.)***

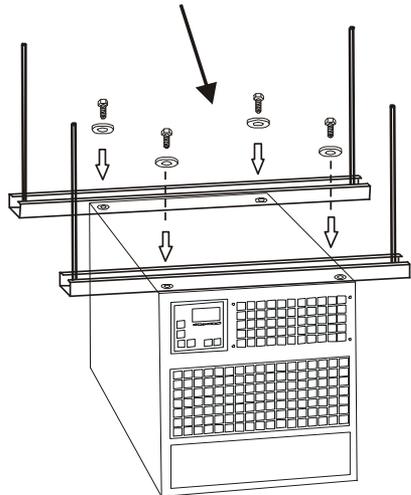
***WHEN INSTALLED—UNIT IS TO BE PLUMB AND LEVEL***

## UNI-STRUT INSTALLATION



USE (4) 5/16-18 x 1" BOLTS AND  
WASHERS TO  
SECURE UNIT TO UNI-STRUT

USE (4) 5/16-18 x 1" BOLTS AND  
WASHERS TO  
SECURE UNIT TO UNI-STRUT

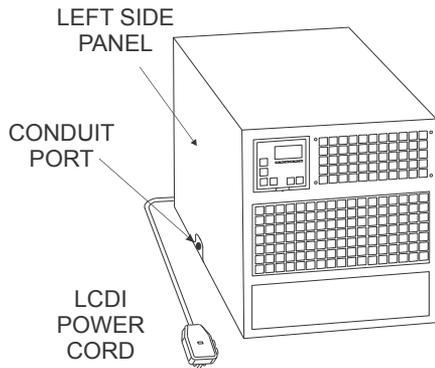


## **INSTALLATION—PERMANENTLY CONNECTED**

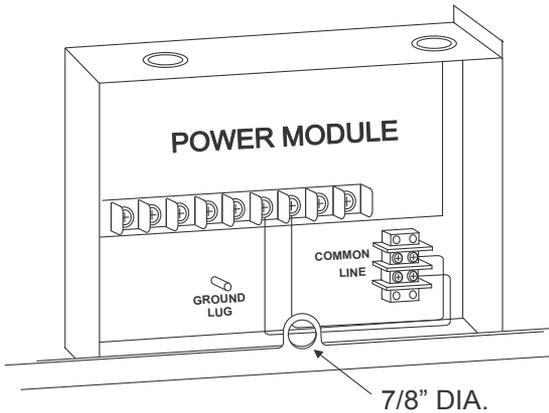
The CAC power cord can be removed and permanently connected to a power source. Once the CAC is installed and secured for a stationary installation, the unit can be permanently wired.

1. Remove the left side panel and locate the power cord/strain relief at the rear of the unit.
2. Disconnect the power cord from the ground lug and terminal strip.
3. Remove the power cord and the strain relief.
4. Install 1/2" conduit and a UL recognized bushing through the 7/8" DIA. CONDUIT PORT, and secure.
5. Three (3) conductors, a minimum of 14 AWG, are required for LINE, COMMON, and GROUND, can then be connected to the unit.
6. A dedicated electrical circuit (115 VAC...60HZ...Single Phase) rated @15 amps is needed.

### **USE COPPER CONDUCTORS ONLY**



**CAC1211**



**CONTROL BOX - FIELD WIRING**

## INSTALLATION—STACKING KIT SK-1

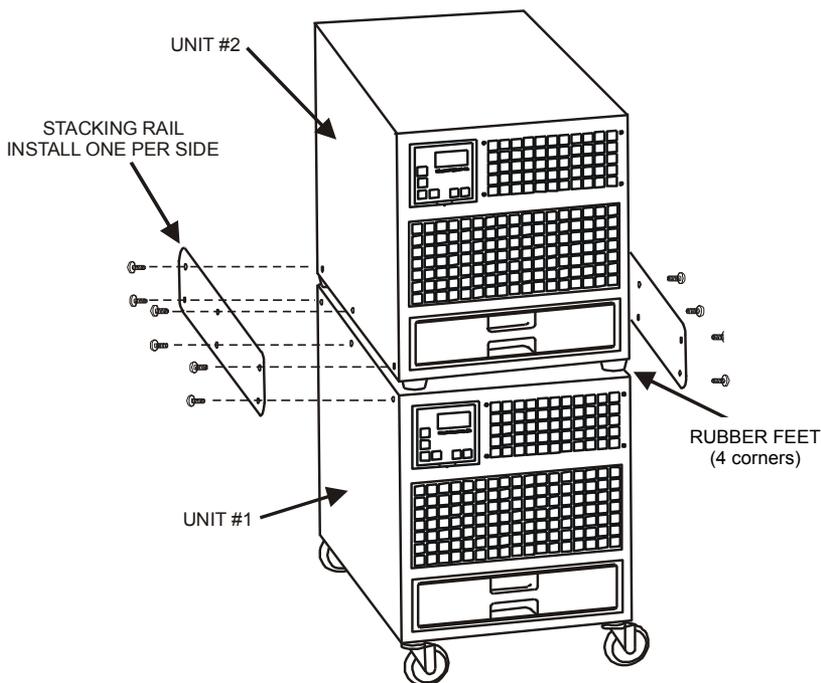
Two or three Cool Cube units are needed when:

- **REDUNDANCY IS NEEDED**
- **COOLING LARGE AREAS**
- **HIGH HEAT LOADS**

and only a small amount of floor space is available.

The CAC can be stacked on top of each other to produce a capacity of 24,000 or 36,000 BTU/H, while maintaining the same foot print. To facilitate the stacking of the Cool Cube units, a stacking kit **SK-1**, is required for each additional unit.

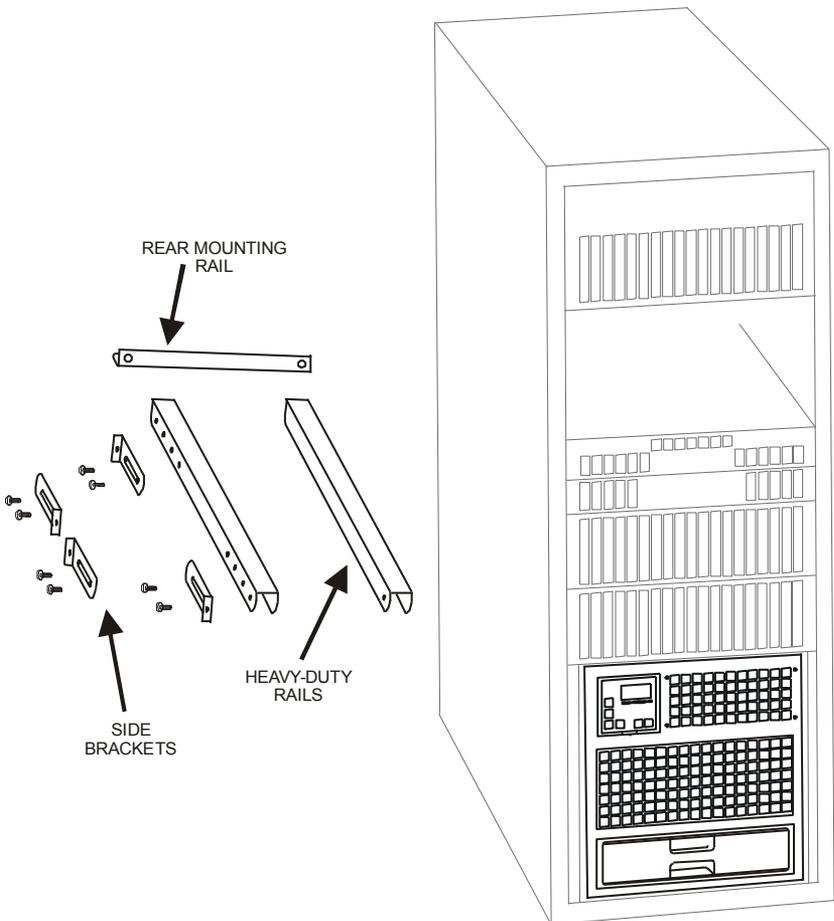
1. Disconnect Power before Servicing
2. Remove Handles from units, and remove the casters from the unit to be stacked.
3. Install rubber feet on base of unit to be stacked
4. Carefully stack the units—**each unit weights approximately 130 lb.**
5. Secure the stacked unit to the one below it by using the stacking rails provided. Install rails on both sides of units.



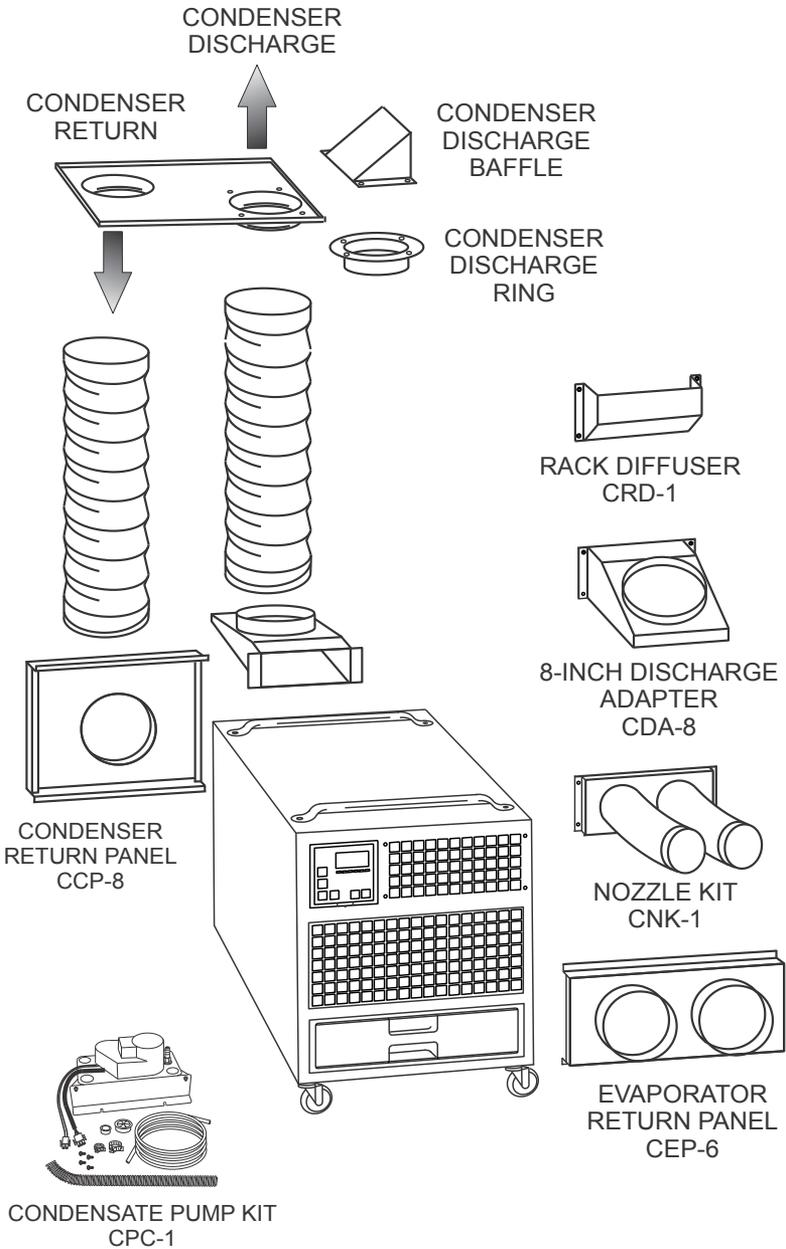
# INSTALLATION—RACK MOUNTING KIT RCK-1

The 19-Inch Rack Kit allows for the Cool Cube to be installed into any EIA-310-D, 4-Post or 2-Post rack enclosure. The kit includes: (2) heavy duty rails, (4) side mounting brackets, and a rear mounting rail. The rails have a vibration dampening foam layer secured to the top for noise reduction. The hardware included in the kit will accommodate most installations, such as square hole racks, 12-24 threaded racks, 10-32 threaded racks and round hole racks.

1. Disconnect Power before Servicing
2. Remove handles and casters from the unit.
3. Install rails in rack and secure with side brackets and hardware.
4. Carefully slide the Cool Cube chassis into the rack, on top of the support rails.
5. Secure the unit to the rails by use of the rear mounting rail .



# ACCESSORIES

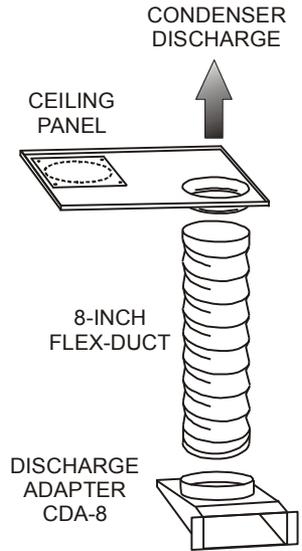


# ACCESSORIES

## CEILING PANEL DUCT KIT, CK-8

A ceiling panel kit is available for discharging the condenser air above a drop ceiling. The ceiling panel duct kits are furnished with an 8-inch white vinyl coated flexible duct that allows for convenient installation. A 2ft X 2ft ceiling duct-panel is included to replace a 2ft X 2ft drop-ceiling panel where the connection is desired. The CK-8 ceiling panel kit consists of a 2' X 2' lay in ceiling panel with duct flange, 8-inch vinyl coated flex-duct and the CDA-8 discharge adapter that attaches to the condenser air discharge opening on the back of the unit.

**Note—Drop ceiling spaces should be vented or large enough to handle the warm condenser air. Check local codes to assure compliance.**



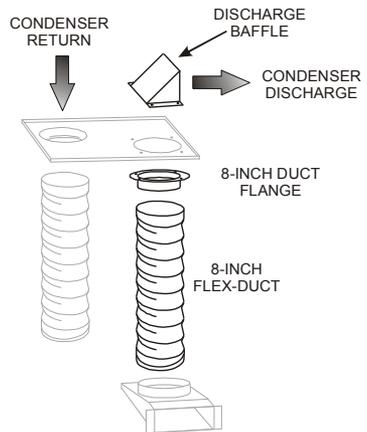
CK-8, CEILING DISCHARGE KIT

## CEILING PANEL CONVERSION KIT, CVK-8

The CK-8 can be converted to a dual ducted ceiling panel by use of the CVK-8 conversion kit. The kit contains the parts necessary to install a second 8-Inch duct flange and a condenser discharge baffle onto the CK-8 ceiling panel. This allows for ducting of condenser air to and from the drop ceiling plenum. The kit contains an 8-inch duct flange and a discharge air baffle that can be installed onto the ceiling panel, as shown, along with an 8-inch flex-duct. The baffle can be installed in various orientations, to direct the discharge air away from the condenser return air above the ceiling panel.

**Note—Drop ceiling spaces should be vented or large enough to handle the warm condenser air. Check local codes to assure compliance.**

**WHEN INSTALLED—THE CONDENSER DISCHARGE SHOULD BE DIRECTED AWAY FROM THE CONDENSER AIR RETURN**

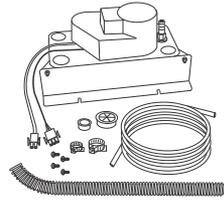


CVK-8, CEILING PANEL CONVERSION KIT

# ACCESSORIES

## CONDENSATE PUMP KIT , CPC-1

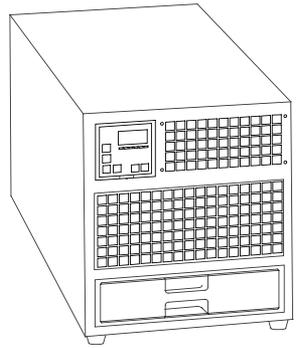
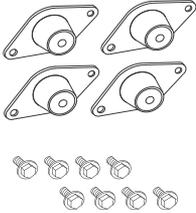
The condensate pump provides for the automatic removal of condensate water during the cooling process. The pump is capable of pumping against a 20 foot height, allowing for the routing of the drain line above the drop-ceiling to a nearby drain. The pump is controlled by an internal float-switch/check valve which turns the pump on and off automatically. The pump is also equipped with a condensate over-flow safety switch, that will cycle the compressor off when the pump is not working properly. The default condition "CON" will be displayed along with the room temperature. Kit includes the pump, mounting hardware, and 20-feet of condensate hose.



CONDENSATE PUMP KIT  
CPC-1

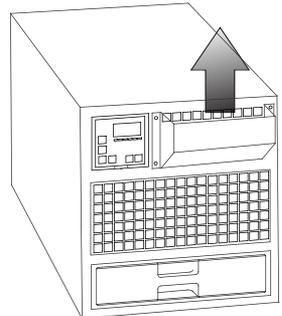
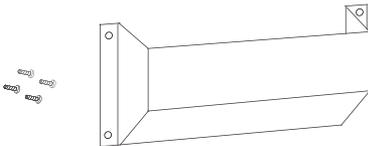
## FEET KIT, CFK-1

The CFK-1 is a field installed rubber feet kit, that replaces the casters used on the CAC, allowing the unit to be mounted in applications where movement is not required. The feet are made of oil resistant neoprene, and serve to reduce unit vibration and noise.



## RACK DIFFUSER, CRD-1

The CRD-1 is a field installed diffuser kit that allows for the vertical discharge of the conditioned air into a rack application. The diffuser easily mounts to the front of the unit.

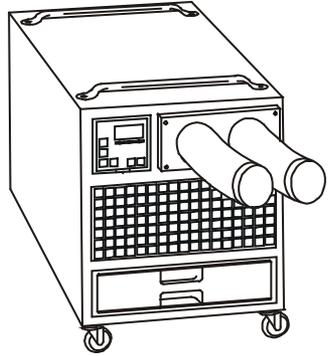


# ACCESSORIES

## **DISCHARGE AIR NOZZLE KIT ASSEMBLY, CNK-1**

The optional discharge nozzle kits are used to direct the conditioned air to a specific target area. By concentrating the airflow, the nozzles increase the air velocity towards production lines to cool personnel and/or equipment. In server rooms, the nozzles can be used to direct airflow through the rack to remove the hot air from the area of the equipment.

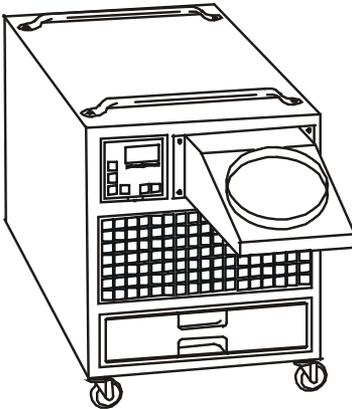
**CNK-1 for model CAC** with (2) 4-inch diameter nozzles with an approximate compressed length of 15 inches. The approximate extended length is 21 inches.



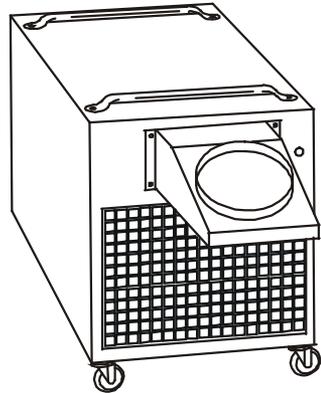
## **DISCHARGE ADAPTER CDA-8**

A discharge adapter is available for installations where it is required to duct air away from the unit. The discharge adapter easily attaches to the evaporator and/or condenser discharge grille, and provides an 8-inch flange for connecting 8-inch flexible ducting.

### **EVAPORATOR DISCHARGE**



### **CONDENSER DISCHARGE**

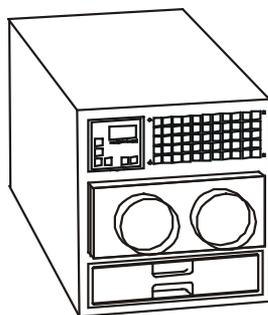


## ACCESSORIES

### EVAPORATOR RETURN AIR PLENUM, CEP-6

An evaporator return air plenum is available for installations where it is required to duct air to the inlet of the evaporator. The return air plenum allows the user to connect round duct (flexible or rigid) to the return air intake and reduce air noise, while increasing the number of options for solving difficult cooling problems. The plenum attaches to the front of the unit, replacing the return air grille.

The CEP-6 transitions the return air opening to (2) 6-inch round collars. The CEP-6 has space provided for a 16 X 8 filter.

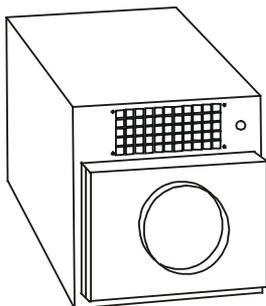


**NOTE**—When an evaporator return air plenum is installed, it is recommended to set the evaporator blower speed to high, to avoid evaporator coil freeze-up.

### CONDENSER RETURN AIR PLENUM, CCP-8

A condenser return air plenum is available for installations where it is required to duct air to the inlet of the condenser. The plenum easily attaches to the unit, and provides a collar for connecting 8-inch flexible ducting. The CCP-8 has space for a 12" x 20" filter.

**NOTE** — When installing the condenser return air plenum with additional duct/hardware, allow for a minimum separation distance at 2-feet between the discharge duct and return duct. It is also recommended to direct the condenser discharge air away from the condenser return air duct.

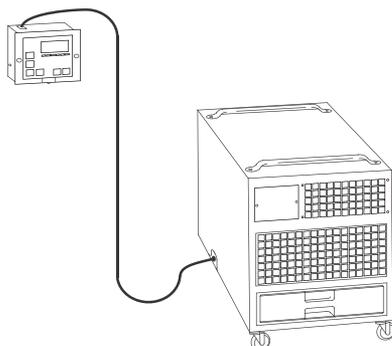


### REMOTE THERMOSTAT KIT, RTK-1

The RTK-1 is a field installed kit that allows for the display of the CAC to be installed remotely, allowing the unit to be controlled from within the conditioned space. The kit includes a cover plate for the unit and a display installation panel.

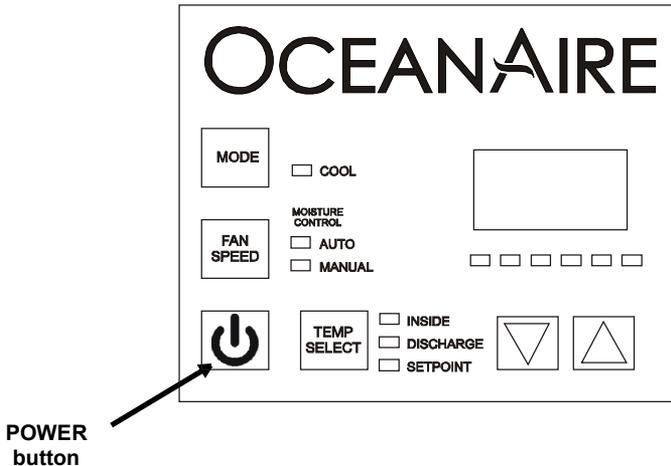
**NOTICE** - The RTK-1 requires a display cable (sold separately):

- 012-006, 6 ft. Display Cable
- 012-008, 75 ft. Display Cable
- 012-009, 25 ft. Display Cable



# DELUXE ELECTRONIC CONTROLLER

The CAC controller is equipped with many features for a more precise level of cooling and operation. Additionally, the controller can be removed from the unit and installed for remote operation, if needed (accessory parts may be required).



## OCEANAIRE DELUXE ELECTRONIC CONTROLLER

When power is connected, the controller will display “888” momentarily, and will then disappear. Press the **POWER** button, then press the **TEMP SELECT** button until the **SET POINT** is displayed. Adjust the **SET POINT** to the desired temperature, and the unit will cool as programmed.

### The systems controls temperature within +/- 2°

**POWER**—Turns the unit on/off when power is supplied

**MODE** - Select the **Cool** or **Moisture Control**

**COOL** - The system will operate in **cooling mode, only**

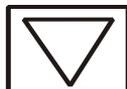
**MOISTURE CONTROL** - The system operates in the cooling mode to reduce humidity within the conditioned space. Every 4 hours, the fan is started, circulating the air, and the air temperature is recorded by the controller. The cooling cycle is started for one hour, or until the room temperature drops 2°, which ever comes first. This cycle repeats every four hours.

**FAN SPEED**—The operator can select between **AUTO** or **MANUAL** fan speed control. Pressing the **FAN SPEED** button, will switch speed from **AUTO** to **MANUAL**. In **MANUAL** mode, pressing the **FAN SPEED** button will change fan speed from low to high. In **AUTO** mode, the fan speed is controlled automatically. In cooling mode, the controller automatically adjusts the fan speed to high, and as the inside temperature approaches the set point, the fan speed will reduce.

**TEMP SELECT**— Allows the operator to view the controller temperatures **INSIDE** = return air temperature, **DISCHARGE** = supply air temperature, **SET POINT** can be seen and adjusted, by pressing **▲** or **▼**.

## CONTROLLER PROGRAMMING MENU

- 1) Make sure the unit has power .
- 2) Press the power button “**OFF**”.
- 3) Press the following buttons in sequence “**S-U-D-S**”  
(**Select**—**Up** arrow — **Down** arrow — **Select**)
- 4) The display will begin flashing P1 and a number.



*If there is no display, repeat the sequence,  
making sure the unit has power, but is turned OFF.*

- 5) To adjust any program feature, press the **ARROW UP ▲** or **ARROW DOWN ▼** button until the desired value is displayed.
- 6) Use the “**MODE**” button to scroll through the programmable settings P1 through P16.
- 7) If no buttons are pressed, the display will then return to the “**OFF**” position after about 50 seconds.

## PROGRAM SETTINGS

**P1—High Fan Speed Limit Setting, 56 - 85**

**P2—Low Fan Speed Limit Setting, 30 - 55**

**P4—Temperature Sensor Calibration, +/- 10°**

**P10— Temperature Display, °F or °C**

**P13—Supply Fan Operation, Cycling or Continuous**

**P15—Fan Motor Type Setting, PSC or Shaded Pole**

**P1, P2** - To adjust fan speed settings, **P1** represents the high fan speed parameter, while **P2** represents the low fan speed parameter. When using nozzle kits, discharge duct adapters and evaporator plenums, setting **P1** to 85 will help to avoid freeze ups.

**P4** - Adjust the **P4** setting to match the actual **INSIDE** room temperature, if needed.

**P10** - Use this parameter to display temperatures in the desired units.

**P13** - To cycle the evaporator fan with the compressor, access code **P-13**. Press the up or down button to switch to “**CYC**”, which means cycle the fan with the compressor. The factory default setting is “**CON**”, which means continuous fan operation.

**P15** - Fan Motors are PSC type, **SC** - should be selected.

- 8) Press **POWER** — you should see an alphanumeric code.

Press **POWER** and the unit will start at the new settings

# CAC PROGRAM PARAMETERS

MODEL	CODE SETTINGS
CAC	P1 = 80, P2 = 50

## NOTICE

**Program Parameters are NOT controller default values.  
They are OceanAire Factory Settings**

## DISPLAY FAULTS

**LAC....Low AC line power**

**AAA...Failed Air Sensor (unit will not run)**

**CON... Empty Condensate Bucket—Units with a bucket  
Condensate Pump Over-Flow Alarm—Units with pump  
High Pressure Cut-Out—Restricted condenser air flow.  
Correct problem, and re-set unit at HP RESET**

### TO CHECK THE NUMBER OF HOURS ON THE UNIT

- 1) Disconnect unit power, and reconnect unit power.
- 2) When "888" appears in display, push and release the arrow down button
- 3) The first set of numbers displayed reads thousands of hours:  
02 = 2000, 04 = 4000 hours, 00 means less than 1000 hours.
- 4) The second set of numbers read hours directly:  
58 = 58 hours. 742 = 742 hours.
- 6) Add the 2 number sets together to get total hours.  
03 and 486 = 3486 hours. 01 and 59 = 1059 hours.



**TOTAL HOURS REPRESENTS COMPRESSOR "RUN" TIME**

## **TROUBLESHOOTING GUIDE**

The following steps and procedures are recommended for correcting the problems indicated. In the event that the problem can not be corrected, service may be required.

### ***PROBLEM: UNIT DOES NOT POWER UP***

**CAUSE: Power interruption**

**REMEDY:** Check external power supply making sure that the disconnect is ON. Check for blown fuses or tripped circuit breakers. Reset or replace if needed.

**CAUSE: LCDI has tripped**

**REMEDY:** Check LCDI and reset LCDI on power cord.

**CAUSE: Loose display cable**

**REMEDY:** Re-seat display cable at display and power module.

### ***PROBLEM: EVAPORATOR FAN RUNS BUT COMPRESSOR AND CONDENSER FAN DO NOT START***

#### **Note—there is a time delay for the compressor**

**CAUSE: SET POINT** — setting may be too high for cooling.

**REMEDY:** Make sure set-point is adjusted accordingly. You should see a red dot to the right of the temperature display indicating compressor ON.

**CAUSE: Loose Display Cable**

**REMEDY:** Examine the control unit for loose wires. Tighten any loose connections.

**CAUSE: Condition Alarm—"CON".**

**REMEDY:** Check condensate tank and empty tank, or check condensate pump (if equipped), and make sure pump is working properly, and that there is no restriction in the drain line from the pump.

**CAUSE: High Pressure Cut-Out—"CON"** Check High Pressure Cut-out Switch.

**REMEDY:** Press Reset and clear away any obstructions to the condenser intake or condenser discharge.

**CAUSE: Defective Power Module**

**REMEDY:** Replace Power Module.

# **REPLACEMENT PARTS PROCEDURE**

**IT IS RECOMMENDED THAT ALL OCEANAIRE UNITS  
BE SERVICED BY A LICENSED TECHNICIAN**

***WARNING—TO AVOID INJURY, DISCONNECT UNIT POWER  
PRIOR TO SERVICING***

## **A. FAN MOTORS**

1. Remove cabinet left-side panel (when looking at the front of the unit).
2. Evaporator fan motor—disconnect evaporator motor wires from evaporator fan contactor and power module. Condenser fan motor—disconnect condenser motor wires from condenser fan contactor.
3. Remove the screws securing motors and inlet-ring to blower housings (all screws are external and visible), and remove blower wheel-motor assembly. Remove the blower wheel set screw and disassemble the blower wheel from the motor shaft and remove the motor.
4. Install the new motor, reversing the removal procedure.

## **B. ELECTRONIC CONTROLLER (THERMOSTAT)**

To remove the cooling only display, remove the cabinet left-side panel (from front). Locate the two nuts securing the display to the front panel. Unplug the display cable and remove display. Install new display and secure. Plug in display cable.

## **C. POWER MODULE**

To remove the power module, disconnect wires (one at a time), and re-attach each wire, while holding replacement module in other hand. Once all wires have been reconnected in accordance with the wiring diagram, install new power module.

## **D. CONDENSATE PUMP (ON UNITS WITH CONDENSATE PUMP KITS, INSTALLED)**

1. Remove side panel.
2. Remove brackets securing condensate pump in base pan, or condensate tank tray pan
3. Disconnect pump wire leads at Molex connectors. Remove retainer clamp and tubing.
4. Replace pump, install by reversing procedure.

## **E. HIGH PRESSURE SAFETY SWITCH**

1. Remove cabinet left side panel.
2. Remove flare nut that secures capillary to the refrigeration system high pressure side. A schrader valve is located in the discharge port which allows removal without losing the refrigerant charge.
3. Remove the two screws that secure the high pressure switch to the back panel.
4. Cut the wire leads at a place approximately 6 inches from the switch.
5. Install new High Pressure Control, and splice the wire leads from the new switch to the existing low-voltage wires.

# **PREVENTIVE MAINTENANCE**

CAC Spot Coolers are designed to last a long time and to give maximum performance and reliability with minimum maintenance. To prolong the life of the unit, regular maintenance must be performed as specified below:

## **BLOWER MOTORS**

The motors on all units have permanently lubricated bearings. No oiling is necessary

## **FILTERS**

A clogged filter will cause the unit to operate at greatly reduced efficiencies. We recommend that the filters be inspected on a regular basis, **every six weeks or less**, depending on the environment. The evaporator filter is located behind the return air grille and can be easily removed and cleaned. The condenser filter is located on the backside of the unit. The filters must be washed periodically as needed by placing them in a dishwasher or soaking them in a solution of warm water and detergent for 10 minutes. Then rinsing them clean with hot water and shaking excess moisture from filter.

## **CONDENSATE PUMP**

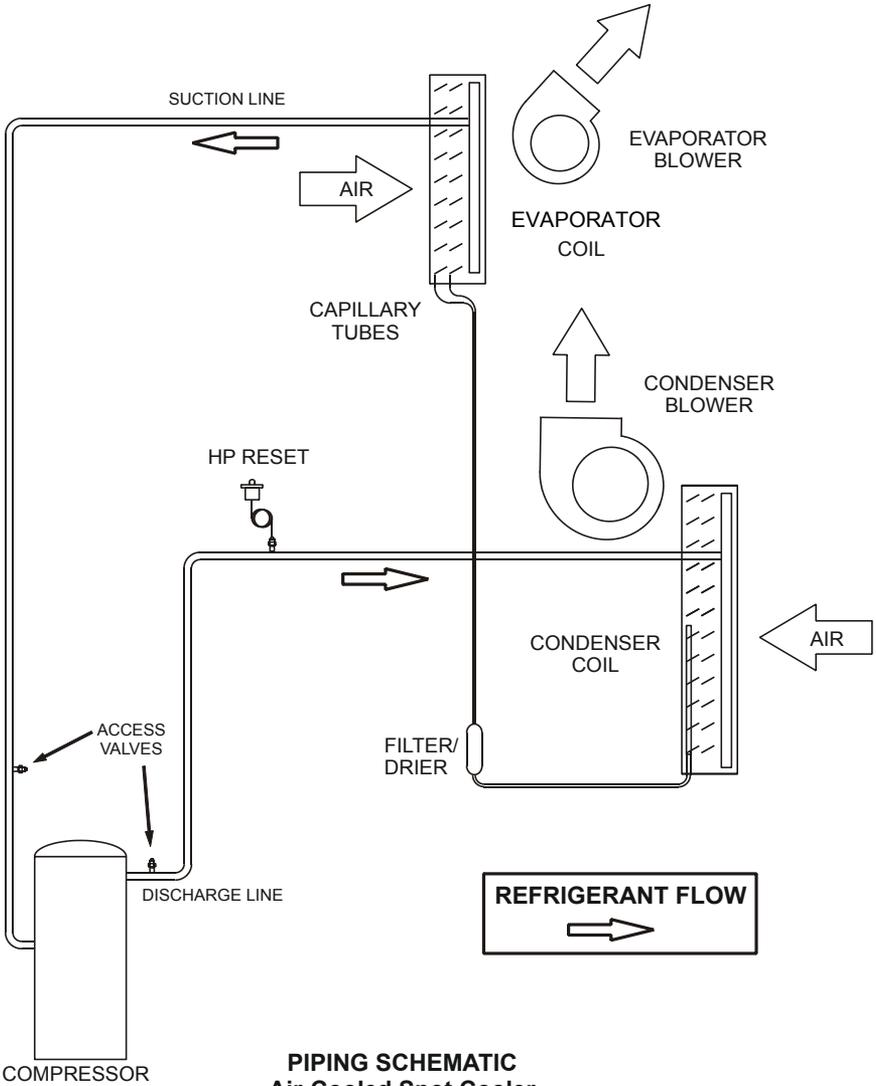
Ordered as an accessory, or field-installed. When servicing pump, follow these steps.

1. Make certain that the unit is disconnected from the power source before attempting to service or remove any component.
2. Be sure the floats move freely. Clean as necessary.
3. Remove the pump housing and check for obstructions. Clean as needed.
4. Clean the housing with warm water and mild soap when mineral deposits are visible.
5. Check the inlet and outlet piping. Clean as necessary. Be sure there are no restrictions in the lines that would restrict flow.

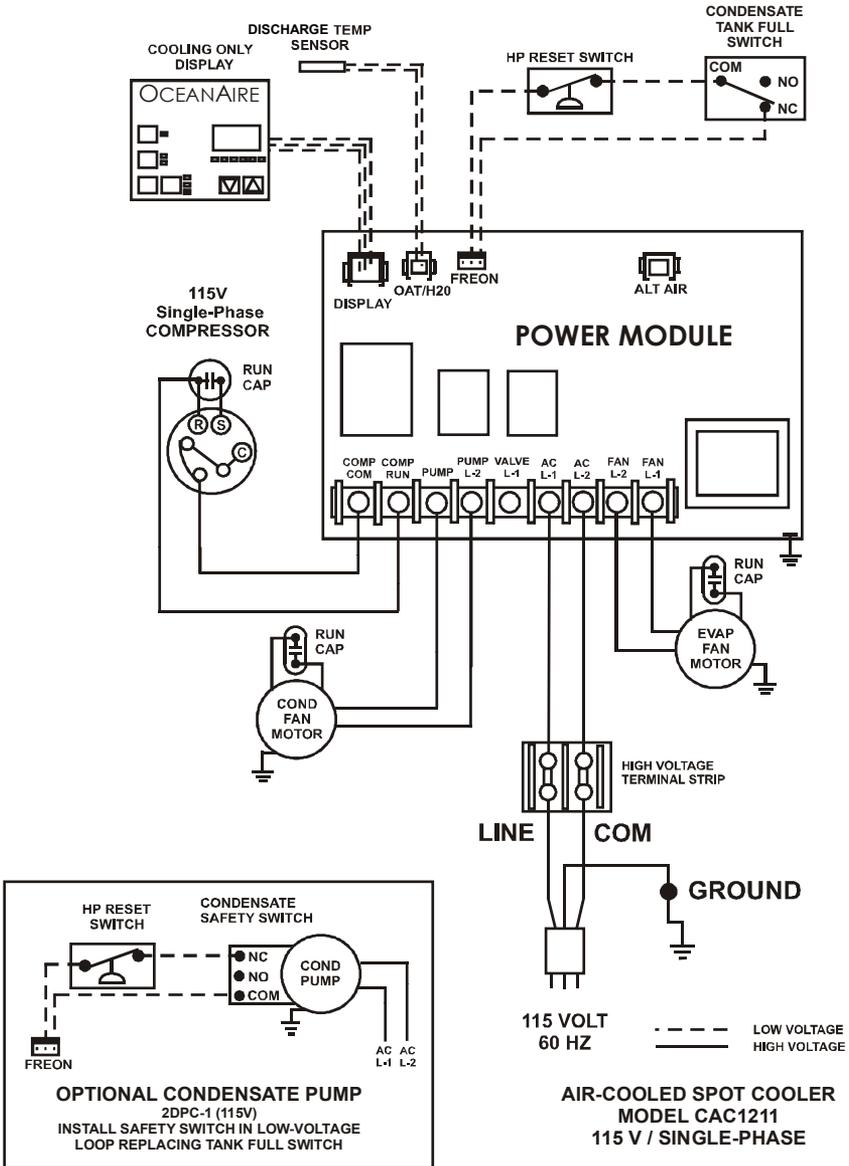
## **GENERAL**

When necessary maintenance steps outlined above are followed, the air conditioner will provide long and reliable service. The refrigeration and electrical circuits of the system should only be serviced by a fully qualified service technician.

# PIPING SCHEMATIC



# CAC1211 WIRING DIAGRAM



**WHEN FIELD WIRING—USE COPPER CONDUCTORS ONLY**

## **LIMITED WARRANTY**

The Manufacturer (OceanAire, Inc.) warrants to the original owner that the Product will be free from defects in material or workmanship for a period not to exceed one (1) year from date of installation. If upon examination by the Manufacturer, the Product is shown to have a defect in material or workmanship during the warranty period, the Manufacturer will repair or replace, at its option, that part of the Product which is shown to be defective.

The Manufacturer further warrants that the product's compressor-motor will be free from defects in materials and workmanship for five (5) years from the date of installation.

If upon examination by the Manufacturer the Product is shown to have a defect in materials or workmanship during the warranty period, the Manufacturer will repair or replace, at its option, that Part of the Product which is shown to be defective. **Compressor warranty shall be pro-rated for years 2 – 5 at the sole discretion of OceanAire.** Electrical parts such as relays, overloads, capacitors, etc., and the sealed refrigeration system (condenser and evaporator) are included in the one year limited warranty, but not with the five year limited warranty of the compressor.

This limited warranty does not apply to:

- a) Product that has been subjected to misuse or neglect, has been accidentally or intentionally damaged, has not been installed, maintained or operated in accordance with the furnished written instructions, or has been altered or modified in any way.
- b) Product that has been subjected to any abnormal power conditions such as loss of power, power surges, voltage irregularities such as brown-outs or phase loss on three-phase equipment).
- c) any expenses, including labor or material, incurred during removal or reinstallation of the Product.
- d) any workmanship of the installer of the Product.

This limited warranty is conditional upon:

- a) return to the Manufacturer, of the part of the Product thought to be defective.

Goods can only be returned with prior written approval from the Manufacturer.  
All returns must be freight prepaid.

- b) determination in the reasonable opinion of the Manufacturer, that there exists a defective in material or workmanship.

Repair or replacement of any part under this Limited Warranty shall not extend the duration of the warranty with respect to such repaired or replaced part beyond the stated warranty period.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED, AND ALL SUCH OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS LIMITED WARRANTY. IN NO EVENT SHALL THE MANUFACTURER BE LIABLE IN ANY WAY FOR ANY CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OF ANY NATURE WHATSOEVER, OR FOR ANY AMOUNTS IN EXCESS OF THE SELLING PRICE OF THE PRODUCT OR ANY PARTS THEREOF FOUND TO BE DEFECTIVE. THIS LIMITED WARRANTY GIVES THE ORIGINAL OWNER OF THE PRODUCT SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY BY EACH JURISDICTION.

# END USER INFORMATION

MODEL: \_\_\_\_\_

SERIAL NUMBER: \_\_\_\_\_

DATE PURCHASED: \_\_\_\_\_

INSTALLED BY: \_\_\_\_\_

DATE INSTALLED: \_\_\_\_\_

For Technical Support, or to locate a distributor for service parts, contact OceanAire at (847) 583-0311 or 1-866-GETAIRE (438-2473). Please indicate the Model Number and Serial Number of the unit to assure proper information and service parts.

## TECH NOTES

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OCEANAIRE

6228 Oakton Street Morton Grove, IL. 60053  
1-866-GET-AIRE (438-2473) Phone: (847) 583-0311 Fax: (847) 583-0312  
web-site: [www.oceanaire-inc.com](http://www.oceanaire-inc.com) e-mail: [sales@oceanaire-inc.com](mailto:sales@oceanaire-inc.com)