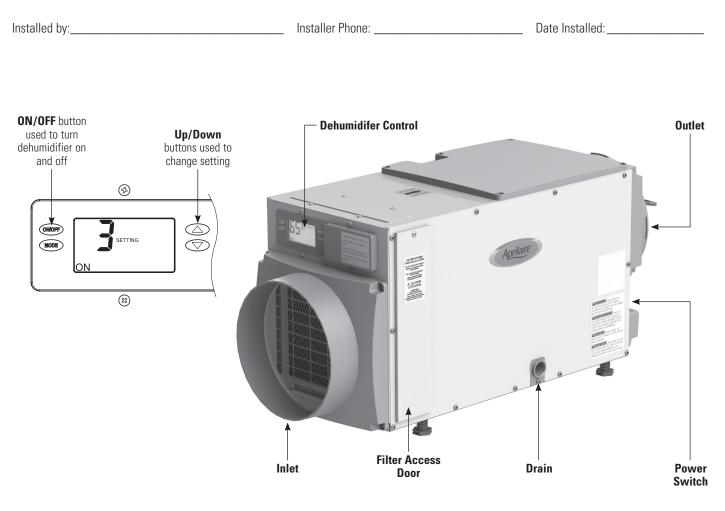


# Model 1830CS & 1850CS Dehumidifier Owner's Manual

### PLEASE LEAVE THIS MANUAL WITH THE HOMEOWNER



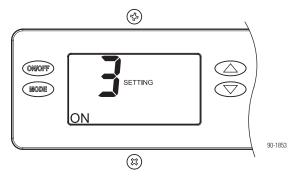
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## PRINCIPLES OF DEHUMIDIFICATION

The Aprilaire<sup>®</sup> Dehumidifier controls the humidity level in your crawl space. A powerful blower inside the dehumidifier draws air into the cabinet, filters the air and removes moisture, then discharges the dry air into the crawl space. Inside the cabinet, a sealed refrigeration system removes moisture by moving the air through the evaporator coil that is kept colder than the dew point of the incoming air. The dew point is the temperature at which moisture in the air will condense, much like what occurs on the outside of a cold glass on a hot summer day. The condensed moisture drips into the dehumidifier drain pan, where it flows to a drain tube that routes it to the nearest floor drain or condensate pump. After the moisture is removed, the air moves through the condenser coil where it is reheated before being discharged back into the space. The air leaving the dehumidifier will be warmer and drier than the air entering the dehumidifier.

## SETTING THE DESIRED HUMIDITY LEVEL

The dehumidifier on-board control will display the dryness setting when not running, and displays the measured humidity when running.



The UP and DOWN arrow buttons allow the dryness setting to be set from 1 to 7. Use the ON/OFF button to turn the dehumidifier ON or OFF.

Set the control at 3 for initial operation. This setting and corresponding dew point is recommended for preservation and preventing condensation on floor joists. Allow the dehumidifier to run until it reaches the setting before deciding if you want to change the setting.

- If you prefer the air to be more dry, increase the dryness level.
- If you prefer the air to be less dry, decrease the dryness level.

See Table 1 for dryness settings and corresponding dew point (DP).

TABLE 1 – %RH (+/- 5%) Based on Dryness Setting and
Crawl Space Temperature

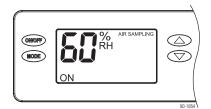
Dryness Setting	Crawl Space Temperature		
& Dew Point	60°F	65°F	70°F
1 – Less, 65°F DP			84%
2 – 60°F DP		86%	73%
3 – Normal, 56°F DP	88%	74%	63%
4 – Normal, 52°F DP	76%	64%	54%
5 – Normal, 48°F DP	65%	55%	46%
6 – 44°F DP	55%	47%	39%
7 – Most Dry, 40°F DP	47%	40%	34%

**EXAMPLE:** At a crawl space temperature of **70°F** and a dryness level setting of **3 (56°F DP)**, the dehumidifier will work to achieve a **63%** relative humidity level.

- $\bullet$  The %RH values are +/- 5% and are to be used as a GUIDE ONLY.
- The crawl space temperature is measured at the dehumidifier inlet.

## **HOW DOES THE DEHUMIDIFIER WORK?**

Once per hour the dehumidifier will measure the humidity level of the air and compare it to the humidity setting. If the humidity in your home is higher than the setting, the dehumidifier will dehumidify the air until the humidity level drops below the setting.



When the dehumidifier turns on, the blower circulates the air for 3 minutes before measuring the humidity level of the air. The on-board control will display AIR SAMPLING, along with the measured humidity on the control screen.



If the humidity of the air is higher than the setting, the compressor turns on and the control will display DEHUMIDIFYING, along with the measured humidity on the control screen.

# **HIGH DEW POINT ALERT**

If the dehumidifier measures the dew point of the air to be 4°F or more higher than the setting for 72 consecutive hours, the ALERT LIGHT will turn on and the display will show "HI". The dehumidifier will continue to operate as normal when the ALERT LIGHT is on. If the dew point falls within 4°F of the setting, the ALERT LIGHT will turn off.

The dehumidifier measures the dew point of the air every five (5) minutes even if the dehumidifier is turned off (using the ON/OFF button) to determine if there is a high dew point conditions. Should the dehumidifier be turned off, the default high dew point alert setting defaults to 56°F.

## **EXTERNAL CONTROL OPTIONS**

Your Aprilaire dehumidifier can be controlled with the optional Aprilaire Model 76 remote control.

Install the Model 76 in your living space and make changes to the dehumidifier setting or find out what the humidity level is in the crawl space from the comfort and convenience of the living space.

Refer to the Model 76 Owner's Manual for operating instructions. Aprilaire owner's manuals are available at www.aprilaire.com.

If you are interested in having a remote control installed, please consult your installing contractor.

#### **Model 76 Control**



## MAINTENANCE

### **CLEAN OR REPLACE THE AIR FILTER**

After initial installation the air filter should be checked and cleaned every 6 months. The CLEAN FILTER service reminder will display on the on-board control screen every 6 months. To clear the service message, press the UP and DOWN arrows simultaneously for 3 seconds.

### **Filter Cleaning Procedure**

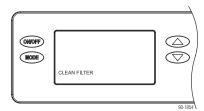
- 1. Turn the ON/OFF switch OFF.
- 2. Remove the filter access door from either side of the dehumidifier.
- 3. Slide the filter out of the dehumidifier.
- 4. Flush the filter with warm water and a mild detergent solution.
- 5. Shake off the excess water from the filter.
- 6. Replace the filter, making sure the filter is secured in both the top and bottom filter rails.
- 7. Replace the filter access door.
- 8. Turn the ON/OFF switch ON.
- 9. Press the UP and DOWN buttons simultaneously for 3 seconds to clear the service message.

### **CHECK THE DRAIN**

The drain should be checked annually to ensure there are no blockages or air lock in the drain system. If the unit is not draining properly, have it checked by a qualified service professional.

## **A** CAUTION

Do not use spray solvents or cleaners on or near the inlet side of the ventilator. If desired, apply cleaner to a cloth and use to clean the cabinet.



### TROUBLESHOOTING

#### **DIAGNOSTIC CODES**

The on-board control will display a diagnostic code and the alert light will turn on if an error should occur and service is required. Contact your installing contractor if E1–E7 or HI is displayed on the on-board control screen. E8 will be displayed if the incoming air temperature is below 50°F, above 104°F, or when the dew point is below 40°F. When the incoming air is within the acceptable range, the dehumidifier will resume operation. If the error persists, contact your installing contractor.



When using a Model 76 as a remote control, the Model 76 display will show the diagnostic codes E1-E8. If there is a high dew point alert (HI), the Model 76 will display E0.

## LIMITED WARRANTY

Your Research Products Corporation Aprilaire® Dehumidifier is expressly warranted for five (5) years from date of installation to be free from defects in materials or workmanship.

Research Products Corporation's exclusive obligation under this warranty shall be to supply, without charge, a replacement for any component which is found to be defective within such five (5) year period and which is returned not later than thirty (30) days after said five (5) year period by you to either your original supplier or to Research Products Corporation, Madison, Wisconsin 53701, together with the model number and installation date of the dehumidifier.

THIS WARRANTY SHALL NOT OBLIGATE RESEARCH PRODUCTS CORPORATION FOR ANY LABOR COSTS AND SHALL NOT APPLY TO DEFECTS IN WORKMANSHIP OR MATERIALS FURNISHED BY YOUR INSTALLER AS CONTRASTED TO DEFECTS IN THE DEHUMIDIFIER ITSELF.

IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE AFORESAID FIVE YEAR PERIOD. RESEARCH PRODUCTS CORPORATION'S LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OTHER THAN DAMAGES FOR PERSONAL INJURIES, RESULTING FROM ANY BREACH OF THE AFORESAID IMPLIED WARRANTIES OR THE ABOVE LIMITED WARRANTY IS EXPRESSLY EXCLUDED. THIS LIMITED WARRANTY IS VOID IF DEFECT(S) RESULT FROM FAILURE TO HAVE THIS UNIT INSTALLED BY A QUALIFIED HEATING AND AIR CONDITIONING CONTRACTOR. IF THE LIMITED WARRANTY IS VOID DUE TO FAILURE TO USE A QUALIFIED CONTRACTOR, ALL DISCLAIMERS OF IMPLIED WARRANTIES SHALL BE EFFECTIVE UPON INSTALLATION.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above exclusion or limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

#### WARRANTY REGISTRATION

Visit us on-line at **www.aprilaire.com** to register your Aprilaire product. If you do not have on-line access, please mail a postcard with your name, address, phone number, email address, product purchased, model number, date of purchase and dealer name and address to:

#### Research Products Corporation, P.O. Box 1467, Madison, WI 53701

Your Warranty Registration information will not be sold or shared outside of this company.



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