Aprilaire®

Dehumidifier

Model 1710A Dehumidifier

Installation & Owner's Manual

Includes Safety & Operating Instructions and Warranty Information

READ AND SAVE THESE INSTRUCTIONS

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SAFETY INSTRUCTIONS

⚠ WARNING

120 volts may cause serious injury from electric shock. Disconnect electrical power before servicing.

Sudden operation may cause personal injury or property damage. Unplug the dehumidifier before servicing.

Unit weight and dropping may cause personal injury or equipment damage. Handle with care.

⚠ CAUTION

Do not use solvents/cleaners on or near the control board.

Corrosive environments can damage electrical equipment. Do not use in pool applications.

INSTALLER – PLEASE NOTE!

1. **INSTALLATION MUST CONFORM TO ALL APPLICABLE STATE OR LOCAL CODES.**
2. **A 15 Amp circuit is required for proper operation of the dehumidifier. Do not use an extension cord.**
3. **For protection of the compressor, unit must be transported and installed in an upright position.** If the unit was shipped or stored on its side, a 24 hour settling period is required before running the unit.

PRINCIPLE OF OPERATION

The purpose of the Aprilaire® Dehumidifier is to keep humidity in a space at acceptable limits, reducing the unwanted effects of high humidity. The dehumidifier measures the condition of the air in the space to determine when to run.

Do not use a dehumidifier to prevent window condensation in the winter. Indoor humidity levels must typically get lower than what dehumidifiers can achieve during cold winter months. Use ventilation to lower indoor humidity levels in the winter.

SPECIFICATIONS

Dimensions: 20 3/4" W x 24" L x 20 3/8"–23 5/8" H

Weight: 93 lbs.

Capacity: 90 pints per day @ 275 CFM (ANSI/AHAM DH-1-2003 80°F, 60% RH conditions)

Power: 115 VAC, 8 Amps, Unit is equipped with an 8 ft. grounded cord.

Design Airflow: 275 CFM @ 0.6 in. w.c.

Filter: MERV 8, washable

Cabinet Insulation: 1" foil faced EPS insulation

Dehumidification Operating Conditions: 50°F–105°F, 40°F dew point minimum

INSTALLATION INSTRUCTIONS

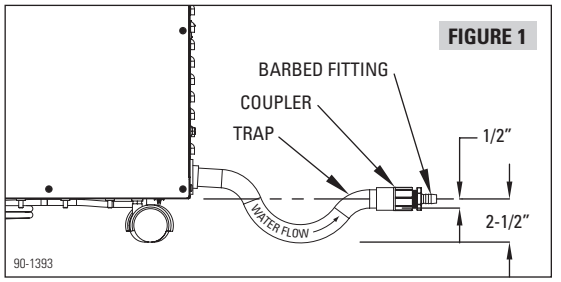
1. Install the drain line

NOTE: The provided condensate trap must be installed to the dehumidifier.

IMPORTANT: Insert the high side of the trap into the drain outlet. The water flow direction is shown on the trap and should point away from the dehumidifier (see **Figure 1**).

- If there is not enough room to install the trap directly into the dehumidifier, use the provided 90° elbow to position the trap close to the dehumidifier.
- After verifying that the trap is in the proper orientation, use PVC primer and cement to secure the trap in place. Cement the supplied threaded coupler to the outlet of the trap.

FIGURE 1



- Screw the supplied hose barb fitting into the coupler and attach the supplied 1/2 inch I.D. drain hose. Route the hose to the nearest drain.

IMPORTANT: To prevent a pressure lock within the drain line, the tube **MUST** be installed with a constant downward slope.

- Prime the drain system by filling the drip pan in the dehumidifier with water until flow is completed to the drain (see **Figure 2**).

2. Plug the dehumidifier directly into an outlet. DO NOT USE AN EXTENSION CORD.

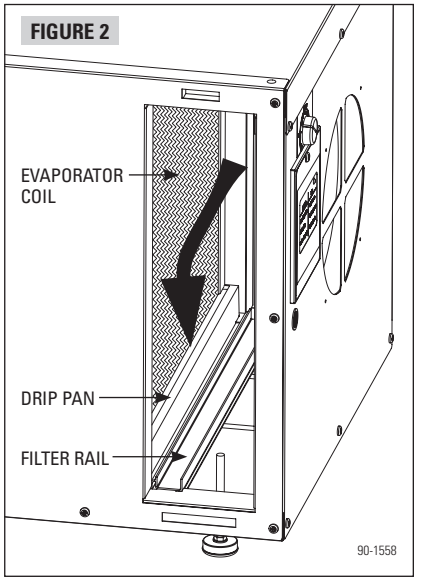
NOTE: A 15 amp circuit is required for proper operation.

3. Turn the ON/OFF switch to ON.

4. System Checkout:

- Rotate the control knob clockwise to the "Test" position.
  a. The blower will start immediately and after three minutes the compressor will start.
  b. Both will run for one minute then both will shut off.
  c. Turn the control knob to the desired setting.
- If the unit does not run, refer to the **Troubleshooting Guide.**

FIGURE 2

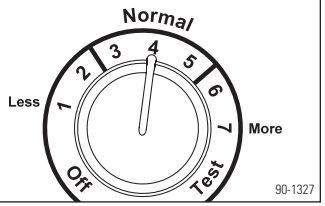


OPERATING INSTRUCTIONS

DEHUMIDIFICATION

1. Check the wiring to any accessories if applicable.
2. Plug unit in and turn on/off switch to ON.
3. Wait 5 seconds then rotate the main control knob clockwise to the TEST position.
4. If set up correctly, the dehumidifier blower will turn on and the dehumidifier damper output will turn on. After 3 minutes the dehumidifier compressor will turn on. The blower and compressor will remain on for 1 minute in TEST mode. After 1 minute has elapsed, the dehumidifier blower and compressor will turn off and the dehumidifier damper output will turn off.
5. The Status LED will blink red and green alternately if the control knob has been left in TEST after the compressor has turned off.

FIGURE 3 – Control Knob Setpoint



ADJUSTING DEHUMIDIFIER SETTING

1. Use the control knob on the unit to set the desired dryness level.
   - Based on indoor temperature, use **Table 1** to determine the control knob setting to achieve the desired humidity level.
   - For most installations, start with a setting in the NORMAL range. See **Figure 3**.
   - Moving the knob clockwise towards MORE will increase dehumidifier run time, allowing for lower humidity levels.
   - Moving the knob counterclockwise towards LESS will decrease dehumidifier run time, allowing for higher humidity levels.
2. Reference the Installation Instructions for the Model 76 Control, Model 8910 Home Comfort Control™, or Third-Party Control for setting adjustments if using a control other than the dehumidifier's onboard control.

TABLE 1 – %RH (± 5%) Based on Control Knob Setting & Indoor Temperature

Control Knob Setting & Dew Point	Indoor Temperature			
	65°F	70°F	75°F	80°F
1 – Less, 65°F DP		84%	71%	60%
2 – 60°F DP	86%	73%	61%	52%
3 – Normal, 56°F DP	74%	63%	53%	45%
4 – Normal, 52°F DP	64%	54%	45%	39%
5 – Normal, 48°F DP	55%	46%	39%	33%
6 – 44°F DP	47%	39%	33%	28%
7 – More, 40°F DP	40%	34%	28%	24%

EXAMPLE: At an indoor temperature of **75°F** and a control knob setting of **3 (56°F DP)**, the dehumidifier will work to achieve a **53%** humidity level.

- The %RH values are ± 5% and are to be used as a **GUIDE ONLY** for initial set-up.
- Indoor temperature is measured at the inlet to the dehumidifier.

TROUBLESHOOTING GUIDE

Symptom	Possible Reason	Troubleshooting Procedure
Dehumidifier does not turn on/run.	No power to unit.	• Check that the dehumidifier is plugged in. • Check that the power switch on the dehumidifier is ON. • Check that control knob is set to a dryness level number. • Check that the circuit breaker has not tripped. The 1710A requires a minimum of 8 amps.
Dehumidifier blower is running but little or no airflow.	Pressure drop across filter is too high.	• Check dehumidifier air filter and wash or replace.
Dehumidifier blower is running but compressor is not.	Float switch open.	• If float switch installed, check connections at control board and empty condensate pan. • If no float switch installed, check that the jumper is installed at the float switch terminals on control board.
	Coil frosting.	• Lack of, or reduced airflow. Check/clean filter. • Inlet air conditions below 60°F. Use the control knob to turn down the dryness setting.
Dehumidifier is not draining properly.	Drain line or drain trap blocked.	• Check that the drain trap is installed correctly. • Check the drain trap and drain line for blockage by slowly pouring one pint of water into the dehumidifier drip pan located below the coil. • Check drain line for continuous downward slope.
Dehumidifier is producing hot air.	Normal function.	• Air is reheated across the condenser coil, resulting in a temperature rise between inlet and outlet.

LED CODES

Green LED Codes	
Activity	**Status**
ON Solid	Compressor ON
Blinking 1 second on, 1 second off	Sampling
Blinking 1/2 second ON, 1/2 second OFF	Defrosting
Alternating Green & Red	Control knob was left in Test mode

Red LED Codes				
Number of Blinks	**Fault Type**	**Failure Mode**	**Failure Condition**	**Action**
1	Non-Critical	Internal RH sensor fault.	RH sensor open or shorted.	1. Check connection between sensor board and control board. 2. If connection okay, replace sensor board, Part No. 4752.
2	Critical	Internal temperature sensor fault.	Temperature sensor open or shorted.	1. Check connection between sensor board and control board. 2. If connection okay, replace sensor board, Part No. 4752.
3	Non-Critical	Model 76 **Remote Control** fault.	Model 76 **Remote Control** not communicating with dehumidifier.	1. Check connections between Model 76 and dehumidifier control board. 2. If connections are correct and secure, turn off the dehumidifier and remove the Model 76. Use a short section of 4-wire cable to reconnect the Model 76 to the control board. Turn the dehumidifier back on and increase the dryness level setting on the Model 76. If the dehumidifier turns on, the problem is with the wiring between the dehumidifier and control. 3. If the dehumidifier does not turn on, call Technical Support.
4	Critical	Insufficient capacity.	After 20 minutes of compressor operation, the frost sensor temperature is not at least 5°F below the inlet air temperature.	1. Check the frost sensor connection at the control board. 2. Remove the side panel (when facing side of unit, on/off switch will be on left) and verify the temperature sensor is not damaged, is fully inserted in the sensor well, and the well is filled with thermal paste. 3. If the sensor is not damaged and positioned correctly, contact Technical Support.
5	Non-Critical	Inlet air temperature out of range.	Internal temperature sensor reads out of 50°F –105°F range for compressor operation. NOTE: If compressor is on when fault condition occurs, the compressor will turn off. If the compressor is not on when the fault condition occurs, there is no fault.	1. Circulate air through the unit by setting the Cycle Period to 1 hour and Cycle Time to 60 minutes. After a minimum of 10 minutes, cycle power to the dehumidifier. 2. If fault persists, call Technical Support.

Red LED Codes (continued)				
Number of Blinks	**Fault Type**	**Failure Mode**	**Failure Condition**	**Action**
6	Critical	Frost sensor failure.	Frost temperature sensor open or shorted.	1. Check the frost sensor connection at the control board. 2. Remove the side panel (when facing side of unit, on/off switch will be on left) and verify the temperature sensor is not damaged, is fully inserted in the sensor well, and the well is filled with thermal paste. 3. If the fault persists, contact Technical Support.
7	Non-Critical	Float switch open.	Open circuit between float switch inputs.	1. Empty the condensate pan. 2. Check the float switch connection at the control board. 3. If not using float switch, verify jumper is between float switch terminals on dehumidifier control board. 4. If the problem persists, replace the float switch.

A critical fault can be cleared by repairing the fault **and** cycling power to the dehumidifier. A non-critical fault can be cleared only by repairing the fault.

Test Mode
At the end of test mode (3 minutes of DEH Fan + 1 minute of Compressor ON & DEH Fan), the Red and Green LEDs will turn ON and OFF alternately until the knob has been turned away from "TEST".

MAINTENANCE

AIR FILTER

Under normal circumstances, the filter in the dehumidifier should be cleaned or replaced once a year. A clean filter is necessary to prevent damage to the dehumidifier and allow it to function at full capacity. To remove the filter, first unplug or disconnect power to the dehumidifier, then remove the air filter via the access panel on the side of the dehumidifier. To clean, flush with warm water and detergent solution. After a clean or new filter is reinstalled, replace the access panel and reconnect power to the dehumidifier. The replacement filter for the dehumidifier is Model 4510 and is available from most HVAC contractors in your area or Aprilaire.com

DRAIN

The drain trap or outlet should be checked and cleaned of debris annually.

NOTE: The drain trap needs to be primed with water prior to start-up and after extended periods of unit shut down (winter months). See **Figure 2**.

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

Take a few minutes to visit us online 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.

Aprilaire®

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