

AprilAire®

Dehumidifier

INSTALLATION & OWNER'S MANUAL

Model E050

50 PPD Professional-Grade,
Low-Profile Dehumidifier

Installed By:

Installer Phone:

Date Installed:



Product Info &
Digital Manual



PLEASE LEAVE THIS MANUAL WITH THE DEHUMIDIFIER OWNER

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LOW-PROFILE DEHUMIDIFICATION

The AprilAire Dehumidifier controls the humidity level in your crawl space or other small spaces. A powerful blower inside the dehumidifier draws air into the cabinet where it is filtered before having moisture removed. A sealed refrigeration system removes moisture by moving the air through a series of tubes and fins that are 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 to a drain tube routed to the nearest floor drain or condensate pump. After the moisture is removed, the air moves through a second coil where it is reheated before being sent back into the crawl space. The air leaving the dehumidifier will be warmer and drier than the air entering the dehumidifier.



Model E050

You can reduce the amount of humidity that enters the home by closing windows, doors and fireplace flues when outdoor humidity is high, and by drying clothes outside. Direct exhaust from kitchen vents and bath fans is the best means of controlling humidity due to cooking and showers/baths. The dehumidifier is not designed to prevent window condensation in winter. Use ventilation to lower indoor humidity levels in the winter.

SPECIFICATIONS

Model E050		
Unit Weight	46 lbs.	
Capacity 80°F, 60% RH Conditions	50 pints per day @ 145 CFM	
Current Draw 115 VAC, Single Phase, 60 Hz	4.2 A operating current	
Dehumidifier Inlet Air Conditions	Dehumidification: 50°F–104°F, 40°F dew point minimum Ventilation: 40°F–140°F, 0% RH–99% RH (non-condensing)	
Filter	MERV 8, washable	
Airflow	External Static Pressure ("w.c.)	Airflow (CFM)
	0.0	145
	0.2	125
	0.4	105

NOTE: Rated capacity and current draw measured at 80°F/60% RH inlet conditions at 0.0 external static pressure.

SAFETY INSTRUCTIONS

WARNING

ATTENTION INSTALLER:

- Read this manual before installing. Improper installation or maintenance may cause property damage or injury. It is recommended that installation, service, and maintenance be performed by a trained service technician. This product must be installed in compliance with all local, state, and federal codes.
- All safety precautions must be followed.
- Dispose of properly in accordance with federal or local regulations.

ELECTRIC SHOCK HAZARD:

- **120 volts may cause serious injury from electric shock.** Disconnect electrical power to the dehumidifier before starting installation or servicing. Leave power disconnected until installation/service is completed.
- **To reduce the risk of electrical shock**, this equipment has a grounding-type (three prong) plug. This plug will fit only into a grounding-type power outlet. If the plug does not fit into the outlet, contact qualified personnel to install the proper outlet. Do not alter this plug in any way.
- **To reduce the risk of electrical shock**, position the product so that the power cord can be plugged into an electrical outlet without the use of an extension cord.

RISK OF FIRE OR EXPLOSION:

- Flammable refrigerant used. Do not puncture refrigerant tubing.
- Store in well ventilated room without continuously operating flames or other potential ignition sources.
- Auxiliary devices which may be ignition sources shall not be installed in duct work.

CAUTION

- **SHARP EDGES MAY CAUSE INJURY FROM CUTS.** Use care when cutting plenum openings and handling ductwork. Always wear glasses/goggles and gloves when installing the unit.
- This unit is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the unit by a person responsible for their safety.
- Be sure to supervise children to ensure that they do not play with the unit.
- Be sure to replace a damaged supply cord. It must be replaced by a special cord or assembly available from the manufacturer or its service agent.
- Never operate electrical equipment in standing water.
- Do not stick your fingers or other objects through the safety grills.
- Do not sit or stand on the unit, or use the unit as a table or shelf.
- The unit is designed to be installed indoors only.
- Always place in well ventilated area to prevent the accumulation of refrigerant in the case of a refrigerant system leak or failure.

NOTICE

EQUIPMENT DAMAGE MAY OCCUR IF INSTALLATION INSTRUCTIONS ARE NOT FOLLOWED.

- Do not use in pool applications. Pool chemicals can damage the dehumidifier.
- Do not use solvents or cleaners on or near the display and circuit board. Chemicals can damage components.
- Wait 24 hours before running the unit if it was not shipped or stored in the upright position.
- Do not use dehumidification to prevent window condensation in the winter. To address window condensation, use ventilation to lower indoor humidity in the winter.

ELECTRICAL INTERFERENCE CAN CAUSE OUTDOOR TEMPERATURE SENSOR INACCURACY.

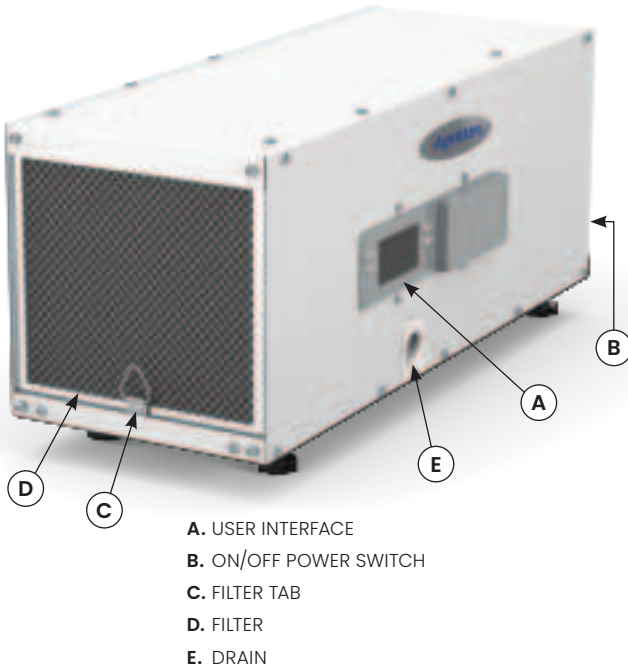
- Do not run Outdoor Temperature Sensor alongside wires carrying high voltage (120 VAC or higher).
- Do not run Outdoor Temperature Sensor wire lengths greater than 300 feet.

OPERATING THE DEHUMIDIFIER

1. If equipped, use the ON/OFF power switch, located by the power cord, to apply power to the dehumidifier.

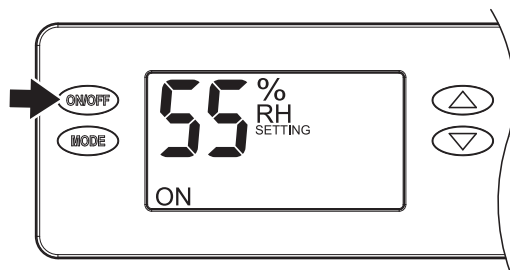
NOTE: The unit can remain plugged in with an ON/OFF power switch on, unless the unit will not be used for an extended period. Use the ON/OFF button on the user interface to turn the unit off for short durations. When the unit is idle (neither the fan nor the compressor running) the unit will use less than 3W of power.

FIGURE 1: EXTERIOR COMPONENTS OF THE DEHUMIDIFIER



2. Use the ON/OFF button (see **FIGURE 2**) on the user interface to turn the dehumidifier ON. **The first press of a button will turn on the display light**, so if the display was dark, you might need to press it again. Once ON, the display will show the current dehumidifier setting.

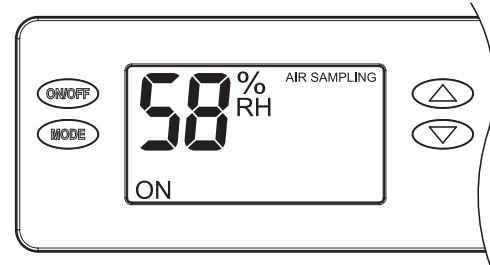
FIGURE 2: TURNING DEHUMIDIFIER ON



3. The dehumidifier blower will turn on, **SETTING** disappears from the display, and **AIR SAMPLING** appears (see **FIGURE 3**). This indicates that the dehumidifier is sampling the air to determine if dehumidification is needed and shows the measured humidity level.

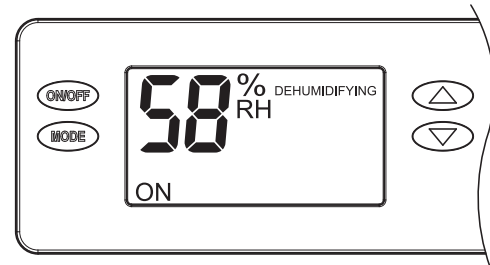
If the control is already ON, lowering the setting will initiate air sampling.

FIGURE 3: AIR SAMPLING



4. After sampling the air for 3 minutes, if the Relative Humidity (RH) is above the setting, the compressor turns on to dehumidify the space. **DEHUMIDIFYING** appears when the compressor is turned on (see **FIGURE 4**).

FIGURE 4: DEHUMIDIFYING



ENERGY SAVINGS TIPS

ENERGY SAVINGS TIP #1:

Adjust the humidity setting to be as high as is comfortable to reduce dehumidifier run time. If it feels clammy or "smells musty," lower the humidity setting. To save energy, turn the dehumidifier to OFF when you open your windows, just as you would with air conditioning.

ENERGY SAVINGS TIP #2:

If vacating your home for an extended period in the summer, set the RH at 55% and set your thermostat as high as you are comfortable setting it to in the cooling mode. This will keep the humidity at a controlled level while minimizing the amount of cooling energy used.

MAINTENANCE

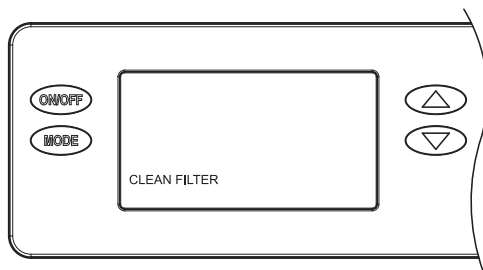
CLEANING THE FILTER

After initial installation, the air filter and drain should be checked and cleaned every 6 months.

1. Press the ON/OFF button on the user interface to turn the unit OFF.
2. Slide the filter out of the dehumidifier by lifting up on the bottom filter tab and pulling away from the machine (see **FIGURE 1**).
3. Rinse the filter with water to remove dust and collected particles from the filter.
4. Shake off excess water from the filter.
5. Clean the drain as described in **CLEANING THE DRAIN** on page 5.
6. Reinstall the filter. An arrow on the filter frame shows the direction of airflow and it should point into the dehumidifier.
7. Press the ON/OFF button to turn the dehumidifier back ON.

The **CLEAN FILTER** service reminder (see **FIGURE 5**) will display on the control every 6 months. **To clear the service message, press the ▲ and ▼ buttons simultaneously for 3 seconds.**

FIGURE 5: CLEAN FILTER SERVICE REMINDER

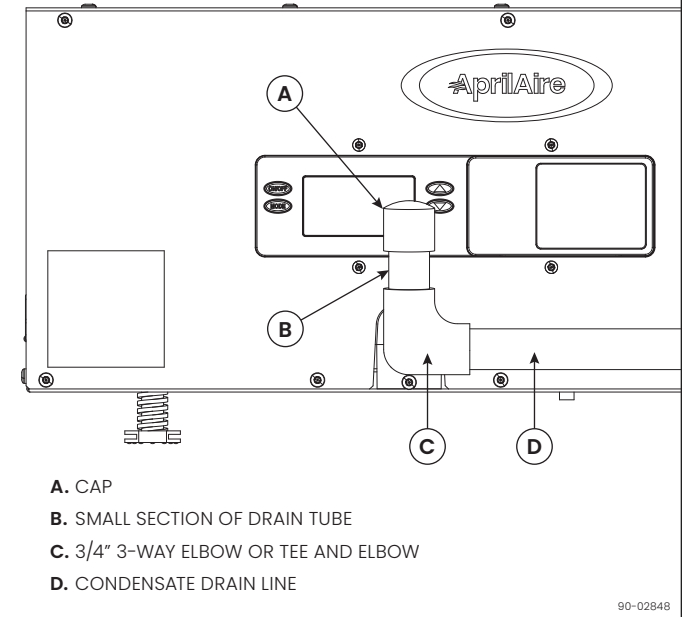


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CLEANING THE DRAIN

1. Clean the accessible portion of the drain pan using a mild detergent.
2. If the drain has a capped tee or elbow to allow cleaner to be poured directly in the drain, remove the cap and pour approximately one cup of white vinegar into the tube (see **FIGURE 6**). If there is no visible access to the drain line from outside of the dehumidifier, pour approximately one cup of vinegar into the drain pan of the dehumidifier.

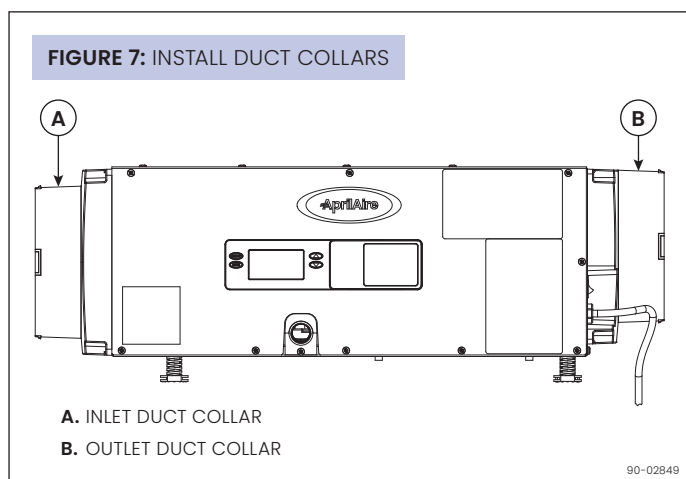
FIGURE 6: CAPPED DRAIN ACCESS FOR CLEANING



3. If the dehumidifier has clear flexible drain tubing, look for excess buildup in the drain line that might prevent water flow, and replace as needed. Clear, smooth, flexible 3/4" Inside Diameter (ID) drain tubing is available in most hardware stores or Do-It-Yourself (DIY) retail stores.

INSTALLING THE DUCT COLLARS (SOLD SEPARATELY)

- Duct collars not included. If ducting is necessary, separate inlet/outlet duct collar accessories are available.
 - Inlet/Outlet Duct Kit Part #70000047
 - Inlet Duct Kit Part #70000041
 - Outlet Duct Kit Part #70000040
- Use the screws in the parts bag to attach the duct collars to the inlet and outlet of the dehumidifier (see **FIGURE 7**).
- Make sure there are no bends in the ductwork coming off the outlet **for a minimum of 4"**. This will help ensure proper airflow through the unit.



INSTALLING THE DEHUMIDIFIER

DEHUMIDIFIER LOCATION

⚠ CAUTION

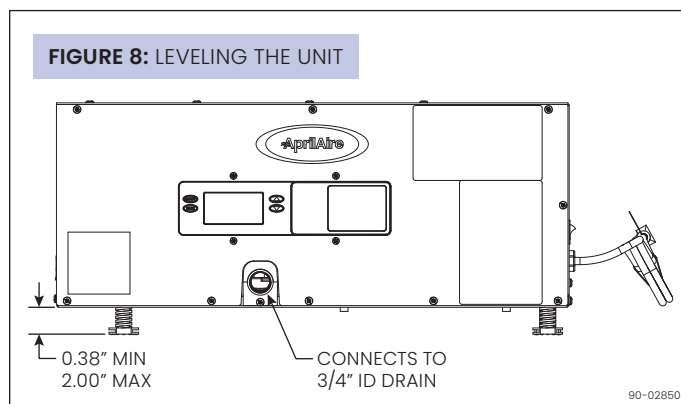
If installing for a ducted Whole-home application, ensure that the dehumidifier is located in an air-conditioned space to prevent the risk of condensate from developing on the exterior of the machine. Avoid locating in attics, basements, or other unconditioned spaces.

- Electrical service access and drain cleaning will require the removal of the electrical service side panel. Allow sufficient space for service on this side of the unit.
- Allow sufficient clearance to prevent airflow obstruction.
- If locating the unit where it is not readily accessible (such as a crawl space, an attic or even a basement for some individuals), consider controls such as the Model 76 Dehumidifier Control, which can be mounted in the living space and wired to the dehumidifier.
- For attic installations, suspending the dehumidifier is recommended to reduce noise transference.
- Always install the dehumidifier in or above a condensate pan when locating in or above a finished space.

LEVELING AND RAISING THE DEHUMIDIFIER

The feet can be adjusted to level the unit and accommodate drain fittings and condensate pans as required (see **FIGURE 8**). The unit must be level from front to back and side to side to ensure proper drainage from the dehumidifier.

If installing a condensate pump (see **FIGURE 9**) to the side of the unit more elevation than can be provided by the adjustable feet may be needed. Risers (Part #5879) or hanging kits (Part #5822) are available to lift the dehumidifier higher off the floor.



INSTALLING A CONDENSATE PAN UNDER THE DEHUMIDIFIER

Always install the dehumidifier in or above a condensate pan when locating it above a finished space. Adhere to local codes regarding draining of the condensate pan. If a condensate pump is needed, make sure it is in the condensate pan as well. Install a float switch in the condensate pan and/or use the overflow wires/terminals on the condensate pump to stop the dehumidifier should overflow occur. See **WIRING TO A FLOAT SWITCH** on page 8.

INSTALLING THE DRAIN

USING HARD PIPE

- Install a 3/4" PVC slip x 3/4" MNPT PVC fitting to the dehumidifier and use 3/4" nominal PVC Schedule 40 pipe to run the condensate line to the nearest floor drain or to an outside location that slopes away from the building.
- **Always maintain a constant downward slope in drain piping. Ensure that drain tubing does not interfere with removal of the side panel or filter door.**
- **Do not use metal fittings and only hand-tighten threaded fittings.** PTFE thread seal tape is recommended for threaded connections.
- Install a tee or three-way elbow at the dehumidifier outlet with a small, capped vertical tube (do not cement cap in place) to allow for cleaner to be poured into the drain line (see **FIGURE 6**).
- PVC primer and cement is recommended for slip-fit connections (do not cement threaded connections).

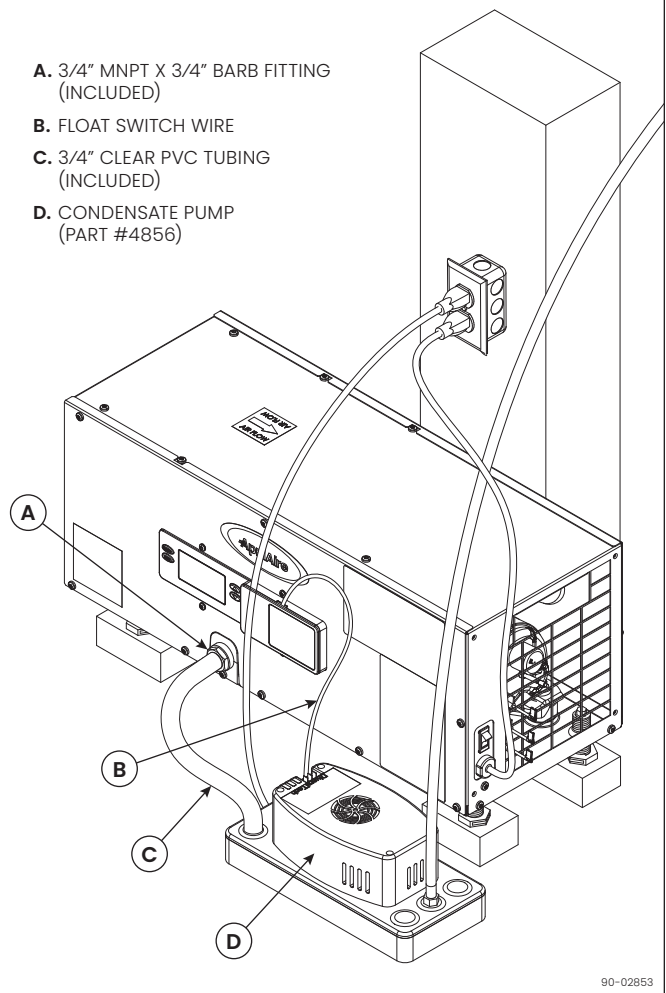
USING FLEXIBLE TUBING

- Install the provided 3/4" NPT x 3/4" hose barb fitting and use 3/4" I.D. flexible drain tubing. **Hand-tighten the fitting to the dehumidifier.** PTFE thread seal tape is recommended for threaded connections.
- **Always maintain a constant downward slope from the dehumidifier to the nearest floor drain or condensate pump, and do not allow soft tubing to curl up, which may result in air lock.**

INSTALLING THE CONDENSATE PUMP

- The AprilAire Model 4856 condensate pump is capable of lifting water up to 22 feet (see **FIGURE 9**).
- The dehumidifier can be elevated (while remaining level) to increase downward slope for proper draining.
- Wire the float switch terminals to the normally closed contacts on the condensate pump (see **FIGURE 12**).

FIGURE 9: DRAIN AND CONDENSATE PUMP INSTALLATION



INSTALLING DUCTWORK (OPTIONAL)

Add ductwork to the inlet and outlet of the dehumidifier to ensure dehumidified air is circulated throughout the crawl space and reduce the noise level of the dehumidifier. Point the inlet and outlet ducts in opposite directions to minimize recirculation of dehumidified air.

- Maximum recommended total duct length is 100 feet.
- To avoid pulling in dirt and other particles, do not lay intake duct on the floor of the crawl space.

NOTE: Maximum allowable static pressure for this unit is 0.4" w.c.

⚠ CAUTION

If installing for a ducted Whole-home application, ensure that the dehumidifier is located in an air-conditioned space to prevent the risk of condensate from developing on the exterior of the machine. Avoid locating in attics, basements, or other unconditioned spaces.

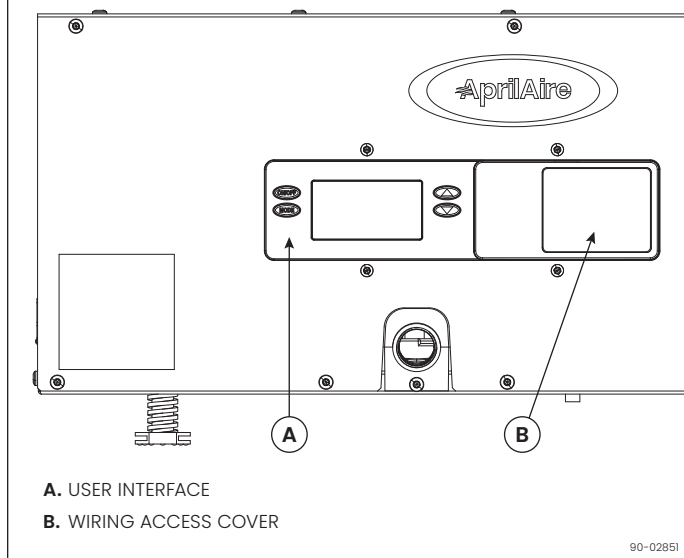
WIRING

No additional wiring is needed unless:

- a separate, remote control such as a dehumidistat is to be used
- a float switch, either integral to a condensate pump or mounted to the condensate pan, is used

Use 18-22 AWG wire for any needed wiring. Access the dehumidifier wiring terminals by pulling off the wiring access cover near the user interface display (see **FIGURE 10**). Snap the wiring access cover back into place after completing all wiring.

FIGURE 10: WIRING ACCESS COVER LOCATION



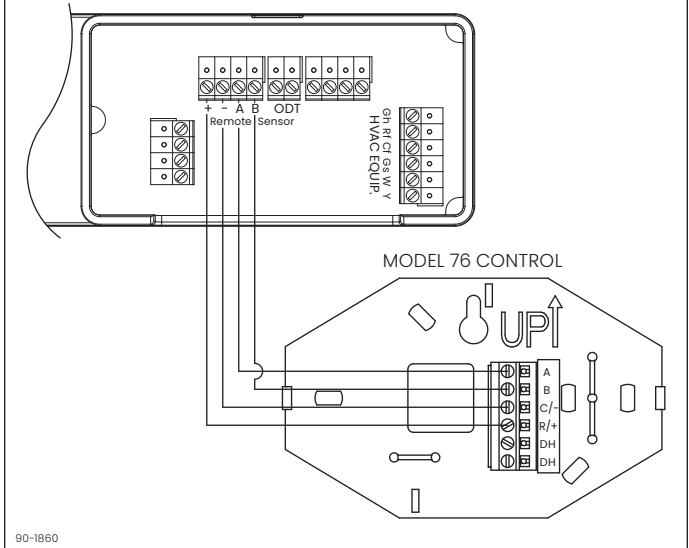
WIRING TO REMOTE CONTROL

The Model 76, when used as a **remote control**, allows the user to see the humidity sensed by the dehumidifier and adjust the dehumidifier setting from a remote location. This is most often used when the dehumidifier serves a hard-to-reach location such as a crawl space or basement. Wire the remote control as shown in **FIGURE 11** (see page 9 for setup).

If using the Aprilaire Model 76 as a **remote control**, wire to the {+ - A B} terminals. Refer to the installation instructions for the control being used for wiring details.

NOTE: Air cycling is not an option when using a Model 76 as a remote control.

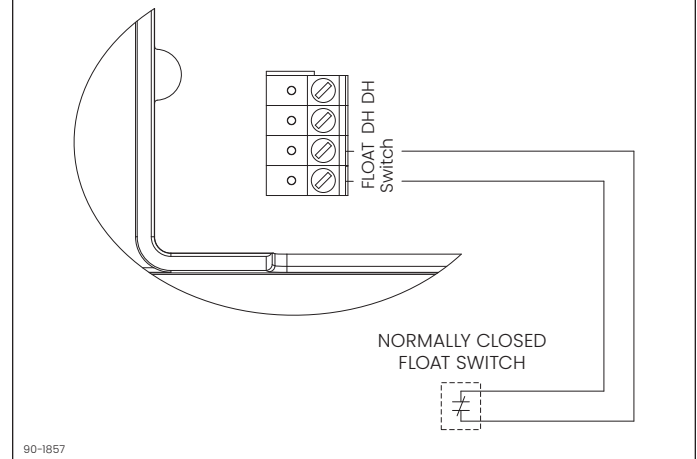
FIGURE 11: MODEL 76 CRAWL SPACE/SEALED ATTIC (REMOTE) WIRING



WIRING TO A FLOAT SWITCH

Use only if the installation includes a float switch or a condensate pump. The dehumidifier leaves the factory with a jumper wire installed in the float switch terminals. Remove the jumper and wire the float switch terminals to the float switch or condensate pump overflow switch as shown in **FIGURE 12**.

FIGURE 12: FLOAT SWITCH WIRING



AIR CYCLING

The dehumidifier has an optional ventilation feature that can be used to circulate air through the dehumidifier, to promote uniform humidity levels throughout the space. When this feature is enabled, the dehumidifier fan can be set to run from 0 minutes (no air cycling) to 60 minutes (continuous) per hour (see page 9 for setup).

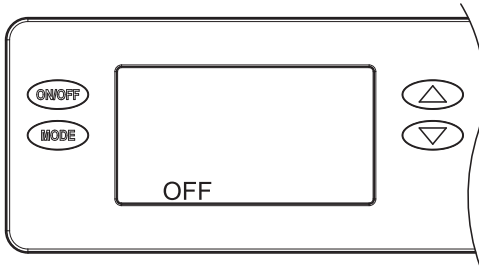
NOTE: The on-board control must be used when Air Cycling.

INSTALLER SET-UP

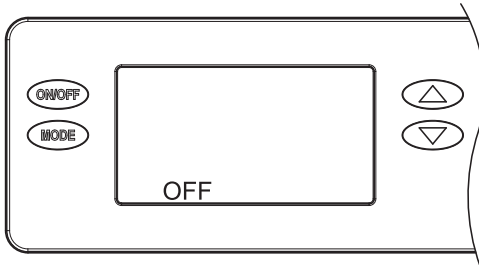
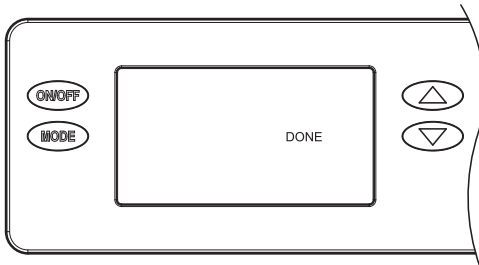
If using a Model 76 Remote Control, using the Air Cycling feature, or Applying an RH Offset, proceed to Step 1 below. If not using these features, proceed to **STARTING UP THE UNIT** on page 10.

1. Plug unit in and turn the power switch ON (if equipped).
2. The onboard control screen should display **OFF**. If not OFF, press the ON/OFF button to turn the unit OFF.

NOTE: If the display backlight is not on, the first button press (any button) will only turn on the backlight. Press the button a second time to achieve function.



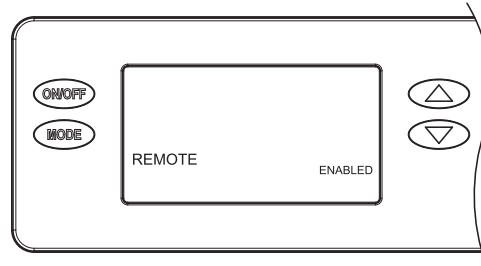
3. Hold the MODE button on the onboard control for 3 seconds to enter the Installer Set-Up menu.
4. Press MODE to navigate through the screens to set up the dehumidifier for the installed application. Press the ▲ or ▼ button to select items. To exit installer set-up, navigate through all options using the MODE button. Navigate through the following screens to set up the dehumidifier for the installed application.
5. After the Installer Set-Up options have been completed, **DONE** will blink for 3 seconds and the control will return to the **OFF** screen.



6. Not all system set-up options will be covered in these instructions. The default settings are recommended for those options in most applications.

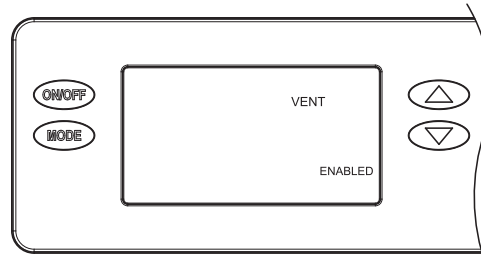
SETTING UP REMOTE CONTROL – CRAWL SPACE/ SEALED ATTIC

If wiring to a Model 76 for remote control (see page 8 for details) press the ▲ or ▼ button to select **ENABLED**. Then press the MODE button to advance screen.



SETTING UP VENTILATION / AIR CYCLING

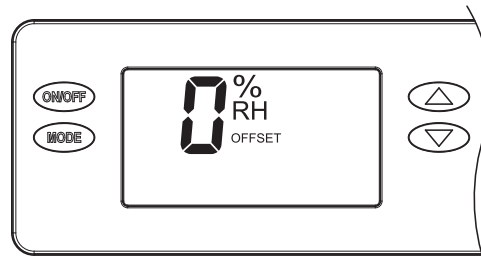
1. If using the dehumidifier for air cycling (see page 8 for details) press the ▲ or ▼ button to select **ENABLED**. Then press the MODE button to advance screen.



2. Press MODE at the **VENT TIMED** screen to go to ventilation time selection screen.
3. Press the ▲ or ▼ button to adjust the ventilation time per hour from 0 to 60 minutes.

APPLYING AN RH OFFSET

An offset can be applied to the onboard humidity reading to avoid discrepancies with other humidity-measuring devices in the home. Use the ▲ or ▼ button to select an offset from -5% to 5%. Press the MODE button to exit the Installer Set-Up screens. DONE will be displayed on the screen and Installer Set-Up is complete.



STARTING UP THE UNIT AND SEQUENCE OF OPERATION

Ensure unit is plugged in and, if equipped, use the **ON/OFF** power switch near the power cord to apply power to the dehumidifier.

USING THE DEHUMIDIFIER CONTROL ONLY

1. Press the **ON/OFF** button to turn the dehumidifier control **ON**. The display will show the current humidity setting, and the dehumidifier blower will turn on to start sampling.

The setting will be replaced by the measured humidity and **AIR SAMPLING** appears on the display.

2. Use the ▲ or ▼ button to adjust the humidity setting as desired. The recommended initial setting is between **55%** and **59% RH**.
3. After three (3) minutes of sampling, the measured humidity will be compared to the setting:
 - a. If the humidity is above the setting, the dehumidifier compressor turns on and **AIR SAMPLING** will be replaced by **DEHUMIDIFYING**. The compressor remains on until the measured humidity falls 3% RH below the setting.
 - b. If the measured humidity is below the setting, the blowers turn off and the display returns to showing the RH setting.
4. The dehumidifier will sample again every 60 minutes, or at any time if the humidity setting is lowered.

USING A MODEL 76 AS A REMOTE CONTROL

1. Press the **ON/OFF** button to turn the dehumidifier control **ON**. The display will show **REMOTE** to indicate that a remote control is to be used to control the dehumidifier.
2. At the Model 76, press the **ON** button; the Model 76 will display the RH measured at the dehumidifier, and the dehumidifier blower will turn on to start sampling the air.
3. Use the ▲ or ▼ button on the Model 76 to adjust the dryness level as desired. The dryness levels range from **1** to **7**, with **1** being least dry and **7** being most dry; the recommended initial setting is **3**.
4. After three (3) minutes of sampling, the measured humidity will be compared to the setting:
 - a. If the humidity is above the setting, the dehumidifier compressor turns on and **ON** flashes on the Model 76 display.
 - b. If the measured humidity is below the setting, the dehumidifier blower turns off.
5. The dehumidifier will sample again every 60 minutes, or at any time if the dryness level is increased.

SERVICE INSTRUCTIONS

SYMBOLS

Symbol ISO 7010-W021 (2011-05)	Symbol ISO 7000-1659 (2004-01)	Symbol ISO 7000-1659 (2004-01)
Warning: flammable materials	Service indicator: read technical manual	Operator's manual: operating instructions

SAFETY INSTRUCTIONS

⚠ WARNING

- **Sealed Refrigeration System is not field serviceable!**
- This appliance contains a mildly flammable A2L refrigerant.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored (when not in use) in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or operating electric heater).
- Do not pierce or burn sealed system.
- Be aware that refrigerants may not contain odor.

⚠ CAUTION

When connected via air ducts to one or more rooms the appliance shall be directly ducted to the space. Open areas such as false ceilings shall not be used as a return air duct.

SERVICE

Approved auxiliary devices: Only approved auxiliary devices approved by the appliance manufacturer shall be installed in the ductwork.

- Fresh Air Ventilator, Stock # 8190FF

The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS:

- The ventilation machinery and outlets are operating adequately and are not obstructed.
- Marking on the equipment shall be visible and legible. Markings and signs that are illegible shall be corrected.
- When opening the ventilated enclosure for repair of electrical components, be sure to check for refrigerant leaks with a certified flammable refrigerant leak detector.

Repair Initial safety checks shall include:

- Servicing the electrical system on the unit should be carried out by a qualified and licensed electrician.
- Disconnect power from the unit (unplug) before attempting service or repair.
- The capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking; that no live electrical components and wiring are exposed in case of a leak.
- There is continuity of earth bonding.
- Sealed electrical components shall be replaced, not repaired.
- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components must be replaced if tripped.
- Replace components only with parts specified by the manufacturer. Other parts may result in the ignition of refrigerant in the atmosphere from a leak.
- Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, safety checks are necessary to ensure that the risk of ignition is minimized.
- Ensure that the area is in the open or that it is adequately ventilated before removal of the dehumidifier panels for servicing or conducting any hot work in the vicinity of the unit. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

- The refrigeration system is considered factory sealed and puncturing the refrigerant tubing in any way is prohibited.
- Repairing the refrigeration system shall not be performed in the field and must be done at the manufacturing facility by trained personnel.
- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges, or any other adverse environmental effects. The check shall also consider the effects of aging or continual vibration from sources such as compressors or fans.
- If a leak is suspected, all naked flames shall be removed/extinguished.

The following leak detection methods are deemed acceptable for all refrigerant systems:

- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.
- Electronic leak detectors may be used to detect refrigerant leaks but must be calibrated correctly for Flammable Refrigerants. (Detection equipment shall be calibrated in a refrigerant-free area.)
- Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.
- Leak detection equipment shall be set at a percentage of the Lower Flammability Limit (LFL) of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.
- Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipework. Examples of leak detection fluids are:
 - bubble method,
 - fluorescent method agents.
- **NOTE:** The use of silicon sealant can inhibit the effectiveness of some types of leak detection equipment.

FOR ADDITIONAL ASSISTANCE:
Technical Support is available Monday through Friday (see TROUBLESHOOTING).

TROUBLESHOOTING

NOTICE

Troubleshooting and repairs shall be performed by a qualified HVAC service technician, and all safety procedures shall be followed.

Technical support is available Monday through Friday 7:00 a.m. to 5:00 p.m. CST at 800.334.6011. Use the guides on the following pages to identify and correct system faults. Contact Technical Support before replacing the unit or any components and for additional troubleshooting.

DIAGNOSTIC CODES

When an error occurs, the Diagnostic Code along with **SERVICE REQUIRED** will be displayed on the user interface screen.

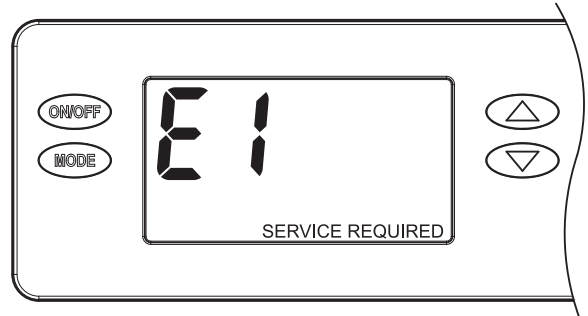


TABLE 1: DIAGNOSTIC CODES

Diagnostic Code	Failure Mode	Action	Reset
E1	Internal Humidity or Temperature Sensor Open or Shorted	1. Cycle power to clear error code. Unplug the unit from the outlet or switch the ON/OFF power switch (if equipped) to the OFF position for at least 10 seconds before restoring power. 2. If error code reoccurs, replace User Interface, Part #5445.	Cycle Power
E2	High Refrigeration Pressure	1. Verify that the fan works and there is no blocked or restricted ductwork. 2. If the fault persists, call Technical Support.	Cycle Power
E3	Model 76 Remote Control Communication Loss	1. Check connections between Model 76 and dehumidifier user interface. Terminals should be fully inserted and secured in the user interface and Model 76 control terminals. 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 user interface. Turn the dehumidifier back on and increase the dryness level setting on the Model 76. If the dehumidifier turns on, a problem exists with the wiring between the dehumidifier and control. 3. If the dehumidifier does not turn on, call Technical Support.	Self-Correcting
E4	Insufficient Capacity	1. Check the frost sensor connection at the power board. The terminal should be fully seated on the power board pins. 2. Remove the side access panel and verify that the sensor is secured to the suction line. 3. If the sensor is connected and secured to the refrigeration line, proceed to the next step. 4. Reset the fault by cycling power to the dehumidifier. 5. Turn the humidity setting down (below room/home humidity level) to make a dehumidification call. 6. Allow the fan and compressor to run for approximately 10-15 minutes and then enter diagnostic test mode by simultaneously pressing the ▲ button and MODE button for 3 seconds. The LCD will display: • the temperature measured by the internal sensor while also displaying AIR SAMPLING and ON. • the humidity measured by the internal sensor while also displaying %RH and ON. • the frost sensor temperature while also displaying ON. Scroll through these values and by using the ▲ or ▼ button. 7. Record values and call Technical Support.	Cycle Power

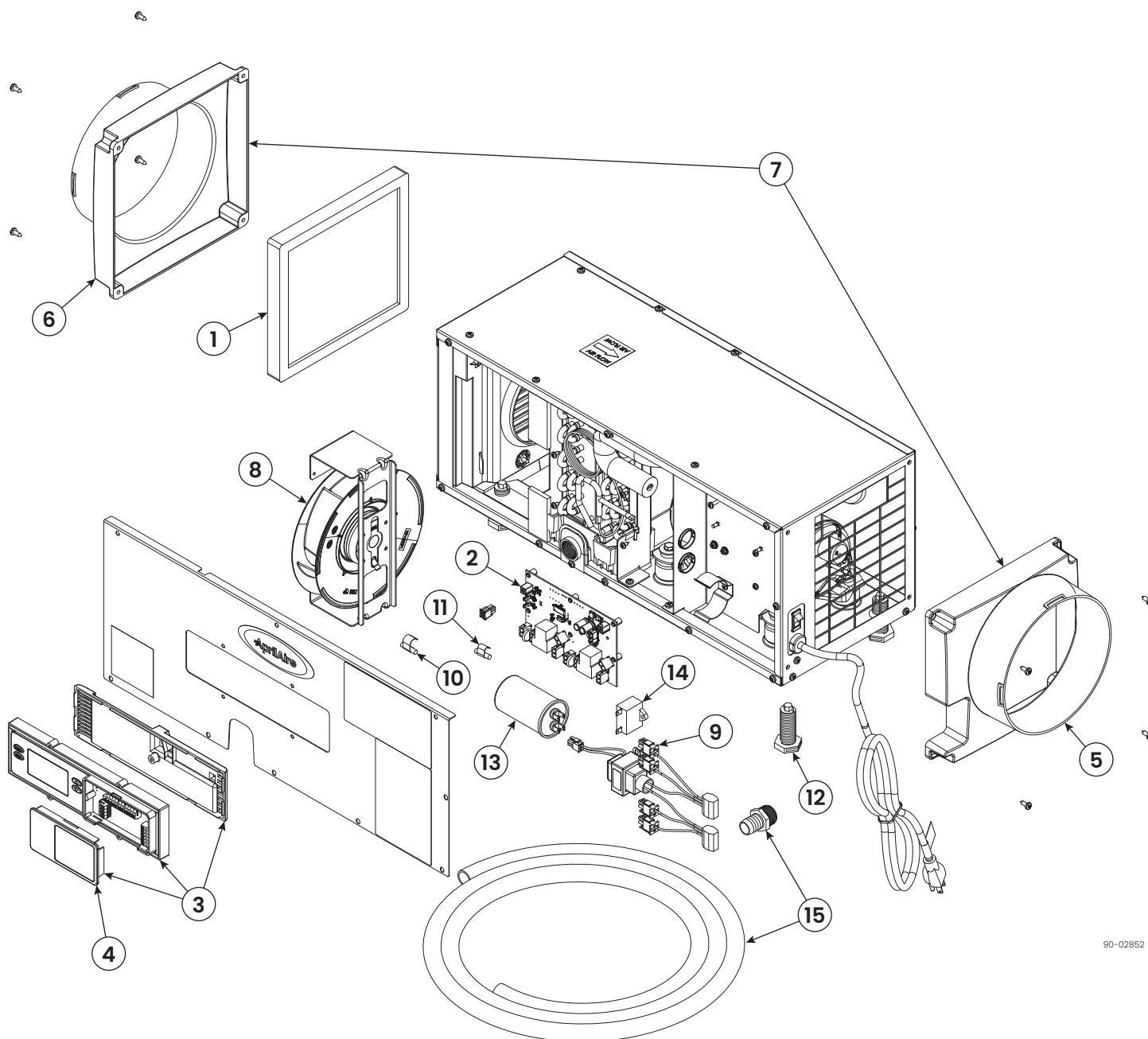
TABLE 1: DIAGNOSTIC CODES

Diagnostic Code	Failure Mode	Action	Reset														
E5	High Temperature Thermistor Failure	1. Check the high temperature sensor connection (if equipped) at the power board. The terminal should be fully seated on the power board pins. 2. Remove the side access panel and verify the sensor is not damaged and connected to the refrigeration line coming from the compressor. 3. If the sensor is connected and secured to the refrigeration line, it may need to be replaced with Part #5456 – contact Technical Support to confirm.	Cycle Power														
E6	Low Temperature Thermistor Failure	1. Check the low temperature sensor connection at the power board. 2. Remove the side access panel and verify the sensor is not damaged and connected to the suction line. 3. If the sensor is connected and secured to the refrigeration line, it may need to be replaced with Part #5455 – contact Technical Support to confirm.	Cycle Power														
E7	Float Switch Open	1. Empty the condensate pan. 2. Check the float switch connection at the user interface. 3. If not using a float switch, verify jumper is between float switch terminals on dehumidifier user interface. 4. If the problem persists, replace the float switch.	Self-Correcting														
E8	Inlet Air Temperature Out of 50°F–104°F Range, or Dew Point Below 40°F	1. Verify all ductwork is properly sealed. 2. Check for air leakage that might affect the temperature or RH of the incoming air. 3. If the air temperature is in range and the dew point is above 40°F, contact Technical Support.	Self-Correcting														
E9	Outdoor Temperature Sensor Open or Shorted	1. Check the sensor connection at the power board. 2. Remove the wires from the terminals and measure the resistance. A short circuit will have a resistance very close to 0 Ohms and an open circuit will have a very high resistance. Use the Ohms chart at right to approximate the resistance based on outdoor temperature. 3. If the sensor is not reading correctly, replace the sensor, Part #8052. <table><tr><th>Outdoor Temperature</th><th>Resistance</th></tr><tr><td>0°F</td><td>84,500 Ohms</td></tr><tr><td>20°F</td><td>46,000 Ohms</td></tr><tr><td>40°F</td><td>26,000 Ohms</td></tr><tr><td>60°F</td><td>15,500 Ohms</td></tr><tr><td>80°F</td><td>9,500 Ohms</td></tr><tr><td>100°F</td><td>6,000 Ohms</td></tr></table>	Outdoor Temperature	Resistance	0°F	84,500 Ohms	20°F	46,000 Ohms	40°F	26,000 Ohms	60°F	15,500 Ohms	80°F	9,500 Ohms	100°F	6,000 Ohms	Self-Correcting
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TABLE 2: TROUBLESHOOTING GUIDE

Symptom	Failure Mode	Action
Dehumidifier does not turn on/run.	No power to unit.	• Check that the dehumidifier is plugged in. • Check that the power switch is turned ON (if equipped). • Check that the user interface is turned ON. • Check that the circuit breaker has not tripped.
Dehumidifier blower is running but with little or no airflow.	Pressure drop across dehumidifier is higher than 0.4" w.c. for Model E050.	• Check dehumidifier air filter and wash or replace. • Check for blocked ductwork and clear. • Verify that the outlet collar is installed on the outlet side of the dehumidifier.
Dehumidifier blower is running but compressor is not.	Float Switch open (E7 appears on display).	• If float switch is installed, check connections at user interface and empty the condensate pan. • If no float switch is installed, check that the jumper is installed at the float switch terminals on the user interface.
	Unit is defrosting.	• Frosting occurs when the incoming air is cool and dry, normally during Spring or Fall, or the airflow is restricted. Frosting due to cold/dry conditions is a normal part of operation and DEFROSTING will show on the display. If it is not cool and dry, look for blocked ductwork or a dirty filter.
	Inlet air temperature is outside of the 50°F–104°F range or the dew point is below 40°F and there is a demand for dehumidification.	• Verify all ductwork is properly sealed. Dehumidification will restart by itself when the incoming air temperature is within range and the dew point is above 40°F. E8 appears on the display when inlet air conditions prevent operation.
Dehumidifier is not draining properly.	Drain line blocked or unit not level.	• Verify that the unit is level. • Check the drain line blockages and check for a continuous downward slope. • See MAINTENANCE on page 5 for cleaning procedure.
Dehumidifier is producing hot air.	Normal function.	• Air is reheated across the condenser coil, resulting in a temperature rise between inlet and outlet.

E050 SERVICE PARTS



90-02852

No.	Part Description	Part No.
1	Filter, 8.5" x 9.25" x 1" EZK	70000038
2	Internal Control Board	5444
3	User Interface Assembly	70000236
4	Wiring Access Door	5446
5	Outlet Duct Panel (optional)	70000040
6	Inlet Duct Panel (optional)	70000041
7	Inlet/Outlet Duct Panels (optional)	70000047
8	Fan with 7 MFD Capacitor	70000233
9	Wire Harness, Power	5884

No.	Part Description	Part No.
10	Sensor, Low Temperature	5455
11	Sensor, High Temperature (if equipped)	5456
12	Leveling Foot	5457
13	Capacitor, 35 MFD, 370 VAC	70000234
14	Capacitor, 7 MFD, 250 VAC	70000235
15	Drain Tube + Threaded Barbed Fitting	5692
	Threaded Barbed Drain Fitting	5693
NOT SHOWN		
Condensate Pump with Tubing		4856

LIMITED WARRANTY

Terms of Coverage

Your AprilAire® Dehumidifier is expressly warranted to be free from defects in materials or workmanship for five (5) years from date of purchase.

What Is Covered

The exclusive obligation of AprilAire under this Limited Warranty shall be, at the sole discretion of AprilAire, to supply, without charge, a replacement for any component or product which is found to be defective. A defective part will be replaced pursuant to this Limited Warranty with a genuine AprilAire part. A defective product will be replaced pursuant to this Limited Warranty with a new AprilAire product of equal or similar features and functionality if the original product has been discontinued or is no longer available.

Not Covered by the Limited Warranty

- Consumable or maintenance products, such as, but not limited to: Air Filters, Evaporative Humidifier Water Panels, Steam Canisters, or Steam Humidifier Electrode Wires.
- Products purchased from third parties that were previously used, such as previously-used products purchased from eBay, similar third party/auction sites, or individuals selling used products.
- Labor charges, shipping costs, removal fees, service fees, or reinstallation costs.
- Materials furnished by the installer.
- Damage caused by misuse, abuse, improper installation, or failing to install, use, or maintain the product in accordance with the instructions provided.
- Damage to HVAC equipment caused by improper installation(s) or misapplication installation(s).
- Modifications, changes, repurposing, or alterations to the AprilAire product.
- Extended warranties or satisfaction guarantees offered by third parties.
- Cosmetic damage or normal wear and tear, including, but not limited to: scratches, peeling finish, or dents that do not impede the mechanical functionality of the product.
- Damage caused by acts of nature, including but not limited to: fire, collision, flood, wind, power surge, lightning strike, or mold.
- Damage caused during transit.
- Damage caused during installation due to failure to follow local, state, or federal laws, statutes, codes, or ordinances.
- Damage caused by defects in materials furnished by the installer.

Limit of Liability

IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE AFOREMENTIONED EXPRESS WARRANTY PERIOD. APRILAIRE LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OTHER THAN DAMAGES FOR PERSONAL INJURIES, RESULTING FROM ANY BREACH OF THE AFOREMENTIONED IMPLIED WARRANTIES OR THE ABOVE LIMITED WARRANTY IS EXPRESSLY EXCLUDED. THIS LIMITED WARRANTY IS VOID IF DEFECT(S) RESULT(S) FROM FAILURE TO INSTALL THE PRODUCT ACCORDING TO THE APRILAIRE INSTALLATION INSTRUCTIONS. IF THE LIMITED WARRANTY IS VOID DUE TO MISAPPLICATION OR IMPROPER INSTALLATION, 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 limitation(s) may not apply to your situation. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Register Your AprilAire® Product



Thank you for choosing AprilAire. Register your product at aprilair.com/warranty to receive important updates and notifications, and to streamline the process in the unlikely event you file a claim.

Your warranty registration information will not be sold or shared outside of this company.

Make a Warranty Claim

For questions regarding the Limited Warranty or to initiate a claim, contact AprilAire Customer Service at 1.800.334.6011 Monday through Friday, 7:00 a.m. to 5:00 p.m. Central Time.

At the sole discretion of AprilAire, you may be required to: return the product not later than thirty (30) days after the warranty period to the place of purchase or (if directed) to AprilAire, contact a professional contractor to provide warranty service, submit a product for testing related to a warranty claim, and/or send pictures of the original product with the serial number (if applicable) to AprilAire Technical Support for inspection as a condition to reviewing a claim and/or receiving a replacement product under this Limited Warranty.

AprilAire® is a registered trademark and division of Research Products Corporation, P.O. Box 1467, Madison, WI 53701-1467 USA.



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AprilAire reserves the right to change specifications without notice.

AprilAire