

# AprilAire<sup>®</sup>

## Humidifier

OWNER'S MANUAL

### Series 720

Fan-Powered Evaporative Humidifier

Installed By:	Installer Phone:	Date Installed:
Serial Number:		



*Shown in factory standard and reconfigured states.*

**READ AND SAVE THESE INSTRUCTIONS**

Product Info &  
Digital Manual



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### ⚠ WARNING

- **ELECTRIC SHOCK HAZARD:** 120 volts may cause serious injury from electric shock. Disconnect electrical power and water before servicing. Leave power and water disconnected until service is completed.
- **RISK OF SCALDING.** Water temperature over 125°F (52°C) can cause severe burns and scald instantly. Shut off the hot water supply before disconnecting or tapping into any hot water supply line.

### ⚠ CAUTION

- **SUDDEN OPERATION MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE.** Turn the humidifier control to **OFF** or lowest setting before servicing.
- Shut off HVAC system and humidifier before removing cover. Loose particulate may irritate eyes.

## INTRODUCTION

When humidity is properly controlled within a home, it provides effective virus protection. Air that's too dry can lead to conditions that allow airborne viruses to thrive. By adding humidity to dry air, the amount of time a virus can survive in the air drops drastically. By maintaining balanced humidity between 40% and 60% RH (relative humidity) year round, you can reduce the airborne incidence of health concerns like bacteria, viruses, and dust mites.

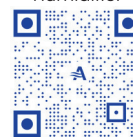
While 40% to 60% is ideal, this is hard to achieve in some climates during cold months without potential condensation damage to the home. Your AprilAire Humidifier can help maintain up to 45% RH, with a recommended range of 35% to 45% RH. As the temperature drops, the lower range may be all a home can manage depending on various conditions such as age of windows, air exchanges, insulation type, etc. As temperatures warm, higher levels can be maintained. See **TABLE 1** and **TABLE 2** for guidelines.

Your humidifier will require annual maintenance to assure continued peak performance. Continue reading to learn more about benefits, maintenance, and operation of your humidifier.

### REGISTER YOUR HUMIDIFIER

Register your product at [aprilair.com/warranty](http://aprilair.com/warranty) or by using the QR code, to receive important updates and notifications, and to streamline the process in the unlikely event you file a claim. Purchase only a genuine HydroCore™ to maintain peak performance. For more information, visit our website at [aprilair.com](http://aprilair.com).

Register Your Humidifier



SERIAL NUMBER LOCATION

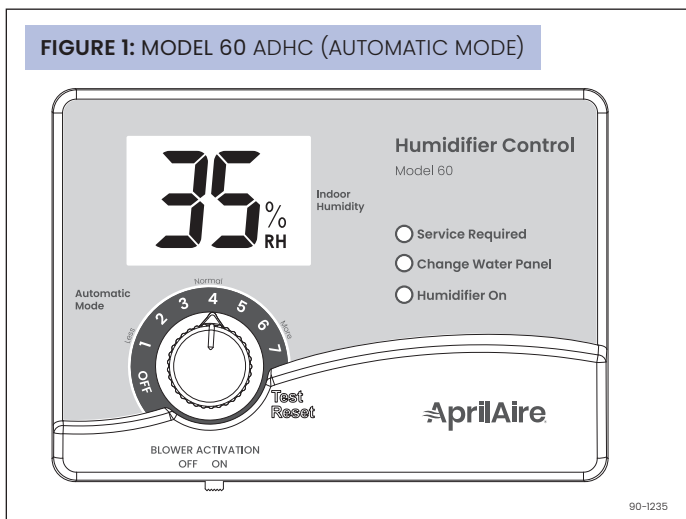
## PRINCIPLE OF OPERATION

The AprilAire 720 Fan-Powered Evaporative Humidifier delivers maximum moisture output with superior water efficiency for ducted HVAC systems.

1. When humidity is low, the humidifier control makes a call for humidity and the solenoid valve opens.
2. Water flows through the orifice to the HydroCore.
3. The humidifier fan pulls air from the HVAC system through the HydroCore and evaporation occurs.
4. The HVAC system fan disperses humidified air throughout the home.
5. Increased output and water conservation are realized with water recirculation technology. Water may or may not be noticed in the drain line due to improved efficiency.
6. Once humidity levels are reached, the humidifier control deactivates the valve causing the flow of water into the unit to stop. As recirculated water is no longer needed, a surge of water may be noticed going down the drain. This is essential to purge solids left behind during evaporation and to prevent standing water during long periods of inactivity.

## OPERATING INSTRUCTIONS – MODEL 720A

FIGURE 1: MODEL 60 ADHC (AUTOMATIC MODE)



The Model 60 Automatic Digital Humidifier Control (ADHC) offers two modes of operation, Automatic or Manual (see **FIGURE 1** for Automatic mode. See **FIGURE 2** on page 4 for Manual mode).

Benefits of Automatic mode:

- Control automatically adjusts RH setting based on outdoor temperature
- Helps prevent excess condensation
- Simple operation with few manual adjustments

## AUTOMATIC DIGITAL HUMIDIFIER CONTROL INDICATOR LIGHTS

**Service Required:** The red light indicates that the humidifier is not operating normally and that service is required.

**Change Water Panel:** The yellow light indicates that it is time to change the HydroCore in the humidifier (see pages 6 and 7).

**Humidifier On:** The green light indicates that the humidifier is actively adding healthy humidity to your home.

## BLOWER ACTIVATION

Setting the BLOWER ACTIVATION switch to **ON** (see **FIGURE 1**) allows the humidifier control to activate the HVAC system fan for maximum humidification. For this setting the humidifier is recommended to be connected to hot water.

This function will operate in two ways:

1. If the HVAC system has been idle for one hour, the humidifier control will activate the HVAC system fan to sample the air for 3 minutes. If the RH is lower than the set point, the humidifier control will activate the humidifier and keep the fan running.
2. If the RH set point has not been reached by the end of a call for heat, the control will continue to operate the humidifier and the HVAC system fan.

Once blower activation mode is initiated, the humidifier and HVAC system fan will continue to operate for 2 hours or until the humidification set point is reached.

When the BLOWER ACTIVATION switch is in the **OFF** position, the humidifier control will only operate the humidifier if the HVAC system fan or heat is on AND if the RH is lower than the set point.

**NOTE:** Humidifier output is lower without heat so it is normal for it to run longer to satisfy humidity requirements.

## AUTOMATIC MODE

Your AprilAire Digital Humidifier Control is installed in the cold air return duct. Use the dial to adjust the RH setting and the digital display to read the current RH.

1. When first installed, turn the dial to **5**, which is within the normal range.
2. During the next 24-48 hours it may be necessary to adjust the dial for more or less humidity, depending on your personal comfort and home's requirements. Refer to **TABLE 3**.
3. During the coldest portion of the first heating season, minor adjustments may be necessary. This is dependent upon your home's construction. Refer to **TABLE 3**.

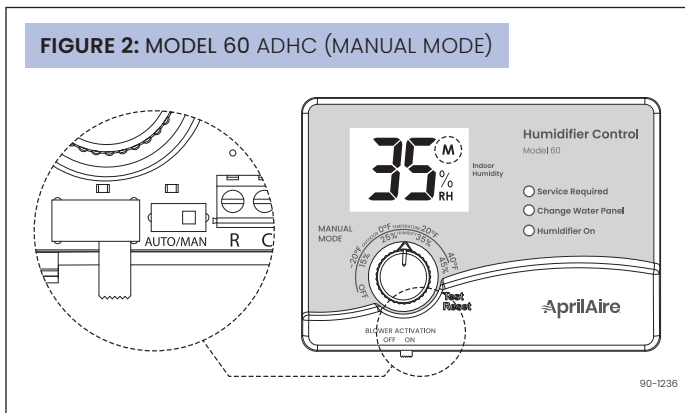
## ADDITIONAL INFORMATION

- For every 2°F change in outdoor temperature, the Digital Humidifier Control will automatically adjust the indoor RH by 1%.
- The Automatic Digital Humidifier Control will accurately control the humidity in your home to a maximum of 45% RH.
- The RH values in **TABLE 1** are targets based on outdoor temperature and the Automatic Digital Humidifier Control setting. The actual RH may vary due to conditions in the home (cooking, showering, etc.).

		Outdoor Temperature (°F)						Relative Humidity (%)
		-10°F	0°F	10°F	20°F	30°F	40°F	
Dial Setting	1	10%	10%	10%	15%	20%	25%	
	2	10%	10%	15%	20%	25%	30%	
	3	10%	15%	20%	25%	30%	35%	
	4	15%	20%	25%	30%	35%	40%	
	5	20%	25%	30%	35%	40%	45%	
	6	25%	30%	35%	40%	45%	45%	
	7	30%	35%	40%	45%	45%	45%	

## MANUAL MODE

FIGURE 2: MODEL 60 ADHC (MANUAL MODE)



When installed in the Manual mode (see **FIGURE 2** – internal switch in **MAN** position and **M** in the display), it is important to anticipate a drop in outdoor temperature and reduce the setting accordingly to avoid excessive condensation.

For example, with an outdoor temperature of 20°F the correct setting will be 35% RH. If the temperature is expected to fall to 0°F, then reduce the setting to 25% several hours prior to the temperature change. See **TABLE 2** for the recommended settings.

TABLE 2: OUTDOOR TEMPERATURE/INDOOR RELATIVE HUMIDITY

Outside Temperature	Recommended RH
+40°F	45%
+30°F	40%
+20°F	35%
+10°F	30%
0°F	25%
-10°F	20%
-20°F	15%

Condensation or frost on the inside surface of windows is usually an indication of too much humidity. This same condensation can occur in other areas in your home, possibly resulting in damage.

## CHANGE WATER PANEL INDICATOR

The control keeps track of humidifier operation time. The yellow **Change Water Panel** light flashes after a preset amount of running time has elapsed. This running time is preset by the installer based on the humidifier model and water hardness.

Refer to the **ANNUAL MAINTENANCE** section for instructions on changing the HydroCore or call your HVAC contractor for service. The Change Water Panel indicator light can be reset by following the **Test/Reset** instructions.

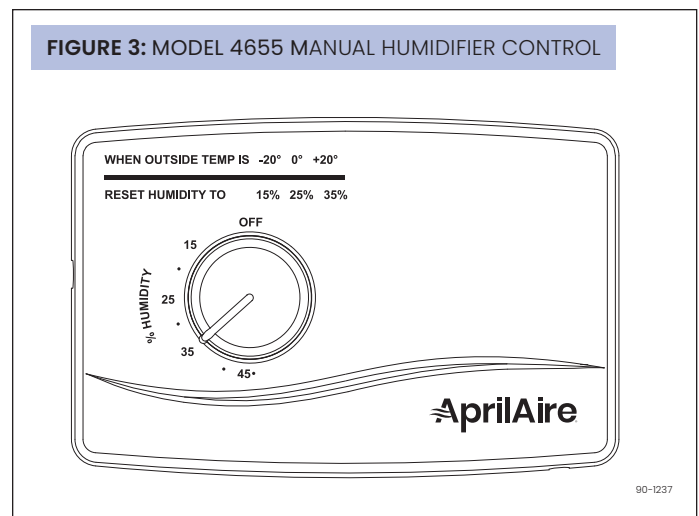
## TEST/RESET

Use the **Test/Reset** feature to check humidifier operation even if there is no call for humidity, or to reset the Change Water Panel indicator light.

- Make sure the water saddle valve is open and that there is electricity to the humidifier.
- The HVAC system fan must be running for the humidifier to function. Make a heat or fan call at your thermostat.
- Rotate the dial clockwise to **Test/Reset** (past the click) and the **Humidifier On** light will start to blink. The humidifier will operate for one minute.
- Rotate the dial counterclockwise to set control to original position. **DO NOT LEAVE IN TEST MODE AS HUMIDIFIER WILL NOT OPERATE AFTER 1 MINUTE HAS ELAPSED.**

## OPERATING INSTRUCTIONS - MODEL 720M

FIGURE 3: MODEL 4655 MANUAL HUMIDIFIER CONTROL



Your AprilAire Humidifier is controlled by a Model 4655 Manual Humidifier Control (see **FIGURE 3**). The Manual Humidifier Control is installed either in the cold air return duct or on an interior wall of the home. With the Manual Humidifier Control, it is important to anticipate a drop in outdoor temperature and reduce the RH set point accordingly to avoid excessive condensation, just as with the Digital Humidifier Control installed in Manual mode.

To determine the indoor RH, slowly turn the dial clockwise and counterclockwise and listen for 2 clicks. The indoor RH is within the range of the 2 clicks.

### CHECK THE HUMIDIFIER OPERATION – MANUAL HUMIDIFIER CONTROL

1. The HVAC system fan must be running for the humidifier to function. Make a heat or fan call at your thermostat.
2. Set the dial to the highest RH set point, make sure that the water saddle valve is open and that there is electricity to the humidifier.
3. Return control dial to the desired RH set point.

Red <b>Service Required</b> light flashes (Model 60 only - see <b>FIGURE 1</b> )	Note the error code on the display (E1, E2, or E3) and contact your installer or Technical Support.
Yellow <b>Change Water Panel</b> light flashes (Model 60 only - see <b>FIGURE 1</b> )	Refer to <b>ANNUAL MAINTENANCE</b> on page 7 for instructions on changing the HydroCore, or contact your installer. After the HydroCore is replaced, turn the control dial to the <b>Test/Reset</b> position until the green <b>Humidifier On</b> light flashes, to reset the HydroCore change timer.

## TROUBLESHOOTING GUIDE

TABLE 3: TROUBLESHOOTING GUIDE

Condition	Solution
Condensation on windows	<ul style="list-style-type: none"> <li>• Reduce humidifier control set point by 1 increment or 5%.</li> <li>• If humidifier is not running, some indoor activities (cooking, showers, etc.) may raise the RH level. If such condensation persists for several hours or days, your home should be ventilated to dissipate excess moisture. AprilAire offers a line of home ventilation products.</li> </ul>
Lack of humidity	<ul style="list-style-type: none"> <li>• Ensure doors, windows, and fireplace dampers are closed.</li> <li>• Increase humidifier control set point by 1 increment or 5%.</li> <li>• Turn on BLOWER ACTIVATION model (Model 60 only).</li> <li>• Verify unit is plugged into live 120 VAC outlet and water supply valve is open.</li> <li>• If humidifier fan does not turn on, contact your installer or Technical Support.</li> </ul>
Humidifier does not operate	Set control to <b>Test/Reset</b> . Make certain HVAC system fan is operating. If unit still does not operate, consult your HVAC contractor or contact Technical Support.
Humidifier won't shut off	Turn dial to <b>OFF</b> . If unit continues to operate, contact your installer or Technical Support. If fan runs continuously and humidity is low, check for water blockage of orifice or water line.
Humidifier is loud	<ul style="list-style-type: none"> <li>• Switch the fan speed from HIGH (default) to LOW (see page 6).</li> <li>• Turn off BLOWER ACTIVATION mode.</li> </ul>
Screen flashes r3, r4, etc. (Model 60 only)	If the control dial is left in the <b>Test/Reset</b> position, after 1 minute the display will flash the software revision level, e.g., r3. <b>NOTE:</b> Placing the dial in <b>Test/Reset</b> resets the HydroCore change timer.

## EFFECT OF WATER CHARACTERISTICS

Your humidifier is designed to operate using cold, hot, hard, or soft water. Depending on the mineral content of your water source, annual replacement of the orifice and cleaning of the valve may be necessary to ensure your humidifier is maintaining efficiency throughout the heating season. Installing a scale-reducing inline water filter is recommended to lessen the effects of hard water.

Water contains varying amounts of minerals. The residue remaining as a result of hard water evaporation is primarily calcium and magnesium components and is usually quite hard, scaly, and dense. Residue from softened water tends to be soft and fluffy and has a greater volume than hard water deposits. At the end of a humidification cycle, most of the mineral solids are flushed down the drain.

In either case, the service life of the HydroCore will be the same. The HydroCore should be changed at least once per year. **Units installed on hard water require annual replacement of the orifice** (see page 7).

## FAN SPEED

The fan speed of the unit can be switched from HIGH (default) to LOW if noise is a concern. Note that lowering the fan speed will also decrease capacity by approximately 10%. Low speed is recommended if the unit is installed near the living space or if the humidifier is installed to run independent of a heat call.

1. Take note of the humidifier control set point and turn the dial to **OFF** position.
2. Grip the handle on the front cover and slide the latch. Rotate the cover away from the assembly and pull away from the base and set aside (see **FIGURE 4**).
3. Toggle the fan switch to HIGH (+) or LOW (-) (see **FIGURE 5**).
4. Replace cover and turn the humidifier control dial back to the desired set point.

FIGURE 4:

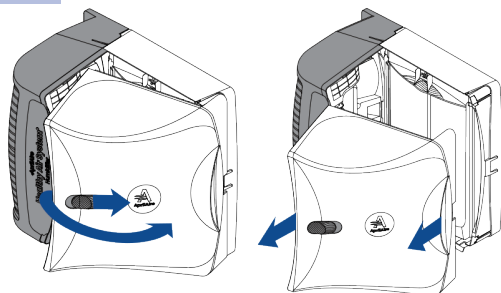
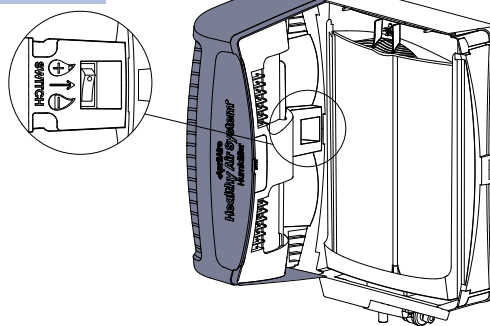


FIGURE 5:



## ANNUAL MAINTENANCE

**For best performance, replace the HydroCore in your AprilAire Humidifier at least annually. Detailed instructions can be found on page 7.**

The **Change Water Panel** indicator light (Digital Control only, see page 4 for details) will blink when it is time to change your HydroCore.

HydroCore Model	Replacement Cartridge	Hard Water Kit*	Works With
L	HYDROL	HYDRLH	720

\*Includes replacement orifice and seal cap

**To purchase a new Genuine AprilAire HydroCore:**

- Call the installer of your AprilAire Humidifier. This information is often found on your equipment.
- Call your HVAC contractor.
- Use our **Find a Pro** tool at [aprilair.com](http://aprilair.com).
- If none of the above is successful and you still need information, contact Customer Service at 800.334.6011.

## ANNUAL SUMMER SHUTDOWN

**Humidifier Control:** Set the humidifier control dial to the **OFF** position.

**Thermostat with IAQ Control:** Set the humidifier mode to **OFF** when seasonal humidification is no longer desired.

## MAINTENANCE INSTRUCTIONS

Periodic inspection and preventative maintenance of your total heating system is important for efficient and safe operation. Your HVAC contractor can service your humidifier when they service your HVAC system.

## Hard Water Installation\*

**Annual** replacement of the orifice and cleaning of the valve is required to maintain optimal performance.

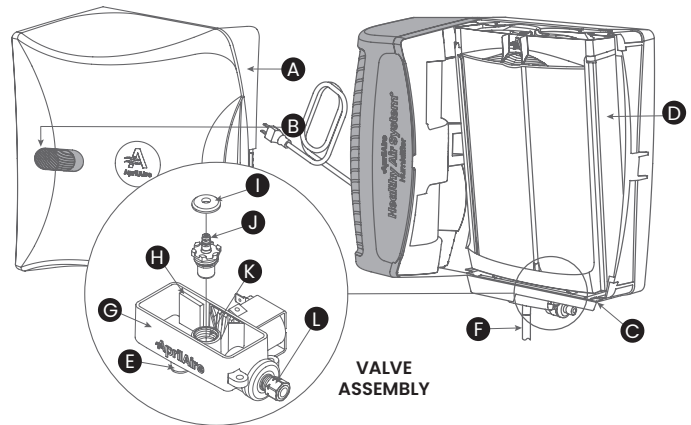
## Soft or Softened Water Installation\*

Replace the orifice and clean the valve **every 3 years** or as needed based on usage.

\*To determine water connection, trace the water inlet (L) back to the water source to see if it is connected to a softener or contact your service technician. Itchy skin, poor soap lather, and mineral residue or buildup on faucets or appliances are signs of hard water.

**WARNING:** Take note of humidifier control set point and turn dial to off position before starting.

1. Remove cover (A) by depressing latch (B) and pulling away from base (C). Remove HydroCore (D) then brush away any mineral deposits from the base.
2. Plug the drain port (E) or raise the end of the flexible drain line (F) above the valve and secure to create a trap.
3. Pour white vinegar into the valve cup (G) up to the clean line (H). Soak for up to 30 minutes.
4. Use a small plastic bristle brush to remove buildup in the valve cup then drain vinegar solution. Flush with water.
5. Replace the rubber seal cap (I) and orifice (J) assembly (PN: 70000037). See **Orifice Replacement Instructions**.
6. If applicable, remove the drain line and flex it to loosen any mineral deposits or blockages then flush with water. If it does not clear, replace it. Reattach drain line, **ensuring it has a constant downward slope and is not flattened or blocked**.
7. Install fresh HydroCore and test to confirm proper function.



- |                |                    |
|----------------|--------------------|
| A. COVER       | G. VALVE CUP       |
| B. LATCH       | H. CLEAN LINE      |
| C. BASE        | I. RUBBER SEAL CAP |
| D. HYDROCORE L | J. ORIFICE         |
| E. DRAIN PORT  | K. ORIFICE CAVITY  |
| F. DRAIN LINE  | L. WATER INLET     |

**NOTE:** Inlet strainer is designed to last for the life of the solenoid valve assembly and should not be removed from the water inlet (L).

## Orifice Replacement Instructions REQUIRED ANNUALLY FOR HARD WATER

1. Remove rubber seal cap (I) from the orifice (J).
2. Using an 11/16" socket or adjustable wrench, turn the orifice counterclockwise to carefully loosen and remove it from the valve assembly. Ensure no debris enters the orifice cavity (K).
3. Insert the new orifice, turn clockwise to tighten (finger-tight plus 1/8 to 1/4 turn-do not over-tighten), and press the rubber seal cap onto the orifice.



(Included with Hard Water Kit)

Contact AprilAire  
Technical Support  
for details:  
**800.334.6011**

# LIMITED WARRANTY

## Terms of Coverage

Your AprilAire® Humidifier 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

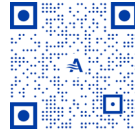
- Consumable or maintenance products, such as, but not limited to: Air Filters, Evaporative Humidifier Water Panels, Steam Canisters, or Steam Humidifier Electrode Wires.
- Labor charges, shipping costs, removal fees, service fees, or reinstallation costs.
- Damage caused by misuse, abuse, or improper installation due to failing to install 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, lighting 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.
- 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](https://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. – 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.

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