



**Automatic Digital
and Manual
Humidifier Control
Models 60, 62 & 4655**

**Operating
Instructions**

INSTALLER:

Please leave this Operation Manual with the homeowner.

YOUR HUMIDIFIER

Your humidifier is controlled by either an Automatic Digital Humidifier Control, or a Manual Humidifier Control.

The Automatic Digital Humidifier Control offers two modes of operation, Automatic or Manual. When in the Automatic Mode, this system offers the following benefits:

- **You will receive the optimum amount of humidity so that your home and its furnishings are protected from the damaging effects of excess condensation or low humidity during the heating season.** The Control automatically adjusts your home's RH based on the outdoor temperature, increasing the time maximum comfort is maintained
- **Simple operation with few adjustments.** The Control eliminates the need to manually adjust the control when outdoor temperature changes. It also eliminates the need to turn the dial setting to "OFF" during the summer season.

Digital Humidifier Control Indicator Lights

Call Dealer for Service: 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 Water Panel in the humidifier. (Model 60 only. The Model 62 is used for steam applications that do not require this feature.)

Humidifier On: The green light indicates that the humidifier is operating normally.

OPERATING INSTRUCTIONS

Blower Activation

Set the "Blower Activation Switch" to "ON" to allow the humidifier control to activate the HVAC fan for maximum humidification. For this setting the Models 500, 600 and 700 must be connected to hot water.

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. The humidifier will continue to operate for 2 hours or until the humidification set point is reached.

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 fan until the humidification set point is reached or 2 hours have elapsed.

When the "Blower Activation Switch" is in the "OFF" position, the humidifier control will only operate the humidifier if humidity is required and the HVAC system fan is operating or the HVAC system is producing heat.

NOTE: If used in conjunction with an Aprilaire 8570 Communicating Thermostat, and the blower activation feature is desired, DO NOT wire the A B communication terminals.

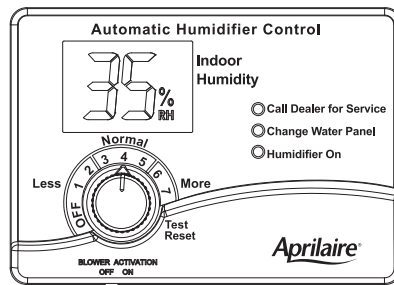
Automatic Digital Humidifier Control

Your Automatic Digital Humidifier Control works in conjunction with your heating, ventilating, air conditioning equipment (HVAC) to control the operation of the humidifier. The control senses indoor humidity and outdoor temperature and automatically adjusts the operation of the humidifier to provide the optimum humidity level in the home.

The digital readout on the automatic control displays the humidity level inside the cold air return duct. This reading will accurately indicate the humidity in the living space when the HVAC blower is operating.

AUTOMATIC MODE (Manual Mode – see page 6)

Figure A – Automatic Mode



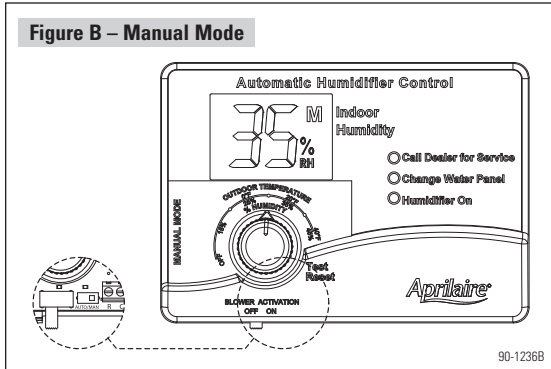
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Your Aprilaire Humidifier Control is installed in the cold air return duct. **During the first heating season**, your Humidifier Control needs to be set initially to match your home's condition. Please follow these steps when adjusting your control (refer to **Figure A**).

1. Turn the dial setting knob to "5", which is within the normal range. 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 – Operation Guide**.
2. 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 – Operation Guide**.

The humidity in your home will now be accurately controlled to meet your needs and should not need further adjustment during future heating seasons. Make note of the dial setting in the event you temporarily move the knob to "OFF" when performing annual maintenance of your Aprilaire humidifier.

MANUAL MODE (Automatic Mode – see page 5)



When installed in the Manual Mode (see **Figure B** – 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%. If the temperature is expected to fall to 0°F, then merely reduce the setting to 25% several hours prior to the temperature change.

See **Table 1** for the recommended settings. These settings, which are based on years of research, represent a compromise between humidity levels that would be most desirable for comfort and humidity levels that are suitable for protection of your home and to avoid condensation on your windows. For example, a wintertime indoor humidity of 50% may be considered ideal for comfort, but unfortunately, it probably would result in condensation, which can cause damage to your home. Observing the recommended humidity levels on your Humidifier Control is an important safeguard. Condensation of water on the inside surface of windows in the form of fogging or frost is usually an indication of too much humidity. This same condensation can occur in other areas in your home, possibly resulting in damage.

TABLE 1 – 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%

WATER PANEL CHANGE INDICATOR (MODEL 60 ONLY)

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 Water Panel or call your heating and air conditioning dealer for service. After the Water Panel is replaced, turn the Control knob to the “Test/Reset” position until the green “Humidifier ON” light flashes, to reset the Water Panel change timer.

TEST/RESET

The Test/Reset feature allows the humidifier operation to be checked even if there is no call for humidity. See “Check the Humidifier Operation” on page 12.

ADDITIONAL INFORMATION

Your humidifier is a precision system that will accurately maintain the humidity in your home. For every 2°F change in outdoor temperature, the Digital Humidifier Control will automatically adjust the indoor RH by 1%.

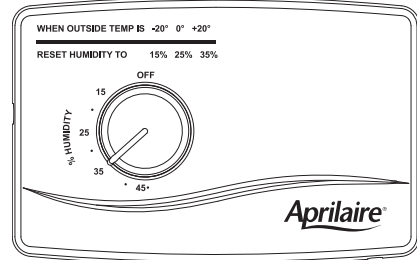
The Digital Humidifier Control will accurately control the humidity in your home to a maximum of 45%.

The humidity values in **Table 2** are targets based on outdoor temperature and the Digital Humidifier Control setting. The actual humidity may vary due to conditions in the home (cooking, showering, etc.).

		Outdoor Temperature (°F)						
		-10°F	0°F	10°F	20°F	30°F	40°F	
Dial Setting	1	10%	10%	10%	15%	20%	25%	Relative Humidity (%)
	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%	

TABLE 3 – Operation Guide

Condition	Solution
Condensation on windows.	Reduce the setting on the control dial by 1 increment.
Lack of humidity.	Increase the setting on the control dial by 1 increment. If the Humidifier Control is already at the maximum setting of "7", set the Blower Activation Switch to "ON". The humidifier should be plumbed to hot water when using the Blower Activation feature.
Humidifier does not operate.	Turn dial to "Test/Reset". Make certain HVAC blower is operating. If unit still does not operate, consult a heating contractor.
Humidifier won't shut off.	Turn dial to "Off". If unit continues to operate, consult a heating contractor.
Test mode.	System operation is checked by setting the knob to "Test/Reset". Make certain HVAC blower is operating. Humidifier will operate for one minute. NOTE: Placing the knob in "Test/Reset" resets the Water Panel change timer.
Red "Call Dealer for Service" light flashes (Figure A).	Note the error code on the display (E1, E2, E3 or E4) and call your heating and air conditioning dealer.
Model 60 only: Yellow "Change Water Panel" light flashes (Figure A).	Refer to the Humidifier Owner's manual for instructions on changing the Water Panel or call your heating and air conditioning dealer for service. After the Water Panel is replaced, turn the Control knob to the "Test/Reset" position until the green "Humidifier On" light flashes, to reset the Water Panel change timer.

Manual Humidifier Control**Figure C – Manual Humidifier Control**

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Your Aprilaire humidifier is controlled by a Manual Humidifier Control (see **Figure C**). 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 setting accordingly to avoid excessive condensation, just as with the Digital Humidifier Control installed in Manual Mode (see page 6).

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

Check the Humidifier Operation

DIGITAL HUMIDIFIER CONTROL

Set the knob to "Test/Reset", make sure that the water saddle valve is open and that there is electricity to the humidifier. The HVAC fan must be running for the humidifier to function. NOTE: Turning the knob to "Test/Reset" resets the "Change Water Panel" timer. The humidifier will only operate for 1 minute in test mode. (Model 400 and 400M: Floats must be down for the solenoid valve to allow water flow.) Reduce the Humidifier Control setting to the recommended inside humidity, depending on the outside temperature. **DO NOT LEAVE IN TEST MODE AS HUMIDIFIER WILL NOT OPERATE.**

NOTE: If the control knob is left in the test/reset position, after 1 minute the display will flash the software revision level e.g. r1.

MANUAL HUMIDIFIER CONTROL

Set the knob to the highest setting, make sure that the water saddle valve is open and that there is electricity to the humidifier. The HVAC system must be operating for the humidifier to function. Confirm that the solenoid valve is energized and water is flowing into the humidifier. Return control knob to desired setting.

Annual Summer Shutdown

Digital Humidifier Control in Automatic Mode (see **Figure A**) and Blower Activation switch is in the "OFF" position:
No adjustment is necessary.

Digital Humidifier Control in Automatic Mode (see **Figure A**) and Blower Activation switch is in the "ON" position:
Set the knob to the "OFF" position.

Digital Humidifier Control in Manual Mode (see **Figure B**):
Set the knob to the "OFF" position.

Manual Humidifier Control (see **Figure C**):
Set the knob to the "OFF" position.

Aprilaire®

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P.O. Box 1467 • Madison, WI 53701-1467 • Phone: 800/334-6011

Fax: 608/257-4357 • www.aprilaire.com

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