

OPERATING INSTRUCTIONS FOR MODELS WB2-12, WB2-17, WB2-17A, WP2-18 & WP2-18A

Includes Safety, Operating, and Maintenance Instructions

Introduction

Thank you for your recent Lennox Healthy Climate® Humidifier purchase. We sincerely appreciate your business and are pleased to add your name to our growing list of customers. Now, please take a few minutes and read this booklet. This will familiarize you with the benefits you will receive from the equipment you just purchased and help you understand the routine maintenance that will be required.

	⚠ WARNING
	Electrical Shock Hazard Can cause injury or death. Disconnect all electrical power supplies before servicing. Shut off water supply before disconnecting or tapping into any water supply line.

⚠ CAUTION
Risk of Equipment Damage After humidifier installation is completed, turn water supply back on.

Principle of Operation

You have purchased a humidifier that operates on the evaporative principle. It will provide the proper relative humidity (see operating instructions) all during the heating season. It is very possible that you have questions concerning what your new humidifier can do for you, and what you should do to receive maximum benefits from it. This booklet is intended to answer these questions.

The humidifier operates in conjunction with the furnace blower motor. When the humidistat calls for humidity and the blower motor is operating, water flows to the distribution pan located at the top of the unit. The water is uniformly distributed across the width of the pan and through a scientifically designed system of outlets. It flows by gravity over the evaporative media. Dry, hot air is moved through the moisture-laden evaporative media where evaporation takes place. The now-humidified air carries moisture in vapor form throughout the home.

⚠ CAUTION

Risk of Equipment Damage

Do not use the saddle valve to regulate water flow. It is designed to be completely opened or closed.

The correct water flow is determined by an orifice in each unit. When the unit is operating, there will be a small, steady stream of water to drain, which flushes away most of the trouble-causing minerals.

The minerals and solid residue (white dust) not trapped by the replaceable evaporative media are flushed down the drain. The drain also eliminates the problems caused by stagnant water. This is the most effective and least expensive method to dispose of trouble-causing minerals.

Trouble-free performance and minimum maintenance are assured by the design features of the Lennox Healthy Climate® Humidifier. All unit housing parts that come in contact with water are non-metal and will never rust or corrode. Neither heat nor water will affect them under normal operating conditions.

The evaporative media, designed especially for uniform, high evaporation, and the scale control insert also efficiently trap mineral deposits which are often the cause of damage to working parts in ordinary humidifiers. When properly maintained, no "white dust" will be distributed through the living quarters. **The evaporative media must be in good condition to assure high capacity trouble-free performance. It should be changed at least annually.**

The granular coating in the bottom of the distribution tray is designed to provide equal distribution of water to each of the openings assuring an even flow of water over the evaporative media. **Do not clean the mineral scale off the bottom of the water distribution tray.** The scale provides an excellent track for the water to follow. This is actually what we try to simulate with the synthetic coating in the bottom of the tray. If the coating is removed, it is not necessary to purchase a new distribution tray. You can accomplish the same uniform performance by applying a small amount of liquid dish soap over the entire lower surface of the water distribution tray. This will allow the water to flow evenly through each of the openings.

Operating Instructions

(Humidifier Models WB2-12, WB2-17 & WP2-18)

Your new Lennox Healthy Climate® Humidifier is controlled by a manual humidistat installed either in the living area or in the cold air return. It is important to anticipate a drop in temperature and reduce the setting accordingly to avoid excessive condensation. For example, with an outside temperature of 20° the correct setting will be 35% relative humidity. If the temperature is expected to fall to 0° that evening, then reduce the setting to 25% several hours prior to the temperature change.

OUTDOOR-INDOOR RELATIVE HUMIDITY TABLE

Outside Temperature	Recommended R.H.
+40°	45%
+30°	40%
+20°	35%
+10°	30%
0°	25%
-10°	20%
-20°	15%

Observance of the recommended relative humidity level on your humidistat (see table) is an important safeguard. Condensation of water on inside windows in the form of fogging or frost is usually an indication

of excessive relative humidity. The same condensation can take place in other areas in your home with the possibility of resulting damage.

CAUTION

Excess humidity can cause moisture accumulation which allows possible mold growth in your home.

Be sure to keep fireplace dampers closed when not in use. They provide an excellent escape route for heat, as well as humidity.

The humidistat can be used to determine the relative humidity in your home during the winter. Turn the dial to the lower setting then reverse the dial direction slowly until a "click" is heard. At this point, read the relative humidity on the dial. This will be very close to the actual relative humidity in your home.

To check the humidifier operation, set the humidistat above the click point, make sure that the water saddle valve is open and that there is electricity to the unit. The furnace blower motor must be operating for the humidifier to function. After the humidifier has operated for several minutes and water is entering the unit and coming out at the drain, reduce the humidistat setting below the click point and the unit should automatically shut off. Now, set the humidistat dial at the recommended inside relative humidity, depending on the outside temperature. Follow the suggested settings prior to a drop in the outside temperature.

Automatic Humidifier Controls

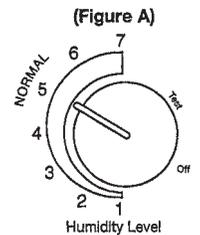
(Humidifier Models WB2-17A & WP2-18A)

Your Humidifier is now controlled by the Automatic Humidifier Control which offers two modes of operation. No other humidification system is automatically controlled for your complete comfort and satisfaction. When installed in the automatic mode, this system will benefit you in the following ways:

1. Automatically adjusts your home's relative humidity (RH) based on the outdoor temperature.
2. Eliminates the need to manually adjust the control on a potentially frequent basis, a common occurrence with manual humidistats.
3. Precisely controls the relative humidity in your home, and increases the time in which maximum comfort is maintained, while protecting your home and its furnishings from the damaging effects of excess condensation or low humidity.
4. Allows your Humidifier to deliver the optimum amount of humidity to the home.
5. Eliminates the need to turn the dial setting to "Off" during the summer season.

Operating Instructions (Automatic Mode)

During the first heating season, your Automatic Humidifier needs to be set initially to match your home's condition. Please follow these steps when adjusting your Humidifier 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 the "Operation Guide" (Table 1).

(Table 1) 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
Humidifier does not operate. (solenoid does not "click" when control is moved to "Test" position)	Turn dial to "Test". Make certain furnace blower is operating and furnace is calling for heat. If unit still doesn't 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." Make certain furnace blower is operating and furnace is calling for heat. Humidifier will operate for one minute.

2. During the coldest portion of the first heating season, minor adjustments may be necessary. This is dependent upon your individual home construction; refer to the "Operation Guide"(Table 1).

The relative 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 the knob gets moved.

Your Humidifier is a high precision system that will accurately maintain the relative humidity in your home. For every 1°F change in outdoor temperature, the Automatic Humidifier Control will automatically adjust the indoor relative humidity by 1/2% (RH). If you would like to determine the relative humidity in your home, follow these steps:

1. Determine the outdoor temperature.
2. Activate the furnace blower by setting your thermostat fan switch to the "On" position, or by setting your thermostat to a higher temperature.
3. Turn the control dial setting to the "Off" position. Then, slowly turn the dial clockwise until you hear the solenoid valve "click on". Next, slowly turn the dial counter-clockwise until you hear the solenoid valve "click off". At this point, make note of the dial setting.
4. Locate your dial setting on Table 2. Follow the dial setting to the right until it intersects with the current outdoor temperature. This is the relative humidity in your home under existing conditions.
5. Return the thermostat and control to their original settings.

The Automatic Humidifier Control will accurately control the humidity in your home to a maximum of 45% RH and a minimum of 10% RH. The values of outdoor temperature and dial settings may fall in between or outside of the listed values in Table 2. In these cases, you can only approximate your home's actual indoor relative humidity.

(Table 2) % RELATIVE HUMIDITY GUIDE							
		Outdoor Temperature (°F)					
		-10	0	10	20	30	40
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

As an example, if the outdoor temperature is 20°F and, following step 3, the humidifier turns off at "5" on the dial range, then the relative humidity in your home is 35%.

Operating Instructions (Manual Mode)

Your Humidifier Control is installed in the cold air return. When installed in the manual mode 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° the correct setting will be 35% relative humidity. If the temperature is expected to fall to 0° that evening, then merely reduce the setting to 25% several hours prior to the temperature change. The recommended settings on the humidistat are based on years of research (see table 3) and experience as to what is best for the average home. These settings represent a compromise between RH levels that would be most desirable for comfort reasons and humidity levels that are suitable for protection of your home and to avoid condensation on your windows. For example, a winter time indoor RH of 50% may be considered ideal, but unfortunately, it probably would result in damage to your home. Observance of the recommended RH levels on your humidistat, therefore, is an important safeguard. Condensation of water on inside windows in the form of fogging or frost is usually an indication of too high relative humidities. This same condensation can take place in other areas in your home with the possibility of damage resulting.

The humidistat is a precision instrument that can be used to determine the RH accurately in your home during the winter. Turn the dial to the lower setting, then reverse the dial direction slowly until you hear the solenoid valve "click on". At this point, read the RH on the dial. This will be very close to the actual RH in your home. To check the humidifier operation, set the knob to "Test", make sure that the water saddle valve is open and that there is electricity to the unit. Generally, the furnace blower motor must be operating for the Lennox Humidifier to function. After the humidifier has operated for one minute and water is entering the unit and coming out at the drain, reduce the humidistat setting to the recommended inside relative humidity, depending on the outside temperature. Do not leave in test mode as humidifier will not operate. Follow the suggested settings prior to a drop in the outside temperature.

Effect of Water Characteristics

Your humidifier will operate effectively using either hard or mechanically softened water.

Any type of water (hard, soft, hot, or cold) is acceptable for use with the WB2 or WP2 drain-type humidifiers. Hot supply water, 140° maximum, is recommended for all heat pump applications. The use of hot supply water will also increase the unit's capacity.

WARNING

Risk of Scalding

Water temperature over 125°F can cause severe burns and scald instantly.

Shut off the hot water supply before disconnecting or tapping into any hot water supply line.

Annual Maintenance

For best performance, you should replace the evaporative media in your humidifier at least annually.

- Call your Lennox dealer for preventative maintenance and replacement components.

Annual Summer Shutdown

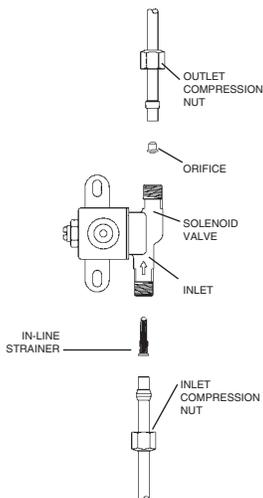
FOR THE SUMMER HUMIDIFIER SHUTDOWN, SIMPLY TURN THE HUMIDISTAT CONTROL TO THE "OFF" SETTING (WB2-12, WB2-17, WB2-17A, WP2-18 AND WP2-18A MODELS) AND CLOSE THE DAMPER (WB2-12, WB2-17 AND WB2-17A MODELS)

Dealer Instructions for Preventative Maintenance

NOTE: Annual inspection and preventative maintenance of your total heating system is important for efficient and safe operation. Call your Lennox dealer for humidifier service and maintenance inspection.

Your humidifier is equipped with an in-line water strainer and orifice as shown below. These parts should be inspected and cleaned periodically to assure continued proper unit performance. Inspect more often if seeing "white dust".

I. Inspection and Service Instructions



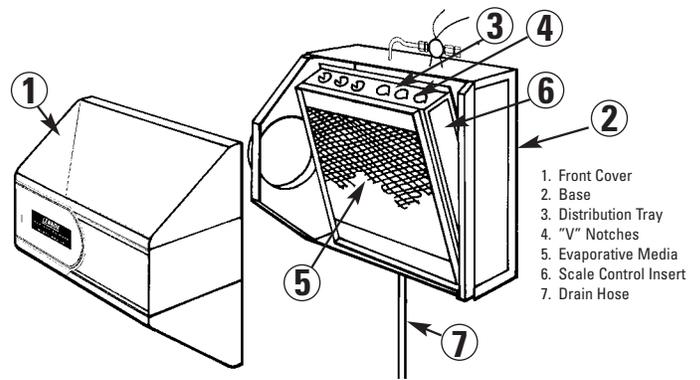
1. Disconnect electrical power to the furnace and shut off water supply.
2. Disconnect the water line at the inlet compression nut.
3. Remove the in-line strainer from inside the inlet side of the valve by using a small nail or wire.
4. Flush the in-line strainer clean or replace with a new strainer, Service Department, Part No. 4004.
5. Replace the in-line strainer and reconnect the inlet water line (**Double Wrench To Prevent Leaking**).
6. Disconnect the water line at the outlet compression nut.
7. Remove the orifice from the copper or plastic tube and make sure this small opening is unplugged.

8. Replace the orifice and reconnect the outlet water line (**Double Wrench To Prevent Leaking**).

9. Turn on water supply and reconnect electrical power to the furnace.

II. Required Maintenance

(Humidifier Models WB2-12, WB2-17 & WP2-17A)



⚠ WARNING

Electrical Shock Hazard

Can cause injury or death.

Disconnect all electrical power supplies before servicing.

Shut off water supply before disconnecting or tapping into any water supply line.

1. Disconnect main power to furnace.
2. Note humidistat setting and turn humidistat to the "OFF" position
3. Turn off water supply.
4. At the side of the unit opposite the airflow duct, pull front cover (1) off holding with both hands and set aside.
5. Carefully pull the evaporative assembly out by grasping at top and tipping out.
6. Remove the plastic distribution tray (3) from the evaporative assembly by unsnapping the white plastic ends of the scale control insert (6) from the tabs at the end of the tray. Lightly scrape any calcium deposits out of the "V" notches (4), but **do not scrape the granular coating from the bottom of the tray**. This textured surface helps ensure even waterflow for maximum performance. If the granular coating has been removed, place several drops of liquid dish soap on the distribution tray. This will only need to be done if there is no granular coating.

7. Slide the evaporative media (5) out from the plastic scale control insert (6). Clean the insert frame by twisting and flexing it to loosen the calcium deposits, or use a putty knife. Replace evaporative media annually or if performance of the humidifier drops. (Part No. 52P66 for Model WB2-12 and Part No. 59P94 for Model WB2-17 & WB2-17A). Slide the pad back into the insert frame with color mark up and snap the distribution tray (3) back into place.
8. Reinstall the evaporative assembly into the unit by fitting its drain hose (7) into the round receptacle at the base of the unit. Push the assembly in at the top against the beveled tabs that will hold it in place. Replace the front cover (1).
9. Remove the drain hose (7) from the bottom of the unit and bend and flex it to loosen the internal calcium deposits. Then flush it with water under pressure and slip it back onto the drain fitting.
10. Turn on water supply.
11. Check Humidifier operation.

Manual Humidistat: Turn up humidistat to highest setting and make sure the furnace blower is operating. Humidifier will operate if RH is less than 50%.

Humidifier Control: Check system operation by setting the knob to "Test." With furnace blower operating and furnace calling for heat, humidifier will operate for one minute.
12. Set humidistat or control to its original position.

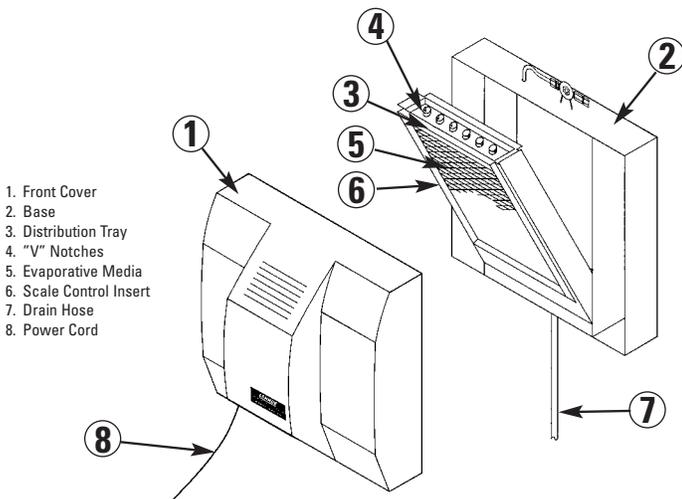
III. Required Maintenance

(Humidifier Models WB2-18 & WP2-18A)

1. Disconnect main power to furnace.
2. Note humidistat setting and turn humidistat to the "OFF" position.
3. Disconnect electrical power and turn off water supply.
4. Unlatch humidifier cover assembly (1) from base assembly (2) at the bottom of the cover, lift, and set aside.
5. Pull out the evaporative assembly by grasping at the top and tipping out.
6. Remove the distribution tray (3) from the evaporative assembly by unsnapping the white plastic ends of the scale control insert (6), from the tabs at the end of the tray. Lightly scrape any calcium deposits out of the "V" notches (4), but **do not scrape the granular coating from the bottom of the tray**. This textured surface helps ensure even waterflow for maximum performance. If the granular coating has been removed, place several drops of liquid dish soap on the distribution tray. This will only need to be done if there is no granular coating.
7. Slide the evaporative media (5) out from the plastic scale control insert (6). Clean the insert frame by twisting and flexing it to loosen the calcium deposits or use a putty knife. Replace evaporative media annually or if performance of the humidifier drops. (Part No. 59P94) Insert with the red colored spot up and snap the distribution tray (3) back into place.
8. Reinstall the evaporative assembly into the base assembly (2). Push the evaporative assembly in at the top between the retaining ribs that hold the assembly in place in a vertical position.
9. Remove the drain hose (7) from the bottom of the unit. Bend and flex it to loosen the internal calcium deposits. Then flush it with water under pressure and slip it back onto the drain fitting.
10. Reinstall cover assembly (1) by hooking at the top of base assembly (2) and latching at the bottom.
11. Reconnect electrical power (8) and turn on water supply.
12. Check Humidifier operation.

Manual Humidistat: Adjust humidistat to highest setting and make sure the furnace blower is operating. Humidifier will operate if RH is less than 50%.

Humidifier Control: Check system operation by setting the knob to "Test." With furnace blower operating and furnace calling for heat, humidifier will operate for one minute.
13. Set humidistat or control to its original position.



WARNING

Electrical Shock Hazard

Can cause injury or death.

Disconnect all electrical power supplies before servicing.

Shut off water supply before disconnecting or tapping into any water supply line.

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H U M I D I F I E R