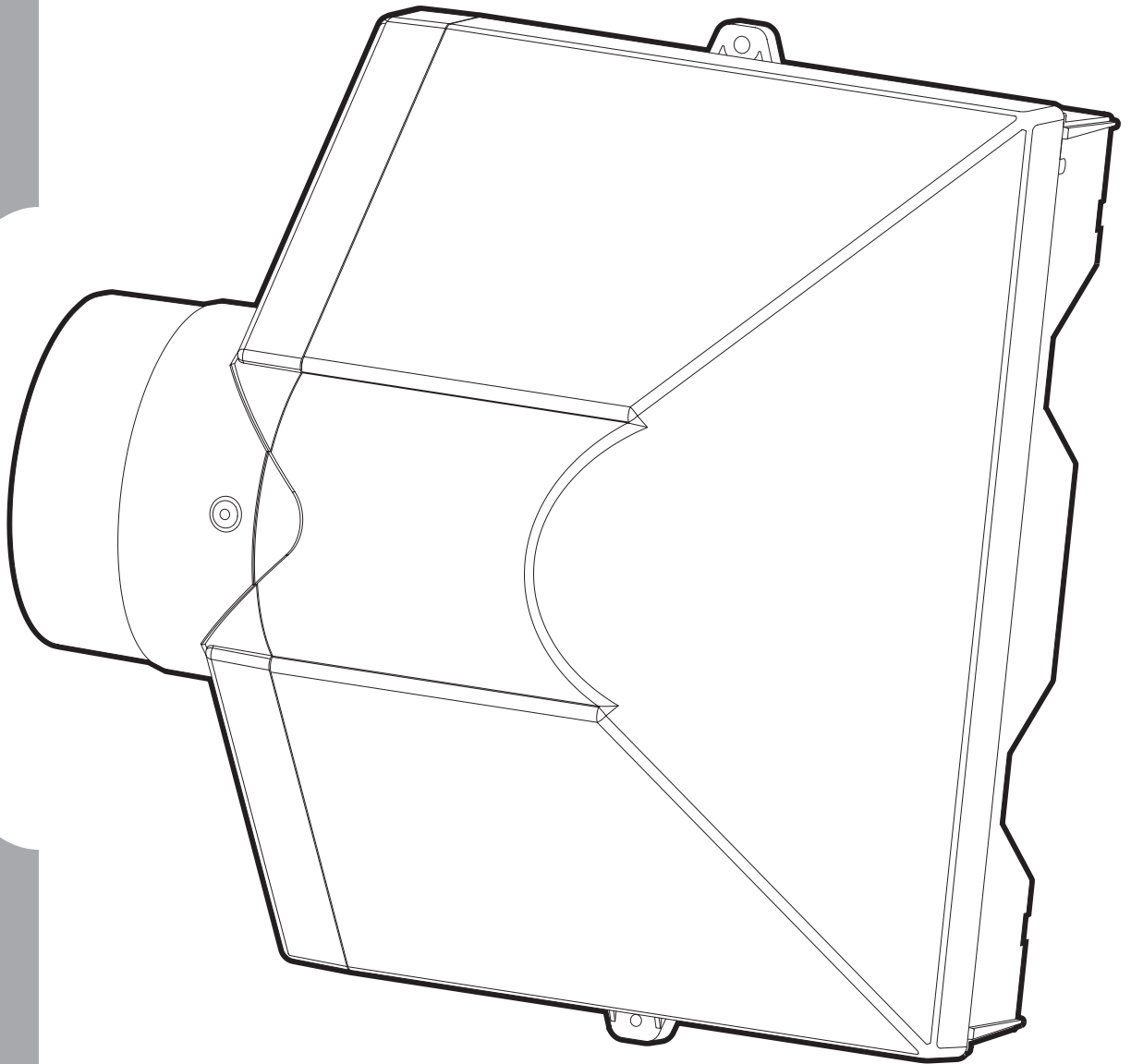


# FLOW-THROUGH FURNACE HUMIDIFIER

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*Installation  
Warranty  
Maintenance  
Troubleshooting Guide*

## READ COMPLETE INSTALLATION INSTRUCTIONS AND TEMPLATE BEFORE STARTING

### Attention Installer:

- Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-related construction.
- 120V may cause serious injury from electrical shock. Disconnect electrical power to furnace before starting installation.
- Wear safety glasses, work gloves.
- When drilling or cutting into ducting be extremely careful not to damage air conditioner coils or other furnace parts.
- This unit must be installed on ducts at least 10" wide.
- Do not install this unit where extreme temperature exist (below 45°F-above 145°F).

**INSTALLATION TIP.** Before starting, fully plan out the installation. Check for the locations of humidifier, bypass collar and damper, the length and type of ducting required, the water supply, the water drain, the electrical wiring. This will ensure your installation goes as easily and quickly as possible.

1. The humidifier body mounted level on the return air duct (to help even water distribution across evaporation pad).
2. The humidifier body and bypass duct are installed at eye level, easily accessible for installation and routine maintenance.
3. Distance between centers of humidifier body (on return cold air duct) and bypass inlet (on the warm air supply duct ) are no more than 30" (to allow for best air flow).
4. The bypass damper is fully opened.
5. The bypass inlet opening should be at least 6" above any restrictions (e.g. the air conditioning coils) inside the duct.
6. The humidifier and bypass collar are at the same level.
7. Take the most direct route to join humidifier and bypass collar.

## INSTALLATION

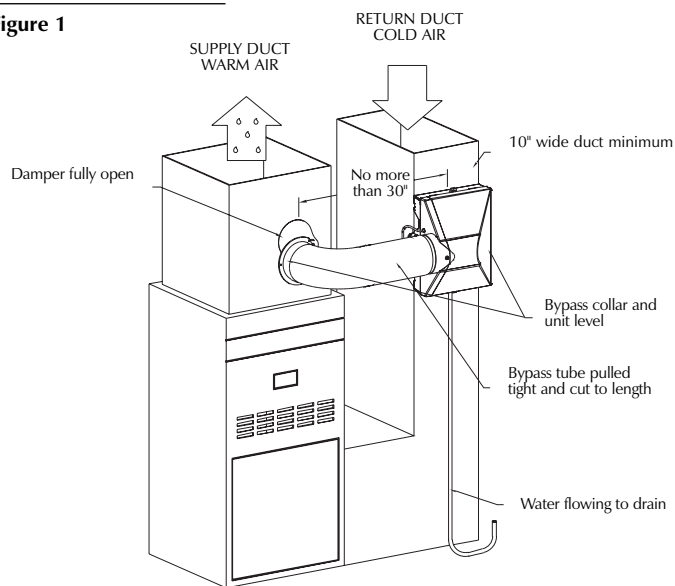
### STEP #1: RIGHT HAND DUCTING OR LEFT HAND DUCTING

Depending on your furnace or for convenience of your installation it may be necessary to convert the humidifier for left hand ducting or right handing ducting. Follow the steps below to switch the side which bypass duct will attached to the unit.

1. Remove the humidifier front cover secured in place with 10-24 plastic thumb screw at the bottom of the cover .Tilt the about 1/2" away from the body and lift the cover up to free the hooks at the top of the body.
2. Remove all lose components packaged inside. With a firm pull, disconnect the water tube from the water nozzle and remove the evaporator pad assembly by sliding it toward the top of the humidifier, and then lifting it out.
3. Remove the two #6 screws which hold the humidifier side in place , lift the humidifier side out of the right hand position, turn the part and place it on other side of the body.
4. Use two #6 crews removed to secure the humidifier side in the left hand side.

### IDEAL INSTALLATION

**Figure 1**



### STEP #2 MOUNTING THE HUMIDIFIER ON THE DUCT

1. Use adhesive tape to affix the template onto the duct in the selected location. Use the level line to template and level to ensure the humidifier will be level.
2. Drill the 3 marked 1/8" cabinet mounting holes.
3. Drill 2 marked 7/32" cabinet position holes.
4. Cut out the area marked on the template for the humidifier plenum.

5. Mount the humidifier cabinet on the duct. The two positioning tabs on the back of the cabinet should align with the 7/32" holes drilled earlier. Use four supplied screws to secure the cabinet to the duct.
6. Use level to make sure the cabinet is installed correctly.
7. Firmly insert the water supply tube back into the water nozzle on the top of the distribution tray.

#### STEP #3: MOUNTING THE BYPASS COLLAR AND DAMPER

1. Use adhesive tape to affix the bypass template onto the duct in the selected area.
2. Drill three marked 1/8" holes.
3. Cut out the area to form a circular opening on the duct.
4. Mount the by pass collar and damper using three supplied screws. Air damper should be installed in the open position. The top screw secures the damper.

#### STEP #4: WATER SUPPLY AND DRAINAGE CONNECTION

1. Sand both ends of the water supply tube . **Failure to do so may result in leaks.**
2. Prepare the end of the 1/4" tubing for water connection to the humidifier( all required hardware is supplied in the valve kit)
3. Make the tube connection to the humidifier. Hand tighten the nut first taking care not to strip the threads on the valve, use an adjustable wrench to tighten down a couple more turns. Do not over tighten.
4. Select the most convenient location for connecting self piercing needle valve on a cold water pipe. Connect the needle valve.
5. Once the valve is connected to the pipe, hand tighten the nut first taking care not to strip threads, use adjustable wrench to tighten down a couple more turns. Do not over tighten.
6. Once the valve is mounted and the water tube is connected you have to pierce the water pipe. Turn the valve closed all the way and then open so that water can flow to the humidifier. Check all fittings for leaks and tighten or repair if necessary. Water will not be running through the solenoid valve until electrical connections are made and your furnace is switched on.
7. You must run a drain tube for this unit.

#### STEP #5: MOUNTING THE HUMIDISTAT AND ELECTRICAL CONNECTIONS

Humidistat is packaged for wall mounting. For duct mounting , follow the steps given below

Humidistat should be located upstream (about 6") from the humidifier on the return air duct. The unit comes with a humidistat mounting template. This template is for duct mounting the humidistat only.

1. Drill four 2.5 mm diameter holes on the template used for mounting humidistat.
2. Cut out the Humidistat cutout area on duct.
3. Separate the low voltage wire at a suitable point, cut one wire and strip the ends to connect Humidistat terminals.
4. Installed the 25VAC transformer on furnace according to furnace manufacturers' instructions.
5. Using the two 90° terminals provided in the Humidistat kit and the low voltage wire, connect one terminal of the humidistat to one terminal on 25VAC transformer. Connect other humidistat terminal to one black lead of the solenoid switch through the 3/8" diameter hole on the back plate.
6. Connect the other terminal of the 25VAC transformer to remaining black lead of the solenoid switch. Make sure to cover the exposed wire joints using wire nuts.
7. Mount the Humidistat using the four screws provided in the humidistat kit
8. Remove paper backing from Humidistat label and stick it on the face. Fix the knob on stem.

#### STEP # 6: TESTING THE UNIT

1. After completing water supply, drain and electrical connection, secure the bypass duct. If flexible duct is unavoidable, make sure it is pulled as tight as possible.
2. Turn on the water. Turn on the furnace power supply. When the furnace activate, electrical power is supplied to the humidifier and humidistat.
3. Adjust the setting on Humidistat according to values given in the label attached to Humidistat.

## WARRANTY

The manufacturer guarantees the for the period of one year from the date of purchase, the product will be free of defects in workmanship and/or material. As well the manufacturer offers a life time warranty on the flow through humidifier body. During the warranty period, we will replace or repair any defective part at no charge if the product is returned prepaid to our factory.

This warranty does not cover any labor or shipping costs, or the cost of replacement components as part of routine maintenance (such as Flow Through Humidifier Evaporator Pads, Inlet water Filters, or Orifice Fittings). Any damage or failure caused by abuse, misuse, abnormal usage, faulty installation, or improper maintenance will not be covered by this warranty.

In order to make a claim on this warranty you must be the original consumer of the product and you must contact the manufacturer 1-800-465-7300 between 8 AM and 3:30 PM EST Monday to Friday at the first sign of a defect. You will be required to present to the manufacturer the original bill of sale showing date of purchase, place of purchase, and model purchased. Failure to meet these requirements will void your warranty.

The manufacturer will not be held responsible for any bodily injuries or damages to personal property or real estate whether caused directly or indirectly by the product. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages and some states or provinces do not allow limitations on how long an implied warranty lasts, so these exclusions or limitations may not apply to you. This warranty gives you specific legal rights and you may have other rights which vary from state to state and province to province.

SAVE THIS DOCUMENT AND ATTACH YOUR RECEIPT.

_____	_____
Date of Purchase	Date Of Installation
_____	_____
Place of Purchase	Brand and Model#

See attached table regards specific component warranty periods.

## MAINTENANCE

REPLACING/REMOVING THE EVAPORATOR PAD. (REFER TO FIGURES 1 A, B, C)

In order to ensure maximum performance you should replace the evaporator pad at least once a year, Depending on the condition of your water you may want to consider more frequent replacement.

1. Turn off the power to the humidifier, Turn off the water supply to the humidifier, Turn off your furnace.
2. Remove the humidifiers front cover it is secured in place with a thumb screw.
3. Remove the flexible water supply tube from the water nozzle at the

top of the distribution tray, it is press fit in place.

4. Remove the distribution tray two hooks at the top of the unit secure it in place. Lift up on the hooks and carefully slide the tray out. As the tray comes out the evaporator pad may come with it.
5. If the pad does not come out with the distribution tray you may remove it now. The evaporator pad is held in place by the distribution tray.
6. Now that the pad is out you may inspect, and or replace with a new one. It is important that the black spot on the evaporator pad be at the top.
7. Position the new pad in place bottom first. On the inside of the humidifier, at the bottom is a trough used to collect draining water. In the front of the trough are 2 tabs on either side, the evaporator pad sits behind the 2 tabs.
8. With the pad position correctly at the bottom the distribution tray can be reinstalled. Make sure that the water nozzle inlet (at the top of the distribution tray) is facing out. Tilt the pad away from the top of the unit and position the distribution tray on top of the pad. Guide the distribution tray into the side channels at the same time deflecting the 2 hooks which secure the distribution tray in place.
9. Carefully push the distribution tray all the way back until the 2 hooks engage the front edge of the distribution tray.
10. Reinstall the flexible water supply tube into the water nozzle at the top of the distribution tray, it is press fit.
11. Replace the humidifier's front cover and secure with thumb screw.
12. Turn on the power to the humidifier, Turn on the water supply to the humidifier, Turn on your furnace.

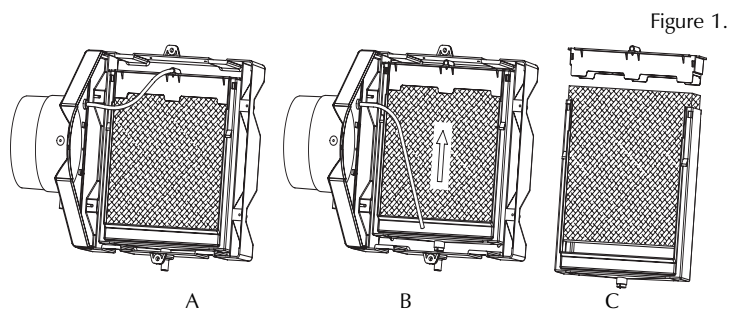


Figure 1.

### REPLACING/REMOVING THE INLET WATER FILTER (REFER TO FIGURES 2 A, B, C)

The purpose of the inlet water filter is to protect the humidifier's orifice fitting (which meters water usage) and the solenoid valve, it stops solids from plugging those components. This filter should be checked if you notice that the amount of water being supplied to the humidifier has reduced. If you live in an area with hard water (high mineral content) you may want to consider replacing this filter yearly. This filter is available through our Parts and Service line 1-800-465-7300.

1. Turn off the power to the humidifier, Turn off the water supply to the humidifier, Turn off your furnace.
2. Remove the bypass tube from the side of the humidifier, 6" spring clamp secures it in place.
3. Using a wrench remove the water supply tube from the solenoid valve.
4. The inlet filter is located inside the solenoid valves inlet. Using a

pointy object (ie nail) carefully remove the inlet filter.

5. The inlet filter should be fairly clean and free of debris.
6. Replace or clean the inlet filter if required. If it is punctured in anyway replace immediately. Remember the filter protects the orifice fitting and solenoid.
7. Position the cleaned or new filter in the solenoid valve inlet. Push the inlet filter in place.
8. Carefully reconnect the water supply tube. Hand tighten the nut first taking care not to strip the threads on the valve, use an adjustable wrench to tighten down a couple more turns - DO NOT OVER TIGHTEN, you may strip the threads on the solenoid valve. If leaks occur you can tighten later to fix them.
9. Reconnect the bypass tube onto the humidifier side and secure in place with the 6" spring clamp.
10. Turn on the power to the humidifier, Turn on the water supply to the humidifier, Turn on your furnace.
11. Run the humidifier and check for and repair any leaks.

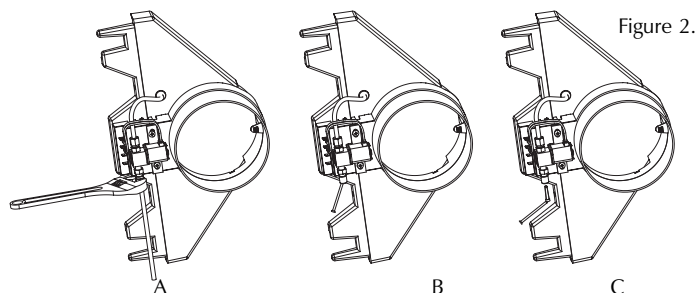


Figure 2.

#### REPLACING A SOLENOID VALVE (REFER TO FIG 3 A,B,C)

At some point it may become necessary to replace the solenoid valve. Follow the steps below to complete the repair. It is recommended that when you replace a solenoid valve you replace the water inlet filter & the orifice fitting at the same time.

1. Turn off the power to the humidifier, Turn off the water supply to the humidifier, Turn off your furnace.
2. Remove the bypass tube from the side of the humidifier, 6" spring clamp secures it in place.
3. Using a wrench remove the water supply tube from the solenoid valve.
4. On the outlet side of the solenoid valve is the flexible water supply tube use a wrench to remove this tube from the solenoid valve.
5. Remove the solenoid valve wires from the electrical terminals on the side.
6. Remove the solenoid valve from the humidifier, 2 screws hold the valve in place. Depending on the solenoid valve used there may be a rubber washer installed on each screw. Do not lose these washers as they are used to reduce valve vibration.
7. Install and secure the new valve in place using the 2 screws remove earlier, be sure to use the rubber washers
8. Install a new water inlet filter in the solenoid valve's inlet, it is push fit in place. (refer to inlet water filter replacement regards installation)
9. The orifice fitting used to meter the water flow to the distribution tray

is located in the inlet of the flexible water supply tube remove in step 4. Remove and discard old fitting and replace with a new one. (refer to the orifice fitting replacement regards installation)

10. Connect the solenoid valve wires to the 2 electrical terminals marked 24 Volt OUT.
11. Carefully reconnect the water supply tube and the flexible water supply tube to the solenoid valves inlet and outlet. Hand tighten the nuts first taking care not to strip the threads on the valve, use an adjustable wrench to tighten down a couple more turns - DO NOT OVER TIGHTEN, you may strip the threads on the solenoid valve. If leaks occur you can tighten later to fix them.
12. Replace the bypass tube on the humidifier's side and secure with spring clamp.
13. Turn on the power to the humidifier, Turn on the water supply to the humidifier, Turn on your furnace.
14. Run the humidifier and check for and repair any leaks.

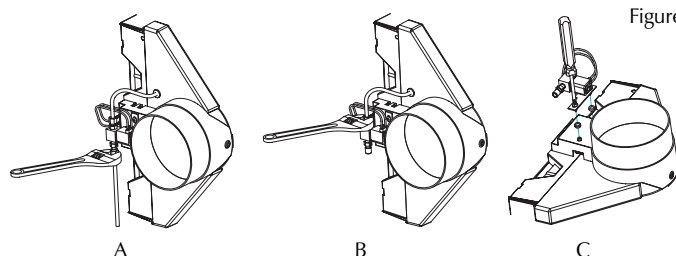


Figure 3.

#### REPLACING AN ORIFICE FITTING (REFER TO FIG 4 A,B,C)

The orifice fitting is located in the flexible water supply tube feeding water from the solenoid valve to the distribution tray. The fitting is installed at the solenoid valve end. This fitting is used to meter the amount of water supplied to the humidifier. Over time and depending on the condition of your water it may become plugged and replacement will be necessary. We recommend that when you replace the orifice fitting you replace the water inlet filter at the same time. Follow the steps below to complete the repair.

1. Turn off the power to the humidifier, Turn off the water supply to the humidifier, Turn off your furnace.
2. Remove the bypass tube from the side of the humidifier, 6" spring clamp secures it in place.
3. Using a wrench remove the water supply tube from the solenoid valve.
4. On the outlet side of the solenoid valve is the flexible water supply tube use a wrench to remove this tube from the solenoid valve.
5. Install a new water inlet filter in the solenoid valve's inlet, it is push fit in place. (refer to inlet water filter replacement regards installation)
6. The orifice fitting is located in the inlet of the flexible water supply tube. You should be able to remove this fitting by hand you may use a needle nose pliers if required.
7. Install a new orifice fitting it is push fit in place.
8. Carefully reconnect the water supply tube and the flexible water supply tube to the solenoid valves inlet and outlet. Hand tighten the nuts first taking care not to strip the threads on the valve, use an adjustable wrench to tighten down a couple more turns - DO NOT OVER TIGHTEN, you may strip the threads on the solenoid valve. If

leaks occur you can tighten later to fix them.

9. Replace the bypass tube on the humidifier's side and secure with spring clamp.
10. Turn on the power to the humidifier, Turn on the water supply to the humidifier, Turn on your furnace.

Run the humidifier and check for and repair any leaks.

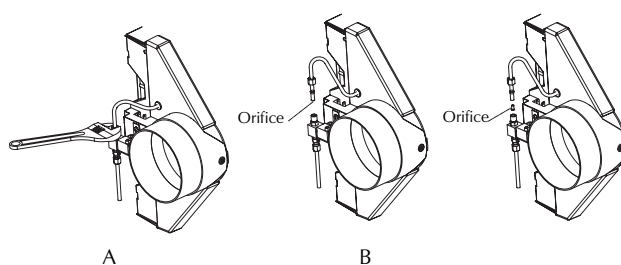
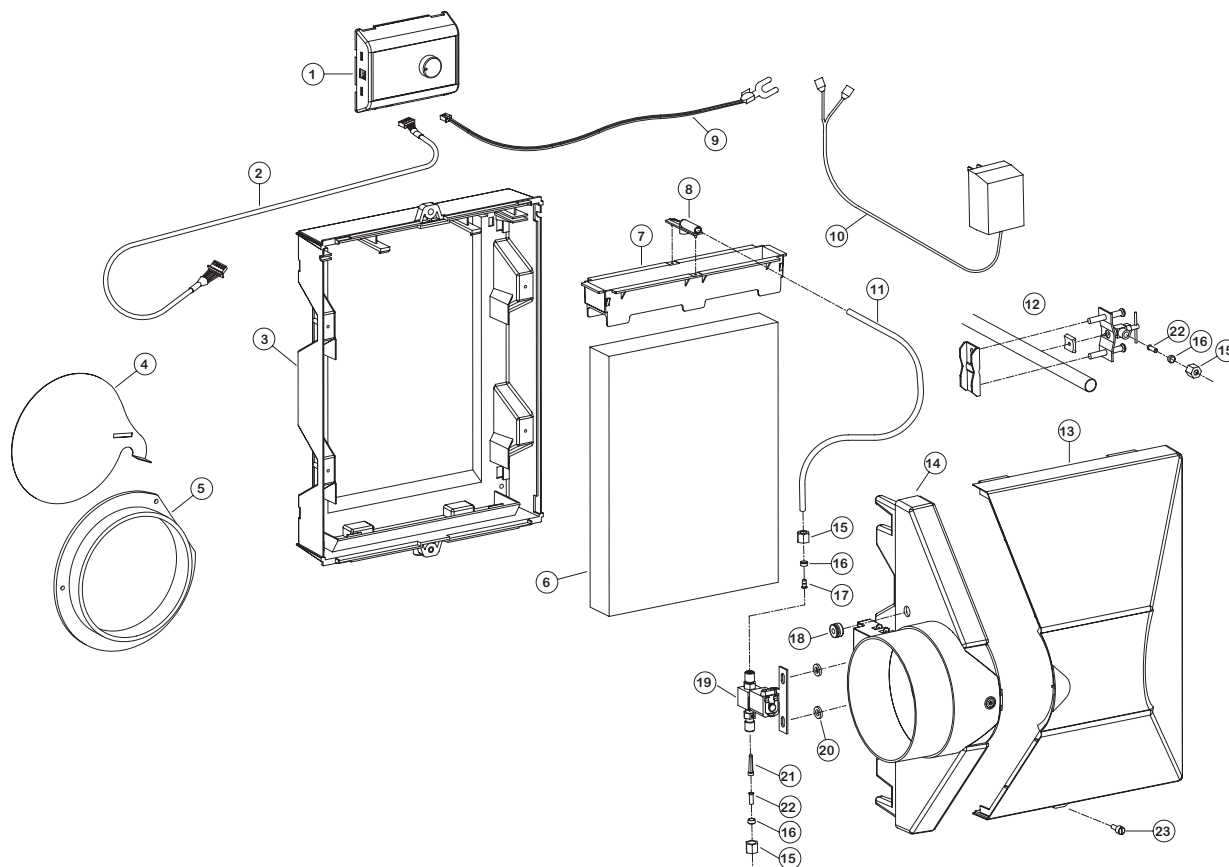


Figure 4.

Component Item Description	Part List	Component Number	Warranty Period	Recommended Maintenance
Humidifier Body	7000EC	3	Lifetime	Inspect yearly, clean with damp cloth.
Humidifier Side Panel	7000EC	18	Lifetime	Inspect yearly, clean with damp cloth.
Front Cover	7000EC	17	Lifetime	Inspect yearly, clean with damp cloth.
Distribution Tray	7000EC	11	1 Year	Inspect when replacing evaporator pad, clean in warm water and mild soap. Replace if necessary.
Water Nozzle	7000EC	12	1 Year	Inspect when replacing evaporator pad, clean in warm water and mild soap. Replace if with distribution tray.
Solenoid Valve	7000EC	23	1 Year	Replace as required When replacing replace the orifice fitting and inlet water filter as well.
Orifice Fitting	7000EC	21	N/A	Replace as required When replacing replace the inlet water filter as well.
Inlet Water Filter	7000EC	25	N/A	Replace as required, dependant on water condition. Good idea to replace with the evaporator pad.
Evaporator Pad	7000EC	10	N/A	Inspect regularly, replace at least yearly, dependant on water condition.
Water Supply Tube	7000EC	27	1 Year	Inspect regularly; replace if necessary.
Water Drainage Tube	7000EC	8	1 Year	Inspect regularly; replace if necessary.
Needle Valve Assembly	7000EC	16	1 Year	Inspect regularly; replace if necessary.
25 Volt Transformer	01A000201	14	1 Year	Inspect regularly; replace if necessary.
Flexible Water Tube	7000EC	15	1 Year	Inspect regularly; replace if necessary.
Control Cable	7000EC	2	1 Year	Inspect regularly; replace if necessary.
Distribution Tray and Nozzle Assembly	7000EC	Not Shown – Service Replacement Part	Not Shown – Service Replacement Part #010911012	Service Kit includes items #11 (distribution tray) and #12 (water nozzle)
Solenoid Valve Assembly	7000EC	Not Shown – Service Replacement Part	Not Shown – Service Replacement Part #010913115	Service Kit includes items #23 (solenoid valve), #25 (inlet filter), #21 (orifice insert), #20 (ferrule), #19 (nut) and #15 (water supply tube)



2004/2005 PRODUCTION


**MODEL 7000 EC**

ITEM NUMBER	DESCRIPTION	QTY/UNIT	PART NUMBER
*1	humidifier control	1/per	011198000
2	connection cable	1/per	011175000
3	base 18 gallon	1/per	011235000
4	air damper	1/per	01A170930
5	collar	1/per	01A172107
6	evaporator pad 18 gallon	1/per	011334000
7	water distribution tray	1/per	010911002
8	nozzle	1/per	011120001
9	out door air sensor	1/per	011199000
10	120/24VAC transformer	1/per	010916001
11	flex water tube 1/4"x24"	1/per	010933002
12	needle valve assembly	1/per	0PB132055
13	flow through cover 18 gallon	1/per	011234000
14	side flow through 18 gallon	1/per	011239000
15	brass compression nut	3/per	010932000
16	nylon ferrule	2/per	010926001
17	brass orifice	1/per	010927002
18	grommet	1/per	910283003
19	solenoid assembly	1/per	010913105
20	washer	2/per	010283004
21	inlet water filter	1/per	010937000
22	brass insert	2/per	01A930041
23	#10-32 plastic screw	1/per	019001067

\* Specify brand

**TROUBLE SHOOTING GUIDE****PROBLEM: NOT ENOUGH HUMIDITY**

**POSSIBLE CAUSE:** Humidistat set too low.

**REMEDY:** Turn up the humidistat.

**POSSIBLE CAUSE:** Humidifier has only been installed for a few days.

**REMEDY:** If you have just installed the humidifier it can take anywhere from 3 to 4 weeks to build up the humidity level in the home.

**POSSIBLE CAUSE:** Not enough air flow through the humidifier. For the maximum performance of 12 us gallons in 24 hrs of operation there must be at least 0.5" static pressure.

**REMEDY:**

- Adjust bypass damper to fully open position.
- Ensure the bypass tube is fully stretched out tight.
- Furnace filter is dirty and needs replacement.
- Bypass tube and humidifier not installed parallel, use hard ducting – use hard ducting for any elbows – take the most direct route when ducting.
- The bypass tube or humidifier is installed in front of air-conditioning coils or is blocked in some other way – move to another location and ensure maximum air flow.
- The humidifier and bypass tube are installed on the same duct – you must install the unit on either the supply or return and the bypass tube on the opposite duct or the unit will not work.
- For some reason your furnace is not supplying sufficient air to the unit.

**POSSIBLE CAUSE:** Not enough water is getting to the evaporator pad. For the maximum performance of 12 US gallons in 24 hours of operation there must be at least 60 PSI of water pressure.

**REMEDY:**

- Check that the unit is turned on and plugged in.
- Check that the humidistat is turned up and is calling for humidity. If at the start of the furnace cycle the humidistat is not calling for humidity then the humidifier will wait until the next furnace cycle, even if during the furnace cycle the humidity level drops below the set point.
- Check that the saddle valve is open.
- Check that the unit is level and that the evaporator pad assembly is getting evenly wet.
- Check that there is water getting to the humidifier, turn off the water disconnect the water supply to the unit and turn the water back on. Allow the water to flow into a bucket, reconnect the water after test.

- Check the amount of water being supplied to the evaporator pad. (Procedure in Maintenance Guide)
- Check that the water inlet filter is not plugged. Replace if required. (Procedure in Maintenance Guide)
- Check that the black orifice fitting is not plugged. (Procedure in Maintenance Guide)
- The homes water pressure is too low. For rated output the water pressure must be at least 60 PSI.

**POSSIBLE CAUSE:** Unit is not cycling with the furnace in heating mode. For this unit to work it must sense a 4°C temperature rise over 1 minute of time and the air temperature must be at least 30°C. This ensures that the humidifier is using water efficiently. If your furnace does not supply the require temperatures you will have to purchase and install a pressure switch.

**REMEDY:**

- Check that the unit is turned on and plugged in.
- Check that the humidistat is turned up and is calling for humidity. If at the start of the furnace cycle the humidistat is not calling for humidity then the humidifier will wait until the next furnace cycle, even if during the furnace cycle the humidity level drops below the setpoint.
- Check that the bypass damper is open and hot air is flowing through the humidifier.
- Ensure the bypass tube is fully stretched out tight.
- Furnace filter is dirty and needs replacement.
- Bypass tube and humidifier not installed parallel, use hard ducting – use hard ducting for any elbows – take the most direct route when ducting.
- The bypass tube or humidifier is installed in front of air-conditioning coils or is blocked in some other way – move to another location and ensure maximum air flow.
- The humidifier and bypass tube are installed on the same duct – you must install the unit on either the supply or return and the bypass tube on the opposite duct or the unit will not work.
- For some reason your furnace is not supplying sufficient heat to activate the unit. If you use a heat pump or a high efficient furnace you may see this problem, or if your furnace is not working properly. It will be necessary to purchase a pressure switch to activate the unit (available through our parts and service line 1-800-465-7300), or you may have the unit hard wired to your furnace by a HVAC or electrical professional and bypass the unit's control.

**POSSIBLE CAUSE:** The air going through the unit is not hot enough. For the maximum performance of 18 US gallons in 24 hours of operation the air temperature going through the filter should be 120°F. 100°F=15 US gal/24 hours, 80°F=9 US gal/24 hours, etc.

**REMEDY:**

- Adjust bypass damper to fully open position.
- Ensure the bypass tube is fully stretched out tight.



- Furnace filter is dirty and needs replacement.
- Bypass tube and humidifier not installed parallel, use hard ducting – use hard ducting for any elbows – take the most direct route when ducting.
- The bypass tube or humidifier is installed in front of air-conditioning coils or is blocked in some other way – move to another location and ensure maximum air flow.
- The humidifier and bypass tube are installed on the same duct – you must install the unit on either the supply or return and the bypass tube on the opposite duct or the unit will not work.
- Your furnace does not supply air hot enough to maximize output. If you use a heat pump or a high efficient furnace you may see this problem. You may want to consider the use of supplemental humidification such as floor or table top humidifiers.

**POSSIBLE CAUSE:** The outside conditions have been extremely cold -15°C to -20°C for extended periods. During extended periods of extreme cold your humidifier is working to replenish the moisture which is being lost in the home's structure, furniture, and other household items. As the humidifier is working the cold weather is continually drying out the house. Because the temperature drop outside the water temperature being supplied to the unit is also low, a 5°F drop in water temperature will reduce the output of the unit by as much as 15-25%

**REMEDY:** There is no remedy for this situation – except time. Your humidifier has a stated output. All you can do is ensure that your unit is working at its peak performance. (See section in the instructions.)

All homes bring in outside fresh air – whether through infiltration (cracks) or through the use of HRV's. This is imperative to ensure proper indoor air quality. The amount of outside air brought in will directly affect the humidity levels in your home, and the colder that air is the more moisture it will take from the humidifier.

### **PROBLEM: HUMIDIFIER IS NOT CYCLING ON WHEN THE FURNACE TURNS ON**

*There may be a time lag occurring between your furnace turning on and the humidifier turning on. Anything ranging from 60 – 120 seconds is considered acceptable, as the unit is waiting to sense the minimum air temperature required to evaporate water. As well it is waiting for a minimum temperature rise to occur over a one minute period. This is a safe guard to ensure efficient water use.*

**POSSIBLE CAUSE:** Humidistat is not turned on.

**REMEDY:** Adjust humidistat.

**POSSIBLE CAUSE:** Unit is not plugged in.

**REMEDY:** Plug in unit.

**POSSIBLE CAUSE:** The air going through the unit is not hot enough. For this unit to work it must sense a 4°C temperature rise over 1 minute of time and the air temperature must be at least 30°C. This ensures that the humidifier is using water efficiently. If your furnace does not supply the require temperatures you will have to purchase and install a pressure switch.

### **REMEDY:**

- Adjust bypass damper to fully open position.
- Ensure the bypass tube is fully stretched out tight.
- Furnace filter is dirty and needs replacement.
- Bypass tube and humidifier not installed parallel, use hard ducting – use hard ducting for any elbows – take the most direct route when ducting.
- The bypass tube or humidifier is installed in front of air-conditioning coils or is blocked in some other way – move to another location and ensure maximum air flow.
- The humidifier and bypass tube are installed on the same duct – you must install the unit on either the supply or return and the bypass tube on the opposite duct or the unit will not work.
- Your furnace does not supply air hot enough to activate the control – you will have to install a flow through pressure switch (through our parts and service line) or bypass the humidifiers control and have the unit hardwired to your furnace by an electrician or hvac professional.

There may be a time lag occurring between your furnace turning on and the humidifier turning on. Anything ranging from 60 to 120 seconds is considered acceptable, as the unit is waiting to sense the minimum air temperature required to evaporate water. As well it is waiting for a minimum temperature rise to occur over a one minute period. This is a safeguard to ensure the efficient use of water.

### **PROBLEM: HUMIDIFIER IS NOT CYCLING OFF WHEN THE FURNACE TURNS OFF**

**POSSIBLE CAUSE:** Temperature set point on the control is not set properly for your furnace. The control has 4 different temperature settings.

**REMEDY:** Follow the section in the instructions to customize the humidifier's control to your furnace's cycles.

**POSSIBLE CAUSE:** The temperature in the furnace is not dropping fast enough to activate the control's off cycle. The control will work on all typical residential furnace installations available today. However if for some reason you have customized your furnace installation, or are using various supplemental heating apparatus for your home (fire place – gas or wood, radiant floor, etc.), have made additions or renovations to your home without up grading your heating system, or have not properly maintained your home's heating system, it may be necessary to use our pressure switch or have the unit interlocked with your furnace by an electrical or HVAC professional.

**REMEDY:**

- Adjust bypass damper to fully open position.
- Ensure the bypass tube is fully stretched out tight.
- Furnace filter is dirty and needs replacement.
- Bypass tube and humidifier not installed parallel, use hard ducting – use hard ducting for any elbows – take the most direct route when ducting.
- The bypass tube or humidifier is installed in front of air-conditioning coils or is blocked in some other way – move to another location and ensure maximum air flow.
- The fan delay on your furnace is not set properly and the furnace fan is shutting off too early when the air is still hot. You should discuss with a HVAC professional to have your furnace's fan cycle adjusted so you are maximizing the heat delivered to your home. If the furnace is not adjusted you will have to consider the use of a flow through pressure switch (through our parts and service line) or bypass the humidifiers control and have the unit hardwired to your furnace by an electrician or HVAC professional.
- Your furnace is located in an enclosed space like a closet, and as a result the temperature in that space is very hot, this is not a good condition. Proper ventilation is necessary for your furnace to operate properly you should consult a HVAC professional. If this is the case you will have to consider the use of a flow through pressure switch (through our parts and service line) or bypass the humidifiers control and have the unit hardwired to your furnace by an electrician or HVAC professional.
- Your furnace is not operating properly and running too hot – consult a HVAC professional.

***PROBLEM: THE HUMIDISTAT READING DOES NOT SEEM TO MATCH THE HUMIDITY LEVEL IN THE HOME; IT IS HIGHER OR LOWER***

**POSSIBLE CAUSE:** Dirty humidistat sensor.

**REMEDY:** Carefully clean the humidity sensor located at the back of the humidistat. You will have to remove the humidistat from the duct and gently blow on the sensor located at the back of the unit.

---

**POSSIBLE CAUSE:** The humidistat is located near a fresh air intake

**REMEDY:** Fresh outdoor air is sometimes introduced to the home through the duct work, if you have located the humidistat near one of these intakes the humidistat will be giving a false reading try to relocate the humidistat to another part of the return duct.

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***PROBLEM: NO WATER GETTING TO THE EVAPORATOR PAD***

**POSSIBLE CAUSE:** Humidistat is not turned up.

**REMEDY:** Turn up the humidistat.

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**POSSIBLE CAUSE:** The unit is not plugged in.

**REMEDY:** Plug in the unit.

---

**POSSIBLE CAUSE:** The furnace is not in heating mode.

**REMEDY:** The furnace must be blowing hot air for this unit to work.

**POSSIBLE CAUSE:** Water supply is not turned on.

**REMEDY:** Check to make sure water is flowing from the piercing valve.

---

**POSSIBLE CAUSE:** Water is blocked at either the water inlet filter or at the orifice fitting.

**REMEDY:** Check both components to ensure no blockage exists.

---

**POSSIBLE CAUSE:** Solenoid valve is not working.

**REMEDY:** Replace the solenoid valve.

---

***PROBLEM: THERE IS TOO MUCH WATER GOING DOWN THE DRAIN***

**POSSIBLE CAUSE:** The unit is installed improperly and is not performing efficiently.

**REMEDY:** Check your installation in the appropriate section in the instructions and make any necessary adjustments.

---

**POSSIBLE CAUSE:** The unit is working properly and the furnace is supplying the proper conditions – just not happy with the water usage.

**REMEDY:** Flow thru humidifiers will use water. This unit has an orifice fitting which meters the amount of water used. A total of approx 56 US gallons will be used in 24 hours of operation. – 24 hours of operation could take as much as 3 days to complete depending on how often your furnace cycles on. When compared to the average shower which uses approx. 5 gallons per minute. The amount of water used to humidifier your home is not that much.

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***PROBLEM: TOO MUCH HUMIDITY IN THE HOME***

**POSSIBLE CAUSE:** Humidistat set too high.

**REMEDY:** Turn humidistat down.

---

**POSSIBLE CAUSE:** Humidistat in Automatic mode and outdoor air sensor is sensing a source of heat.

**REMEDY:** The outdoor air sensor will adjust the humidity level based on outdoor air temperatures, if it is sensing air from a dryer vent or exhaust fan vent then it will provide false readings. – move sensor location.

**POSSIBLE CAUSE:** Secondary humidity sources.

**REMEDY:** Humidity levels vary greatly from home to home – the time of year your home was built will affect the levels – the amount of showers taken, cooking, the amount of ventilation a home has, as well the amount of people living in a home will affect the humidity level – turn the humidistat down or turn off the humidifier until required.

---

**PROBLEM: SOLENOID VALVE BUZZING OR HUMMING**

**POSSIBLE CAUSE:** The 6" spring clamp used to hold the bypass tube is touching the valve.

**REMEDY:** Adjust the position of the 6" spring clamp so the valve does not buzz or hum.

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**POSSIBLE CAUSE:** Loose screws holding the solenoid valve.

**REMEDY:** Tighten the screws.

---

**POSSIBLE CAUSE:** The humidifier body is not secured to the furnace duct properly.

**REMEDY:** Ensure all 4 screws which hold the humidifier body in place are installed and are tightened.

---

**POSSIBLE CAUSE:** Using a copper water supply tube.

**REMEDY:** If using copper water tube ensure it is not touching some part of the furnace – you may have to use cushioned pipe clamps to stop humming or buzzing. We recommend that you use the supplied plastic water supply tube.

---

**POSSIBLE CAUSE:** No water is present at the valve.

**REMEDY:**

- Ensure the water supply valve is open and supplying water to the unit.
- Check there is no blockage of the inlet filter or orifice fitting.

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**PROBLEM: LEAKING WATER**

**POSSIBLE CAUSE:** Water connection not tight.

**REMEDY:** Tighten water connections..

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**POSSIBLE CAUSE:** Flexible water supply tube to the humidifier's distribution tray not installed.

**REMEDY:** Check water supply tube and install correctly.

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**POSSIBLE CAUSE:** Water supply tube has a leak.

**REMEDY:** Check the condition of the hose and replace if necessary.

**POSSIBLE CAUSE:** Evaporator pad assembly is not installed correctly.

**REMEDY:** Check pad and install correctly.

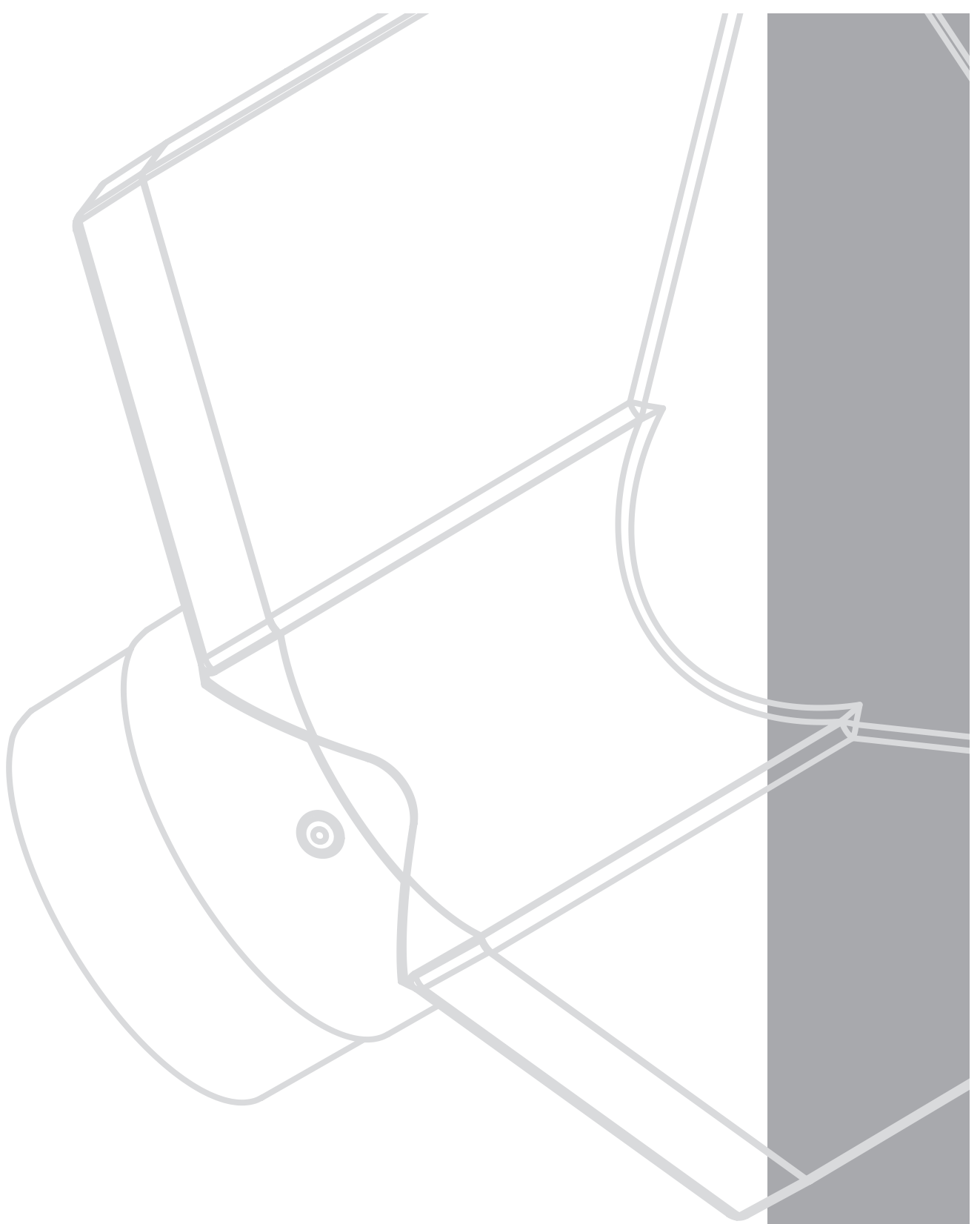
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**POSSIBLE CAUSE:** Air Flow through the unit is too great and water is blowing off evaporator pad or blowing from underneath evaporator pad.

**REMEDY:** Close the bypass damper until problem is resolved.

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## Notes



# FLOW-THROUGH FURNACE HUMIDIFIER

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*Installation*

*Warranty*

*Maintenance*

*Troubleshooting Guide*

## **MODEL AK5000 AK5500 & AK7000 SUPPLEMENTAL INSTRUCTION SHEET**

**WARNING:** THIS UNIT IS INTENDED TO BE INSTALLED BY AN LICENCED HVAC PROFESSIONAL – FOR THIS UNIT TO OPERATE PROPERLY THE SUPPLIED 24 VOLT TRANSFORMER MUST BE INTERLOCKED WITH THE FURNACE HEATING CYCLE – THE 24 VOLT TRANSFORMER SHOULD BE ENERGIZED ONLY WHEN THE FURNACE IS IN HEATING CYCLE. THIS UNIT WILL NOT OPERATE PROPERLY AND YOU RISK DAMAGE UNLESS YOU PROPERLY INSTALL THE TRANSFORMER. DO NOT ATTEMPT TO COMPLETE THIS INSTALLATION UNLESS YOU ARE A LICENCED HVAC PROFESSIONAL.

### **TRANSFORMER - MODEL AK5000, AK5500, AK7000**

- Hazardous Voltage Can Cause Personal Injury Or Equipment Damage.
- Disconnect Power Supply Before Installing or Servicing.
- On Multispeed Blower Applications, Do Not Wire The High Voltage Side Of The Transformer To The Same Power Source That Services The Furnace Blower Or The Transformer May Burn Out Prematurely.
- Do Not Attempt to Install the transformer unless you are an HVAC professional.

The transformer supplied with the unit is different then indicated in the supplied Installation/operating instructions. You have been supplied with a Class 2 120Volt/24 VAC hard wire transformer. It is designed to be connected to the furnace through the furnace accessory terminals, the furnace heating relay, or interlocked with the furnace blower. Install the transformer on the outside of a grounded metal junction box using only a 7/8" knockout hole. Secure the transformer in place using the locking nut on the transformer mounting sleeve.

### **HUMIDISENSE HUMIDIFIER CYCLING CONTROL - MODEL AK5000, AK5500, AK7000**

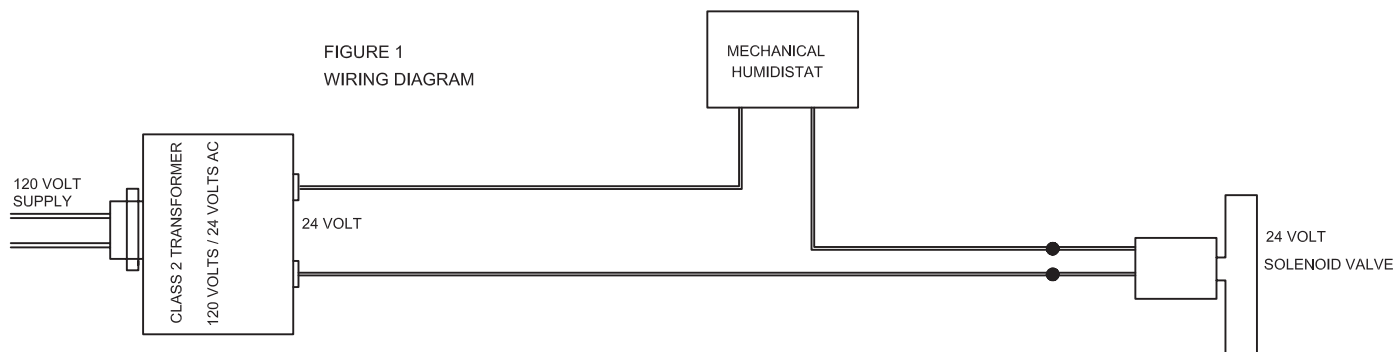
In the supplied installation/operating instructions reference is made to the electronic "Humidisense" humidifier cycling control, and indicating LED's. Because models AK5000, AK5500, & AK7000 are contractor installed units, with the transformer interlocked with the furnace's heating cycles the electronic controls and accompanying LED's are not required or installed on the units. Your furnace humidifier will automatically cycle ON & OFF when your furnace cycles, no adjustments are required.

### **ELECTRONIC HUMIDISTAT CONTROL MANUAL AND AUTOMATIC OPERATION - MODEL AK7000**

In the supplied Model 7000 installation/operating instructions & maintenance/warranty booklets reference is made to the electronic humidistat control with manual and automatic operation. This control is not supplied with the contractor model AK7000, in its place your unit has been provided with a standard mechanical humidistat design for either duct mount or wall mount installation. Refer to the provided humidistat installation sheet for installation instructions.

### **ELECTRICAL WIRING – MODEL AK5000, AK5500, & AK7000**

Once the wiring is complete you should have all the components wired in series (a continuous loop) as shown in figure 1 below. To make the connection to the humidifier's solenoid valve use ¼" insulated male terminals or cut the ¼" female terminals present on the solenoid valves wire then strip the wire ends – connect to the low voltage wire using approved electrical wire nuts.



## **FEUILLE D'INSTRUCTION COMPLÉMENTAIRE, MODÈLES AK5000, AK5500 ET AK7000**

**MISE EN GARDE : CET APPAREIL EST CONÇU POUR ÊTRE INSTALLÉ PAR UN PROFESSIONNEL CVC AUTORISÉ SOUS LICENCE – POUR QUE CET APPAREIL FONCTIONNE CONVENABLEMENT, LE TRANSFORMATEUR DE 24 VOLTS FOURNI DOIT ÊTRE INTERVERROUILLÉ AVEC LE CYCLE DE CHAUFFAGE DE LA FOURNAISE - LE TRANSFORMATEUR DE 24 VOLTS DEVRAIT ÊTRE MIS SOUS TENSION SEULEMENT LORSQUE LA FOURNAISE SE TROUVE DANS LE CYCLE DE CHAUFFAGE. CET APPAREIL NE FONCTIONNERA PAS CONVENABLEMENT OU VOUS RISQUEREZ DES DOMMAGES À MOINS QUE LE TRANSFORMATEUR N'AIT ÉTÉ CONVENABLEMENT INSTALLÉ. N'ESSEYEZ PAS DE COMPLÉTER CETTE INSTALLATION À MOINS QUE VOUS NE SOYEZ UN PROFESSIONNEL CVC AUTORISÉ SOUS LICENCE.**

### **TRANSFORMATEUR – MODÈLES AK5000, AK5500 ET AK7000**

- La tension dangereuse peut causer des blessures ou des dommages à l'équipement.
- Débranchez l'alimentation en courant avant de faire l'installation ou l'entretien.
- Sur les applications de souffleur à vitesses multiples, ne raccordez pas le côté à haute tension du transformateur à la même source de courant que celle qui dessert le souffleur de la fournaise, sinon le transformateur risque de se détériorer prématurément.
- N'essayez pas d'installer le transformateur à moins que vous ne soyez un professionnel CVC.

Le transformateur fourni avec cet appareil est différent de celui indiqué dans les instructions fournies d'installation/fonctionnement. Vous avez reçu un transformateur à câblage direct classe 2 de 120 volts/24 VCA. Celui-ci est conçu pour être raccordé à la fournaise au moyen des bornes accessoires de fournaise, du relais de chauffage de fournaise, ou pour être interverrouillé au souffleur de fournaise. Installez le transformateur à l'extérieur d'une boîte de jonction en métal avec mise à la terre en utilisant seulement un trou à pastille défonçable de 7/8 po. Fixez le transformateur en place en utilisant l'écrou de blocage sur le manchon de montage du transformateur.

### **COMMANDE DE CYCLAGE D'HUMIDIFICATEUR HUMIDISENSE - MODÈLES AK5000, AK5500 ET AK7000**

Dans les instructions d'installation/fonctionnement fournies, il est fait référence à une commande de cyclage d'humidificateur «Humidiseense» électronique et aux DEL d'indication. Étant donné que les modèles AK5000, AK5500 et AK7000 sont des ensembles installés par l'entrepreneur, avec le transformateur interverrouillé aux cycles de chauffage de la fournaise, les commandes électroniques et les DEL les accompagnant ne sont pas nécessaires ni installés sur les ensembles. L'humidificateur de votre fournaise passera automatiquement au cycle de MARCHE ET D'ARRÊT durant les cycles de votre fournaise, aucun ajustement n'est nécessaire.

### **FONCTIONNEMENT MANUEL ET AUTOMATIQUE DE LA COMMANDE D'HUMIDISTAT ÉLECTRONIQUE – MODÈLE AK7000**

Dans le modèle 7000 fourni, les instructions d'installation/fonctionnement et la référence aux livrets d'entretien/garantie sont faites à la commande d'humidistat électronique avec fonctionnement manuel et automatique. Cette commande n'est pas fournie avec le modèle AK7000 de l'entrepreneur, et à sa place votre système a reçu un concept d'humidistat mécanique standard pour installation à montage sur canalisation ou mural. Référez-vous à la feuille d'installation de l'humidistat pour les instructions d'installation.

### **CÂBLAGE ÉLECTRIQUE - MODÈLES AK5000, AK5500 ET AK7000**

Une fois le câblage terminé, vous devriez avoir tous les éléments câblés en série (une boucle continue) comme illustré à la figure 1 ci-dessous. Pour effectuer la connexion à la soupape de solénoïde de l'humidificateur, utilisez les bornes mâles isolées de ¼ po ou découpez les bornes femelles de ¼ po présentes sur le fil des soupapes à solénoïde, puis dénudez les extrémités du fil – raccordez le fil à basse tension en utilisant les coinçeurs à câbles électriques approuvés.

