



# HUMIDIFIER

506367-01  
4/2011 (Supersedes 7/2009)

HEALTHY CLIMATE® HUMIDIFIERS

## INSTALLATION INSTRUCTIONS AND TEMPLATE FOR HEALTHY CLIMATE FAN POWERED HUMIDIFIER MODELS HCWP3-18 & HCWP3-18A

**READ COMPLETE SAFETY INSTRUCTIONS AND INSTALLATION TEMPLATE BEFORE STARTING**

### ATTENTION INSTALLER:

This product must be installed by a qualified heating and air conditioning contractor. Failure to do so could result in serious injury from electrical shock. This product must be installed in compliance with all local, state and federal codes.

#### WARNING



- ELECTRICAL SHOCK HAZARD.** Can cause injury or death. Disconnect all electrical power supplies before servicing.
- RISK OF PROPERTY DAMAGE, INJURY OR DEATH.** Installation, adjustments, alterations, service and maintenance must be performed by your Lennox dealer.
- RISK OF SCALDING.** Water temperature over 125°F can cause severe burns and scalding instantly. Shut off the hot water supply before disconnecting or tapping into any hot water supply line.
- RISK OF SHARP EDGES HAZARD.** Equipment sharp edges can cause injuries. Avoid grasping equipment edges without protective gloves.

#### CAUTION

##### RISK OF PROPERTY AND EQUIPMENT DAMAGE.

- Water heating system can be damaged if water supply remains off.
- After humidifier installation is completed, turn hot water supply back on.
- Water heating system must be de-energized if the main water supply remains shut off.
- Do not set humidity level above recommended or to recommended level if condensation exists on inside windows of any unheated space, as condensation damage may result. Excess humidity can cause moisture accumulation which can allow the possibility for mold growth in your home.
- Do not install humidifier in location where freezing temperatures may occur. The water line could freeze and crack causing water damage to the home.
- Do not install humidifier on furnace cabinet.
- Do not install humidifier on a plenum face where the blanked off end of cooling coil will restrict air movement through the humidifier.
- Do not connect humidifier power cord to multi-speed furnace blower motors or blower motors other than 120 VAC. Use Current Sensing Relay. Premature component failure may result.
- Do not install humidifier where water pressures exceed 125 psi, since humidifier damage may result. Follow codes in effect concerning pressure reduction.
- Do not install humidifier on systems with greater than 0.4 in. wg pressure differential between supply and return plenums.

#### SPECIFICATIONS

##### HUMIDIFIER DIMENSIONS

Width 15<sup>29</sup>/<sub>32</sub>"  
Height (including solenoid valve and drain spud) 18"  
Depth 10<sup>11</sup>/<sub>32</sub>"

##### PLENUM OPENING

14<sup>3</sup>/<sub>4</sub>"W x 14<sup>5</sup>/<sub>16</sub>"H

##### WATER FEED RATE

6 gph

##### ELECTRICAL DATA

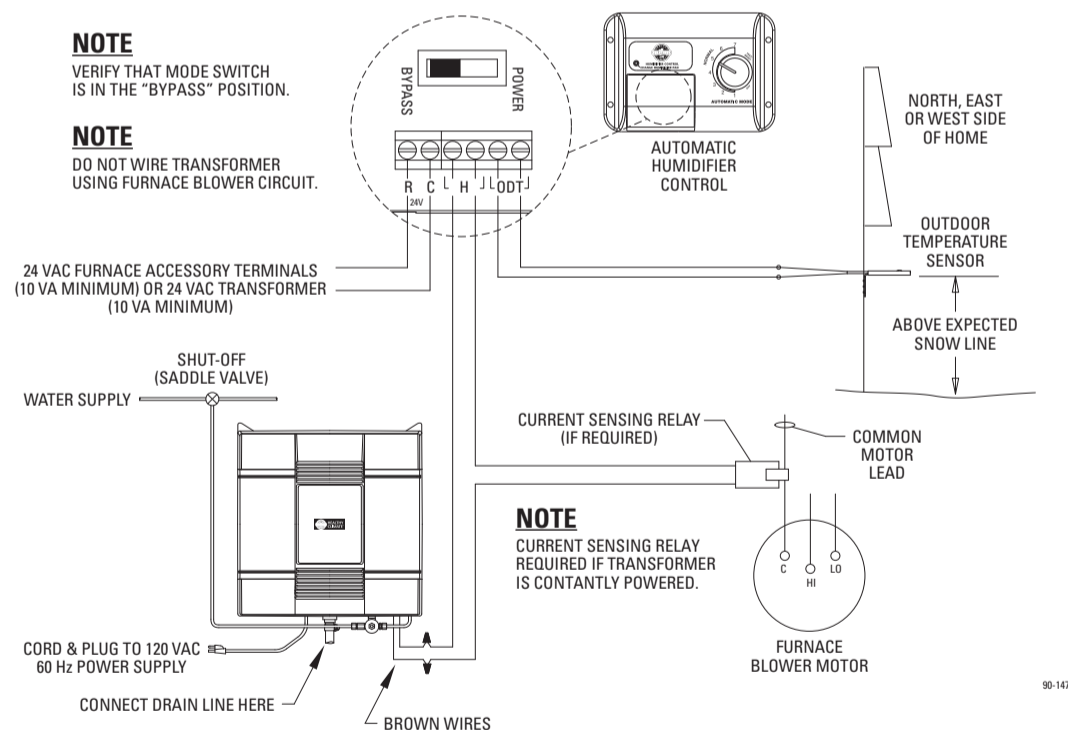
120 VAC-60 Hz, 0.8 AMP

### RECOMMENDED WIRING DIAGRAMS

#### Model HCWB3-18A

##### AUTOMATIC HUMIDIFIER CONTROL

For detailed Automatic Humidifier Control installation and wiring instructions, see Publication No. 504,879M included with Control.



#### Model HCWB3-18

##### MANUAL CONTROL

For detailed Manual Humidifier Control installation and wiring instructions, see Publication No. 506407-01 included with Control.

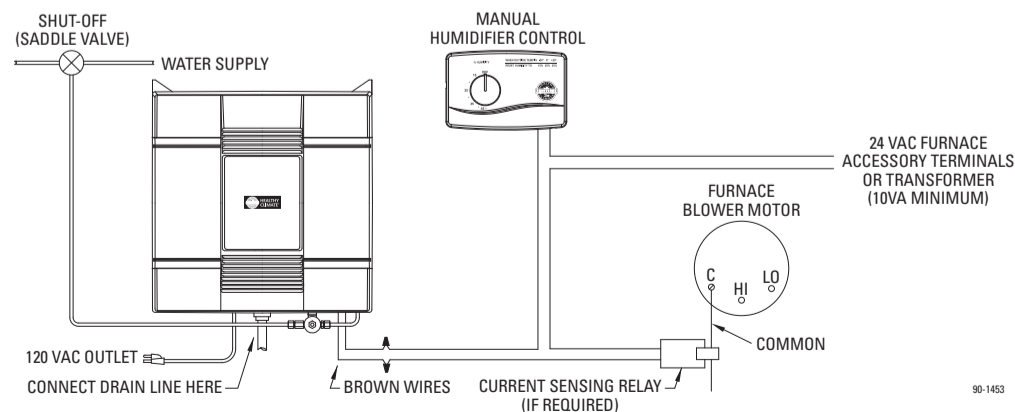
##### IMPORTANT

USE 120 VAC POWER SOURCE OTHER THAN FURNACE MOTOR CIRCUIT. HOWEVER, THE TRANSFORMER CAN BE POWERED OFF THE HOT 120 VAC LINE BEFORE IT ENTERS THE FURNACE.

- DO NOT WIRE TRANSFORMER INTO FURNACE BLOWER CIRCUIT.

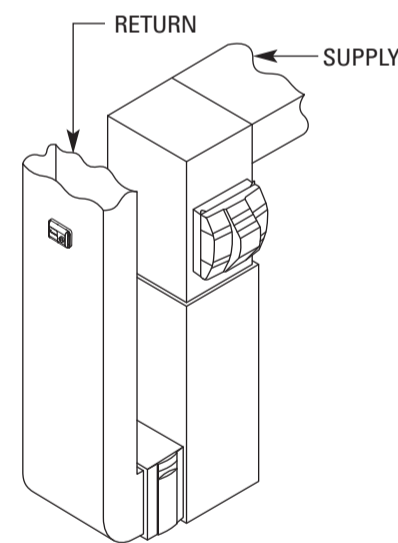
##### IMPORTANT

WHEN CURRENT SENSING RELAY IS USED:  
• WIRE CURRENT SENSING RELAY INTO 24 VAC HUMIDIFIER CONTROL CIRCUIT ONLY! DO NOT INSTALL IN TRANSFORMER PRIMARY CIRCUIT.

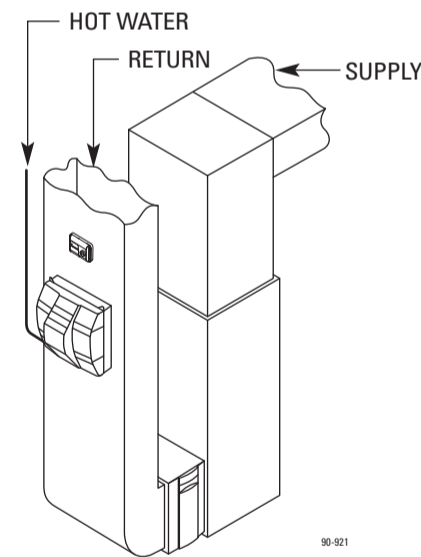


### INSTALLATION OPTIONS

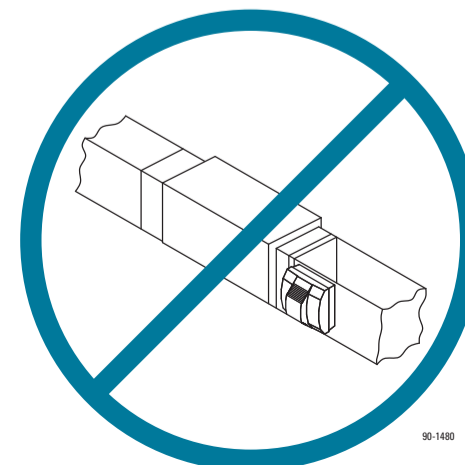
#### Typical Installation



#### Alternate Installation



#### Horizontal Installation



#### NOTES

- The humidifier is not suitable for installation on ducts with horizontal airflow. Performance will be reduced.
- When installing humidifier on a heat pump system, use hot water. The heated water supplements the reduced supply air temperature as added heat for evaporation.

#### WARNING

Cover on humidifier must be securely in place when blower is operating. Gas fumes, which could contain carbon monoxide, can be drawn into living space resulting in personal injury or death.

**TEMPLATE MUST BE LEVEL**

TRACE ALONG OUTER EDGE

READ REVERSE SIDE FIRST!

- TOP -

READ REVERSE SIDE FIRST!

READ COMPLETE SAFETY INSTRUCTIONS AND INSTALLATION TEMPLATE BEFORE STARTING

## FURNISHED ITEMS

24 VAC Humidifier Control  
Saddle Valve  
Humidifier Installation Template  
Transformer  
Humidifier Control manuals

## ITEMS NOT FURNISHED

Mounting screws  
(sheet metal screws)  
Water supply line (1/4" copper)  
Drain line (1/2" I.D. hose)  
18 gauge low voltage wire  
Current Sensing Relay  
(if required)  
Hose clamp

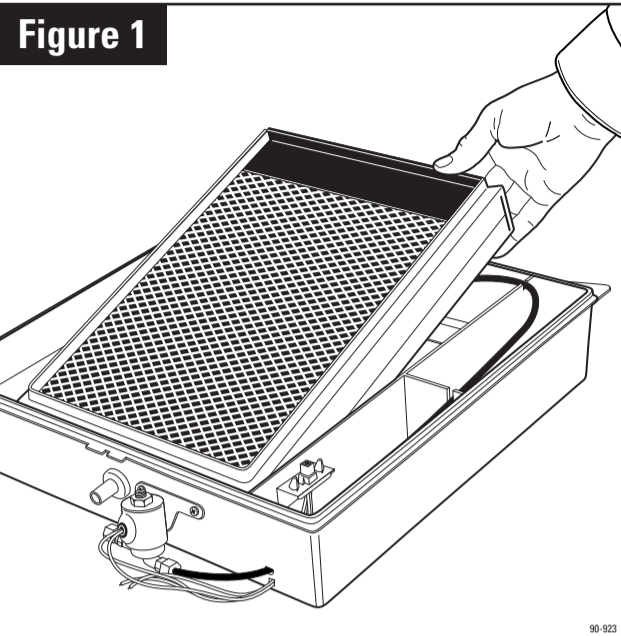


Figure 1

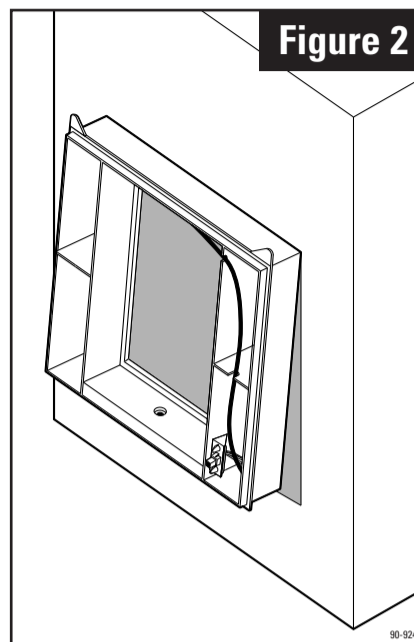


Figure 2

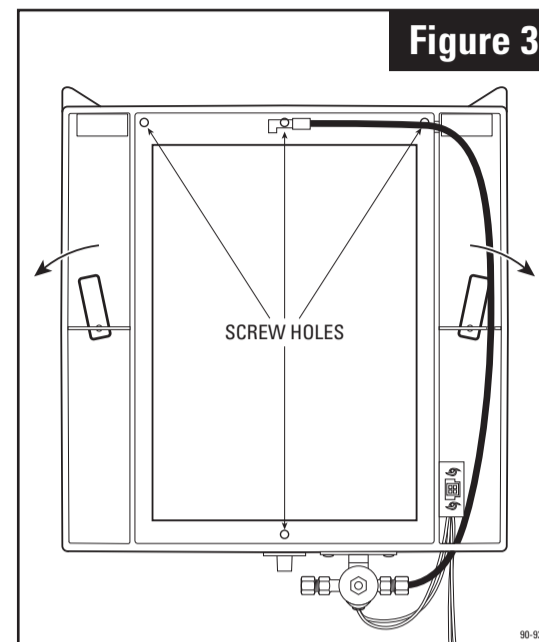


Figure 3

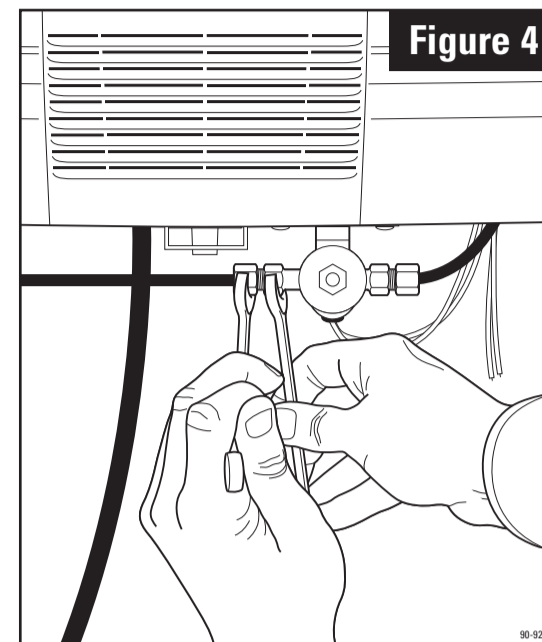


Figure 4

**1.** Place the humidifier on a flat surface. Unlatch humidifier cover assembly from base assembly at the bottom of the cover, lift and set aside. Pull out the evaporative assembly by grasping at the top and tipping out. (See Figure 1)

**2.** Using a level, position this template at least 1 1/2 inches above the furnace housing or cooling coil if applicable, for clearance of the drain line. Trace around template edges. When there is insufficient space on the supply plenum, the humidifier can be installed on the return duct provided the humidifier is supplied with hot water. Remove the template and accurately cut the plenum opening 14 3/4" W x 14 5/16" H, being careful to avoid injury from sharp edges.

**3.** Position the two plastic hooks on the top of base along the top edge of the plenum opening. Push base up to engage the two hooks and sheet metal along the top edge opening. Push base in and slide down so that the bottom four hooks engage the sheet metal at the bottom edge of the opening. (See Figure 2)

Secure base to opening using top three screw holes in housing. An additional hole is provided at the bottom for securing the base to the plenum. (See Figure 3)

**4.** While pressing the base against the plenum, reach through the center opening and turn left and right swing latches down to secure the base onto the plenum. (See Figure 3) Seal duct around base with foil tape or mastic.

**5.** Reinstall the evaporative assembly into the base, with the bottom of the scale control insert (5) sitting firmly in the inside of the drain spud attached to the base. Push the evaporative assembly in at the top between the retaining ribs that hold the assembly in place in a vertical position. Reinstall cover assembly by hooking at the top of base assembly and latching at the bottom.

**6.** Locate and install the Manual Humidifier Control by following the instructions shown in step #6A. For Automatic Humidifier Control installation instructions, see Publication No. 504,879M included with the Automatic Control. **DISCONNECT ELECTRICAL POWER TO FURNACE BEFORE PROCEEDING!**

**6A. MANUAL HUMIDIFIER CONTROL INSTALLATION INSTRUCTIONS FOR HCWP3-18:**

The enclosed Manual Humidifier Control is designed for low voltage service to control humidification equipment. An increase in relative humidity expands the nylon ribbon which opens the control switch to stop operation on the humidifier. A decrease in relative humidity reverses the process and closes the control switch. (For detailed Manual Humidifier Control installation and wiring instructions, see Publication No. 506407-01 included with Control.)

## LOCATION

1. Locate on inside wall of living area approximately 5 feet above floor, or in the furnace return air plenum. If humidifier is mounted on return duct, Humidifier Control must be at least 6" upstream of humidifier.
2. Do not locate Control in the direct path of furnace discharge air or drafts from open doors and windows.
3. Do not install where operation might be affected by lamps, sunlight, fireplace registers, radiators, concealed air ducts and pipes, or next to activities that generate moisture.
4. The basic rules for location of thermostats also apply to humidifier controls.

## GENERAL INSTRUCTIONS

1. Do not attempt to repair or recalibrate Humidifier Control. Humidifier Controls requiring service should be returned to your Lennox dealer.
2. Use humidifier control in low voltage (24 VAC) applications only. Install 24 VAC wiring to humidifier control as shown in Wiring Diagrams, opposite side.
3. Make sure no bare wires are exposed or insulation damaged. Insulation on wire should extend to head of binding screws.
4. Make sure all splices are mechanically and electrically secure.
5. To remove dirt or other foreign matter from nylon ribbon and control interior, dust lightly with a fine, soft brush.

**8.** Connect tubing from the saddle valve to the inlet side of the solenoid valve using 1/4" O.D. copper tubing (not furnished). **DOUBLE WRENCH AS SHOWN IN FIGURE 4 TO PREVENT DAMAGE TO VALVE BRACKET AND ENSURE WATERTIGHT CONNECTION.**

**9.** Drain spud is designed to accept 1/2" I.D. plastic hose (not furnished). Run drain line from drain spud to floor drain or alternate drain location. **CAUTION: If hose clamp is used, do not overtighten, drain spud could crack. Be sure drain line has continuous slope. NOTE: Do not sweat or directly attach metal drain line to fitting. Do not use solvent type adhesives when connecting plastic drain line, since damage to fitting could result.**

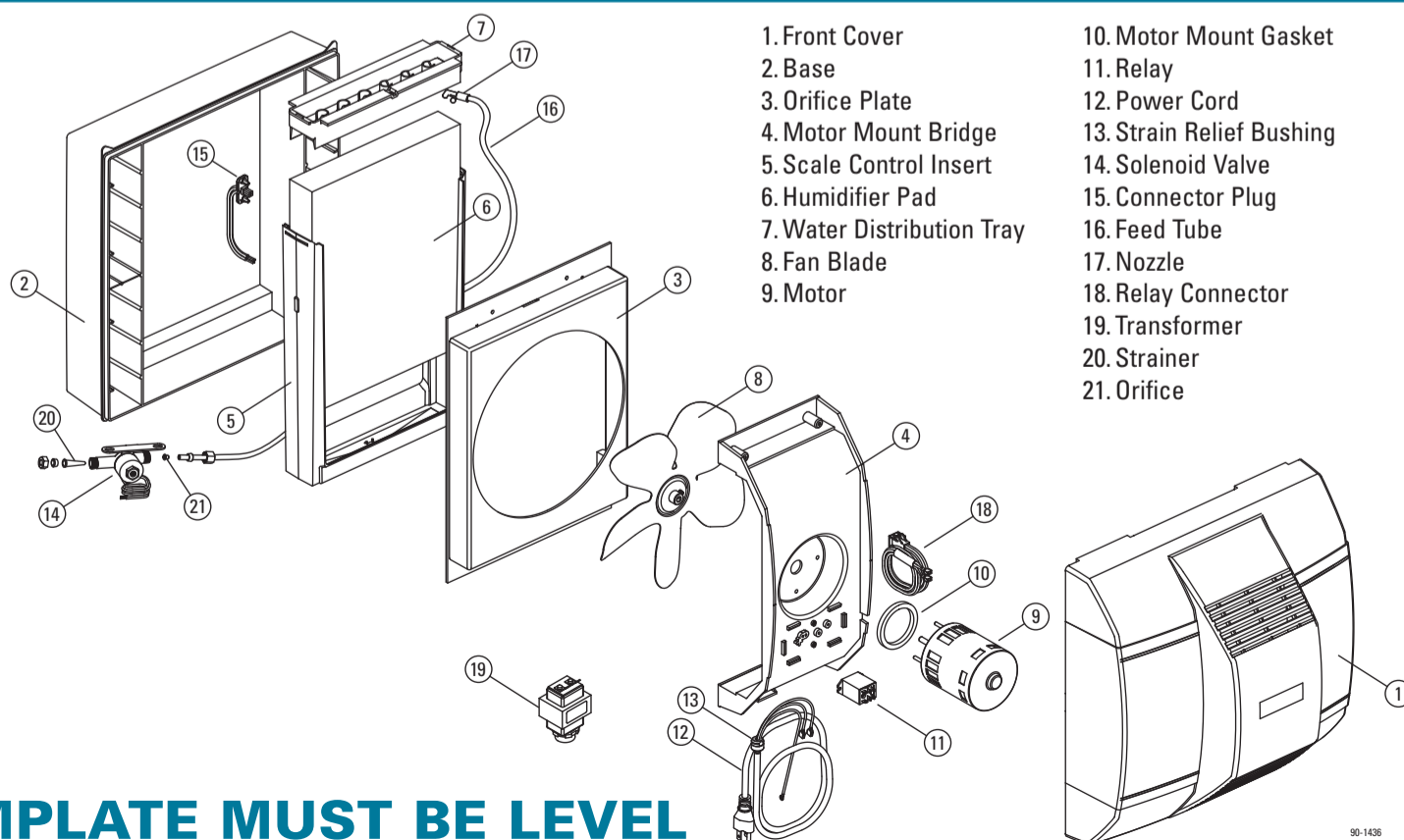
**10.** Open saddle valve completely and check for leaks. Turn on blower system.

**HCWP3-18** – Adjust humidifier setting so that humidifier will turn on. Allow humidifier to run until water is observed coming out of drain line. Check to see if humidifier and saddle valve are watertight. Check operation to make sure that all electrical components function properly. Set Control to recommended level. (See operating instructions in owners manual.)

**HCWP3-18A** – Use humidification "System Checkout" section of Automatic Humidifier Control Installation Instructions, Publication No. 504,879M. Check to see if humidifier and saddle valve are watertight. Check operation to make sure that all electrical components function properly.

**11.** The humidifier power cord must be plugged into a 120 VAC outlet. Wire an electric outlet box to power source other than furnace fan motor circuit. Outlet box can be powered off of the 120 VAC line **before** it enters furnace. If furnace accessory terminals are 120 VAC, outlet box can be wired from this location. See manufacturer's recommendations for wiring. Do not use an extension cord. Do not power 120 VAC outlet from the furnace blower circuit.

## PARTS LIST



- |                            |                           |
|----------------------------|---------------------------|
| 1. Front Cover             | 10. Motor Mount Gasket    |
| 2. Base                    | 11. Relay                 |
| 3. Orifice Plate           | 12. Power Cord            |
| 4. Motor Mount Bridge      | 13. Strain Relief Bushing |
| 5. Scale Control Insert    | 14. Solenoid Valve        |
| 6. Humidifier Pad          | 15. Connector Plug        |
| 7. Water Distribution Tray | 16. Feed Tube             |
| 8. Fan Blade               | 17. Nozzle                |
| 9. Motor                   | 18. Relay Connector       |
|                            | 19. Transformer           |
|                            | 20. Strainer              |
|                            | 21. Orifice               |

**7.** Tap into water supply line with the saddle valve furnished. See instructions on saddle valve package. The humidifier will function with cold, hot, softened or unsoftened water. **WARNING: RISK OF SCALDING. Water temperature over 125°F can cause severe burns and scalding instantly. Shut off the hot water supply before disconnecting or tapping into any hot water supply line.** The use of service hot water (140°F MAX.) and constant blower operation will provide maximum evaporative capacity. **When installing humidifier on heat pump system, humidifier must be supplied with service hot water. When installing humidifier on return plenum, it is recommended the humidifier is supplied with hot water.**

**NOTE:** The saddle valve is designed to be fully opened or closed. Do not use it to regulate water flow.

**NOTE: BEFORE LEAVING THE JOB SITE, MAKE SURE:**

1. Saddle valve is fully open.
2. There are no plumbing leaks.
3. Humidifier functions properly.

**IMPORTANT!** Be sure owner's manual containing instructions for operation and warranty information is given to owner in order to avoid unnecessary calls. Warranty is void unless humidifier is installed by qualified heating and air conditioning contractor due to possible misapplication of product.

TEMPLATE MUST BE LEVEL