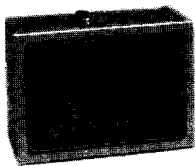


# AUTO-MOIST<sup>®</sup> Model 592-22

## 24 Volt



**CAUTION: Do not install on any water pressure of less than 40 P.S.I.**  
**NOTICE: This product should not be used in conjunction with Heat Pump Systems. See additional Safety Precautions on back.**  
**For Heat Pump Systems use Model 592-9 or Model 86.**

### GENERAL

- 1.10 This humidifier puts moisture into the home by spraying a fine mist of water into the warm air plenum which is carried into the living area by the duct system.
- 1.11 When wired as recommended the humidifier will operate only when the unit blower is in operation and the humidity control is calling for humidity.
- 1.12 CAUTION should be used on all applications to insure that the water is not allowed to impinge or accumulate on the duct work or any parts of the heating system, such as heating coils, limit controls, A-coils etc.
- 1.13 The installation, wiring and plumbing of this unit must comply with local codes, ordinances and regulations.
- 1.14 Nozzle capacity (flow) is rated at 40 P.S.I. This capacity varies according to line pressure as shown in the chart. Select the nozzle which delivers the required flow at the pressure which exists in your area. For example, a home requiring .50 gallons of water per hour to properly humidify and has a water pressure of 80 P.S.I. would require a .37 nozzle to do the job.

Nozzle Size	Capacities in G.P.H. at Various Water Pressures				
	40	60	80	100	125
.37	.37	.45	.55	.60	.70
.50	.50	.60	.70	.80	.85
.75	.75	.89	1.1	1.2	1.4
1.00	1.0	1.2	1.4	1.6	1.7
1.50	1.5	1.8	2.1	2.4	2.7
2.00	2.0	2.5	2.8	3.2	3.5

1.15 If the water pressure is excessive, a pressure regulator valve will be necessary to obtain the proper volume of moisture.

### TOOLS

2.10 Aviation Snips, 1/4" Regular Screwdriver, #1 Phillips Screwdriver, Adjustable Wrench, Pliers, Electric Drill with 7/64-inch, 1/4-inch and 3/8-inch drill bits, Hammer, Center Punch.

### INSTALLING HUMIDIFIER

3.10 CAUTION: When selecting a location for the humidifier make certain the spray will not impinge on any fan or limit controls, or any heating parts or A-Coils.

3.11 The location selected must be a spot where the air will push the new moisture away from the humidifier.

8.15 The in-line water filter should be cleaned each heating season. Loosen hex nut, slide tubing out of tube connector, and remove filter. The solenoid valve may be disassembled for cleaning.

8.16 For parts and service, contact your local authorized Dealer.

8.17 If excessive moisture appears on windows or walls, reduce humidity setting on humidistat enough to eliminate condensation. If situation continues, turn off water valve and consult your dealer.

### **SAFETY PRECAUTIONS**

#### **PLEASE READ BEFORE INSTALLING HUMIDIFIER**

1. Do not install a humidifier where the heating temperatures will exceed 200°F. Excessive temperatures will damage your humidifier and possibly cause an overflow condition and water damage to your home.

2. Do not install a humidifier where the surrounding temperature may be 32°F or colder. Freezing water will damage your humidifier and burst the supply pipe, resulting in home damage.

3. Do not cut or drill into any air conditioning or electrical accessories during humidifier installation. Fatal electrocution is possible if you come into contact with a live electrical wire. Blindness can occur if freon contacts your eyes.

4. When the humidifier is in a finished basement or any area that water damage could occur, always connect the overflow provision of the humidifier to a suitable drain.

5. For above ceiling installation, always install a drain pan plumbed to a suitable drain.

6. Below are listed the initial recommended settings for your humidity control. Because relative humidity affects everyone differently, these settings can be raised or lowered to suit your personal comfort. **WARNING:** Setting your humidity control higher than the listed setting could cause condensation that would damage your home. If excessive moisture appears on windows or walls, reduce humidity setting at humidistat enough to eliminate condensation. If the situation continues, turn off water valve until condensation is gone.

<b>At Outside Temperature</b>	<b>Recommended Setting</b>	<b>At Outside Temperature</b>	<b>Recommended Setting</b>
-20°F	15	+10°F	30
-10°F	20	+20°F	35
0°F	25	Above 20°F	40

7. The installation, wiring and plumbing of the humidifier must comply with local codes, ordinances and regulations.

8. Read all installation instructions before installing humidifier.

9. Manufacturer assumes no responsibility under warranty if user does not follow stated Installation Instructions and Safety Precautions.

# When Wiring Unit To Systems That Have Multi-Speed Blower Motors Or Systems Using Other Than 120 VAC Motors, Use Skuttle No. SK-431 Isolation Relay.

- 6.33 Mount humidistat to the return (cold) air plenum with two self tapping sheet metal screws.
- 6.34 Route the wiring coming from the humidistat to the humidifier.
- 6.35 Do not allow the wiring to contact any heated surface or sharp edges. Connect one of the wires from the humidistat to the light and one to the solenoid wire.
- 6.36 With the other wire cut to reach from the transformer to the humidifier, on one end connect one wire to the solenoid and light wires. Connect the other wire on the same end to the wire coming from the humidistat with a wire nut. See wiring diagram.
- 6.37 Connect the remaining end of the low voltage wire to the two screw terminals on the 24 volt transformer. See wiring diagram.

## HUMIDIFIER CHECKOUT

- 7.10 Check the humidifier operation by following the procedure outlined.
  - A. Turn water valve to humidifier on.
  - B. Turn humidistat to "on" position.
  - C. Set furnace thermostat high enough to allow furnace to come on.
  - D. When the furnace blower comes on the humidifier should start spraying provided there is adequate heat to the humidifier thermostat.
  - E. Check humidistat operation by turning humidistat off and on checking to see that humidifier stops spraying correctly.
  - F. If humidifier does not stop spraying there may be an error in wiring (consult wiring diagram).
  - G. Set furnace thermostat low enough to allow the furnace to shut off.
  - H. The humidifier should stop spraying immediately or before when blower shuts off.
  - I. If humidifier does not stop spraying there may be an error in wiring (consult wiring diagram).
  - J. If humidifier shuts off correctly return to procedures C and D. Check to see that no water is allowed to impinge on duct work or any parts of the heating system.
  - K. If water impingement or fallout could possibly occur there must be a user, installer supplied suitable drain pan, plumbed with an adequate waste drain.
  - L. To assure proper operation procedures C thru J should be followed 5 times minimum. To assure that no water is allowed to impinge on duct work or parts of the heating system.
  - M. Now set thermostat at desired setting.
  - N. Set humidistat at setting recommended in chart below.

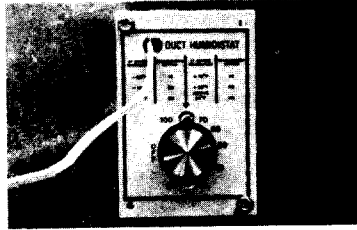
**WARNING: DO NOT set Humidity Control TOO HIGH. Use recommended settings shown below.**

At Outside Temperature	Recommended Setting	At Outside Temperature	Recommended Setting
-20°F	15	+10°F	30
-10°F	20	+20°F	35
0°F	25	over 20°F	40

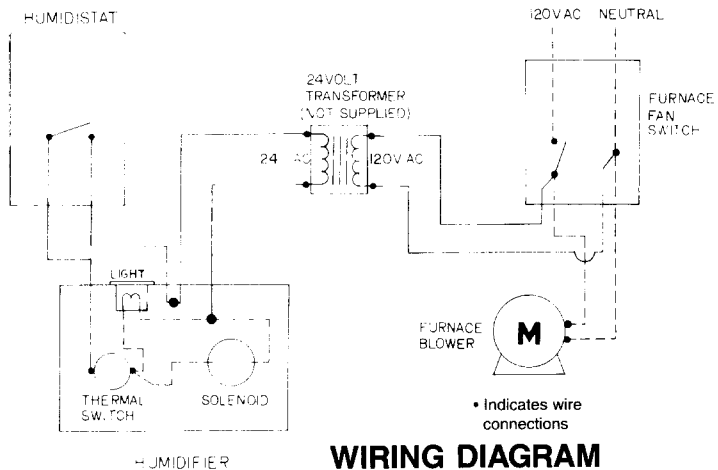
## HOME OWNER HUMIDIFIER TIPS

- 8.10 If the mineral content of the water in the home is above normal, a lime dust may occur in the duct distribution system and living area. Even though these lime deposits may adhere to the sides of the duct work, this should not affect the air distribution significantly.
- 8.11 In a home that has had little or no humidification, a new humidifier will tend to operate almost continuously to attain the desired relative humidity setting. This is understandable since furniture, woodwork, carpeting, plaster and house plants will absorb the newly produced moisture to reach normal levels. This period of adjustments will usually take approximately 3 weeks.
- 8.12 Fireplace dampers should be closed when not in use to eliminate natural drafts which allow humidified air to escape from the home.
- 8.13 After each heating season turn water and electrical power to unit "OFF."
- 8.14 It is suggested the spray nozzle be replaced at the start of each heating season to assure continuous trouble-free operation of your humidifier.

- 6.20 Attach the control cover with two (6-32 x  $\frac{5}{16}$ ) screws. Tighten evenly for best results.
- 6.21 Remove paper backing on name plate and press on cover. Press control knob on shaft.
- 6.22 If you have just completed a wall humidistat, skip to step 6.35. If you desire a duct humidistat, go to step 6.23.
- 6.23 The duct humidistat must be located on the return (cold) air plenum or duct work. **CAUTION: DO NOT** install humidistat on supply (hot) air plenum. Permanent damage will occur to the humidistat and improper control will result.

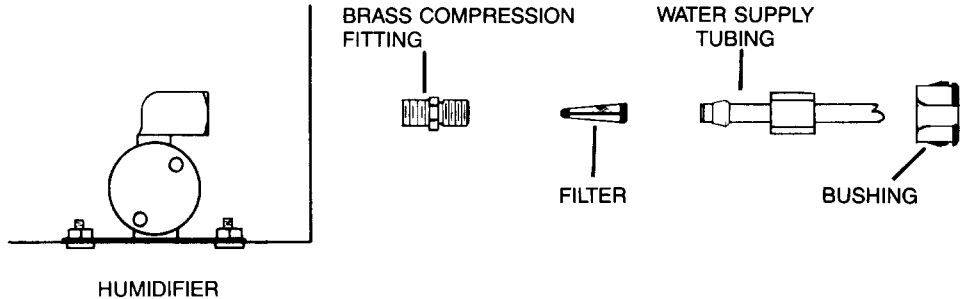


- 6.24 Remove the two screws that attach the base plate to the humidistat. Reattach the base plate over the control shaft, using the screws just removed. Press control knob on shaft.
- 6.25 The humidistat mounts in a vertical (long dimension up and down) position. Remove the template backing and attach template to return (cold) air plenum in the proper location, keeping the template level.
- 6.26 Center punch and drill the two mounting holes with a  $\frac{7}{64}$ " drill.
- 6.27 Drill a  $\frac{3}{8}$ " hole within the center portion of the template.
- 6.28 Starting at the  $\frac{3}{8}$ " hole, cut out the center opening with tin snips or aviation snips.
- 6.29 Remove the template.
- 6.30 Cut two lengths of low voltage wire (not supplied) that will easily reach from the humidistat to the humidifier and easily reach from the 24 volt transformer to the humidifier.
- 6.31 Strip the plastic insulation  $\frac{1}{4}$ " to expose the copper conductor on both wires. (Four (4) wires, eight (8) ends).
- 6.32 Place one end of the correct wire through the  $\frac{3}{8}$ " diameter hole in the humidistat mounting plate. Fasten one wire to each terminal. See wiring diagram.



5.12 **IMPORTANT!** Thoroughly flush supply tubing after attaching to saddle valve to clear line of debris which could block the water flow at the solenoid valve.

5.13 The Inline Filter in this humidifier is assembled as shown below. Pay close attention to the proper orientation of parts for assembly and disassembly, this will assist you when cleaning.



5.14 Slide hex nut over tubing end. (If using plastic tubing insert brass insert.) Slide the sleeve over the tubing. Push the end of the tubing into the threaded fitting and slide hex nut up to fittings and tighten. Moderate tightness is sufficient.

5.15 Slide tubing through split in bushing and insert the bushing through the humidifier wall until it snaps into place.

5.16 Open needle valve at cold water pipe. Check all fittings for leaks.

### **MOUNTING HUMIDITY CONTROL**

6.10 This humidifier is supplied with a patented Universal Humidistat which can be wall mounted or duct mounted. The wall mounted humidistat will allow fingertip control in the living area.

6.11 Pull off control knob, nameplate and remove cover. If wall mount is desired, read on or if a duct mount is desired, skip to step 6.23.

6.12 Drill a  $\frac{1}{4}$ " hole in base plate through the depression provided.

6.13 Select a location for the wall humidistat. The humidistat must be located on an inside wall, away from register discharges. Also, avoid sources of heat, cold or extreme humidity variation; i.e. bathrooms, kitchens, basements.

6.14 The humidistat should be mounted at approximately the same height as the thermostat and you may wish to install the humidistat right next to the thermostat.

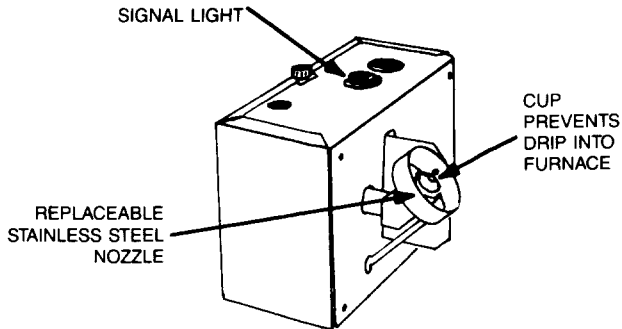
6.15 Cut two lengths of low voltage wire, not supplied, that will easily reach from the humidistat to the humidifier and easily reach from the 24 volt transformer to the humidifier.

6.16 Strip the plastic insulation  $\frac{1}{4}$ " to expose the copper conductor on both wires. (Four (4) wires, eight (8) ends.)

6.17 Route the wire you cut to reach the humidistat, through an access hole you make in the wall, to the humidifier. Seal the hole in the wall to eliminate false readings caused by drafts.

6.18 Route the wires through the drilled  $\frac{1}{4}$ " hole and attach one wire to each terminal. See wiring diagram.

6.19 Mount the humidistat base plate to the wall with the long dimension horizontal and the control knob on the right side. Two 1" self tapping screws are provided.



3.20 It may be desirable to install a  $\frac{3}{16}$ -inch I.D. tubing on the copper humidifier drain and run to a waste drain. When water flows through the copper drain continuously, the nozzle or the solenoid valve needs attention. An occasional drip from the drain tube when the humidifier is operating is normal.

3.21 Attach humidifier with four #8 sheet metal screws.

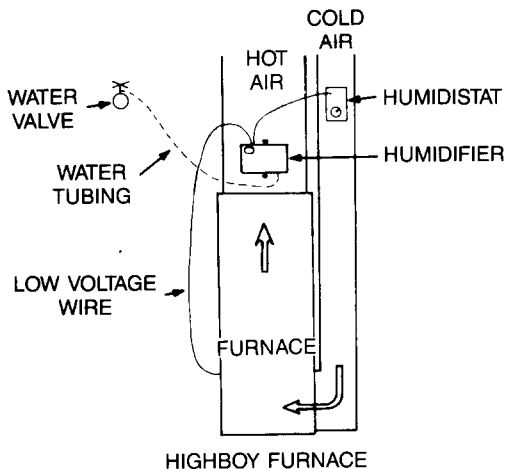
## PLUMBING

5.10 Select the nearest cold water pipe and install saddle connector and needle valve supplied with this unit. Mount valve so water will come from top or side. This will reduce the chance of minerals, etc., from clogging the valve. It is a self-piercing unit when installed on copper pipe. Follow the instructions supplied with the valve.

### Use Copper Tubing Only

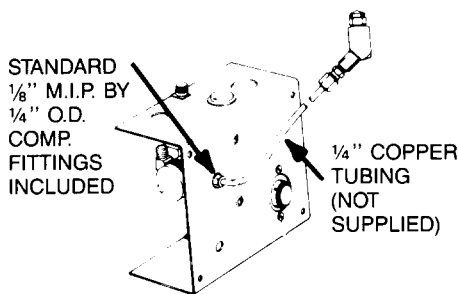
#### 5.11 Compression Plumbing Tips

- Lightly clean the tubing ends with fine sandpaper before making connections.
- Make sure tubing is fully inserted into fitting before tightening compression nut.



3.12 The humidifier must be mounted on the hot air plenum with the nozzle pointing up in the direction of air flow. On narrow plenums, mount humidifier on the narrow side.

3.13 If there is not sufficient room then it can be mounted further downstream, away from the heating/cooling coil.



3.14 If it is necessary to mount the spray nozzle further away from the humidifier, remove the nozzle adapter and 45° fitting from solenoid valve. Use fittings supplied in parts bag to relocate nozzle with 1/4" copper tubing (not supplied).

3.15 **CAUTION:** Do not allow copper tubing to come into contact with any sharp edges or surfaces that may cause wear on the tubing.

3.16 Tape template on warm air plenum in location selected for mounting humidifier. The template should be mounted level so the humidifier will be level when installed.

3.17 **DANGER: Make sure you are not cutting or drilling into any air conditioning or electrical accessories during installation.** Center punch and drill four 7/64" mounting holes.

3.18 Drill a 3/8" hole within the center portion of the template and cut rectangular opening, as instructed on mounting template.

3.19 Install drain cup over nozzle and attach with #6 x 3/8" sheet metal screw.