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# AUTOFLO 300A Owner's Manual

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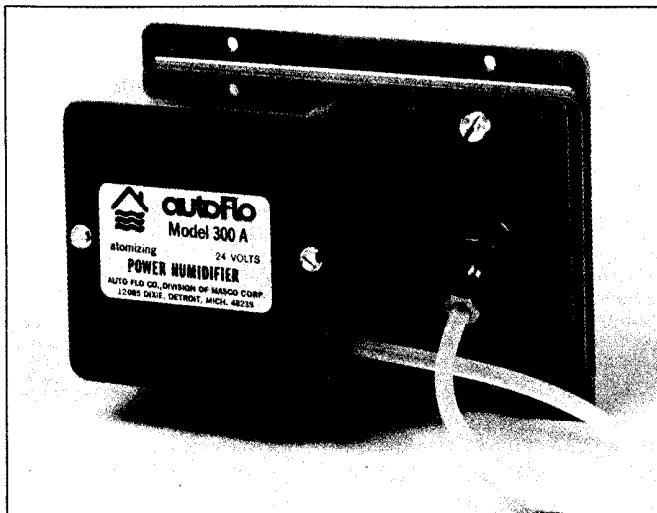


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# Installation & Maintenance Instructions

## AUTOFLO MODELS 300A and 300B Atomizing Humidifier



### OPERATION

The Model 300 is an atomizing power humidifier using a specially designed spray nozzle to produce a finely divided mist of water. The Model 300 is supplied in two versions, the Model 300A, a 24 vac unit, and the Model 300B, a 120 vac unit.

The warm air in the furnace plenum instantly evaporates the fine water mist. The built-in electric solenoid valve controls the flow of water to the spray nozzle. A thermostat switch controls the solenoid valve so that the furnace must be on and up to heating temperature for humidifier operation.

### WHAT IS RELATIVE HUMIDITY

Humidity level both inside and outside your home is expressed by the term "Relative Humidity". Relative humidity is the percentage (%) of water vapor within the air, compared to the total amount of water vapor the air is capable of absorbing. As an example, 50% relative humidity means that the air is holding half of the moisture that it is capable of absorbing at the present temperature. At one extreme is 100% relative humidity. If this condition exists outdoors and condensation occurs, it is raining.

Warm air is capable of absorbing much more water vapor than cold air. When cold air is heated by your furnace it does not necessarily lose moisture. This may cause you to ask why air with a high relative humidity outdoors feels dry indoors after it is heated. This is because the warmer air can now hold much more moisture than it could when it was cold air. Consequently, the relative humidity may have dropped to an uncomfortably low level. Refer to the "Relative Humidity Chart" to determine the effects on relative humidity when air is heated to 72 degrees F.

The installation of an AutoFlo Humidifier will allow you to add moisture to heated air, thereby increasing its relative humidity.

# RELATIVE HUMIDITY CHART

Outside Temperatures	Outside Relative Humidity	Inside Humidity When Outside Air Is Heated To 72 Degrees F	Maximum Safe Recommended Indoor Relative Humidity
-10 Deg. F	40%	1%	20%
	60%	2%	
	80%	2%	
0 Deg. F	40%	2%	25%
	60%	2%	
	80%	5%	
10 Deg. F	40%	4%	30%
	60%	5%	
	80%	7%	
20 Deg. F	40%	6%	35%
	60%	8%	
	80%	11%	
30 Deg. F	40%	8%	35%
	60%	13%	
	80%	17%	

## MODEL 300 HUMIDIFIER

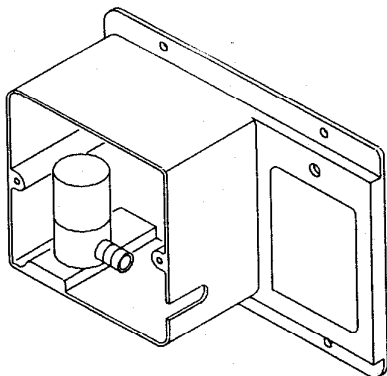


FIG. 1. CONTROL BOX

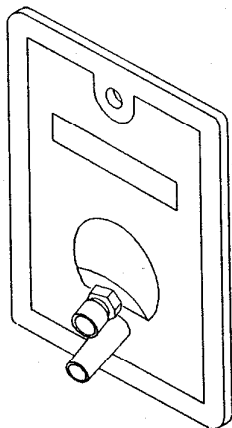


FIG. 2. NOZZLE

## GENERAL INFORMATION

The standard nozzle (number .50) has a capacity (flow) of 0.5 gallons of water per hour rated at 40 psi water pressure. The capacity will vary for different water pressures as shown in Table 1. Other nozzle sizes are available from your dealer.

If the water pressure in your area is excessive, a

pressure regulator valve may be required to control the proper volume of moisture.

The humidifier control box should always be mounted in the furnace hot air plenum where the thermostat switch can sense the hot air stream. When selecting a location for the humidifier nozzle, make certain the spray will not impinge on the furnace fan or limit controls or any air conditioning coils. A location should be selected as far below the top of the plenum as possible to prevent impingement on top of the duct.

The humidifier is normally mounted with the nozzle and nozzle mounting plate located integral to the control box. However, the nozzle may be mounted remotely from the control box at any location.

## MOUNTING

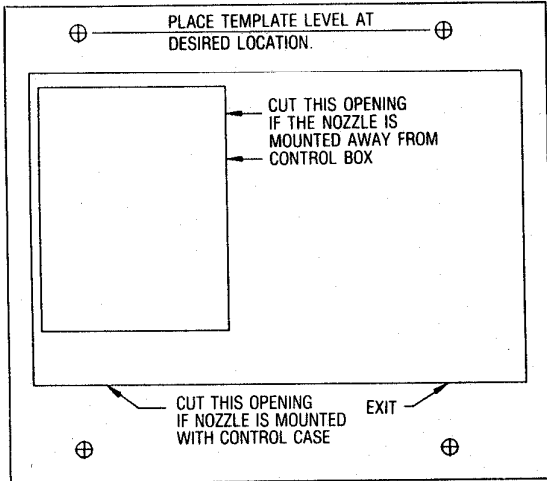
### INTEGRAL MOUNTING

1. Tape the Control Box Mounting Template, Part No. 317C, on to the warm air plenum, taking care to level the template where indicated. The Nozzle Mounting Template, Part No. 317D is not used and may be discarded.
2. Cut out the large rectangle opening and drill the four (4) 1/8" holes.
3. Knock out the 2" x 2 3/4" plastic panel on the right hand side of the control box.
4. Install the "U" nut over the plastic flange around the 1/4" hole at the top of the knock-out area and install the nozzle to the control box.

### REMOTE NOZZLE MOUNTING

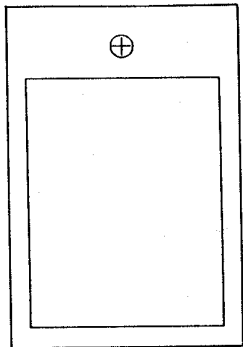
1. Tape the Mounting Template, Part No. 317C, on to the warm air plenum, taking care to level the template where indicated.
2. Cut out the round 1 1/2" hole, and drill the four (4) 1/8" holes.

3. Mount the control box with four (4) sheet metal screws.
4. Tape the Nozzle Mounting Template, Part No. 371D, at the desired location for the nozzle.
5. Cut out the 2" x 2 3/4" opening and drill the 1/4" hole.
6. Install the "U" nut over the sheet metal plenum around the 1/4" hole drilled in the above step.
7. Install the nozzle into the plenum opening.



**FIG. 3. CONTROL TEMPLATE**

### PLUMBING



**FIG. 4. NOZZLE TEMPLATE**

Select the nearest cold water pipe and install the saddle valve. Install using the instructions printed on the bag containing the Saddle Valve Assembly and parts.

If the Model 300 has been installed with the nozzle mounted remotely, cut a piece of the 1/4" plastic tubing long enough to reach from the right hand side of the solenoid valve, mounted inside the control box, and the nozzle connection. If the Model 300 was mounted as an "integral" assembly, cut a 1" piece of 1/4" tubing and connect the right hand side of the solenoid valve to the nozzle.

Use the remaining 1/4" plastic tubing to connect the saddle valve and the left hand side of the solenoid valve.

1/4" plastic tubing should be installed in the humidifier drain by forcing the tubing into the nozzle drain outlet, just below the water inlet connection. Route the drain tubing to a suitable drain.

If water continuously flows through the drain, the solenoid valve needs servicing.

### WIRING

Note: All wiring must comply with local codes, ordinances and regulations.

The Model 300 Atomizing Humidifier is supplied in two operating voltages, the Model 300A, a 24 vac unit, and the Model 300B, a 120 vac unit.

#### WIRING THE 24 VAC UNIT

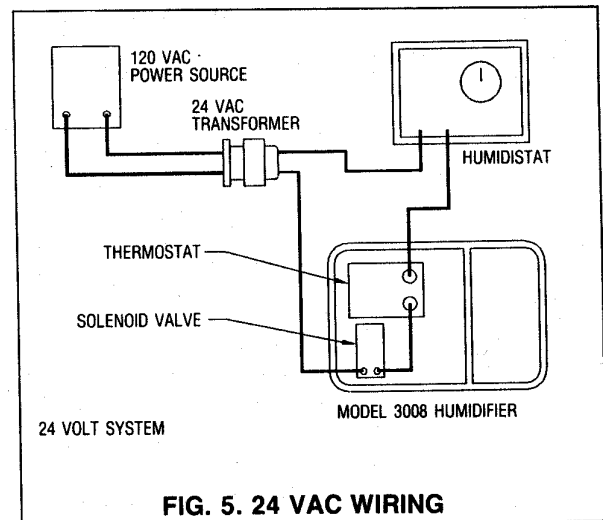
A 24 vac transformer is required for use with the Model 300A. A humidistat, such as the AutoFlo Model 062000 or Model 052000, will also be required.

The system must be wired in accordance with the 24 vac wiring diagram, Figure 5.

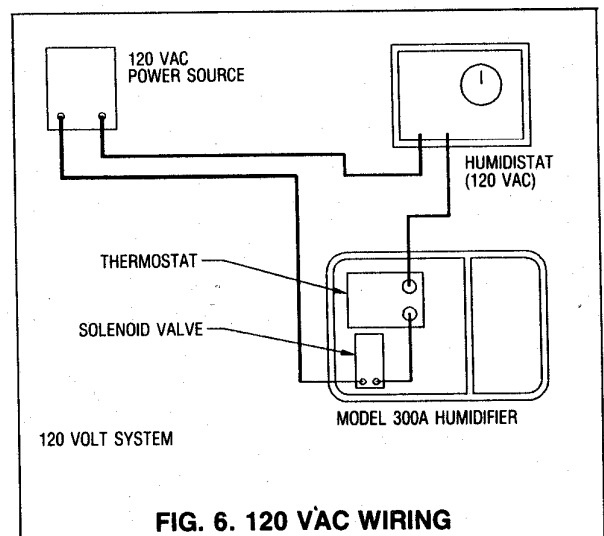
#### WIRING THE 120 VAC UNIT

A humidistat, rated for use on 120 vac circuits, such as the AutoFlo Model 052000, must be used.

The system must be wired in accordance with the 120 vac wiring diagram, Figure 6.



**FIG. 5. 24 VAC WIRING**



**FIG. 6. 120 VAC WIRING**

### Nozzle Capacity in GPH at Various Water Pressures

NOZZLE	40 PSI	60 PSI	80 PSI	100 PSI	125 PSI
0.37	0.37	0.45	0.55	0.60	0.70
0.50	0.50	0.60	0.70	0.80	0.85
0.75	0.75	0.89	1.10	1.20	1.40
1.00	1.00	1.20	1.40	1.60	1.70
1.50	1.50	1.80	2.10	2.40	2.70
2.00	2.00	2.50	2.80	3.20	3.50

TABLE 1

### INITIAL CHECK OUT

1. Open the saddle tapping valve and check for water leaks at the saddle valve connections and the Model 300 solenoid valve.
2. Turn the humidistat to its maximum position.
3. Set the furnace thermostat to a position high enough to start the heating cycle.
4. Allow enough time for the furnace blower to come on and then about one minute for the Model 300 thermostat to "sense" the heat and energize the solenoid valve. The Model 300 thermostat switches on at about 120 degrees Fahrenheit.
5. Check for leaks at the Model 300 solenoid valve and at the nozzle connection.
6. Check for other condensation or leaking around the cold water supply pipe at the saddle valve and around the Model 300 control box and nozzle assembly.

7. Set the furnace thermostat to its lowest setting, allowing the furnace to shut off. After about one minute the Model 300 solenoid valve will de-energize stopping the flow of water to the nozzle. A few drops of water may be present at the drain opening on the nozzle assembly, this is normal.
8. If dripping continues from the nozzle drain fitting, the solenoid valve needs servicing.

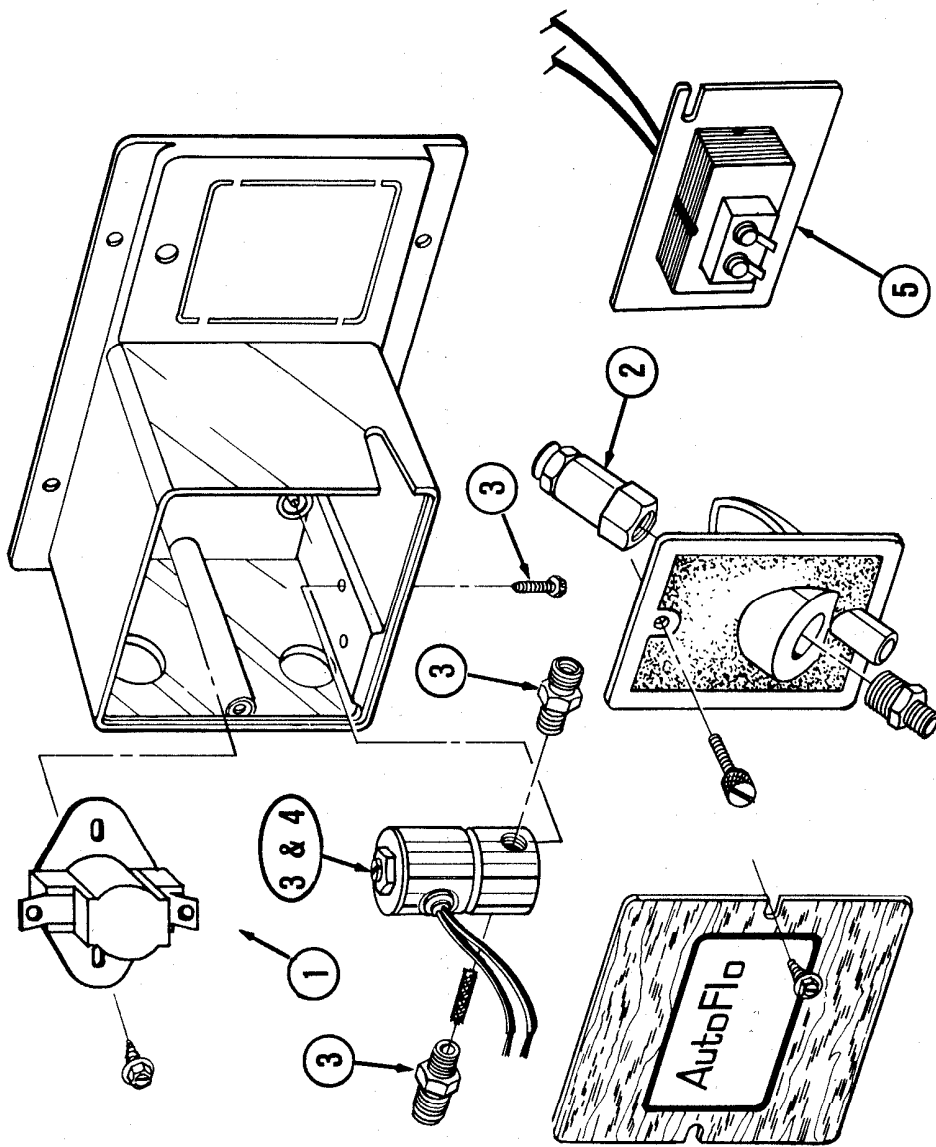
### OPERATION AND MAINTENANCE

1. In a home that has little or no humidity, a new humidifier will tend to operate almost continuously to obtain the desired relative humidity level. This occurs as furniture, woodwork, carpeting and plaster absorb the moisture to an equilibrium value. This can take several weeks.
2. If the mineral content of the water in the home is high, a white dust may occur in the duct distribution system and living area. This does not interfere with the operation of the humidifier.
3. It is suggested that the spray nozzle be replaced at the start of each heating season to insure trouble free operation of your Model 300 Humidifier.
4. The inlet water strainer, located in the solenoid valve water inlet side, should be cleaned each season. Turn off the water at the saddle tapping valve and disconnect the water line at the Model 300 control box solenoid valve. The strainer may be removed with small needle nose pliers.
5. After each heating season turn off the water and electric power to the Model 300 humidifier.

**autoflo®**

# MODEL 300

Item #	Qty.	Description	Part #
1	1	Thermostat Switch Assembly Consists of: 1 - Thermostat 2 - Screws	1810
2	1	5 GPH Nozzle, Tip & Strainer	328
3	1	24V Solenoid Assembly (300A) Consists of: 1 - Valve/24 Volt 2 - Fittings 1 - Screen 2 - Screws	312024
4	1	120V Solenoid Assembly (300B) Consists of: Same as #3 - 312024 (above) except 1 valve/120 Volt Transformer (300A)	319120
5	1		20022



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300AB-PB 402004