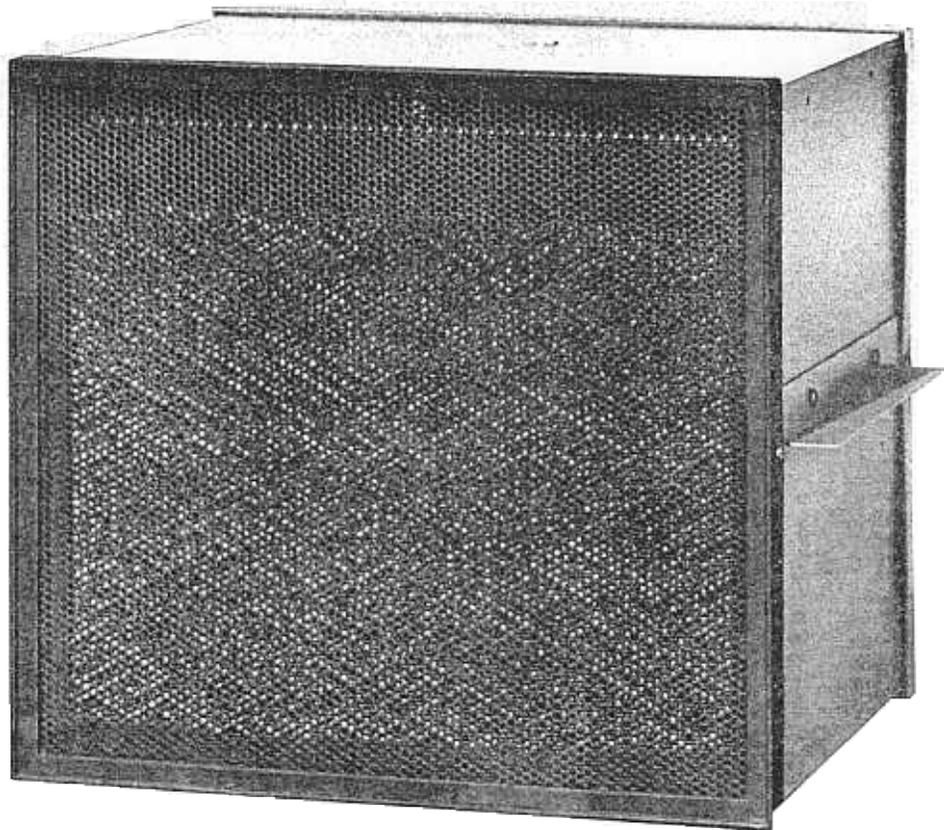


# Installation Manual

# Aprilaire<sup>®</sup> HUMIDIFIERS Model **350**



# Precautions

1. Humidifier must be installed in area with air temperatures at 65°F or above.
2. The duct system and supply grille must be on an inside wall.
3. Follow all state and local codes regarding air distribution systems.
4. Follow all state and local codes regarding electrical wiring.
5. Maximum water temperature 140°F at unit.
6. Condensation damage can occur in unheated locations where temperatures are at a colder level than the balance of the contained space.
7. If the humidifier is installed in a utility room that has any gas or oil-fired equipment, or fumes, the unit must have a return and supply duct.
8. Avoid obstructions such as plumbing or electrical wires when cutting into walls.

# Location

## 1. Unit

The Model 350 must be installed in an area with a minimum air temperature (ambient or intake) of 65°F. This eliminates unheated garages, attics, or crawl space installations. Locate the unit close to the drain. Provisions should be made for unit maintenance and service.

## 2. Discharge Grille

Any of the following types of air outlets may be used:

Make	Type	Model No.
Hart & Cooley	Grille	650H
Hart & Cooley	Grille	740
Hart & Cooley	Diffuser	474
U.S. Register	Grille	715, 177, 377
U.S. Register	Diffuser	2048
Lima	Grille	Series 20 & 10 FG
Lima	Grille	Series 15 H, 18 H
Lima	Diffuser	77-78

It is possible to substitute other return grilles or baseboard diffusers for those listed above if the free area is at least 50 square inches.

The grille or baseboard diffuser must be on an inside wall. If installed on an outside wall, condensation may result. The air temperature at the grille or baseboard will be approximately 2°F to 5°F cooler than the intake air; therefore, the grille should not be directed at furniture or occupants. A central hallway is recommended.

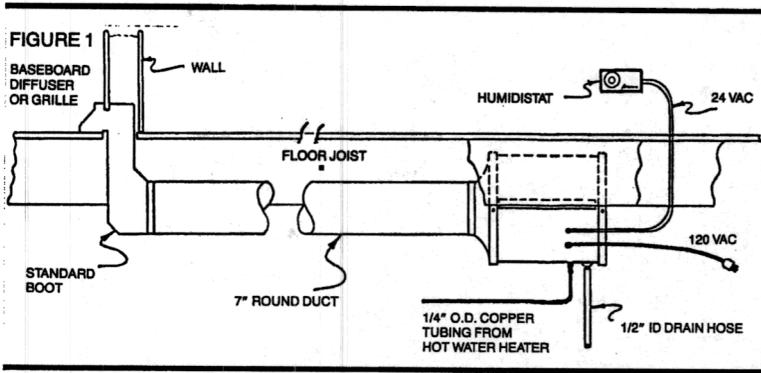
# Mounting

(See Figures 1, 2, 3 and 4)

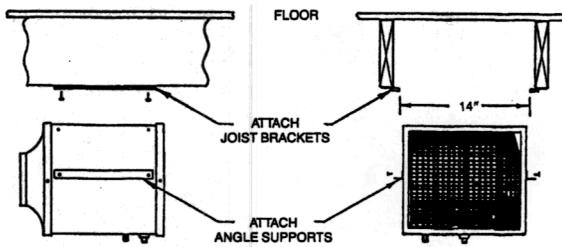
The Model 350 is meant to be suspended from the floor joists. A typical complete installation is shown in Figure 1.

To install parallel to joist, attach the angle supports to the middle holes in the housing with the sheet metal screws provided. Attach the joist brackets in a parallel manner so the bracket edges are approximately 14 inches apart, as shown in Figure 2, with wood screws provided. After the joist brackets are secured, lift the humidifier so the angle supports rest inside the brackets, as shown in Figure 4. After the humidifier is hung, check level of housing and shim the joist brackets, as necessary.

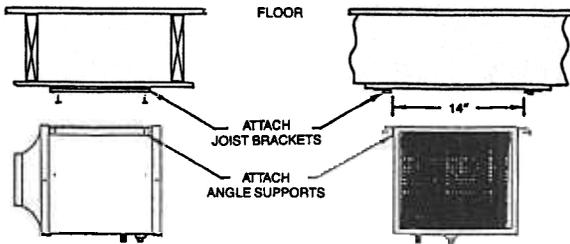
If this is a finished ceiling, or you wish to install humidifier perpendicular to the joists, attach the angle supports to the top holes in the housing. Attach the joist brackets in a parallel manner, so that bracket edges are approximately 14 inches apart, as shown in Figure 3, with wood screws provided. After the joist brackets are secured, lift the humidifier so the angle supports rest inside the brackets.



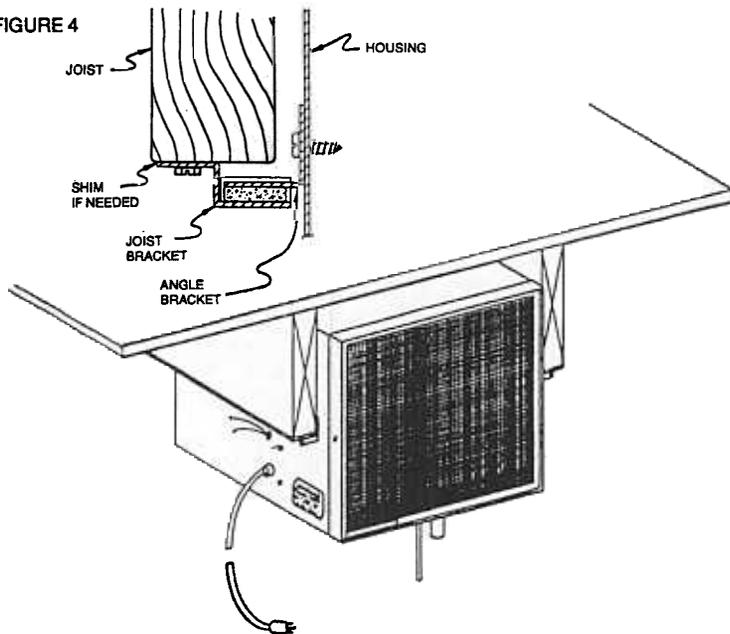
**FIGURE 2**



**FIGURE 3**



**FIGURE 4**



## Air Distribution

Check all state and local codes and proper design regarding air distribution systems. If the Model 350 is installed in a utility room that has any gas or oil-fired vented equipment, a return duct system must be used.

The Model No. 350 has the capacity to deliver 150 cfm against 0.070 inches of water gauge external resistance. (equivalent to 80 feet of 7" round rigid metal duct.)

Provision should be made for air circulation back to the unit. Where doors are normally closed, the door should have a 1/2" minimum undercut or have a grille installed for proper air circulation. In order to assure quiet operation, it is advisable to use 7" I.D. round fiberglass duct.

## Plumbing

Heat for evaporation is obtained from service hot water. Maximum water temperature to the humidifier should be 140°F. It will be necessary to blend hot and cold water whenever water temperature exceeds 140°F. (Tankless domestic water systems may have water temperatures in excess of 140°F.)

Some water heaters do not recover as rapidly as others. Therefore, be sure that the water heater has sufficient capacity and recovery rate to supply a minimum of 6 gallons per hour of 140°F hot water to the humidifier.

Tap off the hot water line at the water heater using the saddle valve provided and 1/4" copper tubing (not furnished). The 1/4" copper tubing is connected to the inlet fitting under the unit. Remove the grille and Water Panel Assembly. Double wrench when making this connection.

Use 1/2" I.D. or larger plastic hose to carry the flushing water from unit to drain.

**DO NOT SWEAT OR OTHERWISE DIRECTLY ATTACHED METAL DRAIN LINE TO DRAIN FITTING. DO NOT USE SOLVENT TYPE ADHESIVES WHEN CONNECTING THE PLASTIC DRAIN HOSE TO THE PLASTIC DRAIN FITTING. DAMAGE TO THE DRAIN FITTING WILL RESULT. BE SURE DRAIN LINE HAS AN ADEQUATE SLOPE TO FLOOR DRAIN.**

# Wiring (See Figure 5)

## 1. Power

The Model 350 is prewired internally and equipped with a 120 VAC cord and plug.

## 2. Humidity Control

The Aprilaire humidistat (Part No. 4016) 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 of the humidifier. A decrease in relative humidity reverses the process and closes the control switch.

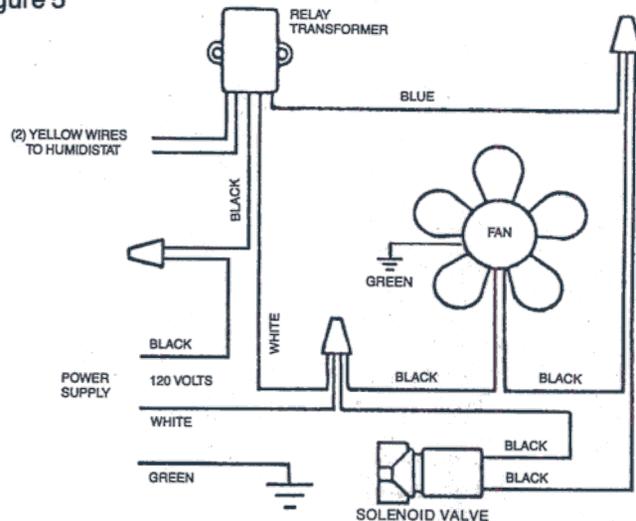
## LOCATION

1. Locate on inside wall of living area approximately 5' above floor, or in the furnace return air plenum or duct.
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 room occupants.
4. The basic rules for location of thermostats also apply to humidistats.

## GENERAL INSTRUCTIONS

1. DO NOT ATTEMPT TO REPAIR OR RECALIBRATE CONTROL. Controls requiring service should be returned to RESEARCH PRODUCTS CORPORATION, Poynette, WI 53955.
2. Control must be installed using 24 volts!
3. Make sure no bare wires are exposed or insulation damaged. Insulation on wire should extend to head of binding screws

Figure 5



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.

## Check Unit Operation

1. Open saddle valve wide and plug in power cord.
2. Advance humidistat to call for humidity and check for waterflow out the drain.
3. Reduce humidistat to recommended level.



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