

# Installation Instructions

905D

Series D

POWER HUMIDIFIER

bryant

Cancels: 39905D1 Rev 4

39905D4  
4/15/73

## INTRODUCTION

The Bryant Model 905D Duct Humidifier is shipped complete and ready for mounting to the supply air duct of the heating unit. The humidifier is connected electrically to the heating unit blower circuit and operates only when the blower is running on heating cycles. The water supply connects to the float-valve assembly, mounted in the upper front corner of the humidifier pan. The waterflow is automatically controlled by the float.

We recommend the use of a humidistat with the Model 905D because of its high humidification capacity.

The Bryant Humidifier includes the following:

- Disc assembly
  - Drive motor
  - Water pan
  - Water valve and float assembly
  - Sight window
  - Drain plug
  - Paper template
  - Parts bag containing: power supply cord, latches, mounting bracket, and saddle valve assembly.
- IMPORTANT:** Read before installing.

1. Check local codes and ordinances for requirements.
2. Check power supply to be sure it corresponds to that specified on the rating plate (115-60-1).

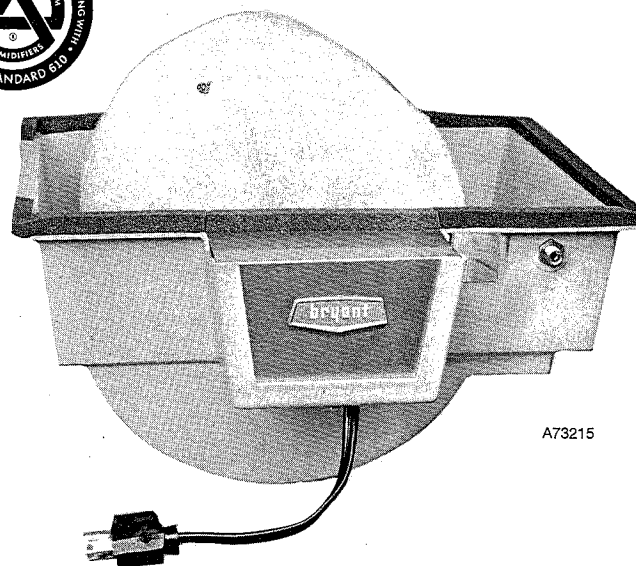
Installation of the Model 905D Humidifier comprises the following steps (sections):

- I. Locating the Unit
- II. Mounting the Unit
- III. Connecting Water Supply
- IV. Connecting Electrical Supply
- V. Start-up and Adjustment
- VI. Service and Maintenance

## I. LOCATING THE UNIT

The unit should be located on a supply air duct having a minimum width of 12 inches. For best operation, locate unit where air is evenly distributed in the duct. The duct should be level, within 1/4 inch per foot at the point of installation.

**NOTE:** The minimum size duct on which the humidifier can be mounted is 8 inches high by 12 inches wide. Bryant's Model 905D Humidifier is designed for indoor installation only.



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Figure 1—Model 905D Power Humidifier

## II. MOUNTING THE UNIT

1. Tape paper template to duct at desired location; proceed to cut opening and drill holes per instructions printed on template.
2. Install mounting bracket and latches. See Figure 3.
3. Slide humidifier pan rim, one without foam tape, into mounting bracket. Lift unit into place and turn latches so they catch rim of humidifier.
4. Check for air leaks. Use stiffeners around duct opening to straighten duct if necessary.

## III. CONNECTING WATER SUPPLY

**NOTE:** Unsoftened water is recommended.

1. Tap off nearest cold water line with self-piercing saddle valve provided. Follow directions on packet for installing saddle valve.
2. For connecting main water supply to humidifier pan, use Bryant's optional tubing kit P/N 65193D01 (instruction included in kit). In a few cases, because of local codes, it may be necessary to use 1/4-inch copper tubing rather than plastic tube supplied in Bryant tubing kit. Tubing line should be purged with water before connecting to float-valve assembly.
3. A drain line can be connected to 1/2-inch OD outlet located in right-hand corner of humidifier pan when facing humidifier motor. Run line to an open drain.

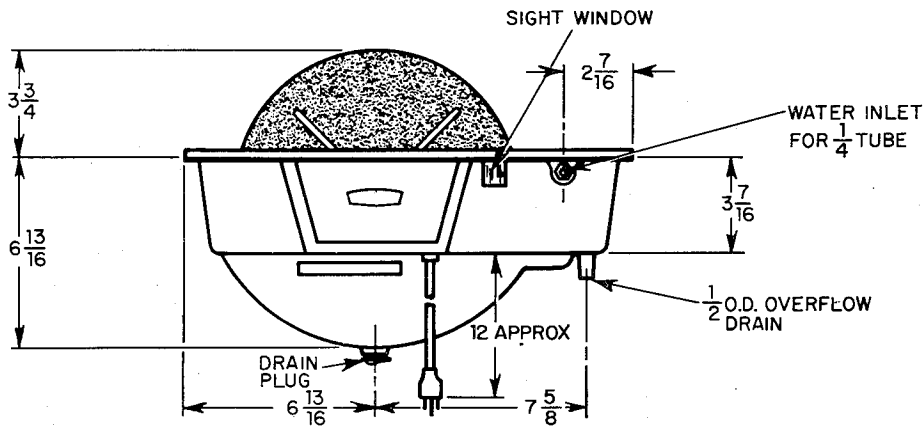
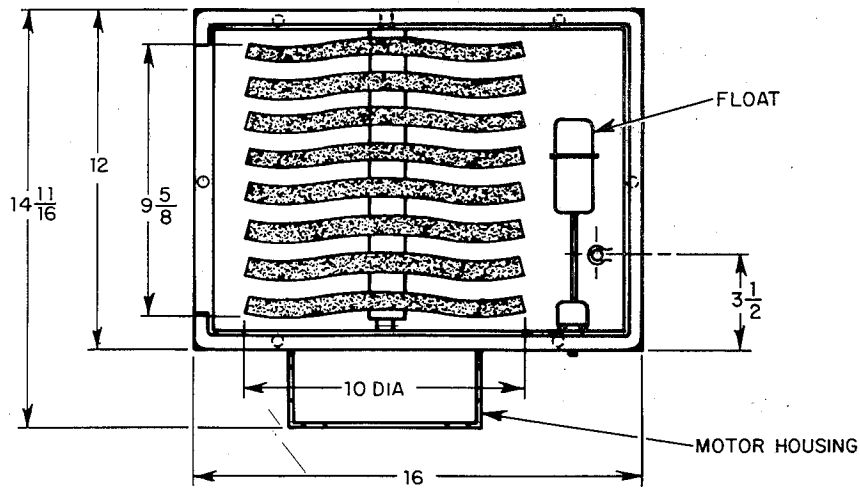


Figure 2—Dimensional Drawing

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Table I—Ratings and Performance

MODEL	905D
Electrical	
Voltage-Freq-Phase	115-60-1
Performance & Physical Data	
Evaporative Rate*	5.2 lbs/hr
Plenum Cutout Dimensions	10-7/8 x 12
Water Supply Line	1/4-in. tube
Overflow Drain Connection	1/2-in.

\*Rated in accordance with A.R.I. Standard 610-70.

#### IV. ELECTRICAL CONNECTIONS

Make all electrical connections in accordance with National Electric Code and any local codes or ordinances that may apply.

If aluminum conductors are used, the wire size selected must have a current carrying capacity not less than that of the copper wire specified and must not create a voltage drop between the service panel and the unit in excess of 2% of the unit rated voltage. As a

minimum, aluminum wire must be treated to prevent oxidation, with electric power turned off. Recheck all electrical connections (both factory and field) for tightness. Be sure to check power supply connections, especially if aluminum conductors are used.

Wire the service cord furnished in the parts bag in parallel with the heating unit fan motor as shown in the appropriate diagram. See Figures 4, 5, 6, or 7.

## V. START-UP AND ADJUSTMENT

1. Open saddle valve to permit water to flow into humidifier pan. Make sure all connections are tight and there are no water leaks. Check drain plug; if necessary, tighten plug by turning handle clockwise.
2. Allow humidifier pan to fill. As water approaches top of overflow tube, make sure float-valve closes, stopping water flow 1/2 to 3/4 inch below top of overflow.
3. Plug humidifier motor cord into service cord.
4. Start heating unit. When heating unit blower starts, look through sight glass to see if disc assembly is rotating. If humidistat is used, circuit must be made through it.
5. Stop heating unit. When blower stops, look through sight glass to be sure disc assembly stops.
6. If installation includes cooling, start cooling unit. When blower motor of heating unit starts, look through sight glass to be sure disc assembly is NOT rotating.
7. Leave these instructions with homeowner.

## VI. MAINTENANCE

Each spring the humidifier pan should be removed and cleaned.

1. Disconnect humidifier service cord.
2. Turn off water supply to humidifier.
3. Hold bucket under humidifier pan; remove drain plug and empty water from humidifier into bucket (approximately 2 gallons).
4. Disconnect water supply line from humidifier.
5. Turn latches 1/4 turn and remove humidifier.
6. Remove disc assembly by lifting end of shaft opposite motor and pulling away from motor at same time. Replace disc assembly when space between discs is less than 1/4 inch, and solids cannot be easily removed. (When discs are plugged, airflow is not necessarily reduced—only when the space between the discs is clogged enough to restrict airflow.)
7. Clean humidifier pan before reassembling.
8. Reverse procedure outlined in Steps 1-6 for reassembling. However, if installation includes cooling, do not turn on water supply to humidifier (Step 2) until start of heating season.

**NOTE:** During the heating season, humidifier pan should be drained and flushed once a month.



Figure 3—Installing Humidifier

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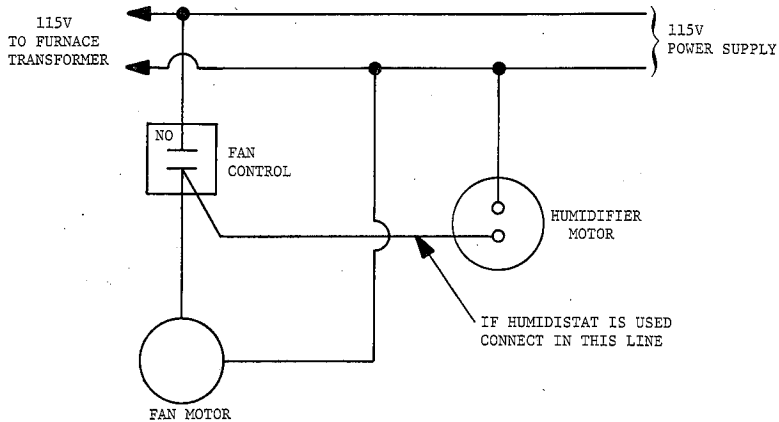


Figure 4—Heating Only 115-Volt Single-Speed Motor

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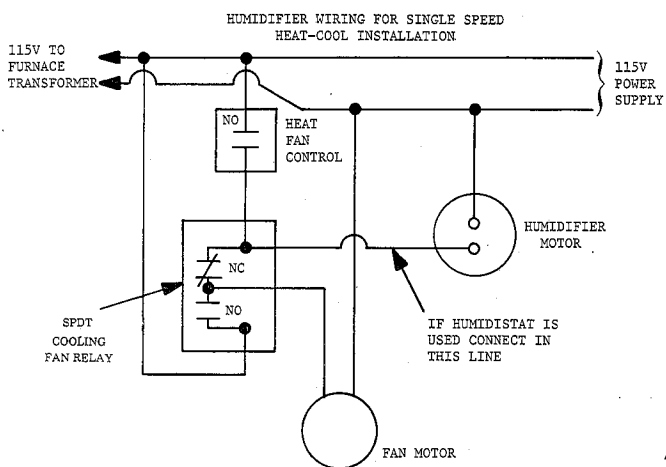


Figure 5—Heating and Cooling 115-Volt Single-Speed Motor

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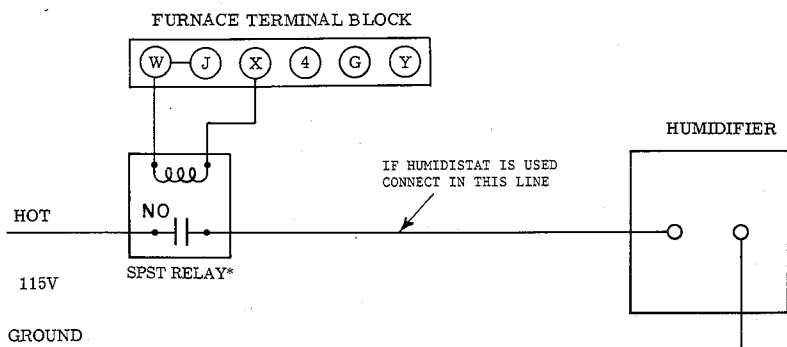


Figure 6—Heating and Cooling 115-Volt Multi-Speed Motor

\*ADD AMP DRAW OF RELAY TO THE THERMOSTAT SETTING

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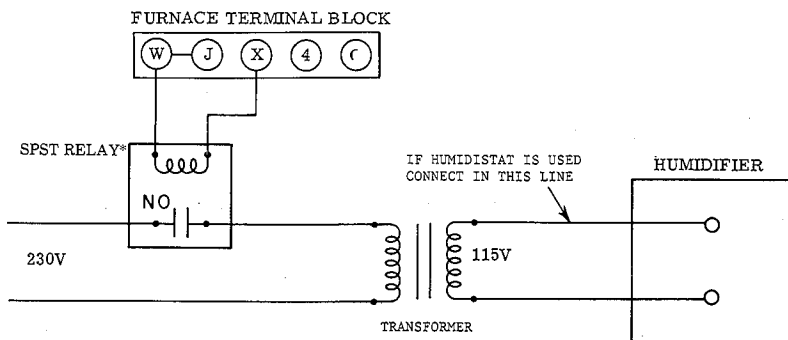


Figure 7—Wiring for 230-Volt Installation

\*ADD AMP DRAW OF RELAY TO THE THERMOSTAT SETTING

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