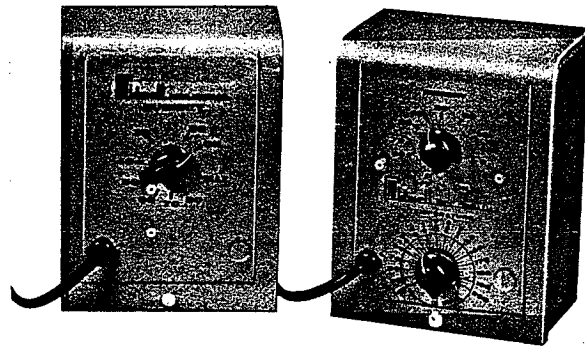


Part No.	703629
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# INSTALLATION AND OPERATION MANUAL FOR HUMIDISTAT AND THERMOSTAT CONTROLS



THIS MANUAL IS FOR THE INSTALLATION, OPERATION, AND MAINTENANCE OF ALL CALDWELL HUMIDISTAT AND THERMOSTAT CONTROLS.

## NOTICE

READ MANUAL THOROUGHLY BEFORE INSTALLING OR OPERATING THE HUMIDISTAT OR THERMOSTAT CONTROL. KEEP THIS MANUAL IN A LOCATION FOR QUICK ACCESS AND REFERENCE.



A DIVISION OF CHIEF INDUSTRIES, INC.

**MANUFACTURING COMPANY**

Post Office Box 338  
Kearney, Nebraska 68848

Phone

1-800-228-8833

In Nebraska Call 1-308-237-3186

CALDWELL HUMIDISTAT AND THERMOSTAT CONTROL  
INSTALLATION AND OPERATING MANUAL

Packing List

<u>Control Unit</u>	<u>Part Description</u>	<u>Qty.</u>
Humidistat-Thermostat	Humidistat-Thermostat Control	1
	Bolt Bag	1
	Manual	1
Thermostat	Thermostat Control	1
	Bolt Bag	1
	Manual	1
Humidistat-Hair	Hair Humidistat Control	1
	Bolt Bag	1
	Manual	1
Humidistat-Nylon	Nylon Humidistat Control	1
	Bolt Bag	1
	Manual	1

**WARNING - WARRANTY VOID IF CONTROLS ARE TAMPERED WITH**

**INSTALLATION INSTRUCTIONS**

Installation typical on all Caldwell Humidistat and Thermostat Controls. Units are designed to allow mounting to bin wall thus eliminating need for transition door or cutting hole in bin wall.

1. Approximately two (2) to three (3) feet from edge of transition and approximately half way between ground level and drying floor, locate a point on outside of bin wall. (Figure 1) Location point may be varied to allow clean air flow to control. Do not have control located such that substructure will block air movement to control.

**NOTE:** When two heaters are used on a drying installation, a dual control kit should be used. The dual control kit allows the operation of both heaters through one humidistat or thermostat sensing control, located between the two heater units.

2. Remove lid from control. Use control box as drilling jig and drill two 11/64" holes for mounting the control box. On the same hill of the corrugation drill two 5/8" diameter holes as shown on Figure 2 of this installation instruction.
3. Use the sheet metal screws furnished for mounting control. Be sure rubber grommets are centered over 5/8" diameter holes to allow clear air flow.

4. Thermostat Controls - After mounting of control is complete, place heat sensor bulb through one of the grommets into the bin. NOTE: Be careful not to break or kink the capillary tube when installing sensor bulb. Replace control cover and unit is ready for operation.
5. The humidistat and/or thermostat is wired directly into the heater terminal block. Punch out the 5/8" knockout provided at the bottom of the control enclosure and secure the cord and strain relief bushing into the hole providing sufficient humidistat and/or thermostat cord in the control enclosure to wire to the terminal block. Remove the jumper wire connecting terminals 3 and 4 on the terminal block and connect the humidistat and/or thermostat cord to terminals 3 and 4. Thermostat and/or humidistat cord wires are interchangeable on terminals 3 and 4. Place the removed jumper wire in the bottom of the heater control box. (NOTE: Terminal numbering is from top to bottom.)

#### OPERATING INSTRUCTIONS

##### Humidistat Controls:

The use of the humidistat control is for low temperature drying. Set the humidistat at the desired setting (Recommend 50 - 60% R.H.) To obtain even drying, adjust the firing rate of the heater unit such that the humidistat maintains a constant humidity of the drying air. The heater should be set at a firing rate of approximately 2 psi gauge pressure for propane or 1 psi gauge pressure for natural gas, and then adjust at the regulator to obtain operation of the heater the majority of the time. The heater firing rate must be checked as humidity conditions change.

##### Thermostat Control:

Set the thermostat control to the desired temperature setting. Initially set the firing rate of the heater at 2 psi gauge pressure for propane or 1 psi gauge pressure for natural gas. To obtain even drying, adjust the firing rate at the regulator of the heater unit such that the thermostat is calling for heat at least 90% of the time. The heater firing rate must be checked as temperature conditions change.

##### Humidistat-Thermostat Control:

1. Humidistat drying: Set the thermostat at the lower temperature limit. This is the temperature which you want the heater unit to operate at, whether the humidistat is calling for heat or not. (Recommend 40 - 50 degrees F.) Set the humidistat and heater according to the Humidistat instructions above.

2. Thermostat Drying: Set the humidistat at 100% relative humidity. Then adjust the thermostat and heater controls according to the Thermostat instructions previously described.
3. Combination Drying: Set the humidistat and thermostat at the desired operating conditions. Then adjust the firing rate of the heater according to the humidistat and thermostat instructions. The heater will operate if either the air relative humidity is higher than the control setting or if the air temperature is lower than the control setting.

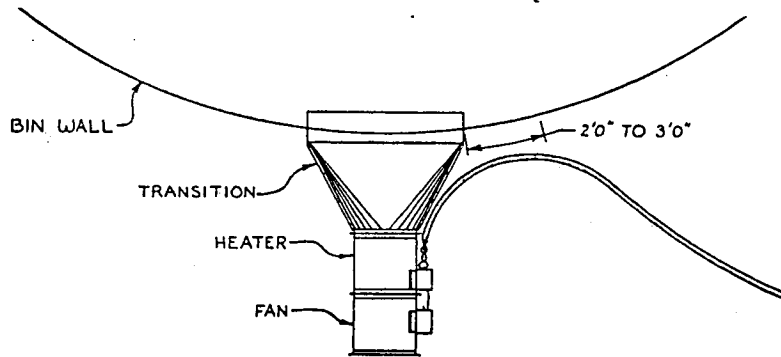


FIGURE 1. LOCATION OF HUMIDISTAT/THERMOSTAT CONTROL

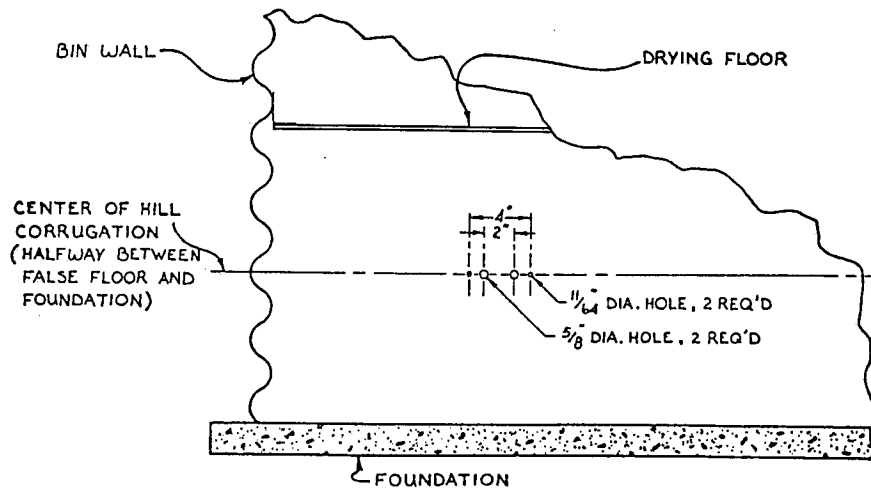


FIGURE 2. LOCATION OF MOUNTING HOLES FOR HUMIDISTAT/THERMOSTAT CONTROL