

# **TRION**<sup>®</sup>

Indoor Air Quality

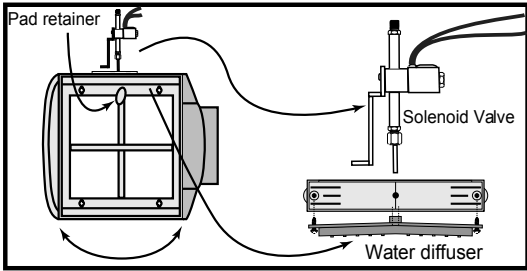


READ AND SAVE THESE INSTRUCTIONS

*UNIT NOT FOR COMMERCIAL USE*

**CM200**  
Flow-Thru Humidifier

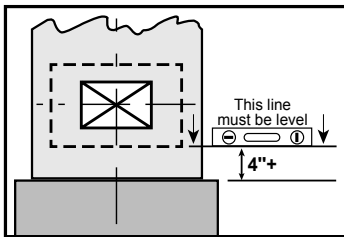
## Installation



### 1. Preparing the unit.

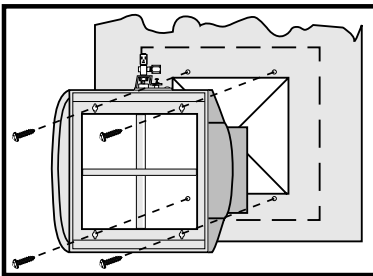
This unit is reversible. Although not mandatory, use on the hot air duct will improve performance. Find the best location and determine how the humidifier will be installed. Select the top. Install and fasten the water diffuser, the long plastic piece, with two screws #6 x 1/2" inside of the top part of the humidifier. Install the solenoid valve (mounted on a metal bracket) outside of the top of the humidifier. While supporting the water diffuser with one hand, insert the plastic tube protruding from the valve into the hole in the middle of the top part of the humidifier making sure that the plastic tubing is firmly seated in the hole of the water diffuser.

Fasten the valve assembly to the unit with screws # 6 x 1/2", using the two mounting pins towards the rear. Finally, install the plastic pad retainer by snapping it in the hole located in the middle of the humidifier frame.



### 2. Cutting the opening.

Draw a level line at four inches minimum above the furnace housing for clearance of the drain tube. Attach the template to the duct. Punch and drill the four corners for the opening and the four fastening holes with a 3/32" drill. Remove the template and complete the opening outline. Cut the opening in the plenum. Take care not to drill into air conditioning coils.

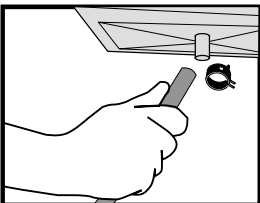
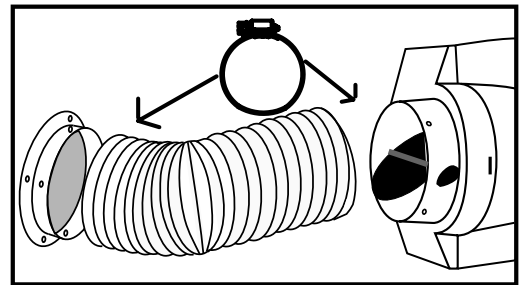


### 3. Installing the unit.

Install the unit in the opening. Use the four screws (#8 x 3/4") to attach the humidifier body to the duct. The ribs around the humidifier back opening must fit into the rectangular opening in the duct. Check that the humidifier body is level from side to side. Then fasten the unit completely.

### 4. Installing the collar and the flex duct.

Install the 6" duct collar in a convenient location on the opposite duct with four screws (#8 x 3/8"). Using the gear clamp provided, fit the flexible duct onto the collar and tighten gear clamp. Slide the damper assembly into the side opening of the humidifier until it snaps. Make sure to position the damper knob in front of the unit. Measure the required flex duct length to the duct collar so it does not sag. Cut the excess portion. Slide the flexible duct on the air take-off collar and secure it using the second gear clamp.



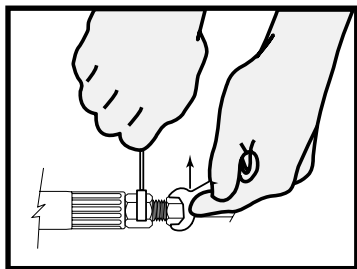
### 5. Installing the drain tube.

Select a convenient drain location for running the drain tube. Before you connect the tube to the drain fitting, slip the hose clamp over the tube. Push the drain tube (1/2" I.D.) over the drain fitting located at the bottom of the unit and secure it in place with the hose clamp. Make sure the tube has no bends and the water can flow easily in a straight manner to the drain without accumulating in the tube.

### 6. Installing the evaporator pad.

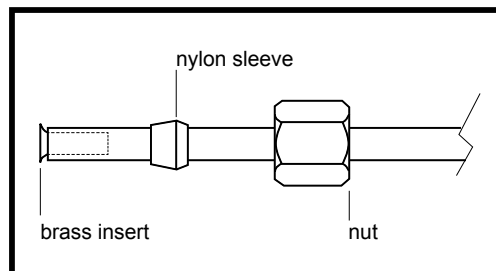
The pad is enclosed in a plastic frame having molded markings that clearly indicates the bottom. Slide the pad into the bottom part of the humidifier, the little bump at the top facing to you, then push the pad against the back opening of the humidifier. Lock the pad in place with the pad retainer.





## 7. Connecting the water supply tubing to the solenoid valve.

- Remove the plastic cap from the solenoid valve inlet port.
- Install the water supply tubing on the inlet which has a compression fitting to receive the supply tubing. Slip the brass compression nut onto the plastic supply tube, then the nylon sleeve with its most tapered end towards the end of the tube. Finally, install a



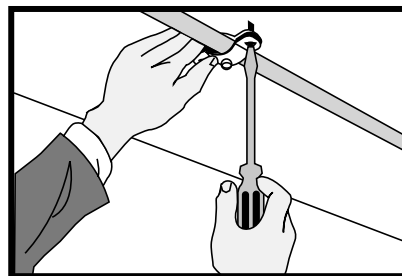
brass insert into the end of the plastic tubing.

- Push the supply tube fully into the brass compression fitting. Tighten the brass compression nut with small wrenches, without stripping, using the double wrench method in order to apply the torque on the fitting only.

## 8. Installing the water supply valve.

The water supply is taken from the nearest suitable cold, hot, softened or unsoftened water line. The use of service hot water (140°F / 60°C Max) improves the evaporative capacity.

- Install the other end of the supply tube and make the connection to the saddle valve installed on the copper supply pipe.
- Turn the valve handle completely clockwise until it stops. This will pierce the copper pipe and close the valve.
- This saddle valve is designed to be fully open or closed. Do not use it to adjust the water flow.

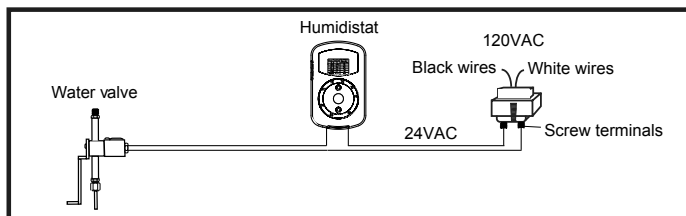


## 9. Installing the transformer.

The transformer supplied will support 120VAC maximum on the primary and supplies 24VAC output on the secondary. Do not connect the primary of the transformer on a furnace supplied with a different voltage.

Connect the transformer primary (white and black wires) to the relay activated when the furnace is in a heating cycle. Some furnaces have power terminals that can be used for accessories. Please refer to the furnace installation manual accordingly. **Warning:** Connecting the transformer in backwards or connecting the solenoid to the wrong side of the transformer will damage the solenoid. For safety, verify the transformer voltages are correct before connecting to the water solenoid and humidistat.

The secondary of the transformer provides 24VAC output and is connected with the two terminal screws. Please reference the connection diagram to the right. Per the diagram, connect one of the terminal screws to the secondary of the transformer to the supplied humidistat.



Then, wire the other humidistat connection to the water solenoid. Then, the final connection is connecting the second water solenoid wire back to the second terminal screw on the transformer secondary.

## 10. Installing the humidistat and final wiring.

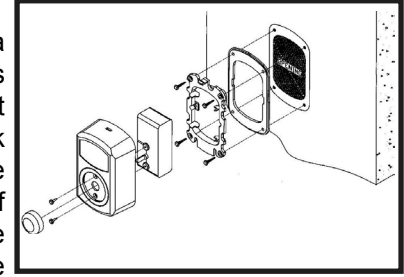
The humidistat should be installed on a flat and vertical surface of the RETURN duct. Attach the humidistat template on the return duct at 6 inches minimum from the humidifier top. Mark and drill the mounting holes and cut an opening for the humidistat. Push the two quick connectors on the humidistat terminals. Run the two humidistat wires through a little opening located at the bottom of the front panel. Install the humidistat in the opening and fasten it to the duct. The mechanism is exposed in the duct. Check that the metal of the duct neither touches the connections nor cuts the wire insulation. Complete the wiring of the humidistat according to the above diagram.

### Note for the contractor:

**Please ensure that customer receives the owner's manual.**

## 11. Humidifier Start-Up.

Open the saddle valve, put the furnace power back on and start the furnace in a heating cycle. Set the humidistat at the maximum setting. After a few ON/OFF cycles of the electric valve, you should see water flowing through the drain tube. Check that the water is evenly distributed by the water diffuser across the pad. Carefully check that both ends of the water supply tube are firmly held in place by their respective compression fitting. After peeling off the backing, affix the faceplate to the cover of the humidistat and re-install the control knob. Set the humidistat according to the recommended setting on the label. Check the system several times to make sure there is a free flow in the drain tube and there is no leak before leaving the installation unattended. When everything is working fine, affix the adhesive nameplate on the humidifier cover.



## Operation

### 1. Principal of Operation.

- This humidifier uses a vertical evaporator pad, wetted by a water flow. Warm air is by-passed from the warm air plenum and forced through the evaporator pad. Humid air is drawn back into the return duct.
- The pad is enclosed in a plastic frame with a marking that clearly indicates the bottom. It is designed to retain water before it is evaporated. The excess of water is sent to the drain.
- All flow-through humidifiers improve performance and evaporative capacities if they are used with constant blower operation and are connected to the service hot water (max 140°F).
- When the furnace is producing heat and the humidistat is calling for humidity, the solenoid valve opens allowing water to flow through the pad which is then evaporated in the system.

### 2. Adjusting the humidity level in your home.

- A relative humidity environment of 50% is recommended. Please refer to the table on the humidistat front plate to help determine the proper level.

Outside Temperature	Recommended Setting
-22° F (-30°C)	15%
-13° F (-25°C)	20%
-4° F (-20°C)	25%
+5° F (-15°C)	30%
+14° F (-10°C)	35%
above 23° F (-5°C)	40%

- At the beginning of the heating season it might take some time (a few days) to build up the humidity to the comfortable level you want. Depending on the original dryness of the house, carpets, furniture and wood will absorb moisture before you could really feel a difference.
- If your house remains unoccupied during the winter season, adjust the humidistat to a lower setpoint in order to prevent condensation.

### 3. A few tips.

- Do not use the supply valve (saddle valve installed on the supply line) to regulate the water flow. This type of valve is designed to be completely opened or closed.
- Do not allow the drain tube to fill with water in bends, elbows or kinks. Water could accumulate in them and that could become a place for deposit build-up.

### 4. Annual Maintenance.

To replace the evaporator pad:

1. Shut off the furnace power.
2. Open the humidifier by removing the plastic screw on the side of the cover.
3. Unlock the evaporator pad by turning the plastic retainer at the top of the pad.
4. Remove the old pad and replace it by a new one while checking the printed marking that clearly indicates the bottom of the pad.
5. Lock the new pad in place.
6. Put the cover back and secure it with the plastic screw.

Note: Depending on the quality of water, it is recommended to replace the evaporator pad once per heating season. Evaporator pad replacement part #: 266816-101.

### 5. Summer Season.

- If the system is used with air conditioning during the summer, reduce the air volume going through the humidifier by closing the air damper located on the side of the humidifier. The control button shows the actual position of the damper.
- It is recommended to simply shut off the humidifier system:
  1. Close the water supply valve.
  2. Turn the humidistat knob to the "OFF" position.

### 6. Warranty.

This humidifier is guaranteed against any defects in material and workmanship, under normal use, for five (5) years from the date of purchase. The frame and door are guaranteed for life against defects in material and workmanship, under normal use. This warranty applies only if the unit is properly installed and operated according to the instructions provided with this product. This warranty will not cover defects due to misuse or faulty installation. The manufacturer will not be held responsible for any bodily injuries or damages to personal property or real estate, whether caused directly or indirectly by the humidifier. If warranty service is required during the warranty period, the manufacturer will, at its sole discretion, repair or replace the product, without charge, upon delivery of the product where it was purchased, with proof of purchase.

### 7. Parts Guide.

CM200, P/N 266816-001	
DESCRIPTION	PART NO.
Replacement filter (qty 1)	266816-101
Replacement filter (box of 14)	266816-102
AC Solenoid Valve	266816-103
Water Diffuser	266816-104
Hardwire Transformer 115/24VAC	266816-105
Saddle Valve	266816-106
Replacement Door	266816-107
Replacement Body	266816-108
Humidistat	266816-109
Inlet Collar c/w damper	266816-110
Duct Collar	266816-111



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