12 HF Humidifier

Owner's Instructions for Electronically controlled FLOW-THRU Humidifier
Operating and Maintenance Tips - Warranty.

1. Principle of operation

- This humidifier uses a vertical evaporator pad, wetted by a pulsed 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). However, this unique pulse action model optimizes performance and reduces water consumption by up to 80%.

- When the furnace is producing heat **and** the humidistat is calling for humidity, the electronic module allows a controlled water flow on the evaporator pad. It opens the electric valve for an average of 3 seconds and then closes the valve for another 30 seconds, and so on, thus giving the time for the water dispersed on the pad to be evaporated in the system, without wasting a lot of water which normally would go directly to the drain. This is one of the main features of this model and it saves up to 80% of water consumption. It is normal to have a bit of water flowing in the drain tube, though. This flushing-away method removes the dissolved minerals that are left on the pad in a normal evaporation process before they settle and dry up on parts that are in contact with water. The little water waste is a "rinse n' drain cycle".

2. Adjusting the humidity level in your home

- A relative humidity environment of 40% is recommended. Please refer to the table on the humidistat front plate to help determine the proper level.

Outside Temperature		Recommended Setting
- 22°F	(-30ºC)	15 %
- 13°F	(-25ºC)	20 %
- 4°F	(-20ºC)	25 %
+ 5°F	(-15ºC)	30 %
+ 14°F	(-10ºC)	35 %
above 23°F	(-5ºC)	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 (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, this could also create a back pressure preventing the water from flowing naturally and cause an overflow,

4. Annual Maintenance

To replace the evaporator pad :

1- Unplug the transformer from the wall power supply.
2- Open the humidifier by removing the plastic screw on the side of the cover.
3- Unlock the evaporator pad by turning the little 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.

5. Summer season

- If the system is used in 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.
3- Unplug the transformer.

6. Warranty

This humidifier is guaranteed against any defects in material and workmanship, under normal use, for one (1) year 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. Questions

Please keep this telephone number handy for assistance:

1-800-879-0123

or

www.HamiltonHomeProducts.com

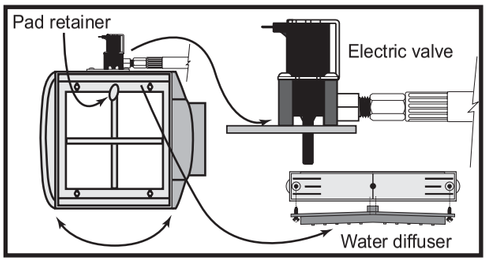
PLEASE READ TEMPLATE FIRST

12 HF Humidifier

PLEASE READ TEMPLATE FIRST

Electronically controlled FLOW-THRU model

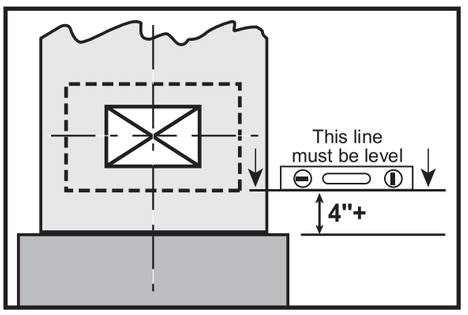
This humidifier MUST be connected to a drain.



1 Assembling the unit.

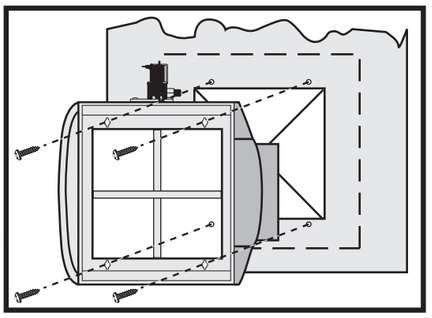
This unit is reversible. Find the best location and determine how the humidifier will be installed. Select the top. Install and fasten the water diffuser, the long black plastic piece, with two screws #6 x 1/2" inside of the top part of the humidifier. Install the solenoid valve (mounted on a plastic 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 4 screws # 6 x 1/2" (Kit #10). Finally, install the plastic pad retainer by snapping it in the hole located in the middle of the humidifier frame.

Warning : *Always check that you are not about to cut or drill into any air conditioning or electrical accessory during installation.*



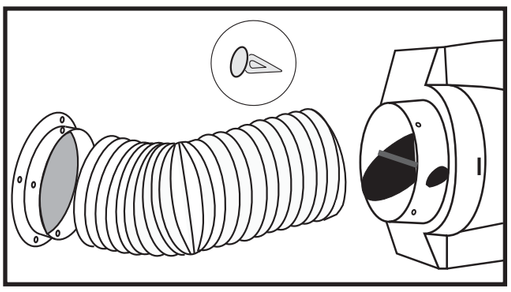
2 Cutting the opening.

Draw a level line at 4 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.



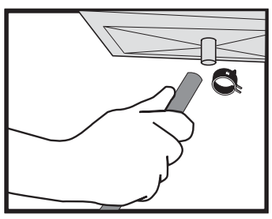
3 Installing the unit.

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" plastic collar in a convenient location on the opposite duct with four screws (#8 x 1/2"). 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 plastic collar so it does not sag.
Cut the excess portion. Slide the flexible duct on the air take-off collar and secure it by inserting the plastic pins through the vinyl in between two reinforcement wires.

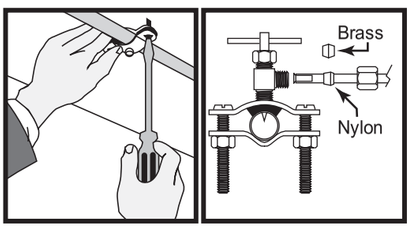


5 Installing the drain tube.

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 Installing the water supply valve.

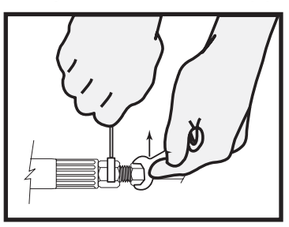
A plastic bag contains a brass valve and all the material required to install the water supply valve.
Water is taken from the nearest cold water pipe suitable for the supply valve installation.
The use of combined permanent ventilation and service hot water (140°F / 60ºC Max) improves the evaporative capacity. Shut off the main water valve.

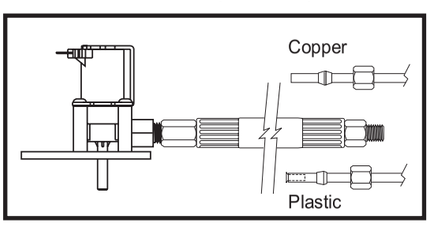
Note : Do not use the saddle valve to regulate water flow. It is designed to be fully opened or closed.

- Assemble one side of top clamp to bottom clamp with a screw and a nut.
- Make sure that the rubber gasket is in place over the piercing needle and position the valve assembly on the copper water line.
- Assemble the other side of the top clamp to the bottom clamp with the remaining screw and nut.
- Tighten the two screws so that the valve is firmly attached to the water pipe. The two sides of the clamp must be parallel.

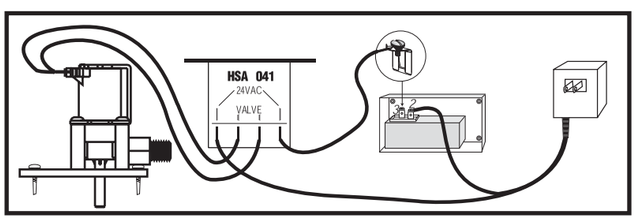
8. Connecting the water supply tubing to the water hammer absorber and the valve

- This water hammer absorber is connected to the electric valve in factory.
- Install the water supply tubing on the other side of the rubber hose. That side 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.
- Then do the same operation at the other end of the supply tube and make the connection to the saddle valve previously 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 regulate the water flow.



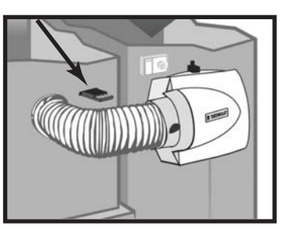


NOTE : The brass sleeve supplied with the brass valve Kit #10 is to be used only if the plastic tubing is replaced by copper tubing (not recommended).



9 Installing the electronic controller.

The HSA 041 controller must be installed on the warm air duct with two screws (#8 x 1/2"). Please use template #3 and drill the 3 holes. When switched ON by the humidistat, the controller opens the electric valve for approximately 3 seconds and then closes the valve for another 30 seconds, and so on.

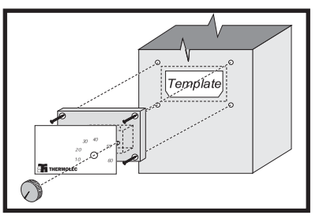


10. Installing the humidistat and the transformer

This humidifier is supplied with a transformer that can be plugged in to any 120V electric outlet. The humidistat is a duct mounted type.
The RETURN duct mounting method allows a better “sensing” of all the air returned to the furnace without being disturbed by a sudden increase in moisture level (kitchen or bathroom), thus offering superior humidity control.
Kit No. 4 contains all the material you need to install the humidistat.

- The humidistat should be installed on a flat and vertical surface of the RETURN duct at 6 inches minimum upflow from the humidifier top
- Attach the humidistat template (#2) on the duct.

Warning : *Always check that you are not about to cut or drill into any air conditioning or electrical accessory during installation.*



- Mark and drill the mounting holes and cut an opening for the humidistat.
- Push the two quick connectors on the humidistat terminals identified #2 (or COM) and #3 (or NO).
- Split the wire coming from the transformer in two, long enough to connect one end to one of the motor wires and the other end to the humidistat terminal identified #2 (or COM).
- Use the separate piece of wire to connect the other wire of the motor to the second humidistat terminal identified #3 (or NO).
- Run the control wires through an opening located at the bottom of the front panel of the humidistat.
- Hold the wires while you install the humidistat in the opening. Check that the metal of the duct neither touches the connections nor cuts the wire insulation. Then fasten the humidistat to the duct. The humidistat mechanism is exposed in the duct. Temporarily install the control knob on the humidistat.

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.

Screw holes (4 places)

Corner holes (4 places)

9-1/4" (235 mm)

TOP

OPENING FOR THE HUMIDIFIER - TEMPLATE # 1

WARNINGS and DISCLAIMER

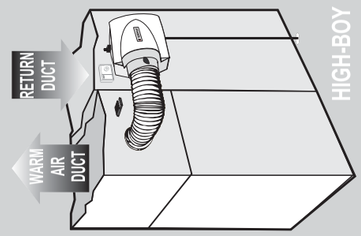
This humidifier is a flow through model, it MUST be connected to a drain.

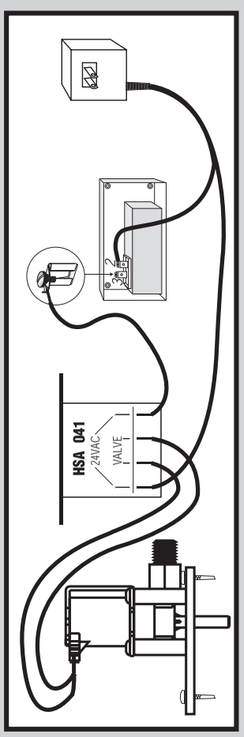
Installation precautions

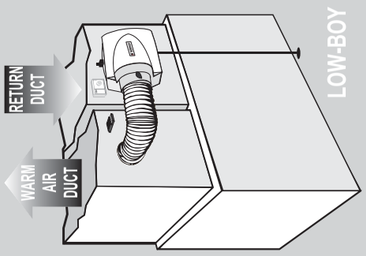
1- This humidifier will be connected to and used under water pressure and it must be installed in such a way that if a leak occurs, the water could not cause any damage to the property. Make sure all water connections are properly installed or water spill could occur.
2- This humidifier is intended for use on forced warm air circulation furnaces, as well as multi-fuel furnaces where temperature does not exceed 180°F (82°C). Higher temperatures will damage your humidifier and possibly cause overflow condition and water damage to your home.
3- Do not install a humidifier where surrounding temperatures may be 32°F (0°C) or colder. Freezing water will damage the humidifier and burst the supply pipe, resulting in home damage.
4- Do not install the humidifier or the bypass connection directly on the furnace housing.
5- Do not install the humidifier or the bypass connection on a plenum side where a cooling coil could restrict or inhibit the airflow through the humidifier.
6- Always check that you are not about to cut or drill into any air conditioning or electrical accessories during installation.
7- Do not install a humidifier on the supply duct where the static pressure exceeds 0.4" Water Column.
8- Do not install a humidifier if the city water pressure exceeds 90 psi, water hammer could occur. Check the local codes related to pressure reduction.
9- The installation, wiring and plumbing of the humidifier must comply with national and local electrical, plumbing and building codes.
10- Electrical wiring, water supply & drain tube must not come into contact with sharp edges or hot surfaces. Please make certain the drain tube has no bends, its end placed in a floor drain and there is no resistance to the flow of the discharged water.
11- Do not set the humidity lever higher than normally recommended, or condensation damage could occur.

Safety warnings

1- Please beware of sharp edges when you cut into a metal duct.
2- Always shut the power off before starting the installation. An electric shock from 120 volts could cause injury.
3- Hot water temperature higher than 125°F (52°C) could cause serious burns.
Please shut off the main water supply valve before connecting the humidifier water supply.







This line must be level

Drill 8 holes - Drill 3/32"

1-5/32" (29.4 mm)

6-15/16" (176 mm)

BOTTOM

1-5/32" (29.4 mm)

23/32" (18.2 mm)

23/32" (18.2 mm)

8-1/4" (210 mm)

9-11/16" (246 mm)

CUT HERE

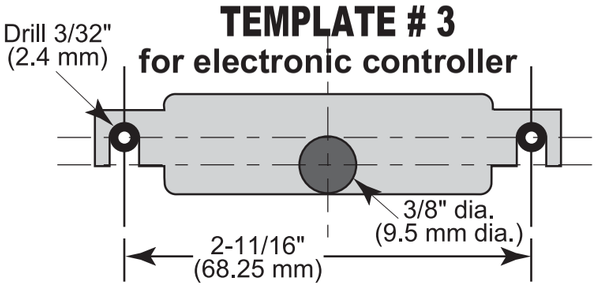
Humidifier 12 HF

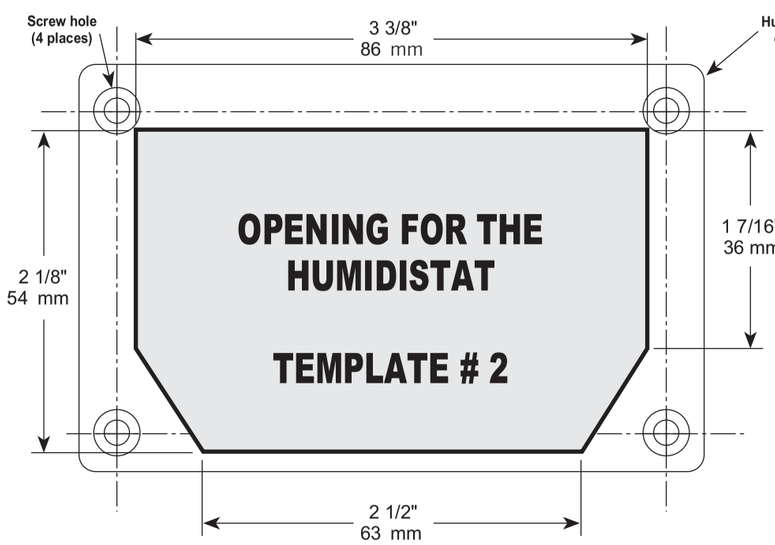
Electronically Controlled Pulsed Flow Humidifier

Please read the instructions carefully before starting the installation.

The M 550 model can be installed on either the supply or return plenum of a forced air heating system. It is easily reversible for right or left hand.
The total dimensions are: 15" x 15" x 9".
The opening in the duct is 9-1/4" x 8-1/4".
In selecting the best location for the unit, please take both dimensions and serviceability in consideration.
If the furnace is equipped with a central cooling system, the damper of the unit should be closed during the cooling season.

TEMPLATE # 3 for electronic controller





HUMIDIFICADOR 12 HF

Modelo a flujo continuo controlado electrónicamente

Leer atentamente las instrucciones antes de comenzar la instalación.

El modelo 12HF puede instalarse en un conducto de alimentación o de retorno de un sistema de aire caliente.
Es fácilmente reversible de la izquierda a la derecha.
Las dimensiones totales son: 15" X 15" X 9".
La abertura en el conducto es de 9-1/4" X 8-1/4".
Antes de escoger la ubicación del controlador, se debe considerar las dimensiones y un acceso razonable para el servicio.
Si el horno está dotado de un sistema de enfriamiento, el postigo del humidificador debe estar cerrado durante el período de climatización.

PLANTILLA # 3
controlador electrónico

Perforar 3/32" (2.4 mm)

RECORTAR AQUí

Contorno del humidistato

1 7/16" 36 mm

ABERTURA PARA EL HUMIDISTATO
PLANTILLA # 2

3 3/8" 86 mm

2 1/2" 63 mm

Orificios para tornillos (4 lugares)

2 1/8" 54 mm

Orificios para tornillos (4 lugares)

9-1/4" (235 mm)

PARTE SUPERIOR

23/32" (18.2 mm)

8-1/4" (210 mm)

9-11/16" (246 mm)

ABERTURA PARA EL HUMIDIFICADOR - PLANTILLA #1

PRECAUCIONES Y CONSIGNAS DE SEGURIDAD

Este humidificador es un modelo a flujo continuo y SE DEBE conectar a un tubo de desagüe.

Precauciones de instalación

1- Este humidificador está conectado y usado bajo presión de agua. El humidificador se debe instalar de tal forma que si se derrama accidentalmente el agua, no causará daño a la casa. Asegúrese de que todas las conexiones de agua estén instaladas adecuadamente para evitar que el agua cause daño alguno.
2- Este humidificador está diseñado para utilizarse en hornos de aire caliente forzado, igual como en hornos multi-combustibles cuya temperatura no exceda 180 °F (82 °C). Una temperatura superior puede dañar el humidificador y luego causar un desbordamiento de agua, dañando así su casa.
3- No instalar el humidificador en un lugar en donde la temperatura estará a 32 °F (0 °C) o menos. El agua congelado estallaría la cañería, provocando así daño a su propiedad.
4- No instalar el humidificador o el collarín directamente en el horno.
5- No instalar el humidificador o el collarín al lado de un conducto donde un serpentín de enfriamiento podría estorbar o para el flujo de aire a través el humidificador.
6- Siempre asegurarse de que ninguno de los accesorios electrónicos o del sistema de aire acondicionado estén cortados o perforados durante la instalación.
7- No instalar el humidificador en el conducto de alimentación en donde la presión estática excede 0,4" de agua.
8- No instalar el humidificador si la presión de agua excede 90 psi. Verificar las reglamentaciones nacionales o locales tratándose de la reducción de presión.
9- La instalación del humidificador, eléctrica y plomería deben cumplir con las reglamentaciones nacionales o locales de electricidad, plomería o construcción.
10- El cable, tubo de alimentación y de desagüe no deben estar en contacto con bordes afilados o superficies calientes. Asegurarse de que el tubo de desagüe no esté torcido, esté bien conectado a un tubo de desagüe en el suelo de manera que el agua no presente resistencia al pasar por él.
11- No ajustar el grado de humedad más de lo recomendado a fin de evitar todo tipo de condensación.

Consignas de seguridad

1- Cuidado con los bordes afilados cuando corte un conducto de metal.
2- Asegurarse de apagar la corriente del horno antes de comenzar la instalación. Una descarga eléctrica de 120V puede causar lesiones.
3- Una temperatura superior a 125 °F (52 °C) del agua caliente, puede causar graves lesiones.
Apagar el tubo de agua conectado al grifo principal antes de conectarlos de nuevo.

Orificios en las esquinas (4 lugares)

1-5/32" (29.4 mm)

6-15/16" (176 mm)

1-5/32" (29.4 mm)

PARTE INFERIOR

Orificios para tornillos (4 lugares)