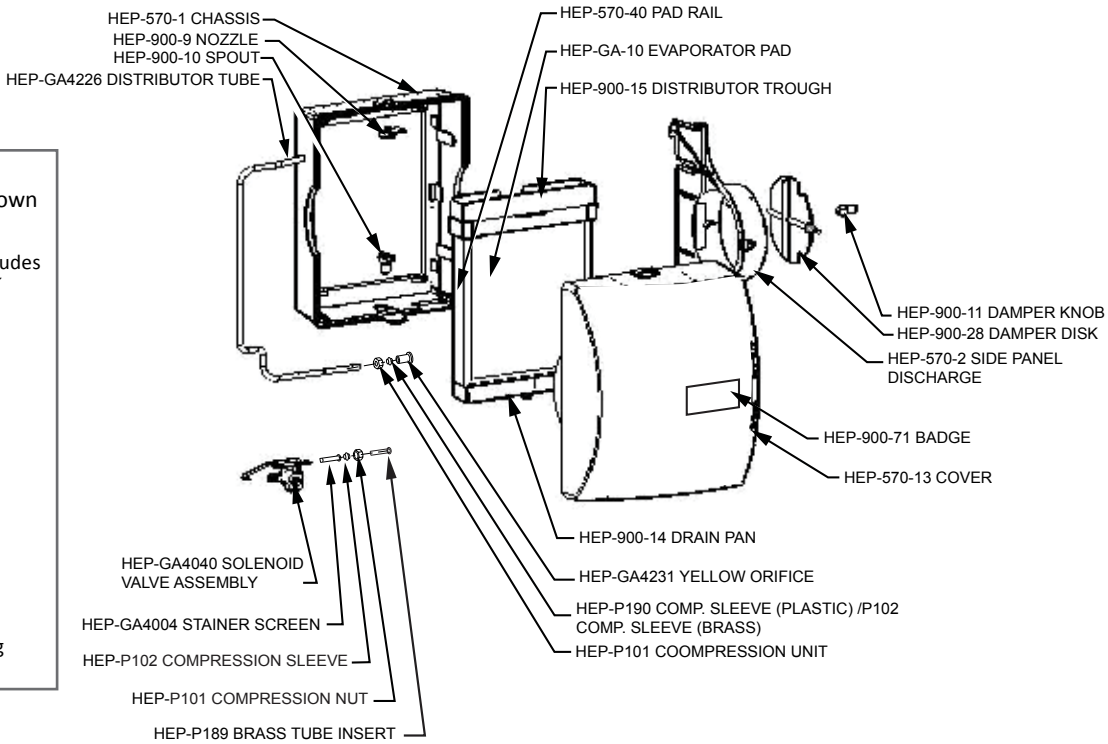
HUMIDITY CONTROL

PARTS LIST FOR HUMIDIFIER



HE12MB Models shipped to Canada, also contain (Not shown on diagram):

- HEP-1042-28 Bypass Kit (Includes flex duct, start collar and 15´ drain hose)
- HEP-747-38 Water Supply Tubing Kit (Includes water hose, Compression Nuts, 2 Compression Sleeves and 2 Brass Tube Inserts)
- HEP-1042-40 Extra Die Cut
- HEP-1040-13 Ring Flange
- HEP-990-31 15´ Drain Tube
- HEP-570-80 Hardware
- MHX3 Wall Mount Humidistat (allows mounting on wall or in duct)

Humidistats (Not Shown):

HE12 “A” Models = HEP-GFX3

HE12 “M” Models = HEP-MHX3

CARE AND MAINTENANCE

Your humidifier is engineered to give helpful and trouble-free humidification. For maximum efficiency the following cleaning procedures should be carried out at the end of each heating season:

1. Turn off water supply and turn humidistat setting to the “OFF” position.
2. Remove humidifier's front cover, distributor trough, evaporator pad and drain pan. Clean excessive mineral deposits from the distributor trough, drain pan, pad rails, and humidifier cover and chassis. A solution of 1/2 vinegar & 1/2 water will help loosen mineral deposits, or you may use a common household de-scaler.
3. Replace evaporator pad part number HEP-GA19 seasonally. (Some instances require 2 pad replacements per heating season, depending on water hardness.) Install trough and drain pan. Replace cover. For peak performance do not attempt to clean evaporator pads, or use longer than one heating season.
4. In areas where the supply water for the humidifier contains a high mineral content, OR if the solenoid valve fails to operate, the solenoid and the strainer screen should be inspected and descaled. To do this disconnect the 1/4˝ water supply line from the solenoid valve. Carefully pull the strainer screen (part number HEP-GA19) from the valve body (part number HEP-900-6). Clean the mineral deposits from all parts. If the orifice is clogged, it may be opened by inserting a small pin. Reassemble the brass fittings, ensuring the strainer screen has been fully seated.
5. Reconnect the 1/4˝ water line to the solenoid valve if necessary. Turn on the water supply and check all points for leakage. The operation of the unit may be checked by starting the furnace. The humidifier operates only when the furnace blower is running or the burner circuit is energized. The humidifier is now ready for operation.
6. During the summer, turn off water supply and turn the humidistat setting to the “OFF” position. Close air damper disk on the humidifier.

At Outside Temperature		Recommended Setting
-20° F	-29° C	15%
-10° F	-23° C	20%
0° F	-18° C	25%
+10° F	-12° C	30%
+20° F	-7° C	35%
+30° F	-1° C	40%

HOW THE HUMIDIFIER WORKS

The operating principle of the humidifier is based on the most efficient and economical means of evaporating water to the air. The humidifier uses only 2.5 watts of electrical power during operation, less than the smallest household light bulb. The heat necessary for evaporating water is produced by the furnace.

The water supply to the humidifier is controlled by the electric solenoid valve. The humidistat connected in series with the solenoid provides low voltage control of the humidifier. The humidistat is designed for wall mounting in the living area or surface mounting on the return air duct. ELECTRICAL RATING: 24 VAC / 60 Hz.

Water flows through a strainer, is metered through an orifice to provide the proper amount of water, and is supplied to the evaporator pad by the distributor trough. Approximately 200 CFM of air is by-passed from the warm air plenum through the humidifier and returned to the cold air plenum. Moisture is evaporated to the air passing through the evaporator pad.

Minerals are not blown into the air stream, but are left on the evaporator pad where a high percentage is carried off with the waste water. When the humidifier is installed and operating, no adjustments are necessary other than setting the control knob on the humidistat to the desired level of humidification. Set the damper knob on the humidifier to "WINTER" position. To turn the humidifier off, close water supply valve and turn humidistat to the "OFF" position. If furnace is used for summer cooling or ventilating set the damper knob to "SUMMER".

DO NOT SET RELATIVE HUMIDITY TOO HIGH DURING COLD WEATHER. EXCESSIVE HUMIDITY MAY CAUSE CONDENSATION ON WINDOWS OR IN WALLS. REFER TO RECOMMENDED SETTINGS AS DESCRIBED IN THE HUMIDISTAT OWNERS MANUAL.

TROUBLESHOOTING (By Licensed Professionals Only)

Symptoms	Diagnostic Steps
Humidifier will not operate.	1. Verify that the operating mode of the home's thermostat is set to "HEAT". Adjust the setpoint on the thermostat to 5 degrees higher than the current room temperature. This should force the furnace on (you may need to wait up to 2 minutes before the furnace's blower motor starts). Operation of the furnace may be necessary to power the humidifier. 2. Humidity level in home may be higher than humidistat setting. Increase humidity setting on humidistat.* 3. Verify water supply is on. 4. Check for voltage at the solenoid valve. Voltage should be 24VAC. Bypass the humidistat if necessary to isolate the solenoid valve circuit. 5. Verify wiring of humidifier and humidistat.
Proper voltage present at solenoid valve (24 VAC but no water flow.	1. Verify water supply is on. 2. Verify metering orifice is not obstructed. Very hard water with high mineral content may restrict the metering orifice in as little as one heating season. Replace metering orifice if restricted. (part number HEP-GA4231).
Humidifier runs without furnace operation or humidifier never shuts off.	1. Verify humidifier and humidistat wiring. Humidifier should operate with furnace burner or blower cycle.
Too much humidity in home and/or condensation on windows.	1. Reduce the setting on the humidistat*. Refer to CARE AND MAINTENANCE section of this manual to estimate a humidity setting for the home based on outside temperature.
Where can I purchase replacement parts?	1. Replacement parts can be purchased through the installing contractor.

* The humidistat is generally located on furnace return plenum, or on an inside wall in the living space.

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HUMIDITY CONTROL

HUMIDIFIER SPECIFICATIONS

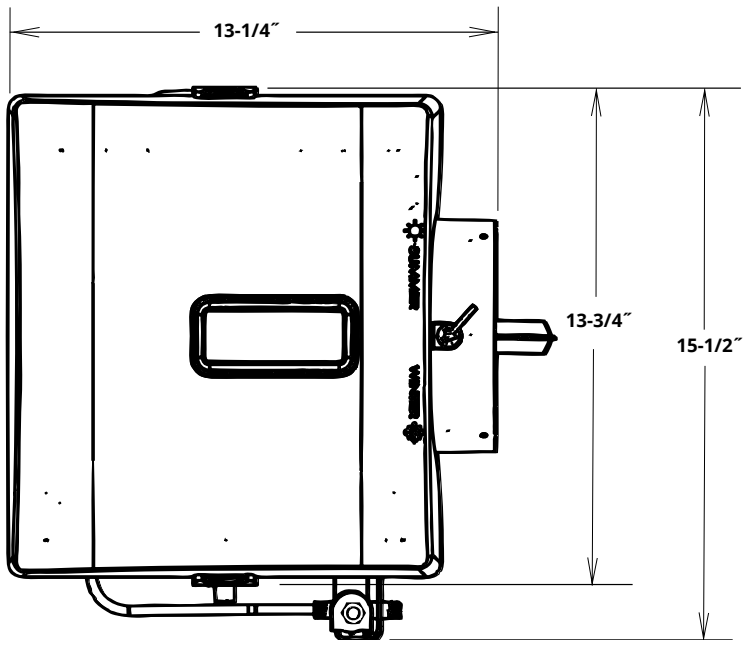
Approximate size of home that can be humidified by each humidifier model, based on air tightness of the home.

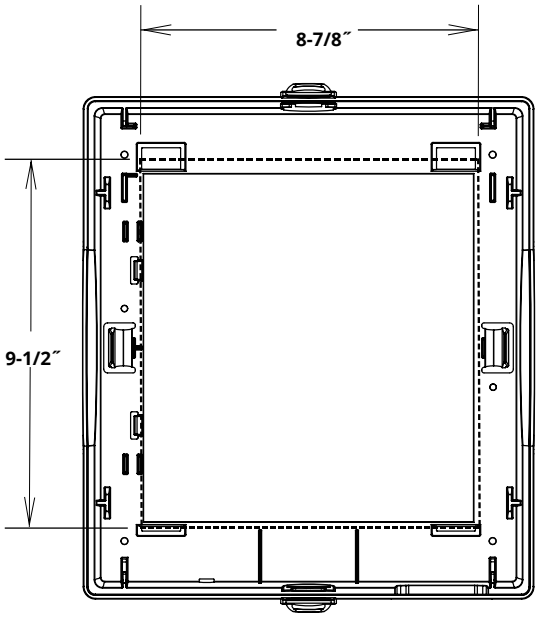
Model	GPD	Loose (0.75 AC/H)	Average (0.50 AC/H)	Tight (0.30 AC/H)
HE12	12	800 sq. ft.	1200 sq. ft.	2000 sq. ft.
HE17	17	1115 sq. ft.	1650 sq. ft.	2800 sq. ft.
HE18	18	1175 sq. ft.	1770 sq. ft.	3000 sq. ft.

Humidifier Performance Baseline Criteria

Outside Design Temp	0° F / -18° C	**Air Changes/Hour (AC/H)**	0.30
Outside Design R.H.	70% R.H.	**Ceiling Height**	8 ft
Inside Design Temp.	70° F / 21° C	**Furnace Plenum Temp.**	120° F / 49° C
Inside Design R.H	30% R.H.	**Furnace run time for calculating sq. ft.**	8hr/1 day

Footnote: If plenum temperature is less than 120° F / 49° C, the amount of humidity delivered to the home will be less than the GPD specification shown above.





Humidifier Chassis with plenum cut out shown as dashed lines

HUMIDIFIER PACKAGED COMPONENT ACCESSORIES

Model HE12A includes:

Humidifier components: HEP-GA10 Vapor pad, HEP-GA4040 solenoid assembly, Integral Bypass Damper
Accessories: HEP-GFX3 Automatic Digital Humidistat, 24V Transformer, Code Valve, Saddle Valve

Model HE12M includes:

Humidifier Components: HEP-GA10 Vapor Pad, HEP-GA4040 Solenoid Assembly, Integral Bypass Damper
Accessories: HEP-MHX3 Manual Humidistat, 24V Transformer, Saddle Valve