



Precaution:

The installer should be an experienced service technician. **DISCONNECT ELECTRICAL POWER BEFORE BEGINNING INSTALLATION.** Do not install where temperatures fall below 32° F / 0° C or where plenum temperatures exceed 150° F / 66° C. When wiring into a multi-speed blower circuit see Step 6.

Installation:

The humidifier may be mounted with the 6" outlet to the right or left by inverting the cabinet and reversing the positions of the side panel. The humidifier may be mounted on the supply or return air plenum with equal efficiency.

FOR INSTALLATION ON A VERTICAL PLENUM SURFACE OF ANY FORCED AIR FURNACE

Additional Materials That May Be Necessary:

1. 1/4" diameter plastic supply tubing (or 1/4" copper supply tubing for hot water applications).
2. 6" diameter galvanized by-pass pipe (provided with "B" models, which include a bypass kit).
3. 18 Gage electrical wire and wire nuts
4. Current sensing relay (part number HEP-GA50 suggested) or air pressure proving switch (part number HEP-12500 suggested).
5. #8 self piercing sheet metal screws.

Proprietary Notice

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Liability Notice

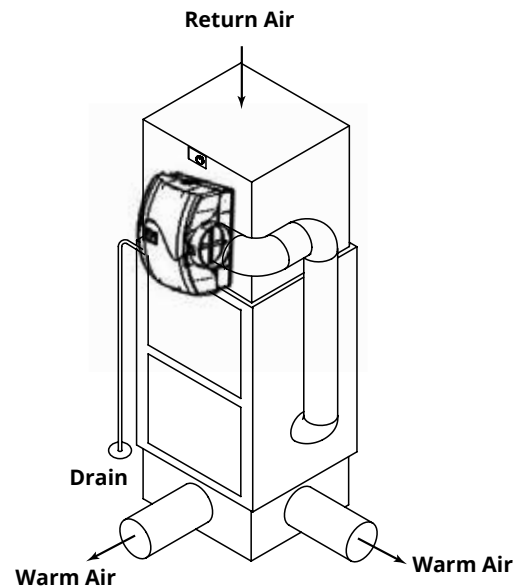
Daikin North America LLC does not accept any liability for installations of humidity equipment installed by unqualified personnel or the use of parts/components/equipment that are not authorized or approved by Daikin.

Copyright Notice

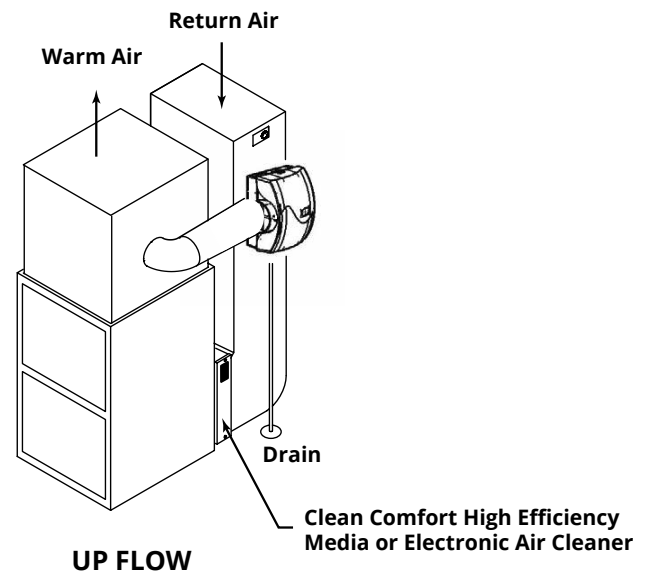
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HE12

Evaporative Bypass Humidifier



DOWN FLOW



UP FLOW

Typical Installation For Bypass Humidifiers

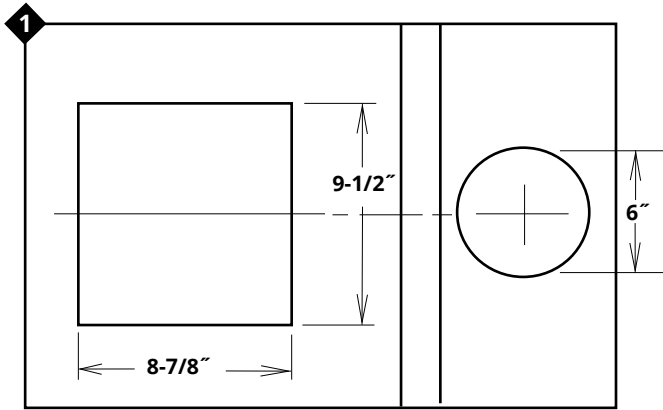
Important:

HVAC Installer: Read and save these instructions. This guide to be left with equipment owner. **Equipment Owner:** Fill out and send in the product registration card to register this product. Product registration is required to get the benefits of the warranty, except that failure by residents of California or Quebec to register the products will not diminish their warranty rights.

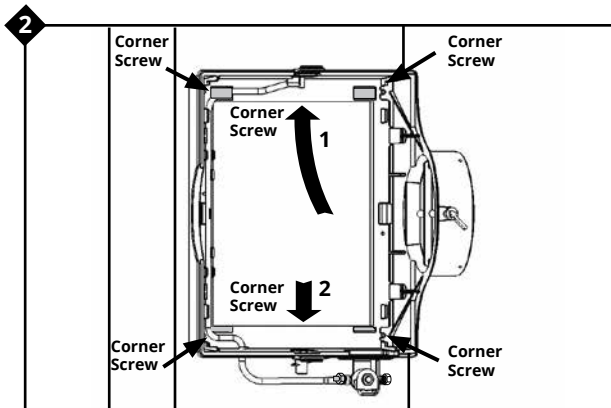
See the full warranty text at your dealer or at the end of this document.



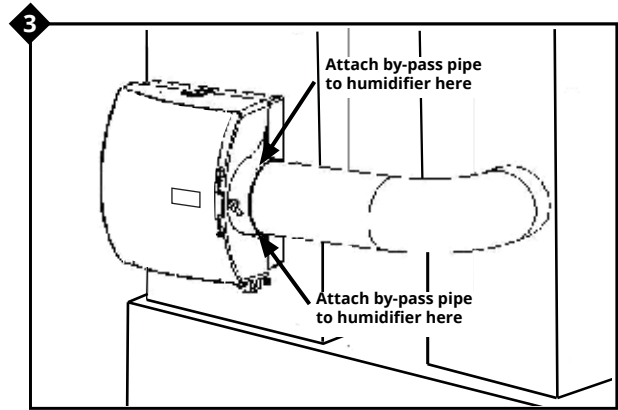
This humidifier is capable of delivering up to 12 GPD of humidity, according to the industry-standard performance test, AHRI 610, which specifies an air flow of approximately 200 CFM and plenum temperature of 120° F / 49° C. If the furnace or air handler operates at lower temperatures or air flow, the amount of humidity delivered will be less than 12 GPD. If an HRV is installed in the system, some of the humidity in the house will be transferred outside by the HRV; if this is the case, the humidifier should be sized to accommodate for this humidity loss.



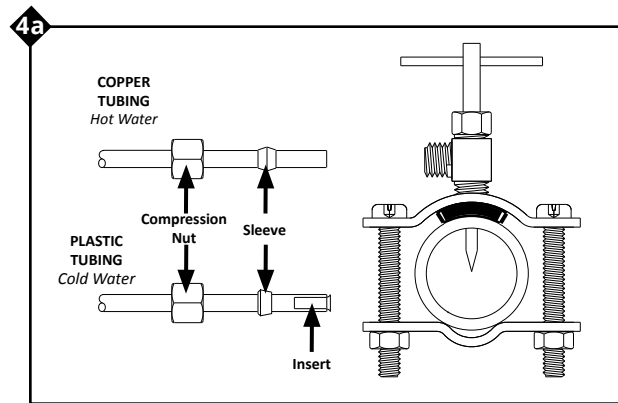
The Clean Comfort Model HE12 may be installed on either the supply or return plenum of a forced air handling system. Select a location for the humidifier that allows for service and maintenance. Using the installation template supplied with this humidifier, cut out a rectangle 8-7/8" wide by 9-1/2" tall. Extend horizontal centerline of cut out to the adjacent plenum. Cut a 6" hole 10" to 15" from side of humidifier, on cabinet centerline, using connecting collar as guide. The bypass is reversible and can be mounted on the right or left side of the humidifier.



Open cover and remove evaporator pad assembly. Humidifier is self retaining. Slide top side in first, then slide chassis down. Level chassis and install center screws. If by-pass pipe installs to opposite side of chassis, bend clip on chassis, remove side discharge, and reinstall discharge to opposite side of chassis. Install remaining four corner screws.

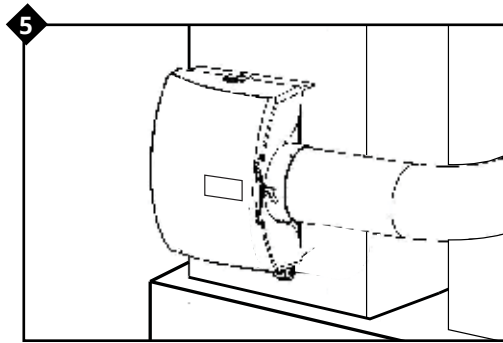
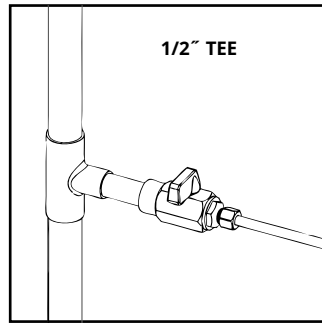
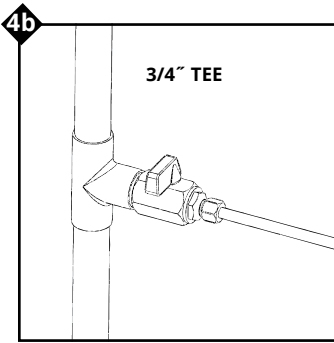


Connect by-pass pipe to collar and humidifier cabinet. Using holes at top and bottom of side panel discharge, pierce 2 self tapping screws through by-pass pipe.



Saddle Valve Installation Option: Mount the self tapping saddle valve (4a) or code valve (4b next page) on either a cold or hot water* pipe. A side or top mount is best to avoid clogging from pipe sediment. Connect 1/4" O.D. tubing to the saddle valve. Copper tubing requires a brass compression nut and brass sleeve. Plastic tubing requires a brass compression nut, a brass insert inside the tubing and a plastic sleeve on the outside.

NOTE: DO NOT USE PLASTIC TUBING ON HOT WATER OR IN CONTACT WITH ANY HOT PLENUM SURFACE OR DUCT. INSTALLATION OF THIS SADDLE VALVE MUST MEET OR EXCEED LOCAL CODES AND ORDINANCES. USING HOT WATER WILL INCREASE THE AMOUNT OF HUMIDITY DELIVERED TO THE HOME, AND WILL ALSO INCREASE THE DEMAND ON THE HOME'S DOMESTIC HOT WATER SYSTEM.



HEP-GCV3412 Code Valve Installation Option:

Copper Pipe

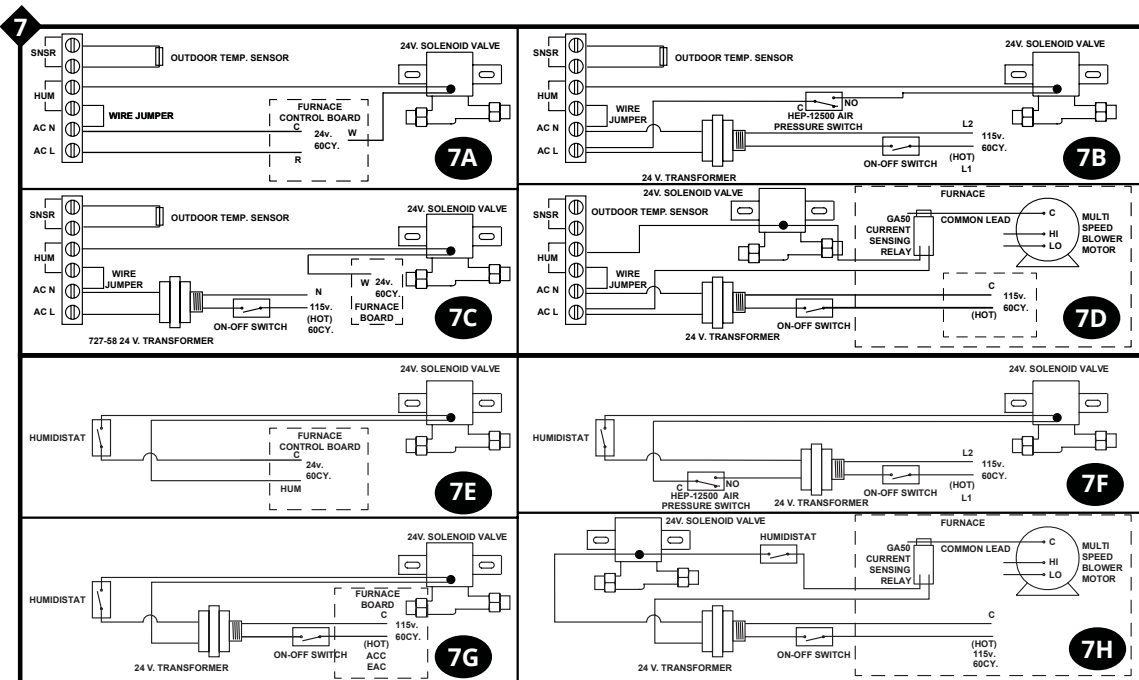
1. Turn off water supply.
2. Clean pipe, fittings and valve with sandpaper or wire brush.
3. Apply a thin layer of flux to all surfaces to be soldered.
4. Assemble valve to pipe and/or fittings.
5. Cooling the valve by wrapping a wetted rag around the valve is optional.
6. Heat the joints with a torch. Apply solder to each joint. Continue to apply heat sufficient to keep solder liquid.
7. After solder has filled entire joint area, remove heat and allow joint to cool. Do not move or disturb.
8. Slide compression nut over 1/4" copper tube followed by compression sleeve.
9. Insert tube into valve fully and tighten nut.
10. Turn on water supply and check for leaks.

*** CODE VALVE IS INCLUDED WITH AUTOMATIC MODELS ONLY, but can be purchased separately as part number HEP-GCV3412.**

Connect 1/4" supply tube at inlet of solenoid (there is an internal brass filter beyond inlet, not shown). **DO NOT USE PLASTIC TUBING IN CONTACT WITH ANY HOT PLENUM SURFACE OR DUCT. IF USING PLASTIC TUBING, USE TUBE SUPPORT HEP-P189 AND PLASTIC COMPRESSION SLEEVE HEP-P190** (Supplied with humidifier).

6 Connect drain hose to 1/2" spout on humidifier cabinet using hose clamp. Run 1/2" hose to suitable drain such as floor drain, sewer or laundry sink. Be sure hose has continuous slope and is not kinked at any point.

Turn damper knob to winter (open) position. Turn on water supply and check operation of humidifier. Set humidistat to a demand setting. With the furnace off, the solenoid valve should be closed. Start the furnace, the solenoid valve should open when the blower or burner circuit is energized. Check flow of water through distributor trough and evaporator pad. The standard HEP-GA4231 YELLOW orifice will supply approximately 3.5 GPH of water at a line water pressure of 60 psi. For low water pressures (20-40 psi) a larger ORANGE orifice HEP-GA4299 is available to provide the same flow. Leave humidistat set at the recommended setting.



- 7A-7D Electronic Humidistat**
- 7A – To furnace control board 24 volts
 - 7B – To constant power using 24V transformer and pressure switch
 - 7C – To furnace control board 115 volts with 24V transformer
 - 7D – To constant power using 24V relay and current sensing relay
- 7E-7H Manual Humidistat**
- 7E – To furnace control board 24 volts
 - 7F – To constant power using 24V transformer and pressure switch
 - 7G – To furnace control board 115 volts with 24V transformer
 - 7H – To constant power using 24V relay and current sensing relay



PARTS LIST FOR HUMIDIFIER

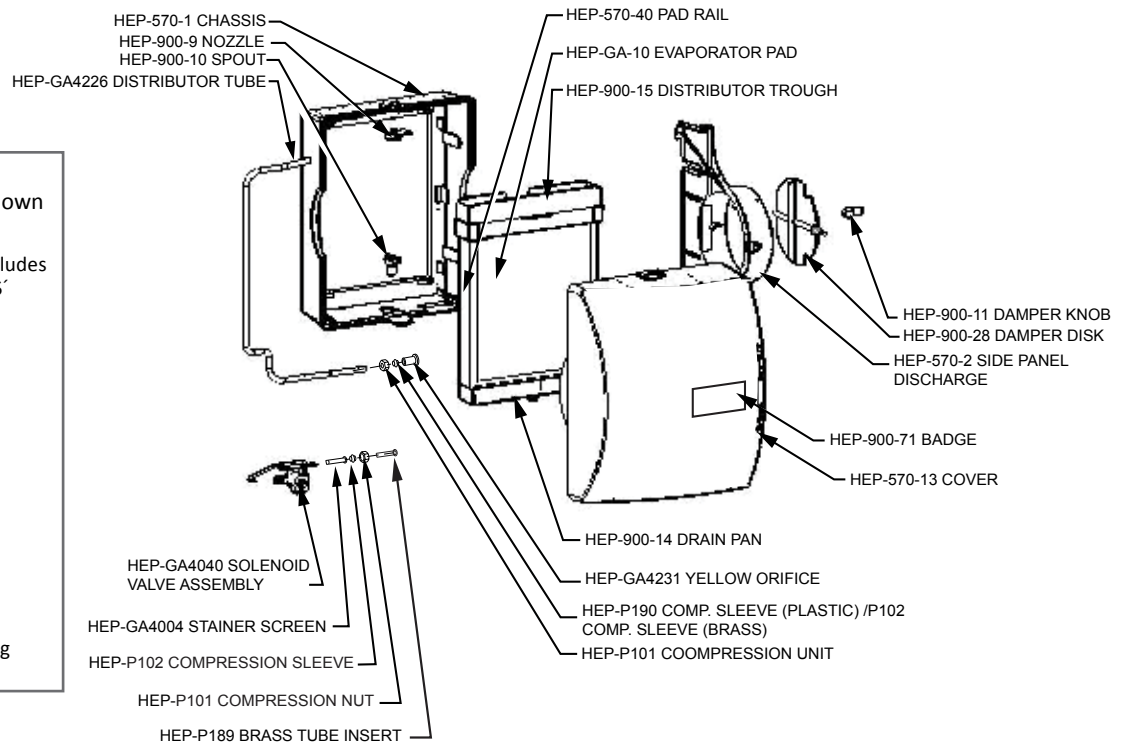
HE12MB Models shipped to Canada, also contain (Not shown on diagram):

- 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.	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 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?	<ol style="list-style-type: none"> 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.

TECHNICAL SUPPORT • 1-855-303-1821 • www.cleancomfort.com



HUMIDIFIER SPECIFICATIONS

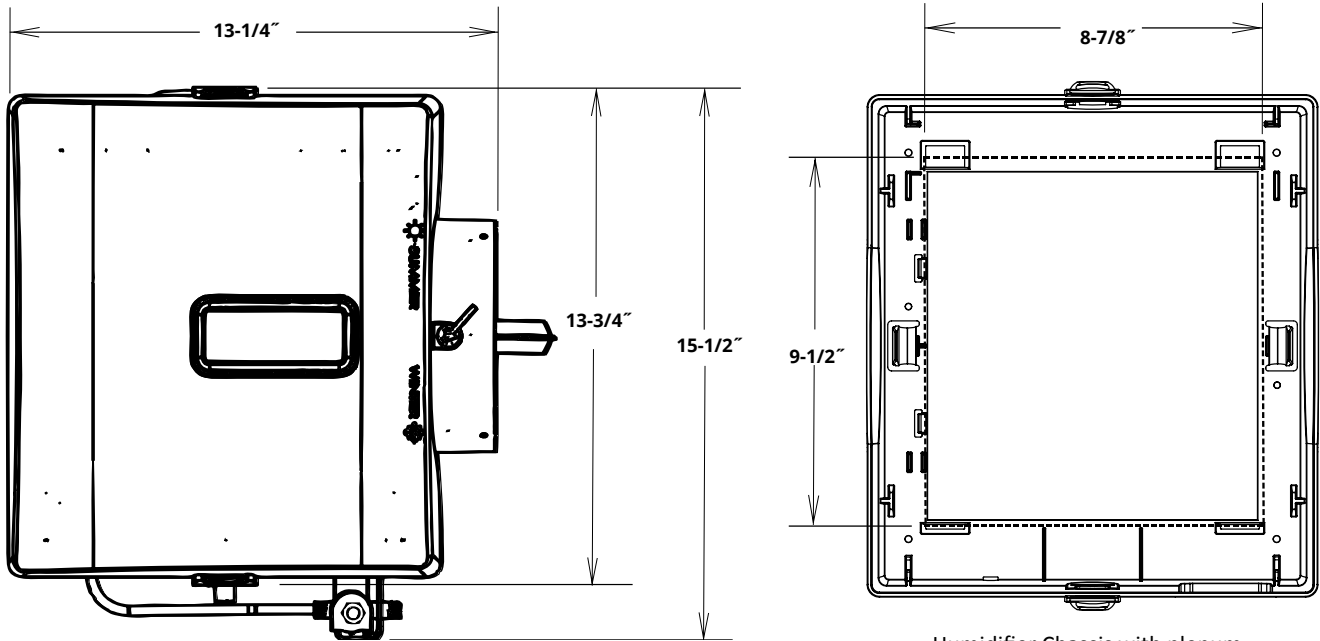
Approximate size of home that can be humidified by each humidifier model, based on air tightness of the home.

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



WARRANTY REGISTRATION

LIMITED WARRANTY

What This Limited Warranty Covers

Daikin North America LLC ("Daikin") warrants that, for the period stated below, its HE Series evaporative humidifier (the "Product") will be free from defects in manufacturing or materials.

What This Limited Warranty Does Not Cover

This limited warranty does not cover components or materials used in the installation of the Product, including, but not limited to, wiring, fasteners, ductwork, gaskets, pipes, or tubes. This warranty does not cover evaporator pads, water strainers, or metering orifices.

Who Has Rights under this Limited Warranty

This limited warranty runs to the original purchaser of the Product(s) who owns, and resides in, the residential dwelling in which the Product(s) are initially installed ("you").

Other Limitations

Remedies under this limited warranty are conditioned upon the normal use and care of the Product(s). The Product must have been installed according to its manual and all applicable wiring diagrams, in addition to all applicable building and construction codes and all other applicable law. This limited warranty does not cover damage caused by misuse, neglect, fire, damage in transit, sediment, poor water quality, or other casualty, damage caused during installation, or any cause beyond the control of Daikin. This warranty does not cover Products placed into commercial or industrial service.

How Long This Limited Warranty Lasts

This limited warranty begins on the date upon which the Product is installed. The limited warranty lasts for 10 years.

Registering Your Product

To be eligible for warranty coverage, you must register your Product within 30 days after installation. You can register your Product in any of the following ways.

- Return the Product registration card within 30 days after the Product is installed.
- If you have any difficulty with this method, you can call Daikin at 1-855-303-1821 for assistance.

Failure by California or Quebec residents to register the Product does not diminish their warranty rights.

How to Obtain Service

- Contact the contractor from whom you purchased the Product(s), or
- Contact Daikin using the information below.

What Daikin Will Do

If the Product(s) covered by this limited warranty are not as warranted and you notify Daikin of such failure during the term of the limited warranty, Daikin will, at its option, furnish replacement part(s) and/or whole replacement Product(s). If the exact original Product or part is no longer available, Daikin reserves the right to substitute a similar part or Product of equal or greater quality. All replacement parts or Products will be shipped either to the original selling contractor or directly to you. You must pay for all shipping of replacement part(s) and/or Product(s). Labor, de-installation costs, and re-installation costs are not covered by this limited warranty. Daikin reserves the right to inspect any Product(s) that you believe fails to meet the requirements of this limited warranty and you must allow Daikin or its representatives all access reasonably necessary to perform such inspections or at Daikin's request, return the Product(s). Any part replaced pursuant to this warranty is warranted only for the unexpired portion of the warranty term applying to the original part.

Limitation of Liability

IN NO EVENT WILL DAIKIN BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE FAILURE OF THE PRODUCT, WHETHER BASED ON BREACH OF EXPRESS OR IMPLIED WARRANTY, OTHER BREACH OF CONTRACT, NEGLIGENCE OR OTHER TORT. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

Your Rights Under State Law

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or province to province.

How to Contact Daikin

You may contact Daikin about warranty questions or claims using the following contact information: by mail at 43800 Grand River, Novi, Michigan, 48375 or, by telephone at 1-855-303-1821.



Cut Along Dashed Line

Register by mailing the form below

Product Information:

Serial Number: _____

Model: _____

Install Date: Month _____ Day _____ Year _____

Owner Information:

Contractor Name: _____

Address: _____

Address 2: _____

City: _____ State: _____ Zip Code: _____

Phone: _____

Email: _____

Contractor Information:

Contractor Name: _____

Address: _____

Address 2: _____

City: _____ State: _____ Zip Code: _____

Contractor Phone: _____

Contractor Email: _____

CLEAN COMFORT™
INDOOR AIR ESSENTIALS

Mail Form To:

Clean Comfort
Attn: Warranty Dept.
43800 Grand River Ave.
Novi, MI 48375

TECHNICAL SUPPORT • 1-855-303-1821

Our continuing commitment to quality products may mean a change in specifications without notice.



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