



INSTALLER: PLEASE FILL OUT AND MAIL WARRANTY CARD AFTER INSTALLATION IS COMPLETE. LEAVE INSTALLATION INSTRUCTIONS WITH HOME OWNER.

1000 SERIES FLOW THROUGH POWER HUMIDIFIER

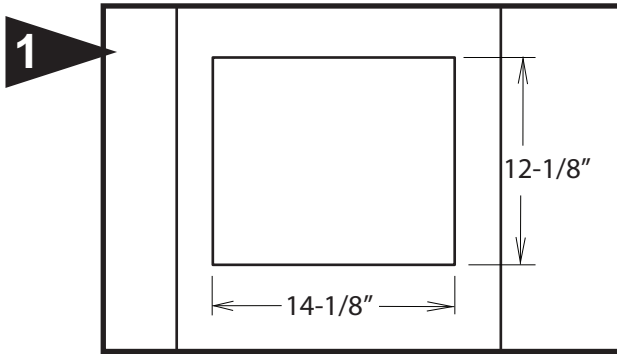
**FOR INSTALLATION ON A VERTICAL
SURFACE OF THE WARM AIR PLENUM
OF ANY FORCED AIR FURNACE**

PRECAUTION: The installer should be an experienced service technician. Disconnect electrical power before beginning installation. Do not install where temperatures fall below 32 degrees F or where plenum temperatures exceed 150 degrees F. For maximum evaporative capacity, install this humidifier on the warm air supply plenum.

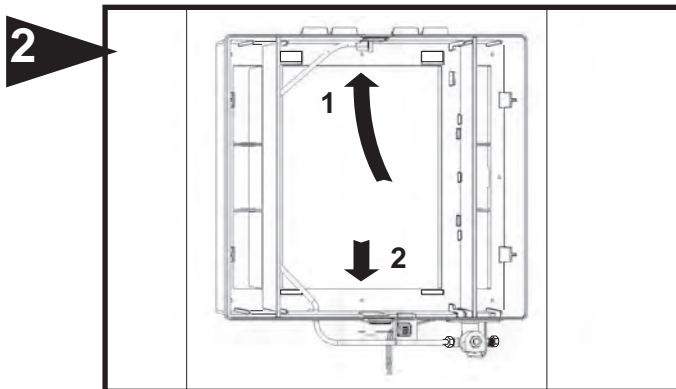
ADDITIONAL MATERIALS THAT MAY BE NECESSARY:

1. 1/4" diameter plastic supply tubing or 1/4" copper supply tubing for hot water applications
2. current sensing relay (G.F. Model #GA50 suggested)

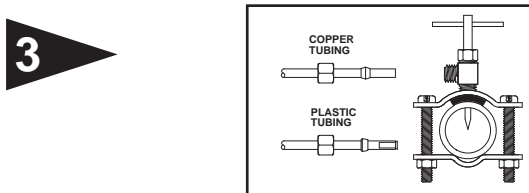
3. junction box, 115 V. grounding outlet, cover and wire
4. 1/2" I.D. drain hose
5. #8 self piercing sheet metal screws



Select location on vertical surface of warm air plenum of a forced air handling system for mounting humidifier that allows for service and maintenance. Do not install humidifier where the blanked off ends of a cooling coil will restrict air flow to the humidifier. Cut out a square section 12-1/8" tall by 14-1/8" wide as shown.

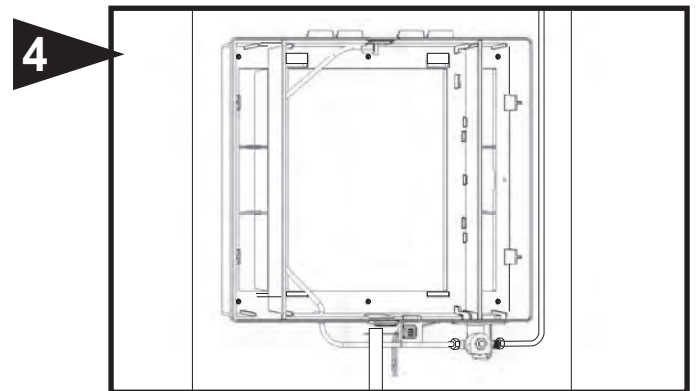


Open cover and remove evaporator pad assembly. Humidifier chassis is self retaining, slide top side in first then slide chassis down. Level chassis and install eight screws.



Mount the self tapping saddle valve on either a cold or a 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 insert inside the tubing in addition to a plastic ferrule and brass nut.

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.



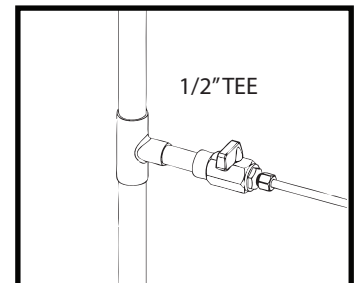
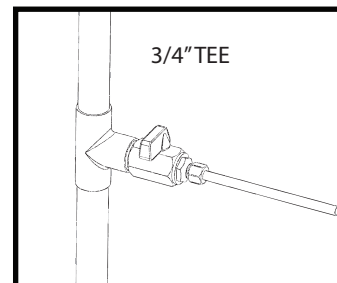
Connect 1/4" water supply tube to inlet of solenoid. Connect drain hose to 1/2" spout on humidifier cabinet using hose clamp if necessary. Run 1/2" hose to suitable drain such as floor drain, sewer or laundry sink. Be sure hose has continuous slope and is not kinked at any point.

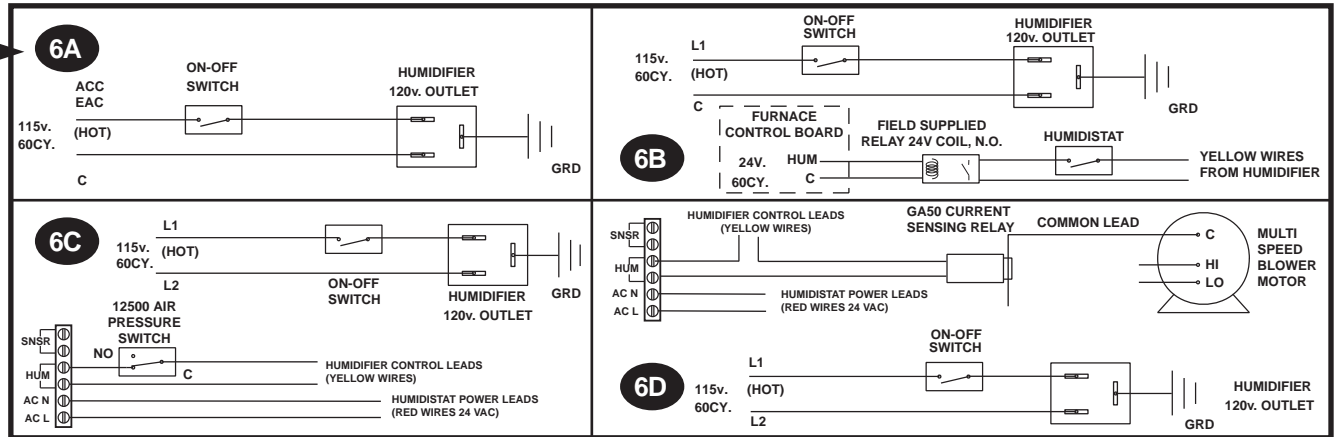
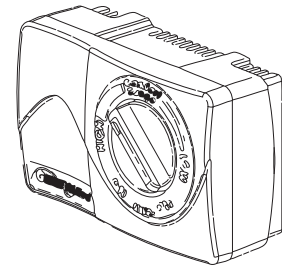
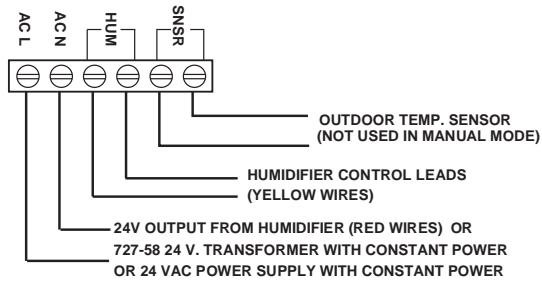
GCV3412 CODE VALVE INSTALLATION INSTRUCTIONS

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**





INSTRUCTIONS FOR WIRING HUMIDIFIER

NOTE: ALL WIRING SHOULD COMPLY WITH LOCAL ELECTRICAL CODES.

6A WITH FURNACE CIRCUIT BOARD

Use with mechanical humidistat only. On furnaces with output terminals ACC, or EAC check output voltage to determine that terminals are 115V. Connect on-off switch in series with the hot wire. Install humidistat and connect to yellow wires on humidifier.

6B WITH CONSTANT POWER TO HUMIDIFIER

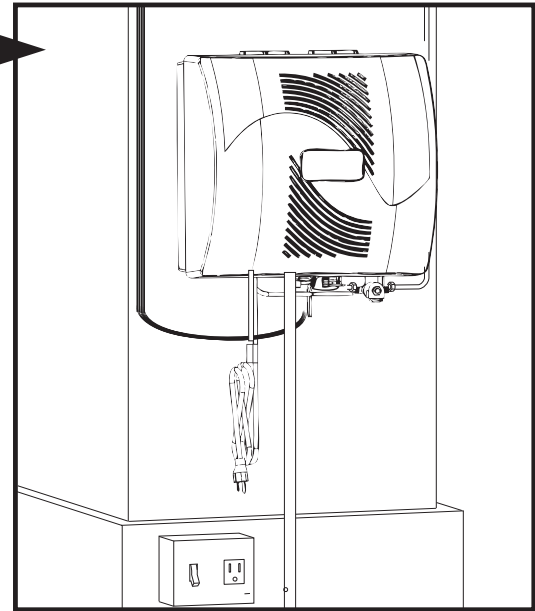
Use with mechanical humidistat only. Mount a junction box and 115v. grounded outlet. Connect the on-off switch in series with the hot or black wire. Install a field supplied 24 volt relay and attach to HUM and C on the furnace control board. Install humidistat and connect one side to one yellow wire on humidifier. Connect the other side of the humidistat to one end of switch side of the relay. Connect the other switch side of the relay to the remaining yellow wire on humidifier. **Red humidifier leads are not used for this wiring method. Do not touch red wires together. Damage to the humidifier will result.**

6C WITH ELECTRONIC HUMIDISTAT - PRESSURE SENSING

On furnaces with a two speed blower, the humidifier and a Model 12500 Air Pressure Switch may be wired from a continuous 115 volt power source. Install the on/off switch in series with hot or black wire and Air Pressure Switch in series with the humidistat circuit. The Air Pressure Switch will detect furnace operation and supply power to the humidifier accordingly.

6D WITH ELECTRONIC HUMIDISTAT - CURRENT SENSING

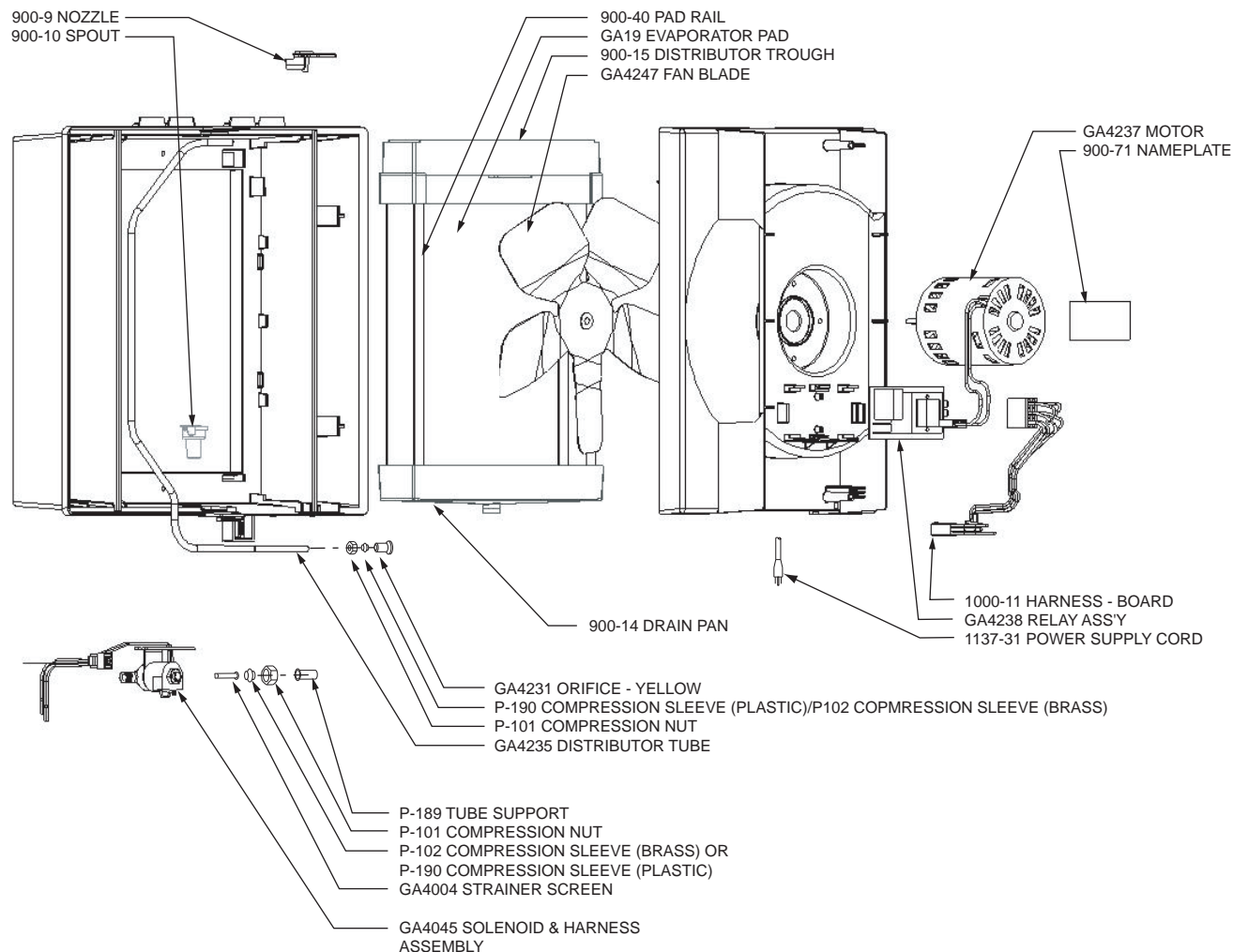
On furnaces with a two speed blower, the humidifier may be wired from a continuous 115 volt power source. Install the on/off switch in series with the hot or black wire. Install the GA50 Current Sensing Relay in series with the humidistat circuit. The Current Sensing Relay will detect furnace operation and supply power to the humidifier accordingly.



Replace evaporator pad assembly and humidifier cover. Insert low voltage six connector wiring harness from cover into chassis solenoid harness.

Turn on water supply and plug in power cord to check operation of humidifier. Set humidistat to a demand setting. With the furnace off, the solenoid valve should be closed and the humidifier fan not running. Start the furnace, the solenoid valve should open and the humidifier fan run when the blower or burner circuit is energized. Check flow of water through distributor trough and evaporator pad. The standard 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 orifice GA4299 is available to provide the same flow. Leave humidistat set at the recommended setting.

PARTS LIST FOR HUMIDIFIER



LIMITED WARRANTY

This humidifier, if properly registered by the return of the warranty registration card to the manufacturer, is warranted to the consumer against defects in materials and workmanship for a period of ten years from the date of installation. Evaporator pads, water strainers or metering orifices are not covered by this limited warranty or any other warranties. Any other defective parts will be repaired without charge except for removal, reinstallation and transportation costs. To obtain repair service under this limited warranty, the consumer must send the defective part or the complete humidifier to the manufacturer.

THERE ARE NO EXPRESS WARRANTIES COVERING THIS AIR CLEANER OTHER THAN AS SET FORTH ABOVE, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. THE MANUFACTURER ASSUMES NO LIABILITY IN CONNECTION WITH THE INSTALLATION OR USE OF THIS PRODUCT, EXCEPT AS STATED IN THIS LIMITED WARRANTY. THE MANUFACTURER WILL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow either limitations on implied warranties, or exclusions from incidental or consequential damages, so the above exclusion and limitation may not apply to you.

Any questions pertaining to this limited warranty should be addressed to the manufacturer. (U.S.A.: The manufacturer has elected not to make available the informal dispute settlement mechanism which is specified in the Magnuson-Moss Warranty Act.)

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 electrical power to humidifier.
2. Remove cover, water distributor trough, evaporator pad, pad rails and drain pan. Clean excessive mineral deposits from the distributor trough, drain pan, pad rails and humidifier cabinet. A solution of 1/2 vinegar & 1/2 water will help loosen mineral deposits. Inspect drain hose, clean or replace as necessary.
3. Replace humidifier evaporator pad if necessary. (Part number GA19) Install trough, pad rails and drain pan. Replace cover, reconnect electrical plug. Replace evaporator pad yearly for peak performance.
4. In heavy mineral areas or if the solenoid valve fails to function disconnect the 1/4" water supply line from the solenoid valve. Carefully pull the strainer screen (P.N. 900-8) from the valve body (P.N. 900-6). Clean the mineral deposits from all parts. If the orifice is clogged, it may be opened by inserting a small pin. Reinsert the filter into the valve body.
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 electrical power to 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 heat necessary for evaporating water is produced by the furnace. The water supply to the humidifier is controlled by the electric solenoid valve. The solenoid valve and humidifier fan are controlled by a humidistat connected through an isolation relay. The humidistat is designed for wall mounting in the living area or surface mounting on the return air duct.

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. Air from the warm air plenum is pulled through the wetted evaporator pad by the humidifier fan and returned to the warm air plenum to be circulated through the living area. Moisture is evaporated to the air passing through the evaporator pad.

Minerals are not blown into the air stream as occurs in atomizing humidifiers; they 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. To turn the humidifier off, close water supply valve, switch electrical power off and turn humidistat off.

ELECTRICAL RATING: 24 VAC/ 60 Hz.

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

SYMPTOMS	DIAGNOTIC STEP
Humidifier will not operate	<ol style="list-style-type: none">1. Set thermostat to operate both furnace burner and blower. Operation may be necessary for system power.2. Humidity level in home may be higher than humidistat setting. Increase humidity setting on humidistat. (humidistat usually located on the return plenum of the furnace or on an interior wall in the living space)*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.6. Contact authorized General Aire contractor to verify voltage in and out of the relay board and replace if necessary.
Proper voltage present at solenoid valve (24 VAC) but no water flow	<ol style="list-style-type: none">1. Verify water supply is on2. 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 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 purchased through your authorized General Aire contractor or visit www.GeneralAire.com for more information.

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

TECHNICAL SUPPORT

USA CUSTOMERS
General Filters, Inc.
43800 Grand River Ave.
Novi, MI 48375
www.GeneralAire.com
Engineering@generalfilters.com
Toll Free (866) 476-5101

CANADIAN CUSTOMERS
Canadian General Filters, Ltd.
400 Midwest Rd.
Toronto, ON M1P3A9 Canada
www.CGFPproducts.com
Sales@cgfproducts.com
Tel. (416) 757-3691

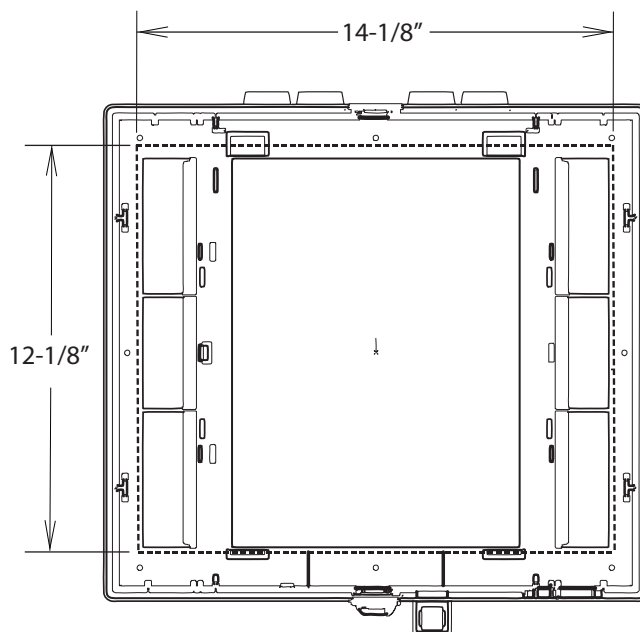
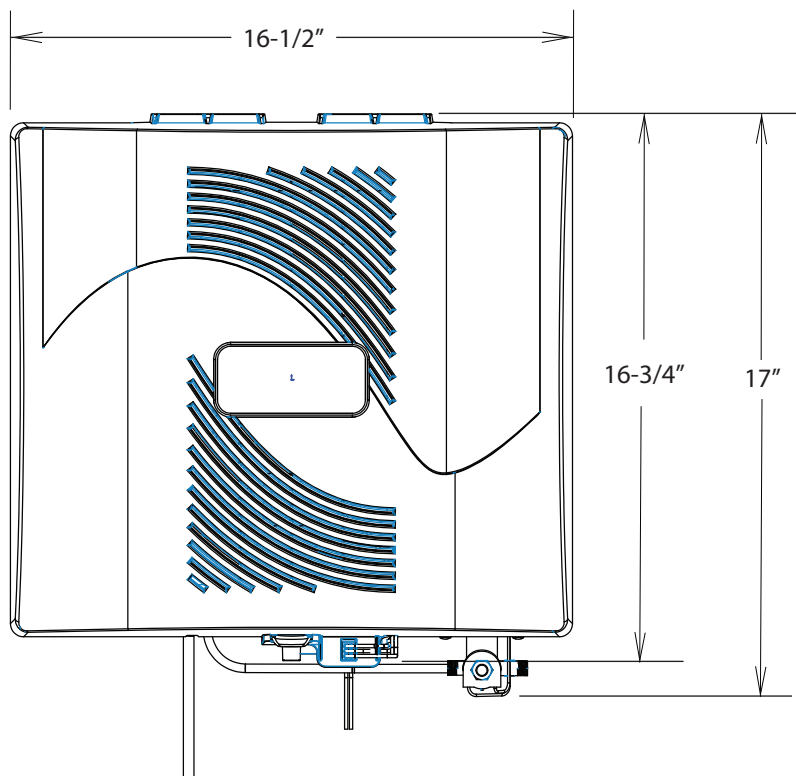
ELITE 1000 HUMIDIFIER SPECIFICATIONS

Expected Humidity Performance Coverage in Square Feet Based on Construction Type

Model No.	GPD	Loose (0.75 AC/H)	Average (0.50 AC/H)	Tight (0.30 AC/H)
Elite 570	12	800 sq. ft.	1200 sq. ft.	2000 sq. ft.
Elite 900	17	1115 sq. ft.	1650 sq. ft.	2800 sq. ft.
Elite 1000	18	1175 sq. ft.	1770 sq. ft.	3000 sq. ft.

Humidifier Performance Baseline Criteria

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



Humidifier Chassis with plenum cut out shown as dashed lines

HUMIDIFIER PACKAGED COMPONENT ACCESSORIES

Model 1000A (GFI#5730) includes:

Humidifier components: GA19 Vapor pad, Solenoid Assembly, Relay Circuit Board, Fan Motor, Fan Blades
Accessories: GFX3 Automatic Digital Humidistat, Code Valve, Saddle Valve

Model 1000M (GFI#5735) includes:

Humidifier Components: GA19 Vapor Pad, Solenoid Assembly, Relay Circuit Board, Fan Motor, Fan Blades
Accessories: Manual Humidistat, Saddle Valve

WARRANTY REGISTRATION

You may register online at www.GeneralAire.com or mail form below

Product Information:

Serial Number: _____

Model: _____

Install Date: Month _____ Day _____ Year _____



Owner Information:

Name: _____

Address: _____

Address 2: _____

City: _____ State: _____ Zip Code: _____

Phone: _____

Email: _____

Mail Form To:
General Filters, Inc
Attn: Warranty Dept.
43800 Grand River Ave.
Novi, MI 48375

Contractor Information:

Contractor Name: _____

Address: _____

Address 2: _____

City: _____ State: _____ Zip Code: _____

Contractor Phone: _____

Contractor Email: _____

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TECHNICAL SUPPORT

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Novi, MI 48375
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