

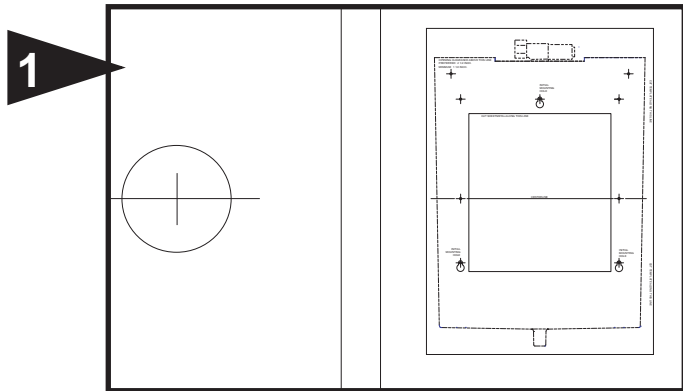
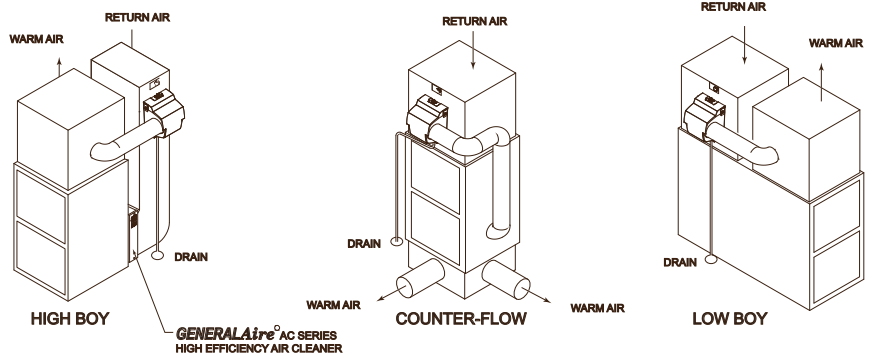
**INSTALLER: PLEASE FILL OUT AND MAIL GUARANTEE CARD AFTER INSTALLATION IS COMPLETE. LEAVE INSTALLATION INSTRUCTIONS WITH HOME OWNER**

**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 200 degrees F. When wiring into a multi-speed blower circuit see Step 7D.

**INSTALLATION:** The humidifier may be mounted with the 6" outlet to the right or left by reversing the position of the Bypass Cover. The humidifier may be mounted on the warm or return air plenum with equal efficiency. See Typical Installations below.

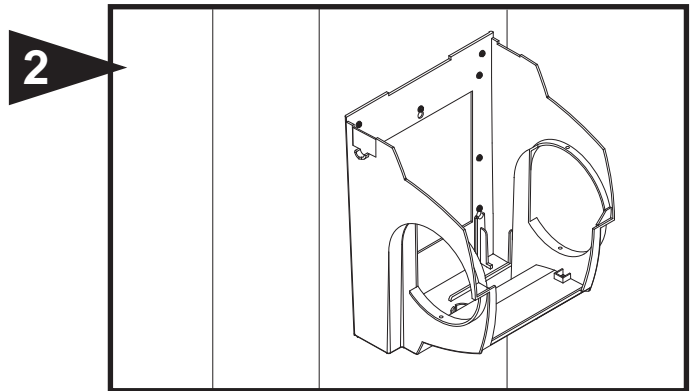
**ADDITIONAL MATERIALS THAT MAY BE NECESSARY:**

1. 1/4" diameter copper or plastic water supply tubing (G.F. #747-38 suggested)
2. 5/8" diameter drain tubing (G.F. #1099-16 suggested)
3. 3/4" O.D. drain tube clamp (G.F. #P-163 suggested)
4. 6" diameter galvanized by-pass pipe
5. 6" diameter galvanized elbow
6. 6" diameter galvanized damper
7. 6" diameter collar
8. wire, two-conductor #18 or heavier (G.F. #727-48 suggested)
9. transformer 120V, 60HZ primary 24V, 10VA or greater secondary (G.F. #727-58 suggested)
10. air pressure switch (G.F. Model #12500 suggested)
11. current sensing relay (G.F. Model #GA50 suggested)



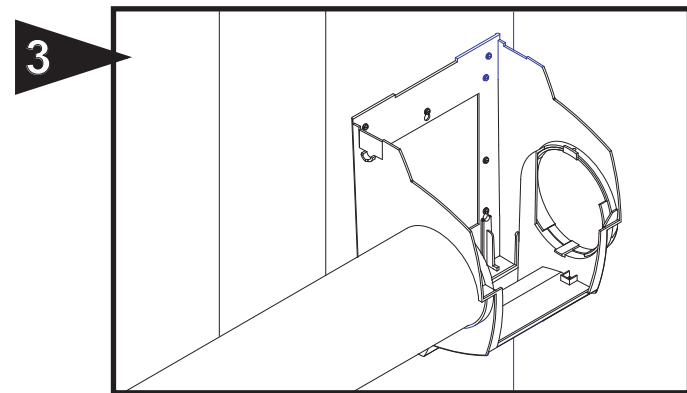
1

Select location on vertical surface of warm or return air plenum for mounting humidifier and tape mounting template. Make sure the template is level. Do not install humidifier or 6" bypass pipe where the blanked off ends of a cooling coil will restrict air flow to the humidifier. Extend horizontal centerline from template to the adjacent plenum. Scribe 6" circle 10" to 15" from side of humidifier, on cabinet centerline.



2

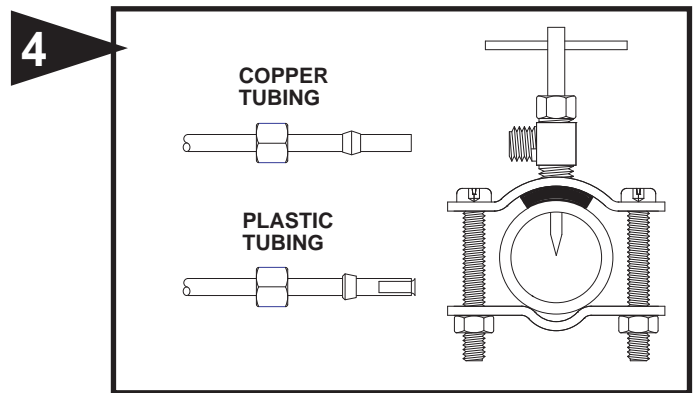
Start the three initial mounting screws. Mount humidifier cabinet in level position and tighten screws. Install six additional screws at top and sides of cabinet.



3

Cut 6" hole and install connecting collar, 6" elbow and by-pass pipe (not supplied). USE UNCRIMPED END IN HUMIDIFIER CABINET. Connect by-pass pipe to collar and humidifier cabinet. Using holes at top and bottom of humidifier bypass opening, screw by-pass pipe to humidifier cabinet. Install bypass cover by placing the tab of the bypass cover marked "TOP" behind the top flange of the humidifier cabinet, push up on the bottom clip until it clears the opening of the humidifier cabinet then push in on the bottom of the bypass cover.

**NOTE:** If furnace is used for summer cooling, install inline damper in by-pass pipe.



4

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, a plastic sleeve on the outside with a brass compression 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.**

## SADDLE VALVE INSTALLATION INSTRUCTIONS

### Copper Pipe

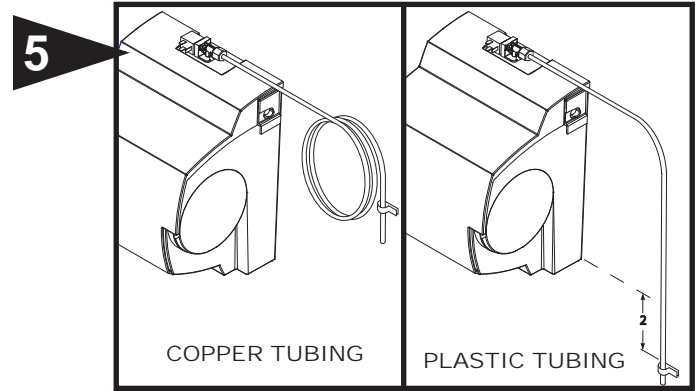
1. Retract piercing pin into valve body by turning handle counterclockwise.
2. Screw valve body into upper bracket and tighten.
3. Place rubber gasket over piercing pin.
4. Assemble saddle valve over copper pipe using enclosed screws, nuts and lower bracket.
5. Tighten screws evenly and firmly. Brackets should be parallel.
6. Complete compression connection to saddle valve outlet.
7. Turn handle clockwise to pierce tubing and close saddle valve.
8. Turn handle counterclockwise to open saddle valve, leave open for several seconds to flush dirt from pipe and tubing.

### Steel, Brass or Hard Plastic Pipe

1. Shut off water supply and drain pipe.
2. Turn handle clockwise to expose piercing pin and close saddle valve.
3. Place rubber gasket over piercing pin.
4. Drill 1/8" hole in pipe using a hand crank drill to avoid shock hazard.
5. Assemble saddle valve over steel, brass or hard plastic pipe using enclosed screws, nuts and lower bracket.
6. Tighten screws evenly and firmly. Brackets should be parallel.
7. Complete compression connection to saddle valve outlet.
8. Turn handle counterclockwise to open saddle valve, leave open for several seconds to flush dirt from pipe and tubing.

### Threaded Pipe Fittings

1. Turn handle clockwise to expose piercing pin and close saddle valve.
2. Seal valve body threads using pipe tape or sealant.
3. Install valve into 1/8" NPT fitting.
4. Complete compression connection to saddle valve outlet.
5. Turn handle counterclockwise to open saddle valve, leave open for several seconds to flush dirt from pipe and tubing.

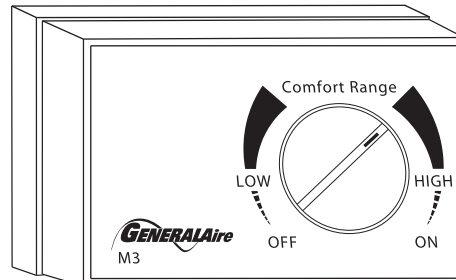
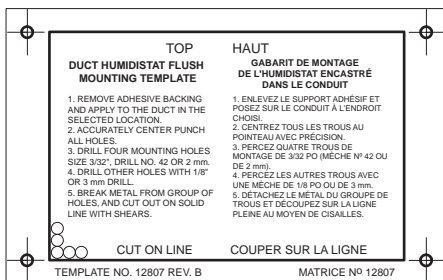


Attach solenoid valve into top of humidifier cover using 1/4 turn rotation. If using copper tube, leave two coils of tube next to cabinet to allow cover movement for changing pad. If using plastic tube, anchor tube 2 inches below humidifier and leave some slack. This will allow full cover movement.

Loosen the fitting nut on the solenoid valve 1/2 turn. Push the 1/4" O.D. tubing straight into fitting until it bottoms on the fitting's shoulder. **TIGHTEN NUT BY HAND.** Additional tightening is not required.

**DO NOT OVERTIGHTEN NUT AS THE THREADS WILL STRIP AND THE FITTING WILL NOT FUNCTION PROPERLY. DO NOT USE PLASTIC TUBING IN CONTACT WITH ANY HOT PLENUM SURFACE OR DUCT.**

6



## MOUNTING ON THE RETURN AIR DUCT

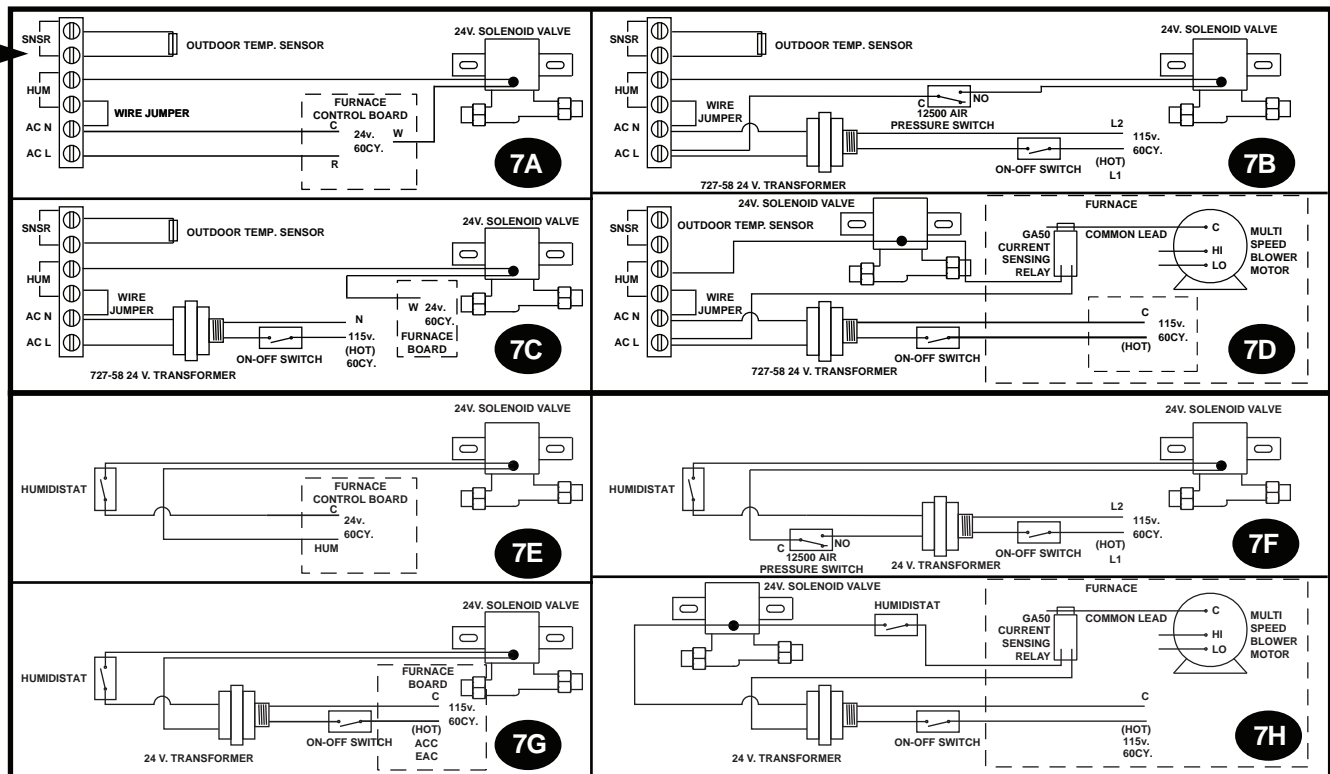
Do not install the humidistat on the warm air duct.

1. Locate the humidistat at least 24" upstream of the humidifier or bypass on the return air duct. Avoid areas of direct radiation like secondary heat exchangers in the fan compartment.
2. Place template using level. Cut sensor hole as shown on template. Drill four 3/32" holes as shown.
3. Remove the housing from the base by prying with a small screwdriver at the notch in the side of the housing.
4. Place the outer part of the foam gasket on the humidistat base and mount the base with four screws. Low voltage wire may enter the humidistat under the foam seal.
5. Connect wires to screw terminals on the control assembly as shown in wiring diagram. Replace housing.

## WALL MOUNTING INSTRUCTIONS

1. Choose a location for the humidistat about five feet above the floor on an inside wall with average room temperature and humidity conditions.
2. Drill a small hole in the wall and run low voltage wiring to the location chosen. Pull about 6" of wire through the hole. Plug the opening to prevent drafts from affecting the humidistat operation.
3. Remove the housing from the base by prying with a small screwdriver at the notch in the side of the housing.
4. Mount the base horizontally over the wires using level. Attach directly to the wall, using four screws provided.
5. Connect wires to screw terminals on the control assembly as shown in wiring diagram. Replace housing.

7



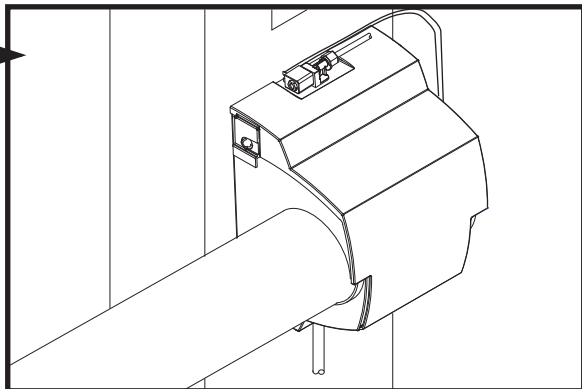
**7A-7D Electronic Humidistat**

- 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

8



Connect drain hose to 5/8" spout on humidifier cabinet using a 3/4" hose clamp. Run 5/8" I.D. 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.

9

Remove plastic bag from 990-13 evaporator pad, replace 16-4 distributor trough and close 16-2 cover. 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 solenoid valve will supply approximately 3.5 GPH of water at a line water pressure of 60 psi. Leave humidistat set at the recommended setting.

# 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 five 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 has a SPST switch and is designed for wall mounting in the living area or surface mounting on the return air duct. RANGE: 10% to 60% RH 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 ON HUMIDISTAT.

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 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. If furnace is used for summer cooling or ventilating close inline air damper if installed..

AT OUTSIDE TEMPERATURE		RECOMMENDED SETTING
-20°F	-29°C	15%
-10°F	-23°C	20%
0°F	-18°C	25%
+10°F	-29°C	30%
+20°F	-7°C	35%
+30°F	-1°C	40%

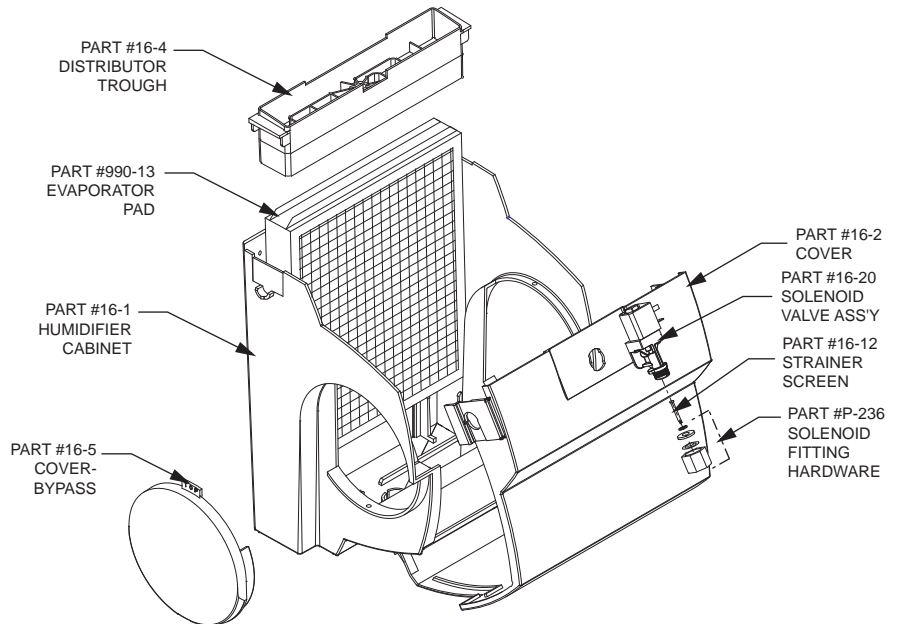
## CARE AND MAINTENANCE

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. Open humidifier cover, remove trough and evaporator pad. If water line prevents cover opening disconnect water line from solenoid valve. Clean excessive mineral deposits from the distributor trough, humidifier cover and humidifier cabinet. A solution of 1/2 vinegar & 1/2 water will help loosen mineral deposits.
3. If the evaporator pad has excessive mineral deposits, replace with a new "990-13" evaporator pad. Install trough and replace cover.
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 filter from the solenoid valve. Clean the mineral deposits from all parts. If the orifice beyond the filter is clogged, it may be opened by inserting a small needle. Reinsert the filter into the solenoid valve.
5. Reconnect the 1/4" water line to the solenoid valve if necessary. Tighten nut by hand, additional tightening is not required. DO NOT OVERTIGHTEN NUT AS THE THREADS WILL STRIP AND THE FITTING WILL NOT FUNCTION PROPERLY. 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. Close inline air damper if installed.

## PARTS LIST FOR HUMIDIFIER

PARTS NOT SHOWN:  
800UST SADDLE VALVE  
HUMIDISTAT ASSY.



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## 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 HUMIDIFIER 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.)

## 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

### WARRANTY REGISTRATION

You may register online at [www.GeneralAire.com](http://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: \_\_\_\_\_

**Contractor Information:**

Contractor Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Address 2: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Contractor Phone: \_\_\_\_\_  
Contractor Email: \_\_\_\_\_

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

cut along dashed line

cut along dashed line