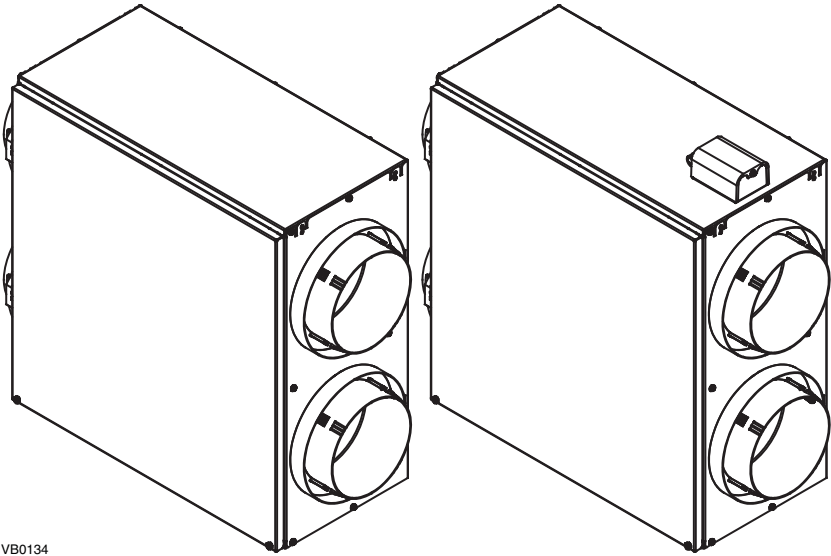


# INSTALLATION AND USER MANUAL



VB0134

## FURNACE AIR EXCHANGER WITH HEAT RECOVERY MODELS

FAE125  
VFAE125

FAE 125M  
VFAE125M

ADDRESS OF YOUR INSTALLER

INSTALLER: LEAVE THIS MANUAL WITH HOMEOWNER  
CUSTOMER SERVICE PHONE NUMBER: 1-800-567-3855



7 72371 10951 3

09219 rev. 02

## ABOUT THIS MANUAL

This manual uses the following symbols to emphasize particular information:

### **⚠ WARNING**

**Identifies an instruction which, if not followed, might cause serious personal injuries including possibility of death.**

### **CAUTION**

**Denotes an instruction which, if not followed, may severely damage the unit and/or its components.**

NOTE: Indicates supplementary information needed to fully complete an instruction.

## WARRANTY

Venmar Ventilation inc. or vänEE Canada warrants to the original purchaser of its products that such products will be guaranteed against all manufacturing defects and defective material for a period of two (2) years from the date of original purchase. The heat recovery core is protected by a limited lifetime warranty.

THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. VENMAR VENTILATION INC. OR vänEE CANADA WILL NOT BE HELD RESPONSIBLE FOR ANY CLAIMS OVER THE ORIGINAL PURCHASE PRICE OF A **FURNACE AIR EXCHANGER WITH HEAT RECOVERY**, NOR HELD RESPONSIBLE FOR SUBSEQUENT DAMAGE OR INCIDENT.

During the period stated above, Venmar Ventilation Inc. or vänEE Canada will, at its option, repair or replace, without charge, any product or part which is found to be defective under normal use and service. This warranty does not cover a) normal maintenance and service, b) any products or parts which have been subject to misuse, negligence, accident, improper maintenance or repairs made by other than Venmar Ventilation inc. or vänEE Canada, or c) a faulty installation or installation contrary to recommended installation instructions.

The duration of any implied warranty is limited to the 2-year period as specified for the express warranty. Some jurisdictions do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

VENMAR VENTILATION INC. OR vänEE CANADA'S OBLIGATION TO REPAIR OR REPLACE AT VENMAR OR vänEE'S OPTION, SHALL BE THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY. VENMAR OR vänEE SHALL NOT BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH PRODUCT USE OR PERFORMANCE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights and you may also have other rights, which vary from province to another. This warranty supersedes all prior warranties. To contact Venmar Ventilation inc. or vänEE Canada warranty service, call 1-800-567-3855.

In order to qualify for a warranty claim, the owner of a Furnace Air Exchanger with heat recovery must have the model and serial number along with a proof of the original purchase date. At the time of requesting service, describe the nature of any defect in the product or part.

## ABOUT THESE UNITS

### **⚠ WARNING**

**TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSON(S), OBSERVE THE FOLLOWING:**

1. This unit is intended for residential installation only.
2. Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards.
3. This unit is not designed to provide combustion and/or dilution air for fuel-burning appliances.
4. Do not install in a cooking area or connect directly to an appliance.
5. Before servicing or cleaning the unit, disconnect power from HVAC system.
6. When cutting or drilling into wall or ceiling, do not damage electrical wiring or other hidden utilities.
7. Do not use FAE125M and VFAE125M units with any solid-state speed control device. Use only with Dehumidistat wall control provided with the unit.
8. This unit must be installed in a weatherized location, out of direct sunlight and protected from the elements.
9. Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer at the telephone number listed in the warranty.
10. When performing installation, servicing or cleaning the unit, it is recommended to wear safety glasses and gloves.
11. Servicing shall be done by qualified service personnel.
12. When applicable local regulations comprise more restrictive installation and/or certification requirements, the aforementioned requirements prevail on those of this document and the installer agrees to conform to these at his own expenses.

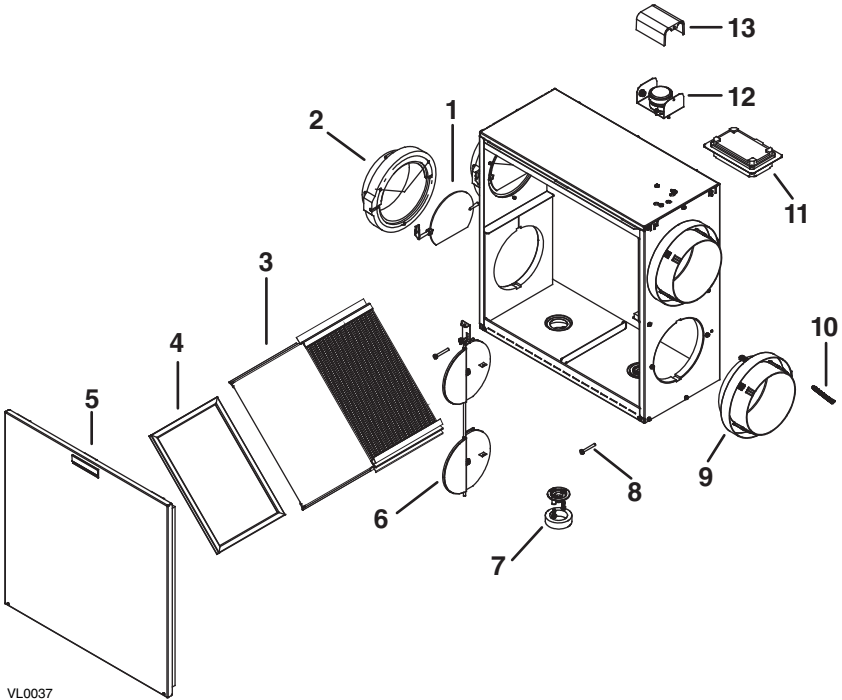
### **CAUTION**

1. For general ventilation use only. Do not use to exhaust hazardous or explosive materials and vapors.
2. Intended for residential installation only in accordance with the requirements of NFPA 90B and in compliance with all local and national codes that are applicable.
3. Be sure to duct air outside. Do not intake/exhaust air into spaces within walls or ceiling or into attics, crawl spaces, or garage.
4. To avoid premature clogged filter, turn OFF the unit during construction or renovation.
5. Please read the unit specification label on the product for further information and requirements.
6. At least once a year, the unit mechanical and electronic parts (if need be) should be inspected by qualified service personnel.
7. The FAE125M or VFAE125M must be connected to a 24-volt class 2 circuit only.

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# 1. SERVICE PARTS



VL0037

No.	PART No.	DESCRIPTION	FAE125 OR VFAE125	FAE125M OR VFAE125M
1	02253	BALANCING DAMPER	2	2
2	02256	PORT FOR BALANCING DAMPER	2	2
3	18620	HEAT RECOVERY CORE	1	1
4	09214	FILTER	1	1
5	18619	DOOR ASSEMBLY (WITH SCREWS)	1	1
6	18618	MOTORIZED DAMPER ASSEMBLY (WITH DAMPER SPRING)	—	1
7	18682	DRAIN CONNECTOR WITH FOAM	1	1
8	18683	DOOR SCREWS (4 PER KIT)	1	1
9	02021	PORT	2	2
10	09221	DAMPER SPRING	1	1
11	09220	HARDWARE KIT	1	1
12	18617	DAMPER MOTOR ASSEMBLY	—	1
13	10177	DAMPER MOTOR COVER	—	1

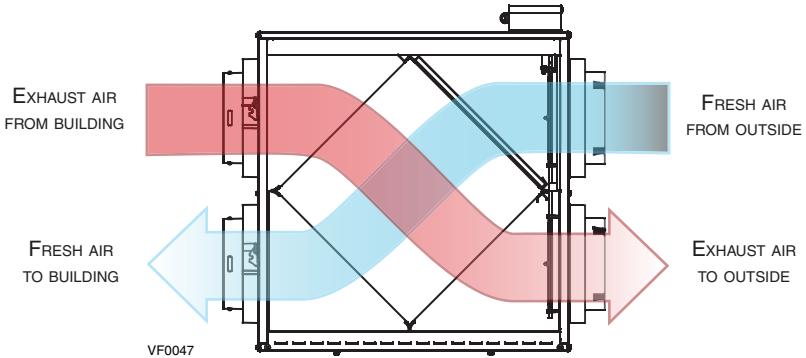
## REPLACEMENT PARTS AND REPAIRS

In order to ensure your ventilation unit remains in good working condition, you must use the manufacturer genuine replacement parts only. The manufacturer replacement parts are specially designed for each unit and are manufactured to comply with all the applicable certification standards and maintain a high standard of safety. Any third party replacement part used may cause serious damage and drastically reduce the performance level of your unit, which will result in premature failing. The manufacturer recommends to contact a certified service depot for all replacement parts and repairs.

## 2. TECHNICAL DATA

### 2.1 AIR DISTRIBUTION

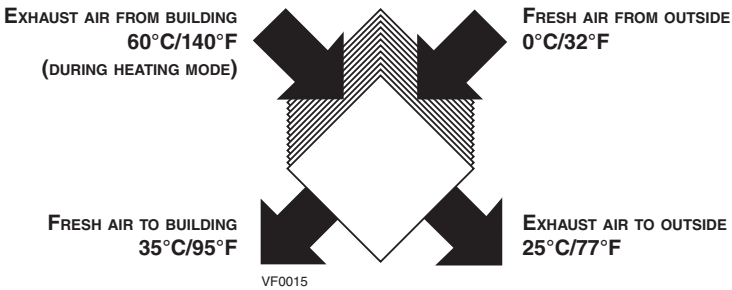
The figure below shows the air flows inside the units.



### 2.2 HEAT RECOVERY

This unit is equipped with a **heat recovery core**, specifically designed to reduce ventilation costs by recovering the heat energy from the exhaust air, and using that same heat energy to warm the fresh air being supplied. This heat recovery process is accomplished in such a way that the stale air is never mixed with the fresh air.

**Example (in winter):**



### 2.3 DURING COLD WEATHER

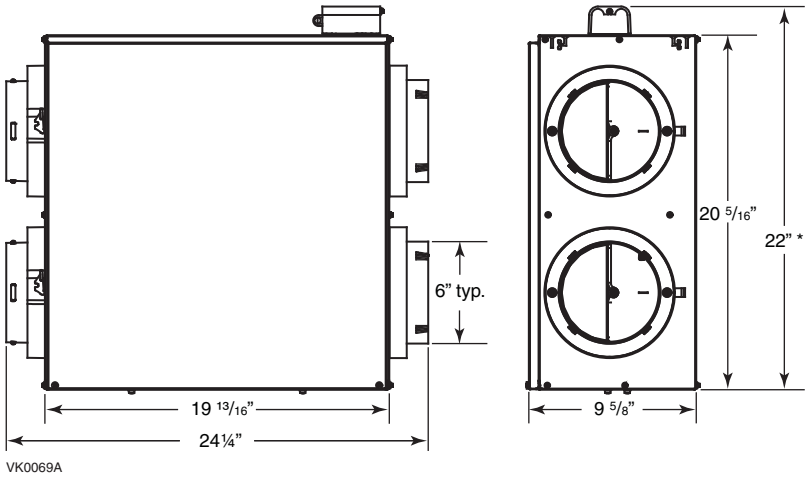
When the outside temperature is below the freezing point, heat recovery creates frost in the module. If the furnace blower is set to operate intermittently, the heat coming from the stale air will prevent unit frosting.

#### CAUTION

When the outside temperature is under -7°C (19°F), the furnace must operate intermittently in heating mode to prevent frost accumulation inside the unit.

## 2. TECHNICAL DATA (CONT'D)

### 2.4 DIMENSIONS



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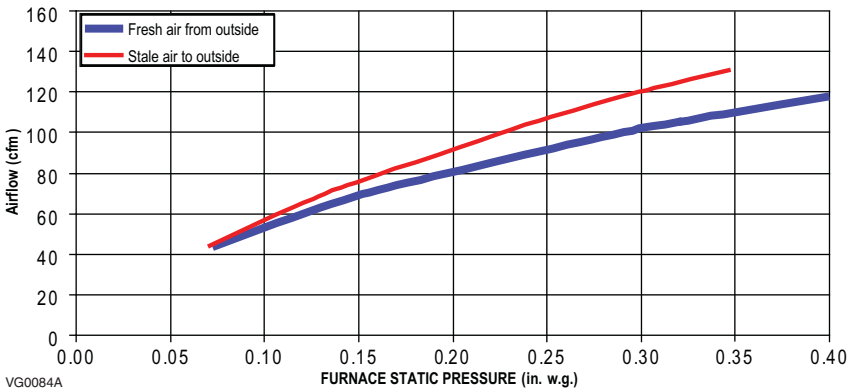
\* 22" height for FAE125M and VFAE125M models only.

### 2.5 SPECIFICATIONS

MODELS	F AE125, VFAE125	F AE125M, VFAE125M
WEIGHT	28 LB. (12.7 KG)	
PORTS DIAMETER	6 INCHES (152 MM)	
DRAIN DIAMETER	1/2 INCH (12 MM)	
INSTALLATION	CHAINS (PROVIDED WITH THE UNIT)	
POWER SUPPLY	N/A	24 VAC
POWER CONSUMPTION	N/A	6 WATTS

### 2.6 PERFORMANCE CHART

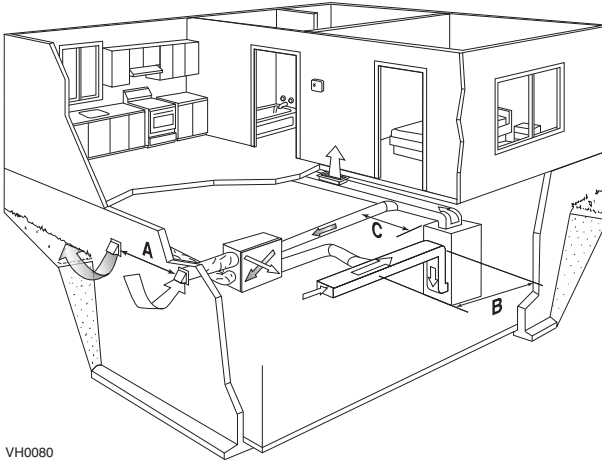
These following curves illustrate the air volume through the units for a typical installation. A typical installation is close to an exterior wall, in order to shorten the insulated duct length. On the warm air side (between the unit and the furnace), use steel rigid ducts. It is strongly recommended to minimize the number of elbows to ease air flow. See Sections 3 and 4 for more details.



VG0084A

### 3. TYPICAL INSTALLATIONS

The figure below illustrates a typical installation. The fresh air intake hood must be located at least 6' away from the outdoor exhaust hood (measurement **A**), the fresh air from outside duct must be at least 6' away from the furnace (measurement **B**) and the stale air from inside duct must be at least 18" from the furnace (measurement **C**). Ducts connected to outdoor hoods must be insulated.



VH0080

### 4. INSTALLATION

#### 4.1 LOCATING AND MOUNTING THE UNIT

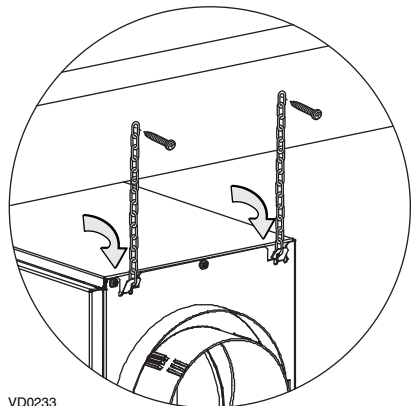
Choose an appropriate location for the unit:

- So as to provide easy access to the interior cabinet.
- Close to an exterior wall, so as to limit the length of the insulated flexible duct to and from the unit.
- Close to a drain. (If no drain is close by, use a pail to collect run-off.)
- Away from hot chimneys, electrical panel and other fire hazards.

Slightly bend all 4 hooks located on both port sides of the unit in order to hang it to ceiling joists with the 4 chains provided (see figure at right).

#### CAUTION

**Make sure the unit is level.**



VD0233



## 4. INSTALLATION (CONT'D)

### 4.2 CONNECTING DUCTS TO THE UNIT

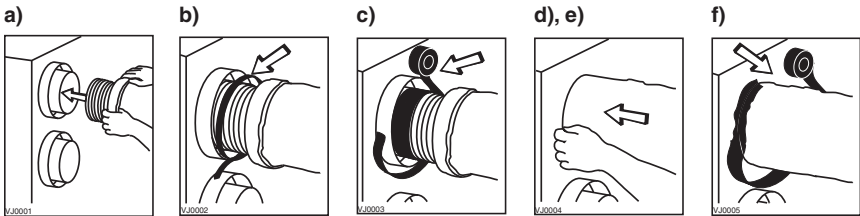
#### INSULATED FLEXIBLE DUCTS:

Use the following procedure for connecting the insulated flexible ducts to the ports on the unit (exhaust to outside and fresh air from outside).

- Pull back the insulation to expose the flexible duct.
- Connect the interior flexible duct to the opening using a duct tie.
- Carefully seal the connection with duct tape.
- Pull the insulation over the joint and tuck it between the inner and outer rings of double collar.
- Pull the vapor barrier over the insulation and over the outer ring of the double collar.
- Apply duct tape to the joint making an airtight seal. Avoid compressing the insulation when you pull the tape tightly around the joint. A compressed insulation loses its R value and also causes water dripping due to condensation on the exterior surface of the duct.

#### CAUTION

**Make sure that the vapor barrier on the insulated ducts does not tear during installation.**



### 4.3 EXTERIOR HOODS INSTALLATION

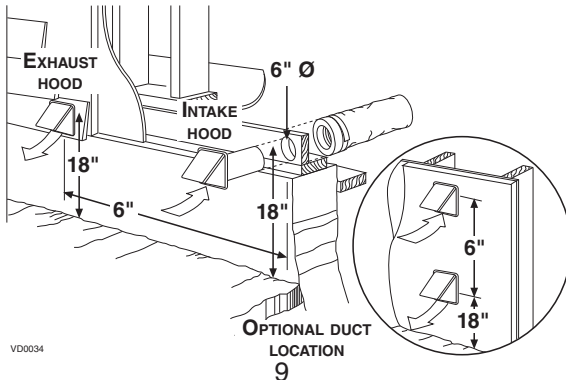
Choose an appropriate location for the exterior hoods installation:

- At a minimum distance of 6 feet between the hoods to avoid cross-contamination
- At a minimum distance of 18 inches from the ground

Make sure the intake hood is at least 6 feet away from any of the following:

- Dryer exhaust, high efficiency furnace vent, central vacuum vent
- Gas meter exhaust, gas barbecue-grill
- Any exhaust from a combustion source
- Garbage bin and any other source of contamination

Refer to figure below for connecting the insulated duct to the hoods. An "Anti-Gust Intake Hood" should be installed in regions where a lot of snow is expected to fall.



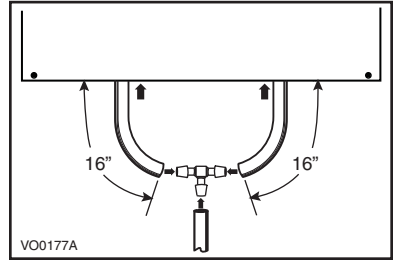
VD0034

## 4. INSTALLATION (CONT'D)

### 4.4 CONNECTING THE DRAIN

Cut 2 sections of the plastic tube, at least 16" long, and attach them to each inner drain fitting, located under the unit.

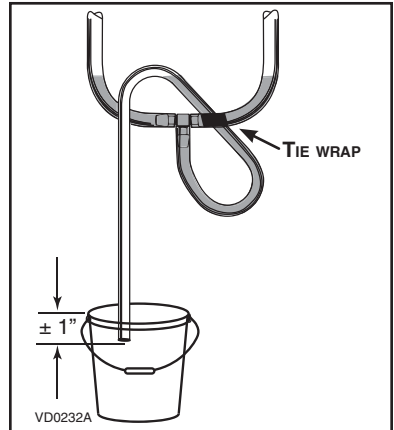
Join both short sections to the "T" junction and main tube as shown.



Make a water trap loop in the tube to prevent the unit from drawing unpleasant odors from the drain source. Make sure this loop is located OVER the "T" as shown. Run the tube to the floor drain or to an alternative drain pipe or pail.

#### IMPORTANT

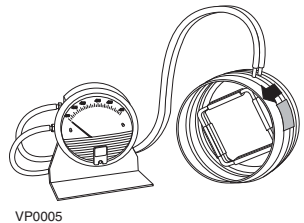
If using a pail to collect water, locate the tube end approximately 1" from the top of the pail in order to prevent water from being drawn back up into the unit.



## 5. AIR FLOW BALANCING

**What you need to balance the unit:**

- A magnehelic gauge capable of measuring 0" to 0.25" water gauge (0 to 62.5 Pa) and 2 plastic tubes.
- Two flow collars (6" diameter).



**FLOW COLLAR**

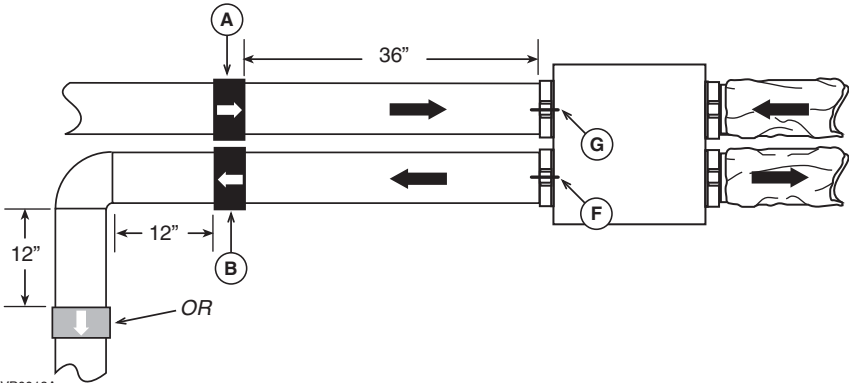
## 5. AIR FLOW BALANCING (CONT'D)

### Preliminary Stages for Balancing the Unit:

Seal all the unit ductwork with duct tape. Close all windows and doors. Turn off all exhaust devices such as: range hood, dryer and bathroom fan(s). Make sure balancing dampers are fully opened (**F** and **G** in figure below).

Choose appropriate locations for the 2 flow collars according to figure below:

- On the exhaust air duct (first measuring location, **A**).
- On the fresh air distribution duct (second measuring location, **B**).
- At least 36" away from the unit; at least 12" before or after a 90° elbow; at least 12" away from a register.



VP0018A

### Flow Collars Installation:

Insert the flow collars in the duct at each location. Make sure their arrows are pointing in the direction of the airflow. Tape collars in place temporarily.

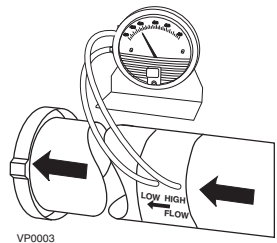
### Balancing Procedure:

1. Set the furnace blower to maximum speed.
2. Place the magnehelic gauge on a level surface and adjust it to zero.

3. Connect tubing from gauge to flow collar in exhaust air stream at location **A** (see figure above). Be sure to connect the tubes to their appropriate high / low fitting. If the gauge reading drops to below zero, reverse the tubing connections.

NOTE: It is better to start with the exhaust air flow reading because the exhaust typically has more restriction than the fresh air.

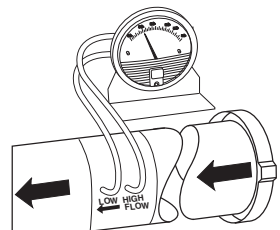
Hold or place the magnehelic gauge upright and level.  
Record the reading.



VP0003

4. Move tubing to the other side of the unit (location **B** in illustration above) and note reading. Adjust the fresh air balancing damper **F** until the reading at **B** is approximately the same as the reading at **A**.

If the reading at **B** is less than the reading at **A** then go back and adjust the exhaust balancing damper **G** to equal the fresh air flow.



VP0004

## 5. AIR FLOW BALANCING (CONT'D)

### Balancing Procedure (cont'd):

5. If the furnace has a low speed option, select the low speed option and check if the fresh air flow and the stale air flow are still balanced.
6. Remove flow collars, reconnect the ducts and seal with duct tape.  
Write the required airflow information on a label and stick it near the unit for future reference: date, maximum speed airflows, your name and phone number and business address.

- NOTES:
- Most flow collar kits provide a conversion chart situated on the collar which enables you to convert magnehelic gauge readings to equivalent cfm values.
  - A difference of  $\pm 10$  cfm ( $\pm 0.015$  inches water gauge) between the 2 readings is considered balanced.
  - If you are using only one flow collar, then, after completing the first reading, transfer this measuring device to the other side of the unit and take the second reading.

## 6. WALL CONTROL (FAE125M AND VFAE125M ONLY)

### 6.1 INSTRUCTIONS REGARDING WALL CONTROL

The wall control works with a dehumidistat that allows you to select the desired humidity level according to your needs. If the selector is set above the click, the unit will close its damper and stop air exchange with outside. If the selector is set below the click, the unit will open its dampers and allow air exchange with the outside until the desired humidity level has been reached. The wall control part number for FAE125M unit is 11297, and the wall control part number for VFAE125M unit is 200694.

### CAUTION

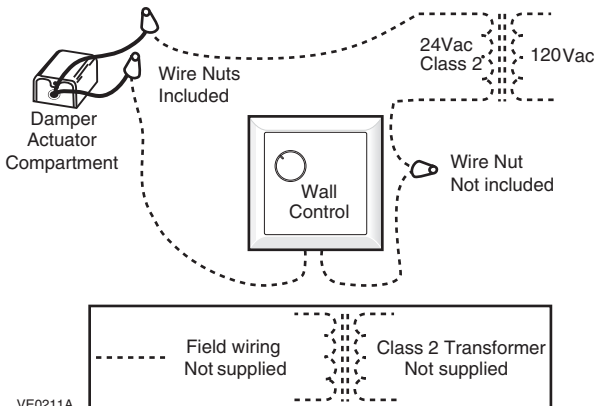
**Some activities create dust or vapors which may damage your unit. You must turn off your unit by disconnecting it in the following situation:**

- Major renovation work
- Sanding of gypsum joints
- House building
- Varnishing

During very heavy snow storm, the unit should also be turned off to avoid problems caused by snow entering the unit, if it is not equipped with an anti-gust intake hood.

### 6.2 WALL CONTROL CONNECTION TO THE UNIT

Connect one damper actuator wire to one transformer wire. Connect the second transformer wire to one wall control wire. Connect the second wall control wire to the second damper actuator wire. See below.



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## 7. MAINTENANCE

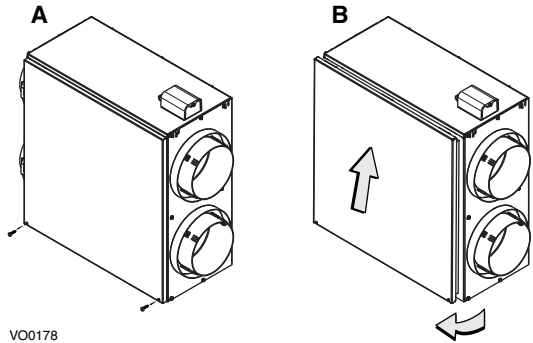
### ⚠ WARNING

We take great care to keep sharp edges to a minimum, but please be careful when handling components.

Regular maintenance should be performed every 3 months.

- 1 Set the wall control to 80% (FAE125M or VFAE125M units only).

- 2 Remove both door lower screws no. 8-32 x 1" (A) and set aside. Open and lift out the door (B).



- 3 Slide out the filter and vacuum to remove most of the dust. Wash with a mixture of warm water and mild soap. You may add bleach if you wish to disinfect (one tablespoon per gallon).

Rinse thoroughly. Shake filter to remove excess water and let dry.

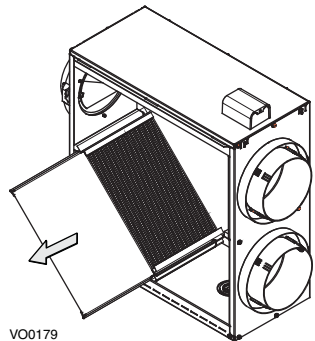
NOTE: Washing the filter in the top tray of the dishwasher is possible, but the aluminum frame might tarnish.

- 4 Slide out and wash the heat recovery core.

### CAUTION

The heat recovery core must be handled with care.

Let it soak in a mixture of cold or lukewarm water and mild soap (dishwashing liquid). Rinse thoroughly. Shake the core to remove excess water and let it dry.



- 5 Clean the condensation tray with a damp cloth.
- 6 Reinstall the heat recovery core and the filter. Reinstall the door by reversing operations in step 2.
- 7 Check the exterior air intake hood:

### CAUTION

Even a partial blocking of this air vent could cause the unit to malfunction.

- Make sure there are no leaves, twigs, ice or snow that could be drawn into the vent.
  - Clean if necessary.
- 8 Set the wall control to its previous position (FAE125M and VFAE125M units only).

## 8. TROUBLESHOOTING

If you think your unit is malfunctioning, check the following:

	PROBLEMS	TRY THIS
1	Nothing works (models FAE125M and VFAE125M only).	<ul style="list-style-type: none"><li>• See if the transformer is plugged in.</li><li>• See if the transformer is receiving power from the house circuit breaker.</li></ul>
2	Condensation on windows (air too humid).	<ul style="list-style-type: none"><li>• Adjust the humidity control knob as per instructions (see Section 6) (FAE125M and VFAE125M models only).</li><li>• Leave curtains half-open to allow air circulation.</li><li>• Store all firewood in a closed room with a dehumidifier or in a well ventilated room, or store the wood outside.</li><li>• Keep the temperature in your house above 18°C (64°F).</li></ul>
3	Air too dry.	<ul style="list-style-type: none"><li>• Adjust your humidity control over the click (FAE125M and VFAE125M models only).</li><li>• Temporarily use a humidifier.</li></ul>