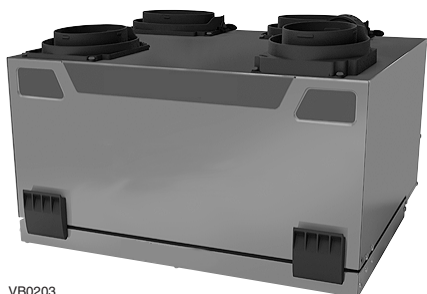




## USER GUIDE

# HEAT RECOVERY VENTILATORS MODELS AVS CONSTRUCTO 1.0 HRV AND AVS C12 ENERGY RECOVERY VENTILATORS MODELS AVS CONSTRUCTO 1.0 ERV AND AVS C12 ERV



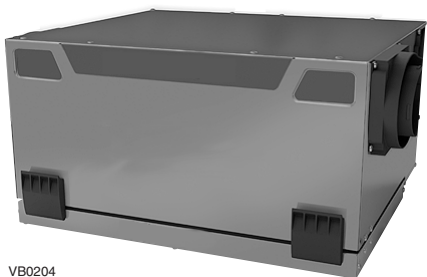
VB0203

**AVS Constructo 1.0 HRV**  
(Top ports, model no.: 41502)

**AVS Constructo 1.0 ERV**  
(Top ports, model no.: 41506)

**AVS C12 HRV**  
(Top ports, model no.: 41552)

**AVS C12 ERV**  
(Top ports, model no.: 41556)



VB0204

**AVS Constructo 1.0 HRV**  
(Side ports, model no.: 41500)

**AVS Constructo 1.0 ERV**  
(Side ports, model no.: 41504)

**AVS C12 HRV**  
(Side ports, model no.: 41550)

**AVS C12 ERV**  
(Side ports, model no.: 41554)

## PLEASE READ AND SAVE THESE INSTRUCTIONS

Venmar Ventilation ULC, 550 Lemire Blvd., Drummondville, QC, Canada J2C 7W9  
[www.venmar.ca](http://www.venmar.ca)



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These products earned the ENERGY STAR® by meeting strict energy efficiency guidelines set by Natural Resources Canada and the US EPA. They meet ENERGY STAR requirements only when used in Canada.

21785 rev. 03

## Congratulations!

You have made an excellent choice! The operating principle of your Heat Recovery Ventilator or your Energy Recovery Ventilator will give you personal comfort you have never known before.

We have prepared this User Guide especially for you. Please read it carefully to ensure you obtain full benefit from your unit. Over the coming months, you will increasingly appreciate the feeling of living in a more comfortable home.

Please take note that 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**

**Identifies 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.

We welcome any suggestions you may have concerning this guide and the unit, and we would appreciate hearing your comments on ways to better serve you.

Please forward all correspondence to us at the address indicated on the product registration card included with this guide.

### **CAUTION**

**Make sure at all times that the outdoor intake and exhaust hoods are free from any snow during the winter season. It is important to check your unit during a big snow storm, so it doesn't draw in any snow. If this is the case, please operate the unit in recirculation mode (if available), or turn it OFF for a few hours.**

**Do not use your unit during construction or renovation of your house or when sanding drywall. This type of dust may damage your system.**

**Sanding the electronic control system of the unit is incorporated with a microprocessor, it may not operate correctly because of external noise or very short power failure. If this happens, unplug the unit and wait approximately 10 seconds. Then, plug the unit in again.**

### **CAUTION**

**When leaving the house for a long period of time (more than two weeks), a responsible person should regularly check if the unit operates adequately.**

**If the ductwork runs through an unconditioned space (e.g.: attic), the unit must operate continuously except when performing maintenance and/or repair. Also, the ambient temperature of the house should never drop below 18°C (65°F). At least once a year, the unit mechanical and electronic parts should be inspected by qualified service personnel.**

### **REPLACEMENT PARTS AND REPAIR**

In order to ensure your ventilation unit remains in good working condition, you must use Venmar Ventilation ULC genuine replacement parts only. The Venmar Ventilation ULC genuine 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. Venmar Ventilation ULC also recommends to contact a Venmar Ventilation ULC certified service depot for all replacement parts and repairs.

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## 1. DEFROSTING MODE

When the outdoor temperature is below -5°C (23°F), heat (or energy) recovery creates frost in the core.

To maintain its proper operation, the unit is programmed to defrost its core. The defrost frequency varies according to the outdoor temperature.

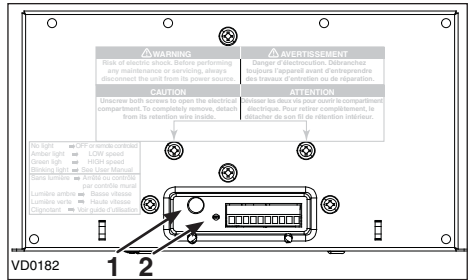
During the defrost cycle, the dampers close and the unit turns on high speed.

After defrosting, the unit returns to the operating mode selected by the user.

## 2. CONTROLS

### 2.1 INTEGRATED CONTROL

All units are equipped with an integrated control, located under the unit, in front of the electrical compartment. Use the push button (1) to control the unit. The LED (2) will then show on which mode the unit is in. Refer to table below.



| LED COLOR | RESULTS                                     |
|-----------|---|
| AMBER     | UNIT IS ON LOW SPEED                        |
| GREEN     | UNIT IS ON HIGH SPEED                       |
| No LIGHT  | UNIT IS OFF OR CONTROLLED BY A MAIN CONTROL |

If a problem occurs during the unit operation, its integrated control LED (2) will blink. The color of the blinking light depends on the type of error detected.

Refer to Section 4 TROUBLESHOOTING on last page for further details.

**NOTE:** When using an optional main wall control, the integrated control must be turned off.

## 2. CONTROLS (CONT'D)

### 2.2 BOOT SEQUENCE

The unit boot sequence is similar to a personal computer boot sequence. Each time the unit is plugged after being unplugged, or after a power failure, the unit will perform a 30-second booting sequence before starting to operate. During the booting sequence, the integrated control LED will light GREEN or AMBER for 5 seconds, and then will shut off for 2 seconds. After that, the LED will light RED for the rest of the booting sequence. During this RED light phase, the unit is checking and resetting the motorized damper position. Once the motorized damper position completely set, the RED light turns off and the booting sequence is done.

NOTE: No command will be taken until the unit is fully booted.

### 2.3 OPTIONAL MAIN AND AUXILIARY CONTROLS

For more convenience, these units can also be controlled using an optional main control. Only one main control can be connected per unit.

NOTES: 1. The integrated control must be turned OFF to use an optional main control.  
2. If an optional auxiliary control is used, its activation will override the main control operation.

For more information about your unit controls, refer to the *Main and auxiliary wall controls user guide* (included with your unit and also available at [www.venmar.ca](http://www.venmar.ca)).

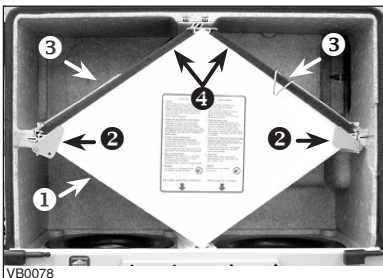
## 3. MAINTENANCE

### ⚠ WARNING

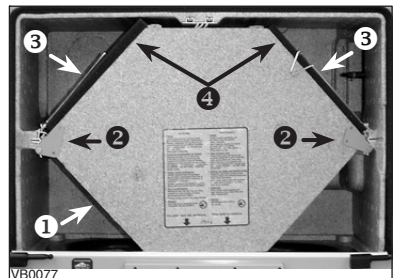
**Risk of electric shock. Before performing any maintenance or servicing, always disconnect the unit from its power source. When cleaning the unit, it is recommended to wear safety glasses and gloves.**

Since this guide covers both HRV and ERV units, top and side ports, the illustrations shown in the maintenance procedures are typical.

The following procedures applies for both HRV and ERV units. Refer to pictures below to identify the inner parts of your unit.



- ① HRV core
- ② Core retainers
- ③ Foam filter brackets
- ④ Core foam filters



- ① ERV core
- ② Core retainers
- ③ Foam filter brackets
- ④ Core foam filters

### 3. MAINTENANCE (CONT'D)

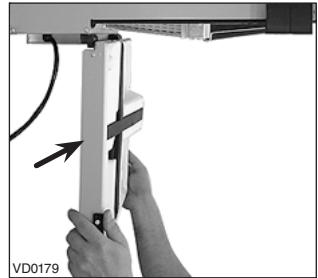
#### 3.1 QUARTERLY MAINTENANCE

- ① Unplug the unit.

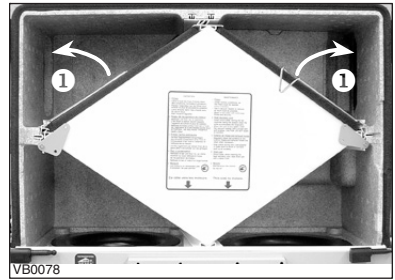
#### **⚠ WARNING**

**Be careful while opening the door; water or small debris could fall out. For HRV units, always wait one minute after disconnecting the unit before opening the door in order to allow water to drain out from the unit.**

- ② Unlatch the door and open it. Clean the inner side of the door with a damp cloth, then wipe with a dry one. Disengage the door from its hinge by sliding it from left to right and set aside.



- ③ Lift both foam filter brackets ① in order to remove the foam filters from the core.



- ④ Wash the 2 core filters under hot water with mild soap. Rinse thoroughly and let dry completely before reinstalling on the core.
- ⑤ Reinstall both foam filters and secure them to the core by pulling down the 2 foam filter brackets. Reinstall the door.
- ⑥ Close the door and plug the unit.  
NOTE: The unit will return to its previous setting after a 30-second delay for boot sequence.

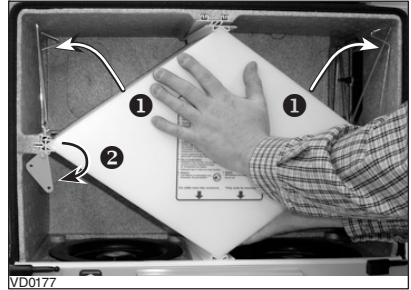
### 3. MAINTENANCE (CONT'D)

#### 3.2 ANNUAL MAINTENANCE

Repeat steps ① and ② from the Quarterly Maintenance (Section 3.1). Then, proceed as follows:

#### ⚠ WARNING

**Always hold the core when rotating the two core retainers; failure to do so will cause the core to fall out.**



- ③ Lift both foam filter brackets ① and remove the foam filters from the core. While holding the core, rotate the 2 core retainers ② and slide out the core from the unit.
- ④ Clean the inside walls of the unit with a clean damp cloth, then wipe with a clean dry one.
- ⑤ Wash the 2 core filters under hot water with mild soap. Rinse thoroughly and let dry completely before reinstalling on the core.
- ⑥ **Heat recovery core:** Allow the core to soak for 3 hours in a solution of warm water and mild soap (liquid soap). Rinse lightly, let dry and reinstall.  
**Energy recovery core:** Remove the dust on the core using a vacuum cleaner and a soft brush attachment.

#### CAUTION

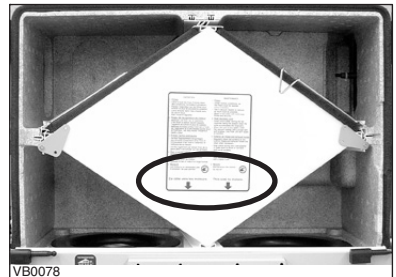
**Do not soak the energy recovery core in water. This core can easily be damaged especially if it is soaked.**

#### ⚠ WARNING

**Once the core reinstalled in the unit, always rotate both core retainers to their initial position; failure to do so will cause the core to fall out.**

- ⑦ Slide the core in the unit. Secure the core by rotating both core retainers to their initial position.

NOTE: Once the core reinstalled in the unit, the arrows (circled in picture below) on its sticker label must be pointing towards the unit motors.



- ⑧ Reinstall both foam filters and secure them to the core by pulling down the 2 foam filter brackets. Reinstall the door.
- ⑨ Close the door and plug the unit.  
NOTE: The unit will return to its previous setting after a 30-second delay for boot sequence.
- ⑩ Clean the exterior hood(s).

## 4. TROUBLESHOOTING

If the unit does not work properly, reset the unit by unplugging it for one minute and then replug it. If it still not working properly, refer to table below.

| PROBLEMS |  | TRY THIS   |
|----------|--|--|
| 1.       | Nothing works.                                       | <ul style="list-style-type: none"> <li>• See if the unit is plugged in.</li> <li>• See if the unit is receiving power from the house circuit breaker or fuse.</li> </ul>   |
| 2.       | Condensation on windows (air too humid).             | <ul style="list-style-type: none"> <li>• Operate the unit on maximum speed ventilation until the situation is corrected.</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 outdoors.</li> <li>• Do not adjust the thermostat of your heating system below 18°C (64°F).</li> </ul> |
| 3.       | Inside air too dry.                                  | <ul style="list-style-type: none"> <li>• Temporarily use a humidifier.</li> <li>• Operate the unit in recirculation mode (if available).</li> </ul>  |
| 4.       | Air too cold at the air supply grille.               | <ul style="list-style-type: none"> <li>• Check if the exterior hood is not blocked.</li> <li>• Operate the unit in low speed ventilation or in intermittent or recirculation mode (if available).</li> <li>• Install a duct heater.</li> </ul>   |
| 7.       | The LED of the integrated control is blinking RED.   | <p><b>a)</b> The door is open and the unit is not unplugged. Close the door and press once on the integrated control push button to reset the unit.</p> <p><b>b)</b> There is a problem with the exhaust motor. <b>The unit is OFF.</b> Contact your installer.</p>  |
| 8.       | The LED of the integrated control is blinking GREEN. | <ul style="list-style-type: none"> <li>• There is a problem with the thermistor. <b>The unit is still working</b>, but will defrost frequently. Contact your installer.</li> </ul>   |
| 9.       | The LED of the integrated control is blinking AMBER. | <ul style="list-style-type: none"> <li>• There is a problem with the motorized damper. <b>The unit is OFF.</b> For a 12-hour period, the unit will try to reset the damper at every 20 to 30 minutes. After 12 hours, if the problem is not solved, the unit stops trying to reset damper.</li> <li>• Contact your installer.</li> </ul>   |
| 10.      | The integrated control push button does not work.    | <ul style="list-style-type: none"> <li>• The 30-second boot sequence is not completed. See Boot Sequence on page 5.</li> <li>• If the booting sequence is completed and the push-button still doesn't work, contact your installer.</li> </ul>   |

For wall controls problems, refer to the Troubleshooting section in the *Main and auxiliary wall controls user guide* (included with the ventilation unit and also available at [www.venmar.ca](http://www.venmar.ca)).

If the problem is still not solved, call your installer or the nearest approved Service Center.

Also, you can reach the Customer Service Department at the following phone number:

1-800-567-3855.