SUMMERAIRE

Built Better To Last Longer

User Manual
Central Energy Recovery Ventilator

UltraVentor Series

SERV110, SERV130

Installing Contractor	Telephone Number
Unit Model Number	Unit Serial Number
Installation Date	

C US CERTIFIED

Summeraire Mfg.
Peterborough, Ontario,
Canada, K9J 6X6

2100 HVI CERTIFIED

INTRODUCTION

This Manual provides you with an introduction to the principles of Energy Recovery Ventilators (ERV), the operation and maintenance of your unit, guidelines to troubleshoot minor problems as they may occur and an outline of your warranty. Each of these areas are described fully under their specific headings as set out in the **Table Of Contents.**

To obtain information relating to the installation, technical specifications and exploded parts diagram for your ERV unit, please refer to the Installation Manual.

We congratulate you on your purchase of this unit and thank-you for choosing **SUMMERAIRE** to provide your fresh air comfort to your family.

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1. DESCRIPTION OF YOUR UNIT AND ITS BENEFITS

Research today continues to support the importance of providing proper ventilation in our homes to reduce indoor air pollution. Since the energy crisis in the early 1970's, governments and the building community have sponsored many programs and changed codes to foster reduced energy requirements and create energy costs savings for the consumer. Each of these efforts, while improving the energy efficiency of our homes and buildings, has resulted in the loss of natural ventilation and trapped pollutants indoors.

It is due to this air tightness that your dwelling or place of business will incur stale unhealthy air from everyday activities such as cooking, bathing, washing, indoor drying of clothes and normal breathing and perspiration. Pollutants such as smoke from cooking and fireplaces or wood burning stoves, dust, pollens, bacteria from viruses and molds and radon gas can also be trapped in your residence. These facts, in conjunction with the increasing amount of time we spend in the home and place of business, make us very susceptible to the effects of these indoor air pollutants.

Your SUMMERAIRE Energy Recovery Ventilator (ERV) is designed to resolve these problems by providing fresh air into your home or building while exhausting an equal amount of stale air. This "exchange" process enables you to remove undesirable pollutants and control your air quality and relative humidity. The advantage offered by your ERV is that it will transfer most of the energy from your inside conditioned air into the incoming fresh air stream.

Your ERV is most effective in the summer months when cool indoor conditioned air is exchanged with warm fresh air. During this exchange process, the energy recovery core transfers the humidity from the incoming fresh air to the exhausting state air while at the same time reducing the temperature of the incoming fresh air stream. This ensures better control of indoor humidity thereby reducing the work load on your air conditioning system resulting in reduced system operating costs. The enthalpic core of the ERV transfers both sensible and latent heat from the exhausted air stream to the incoming fresh air stream.

In the winter months, exhausted air from your house passes through the Enthalpic core of the ERV where energy and some moisture is transferred from the exhaust air stream to the incoming fresh air stream. Please note that should your ERV be operated when outside air temperatures fall below -10 deg. C (14 F) the automatic defrost timer is initiated. This will result in intermittent ventilation at outdoor temperatures down to -29 deg C (-20 F). At this time the ERV may shut down until power is turned off and back on.

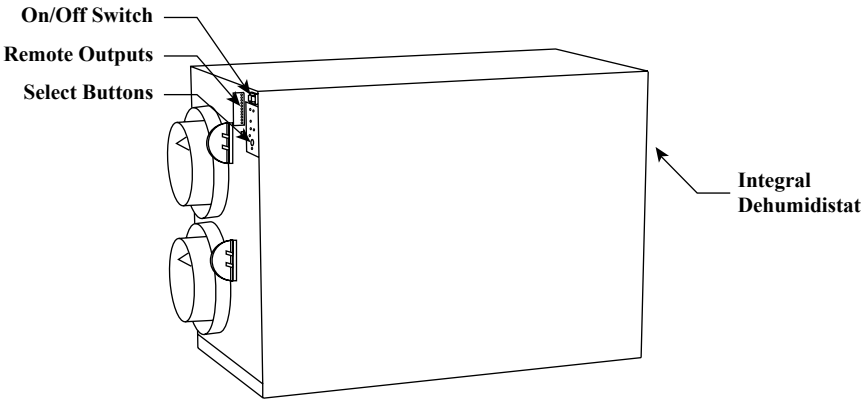
Your ERV is also effective as a local exhaust system and can replace bathroom exhaust fans. Using a properly set dehumidistat or timer control you can automatically or manually control the level of humidity in areas of your home that are prone to excess humidity.

2. HOW TO OPERATE UNIT AND RELATED CONTROLS

To realize the full benefit of your ERV, it should be operated continuously as this prevents the buildup of stale, unhealthy air in the home. Continuous ventilation of your home is very important, and as the need arises to introduce higher levels of ventilation, you can select increased fan speeds at your ERV, or if installed, at remote control devices such as the Watchman and Sentinel controls and Touch Pad Stations.

Ventilation needs may vary with the size of the home, number or occupants and life style and the continuous rate of ventilation that is most suitable for home will be determined by your specific application.

This section reviews the basis operation of your ERV and related controls to maximize your home comfort.



On/Off Switch

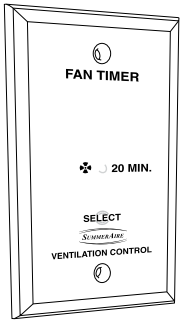
The ON/OFF switch supplies and disconnects power to the ERV control board. When positioned in the ON position, this switch will illuminate. Should the power supply be disconnected or turned to the OFF position, the indicator light will no longer illuminate.

Option Select Button

The LED indicator lights at the side of the ERV illuminate to indicate the current active mode of operation. By depressing the SELECT button momentarily, you can select low/medium/high ventilation fan speeds, AUTO/OFF, and SYSTEM OFF.

OPTIONAL CONTROLS

20 Minute Remote Timer Touch Pad Model ECPBT

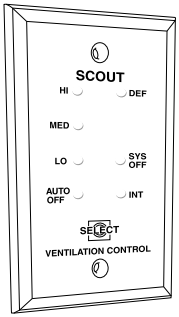


Once activated by a momentary push, approximately 3 seconds, of the SELECT button on the Touch Pad, the ERV is switched to high speed ventilation and the Touch Pad LED will illuminate. The ERV will reset to the previously selected mode of operation once the 20 minutes has expired. To cancel the selection, depress the SELECT button on the 20-minute Touch Pad for a minimum of 3 seconds. The selection can also be cancelled at any other optional control by momentarily depressing the SELECT button.

NOTE: This control will not respond while a crank timer is operational.

Remote Touch Pad - Model 1

Remote touch pad stations permit the selection of 20, 40, or 60 minutes of high speed ventilation. These are typically installed in any room where a timed period of high speed ventilation may be desired, i.e. bathrooms and/or kitchens away from cooking area. Once activated by a momentary push, these buttons illuminate to indicate high speed activation. If more than one button is installed in the system, then all the buttons will illuminate upon activation until the timed sequence has expired. To cancel a selection, push Select button on touch pad repeatedly until the led's turn off.

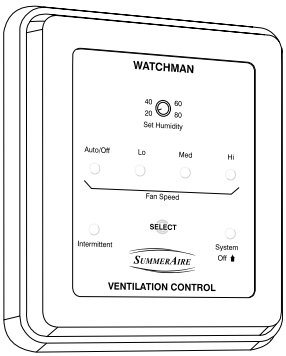


Scout Control

This control is detachable from the ERV unit permitting it's installation in other areas of your home. Using the select button you can select multiple fan speeds, auto/off, intermittent or system off. Selections are displayed by the illumination of the respective LED light on the control. - Intermittent Ventilation, 20 minutes of ventilation at low speed followed by 40 minutes ventilation off. This cycle repeats until a new selection is made.

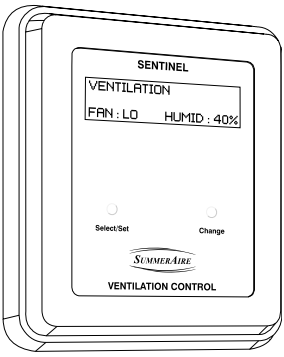
- A built in dehumidistat permits the selection of the desired level of indoor relative humidity. The control will activate the ERV to high speed when humidity exceeds the preset level.

WATCHMAN REMOTE CONTROL



This control is typically installed in central location thereby permitting remote control of the ERV. Control operations include:
- ON/OFF
- FAN SPEED SELECTION, Hi/Med/Low
- INTERMITTENT VENTILATION, 20 minutes of ventilation at low speed followed by 40 minutes ventilation off. This cycle repeats until a new selection is made.
- A built in dehumidistat permits the selection of the desired level of indoor relative humidity. The control will activate the ERV to high speed when humidity exceeds the preset level.
AUTO/OFF feature permits you to have the ventilation system activate only when it is specifically requested by either a Remote Touch Pad, dehumidistat or Watchman or Sentinel controls. This selection is displayed by the continuous illumination of the Auto/OFF LED on the Scout (ERV control). When conditions require the fan to be activated, this will be indicated by the flashing On and Off of the High Speed indicators on the Scout, Watchman and Sentinel controls.

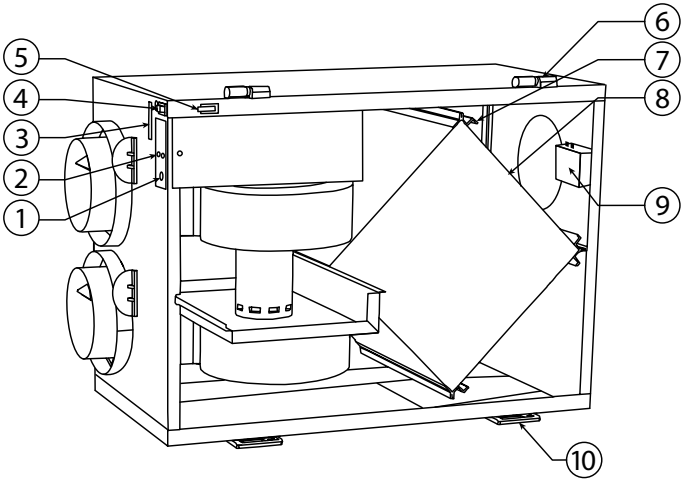
SENTINEL DELUXE REMOTE CONTROL



This control is typically installed in a central location thereby permitting remote control of the ERV. All control settings are indicated on the LED display panel. Using the SELECT button choose the function you wish to either set or control. Then, push the CHANGE button, choose the selection you want for the function then push the SELECT/SET button to set the change you desire.

Control operations include:
- ON/OFF
- FAN SPEED SELECTION,
- INTERMITTENT VENTILATION, 20 minutes of ventilation at low speed followed by 40 minutes of ventilation off. This cycle repeats until a new selection is made.
- a built in DEHUMIDISTAT permits the selection of the desired level of indoor relative humidity. The control will activate the ERV to high speed when humidity exceeds the preset level.
- AUTO/OFF feature permits you to have the ventilation system activate only when it is specifically requested by either a remote touch pad, dehumidistat, Watchman or Sentinel controls. This selection is displayed by the continuous illumination of the Auto/OFF LED. When conditions require the fan to be activated, this will be indicated by the flashing On and Off of the High Speed indicators on the Scout, Watchman and Sentinel controls.
- CLN FLT will be displayed every 13 weeks of ERV operation. This indicates the need to inspect and clean the filters and the energy recovery core. The CLN FLT indicator will switch off once the ERV has been powered down for cleaning.

3. BASIC COMPONENTS OF YOUR ERV



1 - Mode Select Button
2 - Status Display
3 - Remote Device Terminal Strip
4 - On/Off Switch
5 - Safety Switch
6 - Front Door Hinge
7 - Air Filters (2)
8 - Energy Recovery Core
9 - Dehumidistat
10 - Door Latch

Energy Recovery Core

One of the most important components of your ERV is its Energy Recovery Core.

In the colder months, the Core enables you to exhaust stale, humid indoor air and transfer the heat energy from this indoor air into the incoming colder fresh air, preheating the air before it enters your home.

In the summer months, during air conditioning season, the incoming warm, fresh air is conditioned by the cooler indoor air stream being exhausted. During this transfer, humidity in the incoming air stream is transmitted into the outgoing air stream, minimizing the load on the air conditioning system.

The Core is designed such that the air streams remain separate (no cross contamination of air streams) thereby ensuring the fresh air is not exposed to the potential contaminants and humidity in the exhausted air stream.

Safety Door Switch

Inside the ERV control panel is a safety switch. This ensures that the power to the ERV control is turned off when the front door is opened. It is suggested that anytime the front access door is opened that the ERV be unplugged.

4. MAINTENANCE

In addition to the maintenance procedure outlined below, we recommend that you inspect the exterior exhaust hoods on your unit every month. This is to ensure your exhaust and fresh air supply ports are not restricted by debris (i.e.) cottonwood, leaves, grass, snow or frost (ice) buildup on the mesh cover). Restriction of these ports will cause the unit to work inefficiently and malfunction.

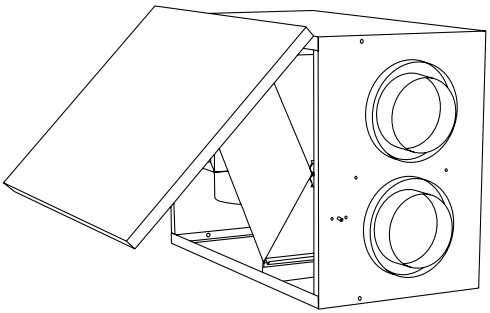
We caution you to unplug the unit prior to performing maintenance or working inside the unit.

EVERY SIX MONTHS

Disconnect the power supply

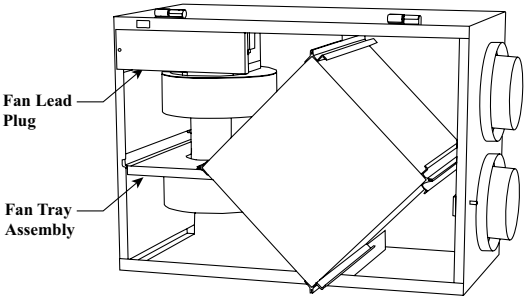
1. Unlatch the door latches at the bottom of the door panel and gently raise the door to a level position while securely holding the door panel in place (apply pressure to the left).

Caution: Door can slip off hinges. Once open, hold the access door securely and slide it to the right. This will disengage the upper hinges allowing the door to be removed.



2. Remove filters as shown and vacuum with a hose attachment. Filters must be used to protect the Core from dusts and particulate. Filters should be replaced every two years.

Model SERV130 Shown



3. Clean the ERV Core by sliding it out evenly along the channel tracks; then vacuum the exposed faces of the Core with a brush attachment. Do not expose the Core to fire or water, as they will damage it. **DO NOT WASH THE CORE AS IT WILL BE PERMANENTLY DAMAGED.**

   To replace the Core properly, slide the Core into the tracks with the attached label indicating the top upright position of the Core, in the most top upright position.

Every Three Years

Fan blades can accumulate dusts and dirt creating reduced airflow and potential imbalance of the blades. **It is our recommendation that you consider having a qualified service contractor perform your Fan Blade maintenance.**

Fan Blade Maintenance

1. As described in the prior section, unplug unit and open access door (swings forward).
2. Slide the filters and Energy Recovery Core forward and remove.
3. Disconnect the fan motor wire leads connector beneath the electrical control box. **Model SERV130 Only.**
4. Slide fan tray assembly forward and remove.
5. Using a small brush (i.e. toothbrush), clean the wheel blades. Caution must be exercised not to disturb the balancing weights on the wheel blades.
6. Vacuum and reassemble.
7. Reconnect the power supply.

5. TROUBLE SHOOTING GUIDE FOR YOUR ERV

Control Functions		
Symptom	**Possible Cause**	**Possible Solution**
Nothing works	Unit not plugged in	Ensure that ERV is plugged in
	Lack of power.	Ensure that outlet in use is powered
	Front access door safety switch probe improperly inserted into control cover slot.	Unlatch door, inspect safety switch probe to ensure that it is entering control cover slot.
	Defective component	Contact your installer
ERV display panel On/ Off switch illuminates but fan is not running	Mode of operation selected	Select a different operation mode at ERV or remote control.
	Defective component.	Contact your installer
ERV status panel flashing HIGH Continuously	External dehumidistat set too low. Remote push button activated. Defective dehumidistat or push button.	Adjust external dehumidistat set point higher. Check to see if a push button has been activated. Contact your installer.

Operational Functions

Symptom	Possible Cause	Possible Solution
ERV is operating but little or no air flow is present.	Air stream blockage	Check outside weather hoods for blockages such as snow, grass, insects.
	Dirty air filters or energy exchanger Core.	Inspect and clean air filters and core. **DO NOT EXPOSE ENERGY EXCHANGE CORE TO WATER. DO NOT USE HARD BRUSH TO CLEAN, VACUUM OUTSIDE SURFACE GENTLY.**
Poor air quality. excess moisture on windows	ERV turned off ERV running on too low a speed	Adjust ventilation rate higher and monitor conditions overnight. Adjust further if necessary.
	If ERV is connected to furnace ductwork	Ensure that furnace fan is turned on to circulate air.
	Temporary conditions causing effect.	Activate to high speed at push buttons or Remote Control Device. Extreme conditions causing excessive indoor humidity.
	Indoor air temperature too low.	Keep temperature above 18C (64F)
Indoor air considered too dry	ERV set at too high a ventilation speed.	Set to a lower speed Check dehumidistat settings. Adjust higher. Set to intermittent mode of operation. Temporarily use a humidifier.
Frost build up on ducts connect to ERV. Supply air too cold	Extreme outdoor air temperatures.	Turn ERV off. Have a duct heater installed.
	Imbalance in air flow streams	Have the system's balancing checked.

6. WARRANTY

Please read and complete the enclosed Warranty Card and mail to Summeraire Mfg. to register your warranty.

ERV Unit

Summeraire Mfg. warrants the entire Summeraire Energy Recovery Ventilator for a period of three (3) years from the date of purchase to be free from defects in material and/or faulty workmanship.

Core

Summeraire Mfg. warrants the “Core” of the Energy Recovery Ventilator For five (5) years from the date of purchase to be free of material defects and/or faulty workmanship.

General Provisions

Summeraire Mfg. exclusive obligation under this warranty shall be to supply without charge, a replacement for any part of the Summeraire Energy Recovery Ventilator which is found to be defective within the applicable time period and which is returned prepaid not later than thirty (30) days after the end of the time period by you or your supplier to Trent Metals Limited, 2040 Fisher Drive, Peterborough, Ontario, Canada, K9J 6X6 along with the model number, date code and date of purchase.

This warranty shall not obligate Summeraire Mfg. for any labour costs and shall not apply to defects in workmanship or material furnished by your installer as contrasted to defects in the Energy Recovery Ventilator itself.

Implied warranties of merchantability or fitness for a particular purpose shall be limited in duration to the applicable three (3) year period for the entire unit and a five (5) year period for the core. Under no circumstances shall Summeraire Mfg. be liable for incidental or consequential damages resulting from any breach of the aforesaid warranties or the above warranties is expressly excluded. This limited warranty is void if this unit is not installed by a qualified heating or air conditioning contractor. If this limited warranty is void due to failure to use a qualified contractor, all disclaimers of implied warranties shall be effective upon installation.

Keep your warranty at work for you. Please read and complete the enclosed Warranty Registration Card and mail to Summeraire Mfg., 2040 Fisher Drive, Peterborough, Ontario, Canada, K9J 6X6 to register this warranty.

Notes:

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Summeraire Mfg.

2040 Fisher Drive,

Peterborough, Ontario

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