

# ***RecoupAerator®***

**SW-120**

**Energy Recovery Ventilator  
Owner's Manual and Installation Guide**



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## Table of Contents

<b>Section 1: Owner's Manual</b>	<b>3</b>
Introduction	3
Features	3
Specifications	4
General Information	4
<b>Service &amp; Maintenance</b>	<b>5</b>
Maintenance Checklist	5
Aluminum Pre-filters	5
Heat Transfer Core	6
Belt Drive	6
<b>Troubleshooting Guide</b>	<b>7</b>
Figure 1: Exploded View	8
Figure 2: Airflow Diagram	9
<b>Replacement Parts List</b>	<b>10</b>
<b>Section 2: Installation Guide</b>	<b>11</b>
Electrical Requirements	11
Supplies Provided	11
Tools and Supplies Needed	11
Measuring the Window Space	11
Positioning the Support	12
Positioning the Unit	12
Sealing the Unit	12
<b>General Warranty Information</b>	<b>14</b>
<b>Contact Us</b>	<b>14</b>



# ***RecoupAerator***<sup>®</sup>

## **Section 1: Owner's Manual**

# **SW-120**

### **Introduction**

Congratulations on your purchase of the new SW-120 ***RecoupAerator***<sup>®</sup> energy recovery ventilator! The SW-120 ***RecoupAerator***<sup>®</sup> is designed to supply your home with fresh outdoor air while maintaining indoor climate conditions. The ***RecoupAerator***<sup>®</sup> works by exhausting stale indoor air from your home while drawing in fresh outdoor air. Heat and moisture are transferred between the incoming and outgoing air streams via a patented rotary heat exchange core. The SW-120 ***RecoupAerator***<sup>®</sup> also features a highly efficient brushless DC motor developed by General Electric. This motor gives the ***RecoupAerator***<sup>®</sup> the ability to operate at variable speeds to meet your ventilation requirements. We trust that you will enjoy many years of fresh, healthy air with your new unit. Before installing the ***RecoupAerator***<sup>®</sup>, please take a few minutes to read the following safety information and installation instructions. Be sure to keep this manual for future reference.



### **Features**

- 96% Plus Efficiency
- 95% Effective Filtration to 5 microns
- Extremely Quiet Operation
- Easy to Install
- Environmentally Sound
- Low / Easy Maintenance
- Low Cost
- Exceeds ASHRAE 62.2
- No Drain Required
- No Desiccant Required
- Permanently Lubricated Fan and Wheel Bearings



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## Specifications

**Model:** *RecoupAerator*<sup>®</sup> SW-120 Energy Recovery Ventilator; Includes Patented Rotary Heat Exchange Core, Filters, Fans, and Drive Motor; Pre-heaters are Optionally Available.

**Air Flow Capacity:** 30 cfm to 135 cfm

**Sensible Thermal Efficiency:** 96% at Full Flow

**Heat Exchange Type:** Patented Rotary Random Matrix Polymer

**Filtration:** Washable Heat Exchange Matrix 95% Effective at 5 microns with Washable Expanded Aluminum Pre-filter.

**Motor Type:** General Electric 1/3 hp Programmable Brushless dc Motor

**Electrical Ratings:** 120/240 Vac, 60 Hz., 5.0/2.8 Amps, Standard Grounded Plug

**Dimensions:** 32.1 cm H x 57.2 cm W x 59.5 cm D (12.7" H x 22.5" W x 23.4" D)

**Unit Weight:** 21.8 kg (48 lbs.)

**Mounting:** Window Installation Kit Included

**Maintenance:** Clean or Replace Filters Once Every 3 to 4 Months, or as Needed.

**Certifications:** ETL Testing Labs to ANSI/UL-1995 / CAN/CSA C22.2 No. 236 (heating and cooling equipment).

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## General Information

**Application:** The *RecoupAerator*<sup>®</sup> Energy Recovery Ventilator is designed to supply fresh air and exhaust stale air while ventilating your home with conditioned and filtered outside air. The *RecoupAerator*<sup>®</sup> draws fresh air from outdoors through the patented rotary heat exchange core for distribution throughout the home. Stale air is exhausted through the *RecoupAerator*<sup>®</sup> and ducted to the outdoors after transferring heat and moisture to the incoming air stream.

**Controls:** Your *RecoupAerator*<sup>®</sup> comes equipped with a variable speed control knob. This allows you to adjust the airflow as needed to maintain a comfortable level of fresh air into your home.

**Mounting Location:** The *RecoupAerator*<sup>®</sup> can be installed in most windows for use in a single room. A mounting kit is provided.



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## Service & Maintenance

### Before Performing Maintenance

Turn off your **RecoupAerator**<sup>®</sup> unit and unplug before performing any maintenance.

### Maintenance Checklist

- ☐ Pre filter (clean every 3-4 months if continuously operated, or every 6 months otherwise).
- ☐ Heat transfer core (check every 3-4 months, or as necessary – occasional cleaning required)
- ☐ Belt drive (check belts for excessive wear yearly)
- ☐ General Cleaning (light vacuuming recommended yearly)

### Aluminum Pre-filters

The aluminum pre-filters should be cleaned once every 3 to 4 months. Clean more frequently if necessary.

To clean the filters:

1. Turn the **RecoupAerator**<sup>®</sup> off.
  2. Unplug the power cord.
  3. Remove the front cover by pulling the bottom of the cover slightly forward, and then lifting the cover off.
  4. Slide the aluminum pre-filters out, being careful not to bend the frames.
  5. Rinse the aluminum pre-filters under running water.
  6. Allow aluminum pre-filters to air dry completely.
  7. Re-insert the aluminum pre-filters into your **RecoupAerator**<sup>®</sup>.
  8. Replace the front cover.
  9. Plug in the power cord.
- Turn the **RecoupAerator**<sup>®</sup> on.



## Heat Transfer Core

The *RecoupAerator*<sup>®</sup>'s patented heat exchange wheel contains a removable core filtration material, which should be checked and cleaned if necessary every 3-4 months. If the heat exchange material is a medium gray or darker, it is probably in need of cleaning.

### To check the core material:

1. Turn the *RecoupAerator*<sup>®</sup> off.
  2. Unplug the power cord.
  3. Remove the front cover by pulling the bottom of the cover slightly forward, and then lifting the cover off.
  4. Slide the aluminum pre-filters out, being careful not to bend the frames.
  5. Pull out the exposed heat exchange material wedges by the plastic monofilament handle that is embedded in each section, manually rotating the wheel to access the remaining wedges.
  6. To wash the heat exchange material: place it in a washing machine using hot water and detergent on a gentle cycle, or soak it for 24 hours and then hand wash it in a mild soap solution.
  7. Air dry the heat exchange material wedges completely.
  8. Re-insert the heat exchange material wedges into to unit with the monofilament handle facing out for easy access in the future.
  9. **IMPORTANT** - Rotate the heat exchange wheel by hand, making sure that the pieces are completely and evenly replaced, and that none of them drag on the center frame as the wheel rotates.
  10. Re-insert the aluminum pre-filters into your *RecoupAerator*<sup>®</sup>.
  11. Replace the front cover.
  12. Plug in the power cord.
- Turn the *RecoupAerator*<sup>®</sup> on.

## Belt Drive

Belts should be checked yearly for wear and replaced as needed. Occasionally, the belts become dry and begin to squeak. This can be remedied by rubbing a small amount of grease on the noisy belt. If the motor is operating but either the heat exchange wheel does not turn or the blowers are not displacing air, check the pulley system for loose, worn or broken belts. Replace as needed.



## Troubleshooting Guide

If, for some reason, your *RecoupAerator*® isn't working, use the chart below to diagnose the problem.

Step:	Problem:	Possible Causes:	Solution:
1	There is no airflow at one or more of the vents	One or more of the vents are blocked	Turn off unit, unplug it, and remove any blockage
		Motor is not turning	See step 3
		Fan is not turning	See step 6
2	Unit is making a "squeaking" noise	Belts are dry	Apply a small amount of grease to the noisy belt
		Heat transfer core is rubbing	Make sure that the filter material is properly placed in the wheel and that the wheel rotates without contacting the center frame
3	Motor is not turning	Electrical connections have not been properly wired or grounded	Contact Stirling Technology, Inc. for assistance
		Unit is not getting sufficient power	Verify that the wiring from the breaker is correct
4	Energy Recovery Wheel is not turning	Belt is loose or broken	Replace belt
		Drive Roller is not turning	See step 5
5	Drive Roller is not turning	Drive Roller belt is loose or broken	Replace belt
6	Fans are not turning	Motor is not turning	See step 3
		Belts are loose or broken	Replace belts



The exploded view below will help you locate the parts in the troubleshooting guide:

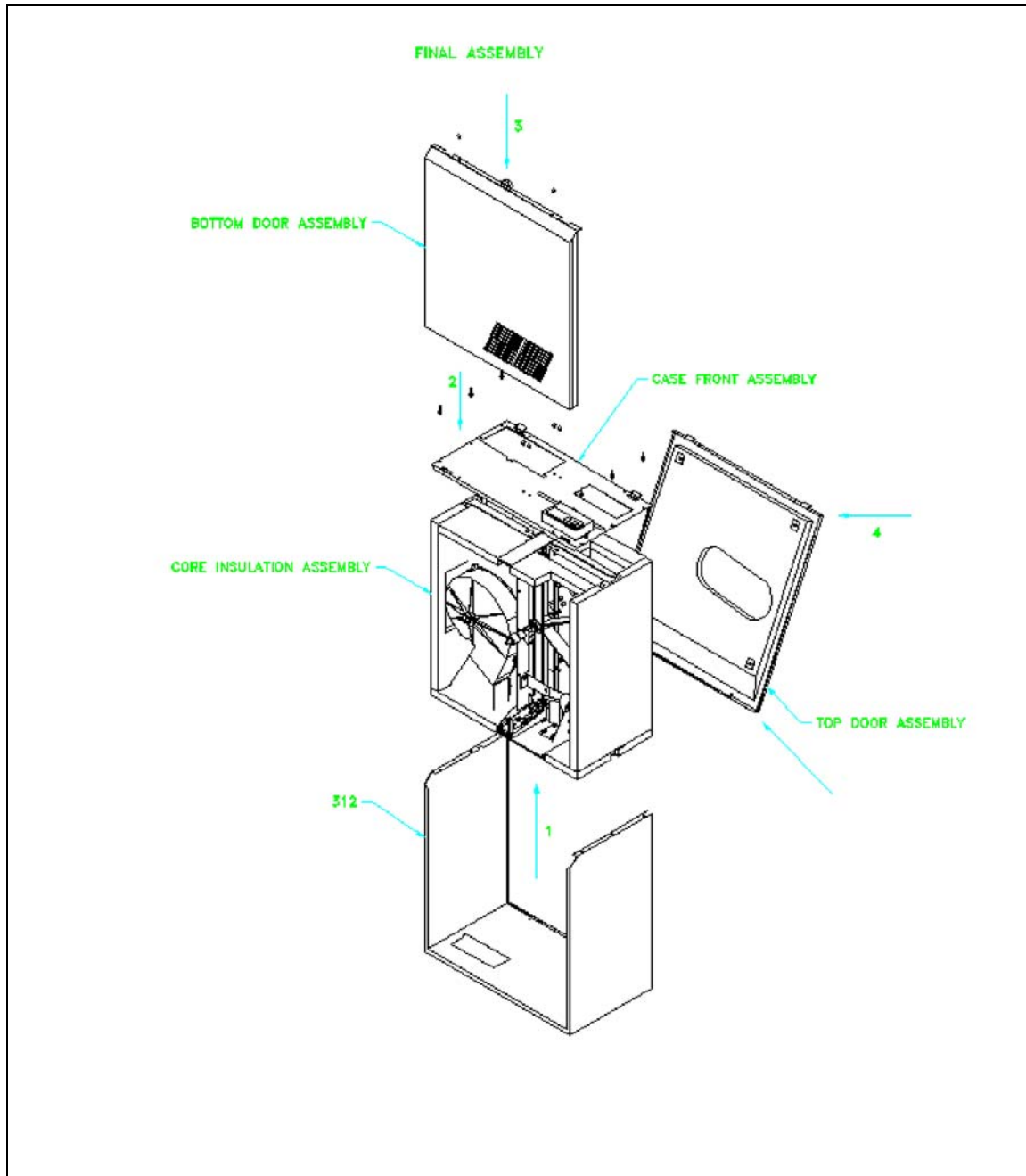


Figure 1: Exploded View





The picture below shows the airflow process.

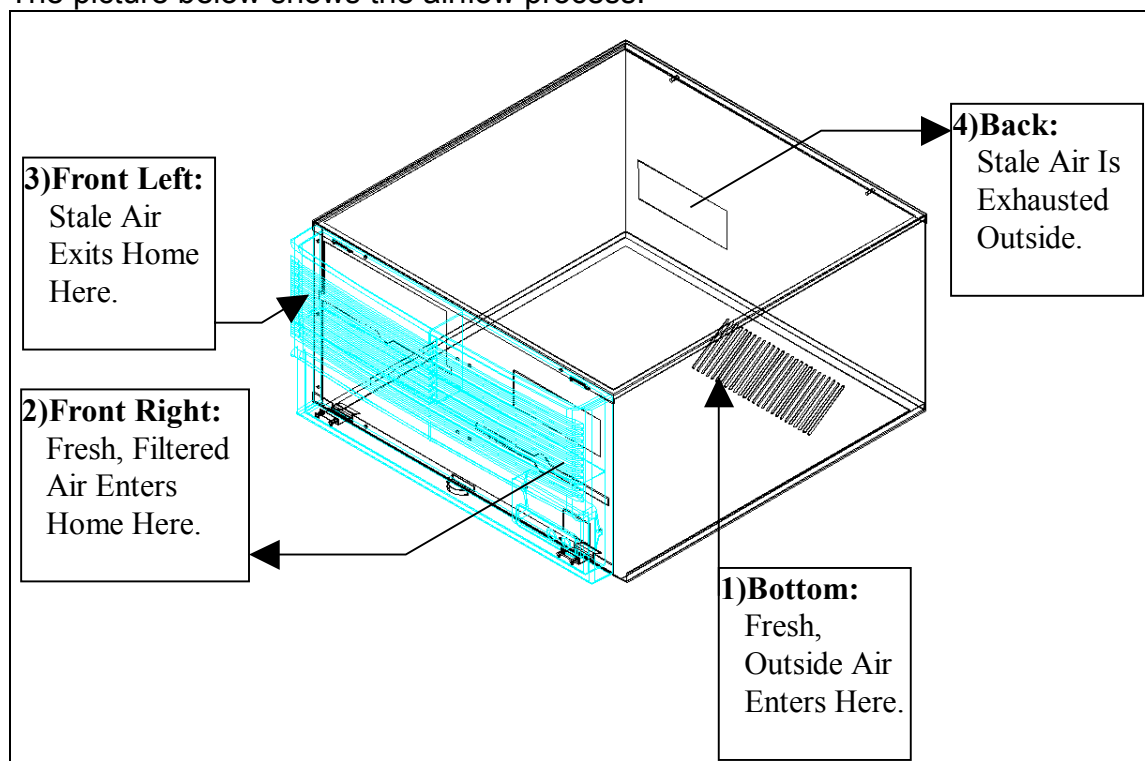


Figure 2: Airflow Diagram



## Replacement Parts List

If the chart recommends that you order new parts, you can find the part numbers on the chart below:

Description	Part Number
Aluminum Pre-Filter Set	131-P52 and 130-P52
Heat Recovery Material (Set of Six)	132-P52
Main Drive Belt	127-X50
Drive Roller Belt	125-X35
Blower Belt	308-X50
Drive Roller Assembly	A018
Large Motor Pulley	318-P50
Small Motor Pulley	044-P06
Center Pulley (Single Groove)	116-P50
Center Pulley (Double Groove)	117-P50
Blower Pulley	115-P50
Blower Cone	302-P42
Motor	320-P06
Motor Mount	103-P35
Blower Housing (Motor Side)	094-P32
Blower Housing (Non-Motor Side)	086-P31
Impeller (Motor Side)	095-P32
Impeller (Non-Motor Side)	087-P31
Window Mounting Kit	
Window Filler Kit	



# ***RecoupAerator***<sup>®</sup>

# **SW-120**

## **Section 2: Installation Guide**

Before you install your *RecoupAerator*<sup>®</sup>, make sure you have all of the necessary tools, and all the supplies listed have been included with your *RecoupAerator*<sup>®</sup>.

### **Electrical Requirements**

This appliance requires a **120 V, 60 Hz** power supply and must be plugged into a properly grounded electrical wall outlet. Verify that an outlet can be easily accessed from the window. Please take the following cautions into consideration:

- Do not use an extension cord or an adapter with this appliance.
- Do not cut or remove the third prong (grounding) from the power cord plug.
- Follow all local electrical codes and ordinances.

### **Supplies Provided**

- **20' - 3/8" Weather Strip**
- **Rubber Support Foot**
- **Two 10" x 15" PCB Insulating Boards**
- **One Universal Support**
- **One Bracket Extension**
- **Window Security Stops**

### **Tools and Supplies Needed**

In addition to the tools and supplies that are included with your *RecoupAerator*<sup>®</sup>, you will also need the following basic household tools:

- **Phillips Screwdriver**
- **Drill**
- **7/32 Drill Bit**
- **Two 7/16" Sockets or Wrenches**
- **Scissors or Utility Knife**
- **Pencil**
- **Tape Measure**

### **Measuring the Window Space**

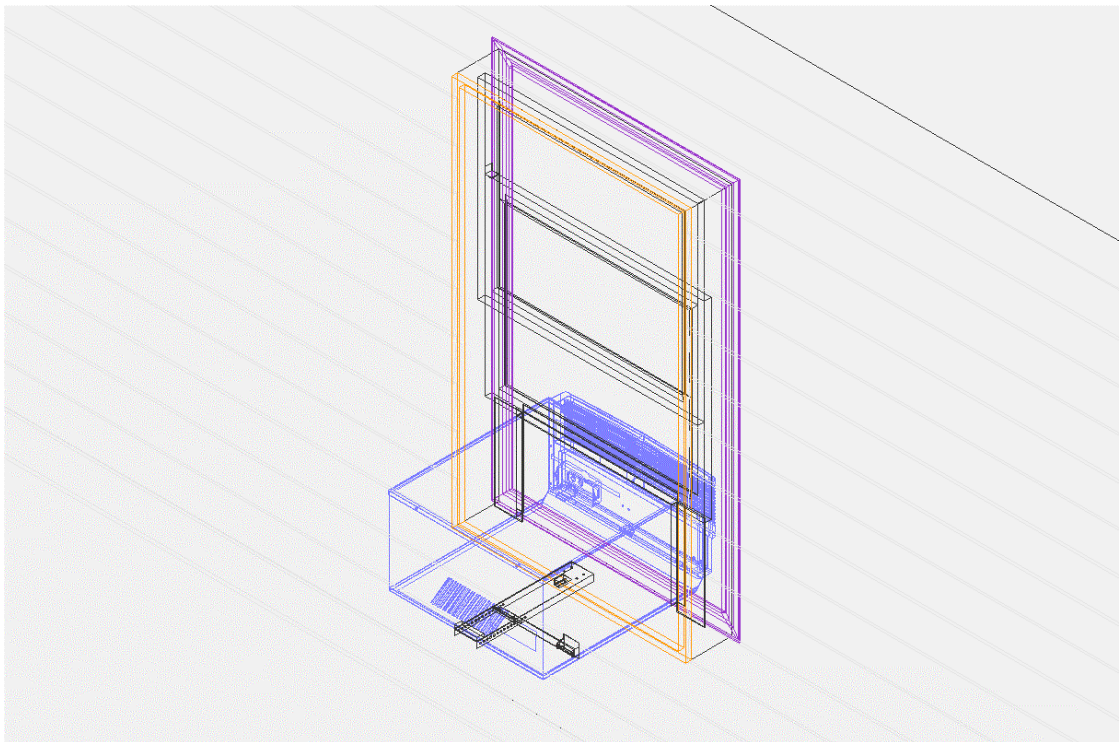
Before installing the *RecoupAerator*<sup>®</sup>, please take the following important measurements:

- Window width (between the innermost points on either side)
- Maximum width (from the outermost point in the deepest part of the sash slides)



## Positioning the Support

The **RecoupAerator®** comes with one **A/C Safe™ Universal Air Conditioner Support**. Install the support according to the instructions included with them. NOTE: Make certain that the braces are slightly sloped down (roughly half of the bubble on the brace) so that rain runs off of the back of the unit instead of towards the house. Attach the bracket extension to the end of the support. It should be adjusted so that it will just fit around the back of the **RecoupAerator®**.



## Positioning the Unit

- Place the weather strip along the back edge of the windowsill where the bottom of the **RecoupAerator®** will be resting. Instructions for the proper application of the weather strip are provided on the package.
- Place the weather strip along the bottom of the window sash where it will come into contact with the top of the **RecoupAerator®**.
- Place the **RecoupAerator®** through the open window.

## Sealing the Unit

- Position the **RecoupAerator®** so that the back side of the angle comes into contact with the front surface of the window sash when the window sash is closed down on top of the **RecoupAerator®**.
- Place weather strip on the backs of the three angles on the sides of the **RecoupAerator®**.
- The insulation board needs to be cut to fit your particular window. To find the correct width to cut, take the maximum width (see above) and subtract 22 ½" (the width of the unit). Take



this number and divide it by two (since the insulation board is split between each side). This will be the width of each side's insulation board.

- Insulation Board Width = 
$$\frac{(\text{Maximum Width}) - (\text{Width of the Unit})}{2}$$
- Using a razor knife or scissors, cut two pieces of the PCB insulating board to fill the space on the two sides as described above. These two pieces will need to be inserted from outside the window.
- With the insulating boards in place on both sides of the **RecoupAerator®**, secure them and seal the cracks with weather strip as follows:

Place the weather strip around the insulating boards so that the side edge of the weather strip is in contact and snug against the insulating boards. This must be done from the outside of the window, where the weather strip will be stuck to the same surfaces that the measurements were made from.

When completed, the insulating boards should be snug and sealed against the backs of the side angles on the **RecoupAerator®**, as well as the back of the window sill and the window sash side tracks.

Any extra weather stripping can be used to seal any additional leaks that may exist with your particular window style.

- Place the rubber support foot between the bottom of the **RecoupAerator®** and the universal air conditioner support.
- Check to make sure that the **RecoupAerator®** is angled slightly downward from the house to allow precipitation to run off away from the house.
- Two styles of security window stops are provided, each with their own instructions, which will accommodate most window types. They are used to ensure that the window cannot be opened from the outside. You will only need one of the two types of window stops.



## General Warranty Information

Your **RecoupAerator**<sup>®</sup> is guaranteed to be free from defects in materials or workmanship for 2 years from the date of purchase. See Warranty sheet (separate – not part of this manual\_ for complete information concerning your warranty. If you have lost your warranty sheet and have any questions concerning your warranty, call our toll-free number listed below.

## Contact Us

For customer service, questions, or to order replacement parts, feel free to contact us at:



Phone: (800) 535-3448

(740) 594-2277

Fax: (740) 592-1499

<http://www.lychonia.com>