ABOUT RENEWAIRE

For over 30 years, RenewAire has been a pioneer in enhancing indoor air quality (IAQ) in commercial and residential buildings of every size. This is achieved while maximizing sustainability through our fifth-generation, static-plate, enthalpic-core Energy Recovery Ventilators (ERVs) that optimize energy efficiency, lower capital costs via load reduction and decrease operational expenses by minimizing equipment needs, resulting in significant energy savings. Our ERVs are competitively priced, simple to install, easy to use and maintain and have a quick payback. They also enjoy the industry’s best warranty with the lowest claims due to long-term reliability derived from innovative design practices, expert workmanship and Quick Response Manufacturing (QRM).

As the pioneer of static-plate core technology in North America, RenewAire is the largest ERV producer in the USA. We’re committed to sustainable manufacturing and lessening our environmental footprint, and to that end our Madison, WI plant is 100% powered by wind turbines. The facility is also one of the few buildings worldwide to be LEED and Green Globes certified, as well as having achieved ENERGY STAR Building status.

In 2010, RenewAire joined the Soler & Palau (S&P) Ventilation Group in order to provide direct access to the latest in energy-efficient air-moving technologies. For more information, visit: renewaire.com.

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There is no known safe level of cigarette smoke. Any ventilation system may provide noticeable improvement in spaces where cigarettes are smoked, but it cannot be expected to protect against the severe long-term health hazards of exposure to cigarette smoke.

PURPOSE OF AN ENERGY RECOVERY VENTILATION (ERV) SYSTEM

Many modern homes are built air-tight for energy efficiency and comfort. The result is that natural air infiltration rates are often too low to provide acceptable indoor air quality. The solution is to use an ERV to remove gaseous pollutants such as odors, winter-time excess humidity, formaldehyde, smoke, radon, vapors from cleaning products, and other chemicals. The removal of dust and other small particles from your home is not the function of an ERV.

WHEN SHOULD YOU USE YOUR ERV?

Use your ERV when windows are closed and you need to ventilate. When the outdoor air is warmer or cooler than comfortable, the ERV will allow a quieter, more secure home with the windows closed and will also save energy.

USING AN ERV WITH AIR-CONDITIONING

An ERV works very well with air-conditioning, because its “enthalpy-transfer” energy-exchange core will reduce the amount of moisture in the outside air that is brought in. ERVs are the preferred way to ventilate while air-conditioning because it brings in less moisture than any other ventilation method.

CONTROLLING EXCESS HUMIDITY DURING COLD WEATHER

When the ERV is first turned on at the beginning of the heating season (or when first installed), it will have to run full-time for several days to reduce indoor humidity levels. A properly set dehumidistat will do this automatically. If your control is the proportional timer type (PTL or FM), it should be set to “100%” for several days whenever you have a problem with excess humidity during cold weather.
**ENERGY EXCHANGE SYSTEM**
Cross flow fixed-plate enthalpic energy exchange core: engineered, proprietary resin-media composite. Provides both sensible and latent heat transfer.

**CERTIFIED PERFORMANCE**
See HVI Certified Ratings.

**ACCESS DOOR**
Front panel opens to provide access to filters, blowers, and energy exchanger. Snap latches and hinges provided for easy service.

**INSULATION**
One inch foil-faced EPS foam throughout.

**DUCT CONNECTIONS**
EV130 & EV200 - Insulating double collars with six-inch/eight-inch round connections for flexible or rigid duct work.
EV300 - Insulating double collars with eight-inch oval connections for flexible or rigid duct work.

**MOUNTING OPTIONS**
Unit may be mounted to wall or floor joists using integral mounting flange with hanging bracket kit provided.

**BLOWER/MOTOR**
A single high efficiency PSC motor directly drives two large diameter centrifugal blowers for quiet operation.

**FILTERS**
Cleanable polyester air filters for both exhaust and fresh air streams.

**DEFOST**
Passive frost-free design under most residential conditions.

**WARRANTY**
Ten year limited warranty on energy exchange core; five year limited warranty against defects in material and workmanship on all other components.

## HVI CERTIFIED PERFORMANCE

**HVI TESTED/CERTIFIED**
PER CSA C439

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### EV130, EV200, AND EV300

#### ENERGY EXCHANGE SYSTEM

- Cross flow fixed-plate enthalpic energy exchange core: engineered, proprietary resin-media composite. Provides both sensible and latent heat transfer.

#### MOUNTING OPTIONS

- Unit may be mounted to wall or floor joists using integral mounting flange with hanging bracket kit provided.

#### BLOWER/MOTOR

- A single high efficiency PSC motor directly drives two large diameter centrifugal blowers for quiet operation.

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- Cleanable polyester air filters for both exhaust and fresh air streams.

#### DEFOST

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#### WARRANTY

- Ten year limited warranty on energy exchange core; five year limited warranty against defects in material and workmanship on all other components.

---

### EV130 - Ventilation Performance

<table>
<thead>
<tr>
<th>Ext. Static Pressure</th>
<th>Net Supply Airflow</th>
<th>Gross Airflow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supply</td>
<td>Exhaust</td>
</tr>
<tr>
<td></td>
<td>L/S</td>
<td>CFM</td>
</tr>
<tr>
<td>25</td>
<td>97 L/S</td>
<td>500 CFM</td>
</tr>
<tr>
<td>50</td>
<td>77 L/S</td>
<td>285 CFM</td>
</tr>
<tr>
<td>75</td>
<td>66 L/S</td>
<td>225 CFM</td>
</tr>
<tr>
<td>100</td>
<td>59 L/S</td>
<td>184 CFM</td>
</tr>
<tr>
<td>125</td>
<td>42 L/S</td>
<td>140 CFM</td>
</tr>
<tr>
<td>150</td>
<td>37 L/S</td>
<td>128 CFM</td>
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Electrical Requirements: Volts 120 Amps 2.3

### EV200 - Ventilation Performance

<table>
<thead>
<tr>
<th>Ext. Static Pressure</th>
<th>Net Supply Airflow</th>
<th>Gross Airflow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supply</td>
<td>Exhaust</td>
</tr>
<tr>
<td></td>
<td>L/S</td>
<td>CFM</td>
</tr>
<tr>
<td>25</td>
<td>97 L/S</td>
<td>500 CFM</td>
</tr>
<tr>
<td>50</td>
<td>77 L/S</td>
<td>285 CFM</td>
</tr>
<tr>
<td>75</td>
<td>66 L/S</td>
<td>225 CFM</td>
</tr>
<tr>
<td>100</td>
<td>59 L/S</td>
<td>184 CFM</td>
</tr>
<tr>
<td>125</td>
<td>42 L/S</td>
<td>140 CFM</td>
</tr>
<tr>
<td>150</td>
<td>37 L/S</td>
<td>128 CFM</td>
</tr>
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</table>

Electrical Requirements: Volts 120 Amps 2.3

### EV300 - Ventilation Performance

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<th>Net Supply Airflow</th>
<th>Gross Airflow</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Supply</td>
<td>Exhaust</td>
</tr>
<tr>
<td></td>
<td>L/S</td>
<td>CFM</td>
</tr>
<tr>
<td>25</td>
<td>97 L/S</td>
<td>500 CFM</td>
</tr>
<tr>
<td>50</td>
<td>77 L/S</td>
<td>285 CFM</td>
</tr>
<tr>
<td>75</td>
<td>66 L/S</td>
<td>225 CFM</td>
</tr>
<tr>
<td>100</td>
<td>59 L/S</td>
<td>184 CFM</td>
</tr>
<tr>
<td>125</td>
<td>42 L/S</td>
<td>140 CFM</td>
</tr>
<tr>
<td>150</td>
<td>37 L/S</td>
<td>128 CFM</td>
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Electrical Requirements: Volts 120 Amps 2.3

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### EV130 - Energy Performance

<table>
<thead>
<tr>
<th>Supply Temperature</th>
<th>Net Airflow</th>
<th>Average Power Watts</th>
<th>Sensible Recovery Efficiency</th>
<th>Apparent Sensible Efficiency</th>
<th>Net Moisture Transfer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>35° F</td>
<td>102</td>
<td>71</td>
<td>77</td>
<td>53</td>
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<td>21° F</td>
<td>102</td>
<td>71</td>
<td>77</td>
<td>53</td>
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### EV200 - Energy Performance

<table>
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<th>Net Airflow</th>
<th>Average Power Watts</th>
<th>Sensible Recovery Efficiency</th>
<th>Apparent Sensible Efficiency</th>
<th>Net Moisture Transfer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>35° F</td>
<td>102</td>
<td>71</td>
<td>77</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>21° F</td>
<td>102</td>
<td>71</td>
<td>77</td>
<td>53</td>
<td></td>
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### EV300 - Energy Performance

<table>
<thead>
<tr>
<th>Supply Temperature</th>
<th>Net Airflow</th>
<th>Average Power Watts</th>
<th>Sensible Recovery Efficiency</th>
<th>Apparent Sensible Efficiency</th>
<th>Net Moisture Transfer %</th>
</tr>
</thead>
<tbody>
<tr>
<td>35° F</td>
<td>102</td>
<td>71</td>
<td>77</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>21° F</td>
<td>102</td>
<td>71</td>
<td>77</td>
<td>53</td>
<td></td>
</tr>
</tbody>
</table>

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**EV130, EV200, AND EV300 INFO**

- **EV130, EV200, AND EV300 SPECIFICATIONS**
- **EV130, EV200, AND EV300 INFO**
**INDOOR UNIT**

**SPECIFICATIONS**

Ventilation Type:  
Static plate, heat and humidity transfer

Typical Airflow Range: 50-140 CFM

Standard Features:  
Painted cabinet  
Line-cord power supply  
Low-voltage circuit for controls  
Unit may be mounted in any orientation

Controls:  
On board 24 VAC transformer/relay package  
with switched dry contacts

Filters:  
Total qty. 2, MERV 8, spun-polyester media:  
10 1/2" x 10 1/2" x 1"

**ELECTRICAL DATA**

<table>
<thead>
<tr>
<th>HP</th>
<th>Volts</th>
<th>HZ</th>
<th>Phase</th>
<th>Input Watts</th>
<th>FLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
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<td>60</td>
<td>Single</td>
<td>102 @ 130 CFM</td>
<td>1.3</td>
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</tbody>
</table>

**UNIT PERFORMANCE**

<table>
<thead>
<tr>
<th>Airflow CFM</th>
<th>ESP in H2O</th>
<th>Temp EFF%</th>
<th>Total EFF% Winter/Summer*</th>
</tr>
</thead>
<tbody>
<tr>
<td>79</td>
<td>0.60</td>
<td>78</td>
<td>73/60</td>
</tr>
<tr>
<td>104</td>
<td>0.50</td>
<td>75</td>
<td>69/55</td>
</tr>
<tr>
<td>126</td>
<td>0.40</td>
<td>72</td>
<td>66/50</td>
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<tr>
<td>137</td>
<td>0.30</td>
<td>71</td>
<td>64/48</td>
</tr>
<tr>
<td>153</td>
<td>0.20</td>
<td>68</td>
<td>61/45</td>
</tr>
<tr>
<td>165</td>
<td>0.10</td>
<td>67</td>
<td>59/43</td>
</tr>
</tbody>
</table>

* See HVI certification ratings on page 135 of RenewAire’s Full Line Volume XVI Catalog.

**UNIT DIMENSIONS**

**AIRFLOW CONFIGURATION**

Available as shown in dimension drawing.

**UNIT MOUNTING & APPLICATION**

Can be mounted in any orientation. RA/EA airstream can be switched with OA/FA airstream.

**Note:** Electric Duct Heater is not available on the EV130.

**Specifications may be subject to change without notice.**
Specifications & Dimensions

**Indoor Unit**

**Specifications**

**Ventilation Type:**
Static plate, heat and humidity transfer

**Typical Airflow Range:** 100-200 CFM

**Standard Features:**
- Painted cabinet
- Line-cord power supply
- Low-voltage circuit for controls
- Unit may be mounted in any orientation

**Controls:**
- On board 24 VAC transformer/relay package with switched dry contacts

**Filters:**
- Total qty. 2, MERV 8, spun-polyester media: 10 1/2" x 21 3/4" x 1"

**Unit Dimensions & Weight:**
- 33 1/2" L x 24" W x 20" H
- 68 lbs.

**Max. Shipping Dimensions & Weight (on pallet):**
- 34" L x 44" W x 34" H
- 110 lbs.

**Motor(s):**
- Qty. 1, Double-shaft standard motor

**Accessories:**
- Backdraft damper 8"
- Wall cap 8" - taupe plastic, galvanized, paintable galvanneal
- Louver with 8" round duct connection - 12" (W) x 8" (H)
- Percentage timer control (PTL)
- Push-button point-of-use controls (PBL), PTL req’d.
- Percentage timer control with furnace interlock (FM)
- Electric duct heater - EK series (1–60 kW)

**Electrical Data**

<table>
<thead>
<tr>
<th>HP</th>
<th>Volts</th>
<th>HZ</th>
<th>Phase</th>
<th>Input Watts</th>
<th>FLA</th>
</tr>
</thead>
<tbody>
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<td>0.1</td>
<td>120</td>
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<td>Single</td>
<td>157 @ 181 CFM</td>
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**Unit Performance**

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<thead>
<tr>
<th>Airflow CFM</th>
<th>ESP in H2O</th>
<th>Temp EFF%</th>
<th>Total EFF% Winter/Summer*</th>
</tr>
</thead>
<tbody>
<tr>
<td>122</td>
<td>0.70</td>
<td>81</td>
<td>77/64</td>
</tr>
<tr>
<td>149</td>
<td>0.60</td>
<td>79</td>
<td>75/61</td>
</tr>
<tr>
<td>168</td>
<td>0.50</td>
<td>78</td>
<td>73/59</td>
</tr>
<tr>
<td>176</td>
<td>0.40</td>
<td>78</td>
<td>72/59</td>
</tr>
<tr>
<td>186</td>
<td>0.30</td>
<td>77</td>
<td>72/58</td>
</tr>
<tr>
<td>192</td>
<td>0.20</td>
<td>77</td>
<td>71/57</td>
</tr>
<tr>
<td>207</td>
<td>0.10</td>
<td>76</td>
<td>70/56</td>
</tr>
</tbody>
</table>

**Unit Dimensions**

* See HVI certification ratings on page 135 of RenewAire’s Full Line Volume XVI Catalog.

**Airflow Configuration**
Available as shown in dimension drawing.

**Unit Mounting & Application**
Can be mounted in any orientation. RA/EA airstream can be switched with OA/FA airstream.

**Abbreviations**
- EA: Exhaust Air to outside
- OA: Outside Air intake
- RA: Room Air to be exhausted
- FA: Fresh Air to inside

**Installation Orientation**
Unit may be installed in any orientation.

**Note**
1. Unless otherwise specified, dimensions are rounded to the nearest eighth of an inch.
2. Specifications may be subject to change without notice.
**UNIVERSAL UNIT**

**SPECIFICATIONS**

**Ventilation Type:**
Static plate, heat and humidity transfer

**Typical Airflow Range:** 150-300 CFM

**Standard Features:**
Painted cabinet
Line-cord power supply
Low-voltage circuit for controls
Unit may be mounted in any orientation

**Controls:**
On board 24 VAC transformer/relay package with switched dry contacts

**Filters:**
Total qty. 2, MERV 8, spun-polyester media: 10 1/2" x 21 3/4" x 1"

**Unit Dimensions & Weight:**
33 3/4" L x 24" W x 20" H
72 lbs.

**Max. Shipping Dimensions & Weight (on pallet):**
34" L x 44" W x 34" H
115 lbs.

**Motor(s):**
Qty. 1, Double-shaft standard motor

**Accessories:**
Backdraft damper 8"* 
Wall cap 8" - taupe plastic, galvanized, paintable galvanneal
Louver with 8" round duct connection - 12" (W) x 8" (H)
Percentage timer control (PTL)
Push-button point-of-use controls (PBL), PTL req’d.
Percentage timer control with furnace interlock (FM)
Electric duct heater - EK series (1–60 kW)

**ELECTRICAL DATA**

<table>
<thead>
<tr>
<th>HP</th>
<th>Volts</th>
<th>HZ</th>
<th>Phase</th>
<th>Input Watts</th>
<th>FLA</th>
</tr>
</thead>
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<td>0.2</td>
<td>120</td>
<td>60</td>
<td>Single</td>
<td>315 @ 297 CFM</td>
<td>3.3</td>
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**UNIT PERFORMANCE**

<table>
<thead>
<tr>
<th>Airflow CFM</th>
<th>ESP in H20</th>
<th>Temp EFF%</th>
<th>Total EFF% Winter/Summer*</th>
</tr>
</thead>
<tbody>
<tr>
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<td>78</td>
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<td>191</td>
<td>0.9</td>
<td>77</td>
<td>71/57</td>
</tr>
<tr>
<td>215</td>
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<td>75</td>
<td>69/55</td>
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<td>256</td>
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<td>65/49</td>
</tr>
<tr>
<td>295</td>
<td>0.5</td>
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<td>63/47</td>
</tr>
<tr>
<td>311</td>
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<td>62/46</td>
</tr>
</tbody>
</table>

* See HVI certification ratings on page 135 of RenewAire’s Full Line Volume XVI Catalog.

**UNIT DIMENSIONS**

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Available as shown in dimension drawing.

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Can be mounted in any orientation. RA/EA airstream can be switched with OA/FA airstream.

**ABBREVIATIONS**
EA: Exhaust Air to outside
OA: Outside Air intake
RA: Room Air to be exhausted
FA: Fresh Air to inside

**INSTALLATION ORIENTATION**
Unit may be installed in any orientation.

**NOTE**
1. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE ROUNDED TO THE NEAREST EIGHTH OF AN INCH.
2. SPECIFICATIONS MAY BE SUBJECT TO CHANGE WITHOUT NOTICE.
**BEFORE YOU BEGIN**
Read all instructions before installing the unit. Also review supplemental instructions included with any controls that will be installed. Carefully unpack and inspect the unit for shipping damage. Open the access door and inspect inside the unit. Attach the four duct collars to the unit with the screws provided in the plastic small-parts bag.

**LOCATION OF THE UNIT**
Select a location so that:
- The fresh air intake vent from the outside is placed a minimum of ten feet from any other contaminated exhaust vent, and is at least 30” long.
- The two ducts to the outside are as short and straight as possible, for the best performance from the system. Shorter duct runs help assure that the system is balanced: the amount of air brought in is equal to the amount of air exhausted.
- The power cord reaches an electrical outlet.
- The door can be opened to allow cleaning the core and filters. Provide at least 24” of clearance at front of unit for service access to the blowers, filters and energy exchange core.
- The exhaust outlet and fresh air inlet on the outside of the building should be at least ten feet apart to avoid cross-contamination. The exhaust duct should be about the same length as the fresh air duct.
- The exhaust outlet should not dump air into an enclosed space or into any other structure.
- Do not install the exhaust outlet and fresh air inlet through the roof.

The preferred mounting location for the unit is on a concrete foundation wall because the foundation wall will isolate any blower vibration. If a basement area is not available or practical, use other mechanical room space such as a closet, garage, storage, or accessible attic or crawl space.

**NOTE:** If you wish to install the unit in an attic or other unconditioned space, you must insulate all of the unit’s ductwork that is located in the attic. Use at least R-6 insulation.

**CAUTION**
Provide Adequate Service Access for Maintenance. The unit will require regular filter and core inspections. Install the unit where you can access the core for cleaning and replacing the filters, and where you can get at the wiring for installation and service.
**PLANNING YOUR INSTALLATION**

**DUCTS TO THE OUTSIDE**
The Exhaust Air Duct and the Outside Air Duct connect the unit to the outside. Flexible insulated duct is typically used. See Duct Sizes.

**DUCT SIZES**

| Exhaust Air & Outside Air (EA & OA) | EV130 - 6” round insulated duct, 8” round insulated duct may be used to maintain maximum airflow
| EV200 and EV300 - 8” round insulated duct recommended |
| Fresh Air & Stale Air (FA & RA) | 6” round or 8” oval rigid un-insulated |
| Ducts from unit to house in unconditioned spaces | All ducts from unit to house in unconditioned spaces like attics and crawl spaces must be insulated. |

**INSIDE DUCTWORK SYSTEM**

**For houses without ducted heating or cooling systems – see Figure 3 (F3):**
In most houses one or two fresh air grilles in a central part of the house provide effective distribution of the fresh air into the home, particularly when the stale exhaust air is picked up at several points. Because the fresh air is not fully conditioned, the fresh air supply grilles should be located in a traffic area like a hallway or stairway rather than in a sitting area.

If you want to get fresh air into specific rooms with high occupancy, you can split up the fresh air supply.

**For houses with forced-air heating and cooling systems – see Figure (F2), (F4) and (F5):**
Most units are installed with the fresh air duct connected directly to a return duct for the main heating and cooling system. Be careful to connect the fresh air duct at least three feet from the return plenum to minimize suction from the furnace blower. A connection closer to the furnace may result in unbalanced flow and associated problems.

**For installations that collect stale air from specific rooms in the home – see Figures (F2) and (F3):**
Locate stale air return grilles (RA) near the ceiling on inside walls. Stale air returns are usually easiest to install in interior partitions. Put them in the ceiling if that is easier.

**Stale Air Return Grille Sizes** (8” round on EV300)
- **Bathroom:** 4” X 10” or 6” X 10” - 40 to 60 sq. in.
- **Kitchen:** 6” X 10” or 60 sq. in.

**Can an ERV be used to ventilate bathrooms?**
A RenewAire ERV can be used as a central exhaust system in place of bathroom exhaust fans. Tie a grille in each bathroom directly back to the ERV – see Figure F2. A successful installation should provide at least 50 CFM of exhaust per moisture producing bathroom. When used for bathroom exhaust, the EV130 should be used for no more than two bathrooms, the EV200 for up to four bathrooms and the EV300 for up to six bathrooms. Install a control in each bathroom ventilated by the ERV (see Controls, page 12-13).

**For houses where radon is a concern:**
The first line of defense against radon should always be techniques that prevent the entry of radon into the home, such as under-slab suction, vented perimeter drainage, and crack sealing. However, if moderate levels of radon continue to be present, it is important that the unit slightly pressurize the basement, not de-pressurize the basement. Installation of this unit for radon mitigation is beyond the scope of this manual. Consult a radon mitigation professional.
APPLICATIONS
See figures F2-F5 for examples of some common installation approaches (EV130 shown).

Note: ERV blower may be operated separate from furnace blower.

F2 Separate Room Air Pick-up - Fresh Air to Furnace Return Air Trunkline

F3 Separate Air and Fresh Air Supply

F4 Furnace Return Air Back into Return Air

F5 Furnace Return Air Back into Supply Air

Note: The furnace blower must be operated any time the ERV is operated. Use furnace fan “on” continuous low speed or optional FM control to cycle furnace fan on ERV.

EA Exhaust Air
OA Outside Air
RA Room Air
SA Supply Air
FA Fresh Air

Note: ERV blower may be operated separate from furnace blower.
**INSTALLATION**

**PLANNING YOUR INSTALLATION**

**WARNING**

RISK OF FIRE, ELECTRIC SHOCK, OR INJURY. OBSERVE ALL CODES AND THE FOLLOWING:

1. Before servicing or cleaning the unit, unplug the unit line cord. Make sure unit is not running before opening its door.
2. This installation manual shows the suggested installation method. Additional measures may be required by local codes and standards.
3. Installation work and electrical wiring must be done by qualified professional(s) in accordance with all applicable codes, standards and licensing requirements.
4. Any structural alterations necessary for installation must comply with all applicable building, health, and safety code requirements.
5. Connect this unit only to a 120VAC grounded receptacle protected by a 15 or 20 amp circuit breaker. Do not remove the unit’s line cord.
6. Do not install unit or controls where they can be reached from a tub or shower.
7. This unit must be properly ducted to the outdoors.
8. Outside air inlet for this unit must be located away from sources of hazardous air such as auto exhausts.
9. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment that might be installed in the area affected by this equipment. If this unit is exhausting air from a space in which chimney-vented fuel burning equipment is located, take steps to assure that combustion air supply is not affected. Follow the heating equipment manufacturer’s requirements and the combustion air supply requirements of applicable codes and standards.
10. This unit is intended for general ventilating only. Do not use to exhaust hazardous or explosive materials and vapors. Do not connect this unit to range hoods, fume hoods or collection systems for toxics.
11. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.
12. Use the unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

**CAUTION**

1. To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc., out of unit.
2. Do not connect power to the units external control terminals: this will damage the unit. The external terminals are for use only with unpowered controls designed for low-voltage operation.
**Mounting the Unit**

**Unit may be installed in any orientation**
Orient the unit for the simplest duct layout and connections. Note however that the door is equipped with slide-off hinges. For the homeowner’s convenience it is helpful to orient the unit so that the door does not drop off when it is unlatched.

**Mounting the ERV on a concrete foundation wall**
Mount hanging bracket to the wall with appropriate concrete anchors. Use pre-cut foam tape from small parts bag. Remove backing and apply two pieces of foam tape equally spaced along the unit’s mounting flange to be held by the hanging bracket. Apply the other two pieces of foam over two holes that will be used for fastening, on the other flange. The tape should be applied in a “U” shape to cushion both the front and back of the integral flanges. Lift unit and slide unit flange into the hanging bracket. Using metal flat washers, fasten flange opposite hanging bracket to structure. Safety screws should similarly be installed passing through the hanging bracket and flange. Make sure the screws, which you must supply, are properly selected for the loads and substrate involved.

**Mounting the ERV to a stud wall**
Mount unit using supplied hanging bracket kit as described for mounting to concrete foundation wall. Note that the hole layout on the integral mounting flanges and the hanging bracket are spaced for 16”, 19.2” and 24” on-center framing patterns.

**Suspending the ERV from floor joists or trusses**
The unit may be screwed directly to joists or trusses using the hanging bracket and integral flange. Mount as described for mounting to concrete foundation wall. Note that the hole layout on the hanging bracket is spaced for 16”, 19.2” and 24” on-center layouts.

**CAUTION**
Risk of injury when lifting unit and installing it overhead. Get a helper and wear eye protection.
INSTALLATION

INSTALLATION INSTRUCTION

CAUTION
The vapor barrier should be continuous and sealed against air and moisture leakage! If not, condensation or ice may form in cold weather on the duct surface or in its insulation!

CAUTION
Do not place any stale air returns in garages.

CAUTION
Do not connect Dryers to unit. Do not connect Range Hoods to the unit.

CAUTION
Install fresh air inlet away from sources of contaminants.
• Do not locate the fresh air inlet where vehicles may be serviced or left idling.
• The fresh air inlet should be at least ten feet away from any exhaust such as dryer vents, chimneys, furnace, and water heater exhausts or other sources of contamination or carbon monoxide.
• Install 12" above ground level.
• Never locate the fresh air inlet inside a structure.

INSTALLING OUTSIDE AIR AND EXHAUST AIR DUCTS
Ducts connecting the unit to the outside must be well-insulated.

Band or tape inner duct liner to inner flange of appropriate collar. Drive a sheet metal screw through liner to secure duct spiral wire to collar. Straighten insulation, and slide outer duct jacket onto the outer flange of the duct collar. Secure with band or tape.

The inlets and outlets should be screened against insects and vermin and shielded from the weather to prevent the entry of rain or snow.

INSTALLING RETURN AIR (RA) DUCTS:
All the stale air returns are connected by ducts to the unit. Generally, empty stud cavities are used for returns as is often done with cold air returns for the furnace, using standard duct boots to connect to six inch pipe at the bottom or top of the wall cavity. Always be sure to seal all joints with duct sealant or tape. Some local codes may require metal ducting all the way from the boots to the stale air grilles. Use rigid ducts to allow the air to move freely and easily through the ducts. See Duct Sizes to size your duct work.

If duct runs are very long (over 25 feet of flex duct for 130 CFM or over 10 feet for 200 CFM each run) or have excessive bends or elbows or if maximum air flow rates are required, eight inch insulated flexible duct should be used. The outer flange of the duct collar can be used for both the inner and outer jacket of the flexible duct. Care must be taken to insure that the duct is securely fastened and sealed to the duct collar.

Do not use more flex duct than necessary!
Flex duct is much more resistant to airflow than rigid duct; longer runs of flex duct will reduce the ventilation performance of your system. Stretch flex duct and avoid sharp bends.

INSTALLING FRESH AIR (FA) DUCTS:
Use a five foot section of flexible insulated duct to connect the unit to the ducts at the port labeled Fresh Air to the Inside. This will cut noise transmitted from the unit. Stretch the flex duct tightly in order to maintain good airflow.

CONTROLS
For an installation in which the ERV should run continuously in order to provide the required ventilation rate for the home, no controls are needed. However, in most installations, control over the unit operation is desired and this is best provided by an optional RenewAire Percentage Timer Control (PTL or FM).

Percentage timers (PTL or FM controls) may be located anywhere that is convenient. A typical location for either control is next to the home’s thermostat. Percentage timers operate the ERV to provide regular background ventilation of the home.

ERV installations that pull stale air from specific rooms, such as bathrooms, should have optional RenewAire Push-button (PBL) Controls in those rooms. The secondary operating controls allow the system to be turned on from various locations in the house.
INSTALLING CONTROLS

Optional controls:
RenewAire offers a variety of controls specifically designed to work with the EV130/200/300 products. These include: PTL (a two wire percentage timer), FM (a six wire percentage timer that will interconnect with the furnace blower), and PBL (point of use push button control). Other controls that throw an unpowered switch may also be used.

Typical control schematic:
Various wiring designs can be used to properly control the unit and meet safety and code concerns. Consult your electrician for an electrical design to meet your needs.

The schematic below (F7) shows a typical control system: a PTL percentage timer plus two PBL push-button controls.

See installation manuals for the control(s) you select for wiring diagrams and specific instructions.

If NOT connecting controls to the ERV:
Make a jumper out of a short piece of wire. ERV will run full-time once its power cord is plugged in.

STARTING UP THE UNIT

- Inspect your installation to be sure all duct work is correctly installed and sealed, that filters are in place, and controls (if any) are connected.
- Shut and latch the door to the unit.
- Plug unit into 115 VAC outlet. It may start immediately.

- Use control to turn on the unit. Check operation of the control(s).
- Check that the unit’s safety interlock switch turns off the unit when the door is opened.

START-UP & OPERATION
MAINTENANCE

SERVICE PARTS  EV130, EV200, AND EV300

Filter Clip

Draw Latch

Door

Interlock Switch

Filter

Control Board

Core

Motor Blower Assembly

Duct Collar

Motor

Hanging Bracket
MAINTENANCE

REQUIREMENTS

TO CLEAN THE ENERGY EXCHANGE ELEMENT
1. Remove the filters (see below).
2. Vacuum the exposed faces of the energy exchange core with a soft brush attachment.
3. After servicing the filters, re-install them (see below).
4. Vacuum out dust from the rest of the unit case. Dust collects only on the entering faces of the energy exchange core. The interior of the energy exchange core stays clean even if the core faces are dust covered. The core flutes move the air in a laminar airflow such that particulate deposition is maintained at virtually nil.

INSPECT AND CHANGE THE FILTERS REGULARLY
Service filters every three months when the unit is in regular use or as needed to keep them reasonably clean.
1. Release cam latches and carefully swing access door open. Remove the door by sliding to one side.
2. Remove filter clips.
3. Pull the filters out.
4. Vacuum with a hose attachment.
5. Re-install filters and filter clips, (see Service Parts, page 14). Orange side of filter should face the core.
6. Re-install door, and fasten cam latches.

NOTE: The filters should be replaced after they have been cleaned several times. The primary contact for replacement filters for your RenewAire unit is the installing contractor. As an alternative, you may wish to produce your own filters. Please follow these instructions:
Filters may be cut from a sheet or roll of ¾” - 1” firm, spun polyester filter “hog hair” media or material, similar to the existing filter in the residential unit.

The size of each filter (2 required per unit) is as follows:
EV130 10 ½” x 10 ½”
EV200/EV300 10 ½” x 21 ¾”
Call your HVAC contractor or RenewAire for further information.

NOTE: Filters must be used or the face of the energy exchange core will become blocked by dust and reduce unit efficacy. The filters supplied in the unit are usually able to keep the energy exchange core clean for many months. Finer filters can be used but must be cleaned more often.

MOTOR MAINTENANCE
The blower/motor package needs no lubrication:
Vacuum clean the blower wheels at the same time you clean the face of the energy exchange core. Confirm blower wheel is not rubbing against the blower inlet or housing by rotating wheel manually.

GENERAL CLEANING AND INSPECTION
Perform general cleaning and visual inspection when changing filters.
1. Remove paper, leaves, etc. from inlet and outlet screens.
2. Inspect for insect nests.

WARNING
RISK OF ELECTRIC SHOCK OR INJURY.
• Before servicing or cleaning the unit, unplug the unit line cord.
• Make sure unit is not running before opening its door. Blower wheels are sharp and can cut.
• Do not disable the interlock switch: it is there for your safety.

CAUTION
DO NOT WASH THE ENERGY EXCHANGE CORE.
Keep it away from water or fire to avoid damaging it. Always handle the core carefully.
UNMATCHED VENTILATION SUPPORT

As much as our unsurpassed quality and performance, our customers can also depend on our professional support staff for swift, professional assistance with all their technical, application, and service needs. **Every time. Anywhere.**

At RenewAire — unlike other ventilation suppliers — advanced ventilation solutions are all we do. Our sole passion. Which is why for all commercial projects, we are the “V” in HVAC... and the only name you need to know.