

# USER AND INSTALLER MANUAL



**E15 ECM ERV\***

**E15 ECM HRV\***

**E15 HRV**

**E10 HRV**



**90H-V ECM ERV\***

**90H-V ECM HRV\***

**90H-V+**

**60H-V+**

VB0202

**\*THE FACTORY SET SPEED FOR THESE UNITS IS NOW FROM 55 CFM TO 125 CFM (SEE PAGE 12 FOR MORE DETAILS).**

**△ RESIDENTIAL USE ONLY △**

**READ AND SAVE THESE INSTRUCTIONS**



7 72371 13074 6



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.

21781 rev. 11

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**

**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.

## LIMITATION

For residential (domestic) installation only. Installation work and electrical wiring must be done by a qualified person in accordance with all applicable codes and standards, including fire-rated construction codes and standards.

## ⚠WARNING

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

1. Use this unit only in the manner intended by the manufacturer.
2. Before servicing or cleaning this unit, disconnect the power cord from the electrical outlet.
3. This unit is not designed to provide combustion and/or dilution air for fuel-burning appliances.
4. When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.
5. Do not use this unit with any solid-state speed control device other than those specified in section 7.3.
6. This unit must be grounded. The power supply cord has a 3-prong grounding plug for your personal safety. It must be plugged into a mating 3-prong grounding receptacle, grounded in accordance with the national electrical code and local codes and ordinances. Do not remove the ground prong. Do not use an extension cord.
7. Do not install in a cooking area or connect directly to any appliances.
8. Do not use to exhaust hazardous or explosive materials and vapors.
9. When performing installation, servicing or cleaning this unit, it is recommended to wear safety glasses and gloves.
10. When applicable local regulation comprises 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
11. Due to the weight of the unit, two installers are recommended to perform installation

## CAUTION

1. To avoid prematurely clogged filters, turn the unit OFF during construction or renovation.
2. Please read specification label on product for further information and requirements.
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. Do not attempt to recover the exhaust air from a dryer or a range hood.
4. Intended for residential installation only in accordance with the requirements of NFPA 90B (for a unit installed in U.S.A.) or Part 9 of the National Building Code of Canada (for a unit installed in Canada).
5. Do not run any air ducts directly above or within 2 ft (0.61 m) of a furnace or its supply plenum, boiler, or other heat producing appliance. If a duct has to be connected to the furnace return plenum, it must be connected 10' (3.1 m) away from plenum's connection to the furnace.
6. The ductwork is intended to be installed in compliance with all applicable local and national codes.
7. 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.
8. If the ductwork passes 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).
9. At least once a year, the unit mechanical and electronic parts should be inspected by qualified service personnel.
10. Do not use your unit during construction or renovation of your house or when sanding drywall. Certain types of dust and vapors may damage your ventilation system.
11. During winter, make sure that the outside intake and exhaust hoods are free from any snow. During a big snow storm, check that your unit doesn't draw in any snow. If it does, turn the unit OFF for a few hours.
12. Since the electronic control system of the unit uses 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.

# TABLE OF CONTENTS

<b>1. USING THIS UNIT .....</b>	<b>4</b>	<b>7. CONTROLS .....</b>	<b>11</b>
1.1 Integrated Control.....	4	7.1 Setting extended defrost for E15 HRV, E10 HRV and 60H-V+ .....	11
<b>2. USER SERVICING INSTRUCTIONS .....</b>	<b>5</b>	7.2 Speed and Defrost Setting for E15 ECM ERV, E15 ECM HRV, 90H-V ECM ERV and 90H-V ECM HRV .....	12
2.1 Quarterly Maintenance .....	5	7.3 Electrical Connection to Optional Wall Controls ...	12
2.2 Annual Maintenance .....	5	7.3.1 Altitude or Platinum.....	13
<b>3. USER'S TROUBLESHOOTING .....</b>	<b>5</b>	7.3.2 Deco-Touch.....	13
<b>4. WARRANTY .....</b>	<b>6</b>	7.3.3 Lite-Touch Constructo or Lite-Touch Bronze .....	13
<b>5. TECHNICAL DATA.....</b>	<b>7</b>	7.3.4 Constructo or Bronze .....	13
5.1 Air Distribution .....	7	7.3.5 Optional Auxiliary Controls.....	13
<b>6. INSTALLATION.....</b>	<b>7</b>	<b>8. CONNECTION TO THE FURNACE .....</b>	<b>14</b>
6.1 Door configuration .....	7	<b>9. BALANCING THE UNIT.....</b>	<b>14</b>
6.2 Locating the unit.....	7	<b>10. SERVICE PARTS .....</b>	<b>15</b>
6.2.1 Attic installation for E15 ECM ERV only .....	8	<b>11. WIRING DIAGRAMS.....</b>	<b>16</b>
6.3 Installing the Ductwork and the registers.....	8	<b>12. TROUBLESHOOTING.....</b>	<b>19</b>
6.3.1 Fully Ducted System.....	8		
6.3.2 Exhaust Ducted System - Supply Side.....	8		
6.3.3 Exhaust Ducted System - Return Side.....	9		
6.3.4 Simplified Installation - Return/Supply .....	9		
6.3.5 Simplified Installation - Return/Return.....	9		
6.4 Installing the Exterior Hoods .....	10		
6.5 Connecting the ducts to the Unit .....	10		
6.5.1 Insulated flexible ducts.....	10		
6.5.2 Non-insulated rigid ducts .....	10		
6.5.3 Non-insulated flexible ducts .....	10		
6.6 Connecting the Drain.....	11		



---

## PRODUCT REGISTRATION CARD - FICHE D'ENREGISTREMENT DU PRODUIT

**IMPORTANT:** Please complete and return this questionnaire within 10 days of your purchase to the address below. Note that only the questions on this side of the page are mandatory. Your answers will be used for market research studies and reports, and will help us to better serve you in the future. **IMPORTANT:** Veuillez remplir ce questionnaire et nous le retourner dans les 10 jours suivant votre achat à l'adresse inscrite en bas de la page. Veuillez noter que seules les questions de ce côté-ci de la page sont obligatoires. Vos réponses serviront à des études de marché et nous aideront à mieux vous servir dans l'avenir.

First name - Prénom <input style="width: 90%;" type="text"/>		Last name - Nom de famille <input style="width: 90%;" type="text"/>	
Address - Adresse <input style="width: 90%;" type="text"/>	Apt. no. - App. <input style="width: 15%;" type="text"/>	City - Ville <input style="width: 25%;" type="text"/>	Province <input style="width: 15%;" type="text"/>
			Postal code - Code postal <input style="width: 15%;" type="text"/>
Country - Pays <input style="width: 90%;" type="text"/>	E-mail address - Courriel <input style="width: 90%;" type="text"/>		Language preferred - Langue de correspondance <input style="width: 90%;" type="text"/>
Telephone no. (day) - N° de téléphone (jour) <input style="width: 25%;" type="text"/>	Telephone no. (evening) - N° de téléphone (soir) <input style="width: 25%;" type="text"/>	Date of purchase - Date d'achat <input style="width: 40%;" type="text"/>	
Model no. - N° de modèle <input style="width: 90%;" type="text"/>	Serial no. - N° de série <input style="width: 90%;" type="text"/>		

# 1. USING THIS UNIT

## CAUTION

**Before using this unit for the first time, please take the time to carefully read page 2 of this guide to ensure it is used safely and properly.**

### 1.1 INTEGRATED CONTROL

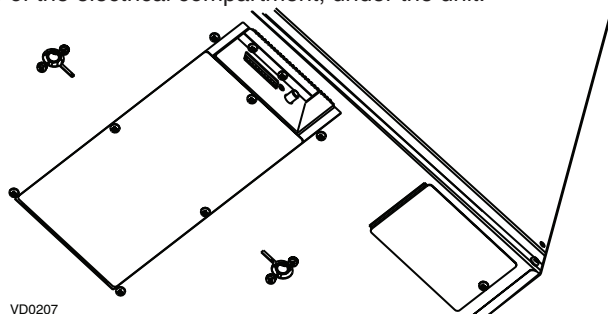
#### Unit Booting Sequence

The unit's booting sequence is similar to a personal computer's booting sequence. Each time the unit is plugged in after being unplugged, or after a power failure, it will perform a 30-second booting sequence before starting to operate. **No command will be taken until the unit is fully booted.**

This unit is equipped with an **integrated control**, located on the recessed side of the electrical compartment, under the unit.

- Use the integrated push-button to go from OFF to Low Speed, to High Speed, and back to OFF.
- The color of the LED indicator shows what speed the unit is running in:

LED COLOR	RESULTS
AMBER	Unit is in Low speed
GREEN	Unit is in High speed
NO LIGHT	Unit is OFF or controlled by a main control



For more convenience, this unit can also be controlled using an optional wall control. **When using an optional main control, unit must be set to OFF using the integrated control.**

For more information about their operation modes refer to the *Main and auxiliary wall control User Guide*, included with the ventilation unit and also available at [www.vanee.ca](http://www.vanee.ca) or [www.venmar.ca](http://www.venmar.ca).

---

Would you like to receive occasional informational e-mail offers including product updates and special promotions from us? **Yes/No**

What problem were you trying to solve with your purchase? (Check each one that applies to you.)

<input type="checkbox"/> Bad odors	<input type="checkbox"/> Dust
<input type="checkbox"/> Respiratory problems	<input type="checkbox"/> Mildew
<input type="checkbox"/> Excess of humidity	<input type="checkbox"/> Allergies
<input type="checkbox"/> Temperature standardization	<input type="checkbox"/> No specific problems
<input type="checkbox"/> Lack of fresh air	<input type="checkbox"/> Others

Who installed your unit?

<input type="checkbox"/> Home builder	<input type="checkbox"/> Friend / family
<input type="checkbox"/> Recommended installer	<input type="checkbox"/> Contractor
	<input type="checkbox"/> Yourself

Please read the following list of criteria carefully. Indicate the importance of your purchase decision on a scale of 1 (less important) to 5 (most important).

___ Price	___ Heat recovery
___ Warranty	___ Controls
___ Product design	___ Ease of cleaning
___ Ventilation capacity	___ Manufacturer's reputation
___ Filter maintenance indicator	___ Ease of use
___ Filtration quality	___ Noise level
___ Recirculation	___ Other

Aimeriez-vous recevoir plus de détails sur nos promotions, offres de rabais et mises à jour de nos produits? **Oui/Non**

Quels problèmes essayez-vous de résoudre par cet achat? (Cochez toutes les cases pertinentes)

<input type="checkbox"/> Mauvaises odeurs	<input type="checkbox"/> Poussières
<input type="checkbox"/> Problèmes respiratoires	<input type="checkbox"/> Moisissures
<input type="checkbox"/> Excès d'humidité	<input type="checkbox"/> Allergies
<input type="checkbox"/> Uniformisation de la température	<input type="checkbox"/> Pas de problèmes spécifiques
<input type="checkbox"/> Manque d'air frais	<input type="checkbox"/> Autres (Précisez SVP)

Qui a installé l'appareil?

<input type="checkbox"/> Constructeur de la maison	<input type="checkbox"/> Ami/membre de la famille
<input type="checkbox"/> Installateur recommandé	<input type="checkbox"/> Entrepreneur
	<input type="checkbox"/> Vous-même

Veillez lire la liste des critères de sélection ci-dessous. Sur une échelle de 1 (étant le moins important) à 5 (étant le plus important), veuillez indiquer l'importance de chacun d'entre eux dans votre décision d'achat.

___ Prix	___ Récupération d'énergie
___ Garantie	___ Fonctions
___ Design du produit	___ Facilité de nettoyage
___ Débit de ventilation	___ Réputation du fabricant
___ Indicateur d'entretien du filtre	___ Simplicité d'utilisation
___ Qualité de filtration	___ Niveau de bruit
___ Recirculation	___ Autres (Précisez SVP)
___ Récupération de chaleur	

**Are you connected?** Please do not hesitate to complete the product registration card via our Web site at [www.bnv.ca](http://www.bnv.ca)

**Enregistrez-vous en ligne!** N'hésitez pas à remplir la fiche d'enregistrement du produit sur notre site Internet au [www.bnv.ca](http://www.bnv.ca)

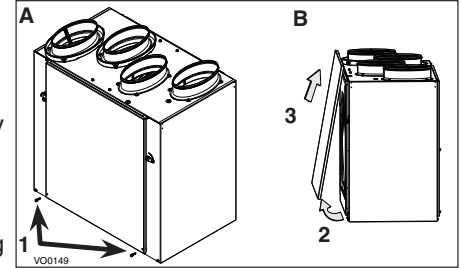
## 2. USER SERVICING INSTRUCTIONS

### 2.1 QUARTERLY 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.**

1. Turn the unit off and unplug it.
2. Remove both door screws and set aside (A).
3. Open and lift out the door (B).
4. Slide both filters out of the top of the recovery core.
5. Wash both core filters under lukewarm water with mild soap. Rinse thoroughly and let dry completely before reinstalling on the core.
6. Slide the cleaned filters back in the unit, mesh side against the core.
7. Reinstall the door by reversing steps 3 and 2.
8. Plug unit back. The unit will return to its previous setting after a 30-second booting sequence.



### 2.2 ANNUAL MAINTENANCE

1. Perform steps 1 to 3 of Quarterly Maintenance.
2. Slide both filters and the recovery core out of the unit.
3. Clean inner walls of the unit using a damp cloth, and wipe with a clean dry one.
4. Wash both core filters under lukewarm water with mild soap. Rinse thoroughly and let dry completely
5. Clean the recovery core as follows :

E15 ECM HRV E15 HRV E10 HRV	90H-V ECM HRV 90H-V+ 60H-V+	E15 ECM ERV 90H-V ECM ERV
<ul style="list-style-type: none"> <li>• Let it soak for 3 hours in a mixture of warm water and mild soap (dishwashing liquid).</li> <li>• Rinse lightly.</li> <li>• Allow it to dry.</li> </ul>		<ul style="list-style-type: none"> <li>• Remove the dust using a vacuum cleaner with a soft brush attachment.</li> </ul> <p><b>CAUTION: DO NOT SOAK THE ENERGY RECOVERY CORE IN WATER</b></p>

6. Slide the cleaned core in the unit.
7. Slide the cleaned filters back in the unit, mesh side against the core.

#### CAUTION

**Make sure that the square or circle symbol on the core is aligned with the one on the unit.**

8. Reinstall the door by reversing steps 3 and 2 of section 2.1.
9. Clean the exterior hoods.
10. Plug unit back. The unit will return to its previous setting after a 30-second booting sequence.

## 3. USER'S TROUBLESHOOTING

PROBLEM	TRY THIS
1. Nothing works.	<ul style="list-style-type: none"> <li>• Check if the unit is plugged in and 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 outdoors, or in a closed room with a dehumidifier or in a well ventilated room.</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 blocked.</li> <li>• Operate the unit in low speed ventilation, in intermittent or in recirculation mode (if available).</li> <li>• Install a duct heater.</li> </ul>
5. The LED of the integrated control is blinking.	<ul style="list-style-type: none"> <li>• Contact your installer.</li> </ul>
6. The integrated control push button does not work.	<ul style="list-style-type: none"> <li>• The 30-second boot sequence is not completed.</li> </ul>

Contact customer service at 1-800-567-3855 for any unresolved issue.

## 4. WARRANTY

---

This ventilation unit is a high-quality product, built and packaged with care. The manufacturer warrants to the original purchaser of its product, that such products will be free from defects for the period stated below, from the date of original purchase. For all units, the warranty covers parts only against any operational defect. This 5-year warranty is subject to performance of the core maintenance according to the recommendations in this manual. The heat recovery core (HRV) has a limited lifetime warranty, and the energy recovery core (ERV) is covered by a 5-year warranty. If any defect should occur, we urge you to read the user guide carefully. If the problem persists, observe the following rules:

### RULES TO FOLLOW

If the unit is defective, contact your ventilation contractor (see address on your manual's cover page). The contractor will determine with you the reason for the defect, and if needed, do the replacement or repair. If ever it is impossible to reach your ventilation contractor, call 1-800-567-3855 (North America); the personnel will be pleased to give you the phone number of a distributor or service center near you.

### REPLACEMENT PARTS AND REPAIR

In order to ensure your ventilation unit remains in good working condition, you must use the manufacturer's genuine replacement parts only. The manufacturer's 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. The manufacturer also recommends that you contact a service depot certified by the manufacturer for all replacement parts and repair.

### BILL OF PURCHASE

No replacement or repair covered by the warranty will be carried out unless the unit is accompanied by a copy of the original bill of purchase. Please retain your original.

### MISCELLANEOUS COSTS

In each case, the labor costs for the removal of a defective part and/or installation of a compliant part will not be covered by the manufacturer.

### CONDITIONS AND LIMITATIONS

These units are created for **residential use only** and must be used in a building as defined below:

- Building:** All structures zoned and/or erected for the act, process or art of human or animal habitation and/or the storage or warehousing of goods.
- Residential use:** Dwelling, lodging, suite: Building, or part of a building, intended to act as either the domicile to one or several people which can include general sanitary, food consumption and rest facilities. Buildings of only one room or a group of rooms including those occupied by a tenant or owner; comprise the lodgings, the individual rooms of the motels, hotels, rooming/lodging houses, boarding/half-way/foster homes, dormitories, and suites, as well as the stores and the business establishments constituted by only one room in a dwelling.
- Commercial use:** Agricultural establishment, commercial establishment for assembly, care, or detention: Building or part of a building that does not contain a dwelling, situated on land dedicated to agriculture or farming and used primarily to shelter animals, or for the production, the storage or the treatment of agricultural or horticultural products or animal food. Building or part of a building, used for the display or retail of goods, professional or personal services, or commodities. Building, or part of a building used by persons gathering for civic activities, religious or political assembly, tourism, educational/vocational training, recreation or the consumption of food or drink. Building, or part of a building used to shelter persons of impaired physical or psychological states, persons requiring palliative care or medical treatments, or persons for reasons out of their control, cannot escape harm or threat of danger autonomously.
- Industrial use:** Building, or part of a building, used for the assembly, the manufacture, the creation, the treatment, the repair or the storage of products and combustible materials and that contain fuels that when ignited or exploded in sufficient quantity may constitute a risk of fire.

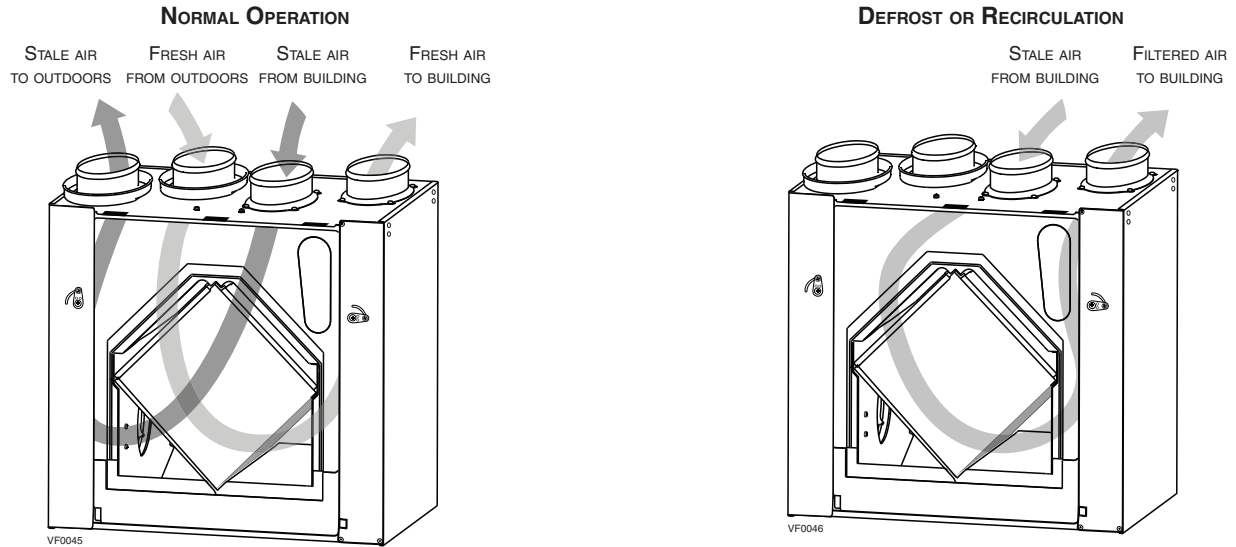
The above warranty applies to all cases where the damage is not a result of poor installation, improper use, mistreatment or negligence, acts of God, or any other circumstances beyond the control of the manufacturer. Furthermore, the manufacturer will not be held responsible for any bodily injury or damage to personal property or real estate, whether caused directly or indirectly by the unit. This warranty supersedes all prior warranties.

**CAUTION**

Before installing this unit, please take the time to carefully read page 2 of this guide to ensure it is installed safely and properly.

**5. TECHNICAL DATA**

5.1 AIR DISTRIBUTION



**6. INSTALLATION**

6.1 DOOR CONFIGURATION

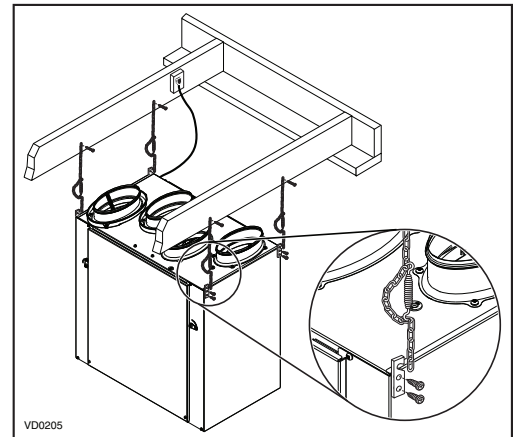
<p><b>E15 ECM ERV</b>  <b>E15 ECM HRV</b>  <b>90H-V ECM ERV</b>  <b>90H-V ECM HRV</b></p>	<p>These units are equipped with one front door and one back door.</p>
<p><b>E15 HRV</b>  <b>E10 HRV</b>  <b>90H-V+</b>  <b>60H-V+</b></p>	<p>These units have one door. In order to optimize duct configuration while maintaining access for maintenance, the door can be switched sides:</p> <ul style="list-style-type: none"> <li>• Remove the door:             <ul style="list-style-type: none"> <li>- Remove both screws holding the bottom of the door and set aside.</li> <li>- Open and lift the door to remove it.</li> </ul> </li> <li>• Remove the back panel:             <ul style="list-style-type: none"> <li>- Remove the 4 screws holding the back panel, and set aside.</li> </ul> </li> <li>• Hang the door to the back of the unit and secure using both screws previously removed.</li> <li>• Install the back panel to the front of the unit using the 4 screws previously removed.</li> </ul>

6.2 LOCATING THE UNIT

Choose an **appropriate location** for the unit:

- Within an area of the house where the **ambient temperature is kept between 10°C (50°F) and 40°C (104°F)**
- Away from living areas (dining room, living room, bedroom), if possible
- So as to provide easy access to the interior cabinet for quarterly and annual maintenance, and to the control panel
- 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
- Allow for a power source (standard outlet)

Hang the unit with the 4 chains and springs provided (see illustrations at right).



**CAUTION**

**Make sure that the unit is level.**

## For the Installer

### 6.2.1 ATTIC INSTALLATION FOR E15 ECM ERV ONLY

The 5 types of installation explained in section 6.3 can be used for an installation in the attic. However, to get the most of your ERV unit, the ambient temperature around it should be conditioned. If the unit has to be installed in an unconditioned space, like an attic, the heat gains or losses could increase the operation costs of the unit.

#### CAUTION

- Due to the potential temperature difference between the attic and the rest of the house, all unit ducts must be insulated.
- The attic temperature must always be above 10°C (50°F) and under 50°C (122°F).

### 6.3 INSTALLING THE DUCTWORK AND THE REGISTERS

#### WARNING

- Never install a stale air exhaust register in a closed room where a combustion device operates, such as a gas furnace, a gas water heater or a fireplace.
- When performing duct connections, always use approved tools and materials. Respect all corresponding laws and safety regulations. Please refer to your local building code.

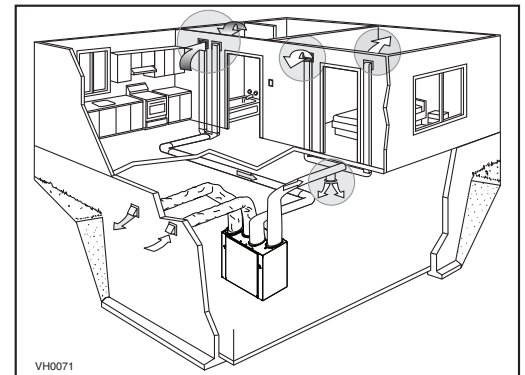
#### 6.3.1 FULLY DUCTED SYSTEM

##### Stale air from building ductwork:

- Install registers in areas where contaminants are produced: Kitchen, bathrooms, laundry room, etc.
- Install registers on an interior wall, 6 to 12 inches (152 to 305 mm) away from the ceiling OR install them in the ceiling.
- Install the kitchen register at least 4 feet (1.2 m) away from the range.

##### Fresh air to building ductwork:

- Install registers in bedrooms, dining room, living room and basement.
- Install registers either in the ceiling or high on the walls with the airflow directed towards the ceiling.
- If a register must be installed in the floor, direct the air flow up the wall.



#### 6.3.2 EXHAUST DUCTED SYSTEM - SUPPLY SIDE

#### CAUTION

When performing duct connections to the furnace supply duct, use metal ducts appropriately sized to support the additional airflow produced by the unit.

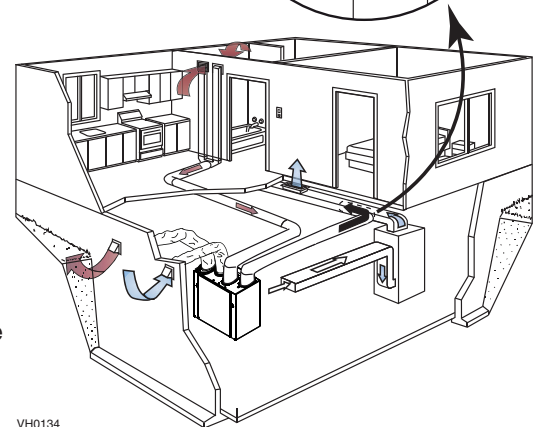
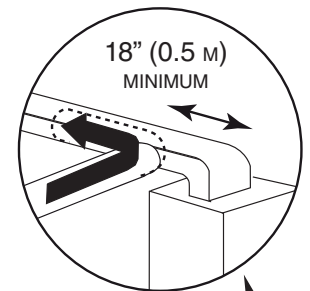
##### Stale air from building ductwork:

- Install registers in areas where contaminants are produced: Kitchen, bathrooms, laundry room, etc.
- Install registers on an interior wall, 6 to 12 inches (152 to 305 mm) away from the ceiling OR install them in the ceiling.
- Install the kitchen register at least 4 feet (1.2 m) away from the range.

##### Fresh air to building ductwork:

- Cut an opening into the furnace supply duct at least 18 inches (0.5 m) away from the furnace.
- Connect this opening to the fresh air to building port of the HRV/ERV (use metal ducts, see illustration at right).
- Make sure that the HRV/ERV duct forms an elbow inside the furnace ductwork.

NOTE: For this type of installation, it is recommended, however, not essential, that the furnace blower be synchronized with the unit.





**For the Installer**

**6.3.3 EXHAUST DUCTED SYSTEM - RETURN SIDE**

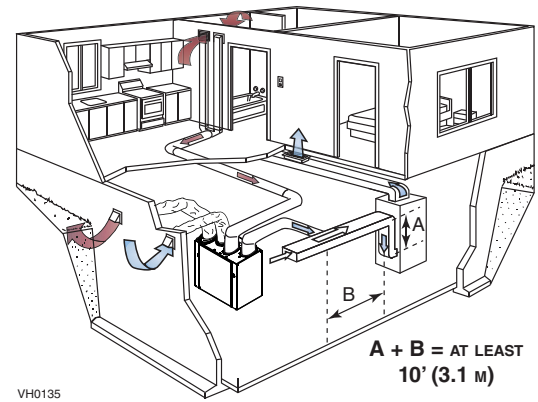
**Stale air from building ductwork:**

- Install registers in areas where contaminants are produced: Kitchen, bathrooms, laundry room, etc.
- Install registers on an interior wall, 6 to 12 inches (152 to 305 mm) away from the ceiling OR install them in the ceiling.
- Install the kitchen register at least 4 feet (1.2 m) away from the range.

**Fresh air to building ductwork:**

- Cut an opening into the furnace return duct at least 10 feet (3.1 m) away from the furnace (A+B).
- Connect this opening to the fresh air to building port of the HRV/ERV (see illustration at right) using metal ducting.

NOTE : For this type of installation, it is recommended, however, not essential, that the furnace blower be synchronized with the unit.



**6.3.4 SIMPLIFIED INSTALLATION - RETURN/SUPPLY**

**Stale air from building ductwork:**

- Cut an opening into the furnace return duct at least 10 feet (3.1 m) (A + B) away from the furnace.
- Connect this opening to the stale air from building port of the HRV/ERV (as illustrated).

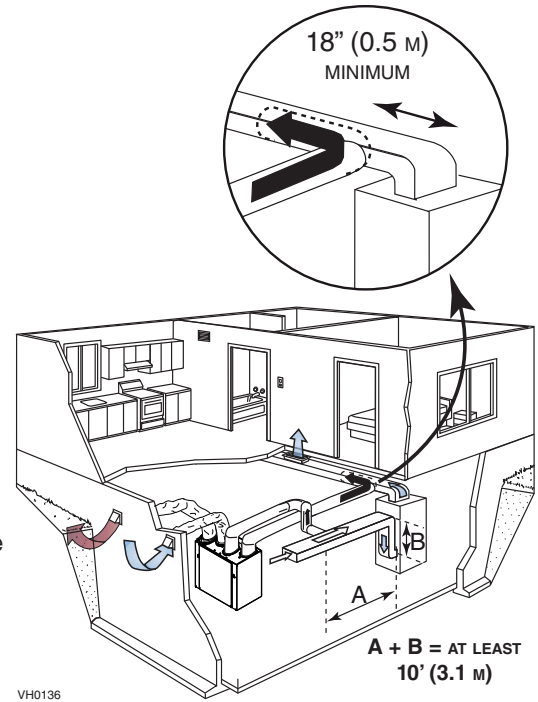
**Fresh air to building ductwork:**

**CAUTION**

**When performing duct connections to the furnace supply duct, use metal ducts appropriately sized to support the additional airflow produced by the unit.**

- Cut an opening into the furnace supply duct at least 18 inches (0.5 m) away from the furnace.
- Connect this opening to the fresh air to building port of the HRV/ERV (use metal ducts, see illustration at right).
- Make sure that the HRV/ERV duct forms an elbow inside the furnace ductwork.

NOTE : For this type of installation, it is recommended, however, not essential, that the furnace blower be synchronized with the unit.



**6.3.5 SIMPLIFIED INSTALLATION - RETURN/RETURN**

**Fresh air to building ductwork:**

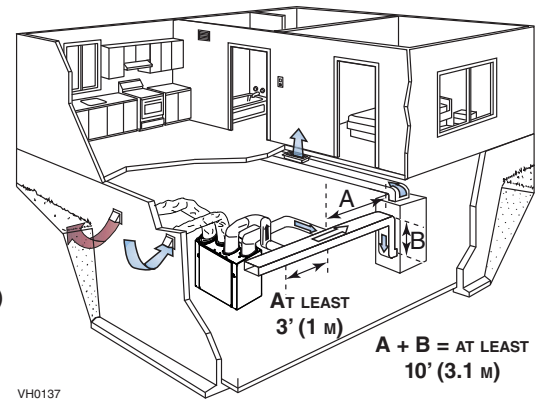
- Cut an opening into the furnace return duct at least 10 feet (3 m) away from the furnace.
- Connect this opening to the fresh air to building port of the HRV/ERV (use metal ducts, see illustration at right).

**Stale air from building ductwork:**

- Cut an opening into the furnace return at least 3 feet (1 m) ahead of the fresh air to building ductwork connection to the furnace return.
- Connect this opening to the stale air from building port of the HRV/ERV.
- Make sure that both connections to the furnace return duct are at least 3 feet (1 m) apart.

**CAUTION**

**For this type of installation, the furnace must always be synchronized with the unit. See section 8.**



## For the Installer

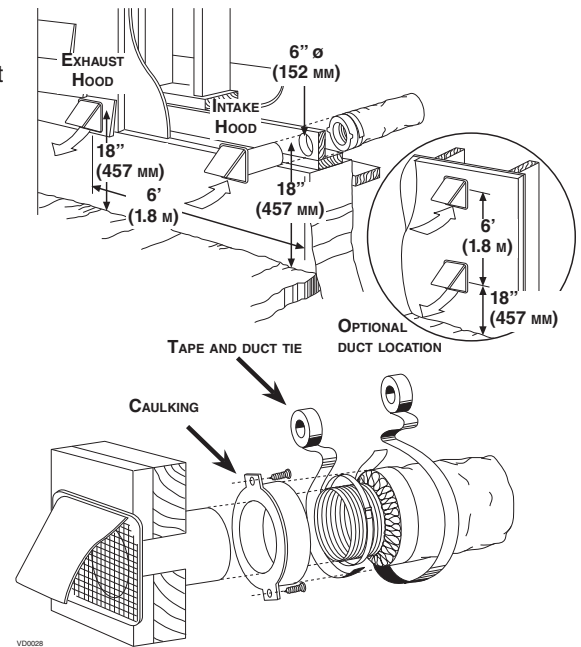
### 6.4 INSTALLING THE EXTERIOR HOODS

Refer to illustration at right to connect 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.

**⚠ WARNING**

Make sure that both hoods are at least 18 inches above the ground and that the intake hood is at least 6 feet (1.8 m) away from any of the following:

- Exhaust hood
- 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



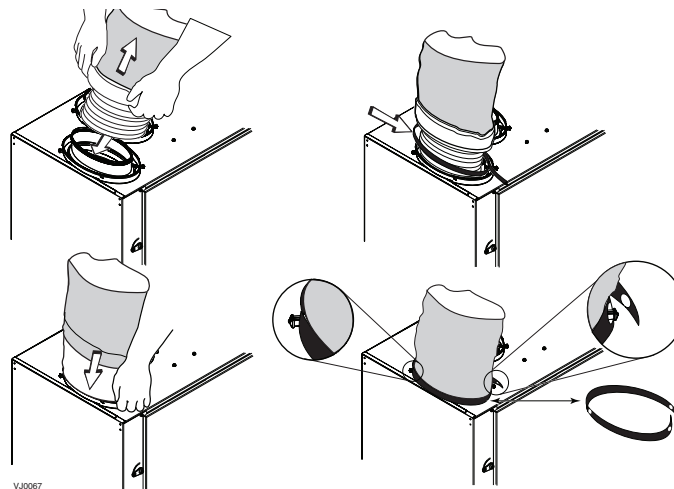
### 6.5 CONNECTING THE DUCTS TO THE UNIT

**CAUTION**

- If ducts have to go through an unconditioned space (e.g.: attic), always use insulated ducts.
- Make sure the vapor barrier on the insulated ducts does not tear during installation to avoid condensation within the ducts.

#### 6.5.1 INSULATED FLEXIBLE DUCTS

1. Pull back the insulation to expose the flexible duct.
2. Attach the flexible duct to the port using tie wrap.
3. Pull the insulation over the joint and tuck in between the inner and outer rings of the double collar.
4. Pull down the vapor barrier (shaded part in illustrations below) over the outer ring to cover it completely. Fasten in place the vapor barrier using the port strap (included in unit parts bag). To do so, insert one collar pin through the vapor barrier and first strap hole, then insert the other collar pin through the vapor barrier and center strap hole and close the loop by inserting the first collar pin in the last strap hole.



#### 6.5.2 NON-INSULATED RIGID DUCTS

Use metal screws and duct tape to connect the rigid ducts to the unit ports.

#### 6.5.3 NON-INSULATED FLEXIBLE DUCTS

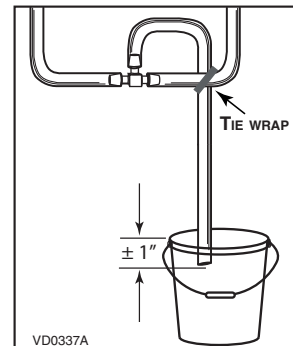
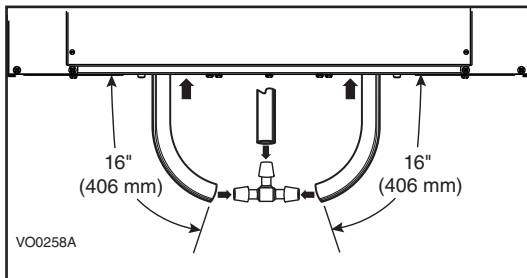
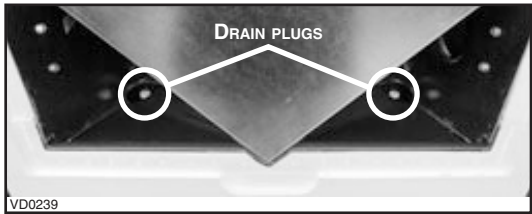
Use tie wraps to connect the flexible ducts to the unit ports.

6.6 CONNECTING THE DRAIN

**CAUTION**

**A drain tubing (included) must be installed on all HRV units. It is not required for ERV units, except in climates where the outdoor temperature typically remains below -25°C (-13°F) over a 24-hour period for several days in a row, combined with an indoor humidity of 40% or higher.**

E15 ECM HRV E15 HRV E10 HRV	90H-V ECM HRV 90H-V+ 60H-V+	E15 ECM ERV 90H-V ECM ERV
<ol style="list-style-type: none"> <li>Cut 2 sections of plastic tubing of at least 16" each.</li> <li>Connect each one of them to the inner drain fittings located under the unit.</li> <li>Join their other ends to the «T» junction and remaining tubing as illustrated. This will prevent the unit from drawing unpleasant odors from the drain source.</li> <li>Run the tube to the floor drain or to an alternative drain pipe or pail. If using a pail to collect water, locate the tube end approximately 1" into the pail in order to prevent water from being drawn back into the unit.</li> </ol>	<ol style="list-style-type: none"> <li>Remove both drain plugs inside the unit.</li> </ol>	<ol style="list-style-type: none"> <li>Remove both drain plugs inside the unit.</li> <li>Cut 2 sections of plastic tubing of at least 16" each.</li> <li>Connect each one of them to the inner drain fittings located under the unit.</li> <li>Join their other ends to the «T» junction and remaining tubing as illustrated. This will prevent the unit from drawing unpleasant odors from the drain source.</li> <li>Run the tube to the floor drain or to an alternative drain pipe or pail. If using a pail to collect water, locate the tube end approximately 1" into the pail in order to prevent water from being drawn back into the unit.</li> <li>Insert a drain plug (included in parts bag) in the alternate drain fitting located on top of the unit.</li> </ol>



**7. CONTROLS**

**7.1 SETTING EXTENDED DEFROST FOR E15 HRV, E10 HRV AND 60H-V+**

All units are factory set to normal defrost. In cold areas where the outdoor temperature can drop to -27°C and lower, it may be necessary to set extended defrost. To do so:

- During the first 2 seconds of the booting sequence, while the integrated control LED is GREEN, press and hold the push-button for 3 seconds.
- The LED will turn AMBER and blink to indicate that the extended defrost has been successfully set.
- The LED will then shut OFF and turn RED; this means that the booting sequence has resumed.

**For the Installer**

**7.2 SPEED AND DEFROST SETTING FOR E15 ECM ERV, E15 ECM HRV, 90H-V ECM ERV AND 90H-V ECM HRV**

Before changing the settings of the unit, please refer to your national building code and to the tables below to choose the appropriate speed and defrost settings. All units are factory set to the 3<sup>rd</sup> speed and in normal defrost.

**Speed setting:**

Speed	E15 ECM HRV 90H-V ECM HRV		E15 ECM ERV 90H-V ECM ERV	
	Min. speed	Max. speed	Min. speed	Max. speed
1	85	157	85	140
2	65	157	65	140
3*	55	125	55	125
4	40	125	40	125
5	40	80	40	80

**Defrost setting:**

Defrost setting	E15 ECM HRV 90H-V ECM HRV	E15 ECM ERV 90H-V ECM ERV
1	Normal defrost*	--
2	Extended defrost	--
3	--	Normal defrost*
4	--	Extended defrost

\* Factory setting

To modify the settings, proceed as indicated below. Be aware that at any time during the setting process, if the push-button is not pushed on for 60 seconds, the unit will record any setting already made and exit setting mode.

- To access speed setup, during the first 7 seconds of the booting sequence, while the integrated control LED is AMBER, press and hold the push-button for 3 seconds.
  - The LED will blink RED once every 3 seconds to indicate the integrated control is in Speed Setup mode.
- Press the push-button as many times as the chosen speed setting. For example, if speed 4 was chosen, press the push-button 4 times (refer to the table above). The speed setting can be changed as many times as needed.
  - Every 3 seconds, the LED will blink RED the number of times corresponding to the chosen speed.
- Press and hold the push-button for 3 seconds to enter defrost setting.
  - The LED will blink GREEN once every 3 seconds to indicate that the unit is set in normal defrost mode.
- Press the push-button as many times as the chosen defrost setting (refer to the table above). For example, to set an ERV unit in extended defrost setting, press the push-button 4 times. The defrost setting can be changed as many times as needed.
  - Every 3 seconds, the LED will blink GREEN twice to indicate the unit is set in extended defrost mode.
- To exit defrost setup mode, wait 60 seconds or press and hold the push-button for 3 seconds.
  - The LED will blink and turn off, and turn RED to indicate that the booting sequence has resumed.

**7.3 ELECTRICAL CONNECTION TO OPTIONAL WALL CONTROLS**

Use the chart below to verify compatibility with the optional controls before making any connection.

	Main Controls	Auxiliary Controls
E15 ECM ERV E15 ECM HRV	<ul style="list-style-type: none"> <li>Altitude</li> <li>Deco-Touch</li> </ul>	<ul style="list-style-type: none"> <li>Dehumidistat</li> <li>20/40/60-minute push-button timer</li> <li>60-minute crank timer</li> </ul>
90H-V ECM ERV 90H-V ECM HRV	<ul style="list-style-type: none"> <li>Platinum</li> <li>Deco-Touch</li> </ul>	
E15 HRV E10 HRV	<ul style="list-style-type: none"> <li>Altitude</li> <li>Deco-Touch</li> </ul>	
90H-V+ 60H-V+	<ul style="list-style-type: none"> <li>Platinum</li> <li>Deco-Touch</li> </ul>	

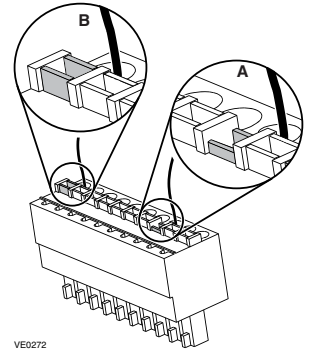
**⚠ WARNING**

Always disconnect the unit before making any connections. Failure in disconnecting power could result in electrical shock or damage of the wall control or electronic module inside the unit.

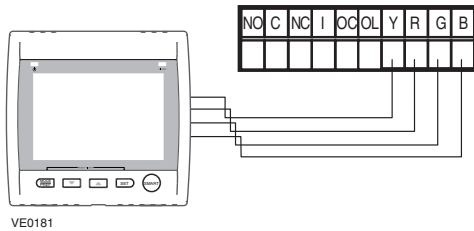
**CAUTION**

Never install more than one optional main wall control per unit. Make sure that the wires do not short-circuit between themselves or by touching any other components on the wall control. Avoid poor wiring connections. To reduce electrical interference (noise) potential, do not run wall control wiring next to control contactors or near light dimming circuits, electrical motors, dwelling/building power or lighting wiring, or power distribution panel.

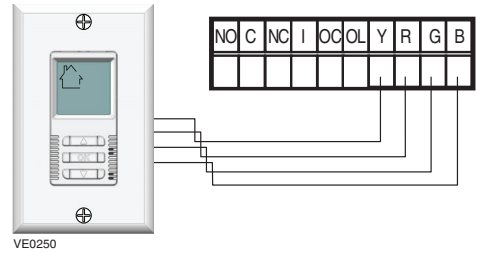
- Use the terminal connector included in the installation kit to perform the electrical connection for main and optional wall controls.
- Make sure all wires are correctly inserted in their corresponding holes in the terminal block. A wire is correctly inserted when its orange receptacle is lower than another one without wire. On the picture below, wire **A** is correctly inserted, but wire **B** is not.
- Once the connections have been made, insert the terminal connector in the recessed side of the electrical compartment.



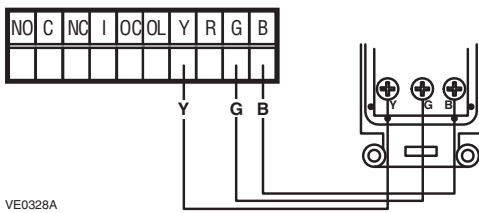
7.3.1 ALTITUDE OR PLATINUM



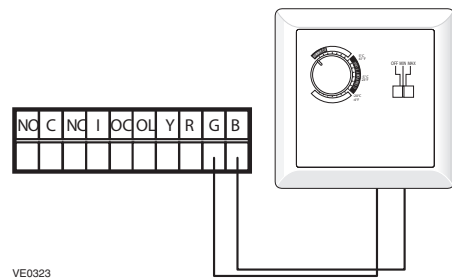
7.3.2 DECO-TOUCH



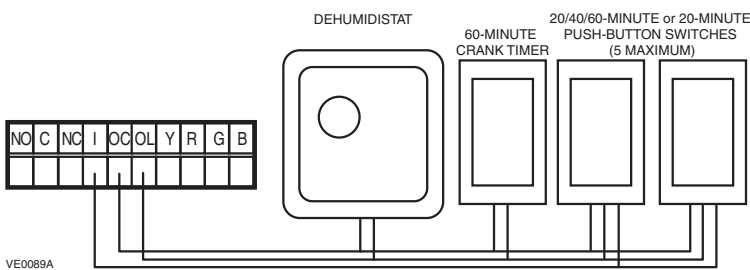
7.3.3 LITE-TOUCH CONSTRUCTO OR LITE-TOUCH BRONZE



7.3.4 CONSTRUCTO OR BRONZE



7.3.5 OPTIONAL AUXILIARY CONTROLS



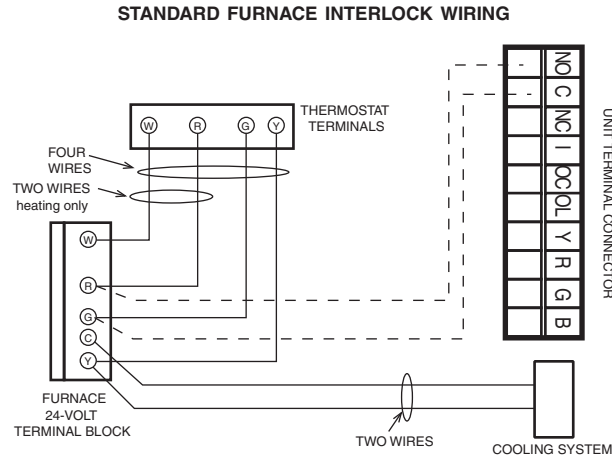
## 8. CONNECTION TO THE FURNACE

### ⚠ WARNING

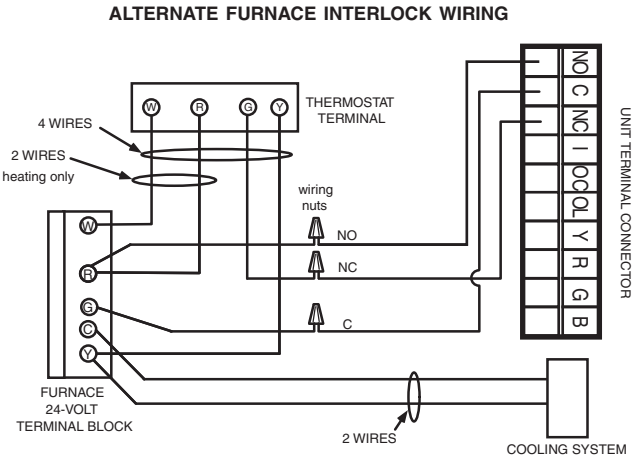
Never connect a 120-volt AC circuit to the terminals of the furnace interlock (standard wiring). Only use the low voltage class 2 circuit of the furnace blower control.

#### FOR A FURNACE CONNECTED TO A COOLING SYSTEM:

On some older thermostats, energizing the "R" and "G" terminals at the furnace has the effect of energizing "Y" at the thermostat and thereby turning on the cooling system. If you identify this type of thermostat, you must use the ALTERNATE FURNACE INTERLOCK WIRING.



VE0108A



## 9. BALANCING THE UNIT

### PREPARATION

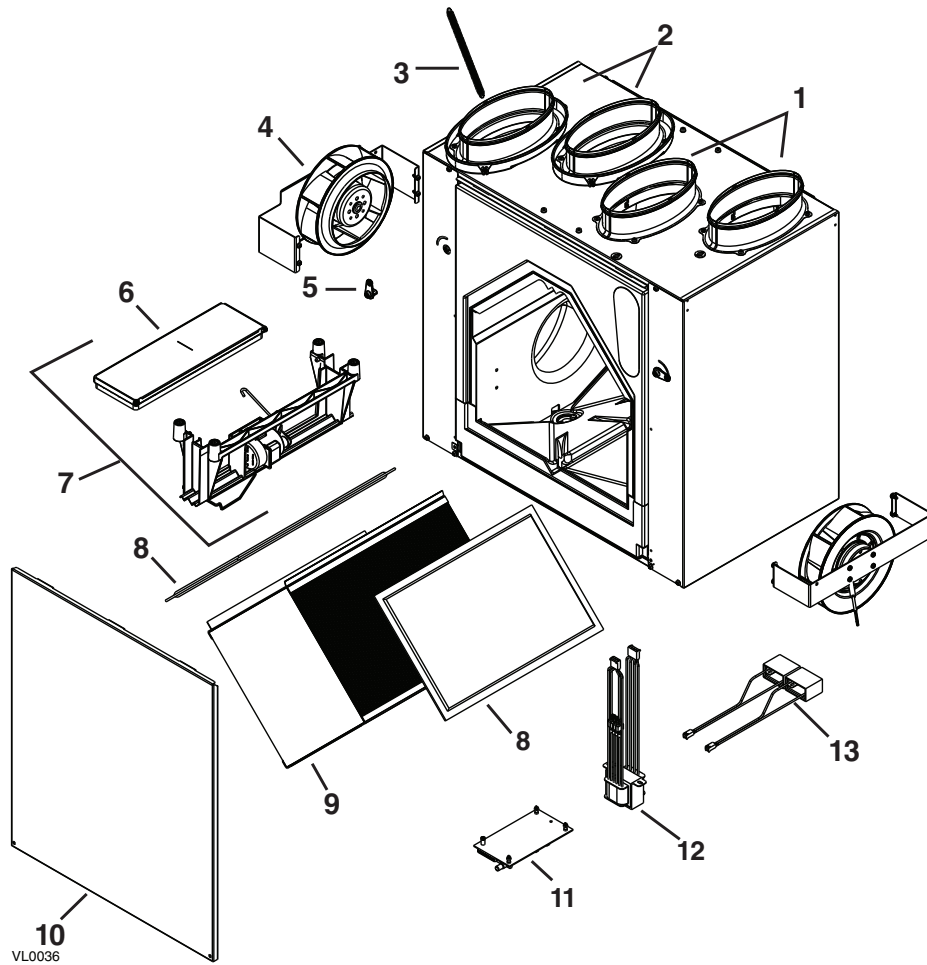
Follow these steps to ensure accurate measurements:

- Seal all the ductwork with tape. Close all windows and doors.
- Turn off all exhaust devices such as range hood, dryer and bathroom fans.
- Make sure the balancing dampers are fully open (both balancing damper tools are set vertical).
- If the installation is in any way connected to the ductwork of the cold air return of a furnace/air handler, make sure that the furnace/air handler blower is ON. If not, leave furnace/air handler blower OFF.
- If the outside temperature is below 0°C/32°F, make sure the unit is not running in defrost while balancing by waiting 10 minutes after plugging the unit in.
- Set the unit to high speed.

### BALANCING PROCEDURE

1. Place the magnehelic gauge on a level surface and adjust it to zero.
2. Connect tubing from gauge to EXHAUST airflow pressure taps (see diagram on unit door).
3. Be sure to connect the tubes to their appropriate high/low fittings. If the gauge drops below zero, reverse the tubing connections.
4. Note the CFM value from balancing chart on the unit.
5. Repeat steps 3 and 4, but to FRESH airflow pressure taps.
6. Using the appropriate adjustable balancing damper, lower the highest value so it matches the lowest value. A difference up to  $\pm 10$  cfm is acceptable.
7. Secure both dampers in place with a fastening screw (included in the hardware kit).
8. Write the required airflow information on a label and stick it near the unit for future reference (date, maximum speed air flows, your name, phone number and business address).

## 10. SERVICE PARTS



**REPLACEMENT PARTS AND REPAIR**

In order to ensure your ventilation unit remains in good working condition, you must use the manufacturer genuine replacement parts only. The manufacturer 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. The manufacturer recommends contacting a certified service depot for all replacement parts and repairs.

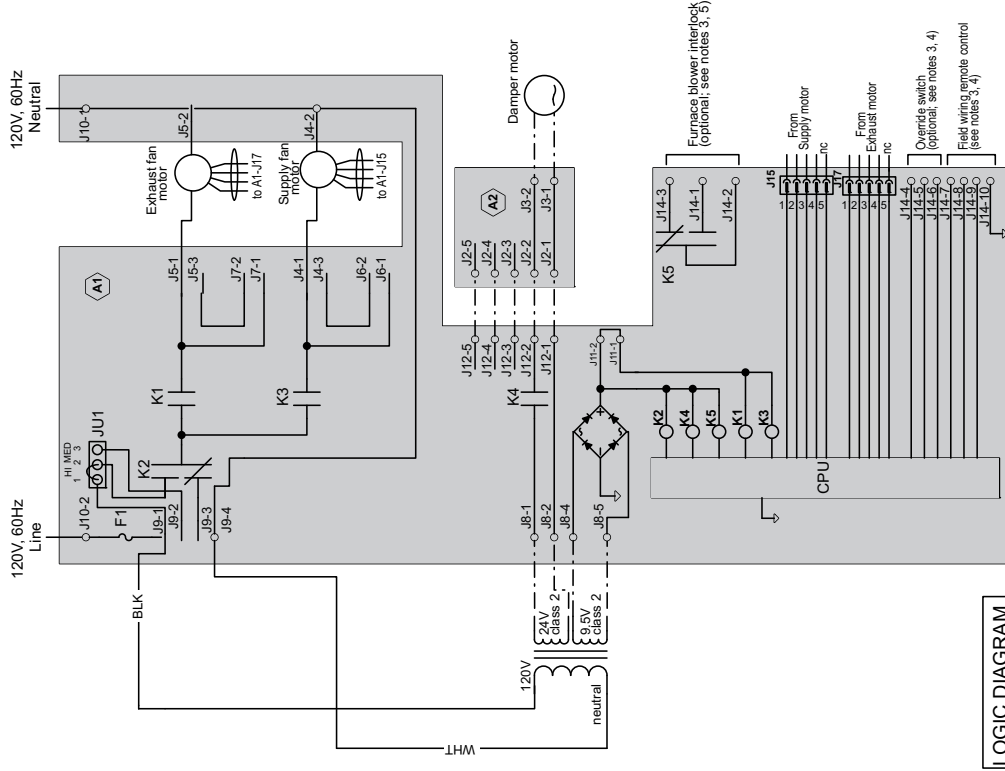
ITEM	DESCRIPTION	QTY.	E15 ECM ERV	E15 ECM HRV	E15 HRV	E10 HRV	90H-V ECM ERV	90H-V ECM HRV	90H-V+	60H-V+
1	OVAL PORT	2	--	18206	18206	18206	--	18206	18206	18206
2	DOUBLE COLLAR OVAL PORT	2	--	18207	18207	18207	--	18207	18207	18207
	DOUBLE COLLAR OVAL PORT	4	18207	--	--	--	18207	--	--	--
3	EXHAUST DAMPER SPRING	1	18221	18221	18221	18221	18221	18221	18221	18221
4	MOTOR ASSEMBLY	2	63561	63561	18197	18197	63561	63561	18197	18197
5	BALANCING TOOL	2	18220	18220	18220	18220	18220	18220	18220	18220
6	DEFROST DAMPER	1	18200	18200	18200	18200	18200	18200	18200	18200
7	DAMPER SYSTEM ASS'Y (INCLUDING ITEM 6)	1	18199	18199	18199	18199	18199	18199	18199	18199
8	CORE FILTER	2	18204	18205	18204	18204	18204	18205	18204	18204
9	HEAT RECOVERY CORE	1	--	18202	62178	62178	--	18202	62178	62178
	ENERGY RECOVERY CORE	1	18042	--	--	--	18042	--	--	--
10	DOOR ASSEMBLY	1	18209	18209	18209	18209	18208	18208	18208	18208
11	PCB	1	63559	63559	62255	62255	63559	63559	62255	62255
12	TRANSFORMER	1	18218	18218	18219	62362	18218	18218	18219	62362
13	CAPACITOR 5 µF	2	--	--	16042	--	--	--	16042	--
	CAPACITOR 6 µF	2	--	--	--	61550	--	--	--	61550
*	THERMISTOR KIT	1	15749	15749	15749	15749	15749	15749	15749	15749
*	HARDWARE KIT	1	08917	08304	08304	08304	08917	08304	08304	08304
*	CAPACITOR 17 µF	1	--	--	--	62177	--	--	--	62177
*	PCB CONNECTOR	1	16416	16416	16416	16416	16416	16416	16416	16416
*	DAMPER RETAINING WIRE KIT	1	62715	62715	62715	62715	62715	62715	62715	62715
*	DRAIN PLUG	1	08919	--	--	--	08919	--	--	--

\* Not shown.

# 11. WIRING DIAGRAMS

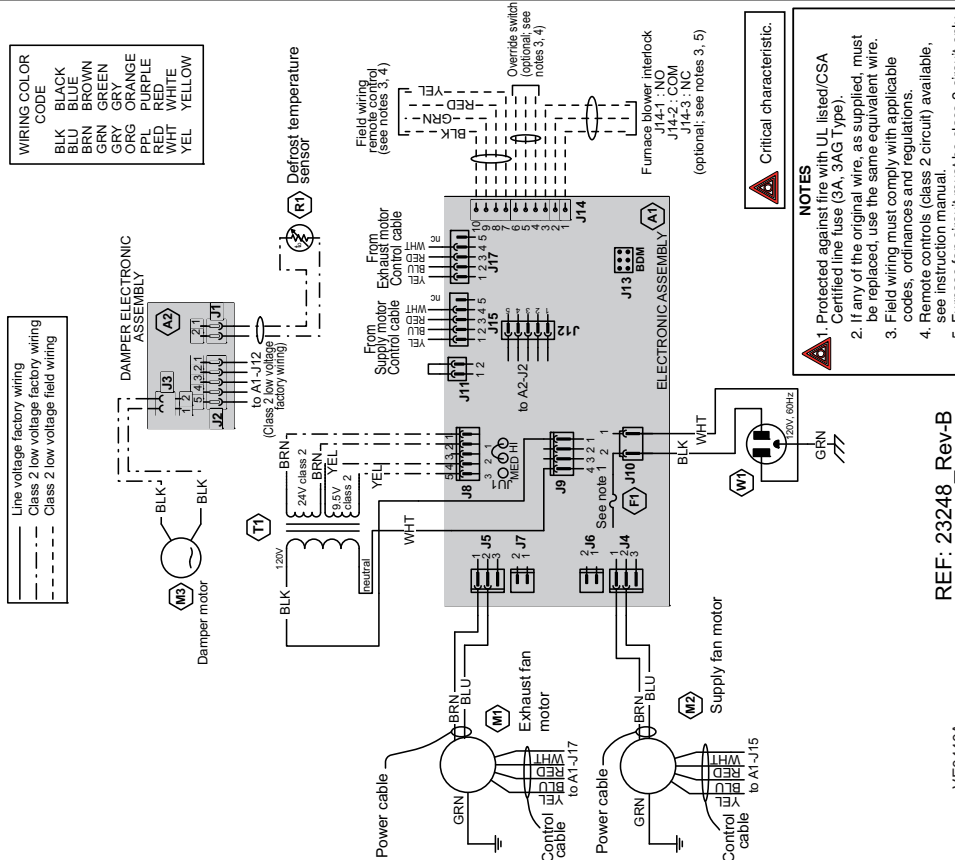
## ⚠ WARNING

- Risk of electric shocks. Before performing any maintenance or servicing, always disconnect the unit from its power source.
- This product is equipped with an overload protection (fuse). A blown fuse indicates an overload or a short-circuit situation. If the fuse blows, unplug the product from the outlet. Discontinue using the unit and contact technical support.



LOGIC DIAGRAM

AVS E15 ECM ERV, AVS E15 ECM HRV, 90H-V ECM ERV & 90H-V ECM HRV UNITS



REF: 23248\_Rev-B

VE0440A

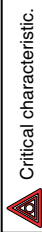


**⚠ WARNING**

- Risk of electric shocks. Before performing any maintenance or servicing, always disconnect the unit from its power source.
- This product is equipped with an overload protection (fuse). A blown fuse indicates an overload or a short-circuit situation. If the fuse blows, unplug the product from the outlet. Discontinue using the unit and contact technical support.

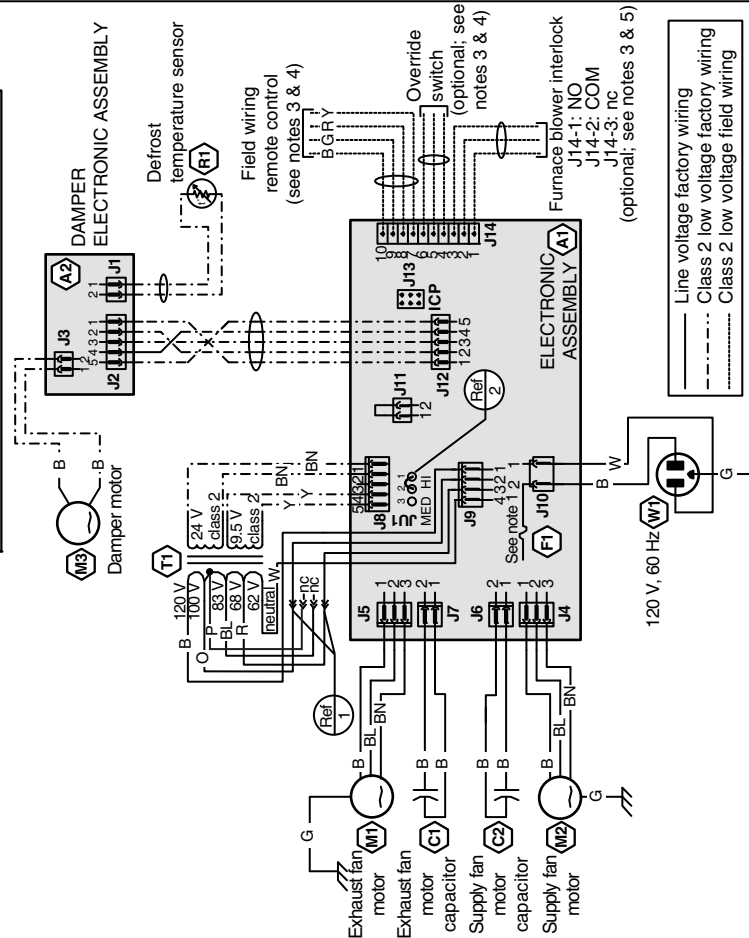
AVS E15 HRV AND 90H-V+ UNITS

WIRING DIAGRAM



- NOTES**
1. Protected against fire with UL listed/CSA Certified line fuse (3A, 3AG Type).
  2. If any of the original wire, as supplied, must be replaced, use the same equivalent wire.
  3. Field wiring must comply with applicable codes, ordinances and regulations.
  4. Remote controls (class 2 circuit) available, see instruction manual.
  5. Furnace fan circuit must be class 2 circuit only.

REF: 24604\_Rev-A



**FAN MOTORS SPEED SELECTION**

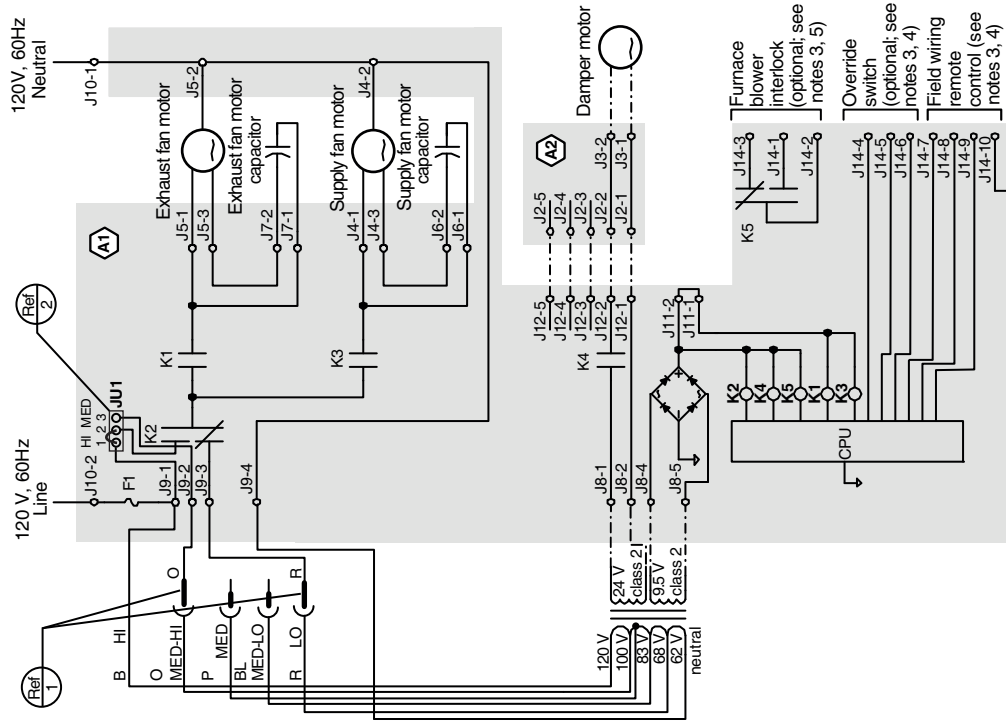
**CAUTION:** You can change REF 1 or REF 2, but not both at the same time. If you do change REF 1 and REF 2 you will inverse fan motor speeds.

REF 1 ORG	REF 1 RED	REF 2	FAN SPEEDS	CFM MAX
Factory shipped ORG to ORG	RED to RED	3 2 1	HI (120 V) & LO (62 V)	160
ORG to ORG	RED to RED	3 2 1	MED-HI (100 V) & LO (62 V)	140

**COLOR CODE**

B	BLACK
BL	BLUE
BN	BROWN
G	GREEN
O	ORANGE
P	PURPLE
R	RED
W	WHITE
Y	YELLOW
nc	no connection

LOGIC DIAGRAM

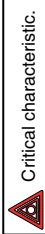


**⚠ WARNING**

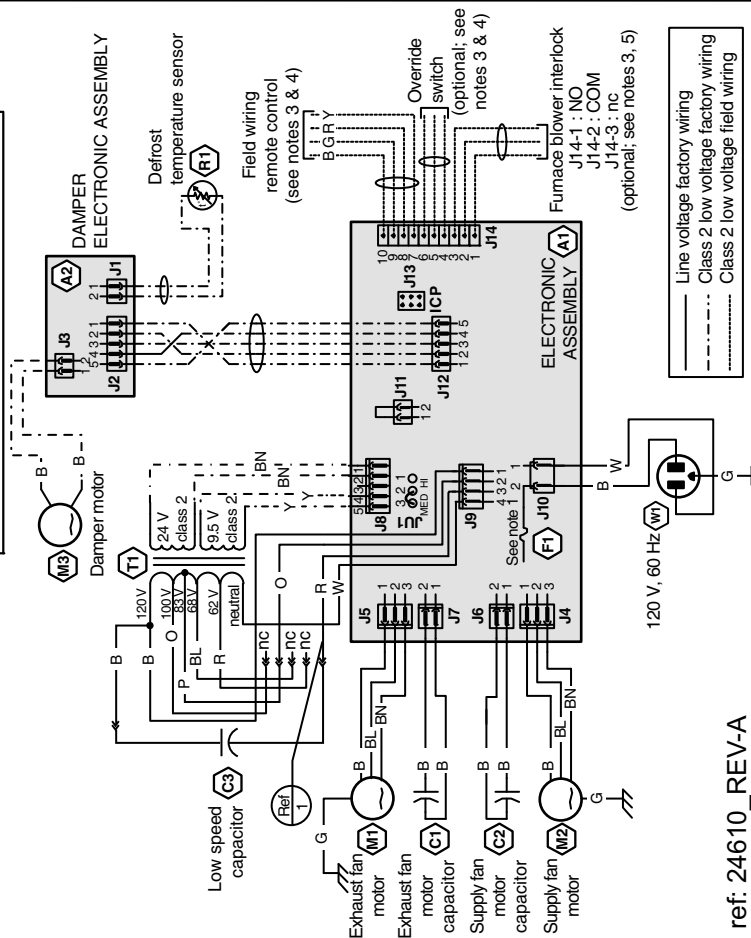
- Risk of electric shocks. Before performing any maintenance or servicing, always disconnect the unit from its power source.
- This product is equipped with an overload protection (fuse). A blown fuse indicates an overload or a short-circuit situation. If the fuse blows, unplug the product from the outlet. Discontinue using the unit and contact technical support.

AVS E10 HRV AND 60H-V+ UNITS

**WIRING DIAGRAM**



- NOTES**
1. Protected against fire with UL listed/CSA Certified line fuse (3 A, 3AG Type).
  2. If any of the original wire, as supplied, must be replaced, use the same equivalent wire.
  3. Field wiring must comply with applicable codes, ordinances and regulations.
  4. Remote controls (class 2 circuit) available, see instruction manual.
  5. Furnace fan circuit must be class 2 circuit only.



**FAN MOTORS SPEED SELECTION**

REF 1 RED	CFM MAX
Factory set C3 to RED	50
RED to RED	65
BLUE to RED	85

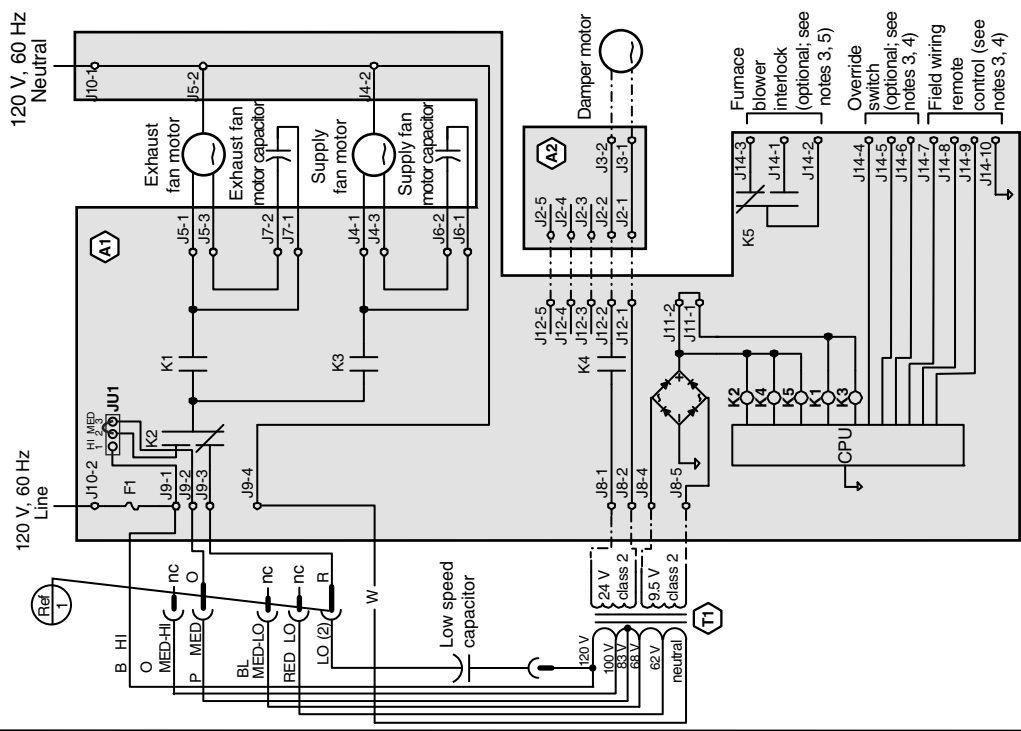
**COLOR CODE**

B	BLACK	P	PURPLE
BL	BLUE	R	RED
BN	BROWN	W	WHITE
G	GREEN	Y	YELLOW
O	ORANGE	nc	no connection

- Line voltage factory wiring
- - - Class 2 low voltage factory wiring
- ..... Class 2 low voltage field wiring

ref: 24610\_REV-A

**LOGIC DIAGRAM**

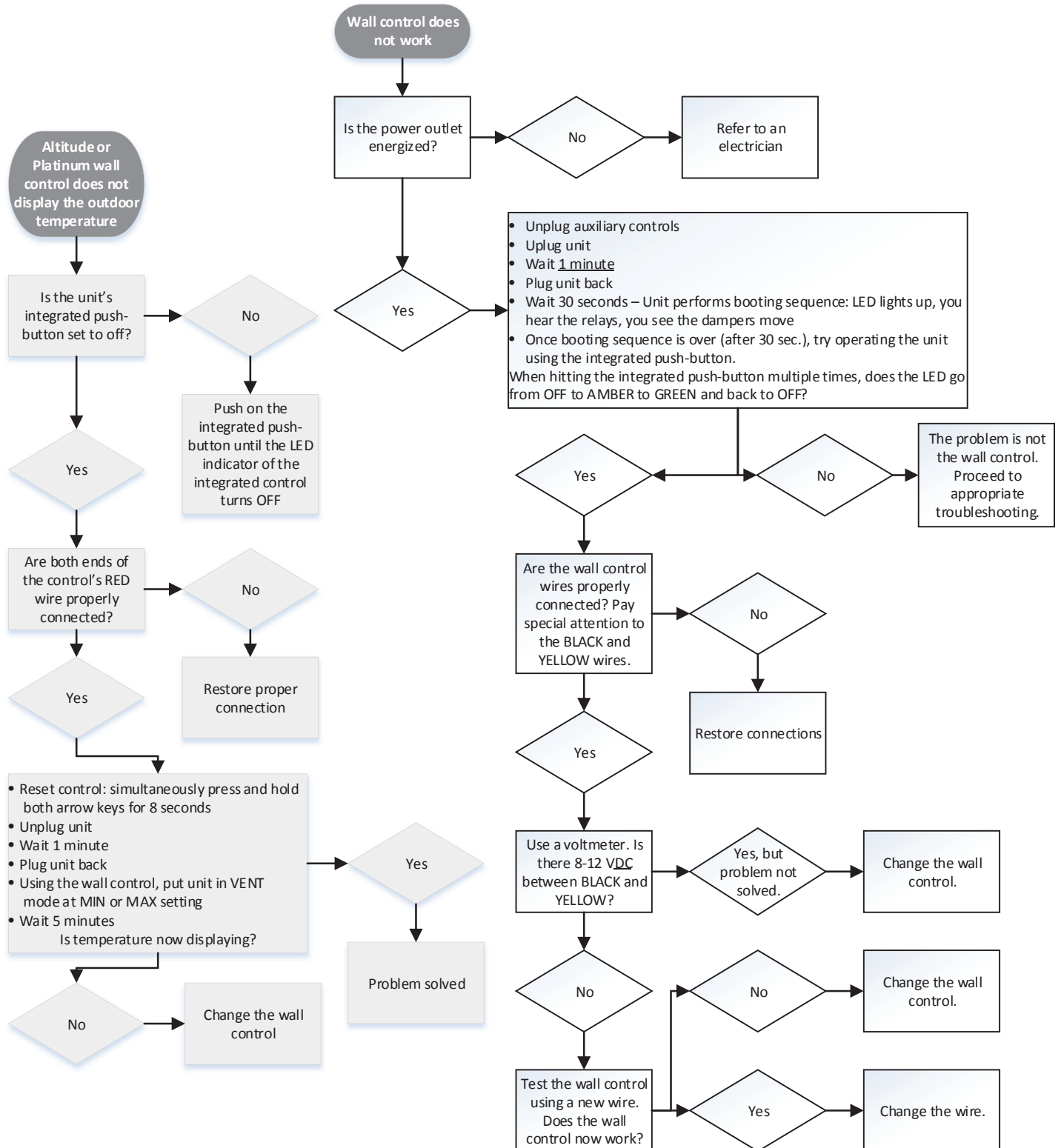


## 12. TROUBLESHOOTING

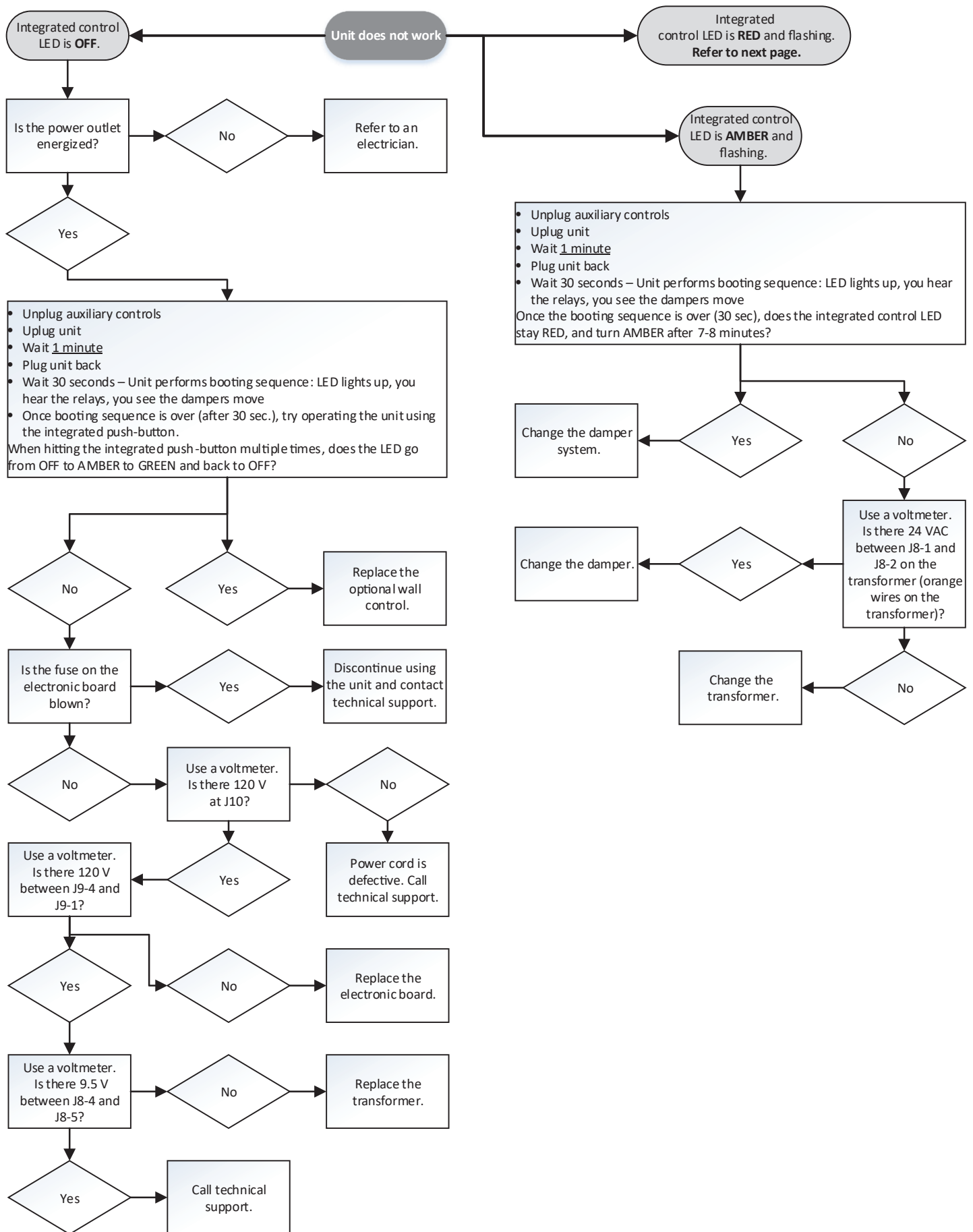
### ⚠ WARNING

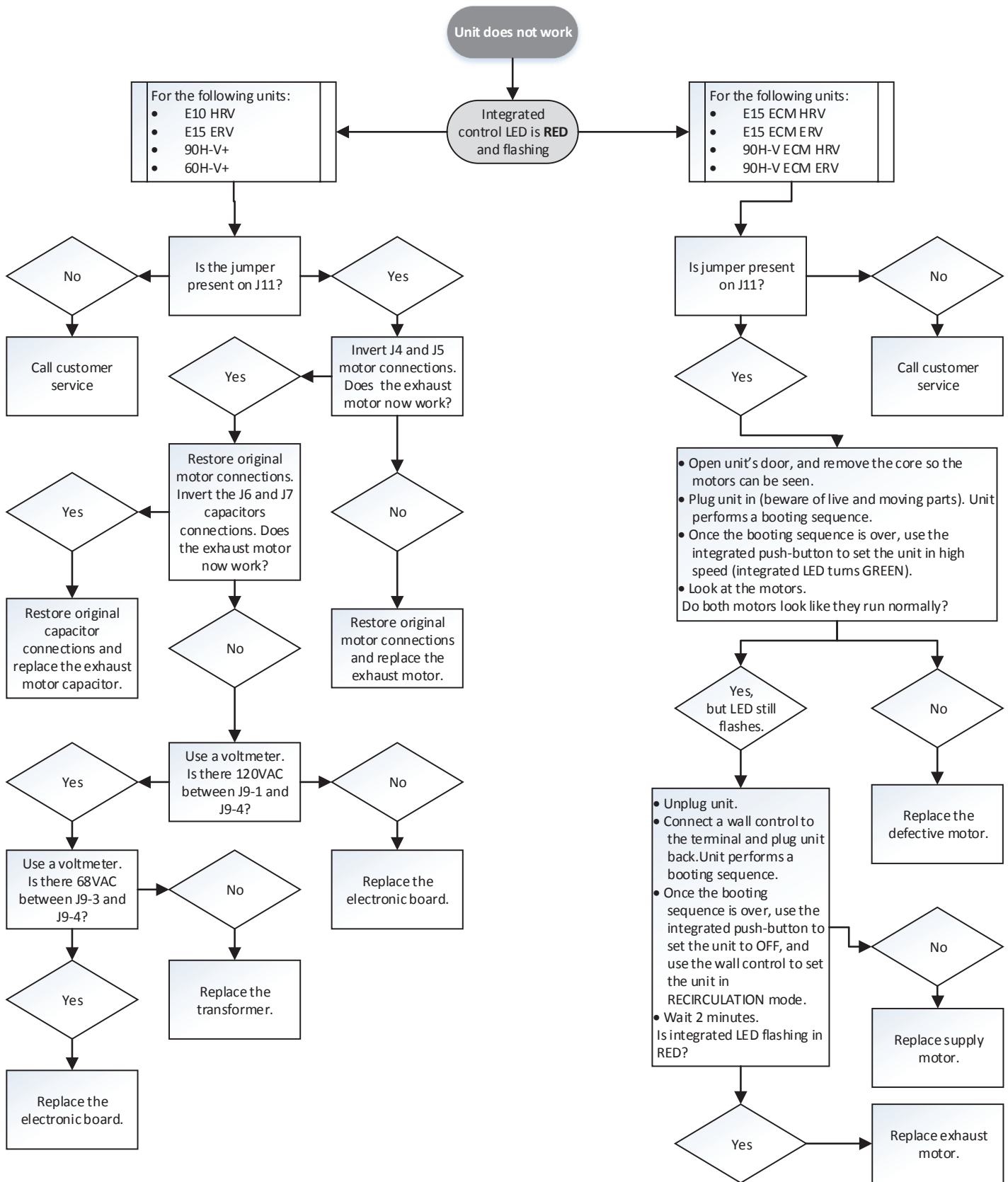
**Risk of electric shocks. Electronic board connections must be checked by qualified personnel only.**

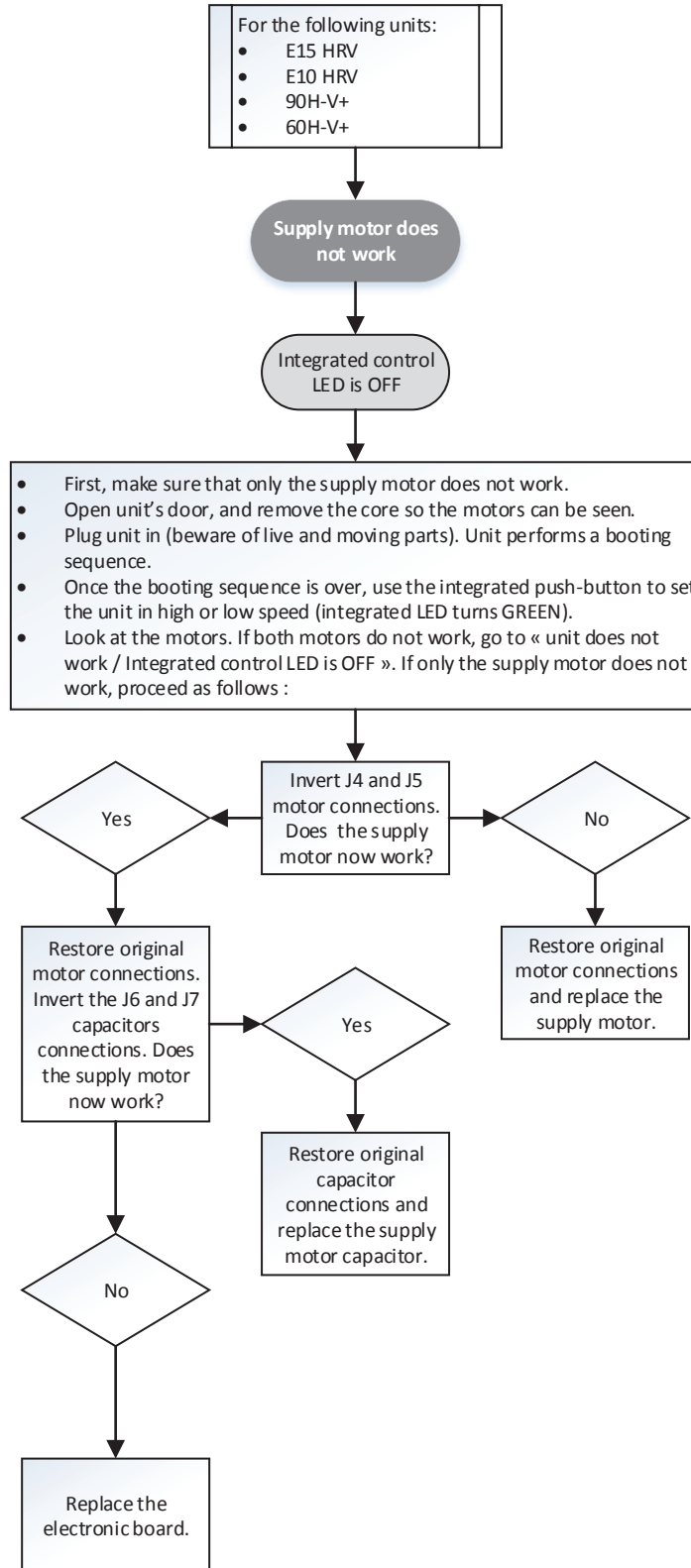
LED SIGNAL	ERROR TYPE	ACTION	UNIT STATUS
LED flashes GREEN	Outdoor thermistor error.	Ensure J12 connector is properly connected and its wires are not damaged. If they are correct, replace the thermistor.	Unit works but will defrost frequently.
LED flashes AMBER	Damper error.	Go to point p. 20 "Integrated control LED flashes AMBER".	Unit does not work.
LED flashes RED	Motor error or bad contact of J11 connector.	Ensure J11 connector is properly connected. If it is properly connected, go to p. 21.	Unit does not work.



**For the Installer**







**SERVICE TECHNICIANS ONLY:** If you require assistance or have questions after performing the above troubleshooting, call: 1-800-649-0372.