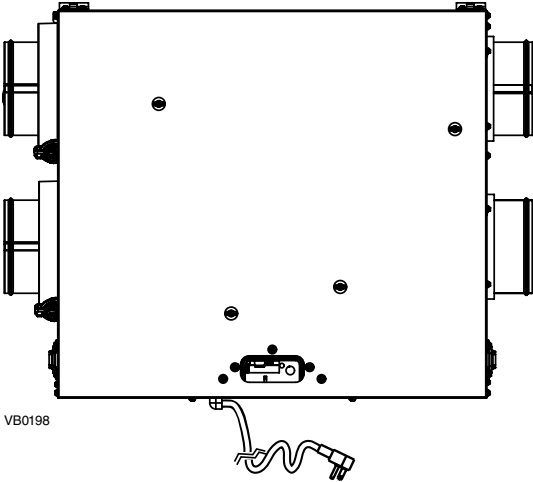


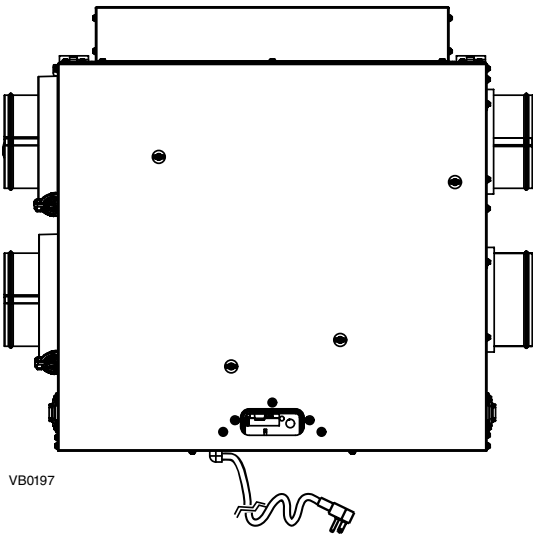
# USER AND INSTALLER MANUAL

## NORMAL UNITS



S10 ERV (41700)

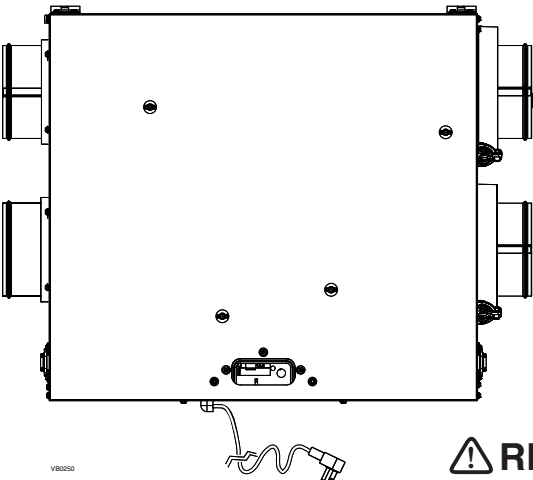
70E ERV (41800)



S10 ERVplus (41702)

70E+ (41802)

## REVERSE UNITS



S10 ERV-R (41701)

70E ERV-R (41801)

**⚠ RESIDENTIAL USE ONLY ⚠**

**READ AND SAVE THESE INSTRUCTIONS**



7 72371 13118 7

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 6.2.
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 expense.
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 the 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.
13. Do not make excessive use of fragrance appliances or chemicals since some may damage the unit components material.

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## 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

Last name - Nom de famille

Address - Adresse

Apt. no. - App.

City - Ville

Province

Postal code - Code postal

Country - Pays

E-mail address - Courriel

Language preferred - Langue de correspondance

Telephone no. (day) - N° de téléphone (jour)

Telephone no. (evening) - N° de téléphone (soir)

Date of purchase - Date d'achat

Model no. - N° de modèle

Serial no. - N° de série

**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.
- Clearly identify your model before performing any task related to your unit. Refer to unit's nameplate if necessary.

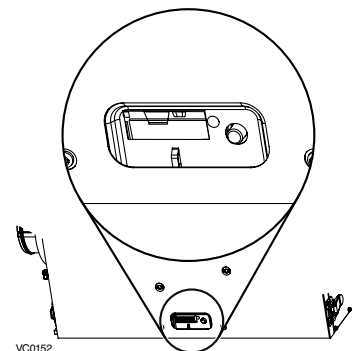
**1. USING THIS UNIT**

**1.1 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 5 to 30-second booting sequence before starting to operate. **No command will be taken until the unit is fully booted.**

**1.2 INTEGRATED PUSH BUTTON**

This unit is equipped with an **integrated push button**, located on the door.



• S10 ERV	• S10 ERV-R	• 70E ERV	• 70E ERV-R
<ul style="list-style-type: none"> <li>• Use the integrated push button to go from OFF to Low Speed, to High Speed, and back to OFF.</li> <li>• The color of the LED indicator shows what speed the unit is running in:  <b>AMBER</b> for low speed  <b>GREEN</b> for high speed  <b>OFF</b> when unit is off or controlled by an optional main wall control</li> <li>• For more convenience, these units can also be controlled using an optional main wall control. <b>When using an optional main wall control, unit must be set to OFF using the integrated push button.</b></li> </ul>			

• S10 ERVplus	• 70E+
<ul style="list-style-type: none"> <li>• Use the integrated push button to change defrost mode. Changes are recorded after a 15-minute delay.</li> <li>• The color of the LED indicator shows what defrost mode the unit is in:  <b>GREEN</b> for Standard  <b>RED</b> for Plus  <b>AMBER</b> for Discretion</li> <li>• A main wall control must be installed to choose the ventilation modes.</li> </ul>	

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<p>Would you like to receive occasional informational e-mail offers including product updates and special promotions from us? <b>Yes/No</b></p> <p>What problem were you trying to solve with your purchase? (Check each one that applies to you.)</p> <table border="0"> <tr> <td><input type="checkbox"/> Bad odors</td> <td><input type="checkbox"/> Dust</td> </tr> <tr> <td><input type="checkbox"/> Respiratory problems</td> <td><input type="checkbox"/> Mildew</td> </tr> <tr> <td><input type="checkbox"/> Excess of humidity</td> <td><input type="checkbox"/> Allergies</td> </tr> <tr> <td><input type="checkbox"/> Temperature standardization</td> <td><input type="checkbox"/> No specific problems</td> </tr> <tr> <td><input type="checkbox"/> Lack of fresh air</td> <td><input type="checkbox"/> Others</td> </tr> </table> <p>Who installed your unit?</p> <table border="0"> <tr> <td><input type="checkbox"/> Home builder</td> <td><input type="checkbox"/> Friend / family</td> </tr> <tr> <td><input type="checkbox"/> Recommended installer</td> <td><input type="checkbox"/> Contractor</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Yourself</td> </tr> </table>	<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	<input type="checkbox"/> Home builder	<input type="checkbox"/> Friend / family	<input type="checkbox"/> Recommended installer	<input type="checkbox"/> Contractor		<input type="checkbox"/> Yourself	<p>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).</p> <table border="0"> <tr> <td>___ Price</td> <td>___ Heat recovery</td> </tr> <tr> <td>___ Warranty</td> <td>___ Controls</td> </tr> <tr> <td>___ Product design</td> <td>___ Ease of cleaning</td> </tr> <tr> <td>___ Ventilation capacity</td> <td>___ Manufacturer's reputation</td> </tr> <tr> <td>___ Filter maintenance indicator</td> <td>___ Ease of use</td> </tr> <tr> <td>___ Filtration quality</td> <td>___ Noise level</td> </tr> <tr> <td>___ Recirculation</td> <td>___ Other</td> </tr> </table>	___ 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	<p>Aimeriez-vous recevoir plus de détails sur nos promotions, offres de rabais et mises à jour de nos produits? <b>Oui/Non</b></p> <p>Quels problèmes essayez-vous de résoudre par cet achat? 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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.</p> <table border="0"> <tr> <td>___ Prix</td> <td>___ Récupération d'énergie</td> </tr> <tr> <td>___ Garantie</td> <td>___ Fonctions</td> </tr> <tr> <td>___ Design du produit</td> <td>___ Facilité de nettoyage</td> </tr> <tr> <td>___ Débit de ventilation</td> <td>___ Réputation du fabricant</td> </tr> <tr> <td>___ Indicateur d'entretien du filtre</td> <td>___ Simplicité d'utilisation</td> </tr> <tr> <td>___ Qualité de filtration</td> <td>___ Niveau de bruit</td> </tr> <tr> <td>___ Recirculation</td> <td>___ Autres (Précisez SVP)</td> </tr> <tr> <td>___ Récupération de chaleur</td> <td></td> </tr> </table>	___ 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	
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**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

### ⚠ WARNING

High voltage risk. During maintenance or repairs, always stop the unit then unplug it to prevent any risk of electric shock. The wearing of safety glasses and gloves is recommended when handling unit components to prevent any risk of injury that could be caused by the presence of thin metal.

### 2.1 QUARTERLY MAINTENANCE

1. Turn the unit off and unplug it.
2. Open the door by either opening the side latches or removing the screws, depending on the model.

### CAUTION

Water could fall out when opening the door.

3. While holding the core (❶), loosen the wing nut and rotate the core retaining bracket (❷). Slide out the core and filters.
4. Clean the inside of the unit with a damp cloth and wipe with a clean dry one.

### ⚠ WARNING

Always hold the core while rotating the core retaining brackets.

5. Remove filters from the core top and wash under warm water with mild soap. Rinse thoroughly and let dry completely.
6. Clean the recovery core:  
Remove the dust using a vacuum cleaner with a soft brush attachment.

### CAUTION

Do not soak the energy recovery core in water.

7. Reinstall the filters on the core. Refer to the core label for proper location.
8. Slide the core and filters in the unit. Refer to the filters position indicators embossed in the unit to position the core properly. Rotate and tighten the core bracket.

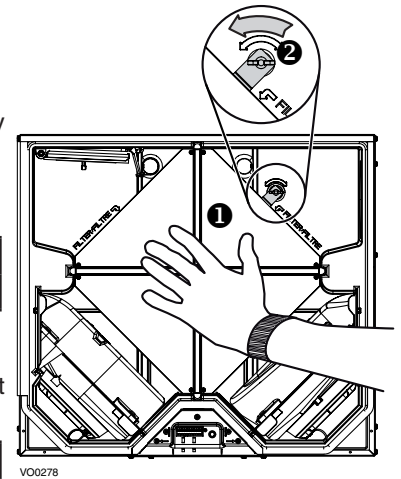
### ⚠ WARNING

Hold the core until the core retaining bracket is tightened.

9. Close the door and plug the unit back in. The unit will return to its previous setting after performing a booting sequence.

### 2.2 ANNUAL MAINTENANCE

1. Perform steps 1 to 6 of Quarterly Maintenance.
2. Clean the supply side damper using a vacuum cleaner and a soft brush attachment. Check if it can move freely.
3. Clean the exterior hoods.
4. Proceed with steps 7 to 9 of Quarterly Maintenance.



### 3. USER'S TROUBLESHOOTING

PROBLEM		TRY THIS
1.	Nothing works.	<ul style="list-style-type: none"> <li>• Check if the unit is plugged in.</li> <li>• Check if the unit is receiving power from the house circuit breaker or fuse.</li> </ul>
2.	Condensation on windows (air too humid).	<ul style="list-style-type: none"> <li>• Operate the unit on maximum speed ventilation until the situation is corrected.</li> <li>• Leave curtains half-open to allow air circulation.</li> <li>• Store all firewood in a closed room with a dehumidifier or in a well ventilated room, or store the wood outside.</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(s) is (are) blocked.</li> <li>• Operate the unit in low speed ventilation or in intermittent or recirculation mode (if available).</li> <li>• Install a duct heater.</li> </ul>
5.	A. The LED of the integrated control is blinking RED (one blink every second).	• There is a problem with one of the motors. <b>The unit is OFF.</b> Contact your installer.
	B. The LED of the integrated control is blinking RED (2 blinks per second, faster blinks).	• When the outside temperature is colder than -25°C, the unit may enter Protection Mode. Unit exhausts air without entering fresh air for a 2-hour period, then resumes to its previous operation mode and stops flashing RED. If the LED continues to flash RED when unit is back to previous mode, contact your installer.
6.	A. The LED of the integrated control is blinking GREEN (2 blinks every 2 seconds).	• There is a problem with the cold side thermistor. <b>The unit is still working</b> , but will defrost frequently. Contact your installer.
	B. The LED of the integrated control is blinking GREEN (2 blinks per second, faster blinks).	• There is a problem with the warm side thermistor. <b>The unit is OFF.</b> Contact your installer.
7.	The LED of the integrated control is blinking AMBER (S10 ERVplus and 70E+ units only).	• There is a problem with the damper system. Contact your installer.
8.	The integrated push button does not work. (All units except S10 ERVplus and 70E+ units)	<ul style="list-style-type: none"> <li>• The 30-second boot sequence is not completed.</li> <li>• If the booting sequence is completed and the push button still doesn't work, contact your installer.</li> </ul>

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

## 4. WARRANTY

---

This 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 is a 5-year warranty. Subject to performing the core maintenance according to user guide recommendations, the energy recovery core (ERV) has a 5-year warranty, except for S10d ERV ECM, S10d ERV ECM-R, 70Ed ECM and 70Ed ECM-R; their energy recovery core has a 2-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 user manual 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 (in North America); the personnel will be pleased to give you the phone number of a distributor or a 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 contacting 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.

## 5. INSTALLATION

### 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.

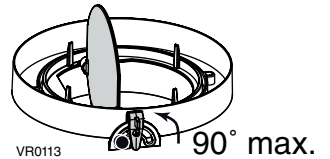
### ⚠ WARNING

Never handle the unit using its ports. Hold the unit by its sides.

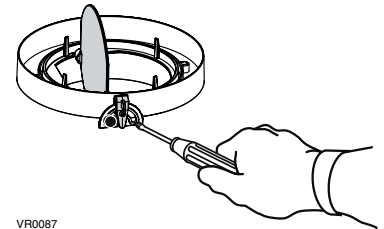
#### 5.1 PREPARING THE UNIT

The Fresh air to building and stale air to outdoors ports of these units are equipped with integrated balancing dampers. Before installing the unit, make sure that both ports are fully open.

1. Loosen the damper lever locking screw.
2. Pivot the damper lever to fully open the damper, ensure that the lever rotation won't exceed 90° maximum to avoid the damper not closing properly.



3. Hand tighten the damper lever locking screw to lock the damper in place.



### CAUTION

When loosening or tightening the damper lever locking screw, never use an electric screwdriver or drill. Use a standard screwdriver.



#### 5.2 LOCATING THE UNIT

### ⚠ WARNING

To ensure occupant's safety, ensure the brackets are mounted to a solid surface such as concrete or joists. Note that the included screws are for wood joists only; do not use them to secure the brackets to a concrete ceiling or metal joists.

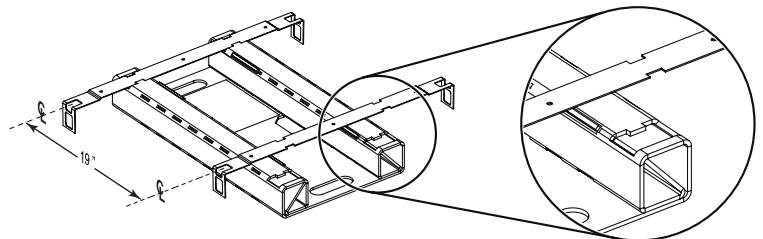
NOTE: your unit may be slightly different from the illustrations.

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

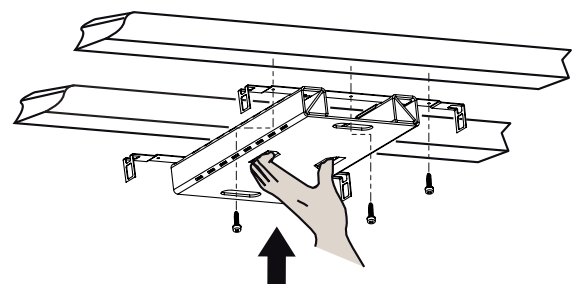
- Within an area of the house where the **ambient temperature is kept between 18°C (65°F) and 40°C (104°F)**
- So as to provide easy access to the interior cabinet for quarterly and annual maintenance
- Close to an exterior wall, so as to limit the length of the insulated flexible duct to and from the unit
- Away from hot chimneys, electrical panel and other fire hazards
- Allow for a power source (standard outlet) within 3 feet

Mount the unit using the 2 included brackets, as follows:

1. Using the template printed on the cardboard filler in the box, mount the brackets to the joists.



2. Use at least 2 screws or nails to secure each bracket to the joists; the center one is optional.



VO0259A

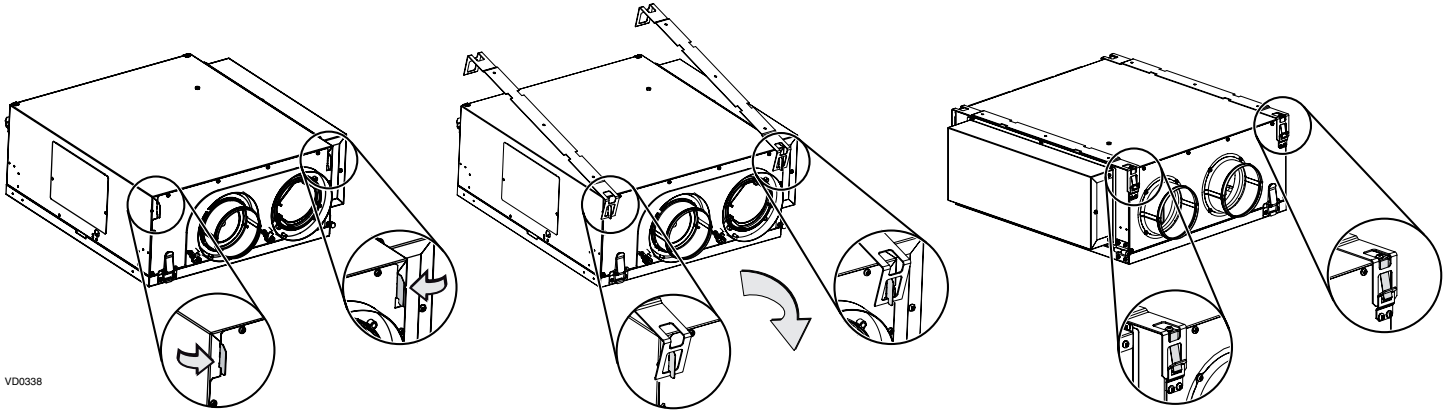


### For the Installer

Bend both integrated hooks 90°.

Engage the hooks in the brackets.

Clip the other side of the unit in the brackets.



VD0338

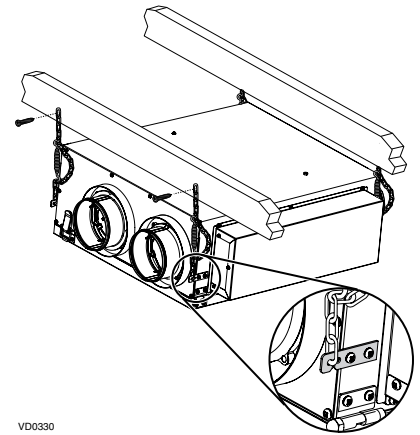
### ⚠ WARNING

**Make sure that the unit is properly secured in the brackets before continuing the installation.**

These units can also be installed using 4 hooks, chains, springs and screws provided in kit no. 61239 (sold separately).

### CAUTION

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



VD0330

## 5.3 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.**

### 5.3.1 FULLY DUCTED SYSTEM

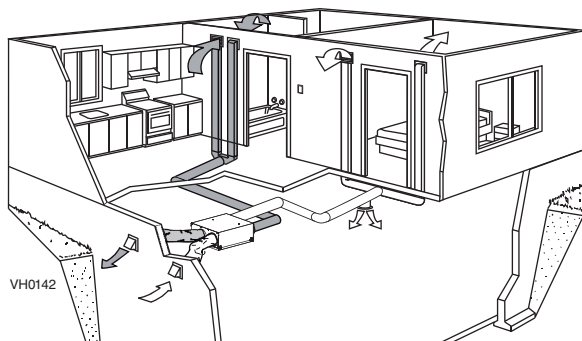
#### Stale air from building ductwork:

- 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:

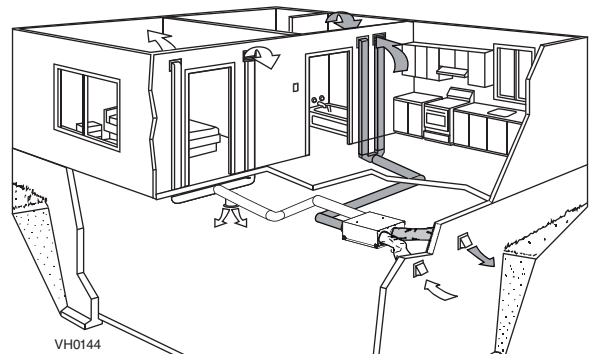
- Install registers in bedrooms, dining room, living room and basement.
- Install registers either in the ceiling or high on the walls with the airflow directed towards the ceiling.
- If a register must be installed in the floor, direct the air flow up the wall.

#### Normal units



VH0142

#### Reverse units



VH0144

**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.

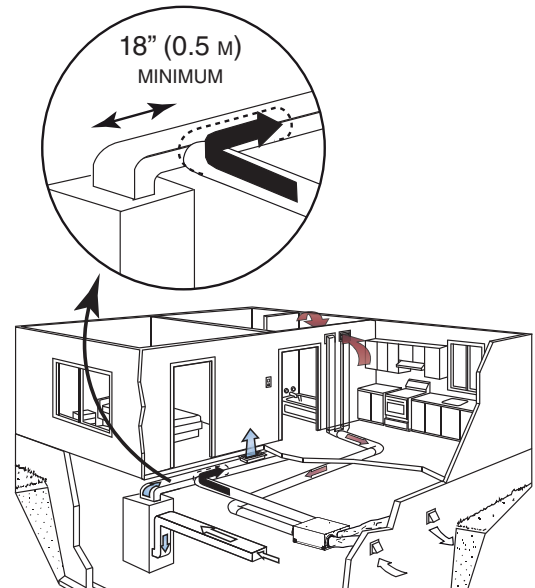
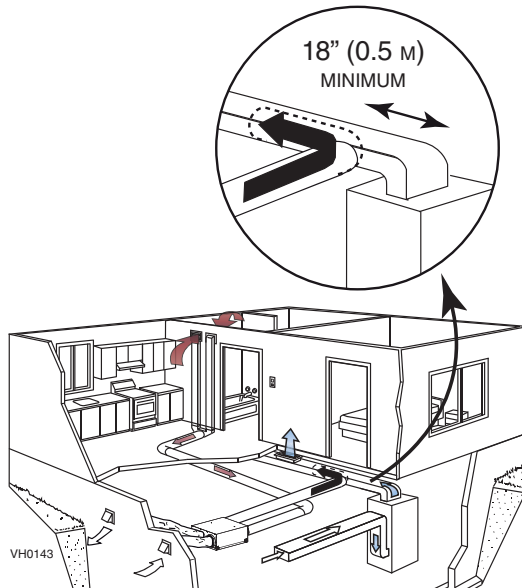
**Fresh air to building ductwork:**

- 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 unit (use metal ducts, see illustrations below).
- Make sure that the unit 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.

**Normal units**

**Reverse units**



5.3.3 EXHAUST DUCTED SYSTEM - RETURN SIDE

**For the following units only:  
S10 ERVplus      70E+**

**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.

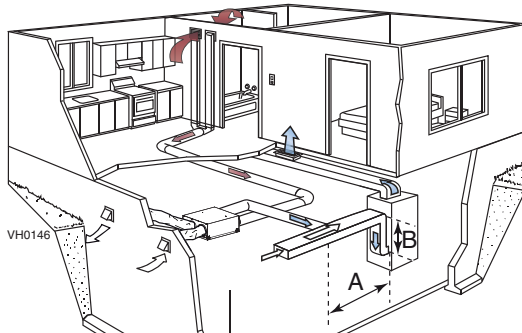
**Fresh air to building ductwork:**

- 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 unit (see illustration at right) using metal ducting.

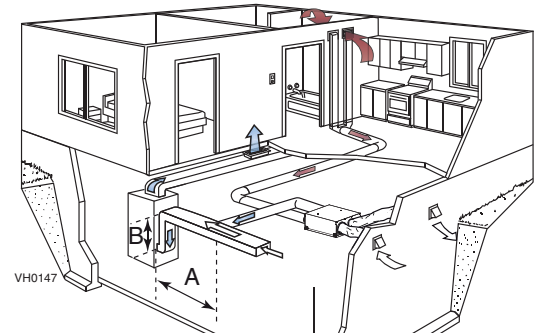
NOTE: For this type of installation, it is recommended, however, not essential, that the furnace blower be synchronized with the unit.

**Normal units**

**Reverse units**



**A + B = AT LEAST  
10' (3.1 m)**



5.3.4 SIMPLIFIED INSTALLATION - RETURN/SUPPLY

**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:**

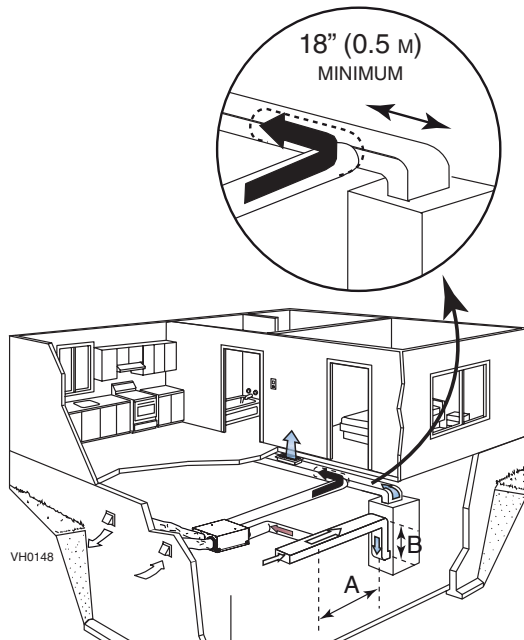
- Cut an opening into the furnace return duct at least 10 feet (3.1 m) (A + B) away from the furnace.
- Connect this opening to the stale air from building port of the unit (as illustrated).

**Fresh air to building ductwork:**

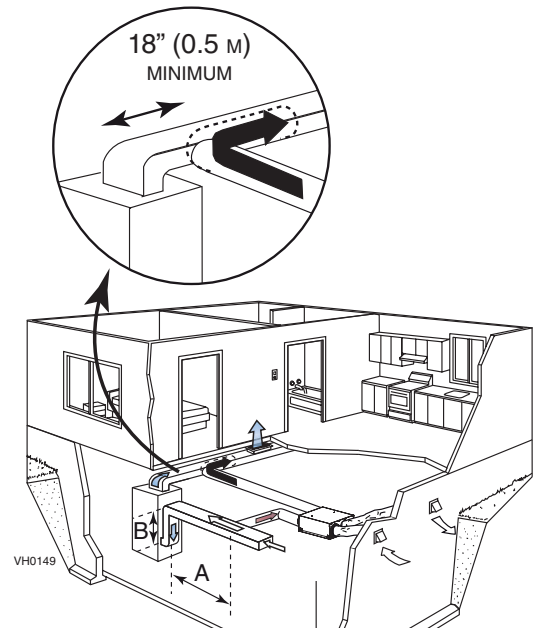
- Cut an opening into the furnace supply duct at least 18 inches (0.5 m) away from the furnace.
- Connect this opening to the fresh air to building port of the unit (use metal ducts, see illustration at right).
- Make sure that the unit duct forms an elbow inside the furnace ductwork.

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

**Normal units**



**Reverse units**



A + B = AT LEAST  
10' (3.1 m)

5.3.5 SIMPLIFIED INSTALLATION - RETURN/RETURN

**For the following units only:  
S10 ERVplus      70E+**

**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).

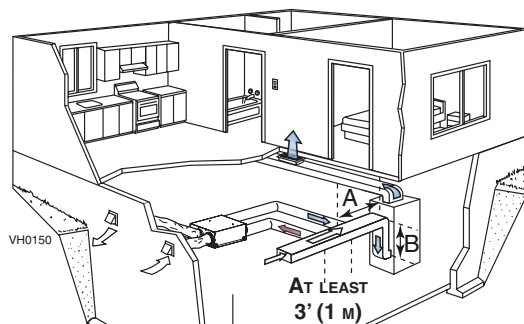
**Stale air from building ductwork:**

- 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.

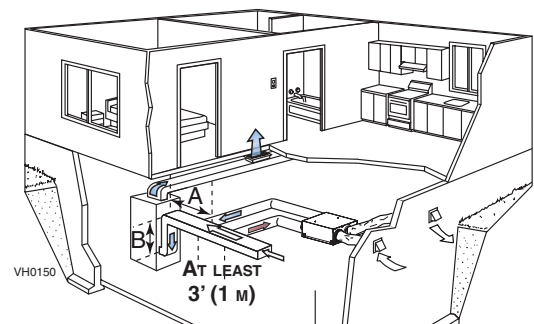
**CAUTION**

**For this type of installation, the furnace must always be synchronized with the unit. See section 7.**

**Normal units**



**Reverse units**



A + B = AT LEAST  
10' (3.1 m)

AT LEAST  
3' (1 m)

AT LEAST  
3' (1 m)

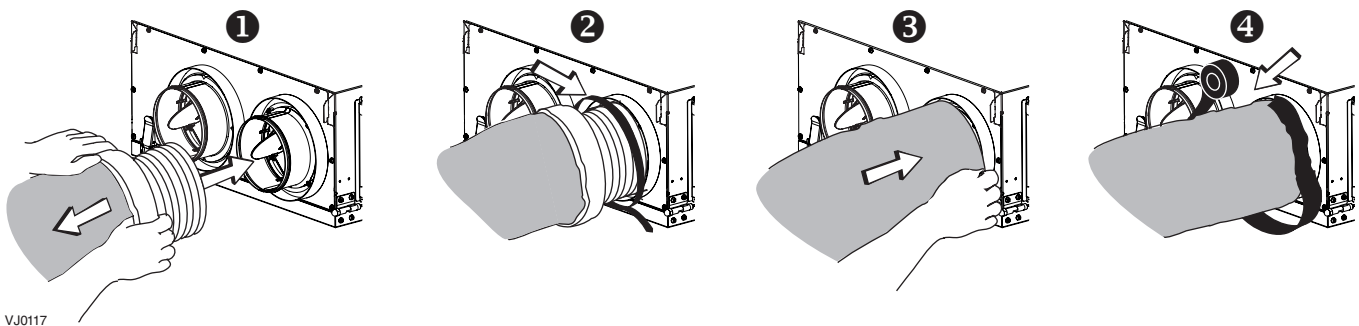
## 5.4 CONNECTING THE DUCTS TO THE UNIT

### CAUTION

- Make sure that the balancing dampers are wide open before connecting the ducts to the ports.
- 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.
- Always use insulated ducts to connect the Fresh air from outdoors and Stale air to outdoors ports with the exterior hood(s).

#### 5.4.1 INSULATED FLEXIBLE DUCTS

1. Pull back the insulation to expose the flexible duct.
2. Attach the flexible duct to the port using a tie wrap.
3. Pull the insulation over the joint and tuck it in between the inner and outer rings of the double collar, then pull down the vapor barrier (shaded part in illustrations below) over the insulation and tuck it in between the inner and outer rings.
4. Apply duct tape to the joint (outer ring and vapor barrier) making an airtight seal. Avoid compressing the insulation when pulling the tape tightly around the joint. Compressed insulation loses its R value and causes water dripping due to condensation on the exterior surface of the duct.



#### 5.4.2 NON-INSULATED RIGID DUCTS

### CAUTION

**Do not use screws to connect the rigid ducts to the ports.**

To avoid transmission of vibrations, always use a 6-inch section of flexible duct to connect rigid ducts to the unit. Use tie wraps to perform connections, then seal with duct tape.

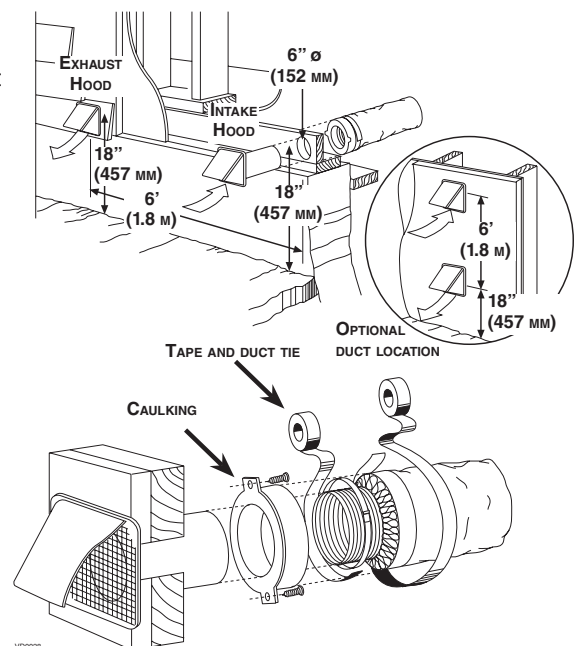
## 5.5 INSTALLING THE EXTERIOR HOODS

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.



**For the Installer**

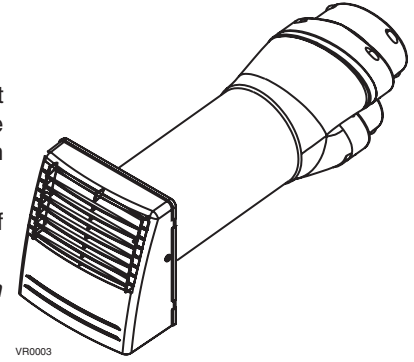
**5.6 INSTALLING DUAL EXTERIOR HOOD USING TANDEM<sup>®\*</sup> TRANSITION KIT (OPTIONAL)**

If desired, a Tandem transition kit can be used instead of 2 exterior hoods; but take into account this device will generate approximately an additional 0.2 in w.g. static pressure depending on the installation. If using the Tandem hood, we recommend using 6-in. ducts to minimize the reduction caused by the tandem hood restriction.

The minimum joist opening needed to install the Tandem<sup>®</sup> transition is 9<sup>3</sup>/<sub>4</sub>". The maximum height of the Tandem transition is 8<sup>3</sup>/<sub>4</sub>".

To connect the insulated flexible ducts to the Tandem transition (*Exhaust air to outdoors and Fresh air from outdoors*), follow the instructions included with the Tandem transition kit (part no. 14690).

\*Patented.



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**6. CONTROLS**

**6.1 SPEED AND DEFROST SETTING**

These units feature 2 different speeds that can be set to different levels to suit various needs. An extended defrost setting can also be chosen in cold regions where the outside temperature is -27°C [-17°F] and lower.

Before changing the settings of the unit, please refer to your national building code. All units are factory set to the 1<sup>st</sup> speed and in normal defrost.

Once the Speed Range and Defrost settings have been changed, these units can be controlled using the integrated push buttons. Refer to section 1.2.

**For the following units:**  
**S10 ERV S10 ERV-R 70E ERV 70E ERV-R**

**Speed Setting**

The factory set speeds for these units are 100 CFM for high speed and 50 CFM for low speed. To change these settings, the transformer's wire taps connections must be changed as follows:

	Speed	Connection	JU1 Jumper
High Speed	100 CFM	BL-BL	H (1-2)
	85 CFM	BN-BL	M (2-3)
Low Speed	65 CFM	GY-R	
	50 CFM	R-R	

**Defrost Setting**

In cold regions (outside temperature -27°C [-17°F] and lower), it may be necessary to setup extended defrost. To do so:

- During the first 3 seconds of the booting sequence, the integrated control LED color indicates the current defrost mode.

LED Color	Defrost Mode
GREEN	NORMAL (FACTORY SET)
AMBER	EXTENDED

- Within these first 3 seconds of the booting sequence, press and hold the push button until the LED starts to blink, and release the push button; the LED will blink AMBER 5 times to indicate that unit is now set in extended defrost.
- Finally, the LED will shut off, and turn RED (the unit resumes its booting sequence).

**For the following units:**  
**S10 ERVplus 70E+**

**Speed Setting**

The factory set speeds for these units are 100 CFM for high speed and 50 CFM for low speed. To change these settings, the transformer's wire taps connections must be changed as follows:

	Speed	Connection	JU1 Jumper
High Speed	100 CFM	BL-BL	H (1-2)
	85 CFM	BN-BL	M (2-3)
Low Speed	65 CFM	GY-R	
	50 CFM	R-R	

**Defrost Setting**

These units feature three different defrost modes. Use the integrated push button to go from one defrost setting to the other. The color of the LED indicates the defrost setting.

STANDARD	Green	<b>Factory setting.</b> The most efficient defrost cycle available on this unit, it achieves the HVI listed performances. When needed, the unit will perform a defrost cycle at high speed.
PLUS	Red	Suits units located in cold regions (outside temperature -27°C [-17°F] and lower). In this setting, the defrost cycles are performed on high speed and last longer.
DISCRETION	Amber	Defrost cycles are performed at the current ventilation speed.

**For the Installer**

**6.2 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
S10 ERV PLUS	<ul style="list-style-type: none"> <li>Altitude</li> <li>Deco-Touch</li> <li>Lite-Touch Constructo</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>
70E+	<ul style="list-style-type: none"> <li>Platinum</li> <li>Deco-Touch</li> <li>Lite-Touch Bronze</li> </ul>	
S10 ERV S10 ERV-R	<ul style="list-style-type: none"> <li>Deco-Touch</li> <li>Lite-Touch Constructo</li> </ul>	
70E ERV 70E ERV-R	<ul style="list-style-type: none"> <li>Deco-Touch</li> <li>Lite-Touch Bronze</li> </ul>	

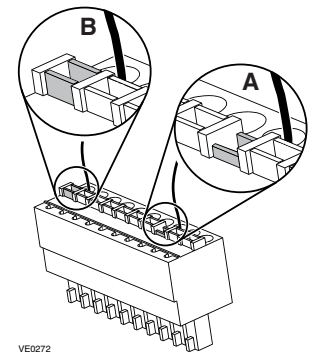
**⚠ WARNING**

**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.**

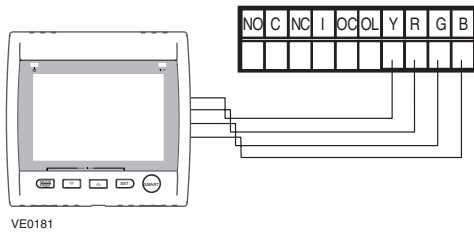
- Use the terminal connector included in the installation kit to perform the electrical connection for main and optional wall controls.
- Make sure all wires are correctly inserted in their corresponding holes in the terminal block. A wire is correctly inserted when its orange receptacle is lower than another one without wire. On the picture below, wire **A** is correctly inserted, but wire **B** is not.
- Once the connections have been made, open the unit's door and insert the terminal connector in the electrical compartment. Secure the cable to the unit by running a tie wrap through the bridge on the electrical compartment cover.



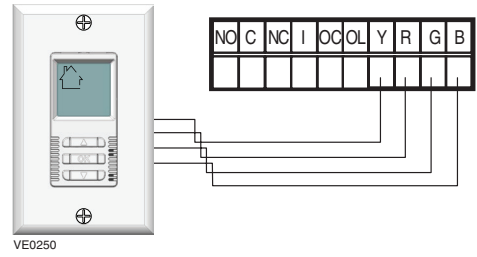
VE0272

**For the Installer**

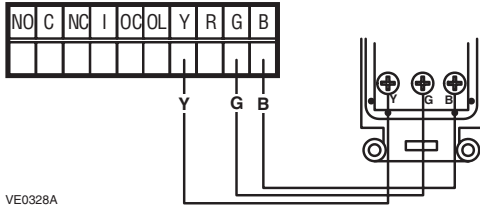
**6.2.1 ALTITUDE OR PLATINUM**



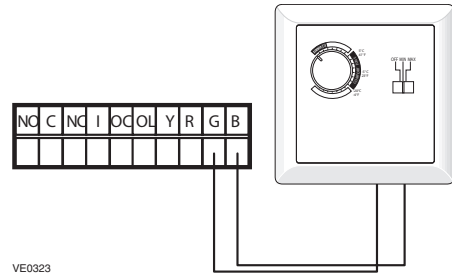
**6.2.2 DECO-TOUCH**



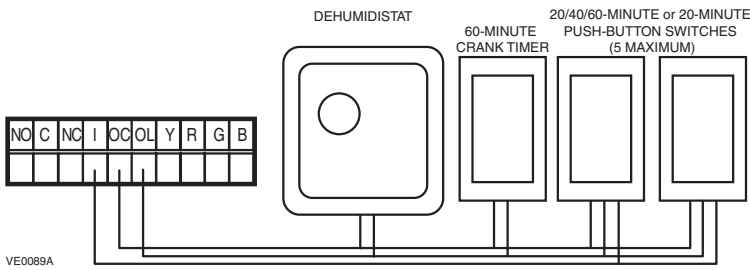
**6.2.3 LITE-TOUCH CONSTRUCTO OR LITE-TOUCH BRONZE**



**6.2.4 CONSTRUCTO OR BRONZE**



**6.2.5 OPTIONAL AUXILIARY CONTROLS**



**7. CONNECTION TO THE FURNACE**

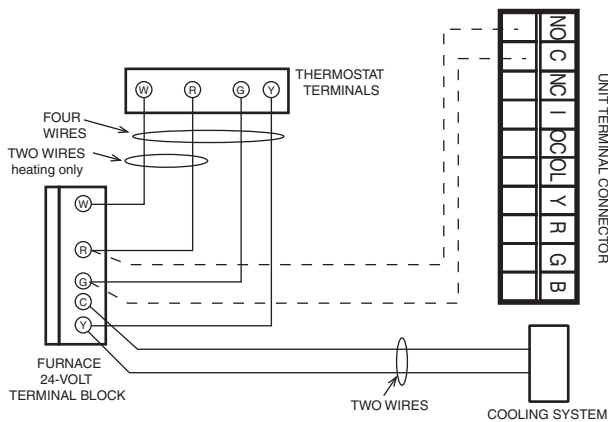
**⚠ WARNING**

**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.**

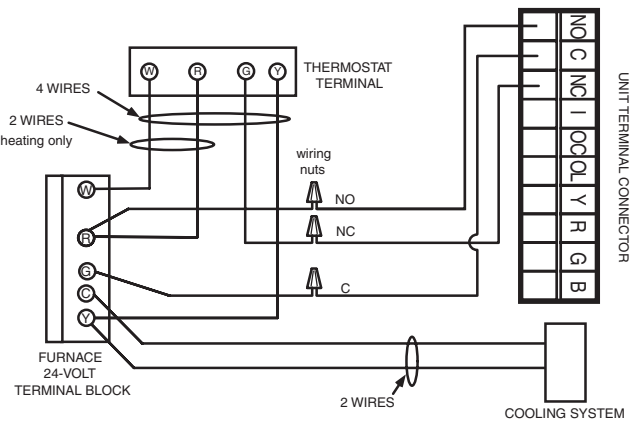
**FOR A FURNACE CONNECTED TO A COOLING SYSTEM:**

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.

**STANDARD FURNACE INTERLOCK WIRING**



**ALTERNATE FURNACE INTERLOCK WIRING**



VE0108A



## 8. BALANCING THE UNIT

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### 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 located on the Stale air to outdoors and Fresh air from outdoors ports are fully open.
- 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 the balancing chart on the unit.
5. Repeat steps 3 and 4, but to the FRESH airflow pressure taps.
6. Using the balancing damper lever, 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 using their damper lever locking screw, and block all the pressure taps with the small plugs included in the hardware kit.

#### CAUTION

- **When loosening or tightening the damper lever locking screw, never use an electric screwdriver or drill. Use a standard screwdriver.**
- **The stroke of the damper lever ends with a notch when the damper is in the completely open position. Make sure that the damper lever is not set in that notch; this could cause the core to freeze.**



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).

# 9. WIRING DIAGRAMS

For the following units:

S10 ERVPLUS

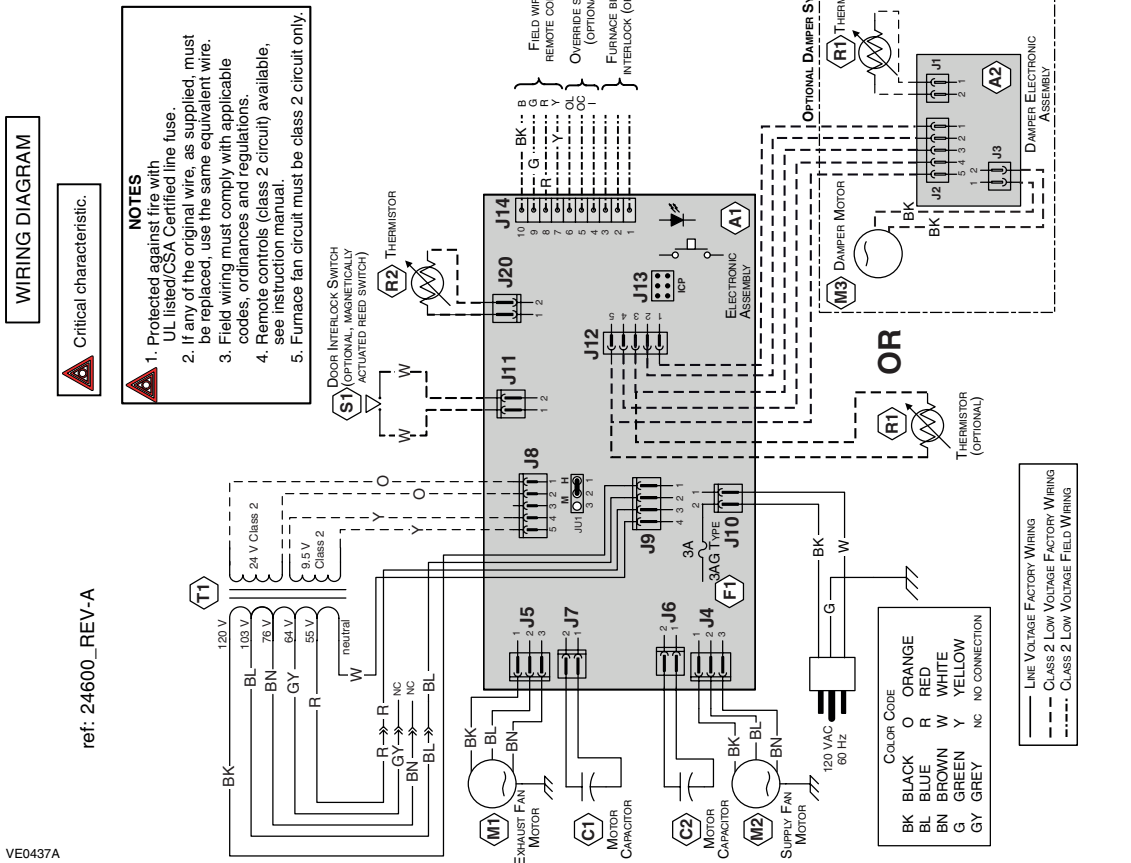
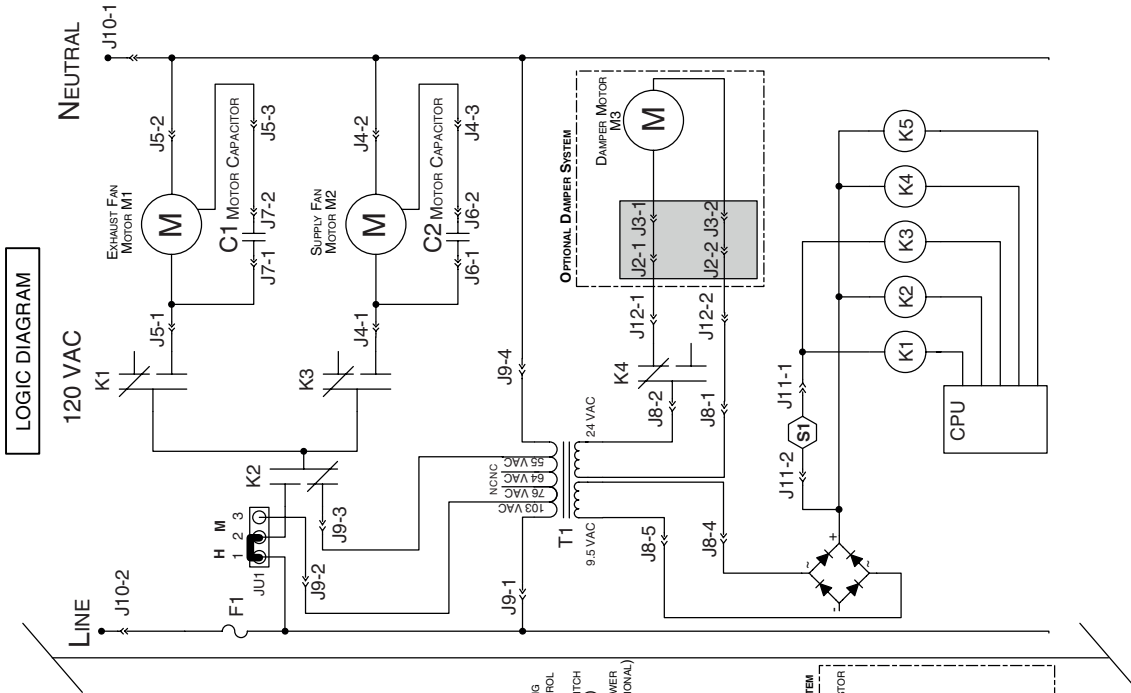
S10 ERV

70E+

70E ERV

## ⚠ 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.



WIRING DIAGRAM

Critical characteristic.

- NOTES**
1. Protected against fire with UL listed/CSA Certified line fuse.
  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: 24600\_REV-A

VE0437A

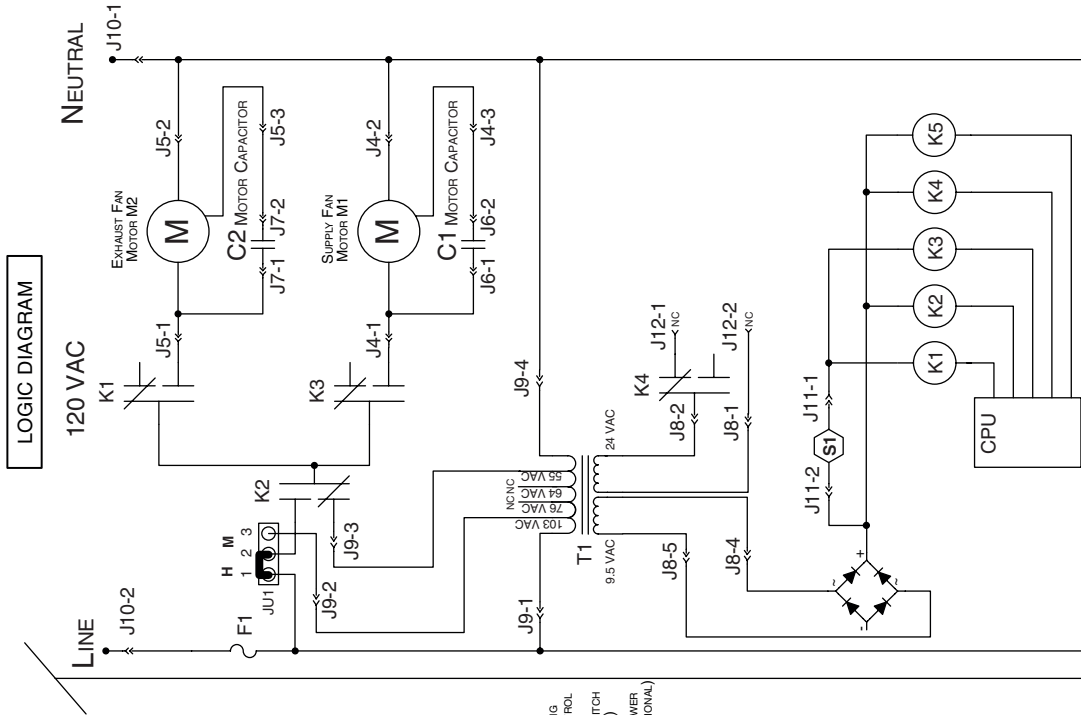
COLOR CODE	
BK	BLACK
BL	BLUE
BN	BROWN
GY	GREY
O	ORANGE
R	RED
W	WHITE
Y	YELLOW
NC	NO CONNECTION

—	LINE VOLTAGE FACTORY WIRING
- - -	CLASS 2 LOW VOLTAGE FACTORY WIRING
· · · · ·	CLASS 2 LOW VOLTAGE FIELD WIRING

For the following units:  
**S10 ERV-R      70E ERV-R**

**⚠ WARNING**

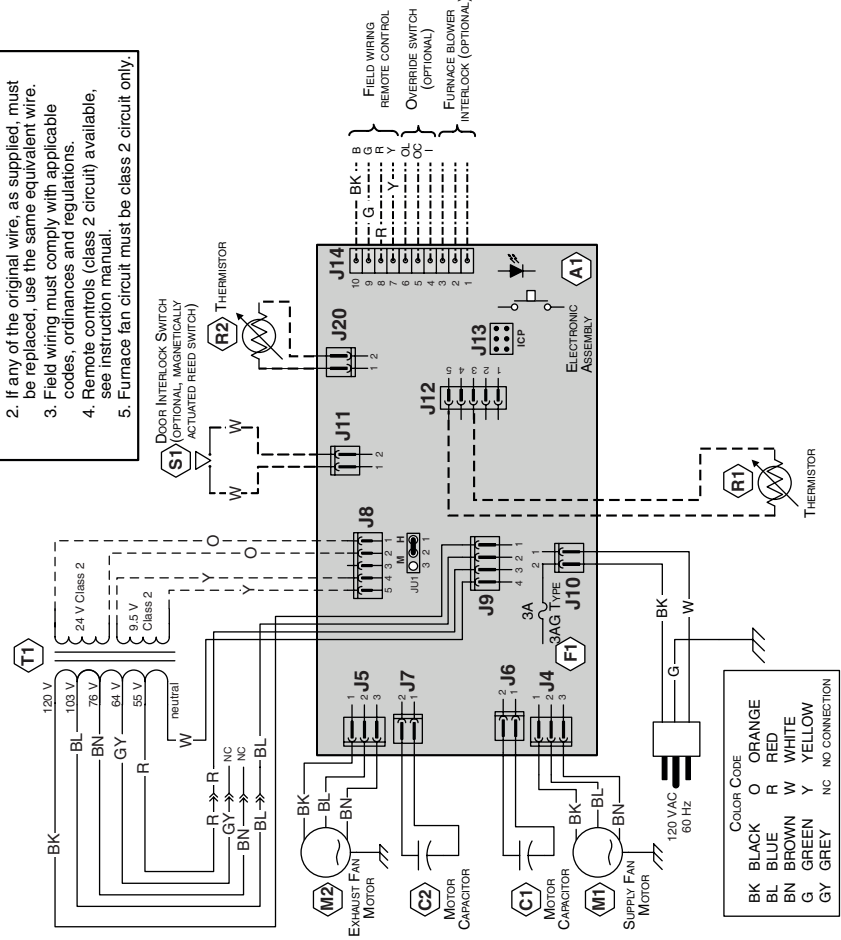
- Risk of electric shocks. Before performing any maintenance or servicing, always disconnect the unit from its power source.
- This product is equipped with an overload protection (fuse). A blown fuse indicates an overload or a short-circuit situation. If the fuse blows, unplug the product from the outlet.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



**WIRING DIAGRAM**

**⚠ Critical characteristic.**

- NOTES**
1. Protected against fire with UL listed/CSA Certified line fuse.
  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.



**COLOR CODE**

BK	BLACK
BL	BLUE
BN	BROWN
G	GREEN
GY	GREY
O	ORANGE
R	RED
W	WHITE
Y	YELLOW
NC	NO CONNECTION

— LINE VOLTAGE FACTORY WIRING  
 - - - CLASS 2 LOW VOLTAGE FACTORY WIRING  
 ····· CLASS 2 LOW VOLTAGE FIELD WIRING

ref: 24225\_REV-B

## 10. SERVICE PARTS

### 10.1 EXPLODED VIEW NORMAL UNITS

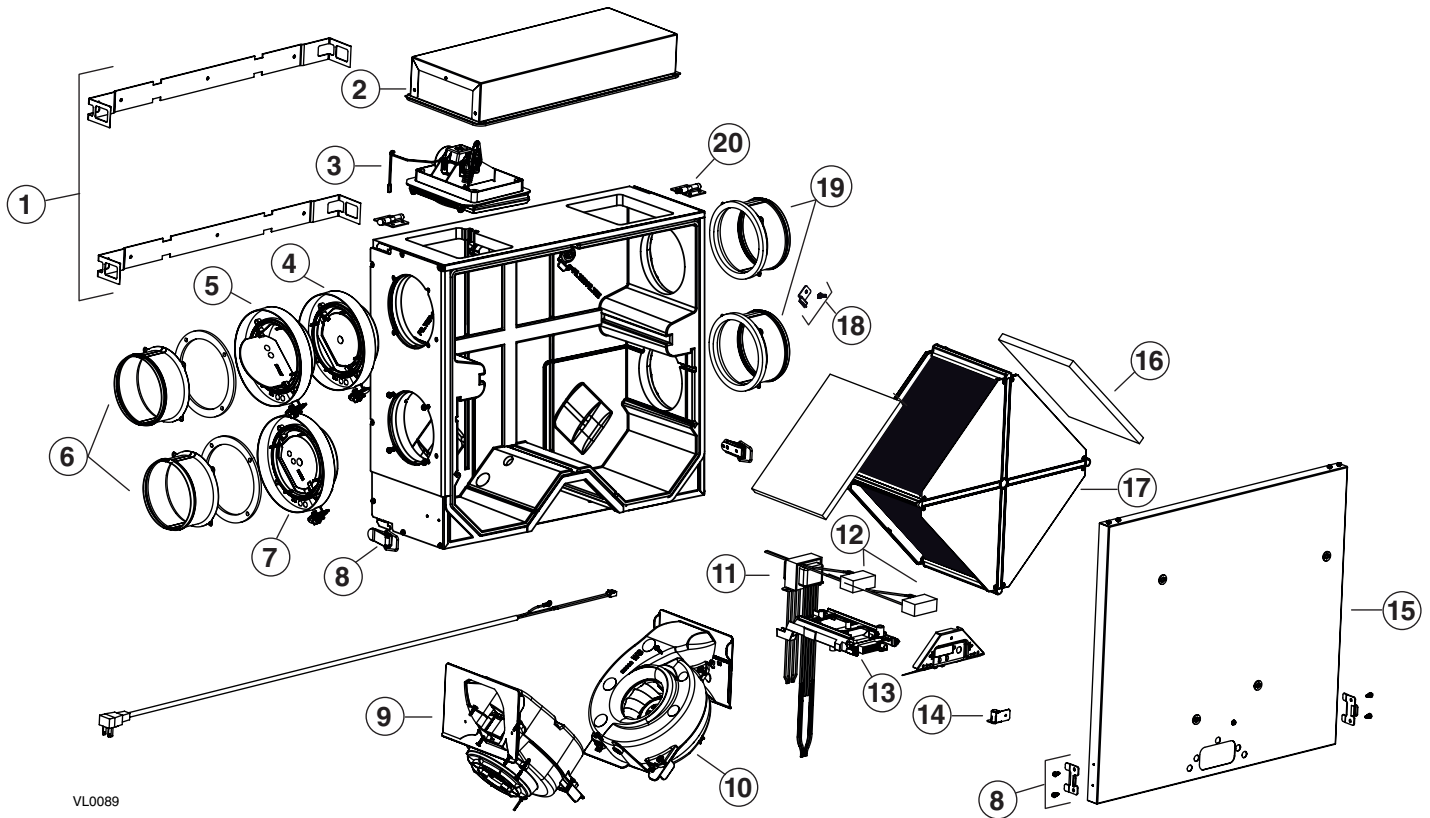
For the following units:

S10 ERV

S10 ERVplus

70E

70E+



VL0089

### 10.2 REPLACEMENT PARTS LIST NORMAL UNITS

No.	Description	Part No.	S10 ERV	S10 ERVplus	70E ERV	70E+
1	Installation Brackets Kit (2)	61240	1	1	1	1
2	Recirculation Channel Kit	61213		1		1
3	Damper System Kit	61214		1		1
4	Balancing Port Kit	61216		1		1
5	Balancing and Backdraft Damper Port Kit	61219	1		1	
6	Cold Side 5" Metal Port Kit	61236	2	2	2	2
7	Adjustable Port Kit	61215	1	1	1	1
8	Door Metal Keepers and Latches Kit	61218	1	1	1	1
9	Blower Kit No. 1** (including 1 capacitor)	61235	1	1	1	1
10	Blower Kit No. 2** (including 1 capacitor)	SV61234B	1	1	1	1
11	Transformer Kit	61232	1	1	1	1
12	Capacitors 5 µF (2)	16042	1	1	1	1
13	Electronic Board Kit	61229		1		1
		61230	1		1	
14	Magnet with Bracket Kit	61241	1	1	1	1
		61224		1		
		61225				1
15	Door Assembly	61227	1		1	
		21029	1	1	1	1
		21030	1	1	1	1
16	Optional MERV 8 Filters (2)	21030	1	1	1	1
17	ERV Core	61223	1	1	1	1
18	Core Locking Device Kit	61237	1	1	1	1
19	Warm side 5" Metal Port Kit	61217	2	2	2	2
20	Door Metal Hinges Kit (2)	61228	2	2	2	2
*	Warm Side Thermistor	61233	1	1	1	1
*	Terminal Connector	16416	1	1	1	1
*	Cold Side Thermistor	61221	1		1	
*	Optional Hardware Kit	61239	1	1	1	1

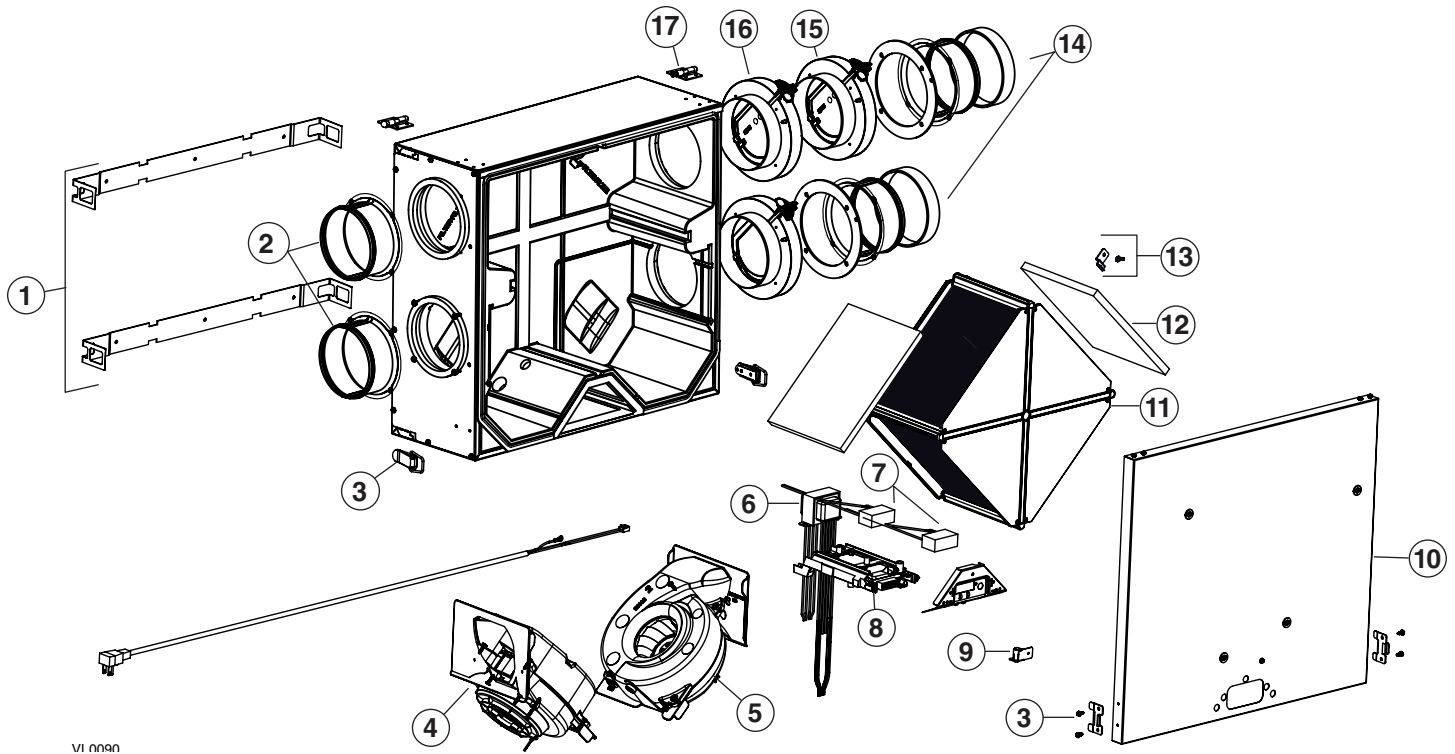
\* Not shown.

\*\* Blower part numbers are indicated on the blower inlets.

**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. Also, the manufacturer recommends to contact a certified service depot for all replacement parts and repairs.

10.3 EXPLODED VIEW REVERSE UNITS

For the following units:  
**S10 ERV-R**      **70E ERV-R**



10.4 REPLACEMENT PARTS LIST REVERSE UNITS

No.	Description	Part No.	S10 ERV-R	70E ERV-R
1	Installation Brackets Kit (2)	61240	1	1
2	Warm side 5" Metal Port Kit	61217	2	2
3	Door Metal Keepers and Latches Kit	61218	1	1
4	Blower Kit No. 1** (including 1 capacitor)	61235	1	1
5	Blower Kit No. 2** (including 1 capacitor)	SV61234B	1	1
6	Transformer Kit	61232	1	1
7	Capacitors 5 µF (2)	16042	1	1
8	Electronic Board Kit	61230	1	1
9	Magnet with Bracket Kit	61241	1	1
10	Door assembly	SV66607	1	1
11	ERV Core	61223	1	1
12	Filter Kit (2)	21029	1	1
	Optional MERV 8 Filters (2)	21030	1	1
13	Core Locking Device Kit	61237	1	1
14	Cold Side 5" Metal Port Kit	61236	2	2
15	Adjustable Port Kit	61215	1	1
16	Balancing and Backdraft Damper Port Kit	61219	1	1
17	Door Metal Hinges Kit (2)	61228	2	2
*	Warm Side Thermistor	61233	1	1
*	Terminal Connector	16416	1	1
*	Cold Side Thermistor	61221	1	1
*	Optional Hardware Kit	61239	1	1

\* Not shown.

\*\* Blower part numbers are indicated on the blower inlets.

**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. Also, the manufacturer recommends to contact a certified service depot for all replacement parts and repairs.

# 11. TROUBLESHOOTING

## ⚠ WARNING

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

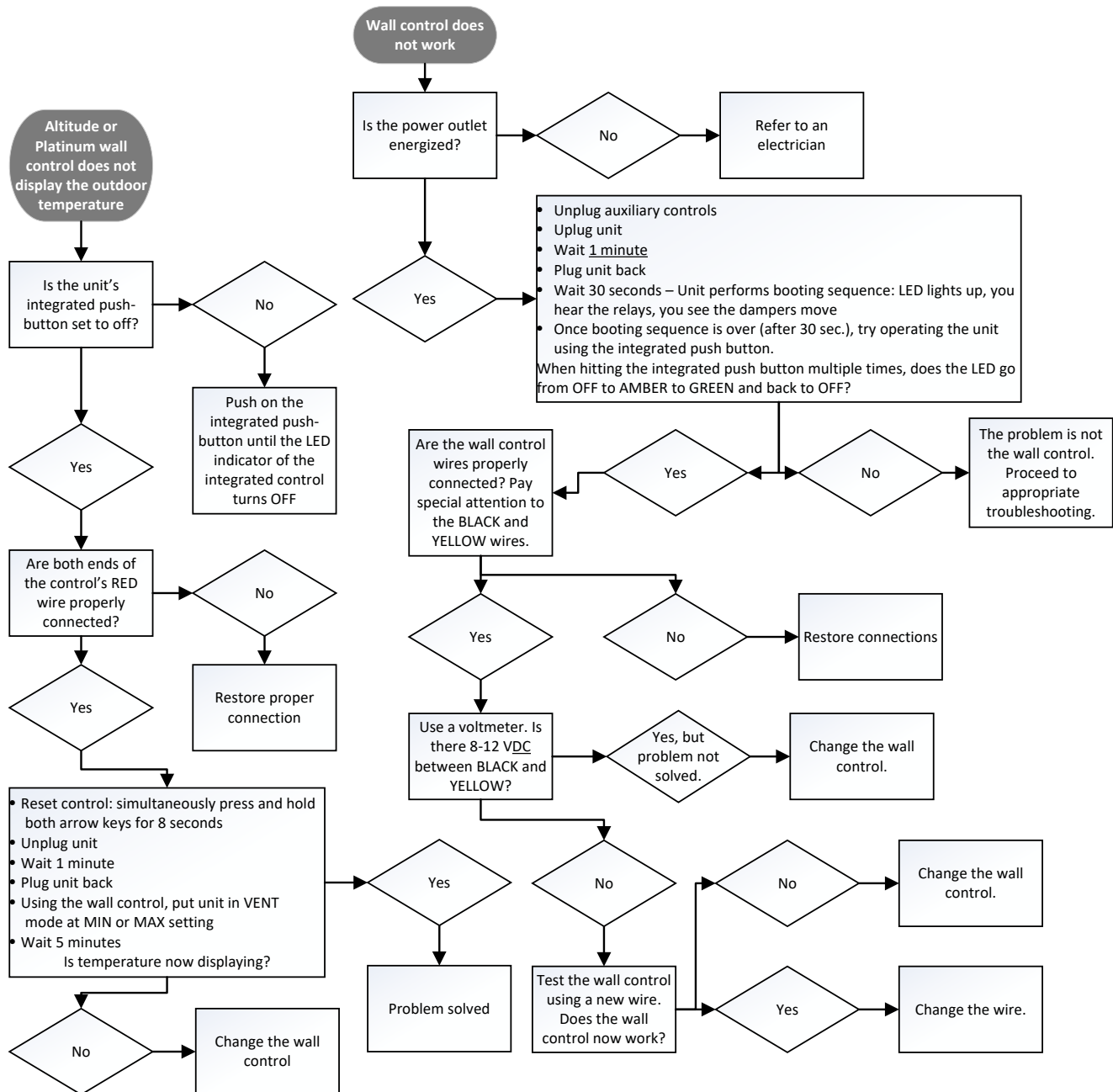
## CAUTION

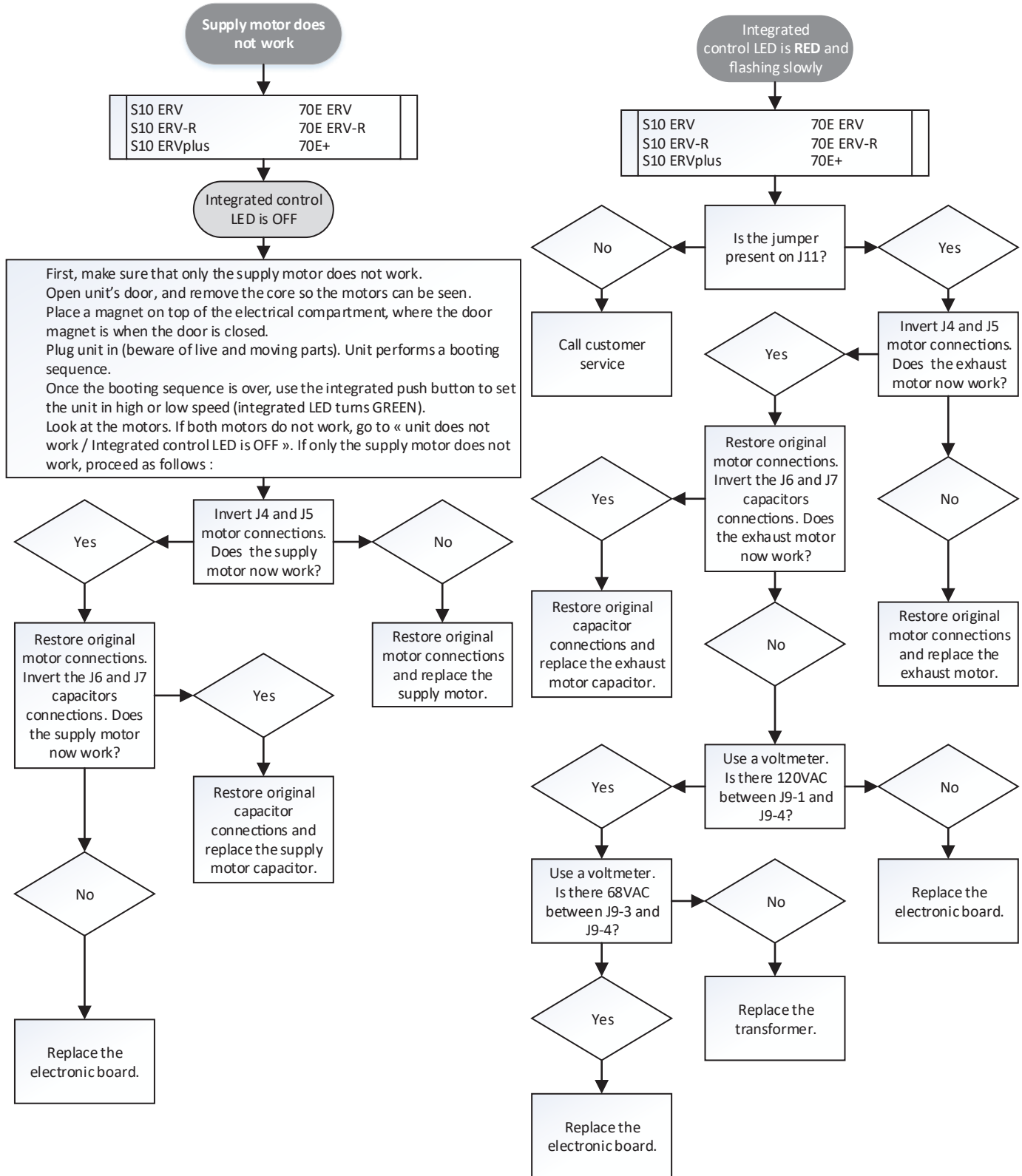
**Clearly identify your model before performing any task related to your unit. Refer to unit's nameplate if necessary.**

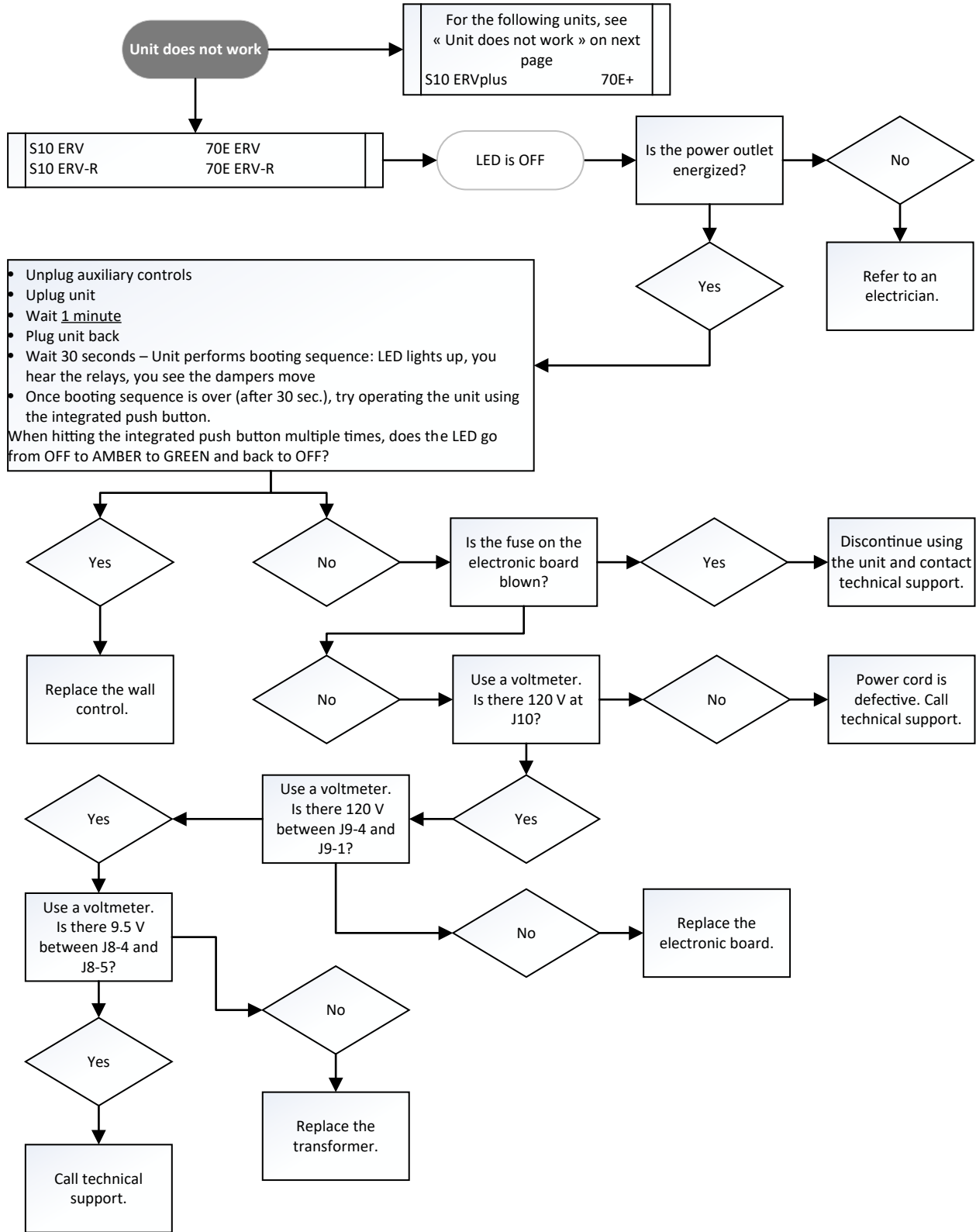
If the unit does not work properly, reset the unit by unplugging it for one minute and plug it back. If it is still not working properly, refer to the table below.

If the LED of the unit is flashing, this means the unit sensors have detected a problem. See the table below or the troubleshooting procedures on the next pages to know the nature of the problem.

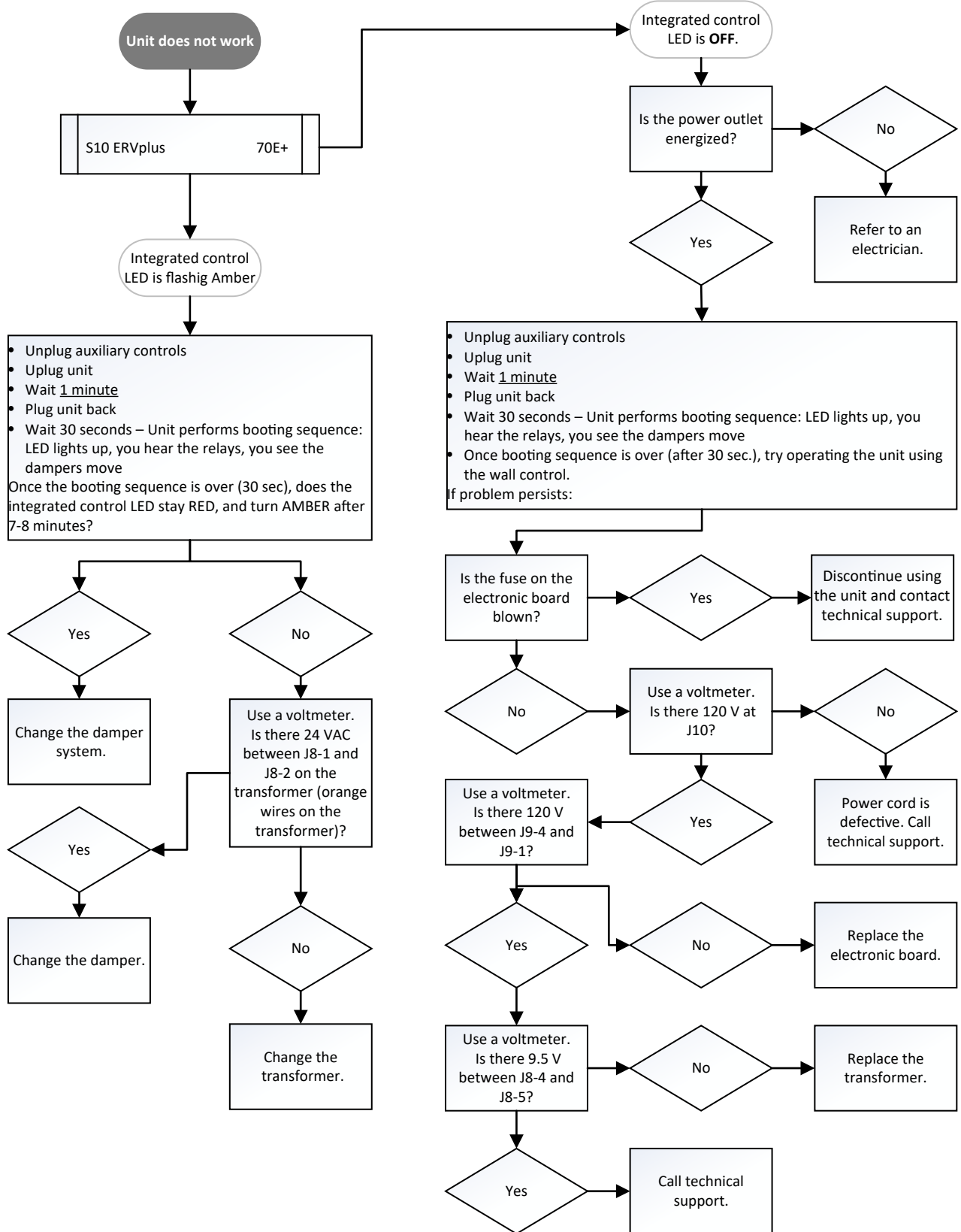
LED SIGNAL	ERROR TYPE	ACTION	UNIT STATUS
LED flashes GREEN (double blink every 2 seconds).	Cold side thermistor error.	Ensure J12 connector is properly connected and its wires are not damaged. If they are correct: <ul style="list-style-type: none"> <li>• <b>For S10 ERVplus and 70E+ units:</b> replace the damper assembly.</li> <li>• <b>All other units:</b> replace the thermistor.</li> </ul>	Unit works but will defrost frequently.
LED flashes GREEN (2 blinks per second; faster blink).	Warm side thermistor error.	<ul style="list-style-type: none"> <li>• Ensure J20 connector is properly connected and its wires are not damaged. If they are correct:</li> <li>• Replace the thermistor.</li> </ul>	Unit does not work.

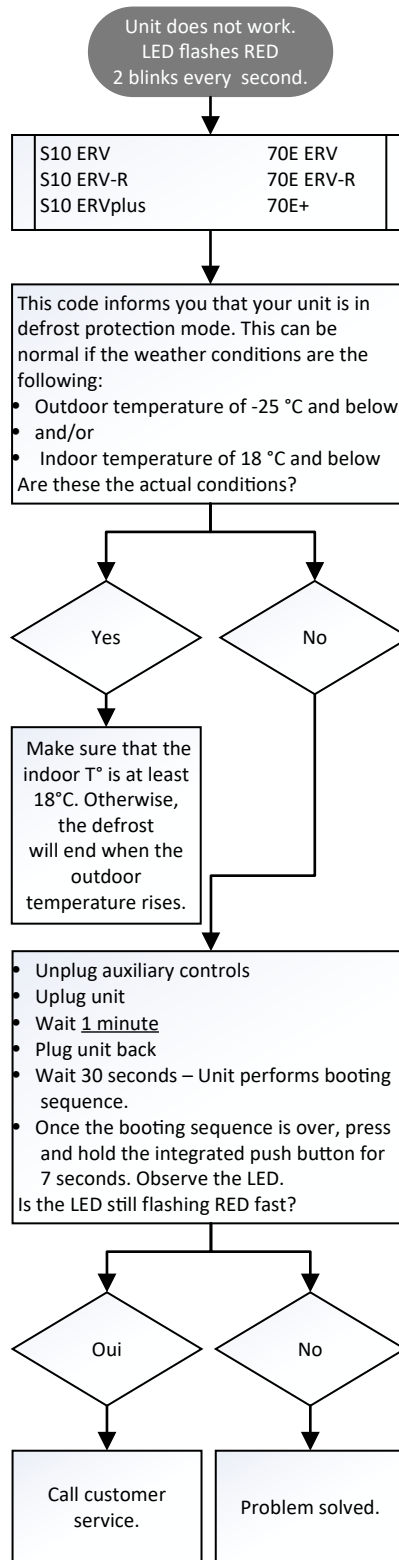












**SERVICE TECHNICIANS ONLY:** If you require assistance or have questions after performing the above troubleshooting, call: 1-800-649-0372.